Weyerhaeuser Everett West

2011 Annual Compliance Monitoring Report

Prepared for

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Table of Contents

List of Tables

List of Figures

List of Appendices

List of Abbreviations and Acronyms

Abbreviation/ Acronym	Definition
CMP	Weyerhaeuser Everett West Groundwater Compliance Monitoring Plan Addendum
CMR	Compliance Monitoring Report
Consent Decree	Consent Decree No. 94-2-67559-2
CUL	Cleanup level
Ecology	Washington State Department of Ecology
MLLW	Mean Lower Low Water
MTCA	Model Toxics Control Act
NAVD88	North American Vertical Datum of 1988
Site	Weyerhaeuser Everett West Site
TPH-Dx	Total petroleum hydrocarbons—diesel- and oil-range
USEPA	U.S. Environmental Protection Agency
WAC	Washington Administrative Code
Weyerhaeuser	Weyerhaeuser Company

1.0 Introduction

This Compliance Monitoring Report (CMR) for the Weyerhaeuser Everett West Site (Site) has been prepared in accordance with the requirements of the Consent Decree No. 94-2-67559-2 (Consent Decree; State of Washington 1994), between Weyerhaeuser Company (Weyerhaeuser) and Washington State Department of Ecology (Ecology), specifically with the requirements of Washington Administrative Code (WAC) 173-340-410 and WAC 173-340-720. Except where noted, compliance monitoring and reporting is being conducted in accordance with the procedures outlined in the Groundwater Compliance Monitoring Plan for Weyerhaeuser Everett West Site (Emcon 1995) and the Weyerhaeuser Everett West Groundwater Compliance Monitoring Plan Addendum (CMP; Floyd|Snider 2011). The Site is located at 101 East Marine View Drive in Everett, Washington, as shown in Figure 1.1.

Compliance monitoring is designed to meet the monitoring requirements specified in the Consent Decree and the substantive requirements of regulations issued pursuant to the Washington State Model Toxics Control Act (MTCA). The goal of this report is to provide documentation of site groundwater quality relative to the attainment of cleanup requirements. The results of the December 2011 annual groundwater monitoring event for the Site are presented in this report. In addition, activities performed to restore the compliance monitoring network, including the decommissioning of previous monitoring wells and the installation and development of new monitoring wells, are summarized in this report.

2.0 Updated Compliance Monitoring Network

The prior compliance monitoring well network consisted of six shoreline monitoring wells (MW-1201, MW-1202, MW-1203, MW-1301, MW-1302, and MW-1501), and one upgradient monitoring well (MW-1701). The 2011 Compliance Monitoring Plan Addendum included a work plan to update the compliance monitoring well network, which was developed in consultation with Ecology, involved the decommissioning of the six shoreline wells and installation of four new monitoring wells closer to the conditional point of compliance (MW-1202R, MW-1203R, MW-1301R, and MW-1501R).

Locations of the compliance monitoring wells are shown in Figure 2.1. Survey information for the old wells and the newly installed wells can be found in Table 2.1. Refer to the CMP for details regarding the rationale behind the restored compliance monitoring network. Field activities associated with well installation, development, and surveying are described below.

2.1 WELL DECOMMISSIONING

Monitoring Wells MW-1203, MW-1301, MW-1302, and MW-1501 were decommissioned by a Washington state-licensed well driller in accordance with the standards provided in WAC 173-160-381 on November 28, 2011. The screened intervals of the wells were filled with hydrated bentonite chips, and the riser and surface completion were filled with concrete in place.

The survey coordinate locations of former Monitoring Wells MW-1201 and MW-1202 were investigated, and the surrounding areas (10-foot radius) were excavated with a skid-steer excavator to a depth of approximately 1 foot or more. Searching for each of the former wells proceeded for approximately 2 hours, but the two wells were unable to be located. It is likely that the wells were destroyed as part of site operations, and no further effort to find and decommission them will be undertaken. Well logs for the originally installed wells can be found in Appendix A.

2.2 WELL INSTALLATION AND DEVELOPMENT

On November 28 and 29, 2011, four 2-inch diameter monitoring wells (designated MW-1202R, MW-1203R, MW-1301R, and MW-1501R) were installed to replace MW-1202, MW-1203, MW-1301, and MW-1501. Prior to drilling, Washington Utility Notification Center was contacted so that public utilities could be located. Applied Professional Services, Inc. was retained to locate and mark private utilities prior to drilling. Drilling and well installation was performed in accordance with the CMP, using a truck-mounted, hollow-stem auger drill rig. Soil samples were collected using a split-spoon sampler and logged under the direction of a licensed geologist.

Monitoring wells were installed with the same approximate depth and screened interval, and constructed of the same materials, as the wells they replaced. The surface of each well was completed with a flush-mounted steel monument, and the well was secured by a locked gasket cap. A bollard was placed next to each monument to protect and aid in locating the well. No bollard was placed at MW-1203R due to field conditions; this well is in an area that is easy to locate and that is protected from vehicle travel due to its proximity to the bulkhead. To develop the wells, the four newly installed wells were repeatedly surged with a bailer and evacuated

using a submersible pump until 10 well volumes had been removed and stabilization criteria had been achieved. A total of approximately 40 gallons was produced during well development.

Wells were surveyed by professional surveyors (Barghausen, Inc.) on December 14, 2011 relative to the North American Datum 1983 (NAD83) Washington State Plane North High Accuracy Reference Network (HARN) and North American Vertical Datum (NAVD88).Upgradient Well MW-1701 was not surveyed because it was believed to have been destroyed at the time of the well survey. MW-1701 was subsequently located.[1] The previous survey results for this well were referenced to the mean sea level (MSL) datum and were unable to be converted to a sufficiently accurate elevation relative to NAVD88 for use in water level measurements. A new survey of this well is recommended. All well installation details and logs for the newly installed wells can be found in Appendix B.

Investigation-derived waste; including drill cuttings, decontamination water, and well development water; was collected in 55-gallon drums. Drill cuttings and decontamination water was characterized by sampling and analysis on December 19, 2011 for MTCA metals (i.e., arsenic, cadmium, chromium, lead, and mercury) and diesel- and oil-range total petroleum hydrocarbons (TPH-Dx). Well development water was characterized using compliance monitoring analyses (i.e., dissolved arsenic and TPH-Dx for MW-1301R). Characterization results indicate all soil results were less than MTCA Method A Unrestricted Land Use criteria, and all water results were less than MTCA Method A table values (refer to Appendix C). Based on these results, no off-site disposal was determined to be necessary, and the soil and water were spread on the ground surface.

[1] A March 1994 site survey by Clark Leeman Land Surveying attributed well coordinates to MW-1701 that are in the location of a decommissioned well. This led to the incorrect inference that MW-1701 had been destroyed. Subsequent review of site plans indicates that the decommissioned well corresponds to a former well, MW-1, that was installed by Emcon in 1988 and that MW-1701 remains intact (refer to Figure 2.1).

3.0 Compliance Monitoring

3.1 COMPLIANCE MONITORING ACTIVITIES

The first compliance monitoring event with the updated monitoring network was conducted on December 19, 2011. Except where noted, field methods used in compliance monitoring were carried out in accordance with the CMP. Field activities are summarized below.

3.1.1 Water Level Measurements

To provide an accurate indication of the potentiometric surface, water level measurements were collected from MW-1202R, MW-1203R, MW-1301R, and MW-1501R within 30 minutes of each other (between 13:17 and 13:45).

No water level measurement was collected from upgradient Monitoring Well MW-1701 because this well was believed to have been destroyed at the time of water level measurement. Water level measurements were also collected prior to the start of well purging and during low flow sampling.

3.1.2 Groundwater Sampling

Sample collection and handling was conducted in accordance with the CMP. Groundwater samples from MW-1202R, MW-1203R, ME-1301R, and MW-1501 were collected using standard low-flow sampling methods, field filtered, and submitted to Weyerhaeuser Analytical Chemistry under chain of custody for dissolved arsenic analysis. An unfiltered sample from MW-1301R was also submitted for TPH-Dx analysis. Field duplicate samples were collected from MW-1301R and submitted for analysis under a fictitious sample name (MW-2301R-1211).

Groundwater sample collection was consistent with the CMP provisions regarding tidal conditions (refer to Section 3.2.1). Groundwater samples are considered representative of groundwater quality in water discharging to the Snohomish River.

3.1.3 Data Validation

A Tier 1 data quality review was performed on all analytical results for samples collected during the December 2011 compliance monitoring event. Consistent with the CMP, the analytical data were validated in accordance with the following guidelines and standard operating procedures:

- U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA 1994 and 2004)
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA 1999 and 2008) as applied to criteria in NWTPH-Dx

The data quality review included evaluation of sample chain-of-custody procedures, sample preservation and analytical holding times, blank contamination, precision (replicate analyses), accuracy (compound recovery), adherence to the target analyte list, detection limits, and data

package completeness. The data are determined to be of acceptable quality for use as reported by the laboratory.

3.2 COMPLIANCE MONITORING RESULTS

The results of the December 2011 monitoring event are presented in this section.

3.2.1 Water Level Measurements and Potentiometric Surface

Water level measurements and tidal information are reported in Table 3.1. Groundwater elevations collected within 30 minutes of each other and prior to sampling are illustrated on Figure 2.1. Because of the lack of an upgradient monitoring well, these results are not sufficient to support accurate potentiometric surface contours, flow direction, or gradient; however, these results indicate a northeasterly groundwater flow direction that is consistent with topography between the uplands and the Snohomish River.

Groundwater samples were collected during the ebb to a lower-low water tide, between 14:35 and 16:22, when the Snohomish River was ebbing from a high of 9.66 feet NAVD88 (12 feet Mean Lower Low Water [MLLW]) at 11:14 a.m. based on published tidal information (NOAA 2011). Groundwater samples were collected when predicted tides ranged from approximately 5.2 and -1.3 feet NAVD88 (approximately 7.5 feet and 1 foot MLLW). Water levels in the wells during this time ranged from 8.05 to 5.5 feet NAVD 88. As shown in Table 3.1, water levels in the wells were approximately 3 or more feet higher than the corresponding water level in the Snohomish River at the time of sampling, which is consistent with the procedure for collecting representative groundwater samples described in the CMP.

3.2.2 Groundwater Results

Analytical results for the December 2011 compliance monitoring event are presented in Tables 3.2 and 3.3. Time concentration plots were not prepared for this report because there is only one monitoring event to date. Laboratory analytical reports for the December 2011 monitoring event are included as Appendix C. The results are summarized and compared with the site cleanup levels (CULs) below.

3.2.2.1 Arsenic Results

Dissolved arsenic was detected in groundwater samples from all four monitoring wells. The highest concentration of arsenic detected was 2.7 µg/L in MW-1202R, while the lowest concentration was 1.4 µg/L in MW-1203R.. All concentrations detected were less than the site groundwater arsenic CUL of 5 µg/L.

3.2.2.2 Total Petroleum Hydrocarbon Results

The concentration of diesel-range hydrocarbons detected in the sample from MW-1301R and its duplicate sample was 45 µg/L. Oil-range hydrocarbons were not detected in either the sample or the duplicate from MW-1301R greater than the laboratory detection limit of 200 µg/L. The

total diesel-range and oil-range hydrocarbon concentration for MW-1301R is less than the site groundwater CUL of 1,000 µg/L for TPH-Dx.

4.0 Summary of Findings

The primary findings of the 2011 Annual CMR are summarized as follows:

- Weyerhaeuser has updated its compliance monitoring network at the Site in accordance with the CMP. Wells that were able to be located from the prior monitoring network were decommissioned and four new point of compliance monitoring wells were installed, developed, and surveyed at the bulkhead.
- The first monitoring event of the updated monitoring network was completed in accordance with the CMP. Sampling was coordinated with a tidal ebb to ensure representative samples of groundwater discharging to the Snohomish River.
- Water level elevations indicate a northeasterly groundwater flow direction.
- Upgradient Well MW-1701 was not surveyed because it was believed to have been destroyed at the time of the well survey but was subsequently located. A new survey of this monitoring well is recommended.
- Dissolved arsenic was detected in all four monitoring wells that were sampled at concentrations less than the site groundwater CUL of 5 µg/L.
- Diesel-range and oil-range total petroleum hydrocarbons were detected in the sample from MW-1301R (the only well sampled for TPH-Dx) at a concentration less than the site groundwater CUL of 1,000 µg/L.

Weyerhaeuser has notified Ecology that it will increase its monitoring and reporting frequency to quarterly in order to begin establishing a dataset that is suitable for compliance evaluation.

5.0 References

Emcon. 1994. *Draft Report, Phase 1 Site Assessment for Areas 11 through 18, Weyerhaeuser Everett West Site*. Prepared for Weyerhaeuser Company. Revised May.

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U.S. Environmental Protection Agency (USEPA). 1994. Office of Emergency and Remedial Response. *USEPA Contract Laboratory Program National Function Guidelines for Inorganic Data Review.* Washington, D.C. February.

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———. 2004. Office of Superfund Remediation and Technology Innovation (OSRTI). *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review Final Draft.* Washington, D.C. July.

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Weyerhaeuser Everett West

2011 Annual Compliance Monitoring Report

Tables

Table 2.1
Monitoring Well Information

Well ID	Casing Diameter (inches)	Screened Interval (feet bgs)	Surface Completion	Northing (feet NAD83)[1]	Easting (feet NAD83)[1]	Ground Surface Elevation (NAVD88)	Top of PVC Elevation (NAVD88)	Notes
Updated Compliance Monitoring Network								
MW-1202R	2	3–10	Flush-mounted	373774.03	1308209.99	12.61	12.08	Installed 11/29/11.
MW-1203R	2	6–12	Flush-mounted	373910.15	1307960.38	16.10	15.7	Installed 11/29/11.
MW-1301R	2	3–10	Flush-mounted	374004.04	1307718.03	14.98	14.44	Installed 11/28/11.
MW-1501R	2	3–10	Flush-mounted	373999.28	1306940.85	12.43	11.8	Installed 11/29/11.
Prior Compliance Monitoring Network[2]								
MW-1201	2	5–15	Aboveground Monument	373554.24	1308299.23	NA	NA	Not Found.
MW-1202	2	3–15	Aboveground Monument	373746.61	1308192.58	NA	NA	Not Found.
MW-1203	2	3–10	Flush-mounted	373901.31	1307959.46	NA	NA	Decommissioned 11/28/11.
MW-1301	2	3–10	Flush-mounted	373987.20	1307725.62	NA	NA	Decommissioned 11/28/11.
MW-1302	2	3–10	Flush-mounted	374038.00	1307514.34	NA	NA	Decommissioned 11/28/11.
MW-1501	2	3–10	Flush-mounted	373938.67	1306922.73	NA	NA	Decommissioned 11/28/11.
MW-1701	2	2–8	Flush-mounted	NA[3]	NA[3]	NA[3]	NA[3]	Well to be retained for water level measurements. New survey is recommended.

Notes:

1 Coordinate values are reported in feet relative to NAD83 High Accuracy Reference Network State Plane Coordinate System, Washington North Zone.

2 Well information from boring logs presented in Draft Report, Phase 1 Site Assessment for Areas 11 through 18, Weyerhaeuser Everett West Site (Emcon 1994). Refer to Appendix A.

3 Prior well coordinates attributed to MW-1701 were found to be in the location of a decommissioned well (MW-1). Subsequent review of site plans indicates that MW-1701 is located further to the west. MW-1701 was not surveyed because it was believed to have been destroyed at the time of the well survey. Elevation of top of PVC well casing from Emcon (1994) based on a conversion from MSL using the National Geodetic Survey from the closest National Geodetic Survey benchmark is not sufficiently accurate for water level measurements.

Abbreviations:

bgs Below ground surface
MSL Mean sea level
NA Information is not available
NAD83 North American Datum of 1983
NAVD88 North American Vertical Datum of 1988
PVC Polyvinyl chloride

Table 3.1
Water Level Elevation and Tidal Information

Well ID	TOC Elevation (feet NAVD88)	Date	Time of Measurement	Depth to Water (feet)	Water Level Elevation (feet NAVD88)	Time of Sampling	Approximate Tidal Elevation at Time of Sampling[1] (feet MLLW)	Approximate Tidal Elevationat Time of Sampling[1] (feet NAVD88)	Approximate Height of Water Table above Snohomish River (feet)
Potentiometric surface measurements									
MW-1202R	12.08	12/19/2011	13:25	6.25	5.83	NA	NA	NA	NA
MW-1203R	15.7	12/19/2011	13:17	9.6	6.1	NA	NA	NA	NA
MW-1301R	14.44	12/19/2011	13:36	7.42	7.02	NA	NA	NA	NA
MW-1501R	11.8	12/19/2011	13:45	3.73	8.07	NA	NA	NA	NA
Water levels at time of well purging									
MW-1202R	12.08	12/19/2011	16:03	6.58	5.5	16:22	1	-1.3	6.8
MW-1203R	15.7	12/19/2011	15:20	9.6	6.1	15:50	1	-1.3	7.4
MW-1301R	14.44	12/19/2011	14:55	7.45	6.99	15:18	1.7	-0.6	7.6
MW-1501R	11.8	12/19/2011	14:09	3.75	8.05	14:35	7.5	5.2	2.9

Note:

1 Information is sourced from the National Oceanic and Atmospheric Administration (NOAA) 2011.

Abbreviations:

MLLW Mean Lower Low Water
NA Information is not available
NAVD88 North American Vertical Datum of 1988
TOC Top of casing

Table 3.2
Arsenic Analytical Results
(µg/L)

Location	MW-1202R	MW-1203R	MW-1301R		MW-1501R
Sample Date					
12/19/2011	2.7	1.4	1.7	1.8 D	1.6

Qualifier:

D Indicates sample is a field duplicate.

Table 3.3
TPH-Dx Analytical Results
(µg/L)

Location	MW-1301R			
Sample Date	Diesel-range Hydrocarbons		Oil-range Hydrocarbons	
12/19/2011	45	45 D	200 U	200 DU

Qualifiers:

D Indicates sample is a field duplicate.

U Indicates result is below laboratory detection limit.

Weyerhaeuser Everett West

2011 Annual Compliance Monitoring Report

Figures

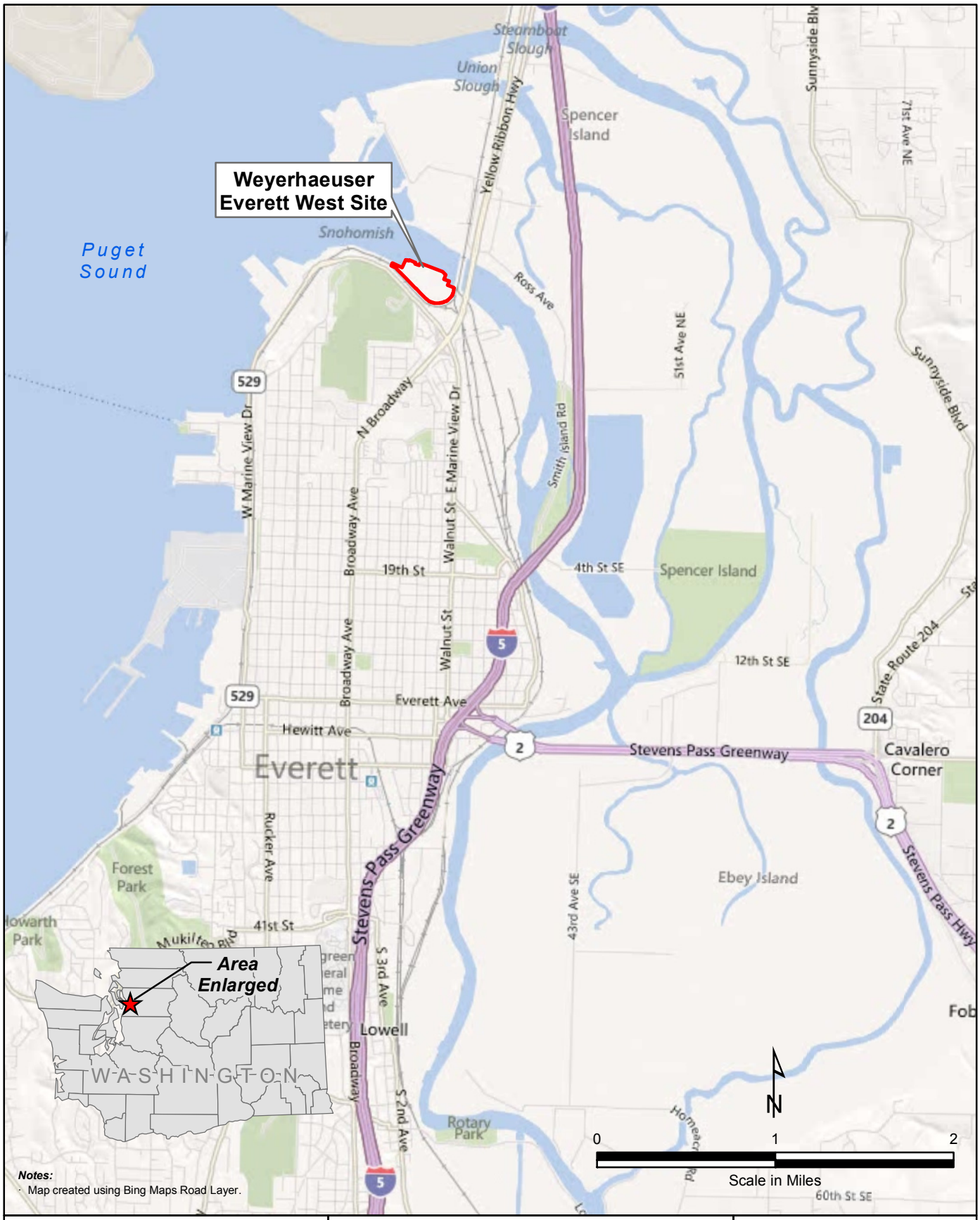

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Figure 1.1
Vicinity Map

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Figure 2.1
Monitoring Well Locations
and Groundwater Elevations

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4/25/2012

Weyerhaeuser Everett West

2011 Annual Compliance Monitoring Report

Appendix A
Historic Well Logs

EXPLANATION OF SYMBOLS ON EXPLORATORY BORING LOGS

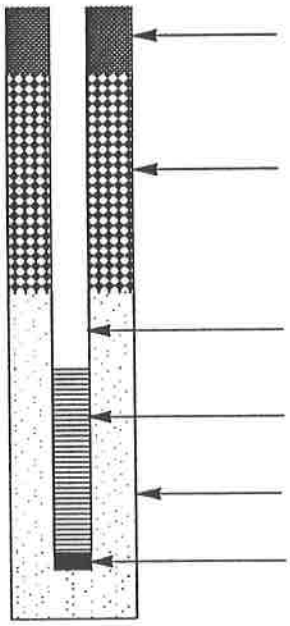
EMCON
Northwest

SAMPLE COLUMN

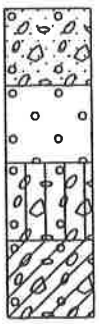
SAMPLE OBTAINED

SAMPLER DRIVEN, NO SAMPLE OBTAINED

WELL DETAILS COLUMN



LITHOLOGIC COLUMN

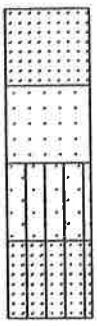


GW

GP

GM

GC

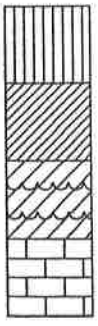


SW

SP

SM

SW-SM



ML

CL

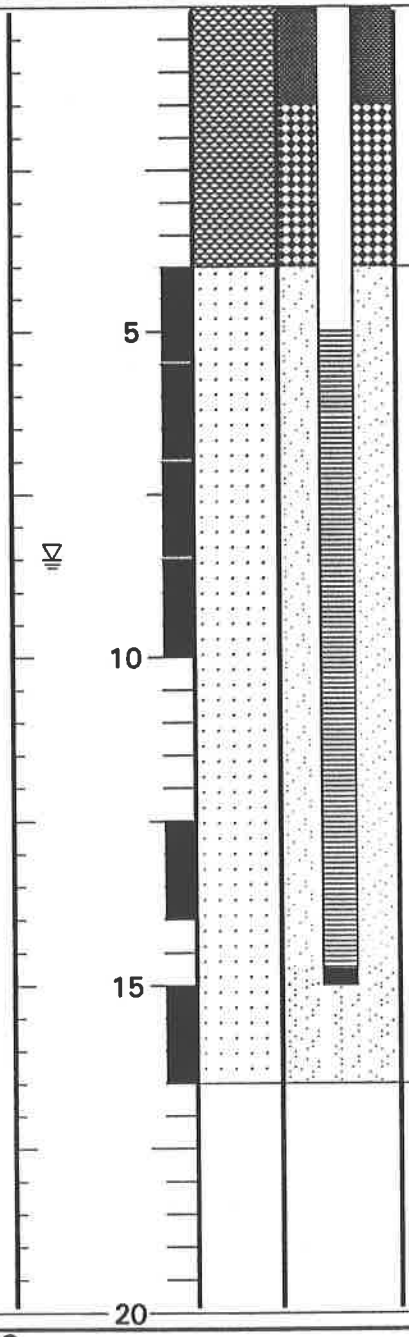
OH

LIME

LOG OF EXPLORATORY BORING

PROJECT NAME	West Site Phase 1	BORING NO.	MW-1201
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 2
DRILLED BY	Geo-Boring	REFERENCE ELEV.	14.93'
DRILL METHOD	Hollow Stem Auger (6" ID)	TOTAL DEPTH	15.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	06/14/93

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	LITHOLOGIC DESCRIPTION
			0 to 4.0 feet: WOOD CHIPS
SS/S-1	0	3-3-1	4.0 to 16.5 feet: SAND (SP), tan, 5 percent fines, 90 percent fine to medium sand, 5 percent fine gravel, loose, damp, no noticeable odors.
SS/*S-2	0	3-2-1	
SS/S-3	0	1-2-1	
SS/S-4		1-1-1	@ 8.5 feet: water.
SS/S-5		3-5-6	@ Approximately 11.5 feet: color changes to gray.
SS/S-6		2-2-2	
			Boring terminated at 15.0 feet, sampled to 16.5 feet. See Page 2 for Well Completion Details.



REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. Above ground monument security casing. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**MW-1201**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**2 OF 2**
DRILLED BY	**Geo-Boring**	REFERENCE ELEV.	**14.93'**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**15.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/14/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
				25				**WELL COMPLETION DETAILS:** +3.0 to 5.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe. 5.0 to 15.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots and a 2-inch-diameter threaded end cap. 0 to 1.5 feet: Concrete. 1.5 to 4.0 feet: Bentonite chips hydrated with potable water. 4.0 to 16.5 feet: 10 - 20 Colorado Silica Sand.
				30				
				35				
				40				

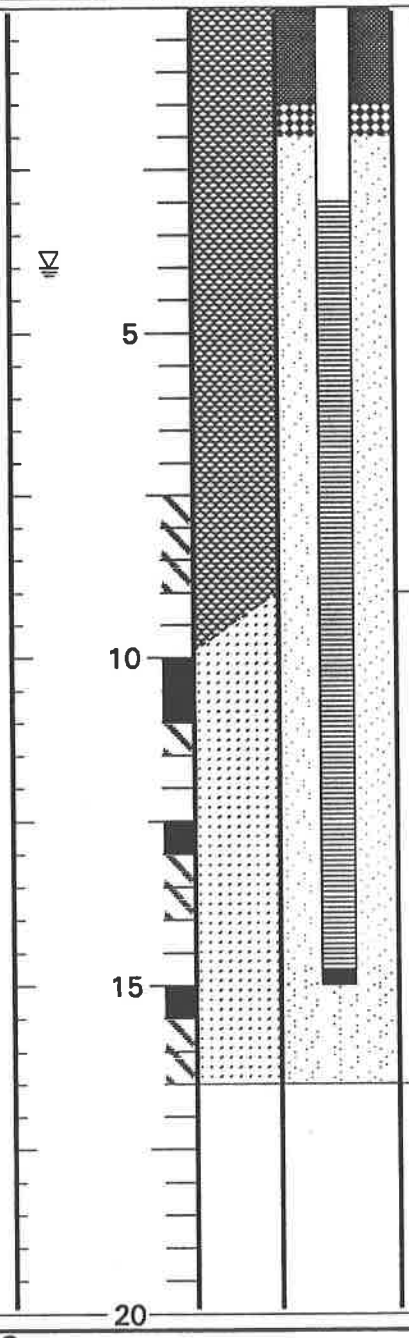
REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. Above ground monument security casing. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**MW-1202**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 2**
DRILLED BY	**Geo-Boring**	REFERENCE ELEV.	**12.46'**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**15.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/10/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	LITHOLOGIC DESCRIPTION
			0 to 9.0 feet: WOOD CHIPS
SS/S-1		5-4-6	
		10-9-9	**9.0 to 16.5 feet: SAND (SW), gray-blank, 90 percent fine to coarse sand, 10 percent fine gravel, medium dense, wet, uncharacteristic odor, wood chips mixed in with sample.**
		3-3-2	
		4-3-3	
			Boring terminated at 15.0 feet, sampled to 16.5 feet.
			See Page 2 for Well Completion Details.



REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. Above ground monument security casing. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	West Site Phase 1	BORING NO.	MW-1202
LOCATION	Weyerhaeuser Everett West Site	PAGE	2 OF 2
DRILLED BY	Geo-Boring	REFERENCE ELEV.	12.46'
DRILL METHOD	Hollow Stem Auger (6" ID)	TOTAL DEPTH	15.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	06/10/93

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
				25				**WELL COMPLETION DETAILS:** +3 to 3.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe. 3.0 to 15.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots and a 2-inch-diameter threaded end cap. 0 to 1.5 feet: Concrete. 1.5 to 2.0 feet: Bentonite chips hydrated with potable water. 2.0 to 16.5 feet: 10 - 20 Colorado Silica Sand.
				30				
				35				
				40				

REMARKS

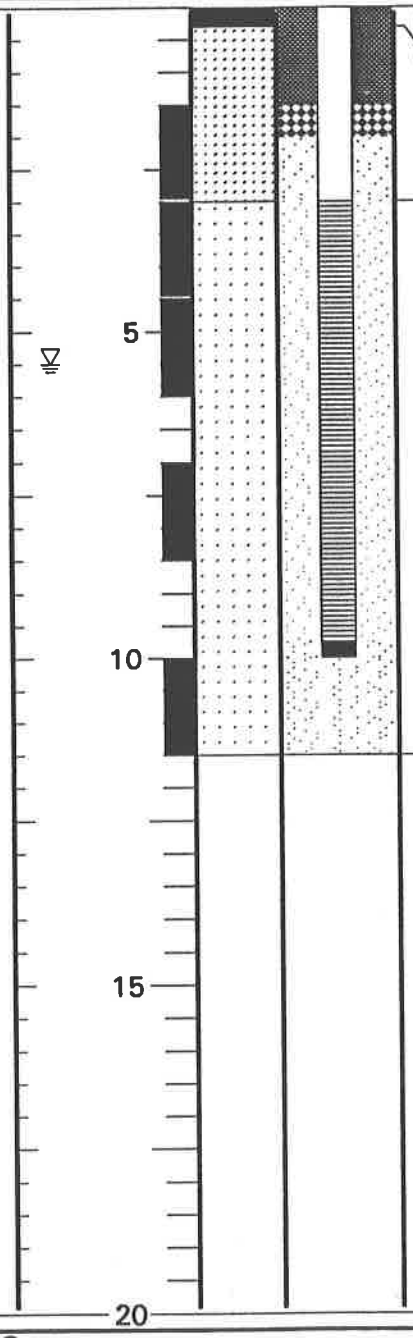
Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. Above ground monument security casing. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME **West Site Phase 1**
LOCATION **Weyerhaeuser Everett West Site**
DRILLED BY **Geo-Boring**
DRILL METHOD **Hollow Stem Auger (6" ID)**
LOGGED BY **Russell Thompson**

BORING NO. **MW-1203**
PAGE **1 OF 1**
REFERENCE ELEV. **10.48'**
TOTAL DEPTH **10.00'**
DATE COMPLETED **06/09/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES
SS/S-1	0	7-9-14
SS/S-1	0	5-7-8
SS/S-2	0	3-4-4
SS/S-3		3-4-4
SS/S-4		3-3-4



LITHOLOGIC DESCRIPTION

0 to 0.3 foot: ASPHALT

0.3 to 3.0 feet: SAND (SW), tan, 5 percent fines, 80 percent fine to medium sand, 15 percent fine to medium gravel, medium dense, damp, no noticeable odor.

3.0 to 11.5 feet: SAND (SP), tan, 90 to 95 percent fine to medium sand, 5 to 10 percent gravel, medium dense, damp to moist, no noticeable odors.

@ 5.0 feet: SAND (SP), gray, 95 to 100 percent fine to medium sand, less than 5 percent fine gravel, loose, wet, uncharacteristic odor.

Boring terminated at 10.0 feet, sampled to 11.5.

WELL COMPLETION DETAILS:

0 to 3.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe.

3.0 to 10.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots and a 2-inch-diameter threaded end cap.

0 to 1.5 feet: Concrete.

1.5 to 2.0 feet: Bentonite chips hydrated with potable water.

2.0 to 11.5 feet: 10 - 20 Colorado Silica Sand.

REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. Flush mounted security monument. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm.
* = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	West Site Phase 1	BORING NO.	MW-1301
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DRILLED BY	Geo-Boring	REFERENCE ELEV.	11.30'
DRILL METHOD	Hollow Stem Auger (6" ID)	TOTAL DEPTH	10.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	06/09/93

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
SS/S-1	0	10-8-9						0 to 0.3 foot: ASPHALT 0.3 to 0.5 foot: CRUSHED ROCK 0.5 to 1.0 foot: SILTY GRAVELLY SAND (SW-SM), 10 to 15 percent silt, 50 percent fine to medium sand, 35 to 40 percent fine to medium gravel, damp, no noticeable odors.
SS/*S-2	0	20-12-7						1.0 to 10.0 feet: SAND (SP), tan, 95 percent fine to coarse sand, 5 percent fine gravel, medium dense, damp, no noticeable odors.
SS/S-3		12-12-10	▽	5				@ 4.5 feet: recovery on second attempt. @ 5.0 feet: becomes wet.
SS/S-4		4-3-4						@ 8.0 feet: sand becomes black with an uncharacteristic odor.
SS/S-5		4-4-5		10				Boring terminated at 10.0 feet, sampled to 11.5 feet.
				15				WELL COMPLETION DETAILS: 0 to 3.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe. 3.0 to 10.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots and a 2-inch-diameter threaded end cap. 0 to 1.5 foot: Concrete. 1.5 to 2.0 feet: Bentonite chips hydrated with potable water. 2.0 to 11.5 feet: 10 - 20 Colorado Silica Sand.
				20				

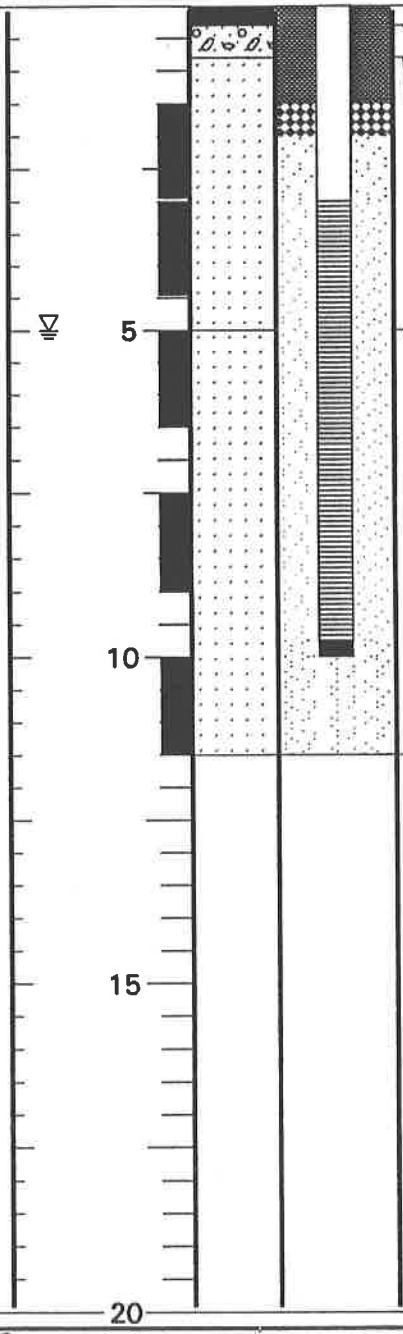
REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. Flush mounted security monument. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm.
* = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**MW-1302**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	REFERENCE ELEV.	**12.03'**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**10.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/09/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES
SS/S-1	0	9-11-8
SS/S-2	0	3-3-3
SS/S-3		2-2-2
SS/S-4		2-2-2
SS/S-5		1-2-2



LITHOLOGIC DESCRIPTION

0 to 0.3 foot: ASPHALT

0.3 to 0.8 foot: SILTY SANDY GRAVEL (GW), tan, 15 to 20 percent silt, 40 percent fine to medium sand, 40 to 45 percent fine to medium gravel, damp, no noticeable odors. (FILL)

0.8 to 5.0 feet: SAND (SP), tan to light tan, 5 percent silt, 90 percent fine to coarse sand, 5 percent fine gravel, medium dense, damp, no noticeable odors.

@ 3.0 feet: becomes loose.

@ 4.0 feet: becomes moist.

5.0 to 11.0 feet: SAND (SP), black, 95 percent fine to medium sand, 5 percent fine gravel, loose, wet, uncharacteristic odor.

Boring terminated at 10.0 feet, sampled to 11.5 feet.

WELL COMPLETION DETAILS:

0 to 3.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe.

3.0 to 10.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots and a 2-inch-diameter threaded end cap.

0 to 1.5 feet: Concrete.

1.5 to 2.0 feet: Bentonite chips hydrated with potable water.

2.0 to 11.5 feet: 10 - 20 Colorado Silica Sand.

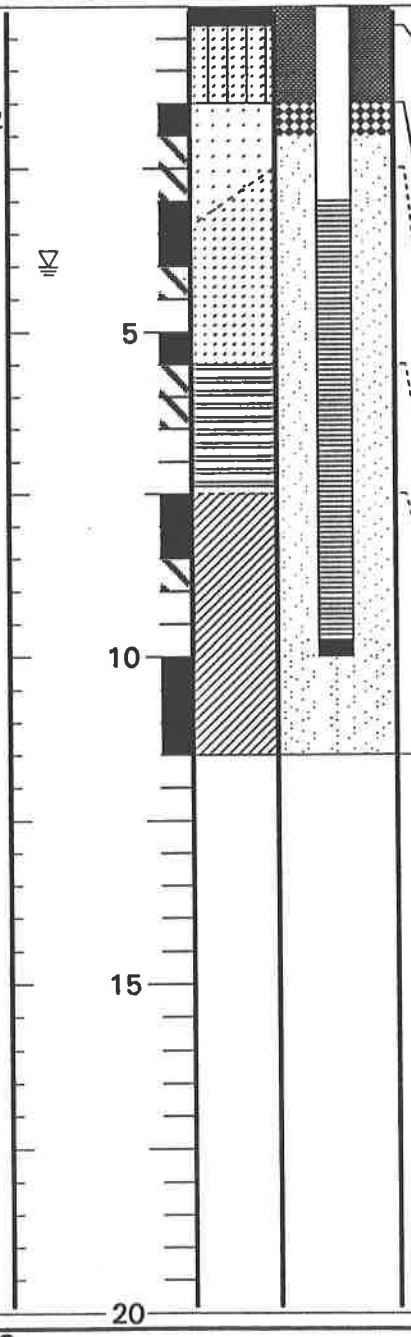
REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. Flush mounted security monument. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm.
* = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**MW-1501**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	REFERENCE ELEV.	**9.94'**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**10.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/10/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES
SS/S-1	0	19-12-12
SS/S-2	0	14-19-11
SS/S-3		6-11-31
SS/S-4		7-4-3
SS/S-5		0-1-3



LITHOLOGIC DESCRIPTION

0 to 0.2 foot: ASPHALT

0.2 to 1.5 feet: GRAVELLY SILTY SAND (SW-SM), tan to grayish, 15 to 20 percent silt, 50 percent fine to medium sand, 35 to 40 percent fine to medium gravel, damp, no noticeable odor.

1.5 to 2.5 feet: SAND (SP), tan-white, 100 percent fine to medium sand, dense, damp to moist, no noticeable odor, sandstone-like material.

2.5 to 5.5 feet: GRAVELLY SAND (SW), gray, 5 percent fines, 50 to 60 percent fine to coarse sand, 35 to 45 percent fine to medium gravel, dense, moist to wet, no noticeable odor.

@ 4.0 feet: water.

5.5 to 7.5 feet: SHALE, black, intermixed with 25 to 30 percent fine to medium sand, dense, wet, no noticeable odor.

7.5 to 11.5 feet: SANDY SILT (CL), gray, 60 percent silt, 40 percent fine to medium sand, loose, wet, no noticeable odor.

@ 11.0 feet: silt content increases to 80 percent.

Boring terminated at 11.5 feet.

WELL COMPLETION DETAILS:

0 to 3.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe.

3.0 to 10.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots and a 2-inch-diameter threaded end cap.

0 to 1.5 feet: Concrete.

1.5 to 2.0 feet: Bentonite chips hydrated with potable water.

2.0 to 11.5 feet: 10 - 20 Colorado Silica Sand.

REMARKS

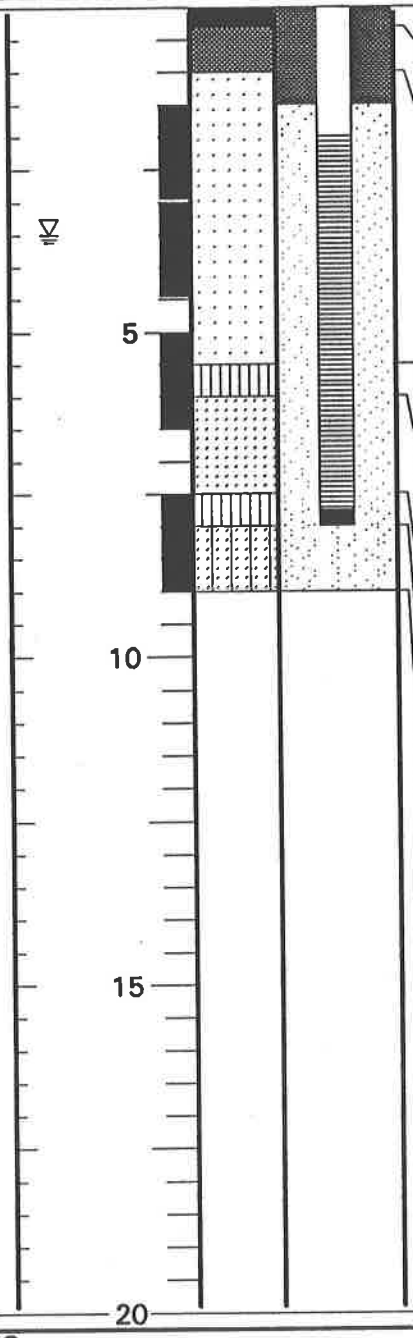
Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. Flush mounted security monument. SS = split spoon sampler. PID = photolonization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME **West Site Phase 1**
LOCATION **Weyerhaeuser Everett West Site**
DRILLED BY **Geo-Boring**
DRILL METHOD **Hollow Stem Auger (6" ID)**
LOGGED BY **Russell Thompson**

BORING NO. **MW-1701**
PAGE **1 OF 1**
REFERENCE ELEV. **11.71'**
TOTAL DEPTH **9.00'**
DATE COMPLETED **06/09/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES
SS/S-1	0	5-8-8
SS/S-2	0	2-4-3
SS/S-3		2-3-4
SS/S-4		3-3-3



LITHOLOGIC DESCRIPTION

0 to 0.3 foot: ASPHALT

0.3 to 1.0 foot: CRUSHED ROCK, mixed with fine to medium sand. (FILL)

1.0 to 5.5 feet: SAND (SP), tan, 5 percent fines, 90 percent fine to coarse sand, 5 percent fine gravel, medium dense, damp, no noticeable odors.

5.5 to 6.0 feet: SILT (ML), gray, 80 percent silt, 20 percent fine sand, loose, wet, no noticeable odors, wood chips present.

6.0 to 7.5 feet: SAND (SW), gray, 5 to 10 percent fines, 85 percent fine to coarse sand, 5 to 10 percent fine gravel, loose, wet, no noticeable odors.

7.5 to 8.0 feet: SILT (ML), gray, 80 percent silt, 20 percent fine sand, loose, wet, no noticeable odors, wood chips present.

8.0 to 9.0 feet: SAND (SW-SM), gray, 5 to 10 percent fines, 85 percent fine to coarse sand, 5 to 10 percent fine gravel, loose, wet, no noticeable odors.

Boring terminated at 9.0 feet.

WELL COMPLETION DETAILS:

0 to 2.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe.

2.0 to 8.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots and a 2-inch-diameter threaded end cap.

0 to 1.5 feet: Concrete.

1.5 to 9.0 feet: 10 - 20 Colorado Silica Sand.

REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. Flush mounted security monument. SS = split spoon sampler. PID = photolonization detector. Background reading = less than 1 ppm.
* = sample submitted for laboratory analysis.

Weyerhaeuser Everett West

2011 Annual Compliance Monitoring Report

Appendix B
Well Logs

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Monitoring Well ID: MW-1202R

Drill Date: November 29, 2011
Logged By: Dean Brame
Drilled By: Curtis / Cascade Drilling

Ground Surf Elev. & Datum: 12.61 (NAVD88)
Coordinate System: NAD83
Latitude/Northing: 373774.03
Longitude/Easting: 1308209.99
Casing Elevation: 12.08

Drill Type: 8"-dia Hollow Stem Auger
Sample Method: 2"x18" Split Spoon
Boring Diameter: 8-inch
Boring Depth (ft bgs): 10.5 ft
Groundwater ATD (ft bgs): 5 ft

Client: Weyerhaeuser
Project: Weyer-EW
Task Number:
Site Location: Everett West

Remarks:

BLOW COUNT	DRIVEN / RECOVERED	DEPTH (ft bgs)	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS	MONITORING WELL DETAIL
3 4 7		0–1	SP	Gray/brown, moist, gravelly SAND with few chunks of concrete.	Concrete Seal 0-1.5 ft
6 8 8		1–2		Dark gray, medium to 2 ft.	2"dia Sch 40 PVC Riser Pipe 0-3 ft; Bentonite Chips 1.5-2 ft
8 10 15		2–3		Brown with minor orange mottling from 2-3.5 ft.	
8 7 9		3–4		Gray, medium, with 1/2" minor gravel from 3.5-5 ft, few pieces of clear glass at 4'.	
4 8 8		4–5		Wet, light brown/orange, coarse, clean at 5 ft.	
10 10 15		5–6		Dark brown from 6-6.5 ft.	10-20 Silica Sand 2-10.5 ft
		6–7		Gray, with minor wood chips from 6.5-7 ft.	2" dia Sch 40 0.010-in PVC Screen 3-10 ft
		7–8		Dark gray, with interbedded wood chip layers from 7-7.5 ft, oxidation/transition line at 7 ft.	
		8–9		Dark brown from 7.5-7.7 ft.	
		9–10		Dark gray, medium from 7.7-9 ft, few wood chips from 8-8.5 ft.	
		10		Very wet, soupy from 9-9.5 ft.	

Notes:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
▼ = denotes groundwater table

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Monitoring Well ID: MW-1203R

Drill Date: November 29, 2011
Logged By: Dean Brame
Drilled By: Curtis / Cascade Drilling

Ground Surf Elev. & Datum: 16.10 (NAVD88)
Coordinate System: NAD83
Latitude/Northing: 373910.15
Longitude/Easting: 1307960.38
Casing Elevation: 15.7

Drill Type: 8"-dia Hollow Stem Auger
Sample Method: 2"x18" Split Spoon
Boring Diameter: 8-inch
Boring Depth (ft bgs): 15 ft
Groundwater ATD (ft bgs): 8 ft

Client: Weyerhaeuser
Project: Weyer-EW
Task Number:
Site Location: Everett West

Remarks: Asphalt and gravel from 0-1 ft cored with 12" diameter auger.

BLOW COUNT	DRIVEN / RECOVERED	DEPTH (ft bgs)	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS	MONITORING WELL DETAIL
4, 13, 35		0–3	GW	Crushed GRAVEL under asphalt.	Concrete Seal 0-2 ft
28, 50, 2		3–6	SP	Light brown, dry medium, SAND with minor small gravel.	2"dia Sch 40 PVC Riser Pipe 0-6 ft; Bentonite Chips 2-4 ft
6, 16, 21, 25, 18, 19, 23, 7, 9		6–8		Clean, moist from 6-7.5 ft.	
15, 7, 9, 10, 7, 10, 10, 17, 21		8–12		Wet at 8 ft. Sand coarsens at 10 ft.	10-20 Silica Sand 4-6 ft; 2" dia Sch 40 0.010-in PVC Screen 6-12 ft
22, 10, 15, 19, 6, 9, 10		12–15		Gray from 10.5-14 ft. Dark gray, wet, and fine with interbedded wood (possible peat) lenses ~1" thick at 14 ft.	10-20 Silica Sand 12-15 ft

Notes:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
▼ = denotes groundwater table

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Monitoring Well ID: MW-1301R

Drill Date: November 28, 2011
Logged By: Dean Brame
Drilled By: Curtis / Cascade Drilling

Ground Surf Elev. & Datum: 14.98 (NAVD88)
Coordinate System: NAD83
Latitude/Northing: 374004.04
Longitude/Easting: 1307718.03
Casing Elevation: 14.44

Drill Type: 8"-dia Hollow Stem Auger
Sample Method: 2"x18" Split Spoon
Boring Diameter: 8-inch
Boring Depth (ft bgs): 10.5 ft
Groundwater ATD (ft bgs): 6.5 ft

Client: Weyerhaeuser
Project: Weyer-EW
Task Number:
Site Location: Everett West

Remarks:

BLOW COUNT	DRIVEN / RECOVERED	DEPTH (ft bgs)	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS	MONITORING WELL DETAIL
3, 3, 4, 3, 2, 3, 4, 4, 4, 4, 5, 5, 5, 3, 2, 17, 12, 5		0–10	GP	Brown, moist, coarse sandy GRAVEL, 2% 1-2" diameter (rounded).	Concrete Seal 0-1.5 ft; 2"dia Sch 40 PVC Riser Pipe 0-3 ft; Bentonite Chips 1.5-2 ft; 10-20 Silica Sand2-10.5 ft; 2" dia Sch 40 0.010-in PVC Screen 3-10 ft
			SP	Brown, dry, medium SAND.	
				Wet with black 1" thick silt and orange stripes at 7 ft.	
				Coarsens with orange staining from 7-8.7 ft.	
				1/4" line of black wood/peat at 8.7 ft, gray/brown and very wet to 9 ft.	
				Trace silt from 9-9.7 ft.	
				Black, with few lumber fragments from 9.7-10.2 ft	
			Solid Wood	Solid WOOD from 10.2 to 10.5 ft.	

Notes:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
▼ = denotes groundwater table

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Monitoring Well ID: MW-1501R

Drill Date: November 29, 2011
Logged By: Dean Brame
Drilled By: Curtis / Cascade Drilling

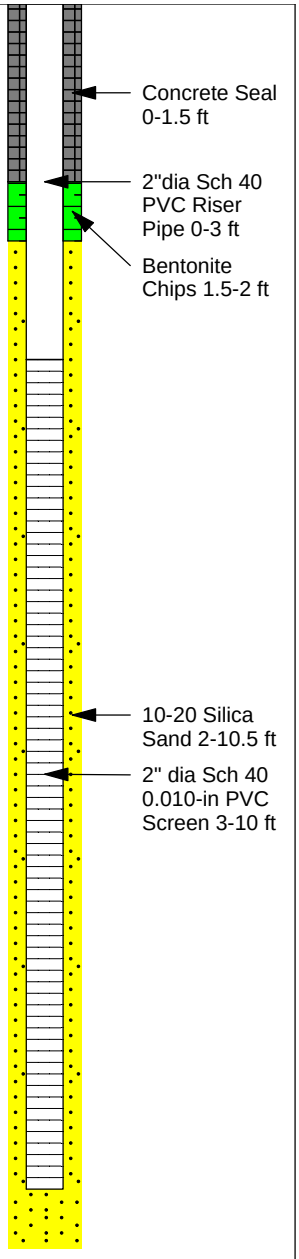
Ground Surf Elev. & Datum: 12.43 (NAVD88)
Coordinate System: NAD83
Latitude/Northing: 373999.28
Longitude/Easting: 1306940.85
Casing Elevation: 11.8

Drill Type: 8"-dia Hollow Stem Auger
Sample Method: 2"x18" Split Spoon
Boring Diameter: 8-inch
Boring Depth (ft bgs): 10.5 ft
Groundwater ATD (ft bgs): 4.5 ft

Client: Weyerhaeuser
Project: Weyer-EW
Task Number:
Site Location: Everett West

Remarks:

BLOW COUNT	DRIVEN / RECOVERED	DEPTH (ft bgs)	USCS SYMBOL	SOIL DESCRIPTION AND OBSERVATIONS
4		0	OL/OH	Dark brown , moist, fine SANDY ORGANIC SOIL with some grass/roots at 0.7 ft and small crushed black gravel.
26				
30		1		
6			Wood chips	Dark brown, moist WOOD CHIPS mixed with few 1" black gravel. Few roots to 2 ft.
4		2		
3				Minor fine sand and very moist from 2 to 3 ft.
50		3		
2				
5		4		Same as above, bright orange streaks.
			GP	Dark gray, wet, medium GRAVEL with SAND, 1/4-1/2" diameter gravel.
65/6"		5		
				Concrete at 5.8 ft. Very wet, and gravel diameter increases to 1-2" (rounded) below.
4		6		Dark gray/black and wet with 1/16-1/2" diameter rounded gravels at 6 ft.
6				
7		7	SP	Dark gray medium SAND.
56/6"			Wood chips	2" lense of WOOD CHIPS (~75%) mixed with sand.
		8	SP	Dark gray, wet, and clean with no wood at 7.5 ft.
5		9		Dark gray/black and coarse with minor small gravel at 9 ft.
5				
15		10	Wood chips	Wet WOOD CHIPS 10 to 10.3 ft.
			ML	Dark gray, soft SILT.



Notes:
ft bgs = feet below ground surface
USCS = Unified Soil Classification System
▼ = denotes groundwater table

Weyerhaeuser Everett West

2011 Annual Compliance Monitoring Report

Appendix C
Laboratory Analytical Reports

Weyerhaeuser
The future is growing™

P.O. Box 9777, WTC 2F25
Federal Way, WA 98063-9777
32901 Weyerhaeuser Way South
Federal Way, WA 98001
(253) 924-6242
Fax 253 924-6654
Dennis.Catalano@weyerhaeuser.com

January 17, 2012

Brett Beaulieu
Floyd/Snider
601 Union St Suite 600
Seattle, WA 98101

Dear Brett:

Attached is the final report for the **Weyer-EW Compliance Monitoring** samples you requested we analyze for you. This work has been performed under our service request number **11-1738** received on **12/21/2011**.

If you have any technical questions concerning this report, please feel free to contact me. at (253) 924-6242.

Thank you for the opportunity to be of service to your organization. I hope that we can be of assistance in the future.

Sincerely,

Dennis Catalano

Dennis Catalano, Operations Manager
Weyerhaeuser Analytical Chemistry and Microstructure
(253) 924-6242
WTC 2F25
Dennis.Catalano@weyerhaeuser.com

Weyerhaeuser

Service Request

Analytical Chemistry and Microstructure

11-1738

Title: Weyer-EW Compliance Monitoring

Samples: 23 ***Tests:*** 13 ***Last Samp:*** 023	***Project Number:***	***PO:***
SAP Order Number: 90-0000-2586	***Order Desc:*** 2760-Everett West Site-Analy Test WY	
Date Received: 12/21/11	***Date Desired:*** 01/11/12	***Date Completed:***
Submitter: Beaulieu, Brett	***Location:***	***Phone:*** 206 292-2078
Reviewer: Catalano, Dennis	***Location:*** WTC 2F25	***Phone:*** (253) 924-6242
Copy To:		
Record Book:	***Ref Request:***	***Disposal:***
Comments: The As results need to be reported to 0.2ug/L on waters. The salinity is listed on paperwork and may require CCT technology to get rid of salt issues. These require disk deliverables and analyst will need to add QC samples to SR		

Group	*Analysis*	*Test Description*	*Comp List*	*Component List Description*
ADMIN	DISK-EPA	EPA Disk - assign to each sample		
CHROM	1-AS-TPH	Acid/Silica Gel Cleanup		
CHROM	1-TPHDNW-S	Prep for NWTPH-D in Soil		
CHROM	1-TPHDNW-W	Prep for NWTPH-D in Water		
CHROM	DIESEL-NS	Diesel/Motor Oil in Soil by NWTPH-D		
CHROM	DIESEL-NW	Diesel/Motor Oil in Water by NWTPH-D		
CHROM	SL-OD-1	Solids - 105C in Solid Matrix		
METALS	3-GM-W2008	AM E-200.8M Water Digest for ICPMS		
METALS	3-HG-S	AM E-245 Hg Prep 245.5 - Solid/Soil		
METALS	3-HG-W	AM E-245 Hg Prep 245.1 - Water		
METALS	3-IF-S3050	AM E-3050 Soil Digest for ICP		
METALS	HG	Mercury - AM E-245	SOLID	Total Mercury in a Solid
			WATER	Total Mercury in Water
METALS	ICPMS	ICP-MS Metals - AM E-200.8M	S4ASCDCRPB	S-As,Cd,Cr,Pb
			W1AS	W-As
			W4ASCDCRPB	W-As,Cd,Cr,Pb

Test Schedules being used:

1-DIESELNS
1-DIESELNW

Printed on: Jan 05, 2012 8:07 AM
Data Retrieved: Jan 05, 2012 8:07 AM

Entered by: Catalano, Dennis
Entered on: Dec 21, 2011 8:03 AM

Form ServiceRequest
Rev. Dec 23, 2008

Weyerhaeuser

Service Request

Analytical Chemistry and Microstructure

11-1738

Title: Weyer-EW Compliance Monitoring

Sample ID - Date Sampled - Status Customer Sample Description / ID	Component List																	
	Analysis	DISK-EPA	1-AS-TPH	1-TPHDNW-S	1-TPHDNW-W	DIESEL-NS	DIESEL-NW	SL-OD-1	3-GM-W2008	3-HG-S	3-HG-W	3-IF-S3050	ICPMS	HG	ICPMS	ICPMS	HG
		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11-1738-001 - 12/19/011 1622 - Available MW-1202R-1211		V							C						V		
11-1738-002 - 12/19/011 1550 - Available MW-1203R-1211		V							C						V		
11-1738-003 - 12/19/011 1518 - Available MW-1301R-1211		V	C		A		C		C						V		
11-1738-004 - 12/19/011 1518 - Available MW-2301R-1211 [M]		V	C		A		C		C						V		
11-1738-005 - 12/19/011 1435 - Available MW-1501R-1211		V							C						V		
11-1738-006 - 12/19/011 1700 - Available WATER-1 [M]		V	C		A		C		C		C					V	G
11-1738-007 - 12/19/011 1635 - Available SOIL-1 [M]		V	C	A		A		C		C		C	V	C			
11-1738-008 - 12/19/011 1645 - Available SOIL-2		V	C	A		A		C		C		C	V	C			
11-1738-009 - 12/19/011 1655 - Available SOIL-3		V	C	A		A		C		C		C	V	C			
11-1738-010 - - Available DBLK_W122111 [BLANK]		V	C				C										
11-1738-011 - - Available DLCS_W122111 [LCS]		V	C				C										
11-1738-012 - 12/19/011 1518 - Available MW-2301R-1211 [DUP]		V	C				C		C						V		
11-1738-013 - - Available DBLK_S122211 [BLANK]		V	C			A											
11-1738-014 - - Available DLCS_S122211 [LCS]		V	C			A											

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Weyerhaeuser

Service Request

Analytical Chemistry and Microstructure

11-1738

Title: Weyer-EW Compliance Monitoring

	DISK-EPA	1-AS-TPH	1-TPHDNW-S	1-TPHDNW-W	DIESEL-NS	DIESEL-NW	SL-OD-1	3-GM-W2008	3-HG-S	3-HG-W	3-IF-S3050	ICPMS	HG	ICPMS	ICPMS	HG
												S4ASCDCRPB	SOLID	W1AS	W4ASCDCRP	WATER
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11-1738-015 - 12/19/011 1635 - Available SOIL-1 [DUP]	V	C			A		C		C		C	V	C			
11-1738-016 - 12/19/011 1518 - Available MW-2301R-1211 [MS]								C						V		
11-1738-017 - - Available SOIL-1 [MS]							C		C		C	V	C			
11-1738-018 - 12/19/011 1700 - Available WATER-1 [DUP]								C		C					V	C
11-1738-019 - 12/19/011 1700 - Available WATER-1 [MS]								C		C					V	C
11-1738-020 - - Available PBW [BLANK]								C		C					V	C
11-1738-021 - - Available LCSW [LCS]								C		C					V	C
11-1738-022 - - Available PBS [BLANK]									C		C	V	P			
11-1738-023 - - Available LCSS [LCS]									C		C	V	P			

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Service Request

Analytical Chemistry and Microstructure

11-1738

Title: Weyer-EW Compliance Monitoring

Group	Analysis	Component List	Test Description	No. Tests	Mult	Charge Amount	Line Total
ADMIN	DISK-EPA		EPA Disk - assign to each sample	6	0.00	20.00	0.00
ADMIN	DISK-EPA		EPA Disk - assign to each sample	9	1.00	20.00	180.00

Total charges for ADMIN group ($) 180.00

Group	Analysis	Component List	Test Description	No. Tests	Mult	Charge Amount	Line Total
CHROM	1-AS-TPH		Acid/Silica Gel Cleanup	6	0.00	15.00	0.00
CHROM	1-AS-TPH		Acid/Silica Gel Cleanup	6	1.00	15.00	90.00
CHROM	1-TPHDNW-S		Prep for NWTPH-D in Soil	3	1.00	0.00	0.00
CHROM	1-TPHDNW-W		Prep for NWTPH-D in Water	3	1.00	0.00	0.00
CHROM	DIESEL-NS		Diesel/Motor Oil in Soil by NWTPH-D	3	0.00	121.00	0.00
CHROM	DIESEL-NS		Diesel/Motor Oil in Soil by NWTPH-D	3	1.00	121.00	363.00
CHROM	DIESEL-NW		Diesel/Motor Oil in Water by NWTPH-D	3	0.00	121.00	0.00
CHROM	DIESEL-NW		Diesel/Motor Oil in Water by NWTPH-D	3	1.00	121.00	363.00
CHROM	SL-OD-1		Solids - 105C in Solid Matrix	2	0.00	15.00	0.00
CHROM	SL-OD-1		Solids - 105C in Solid Matrix	3	1.00	15.00	45.00

Total charges for CHROM group ($) 861.00

Group	Analysis	Component List	Test Description	No. Tests	Mult	Charge Amount	Line Total
METALS	3-GM-W2008		AM E-200.8M Water Digest for ICPMS	6	0.00	46.00	0.00
METALS	3-GM-W2008		AM E-200.8M Water Digest for ICPMS	6	1.00	46.00	276.00
METALS	3-HG-S		AM E-245 Hg Prep 245.5 - Solid/Soil	4	0.00	53.00	0.00
METALS	3-HG-S		AM E-245 Hg Prep 245.5 - Solid/Soil	3	1.00	53.00	159.00
METALS	3-HG-W		AM E-245 Hg Prep 245.1 - Water	4	0.00	46.00	0.00
METALS	3-HG-W		AM E-245 Hg Prep 245.1 - Water	1	1.00	46.00	46.00
METALS	3-IF-S3050		AM E-3050 Soil Digest for ICP	4	0.00	53.00	0.00

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Title: Weyer-EW Compliance Monitoring

METALS	3-IF-S3050		AM E-3050 Soil Digest for ICP	3	1.00	53.00	159.00
METALS	HG	SOLID	Mercury - AM E-245	4	0.00	0.00	0.00
METALS	HG	SOLID	Mercury - AM E-245	3	1.00	0.00	0.00
METALS	HG	WATER	Mercury - AM E-245	4	0.00	0.00	0.00
METALS	HG	WATER	Mercury - AM E-245	1	1.00	0.00	0.00
METALS	ICPMS	S4ASCDCRPB	ICP-MS Metals - AM E-200.8M	4	0.00	40.00	0.00
METALS	ICPMS	S4ASCDCRPB	ICP-MS Metals - AM E-200.8M	3	1.00	40.00	120.00
METALS	ICPMS	W1AS	ICP-MS Metals - AM E-200.8M	2	0.00	10.00	0.00
METALS	ICPMS	W1AS	ICP-MS Metals - AM E-200.8M	5	1.00	10.00	50.00
METALS	ICPMS	W4ASCDCRPB	ICP-MS Metals - AM E-200.8M	4	0.00	40.00	0.00
METALS	ICPMS	W4ASCDCRPB	ICP-MS Metals - AM E-200.8M	1	1.00	40.00	40.00

Total charges for METALS group ($) 850.00

Total charges for Service Request 11-1738 ($) 1,891.00

Service Request: 11-1738

Page 7 of 143

Weyerhaeuser

Weyerhaeuser Analytical Chemistry
c/o SLM 216 (253) 924-6293
32901 Weyerhaeuser Way South
Federal Way, WA 98001

11-1738

Sample Analysis Request and Chain of Custody Record

(90-0000-2586)

Date	Project Title	Page
12/19/11	WEYER-EW COMPLIANCE MONITORING	1 of 1

Client's Name	Account Number/Project Number
BRETT BEAULIEU - FLOYD|SNIDER	WEYER-EW Task 2

Client's Address	Client's Phone Number	Client's FAX Number
601 UNION St. Suite 600 SEATTLE WA 98101	2062922078	2066827867

Client's E-Mail Address	Recorded By (Signature)
brett.beaulieu@floydsnider.com	

Project Manager (Print)	Sampler Name (Print)
BRETT BEAULIEU	BEAULIEU / BRAME

SAMPLE DESCRIPTION				MATRIX				PRESERVATION								ANALYSIS REQUESTED (WRITE/TYPE IN PARAMETER)																NOTES
METHOD	FIELD SAMPLE ID (15 CHARACTER MAX) (REQUIRED)	DATE (REQUIRED)	TIME	WATER	SOIL/SED	OIL		HCl	H_2SO_4	HNO_3	$Na_2S_2O_3$	4°C	FROZEN	FILTERED	# of Containers	Dis. As	TPH-Dx	Total Metals (As, Cd, Cr, Pb, Hg)	TPH-G removed per client 12/21/11														
G	MW-1202R-1211	12/19/11	1622	X						X		X		X	1	X																SP = ~4 mS/cm
G	MW-1203R-1211		1550	X						X		X		X	1	X																SP = ~1 mS/cm
G	MW-1301R-1211		1518	X						X		X		X	2	X	X															SP = ~0.6 mS/cm
G	MW-2301R-1211		1518	X						X		X		X	2	X	X															SP = ~13 mS/cm
G	MW-1501R-1211		1435	X						X		X		X	1	X																
G	[redacted]WATER-1		1700	X						X		X			2		X	X	X													
G	[redacted] SOIL-1		1635		X							X			1		X	X	X													
G	SOIL-2		1645		X							X			1		X	X	X													
G	SOIL-3	↓	1655		X							X			1		X	X	X													

➥ "G"rab, "D"epth composite, or "T"ime composite

ESTIMATED CONCENTRATION RANGE

Percent	
ppm	
ppb	
ppt	

Turnaround Time Required	Results To:	Report Type	Report Basis
☐ 24 hours ☐ 48 hours ☐ 7 days ☒ 2-3 weeks, due:	BRETT BEAULIEU cc:	☒ Electronic Report ☐ Disk Deliverables ☐ NPDES/Regulatory ☐ Other:	☐ As Rcd. ☐ OD ☐ Volume ☐ Wt.
☐ Return unused samples ☐ IRS Qualified R&D?			

Remarks/Detection Limit Requirements:
Water samples for Dissolved Arsenic were field filtered.

Sample Chain of Custody and Shipping Method Record

Relinquished By Sampler (Signature)	Date 12/20/11	Time 1300	Received By (Signature)
Relinquished By (Signature)	Date	Time	Received By Laboratory (Signature)
Air bill Number	Cooler Temp. 4°C	Date Received * 12/21/11	Time Received 0730

* Rcd by security 12/20/11 1640

E Form 16307 (9/08)

Catalano, Dennis

From: Brett Beaulieu [Brett.Beaulieu@floydsnider.com]
Sent: Tuesday, December 13, 2011 8:15 AM
To: Catalano, Dennis
Cc: Dean Brame; Chell Black; Holcomb, Jan
Subject: RE: Everett West project: laboratory info

Dennis,

Thank you very much for your thoughtful response. It sounds like your method for handling the interference will be fine, and preferable to raising the QL above 0.2 ug/L. We are hoping that none of our samples contain enough saline water for this to matter, and if we do, we will let you know on the chain of custody.

Thanks for reviewing the EDD template. There is some flexibility if you cannot provide all of these fields, so just let us know and we'll find a way to make it work. Our database manager, Michelle Black, has been cc'd on these messages, and she is very good at what she does.

Jan,

Can you please include blue ice with the bottle order?

Brett

From: Catalano, Dennis [mailto:dennis.catalano@weyerhaeuser.com]
Sent: Tuesday, December 13, 2011 7:59 AM
To: Brett Beaulieu
Cc: Dean Brame; Chell Black; Holcomb, Jan
Subject: RE: Everett West project: laboratory info

Our Thermo ICPMS is equipped with Collision Cell Technology (CCT) that uses He and H to remove the interferences that, it seems, the Agilent ICPMS is using the online Hydride generation to remove. Arsenic, Chromium, Iron, Manganese, Selenium, and Vanadium are analyzed in the CCT mode. We would not use the hydride pretreatment as the additional HCl would be problematic to the current conditions of the ICPMS (note that HCl is already added to the samples and heated for method 200.8). The further 2.5X dilution of the sample would increase the QL (using the current parameters the As QL = 0.5 ug/L with an MDL = 0.06 ug/L, yet it seems the expectation is that As QL is 0.2 ug/L ?). Not having any data to support the dictated QLs/MDLs using the hydride generation technique would be an issue as well. So...no hydride pretreatment will be used and instead we will use CCT.

To my knowledge we have not run salt water samples on the new ICPMS so I do not know what issues may come up with this project, specifically in meeting the expected detection limits, as dilutions may be necessary and these are already pushed to meet 0.2. The method you sent is an Agilent method and they do not have a CCT cell so they have to do the online hydride.

We do not think the disk format will be a problem but we are looking to confirm we have all the fields described in the EIM document.

Our address is: (also on our CofC form)

Weyerhaeuser Technology Center
c/o SMO SLM 216
32901 Weyerhaeuser Way S

Federal Way, WA 98001

From: Brett Beaulieu [mailto:Brett.Beaulieu@floydsnider.com]
Sent: Monday, December 12, 2011 4:16 PM
To: Catalano, Dennis
Cc: Dean Brame; Chell Black
Subject: Everett West project: laboratory info

Hi Dennis,

Thanks for calling me back and going over some of the parameters for Everett West. This is kind of a long email, but it will help me to memorialize all of this. There are four things that need your attention:

1. I have attached our laboratory electronic data deliverable (EDD) template. We typically request that labs provide data in this format because it assists us with entry into our database and with submittal of data to Washington's Environmental Information Management (EIM) system. We recognize that it will take some effort to conform to our template, so we understand if you cannot do this. Can you please confirm that you can provide an EDD that conforms at least to the EIM fields? I can provide more information if needed. (We think we can do this)
2. Can you also please check to see whether you can pre-treat with hydride generation if requested to avoid a salinity interference for arsenic? Here is a summary of this issue: (no – but see above for what we do)

Several metals, especially Arsenic and Selenium, that are routinely analyzed by IPC-MS (Method 200.8) in freshwater can have false positives, elevated detection limits, or highly variable results in seawater samples. This includes groundwater samples at marine waterfront sites if the specific conductance of the water is more than about 10% of seawater. If all of the samples are saline, then samples should be pre-treated using hydride generation. In our case, the the site is variable – fresh water some places, salt water others, so we would like all samples with specific conductance value of 5,000 uS/cm undergo hydride generation before analysis. We will specifically request this on the chain of custody.

http://www.chem.agilent.com/Library/applications/2hg.pdf

3. Can you please send me the address to which the samples should be shipped or delivered?
4. We will look for 6 preserved bottles for arsenic in water, two bottles for TPH-D in water, and six jars for MTCA metals and TPH-D in soil to us by Friday. (will have them to you by Friday)

Jan, please provide CofC forms; 6 x 16 oz soil jars; 6 x 1L Metals with Nitric; and 3 x 1L ORG. (Brett, take 2x 1L for one of the two samples for TPH in order to do QC). The address is below. Brett, do you want blue ice or will you use regular ice for shipment back? Let Jan know ASAP.

Here is a summary of the other key things we discussed:

- You can meet an As detection limit of 0.2 ug/L (see description above 0.5 is our normal detection limit, but our MDL is 0.06 so meeting 0.2 is not an issue unless dilutions are required)
- You can analyze for TPH-Dx with silica gel cleanup and meet a detection limit of 100 for diesel range and 200 for oil range. (yes)
- Your carbon ranges for these are approximately C-12 to C-24 for diesel and C-24 to C-38 for motor oil. (those are the ranges we use – after talking with the analyst)
- You can provide a CD or DVD with the backup information needed for a Level III data validation (yes)
- You can provide labels, and chain of custody forms (yes)
- Your standard turnaround time is about 17 days (might be a bit longer as we discussed due to holidays – 3 in the next three weeks)

- You can ship bottles to us, but we need to ship or deliver to the lab (correct we will get you bottles this week but you will need to ship back to us)

ıanks again!

Brett Beaulieu, LHG
FLOYD|SNIDER
Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078
fax: 206.682.7867
brett.beaulieu@floydsnider.com

Weyerhaeuser

Weyerhaeuser Analytical Chemistry and Microstructure
32901 Weyerhaeuser Way
Federal Way, WA 98003

Service Request: 11-1738

Weyer-EW Compliance Monitoring

Customer Sample ID:**MW-1202R-1211** Matrix: **W**
Lab Sample ID : **11-1738-001** Fraction: **Dissolved**
Date Sampled : **12/19/11 16:22**
Date Received: 12/21/11 07:30

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0027		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 11:37

Customer Sample ID:**MW-1203R-1211** Matrix: **W**
Lab Sample ID : **11-1738-002** Fraction: **Dissolved**
Date Sampled : **12/19/11 15:50**
Date Received: 12/21/11 07:30

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0014		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 11:40

Customer Sample ID:**MW-1301R-1211** Matrix: **W**
Lab Sample ID : **11-1738-003** Fraction: **Dissolved**
Date Sampled : **12/19/11 15:18**
Date Received: 12/21/11 07:30

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0017		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 11:43
Analysis: Diesel										
Diesel Range	0.05		mg/L	as recd	AM U-NW TPH-D	0.040		1X	12/21/2011	12/27/2011 10:19
Motor Oil Range	ND		mg/L	as recd	AM U-NW TPH-D	0.2		1X	12/21/2011	12/27/2011 10:19
o-Terphenyl	81.2		%	as recd	AM U-NW TPH-D	0		1X	12/21/2011	12/27/2011 10:19

Customer Sample ID:**MW-2301R-1211** Matrix: **W**
Lab Sample ID : **11-1738-004** Fraction: **Dissolved**
Date Sampled : **12/19/11 15:18**
Date Received: 12/21/11 07:30

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0018		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 11:45
Analysis: Diesel										
Diesel Range	0.05		mg/L	as recd	AM U-NW TPH-D	0.040		1X	12/21/2011	12/27/2011 10:34
Motor Oil Range	ND		mg/L	as recd	AM U-NW TPH-D	0.2		1X	12/21/2011	12/27/2011 10:34
o-Terphenyl	78.4		%	as recd	AM U-NW TPH-D	0		1X	12/21/2011	12/27/2011 10:34

Weyerhaeuser

Weyerhaeuser Analytical Chemistry and Microstructure
32901 Weyerhaeuser Way
Federal Way, WA 98003

Service Request: **11-1738**

Weyer-EW Compliance Monitoring

Customer Sample ID:**MW-1501R-1211**
Lab Sample ID : **11-1738-005**
Date Sampled : **12/19/11 14:35**
Date Received: 12/21/11 07:30

Matrix: **W**
Fraction: **Dissolved**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0016		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 11:54

Customer Sample ID:**WATER-1**
Lab Sample ID : **11-1738-006**
Date Sampled : **12/19/11 17:00**
Date Received: 12/21/11 07:30

Matrix: **W**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0025		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 11:57
Cd	ND		mg/L	as recd	AM E-200.8M	0.0005	0.000020	1X	01/03/2012	01/05/2012 11:57
Cr	0.0059		mg/L	as recd	AM E-200.8M	0.0005	0.00020	1X	01/03/2012	01/05/2012 11:57
Hg	ND		ug/L	as recd	AM E-245	0.1	0.030	1X	12/29/2011	12/30/2012 11:57
Pb	0.0033		mg/L	as recd	AM E-200.8M	0.0005	0.000010	1X	01/03/2012	01/05/2012 11:57
Analysis: Diesel										
Diesel Range	0.05		mg/L	as recd	AM U-NW TPH-D	0.040		1X	12/21/2011	12/27/2011 11:04
Motor Oil Range	ND		mg/L	as recd	AM U-NW TPH-D	0.2		1X	12/21/2011	12/27/2011 11:04
o-Terphenyl	82		%	as recd	AM U-NW TPH-D	0		1X	12/21/2011	12/27/2011 11:04

Customer Sample ID:**SOIL-1**
Lab Sample ID : **11-1738-007**
Date Sampled : **12/19/11 16:35**
Date Received: 12/21/11 07:30

Matrix: **S**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	7.5		mg/kg	dry	AM E-200.8M	0.5	0.056	10X	01/03/2012	01/05/2012 12:35
Cd	ND		mg/kg	dry	AM E-200.8M	0.5	0.019	10X	01/03/2012	01/05/2012 12:35
Cr	40.4		mg/kg	dry	AM E-200.8M	0.5	0.19	10X	12/28/2011	01/05/2012 12:35
Hg	0.04		mg/kg	dry	AM E-245	0.03	0.0097	1X	12/28/2011	12/30/2011 12:12
Pb	9.3		mg/kg	dry	AM E-200.8M	0.5	0.0093	10X	01/03/2012	01/05/2012 12:35
Analysis: Solids										
Solids, total	94.3		Wt%	dry	SM2540G			1X		12/23/2011
Analysis: Diesel										
Diesel Range	ND		mg/kg	dry	AM U-NW TPH-D	23		1X	12/22/2011	12/28/2011 11:27
Motor Oil Range	760		mg/kg	dry	AM U-NW TPH-D	91		1X	12/22/2011	12/28/2011 11:27
o-Terphenyl	106		%	as recd	AM U-NW TPH-D	0		1X	12/22/2011	12/28/2011 11:27

Weyerhaeuser

Weyerhaeuser Analytical Chemistry and Microstructure
32901 Weyerhaeuser Way
Federal Way, WA 98003

Service Request: 11-1738

Weyer-EW Compliance Monitoring

Customer Sample ID:**SOIL-2** Matrix: **S**
Lab Sample ID : **11-1738-008** Fraction: **Total**
Date Sampled : **12/19/11 16:45**
Date Received: 12/21/11 07:30

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	5.6		mg/kg	dry	AM E-200.8M	0.5	0.057	10X	01/03/2012	01/05/2012 12:45
Cd	ND		mg/kg	dry	AM E-200.8M	0.5	0.019	10X	01/03/2012	01/05/2012 12:45
Cr	25.2		mg/kg	dry	AM E-200.8M	0.5	0.19	10X	12/28/2011	01/05/2012 12:45
Hg	ND		mg/kg	dry	AM E-245	0.03	0.011	1X	12/28/2011	12/30/2011 12:26
Pb	4.9		mg/kg	dry	AM E-200.8M	0.5	0.0095	10X	01/03/2012	01/05/2012 12:45
Analysis: Solids										
Solids, total	87.4		Wt%	dry	SM2540G			1X		12/23/2011
Analysis: Diesel										
Diesel Range	ND		mg/kg	dry	AM U-NW TPH-D	23		1X	12/22/2011	12/28/2011 11:57
Motor Oil Range	ND		mg/kg	dry	AM U-NW TPH-D	91		1X	12/22/2011	12/28/2011 11:57
o-Terphenyl	113		%	as recd	AM U-NW TPH-D	0		1X	12/22/2011	12/28/2011 11:57

Customer Sample ID:**SOIL-3** Matrix: **S**
Lab Sample ID : **11-1738-009** Fraction: **Total**
Date Sampled : **12/19/11 16:55**
Date Received: 12/21/11 07:30

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	11.0		mg/kg	dry	AM E-200.8M	0.5	0.058	10X	01/03/2012	01/05/2012 12:49
Cd	ND		mg/kg	dry	AM E-200.8M	0.5	0.019	10X	01/03/2012	01/05/2012 12:49
Cr	48.2		mg/kg	dry	AM E-200.8M	0.5	0.19	10X	12/28/2011	01/05/2012 12:49
Hg	0.03		mg/kg	dry	AM E-245	0.03	0.010	1X	12/28/2011	12/30/2011 12:28
Pb	18.4		mg/kg	dry	AM E-200.8M	0.5	0.0096	10X	01/03/2012	01/05/2012 12:49
Analysis: Solids										
Solids, total	69.5		Wt%	dry	SM2540G			1X		12/23/2011
Analysis: Diesel										
Diesel Range	72		mg/kg	dry	AM U-NW TPH-D	32		1X	12/22/2011	12/28/2011 12:12
Motor Oil Range	1000		mg/kg	dry	AM U-NW TPH-D	130		1X	12/22/2011	12/28/2011 12:12
o-Terphenyl	103		%	as recd	AM U-NW TPH-D	0		1X	12/22/2011	12/28/2011 12:12

Customer Sample ID:**DBLK_W122111 [BLANK]**Matrix:**W**
Lab Sample ID : **11-1738-010** Fraction: **Total**
Date Sampled :
Date Received:

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Diesel										
Diesel Range	ND		mg/L	as recd	AM U-NW TPH-D	0.04		1X	12/21/2011	12/27/2011 09:49
Motor Oil Range	ND		mg/L	as recd	AM U-NW TPH-D	0.2		1X	12/21/2011	12/27/2011 09:49
o-Terphenyl	83.4		%	as recd	AM U-NW TPH-D	0		1X	12/21/2011	12/27/2011 09:49

Weyerhaeuser

Weyerhaeuser Analytical Chemistry and Microstructure
32901 Weyerhaeuser Way
Federal Way, WA 98003

Service Request: 11-1738

Weyer-EW Compliance Monitoring

Customer Sample ID: **DLCS_W122111 [LCS]** Matrix: **W**
Lab Sample ID : **11-1738-011** Fraction: **Total**
Date Sampled :
Date Received:

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Diesel										
Diesel Range	0.359		mg/L	as recd	AM U-NW TPH-D			1X	12/21/2011	12/27/2011 10:04
Motor Oil Range	0.006 J		mg/L	as recd	AM U-NW TPH-D	0.20		1X	12/21/2011	12/27/2011 10:04
o-Terphenyl	79.2		%	as recd	AM U-NW TPH-D	0		1X	12/21/2011	12/27/2011 10:04

Customer Sample ID: **MW-2301R-1211 [DUP]** Matrix: **W**
Lab Sample ID : **11-1738-012** Fraction: **Total**
Date Sampled : **12/19/11 15:18**
Date Received: 12/21/11 07:30

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0018		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 11:48
Analysis: Diesel										
Diesel Range	ND		mg/L	as recd	AM U-NW TPH-D	0.043		1X	12/21/2011	12/27/2011 10:49
Motor Oil Range	ND		mg/L	as recd	AM U-NW TPH-D	0.22		1X	12/21/2011	12/27/2011 10:49
o-Terphenyl	87.1		%	as recd	AM U-NW TPH-D	0		1X	12/21/2011	12/27/2011 10:49

Customer Sample ID: **DBLK_S122211 [BLANK]** Matrix: **S**
Lab Sample ID : **11-1738-013** Fraction: **Total**
Date Sampled :
Date Received:

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Diesel										
Diesel Range	ND		mg/kg	dry	AM U-NW TPH-D	25		1X	12/22/2011	12/28/2011 10:57
Motor Oil Range	ND		mg/kg	dry	AM U-NW TPH-D	99		1X	12/22/2011	12/28/2011 10:57
o-Terphenyl	88.4		%	as recd	AM U-NW TPH-D	0		1X	12/22/2011	12/28/2011 10:57

Customer Sample ID: **DLCS_S122211 [LCS]** Matrix: **S**
Lab Sample ID : **11-1738-014** Fraction: **Total**
Date Sampled :
Date Received:

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Diesel										
Diesel Range	178		mg/kg	dry	AM U-NW TPH-D			1X	12/22/2011	12/28/2011 11:12
Motor Oil Range	6.8 J		mg/kg	dry	AM U-NW TPH-D	99		1X	12/22/2011	12/28/2011 11:12
o-Terphenyl	73.4		%	as recd	AM U-NW TPH-D	0		1X	12/22/2011	12/28/2011 11:12

Weyerhaeuser

Weyerhaeuser Analytical Chemistry and Microstructure
32901 Weyerhaeuser Way
Federal Way, WA 98003

Service Request: 11-1738

Weyer-EW Compliance Monitoring

Customer Sample ID:**SOIL-1 [DUP]**
Lab Sample ID : **11-1738-015**
Date Sampled : **12/19/11 16:35**
Date Received: 12/21/11 07:30

Matrix: **S**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	5.7		mg/kg	dry	AM E-200.8M	0.5	0.057	10X	01/03/2012	01/05/2012 12:38
Cd	ND		mg/kg	dry	AM E-200.8M	0.5	0.019	10X	01/03/2012	01/05/2012 12:38
Cr	42.7		mg/kg	dry	AM E-200.8M	0.5	0.19	10X	01/03/2012	01/05/2012 12:38
Hg	0.04		mg/kg	dry	AM E-245	0.02	0.0078	1X	01/03/2012	12/30/2011 12:15
Pb	6.5		mg/kg	dry	AM E-200.8M	0.5	0.0094	10X	01/03/2012	01/05/2012 12:38
Analysis: Solids										
Solids, total	94.3		Wt%	dry	SM2540G			1X		01/03/2012
Analysis: Diesel										
Diesel Range	ND		mg/kg	dry	AM U-NW TPH-D	25		1X	12/22/2011	12/28/2011 11:42
Motor Oil Range	890		mg/kg	dry	AM U-NW TPH-D	98		1X	12/22/2011	12/28/2011 11:42
o-Terphenyl	119		%	as recd	AM U-NW TPH-D	0		1X	12/22/2011	12/28/2011 11:42

Customer Sample ID:**MW-2301R-1211 [MS]**
Lab Sample ID : **11-1738-016**
Date Sampled : **12/19/11 15:18**
Date Received: 12/21/11 07:30

Matrix: **W**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0433		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 11:51

Customer Sample ID:**SOIL-1 [MS]**
Lab Sample ID : **11-1738-017**
Date Sampled : **12/19/11 16:35**
Date Received: 12/21/11 07:30

Matrix: **S**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	105		mg/kg	dry	AM E-200.8M	1	0.11	20X	01/03/2012	01/05/2012 12:42
Cd	97		mg/kg	dry	AM E-200.8M	1	0.038	20X	01/03/2012	01/05/2012 12:42
Cr	142		mg/kg	dry	AM E-200.8M	1	0.38	20X	01/03/2012	01/05/2012 12:42
Hg	0.57		mg/kg	dry	AM E-245	0.03	0.010	1X	01/03/2012	12/30/2011 12:23
Pb	102		mg/kg	dry	AM E-200.8M	1	0.019	20X	01/03/2012	01/05/2012 12:42

Weyerhaeuser

Weyerhaeuser Analytical Chemistry and Microstructure
32901 Weyerhaeuser Way
Federal Way, WA 98003

Service Request: 11-1738

Weyer-EW Compliance Monitoring

Customer Sample ID:**WATER-1 [DUP]**
Lab Sample ID : **11-1738-018**
Date Sampled : **12/19/11 17:00**
Date Received: 12/21/11 07:30

Matrix: **W**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0022		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 12:07
Cd	ND		mg/L	as recd	AM E-200.8M	0.0005	0.000020	1X	01/03/2012	01/05/2012 12:07
Cr	0.0058		mg/L	as recd	AM E-200.8M	0.0005	0.00020	1X	01/03/2012	01/05/2012 12:07
Hg	ND		ug/L	as recd	AM E-245	0.1	0.030	1X	12/29/2011	12/30/2011 11:59
Pb	0.0032		mg/L	as recd	AM E-200.8M	0.0005	0.000010	1X	01/03/2012	01/05/2012 12:07

Customer Sample ID:**WATER-1 [MS]**
Lab Sample ID : **11-1738-019**
Date Sampled : **12/19/11 17:00**
Date Received: 12/21/11 07:30

Matrix: **W**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0422		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 12:11
Cd	0.0372		mg/L	as recd	AM E-200.8M	0.0005	0.000020	1X	01/03/2012	01/05/2012 12:11
Cr	0.0479		mg/L	as recd	AM E-200.8M	0.0005	0.00020	1X	01/03/2012	01/05/2012 12:11
Hg	2.3		ug/L	as recd	AM E-245	0.1	0.030	1X	12/29/2011	12/30/2011 12:01
Pb	0.0401		mg/L	as recd	AM E-200.8M	0.0005	0.000010	1X	01/03/2012	01/05/2012 12:11

Customer Sample ID:**PBW [BLANK]**
Lab Sample ID : **11-1738-020**
Date Sampled :
Date Received:

Matrix: **W**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	ND		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 11:31
Cd	ND		mg/L	as recd	AM E-200.8M	0.0005	0.000020	1X	01/03/2012	01/05/2012 11:31
Cr	ND		mg/L	as recd	AM E-200.8M	0.0005	0.00020	1X	01/03/2012	01/05/2012 11:31
Hg	ND		ug/L	as recd	AM E-245	0.1	0.030	1X	12/29/2011	12/30/2011 11:52
Pb	ND		mg/L	as recd	AM E-200.8M	0.0005	0.000010	1X	01/03/2012	01/05/2012 11:31

Customer Sample ID:**LCSW [LCS]**
Lab Sample ID : **11-1738-021**
Date Sampled :
Date Received:

Matrix: **W**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	0.0408		mg/L	as recd	AM E-200.8M	0.0002	0.000060	1X	01/03/2012	01/05/2012 11:34
Cd	0.0388		mg/L	as recd	AM E-200.8M	0.0005	0.000020	1X	01/03/2012	01/05/2012 11:34
Cr	0.0415		mg/L	as recd	AM E-200.8M	0.0005	0.00020	1X	01/03/2012	01/05/2012 11:34
Hg	2.0		ug/L	as recd	AM E-245	0.1	0.030	1X	12/29/2011	12/30/2011 11:54
Pb	0.0389		mg/L	as recd	AM E-200.8M	0.0005	0.000010	1X	01/03/2012	01/05/2012 11:34

Weyerhaeuser

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32901 Weyerhaeuser Way
Federal Way, WA 98003

Service Request: 11-1738

Weyer-EW Compliance Monitoring

Customer Sample ID:**PBS [BLANK]**
Lab Sample ID : **11-1738-022**
Date Sampled :
Date Received:

Matrix: **S**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	ND		mg/kg	dry	AM E-200.8M	0.5	0.060	10X	01/03/2012	01/05/2012 12:28
Cd	ND		mg/kg	dry	AM E-200.8M	0.5	0.020	10X	01/03/2012	01/05/2012 12:28
Cr	ND		mg/kg	dry	AM E-200.8M	0.5	0.20	10X	01/03/2012	01/05/2012 12:28
Hg	ND		mg/kg	dry	AM E-245	0.04	0.015	1X	12/29/2011	12/30/2011 12:06
Pb	ND		mg/kg	dry	AM E-200.8M	0.5	0.010	10X	01/03/2012	01/05/2012 12:28

Customer Sample ID:**LCSS [LCS]**
Lab Sample ID : **11-1738-023**
Date Sampled :
Date Received:

Matrix: **S**
Fraction: **Total**

Component	Result	Flags	Units	Basis	Method	Min PQL	MDL	Dilution	Date Prepared	Date Analyzed
Analysis: Metals										
As	**101**		mg/kg	dry	AM E-200.8M	1	0.12	20X	01/03/2012	01/05/2012 12:32
Cd	**97**		mg/kg	dry	AM E-200.8M	1	0.040	20X	01/03/2012	01/05/2012 12:32
Cr	**100**		mg/kg	dry	AM E-200.8M	1	0.40	20X	01/03/2012	01/05/2012 12:32
Hg	**0.82**		mg/kg	dry	AM E-245	0.04	0.015	1X	12/29/2011	12/30/2011 12:09
Pb	**98**		mg/kg	dry	AM E-200.8M	1	0.020	20X	01/03/2012	01/05/2012 12:32

-= END OF REPORT =-

Approved By:

Name:Dennis Catalano
Title:Operations Manager
Telephone:(253) 924-6242
E-Mail:Dennis.Catalano@weyerhaeuser.com

Weyerhaeuser Analytical & Testing Services
32901 Weyerhaeuser Way South
Federal Way, WA 98001

Service Request 11-1738

Report

Weyer- EW Compliance Monitoring

Client ID	Date Sampled	Time Sampled	Lab ID	As	Cd	Cr	Hg	Pb
				mg/L				
MW-1202R-1211	12/19/11	1622	001	0.0027	---	---	---	---
MW-1203R-1211	12/19/11	1550	002	0.0014	---	---	---	---
MW-1301R-1211	12/19/11	1518	003	0.0017	---	---	---	---
MW-2301R-1211	12/19/11	1518	004	0.0018	---	---	---	---
MW-1501R-1211	12/19/11	1435	005	0.0016	---	---	----	---
WATER-1	12/19/11	1700	006	0.0025	< 0.0005	0.0059	< 0.0001	0.0033
			QL:	0.0002	0.0005	0.0005	0.0001	0.0005
			Method Number:	E-200.8M	E-200.8M	E-200.8M	E-245	E-200.8M
			Analyst:	DJD	DJD	DJD	CD	DJD
			Analysis Date:	01/05/12	01/05/12	01/05/12	12/30/11	01/05/12

Client ID	Date Sampled	Time Sampled	Lab ID	As	Cd	Cr	Hg	Pb
				mg/kg, Oven Dried basis				
SOIL-1	12/19/11	1635	007	7.5	< 0.5	40.4	0.04	9.3
SOIL-2	12/19/11	1645	008	5.6	< 0.5	25.2	< 0.03	4.9
SOIL-3	12/19/11	1655	009	11.0	< 0.5	48.2	0.03	18.4
			QL:	0.5	0.5	0.5	0.04	0.5
			Method Number:	E-3050/ E-200.8M	E-3050/ E-200.8M	E-3050/ E-200.8M	E-245	E-3050/ E-200.8M
			Analyst:	DJD	DJD	DJD	CD	DJD
			Analysis Date:	01/05/12	01/05/12	01/05/12	12/30/11	01/05/12

Approved: Dan Deprez Date: 01/11/12
Telephone: (253) 924-6188

Weyerhaeuser Analytical & Testing Services
32901 Weyerhaeuser Way South
Federal Way, WA 98001

Metals QC Report

Weyer- EW Compliance Monitoring

Method Blank Report

Element	Water Method Blank Found
	mg/L
As	< 0.0002
Cd	< 0.0005
Cr	< 0.0005
Hg	< 0.0001
Pb	< 0.0005

Method Blank Report

Element	Soil Method Blank Found
	mg/kg
As	< 0.5
Cd	< 0.5
Cr	< 0.5
Hg	< 0.04
Pb	< 0.5

Approved: Dan Deprez Date: 01/11/12
Telephone: (253) 924-6188

Weyerhaeuser Analytical & Testing Services
32901 Weyerhaeuser Way South
Federal Way, WA 98001

Service Request 11-1738

Metals QC Report

Weyer- EW Compliance Monitoring

Water Laboratory Control Sample Report

Element	LCSW Found	True Value	Lower Limit	Upper Limit	% Recovery
	mg/L				
As	0.0408	0.0400	0.0340	0.0460	102
Cd	0.0388	0.0400	0.0340	0.0460	97
Cr	0.0415	0.0400	0.0340	0.0460	104
Hg	0.0020	0.0020	0.0017	0.0023	100
Pb	0.0389	0.0400	0.0340	0.0460	97

Soil Laboratory Control Sample Report

Element	LCSS Found	True Value	Lower Limit	Upper Limit	% Recovery
	mg/kg				
As	101	100	85	115	101
Cd	97	100	85	115	97
Cr	100	100	85	115	100
Hg	0.82	0.80	0.68	0.92	103
Pb	98	100	85	115	98

Approved: Dan Deprez Date: 01/11/12
Telephone: (253) 924-6188

Weyerhaeuser Analytical & Testing Services
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Federal Way, WA 98001

Metals QC Report

Weyer- EW Compliance Monitoring

Duplicate Report for Sample 004/012

Element	Sample Found	Duplicate Found	RPD
	mg/L		
As	0.0018	0.0018	0.0

Duplicate Report for Sample 006/018

Element	Sample Found	Duplicate Found	RPD
	mg/L		
As	0.0025	0.0022	12.8
Cd	< 0.0005	< 0.0005	NC
Cr	0.0059	0.0058	1.7
Hg	< 0.0001	< 0.0001	NC
Pb	0.0033	0.0032	3.1

Duplicate Report for Sample 007/015

Element	Sample Found	Duplicate Found	RPD
	mg/kg, Oven Dried basis		
As	7.5	5.7	27.3
Cd	< 0.5	< 0.5	NC
Cr	40.4	42.7	5.5
Hg	0.04	0.04	0.0
Pb	9.3	6.5	35.4

Approved: Dan Deprez Date: 01/11/12
Telephone: (253) 924-6188

Weyerhaeuser Analytical & Testing Services
32901 Weyerhaeuser Way South
Federal Way, WA 98001

Service Request 11-1738

Metals QC Report

Weyer- EW Compliance Monitoring

Spike Report for Sample 004/016

Element	Sample Found	Spike Found	Net Spike	Spike Level	% Recovery
	mg/L				
As	0.0018	0.0433	0.0415	0.0400	104

Spike Report for Sample 006/019

Element	Sample Found	Spike Found	Net Spike	Spike Level	% Recovery
	mg/L				
As	0.0025	0.0422	0.0397	0.0400	99
Cd	< 0.0005	0.0372	0.0372	0.0400	93
Cr	0.0059	0.0479	0.0420	0.0400	105
Hg	< 0.0001	0.0023	0.0023	0.0020	115
Pb	0.0033	0.0401	0.0368	0.0400	92

Spike Report for Sample 007/017

Element	Sample Found	Spike Found	Net Spike	Spike Level	% Recovery
	mg/kg, Oven Dried basis				
As	7.5	105	97.5	94.0	104
Cd	< 0.5	97	97.0	94.0	103
Cr	40.4	142	101.6	94.0	108
Hg	0.04	0.57	0.53	0.53	100
Pb	9.3	102	92.7	94.0	99

Approved: Dan Deprez Date: 01/11/12
Telephone: (253) 924-6188

sample	prep code	As ug/L - raw	Cd ug/L - raw	Cr ug/L - raw	Pb ug/L - raw	As mg/L	Cd mg/L	Cr mg/L	Pb mg/L
11-1738-020	3-GM-W2008	< 0.5	< 0.5	< 0.5	< 0.5	< 0.0002	< 0.0005	< 0.0005	< 0.0005
11-1738-021	3-GM-W2008	40.8	38.76	41.52	38.92	0.0408	0.0388	0.0415	0.0389
11-1738-001	3-GM-W2008	2.742	---	---	---	0.0027	---	---	---
11-1738-002	3-GM-W2008	1.435	---	---	---	0.0014	---	---	---
11-1738-003	3-GM-W2008	1.715	---	---	---	0.0017	---	---	---
11-1738-004	3-GM-W2008	1.775	---	---	---	0.0018	---	---	---
11-1738-012	3-GM-W2008	1.792	---	---	---	0.0018	---	---	---
11-1738-016	3-GM-W2008	43.27	---	---	---	0.0433	---	---	---
11-1738-005	3-GM-W2008	1.613	---	---	---	0.0016	---	---	---
11-1738-006	3-GM-W2008	2.523	< 0.5	5.864	3.31	0.0025	< 0.0005	0.0059	0.0033
11-1738-018	3-GM-W2008	2.19	< 0.5	5.836	3.247	0.0022	< 0.0005	0.0058	0.0032
11-1738-019	3-GM-W2008	42.25	37.25	47.88	40.06	0.0422	0.0372	0.0479	0.0401

sample	prep code	solids code	As ug/L - raw	Cd ug/L - raw	Cr ug/L - raw	Pb ug/L - raw	As mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg
11-1738-022	3-IF-S3050	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
11-1738-023	3-IF-S3050	1	50.57	48.59	49.8	49.23	101	97	100	98
11-1738-007	3-IF-S3050	SL-OD-1	8.122	< 0.5	43.67	10.03	7.5	< 0.5	40.4	9.3
11-1738-015	3-IF-S3050	SL-OD-1	6.002	< 0.5	45.28	6.915	5.7	< 0.5	42.7	6.5
11-1738-017	3-IF-S3050	SL-OD-1	56.06	51.84	75.29	54.12	105	97	142	102
11-1738-008	3-IF-S3050	SL-OD-1	5.932	< 0.5	26.52	5.138	5.6	< 0.5	25.2	4.9
11-1738-009	3-IF-S3050	SL-OD-1	11.49	< 0.5	50.15	19.18	11.0	< 0.5	48.2	18.4

Results Worksheet For SL-OD-1 on SR # 11-1738

	Tare	Tare n Sample	Tare n Solids	Sample Mass	Solids Mass	Solids	Moisture	
	g	g	g	g	g	Wt%	Wt%	
11-1738-007	2.5890	28.7730	27.2740	26.1840	24.6850	94.3	5.72	0.54
11-1738-008	2.6000	15.1580	13.5720	12.5580	10.9720	87.4	12.6	0.58
11-1738-009	2.5870	12.5450	9.5120	9.9580	6.9250	69.5	30.4	0.72
11-1738-015	2.5890	28.7730	27.2740	26.1840	24.6850	94.3	5.72	
11-1738-017	2.5890	28.7730	27.2740	26.1840	24.6850	94.3	5.72	

METALS DIGESTION LOG

sr # 11-1738

method # AM E-200.8M

	sample numbers	amount aliquoted (mL) or grams	sample basis	final volume (mL)	comments
1	11-1738-020	50	DDI-H2O	50	PBW
2	21	↓	↓	↓	LCSW
3	1	↓	as-rec'd	↓	
4	2	↓	↓	↓	
5	3	↓	↓	↓	
6	4	↓	↓	↓	
7	12	↓	↓	↓	DUP
8	16	↓	↓	↓	MS
9	5	↓	↓	↓	
10	6	↓	↓	↓	
11	18	↓	↓	↓	DUP
12	19	↓	↓	↓	MS
13					
14					
15					
16					
17					
18					
19					
20		01-03-12			
21					
22					
23					
24					
25					

LCSS, LCSW, TCLP LCSW = spiked blank

analyst and start date: JD 01-03-12

original filed with sr # 11-1738

ICP spikes	ICPMS spikes
true value = 1 mg/L for all elements, except **Ca, K, Mg, Na = 41 mg/L** **P = 40 mg/L** **Si = 40 mg/L for FBAs only**	**true value = 0.04 mg/L for all elements, except** **Ca, K, Mg, Na = 20.04 mg/L** **P = 20 mg/L**
FINAL VOLUME = 50 mL	**FINAL VOLUME = 50 mL**
_____ **0.5 mL** of **CL-CAL-2**	✓✓✓ **0.2 mL** of **INSDPPB**
_____ **0.5 mL** of **BBiLi100**	✓✓✓ **0.25 mL** of **WTC-SPK-1**
_____ **0.5 mL** of **WTC-SPK-1**	
_____ **0.2 mL** of **10,000 mg/L Si (FBA only)**	

CL-CAL-2 = Spex CertiPrep, lot# CL28-06JB, exp. 08/30/12
100 mg/L Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn
in 5% HNO_3 and trace HF

BBiLi100 = 100 mg/L B, Bi, Li solution in 2% HNO_3
prep by D. Deprez, 10/17/11, exp. 10/17/12
1. half fill a 50-mL tube with DDI-water
2. add 1 mL of conc. HNO_3, EMD, lot# 48074
3. add 5 mL 1000 mg/L B, Ultra Scientific, lot# J00705, exp. 09/30/15, in 2% NH_4OH
4. add 5 mL 1000 mg/L Bi, Ultra Scientific, lot# L00784, exp. 08/31/17, in 2% HNO_3
5. add 5 mL 1000 mg/L Li, Ultra Scientific, lot# J00468, exp. 06/30/15, in 2% HNO_3
6. dilute to a 50-mL final volume with DDI-water and mix

INSDPPB = prep by D. Deprez, 09/20/11, exp. 08/30/12
10 mg/L Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn
in 1% HNO_3
Spex CertiPrep, CL-CAL-2, lot# CL28-06JB, exp. 08/30/12
100 mg/L Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn
in 5% HNO_3 and trace HF
1000 mg/L B, Ultra Scientific, lot# J00705, exp. 09/30/15
in 2% NH_4OH
1000 mg/L Bi, Ultra Scientific, lot# L00784, exp. 08/31/17
in 2% HNO_3
1000 mg/L Li, Ultra Scientific, lot# J00468, exp. 06/30/15
in 2% HNO_3
1000 mg/L P, Ultra Scientific, lot# J01102, exp. 12/31/15
in 2% HNO_3

WTC-SPK-1 = Inorganic Ventures, lot# D2-MEB359106, exp. 02/01/12 = 4000 mg/L Ca, K, Mg, Na, P - in 3% HNO_3

10,000 mg/L Si = JT Baker, lot# J44N53, exp. 10/31/12 - in 5% HNO_3 and trace HF

Si spike for HF preps (1000 mg/L Si in H_2O, RICCA Chemical Company, lot # 4103284, exp. 02-2013)

Si true value = 50 mg/L

____ **0.25 mL** for Final Volume = **5 mL** ____ **0.5 mL** for Final Volume = **10 mL** ____ **1.25 mL** for Final Volume = **25 mL**

analyst and date: 01-03-12

METALS DIGESTION LOG

sr # 11-1738

method # AM E-3050

	sample numbers	amount aliquoted mL or (grams)	sample basis	final volume (mL)	comments
1	11-1738-022	assume 0.5g	DDI-H2O	50	PBS
2	23	↓	↓	↓	LCSS
3	7	0.573	as-recd		
4	15	0.562	↓		DUP
5	17	0.564			MS
6	8	0.601			
7	9	0.748	↓	↓	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19			01-03-12		
20					
21					
22					
23					
24					
25					

LCSS, LCSW, TCLP LCSW = spiked blank

analyst and start date: DP 01-03-12

original filed with sr # 11-1738

ICP spikes

true value = 1 mg/L for all elements, except
Ca, K, Mg, Na = 41 mg/L
P = 40 mg/L
Si = 40 mg/L for FBAs only

FINAL VOLUME = 50 mL

✓✓ **0.5 mL** of **CL-CAL-2**

✓✓ **0.5 mL** of **BBiLi100**

✓✓ **0.5 mL** of **WTC-SPK-1**

_____ **0.2 mL** of **10,000 mg/L Si (FBA only)**

ICPMS spikes

true value = 0.04 mg/L for all elements, except
Ca, K, Mg, Na = 20.04 mg/L
P = 20 mg/L

FINAL VOLUME = 50 mL

_____ **0.2 mL** of **INSDPPB**

_____ **0.25 mL** of **WTC-SPK-1**

CL-CAL-2 = Spex CertiPrep, lot# CL28-06JB, exp. 08/30/12
100 mg/L Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn
in 5% HNO_3 and trace HF

BBiLi100 = 100 mg/L B, Bi, Li solution in 2% HNO_3
prep by D. Deprez, 10/17/11, exp. 10/17/12
1. half fill a 50-mL tube with DDI-water
2. add 1 mL of conc. HNO_3, EMD, lot# 48074
3. add 5 mL 1000 mg/L B, Ultra Scientific, lot# J00705, exp. 09/30/15, in 2% NH_4OH
4. add 5 mL 1000 mg/L Bi, Ultra Scientific, lot# L00784, exp. 08/31/17, in 2% HNO_3
5. add 5 mL 1000 mg/L Li, Ultra Scientific, lot# J00468, exp. 06/30/15, in 2% HNO_3
6. dilute to a 50-mL final volume with DDI-water and mix

INSDPPB = prep by D. Deprez, 09/20/11, exp. 08/30/12
10 mg/L Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn
in 1% HNO_3
Spex CertiPrep, CL-CAL-2, lot# CL28-06JB, exp. 08/30/12
100 mg/L Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn
in 5% HNO_3 and trace HF
1000 mg/L B, Ultra Scientific, lot# J00705, exp. 09/30/15
in 2% NH_4OH
1000 mg/L Bi, Ultra Scientific, lot# L00784, exp. 08/31/17
in 2% HNO_3
1000 mg/L Li, Ultra Scientific, lot# J00468, exp. 06/30/15
in 2% HNO_3
1000 mg/L P, Ultra Scientific, lot# J01102, exp. 12/31/15
in 2% HNO_3

WTC-SPK-1 = Inorganic Ventures, lot# D2-MEB359106, exp. 02/01/12 = 4000 mg/L Ca, K, Mg, Na, P - in 3% HNO_3

10,000 mg/L Si = JT Baker, lot# J44N53, exp. 10/31/12 - in 5% HNO_3 and trace HF

Si spike for HF preps (1000 mg/L Si in H_2O, RICCA Chemical Company, lot # 4103284, exp. 02-2013)

Si true value = 50 mg/L

____ **0.25 mL** for Final Volume = **5 mL** ____ **0.5 mL** for Final Volume = **10 mL** ____ **1.25 mL** for Final Volume = **25 mL**

analyst and date: DP 01-03-12

Sample List TE-XII ICPMS JP 01-05-12 SR 11-1738

No	Label	Type	Weight	Rack	Row	Col	Height
1	STD1	Blank	1.000	0	1	3	144
2	STD2	Fully Quant Standard	1.000	1	1	1	144
3	STD3	Fully Quant Standard	1.000	1	1	2	144
4	STD4	Fully Quant Standard	1.000	0	1	4	144
5	STD5	Fully Quant Standard	1.000	1	1	3	144
6	CCV	QC Sample	1.000	0	1	4	144
7	ICV40	QC Sample	1.000	0	1	9	144
8	ICB	QC Sample	1.000	0	1	3	144
9	QLSTD	QC Sample	1.000	1	1	4	144
10	11-1738-020	Unknown	1.000	1	1	5	144
11	11-1738-021	Unknown	1.000	1	1	6	144
12	11-1738-001	Unknown	1.000	1	1	7	144
13	11-1738-002	Unknown	1.000	1	1	8	144
14	11-1738-003	Unknown	1.000	1	1	9	144
15	11-1738-004	Unknown	1.000	1	1	10	144
16	11-1738-012	Unknown	1.000	1	1	11	144
17	11-1738-016	Unknown	1.000	1	1	12	144
18	11-1738-005	Unknown	1.000	1	2	1	144
19	11-1738-006	Unknown	1.000	1	2	2	144
20	CCV	QC Sample	1.000	0	1	4	144
21	CCB	QC Sample	1.000	0	1	3	144
22	11-1738-018	Unknown	1.000	1	2	3	144
23	11-1738-019	Unknown	1.000	1	2	4	144
24	CCV	QC Sample	1.000	0	1	4	144
25	CCB	QC Sample	1.000	0	1	3	144
26	11-1738-022DL10	Unknown	1.000	1	2	5	144
27	11-1738-023DL20	Unknown	1.000	1	2	6	144
28	11-1738-007DL10	Unknown	1.000	1	2	7	144
29	11-1738-015DL10	Unknown	1.000	1	2	8	144
30	11-1738-017DL20	Unknown	1.000	1	2	9	144
31	11-1738-008DL10	Unknown	1.000	1	2	10	144
32	11-1738-009DL10	Unknown	1.000	1	2	11	144
33	QLSTDDL2	Unknown	1.000	1	2	12	144
34	CCV	QC Sample	1.000	0	1	4	144
35	CCB	QC Sample	1.000	0	1	3	144

DL10 = 0.5 mL / 5mL

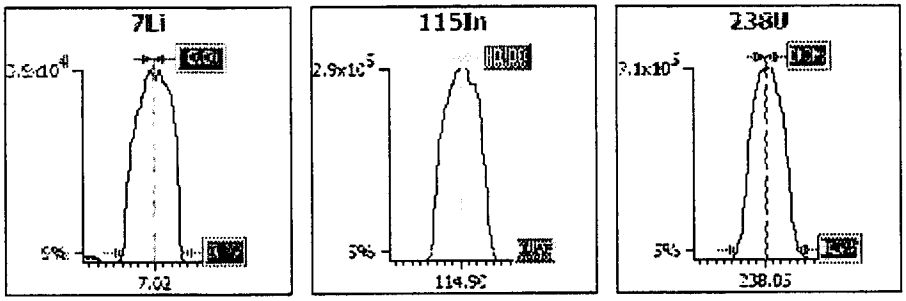
DL20 = 0.25mL / 5mL

Performance Report

Sample details
Acquired at : 1/5/2012 8:34:04 AM
Report name : 1. Xt Y Standard Mode [6/24/2009 7:17:09 PM]

Mass Calibration verification

Acquisition parameters
Sweeps : 30
Dwell : 1.0 mSecs
Point spacing : 0.01 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
7Li	0.85	0.65	0.10	0.72	-0.01
115In	0.85	0.65	0.10	0.77	-0.00
238U	0.85	0.65	0.10	0.77	0.04

Sample details
Acquired at : 1/5/2012 8:34:04 AM
Report name : 1. Xt Y Standard Mode [6/24/2009 7:17:09 PM]

Tune conditions

Major	
Extraction	-145.1
Lens 1	-1231
Lens 2	-80.0
Focus	9.6
D1	-40.0
D2	-140
Pole Bias	0.3
Hexapole Bias	-7.0
Nebuliser	0.83

Minor	
Lens 3	-195.3
Forward power	1404
Horizontal	60
Vertical	383
DA	-33.7
Cool	13.0
Auxiliary	0.90
Sampling Depth	100

Global	
Standard resolution	125
High resolution	125
Analogue Detector	1824
PC Detector	2824

Add. Gases	
CCT-He H2	0.00
Do Not Use	0.00

Sensitivity and stability results

Acquisition parameters
Sweeps : 30

Run	Time	5Bkg	7Li	56Ar O	59Co	137Ba++	138Ba++	101Bkg	115In	137Ba
Dwell (mSecs)		100.0	10.0	10.0	10.0	10.0	30.0	100.0	10.0	10.0
Limits	%RSD	-	5.0%	-	-	-	-	-	5.0%	-
	Countrate	-	>25000	-	-	-	-	-	>200000	-
1	8:34:21 AM	0.000	38154.216	229048.27	69260.824	193.335	1294.503	0.000	285106.90	32994.726
2	8:34:38 AM	0.000	40213.186	236986.18	72322.607	233.335	1354.509	0.000	289109.48	33084.934
3	8:34:56 AM	0.333	40330.181	235454.50	70449.951	190.001	1383.400	0.000	287942.94	32881.131
4	8:35:13 AM	0.000	41550.337	234153.37	70131.725	213.335	1331.173	0.000	285453.72	33034.818
5	8:35:30 AM	0.000	41129.121	235227.47	71391.274	186.668	1338.952	0.000	285820.96	33151.755
x		0.067	40275.408	234173.96	70711.276	203.335	1340.507	0.000	286686.80	33029.473
σ		0.15	1309.64	3038.56	1179.70	19.72	32.56	0.00	1747.39	101.58
%RSD		223.607	3.252	1.298	1.668	9.699	2.429	0.000	0.610	0.308

Run	Time	138Ba	140Ce	156Ce O	220Bkg	238U
Dwell (mSecs)		10.0	10.0	30.0	100.0	10.0
Limits	%RSD	-	-	-	-	5.0%
	Countrate	-	-	-	<1	>350000
1	8:34:21 AM	214251.34	262907.15	2961.418	0.000	706655.85
2	8:34:38 AM	220908.24	268462.37	3278.154	0.000	704947.82
3	8:34:56 AM	219852.14	267144.68	2973.643	0.333	704636.34
4	8:35:13 AM	220759.30	265749.01	3134.788	0.000	695753.10
5	8:35:30 AM	221829.02	268234.83	3169.240	0.000	697855.34
x		219520.01	266499.61	3103.449	0.067	701969.69
σ		3027.53	2277.54	134.96	0.15	4835.14
%RSD		1.379	0.855	4.349	223.607	0.689

Ratio results

Run	Time	137Ba++/137Ba	156Ce O/140Ce
Ratio limits		<0.0400	<0.0250
1	8:34:21 AM	0.006	0.011
2	8:34:38 AM	0.007	0.012
3	8:34:56 AM	0.006	0.011
4	8:35:13 AM	0.006	0.012
5	8:35:30 AM	0.006	0.012
x		0.0062	0.0116
σ		0.00	0.00
%RSD		9.6154	3.7950

Result : The performance report passed.

Performance Report

Sample details
Acquired at : 1/5/2012 8:36:47 AM
Report name : 2. Xt Y CCT KED [5/3/2011 9:20:10 AM]

Tune conditions

Major	
Extraction	-133.3
Lens 1	-1231
Lens 2	-80.0
Focus	-10.4
D1	-51.0
D2	-140
Pole Bias	-14.0
Hexapole Bias	-17.0
Nebuliser	0.83

Minor	
Lens 3	-195.3
Forward power	1404
Horizontal	60
Vertical	383
DA	-52.5
Cool	13.0
Auxiliary	0.90
Sampling Depth	100

Global	
Standard resolution	125
High resolution	125
Analogue Detector	1824
PC Detector	2824

Add. Gases	
CCT-He H2	3.61
Do Not Use	0.00

Sensitivity and stability results

Acquisition parameters
Sweeps : 100

Run	Time	78Se	115In	140Ce	156Ce O
Dwell (mSecs)		10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	-	-
	Countrate	<50	>50000	-	-
1	8:36:48 AM	16.000	150115.59	210247.84	2669.249
2	8:36:55 AM	15.000	149414.30	208065.24	2642.244
3	8:37:02 AM	16.000	150885.64	210946.02	2673.250
4	8:37:09 AM	19.000	154234.12	213562.47	2713.258
5	8:37:16 AM	30.000	156971.69	216537.76	2753.265
x		19.200	152324.27	211871.87	2690.253
σ		6.22	3188.33	3263.96	43.40
%RSD		32.401	2.093	1.541	1.613

Ratio results

Run	Time	156Ce O/140Ce
Ratio limits		<0.0250
1	8:36:48 AM	0.013
2	8:36:55 AM	0.013
3	8:37:02 AM	0.013
4	8:37:09 AM	0.013
5	8:37:16 AM	0.013
x		0.0127
σ		0.00
%RSD		0.1232

Result : The performance report passed.

Experiment Details

Description	PlasmaLab Template BlankExperiment
Template Filename	C:\Program Files\Thermo Electron\PlasmaLab\data\scan.tee
Created By User	wawtcmetal
Analyte Database	EPA_CCT.tea
Creation Timestamp	2/2/2006 10:13:19 AM
Last Edited By	wawtcmetal
Last Edit Timestamp	1/5/2012 11:04:28 AM
Instrument Detector	Simultaneous
Database Version	3.51
Acquisition Mode	Unknown

Numerical Results report key (text indicates meaning)

Blue text indicates that cell is a statistic.
Underlining indicates that a data warning flag is set.

Column headings
- **No flag**
- **Semi Quant**
- **Standard Addition**
- **Multi Element**

Result cells
- Internal Standard
- Excluded
- QC Warning
- QC Failure

Transient TRA only:
- Peak Not Found
- Manually Edited
- Merged Peak

Data warning flags
- I - Invalid calibration
- T - Tripped
- F - Interference correction failed
- M - Result over max
- V - Valley integration failed
- D - Different method used

Setup

Survey Scan Setup

Sweeps	5
Dwell Time	600
Channels Per Mass	10
Acquisition Duration	6620

Main Run Setup

Main Run	Peak Jumping
Sweeps	30
Dwell Time	10000
Channels Per Mass	1
Acquisition Duration	17743
Channel Spacing	0.02

Survey Scan Regions

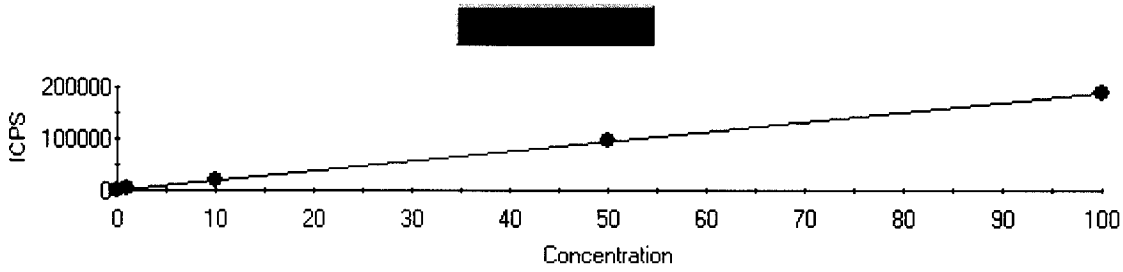
Start AMU	End AMU	Channels	Dwell ms	Resolution
4.59	11.50	69	600	Standard
22.59	28.41	58	600	
30.59	31.50	9	600	
33.50	34.50	10	600	
38.50	39.41	9	600	
42.59	55.50	129	600	Standard
56.50	79.50	230	600	Standard
80.50	245.50	1650	600	Standard

Peak Jump Regions

Analyte	Channels	Dwell ms	Resolution
45Sc	1	10000	Standard
52Cr	1	20000	Standard
53Cl O	1	20000	Standard
63Cu	1	10000	Standard
67Zn	1	10000	Standard
68Zn	1	10000	Standard
75As	1	10000	Standard
83Kr	1	20000	Standard
91Zr	1	10000	Standard

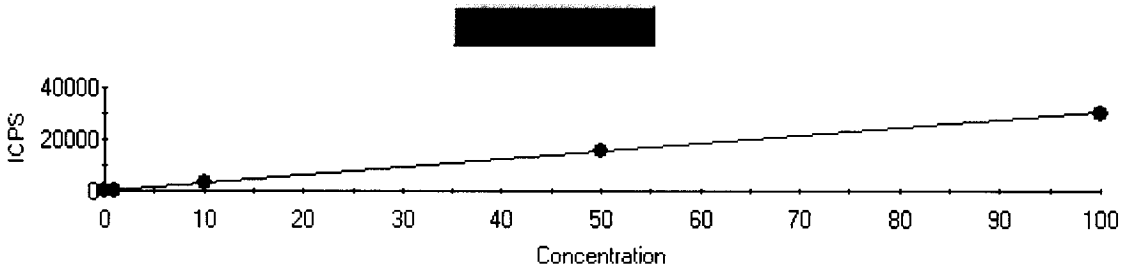
95Mo	1	10000	Standard
97Mo	1	10000	Standard
98Mo	1	10000	Standard
99Ru	1	10000	Standard
103Rh	1	10000	Standard
103Rh H2	1	10000	Standard
111Cd	1	10000	Standard
120Sn	1	10000	Standard
125Te	1	10000	Standard
137Ba	1	10000	Standard
159Tb	1	10000	Standard
206Pb	1	10000	Standard
207Pb	1	10000	Standard
208Pb	1	10000	Standard

Fully Quant Calibration



Intercept CPS=345.415568 Intercept Conc=0.182052
Sensitivity=1897.346009 Correlation Coeff=0.999966

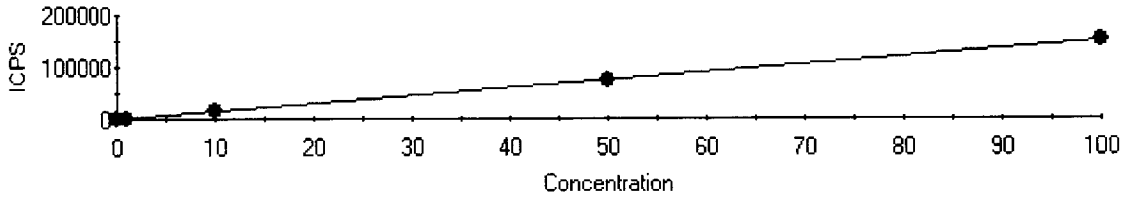
Label	Defined	Measured	Error	Mean CPS	% Error
STD1	0.000	0.000	0.000	345.42	0.00
STD2	1.000	1.022	0.022	2285.24	2.24
STD3	10.000	10.031	0.031	19377.69	0.31
STD4	50.000	50.664	0.664	96473.22	1.33
STD5	100.000	99.665	0.335	189443.46	0.34



Intercept CPS=41.082660 Intercept Conc=0.135196
Sensitivity=303.874652 Correlation Coeff=0.999845

Label	Defined	Measured	Error	Mean CPS	% Error
STD1	0.000	0.000	0.000	41.08	0.00
STD2	1.000	0.984	0.016	340.13	1.59
STD3	10.000	9.927	0.073	3057.69	0.73
STD4	50.000	51.392	1.392	15657.75	2.78
STD5	100.000	99.312	0.688	30219.34	0.69

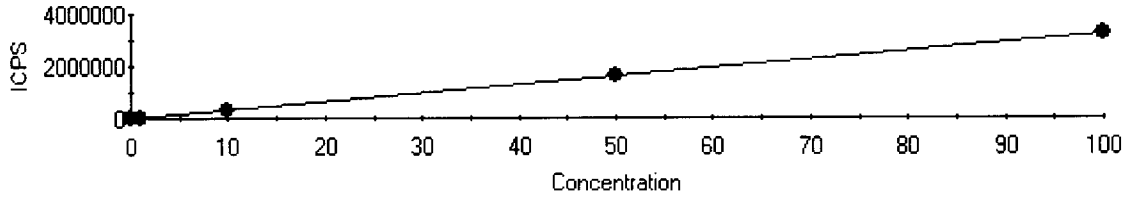
[redacted]



Intercept CPS=9.670879 Intercept Conc=0.006483
Sensitivity=1491.755011 Correlation Coeff=0.999994

Label	Defined	Measured	Error	Mean CPS	% Error
STD1	0.000	-0.000	0.000	9.67	0.00
STD2	1.000	1.000	0.000	1501.91	0.03
STD3	10.000	10.005	0.005	14933.96	0.05
STD4	50.000	50.269	0.269	74999.18	0.54
STD5	100.000	99.865	0.135	148983.61	0.14

[redacted]



Intercept CPS=761.203883 Intercept Conc=0.023739
Sensitivity=32064.933525 Correlation Coeff=0.999964

Label	Defined	Measured	Error	Mean CPS	% Error
STD1	0.000	-0.000	0.000	761.20	0.00
STD2	1.000	0.988	0.012	32438.38	1.21
STD3	10.000	10.011	0.011	321774.90	0.11
STD4	50.000	50.675	0.675	1625666.35	1.35
STD5	100.000	99.661	0.339	3196392.76	0.34

Dilution Corrected Concentrations

STD1 1/5/2012 11:05:52 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:06:01	95.5%	-0.019	-159.700	-0.047	96.6%	99.5%	-0.002	97.8%	0.000
2	11:06:10	101.6%	-0.005	-282.700	0.040	101.7%	100.0%	-0.000	100.6%	-0.001
3	11:06:19	102.9%	0.023	442.500	0.007	101.7%	100.5%	0.002	101.6%	0.001
x		100.0%	0.000	-0.000	0.000	100.0%	100.0%	-0.000	100.0%	-0.000
%RSD		4.0	0.000	0.000	0.000	2.9	0.5	0.000	2.0	0.000

STD2 1/5/2012 11:08:41 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:08:50	102.0%	1.052	1826.000	0.976	102.8%	102.6%	1.047	102.1%	0.989
2	11:08:59	106.3%	0.980	1486.000	0.950	104.0%	102.1%	0.978	104.0%	0.972
3	11:09:08	105.8%	1.035	2179.000	1.026	105.8%	103.0%	0.975	103.8%	1.002
x		104.7%	1.022	1830.000	0.984	104.2%	102.6%	1.000	103.3%	0.988
%RSD		2.3	3.723	18.920	3.922	1.4	0.4	4.083	1.0	1.520

STD3 1/5/2012 11:11:16 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:11:25	104.3%	10.080	2225.000	10.280	105.8%	102.9%	9.785	104.4%	10.010
2	11:11:34	107.5%	10.030	1126.000	9.532	106.8%	104.1%	10.110	106.6%	9.914
3	11:11:44	109.2%	9.978	2298.000	9.968	107.2%	104.0%	10.120	105.3%	10.110
x		107.0%	10.030	1883.000	9.927	106.6%	103.7%	10.000	105.4%	10.010
%RSD		2.3	0.523	34.870	3.791	0.6	0.6	1.904	1.0	0.958

STD4 1/5/2012 11:14:04 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:14:13	106.8%	50.390	4018.000	50.620	106.7%	104.7%	50.220	104.8%	50.900
2	11:14:22	111.4%	50.010	4806.000	51.070	110.9%	105.9%	50.060	109.1%	50.530
3	11:14:31	110.5%	51.590	5113.000	52.490	109.7%	104.0%	50.530	108.2%	50.600
x		109.6%	50.660	4645.000	51.390	109.1%	104.9%	50.270	107.4%	50.680
%RSD		2.2	1.624	12.160	1.903	2.0	0.9	0.479	2.1	0.383

STD5 1/5/2012 11:17:12 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:17:21	107.9%	98.580	4049.000	97.170	107.0%	106.5%	M 100.400	107.4%	99.480
2	11:17:30	111.8%	100.400	5547.000	M 100.400	111.0%	104.6%	M 100.800	110.3%	99.800
3	11:17:39	114.8%	100.100	4858.000	M 100.400	111.5%	105.7%	98.370	111.1%	99.700
x		111.5%	99.660	4818.000	M 99.310	109.8%	105.6%	M 99.860	109.6%	99.660
%RSD		3.1	0.957	15.560	M 1.868	2.2	0.9	M 1.309	1.8	0.164

CCV 1/5/2012 11:19:54 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:20:03	103.9%	49.470	3270.000	50.860	104.2%	105.1%	49.520	103.5%	50.140
2	11:20:12	109.1%	50.220	2656.000	50.260	107.1%	105.3%	49.880	106.1%	50.900
3	11:20:21	109.8%	50.430	3873.000	50.950	107.6%	105.1%	49.560	106.8%	50.590
x		107.6%	50.040	3267.000	50.690	106.3%	105.1%	49.650	105.5%	50.550
%RSD		3.0	1.006	18.630	0.744	1.7	0.1	0.396	1.7	0.756

ICV40 1/5/2012 11:22:48 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:22:57	102.2%	39.620	1866.000	38.510	102.8%	101.9%	39.120	102.9%	39.480
2	11:23:06	108.1%	38.710	2297.000	39.630	105.6%	105.0%	39.730	106.2%	39.300
3	11:23:15	109.2%	39.010	1706.000	39.480	107.2%	105.0%	38.820	106.2%	39.400
x		106.5%	39.120	1957.000	39.200	105.2%	104.0%	39.220	105.1%	39.390
%RSD		3.6	1.183	15.630	1.554	2.1	1.7	1.185	1.8	0.225

ICB 1/5/2012 11:26:09 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:26:18	101.9%	0.023	436.600	-0.037	102.1%	100.9%	0.004	101.9%	-0.002
2	11:26:27	107.6%	0.027	928.900	0.099	105.5%	98.4%	0.001	103.2%	-0.004
3	11:26:36	109.0%	0.039	1262.000	-0.049	104.7%	101.5%	0.008	103.7%	-0.007
x		106.2%	0.030	876.000	0.004	104.1%	100.3%	0.004	102.9%	-0.004
%RSD		3.5	27.180	47.420	1941.000	1.7	1.6	74.810	0.9	58.620

QLSTD 1/5/2012 11:28:45 AM QC Status: PASS (Initial: PASS) ref # 224

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:28:54	101.5%	0.511	311.200	0.529	102.2%	102.3%	0.462	100.9%	0.488
2	11:29:03	107.5%	0.547	501.900	0.428	105.6%	101.3%	0.531	104.4%	0.496
3	11:29:12	106.5%	0.486	623.600	0.577	104.4%	103.2%	0.515	104.3%	0.489
x		105.2%	0.515	478.900	0.511	104.1%	102.3%	0.502	103.2%	0.491
%RSD		3.1	5.966	32.880	14.900	1.7	0.9	7.189	2.0	0.938

11-1738-020 1/5/2012 11:31:23 AM PBW - all w/in ± PQL

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:31:32	101.8%	0.025	1081.000	0.015	101.5%	102.2%	-0.004	100.9%	-0.016
2	11:31:41	107.6%	0.062	1699.000	0.059	104.9%	101.7%	-0.000	104.5%	-0.015
3	11:31:50	108.6%	0.064	886.100	0.002	105.5%	103.8%	-0.007	104.5%	-0.014
x		106.0%	0.050	1222.000	0.025	104.0%	102.6%	-0.004	103.3%	-0.015
%RSD		3.4	43.660	34.750	117.300	2.1	1.1	87.230	2.0	6.738

11-1738-021 1/5/2012 11:34:05 AM LCSW - all w/in ± 15% of the true value

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:34:14	111.5%	41.730	-3093.000	40.300	108.9%	108.2%	39.450	109.2%	38.930
2	11:34:23	117.5%	41.000	-4102.000	39.570	113.4%	111.0%	38.840	112.4%	39.020
3	11:34:32	120.1%	41.820	-3640.000	42.520	116.2%	108.7%	38.000	114.8%	38.810
x		116.4%	41.520	-3612.000	40.800	112.8%	109.3%	38.760	112.2%	38.920
%RSD		3.8	1.089	13.990	3.774	3.3	1.3	1.869	2.5	0.279

11-1738-001 1/5/2012 11:37:00 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:37:09	107.6%	1.643	-3974.000	2.559	89.3%	93.2%	0.001	96.4%	0.012
2	11:37:18	111.9%	1.556	-3637.000	2.619	91.8%	95.2%	-0.002	99.7%	0.010
3	11:37:27	117.1%	1.651	-3642.000	3.048	94.3%	95.1%	-0.004	100.9%	0.008
x		112.2%	1.617	-3751.000	2.742	91.8%	94.5%	-0.002	99.0%	0.010
%RSD		4.3	3.267	5.147	9.722	2.7	1.2	180.200	2.3	18.180

11-1738-002 1/5/2012 11:40:20 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:29	119.0%	0.070	-7063.000	1.308	103.5%	99.6%	0.009	108.3%	-0.003
2	11:40:38	121.3%	0.077	-7258.000	1.518	106.3%	100.2%	0.014	110.3%	-0.004
3	11:40:47	123.8%	0.073	-6746.000	1.480	108.4%	100.5%	0.024	110.7%	-0.004
x		121.4%	0.073	-7022.000	1.435	106.1%	100.1%	0.016	109.7%	-0.004
%RSD		2.0	4.366	3.681	7.816	2.4	0.5	48.820	1.2	12.010

11-1738-003 1/5/2012 11:43:08 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:43:17	114.2%	0.101	-7508.000	1.780	108.0%	100.2%	0.000	110.9%	0.008
2	11:43:26	118.4%	0.136	-8035.000	1.576	109.6%	101.9%	0.000	112.7%	0.010
3	11:43:35	119.5%	0.135	-8003.000	1.789	110.5%	102.0%	-0.022	112.9%	0.009
x		117.4%	0.124	-7849.000	1.715	109.4%	101.4%	-0.007	112.2%	0.009
%RSD		2.4	15.990	3.763	7.030	1.1	1.0	184.100	1.0	12.900

11-1738-004 1/5/2012 11:45:52 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:46:01	109.8%	0.075	-7964.000	2.005	103.8%	98.4%	-0.009	108.0%	0.002
2	11:46:10	113.7%	0.145	-8198.000	1.736	107.4%	100.8%	0.007	110.4%	0.002
3	11:46:19	117.0%	0.093	-8204.000	1.584	107.7%	103.4%	-0.012	112.5%	0.005
x		113.5%	0.104	-8122.000	1.775	106.3%	100.9%	-0.005	110.3%	0.003
%RSD		3.2	34.590	1.688	12.020	2.0	2.5	213.600	2.0	62.230

11-1738-012 1/5/2012 11:48:47 AM DUP

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:48:56	109.9%	0.078	-8168.000	1.928	106.1%	100.5%	-0.001	107.9%	0.004
2	11:49:06	115.8%	0.077	-8200.000	1.972	108.1%	101.0%	-0.012	110.8%	0.003
3	11:49:15	116.6%	0.103	-7889.000	1.475	108.7%	102.2%	-0.012	111.5%	0.002
x		114.1%	0.086	-8085.000	1.792	107.7%	101.2%	-0.008	110.0%	0.003
%RSD		3.2	16.960	2.117	15.340	1.3	0.8	76.300	1.7	34.900

11-1738-016 1/5/2012 11:51:31 AM MS

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:40	109.3%	41.410	-6137.000	43.570	103.7%	101.2%	37.890	108.0%	38.300
2	11:51:49	112.2%	41.860	-5793.000	43.620	105.7%	102.4%	38.220	109.2%	38.640
3	11:51:58	116.1%	42.020	-5694.000	42.630	106.8%	102.2%	38.690	111.1%	38.700
x		112.5%	41.770	-5875.000	43.270	105.4%	101.9%	38.270	109.4%	38.540
%RSD		3.0	0.754	3.959	1.293	1.5	0.6	1.052	1.4	0.553

11-1738-005 1/5/2012 11:54:32 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:54:41	94.5%	1.384	1427.000	1.587	72.6%	79.0%	0.013	80.3%	0.002
2	11:54:50	99.3%	1.394	2445.000	1.659	74.4%	79.5%	0.009	82.0%	0.002
3	11:54:59	102.6%	1.395	2131.000	1.591	75.6%	79.4%	0.014	83.9%	0.001
x		98.8%	1.391	2001.000	1.613	74.2%	79.3%	0.012	82.1%	0.002
%RSD		4.1	0.457	26.060	2.523	2.0	0.3	25.360	2.2	31.590

11-1738-006 1/5/2012 11:57:52 AM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:58:01	122.3%	5.962	-7109.000	2.442	98.7%	84.7%	0.025	101.3%	3.336
2	11:58:10	126.6%	5.868	-6543.000	2.650	101.6%	85.1%	-0.008	103.6%	3.293
3	11:58:19	130.6%	5.763	-6212.000	2.477	104.5%	85.3%	0.016	105.9%	3.301
x		126.5%	5.864	-6622.000	2.523	101.6%	85.0%	0.011	103.6%	3.310
%RSD		3.3	1.699	6.853	4.417	2.9	0.3	154.900	2.3	0.690

CCV 1/5/2012 12:01:13 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:22	112.3%	49.050	-1837.000	49.430	107.2%	87.3%	49.370	103.7%	49.640
2	12:01:31	119.1%	49.360	-1876.000	50.320	111.6%	87.7%	49.660	106.0%	49.600
3	12:01:40	119.7%	49.280	-2406.000	49.110	112.4%	88.3%	49.050	107.0%	49.580
x		117.0%	49.230	-2040.000	49.620	110.4%	87.8%	49.360	105.6%	49.610
%RSD		3.5	0.334	15.580	1.258	2.5	0.6	0.624	1.6	0.059

CCB 1/5/2012 12:04:35 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:04:44	110.5%	0.024	-4872.000	0.058	105.3%	85.3%	0.006	100.8%	-0.002
2	12:04:54	115.2%	0.038	-5005.000	0.217	108.3%	84.1%	0.003	102.0%	-0.003
3	12:05:02	117.3%	0.031	-4750.000	0.059	110.5%	84.9%	0.003	104.6%	-0.004
x		114.3%	0.031	-4875.000	0.111	108.0%	84.8%	0.004	102.4%	-0.003
%RSD		3.0	23.300	2.615	82.590	2.4	0.7	41.090	1.9	19.900

11-1738-018 1/5/2012 12:07:57 PM DUP

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:08:06	117.9%	6.019	-8629.000	2.135	96.4%	82.6%	0.011	100.7%	3.269
2	12:08:15	124.5%	5.734	-8713.000	2.406	100.2%	83.7%	0.022	103.5%	3.226
3	12:08:24	127.6%	5.754	-8230.000	2.028	100.4%	83.7%	0.002	105.1%	3.246
x		123.4%	5.836	-8524.000	2.190	99.0%	83.4%	0.012	103.1%	3.247
%RSD		4.0	2.724	3.030	8.904	2.3	0.7	84.610	2.1	0.672

11-1738-019 1/5/2012 12:11:17 PM MS

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:11:26	115.0%	48.110	-7656.000	43.030	95.3%	80.9%	36.930	99.0%	40.360
2	12:11:35	121.3%	47.830	-7355.000	42.020	97.0%	82.2%	37.440	102.8%	39.840
3	12:11:44	122.7%	47.700	-7272.000	41.690	98.7%	82.7%	37.370	103.6%	39.960
x		119.7%	47.880	-7428.000	42.250	97.0%	81.9%	37.250	101.8%	40.060
%RSD		3.4	0.440	2.720	1.646	1.7	1.2	0.738	2.5	0.680

CCV 1/5/2012 12:14:38 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:14:47	111.0%	50.750	-4040.000	51.830	106.8%	83.2%	50.020	103.3%	50.480
2	12:14:56	113.8%	49.710	-3569.000	51.520	110.2%	84.2%	50.760	105.4%	50.100
3	12:15:05	114.8%	50.080	-3267.000	49.330	110.0%	85.4%	50.810	106.0%	50.580
x		113.2%	50.180	-3625.000	50.890	109.0%	84.3%	50.530	104.9%	50.390
%RSD		1.7	1.050	10.740	2.677	1.7	1.3	0.872	1.4	0.507

CCB 1/5/2012 12:17:59 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:18:09	106.1%	0.018	-6580.000	-0.002	102.4%	82.3%	0.004	98.7%	-0.002
2	12:18:18	112.6%	0.007	-7008.000	0.066	106.8%	81.6%	0.005	102.8%	-0.004
3	12:18:27	114.0%	-0.013	-7009.000	-0.002	108.5%	82.1%	0.007	102.4%	-0.002
x		110.9%	0.004	-6866.000	0.021	105.9%	82.0%	0.005	101.3%	-0.002
%RSD		3.8	387.800	3.606	187.300	3.0	0.4	28.350	2.2	50.330

run stopped, added samples, analysis continued.
01-05-12

Dilution Corrected Concentrations

11-1738-022DL10 1/5/2012 12:28:55 PM PBS = all w/in ± PQL

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:29:04	112.9%	-0.035	-8649.000	-0.043	111.8%	83.1%	-0.007	104.3%	0.009
2	12:29:14	118.5%	-0.070	-8519.000	-0.071	117.5%	85.7%	-0.005	108.6%	0.009
3	12:29:22	120.2%	-0.046	-8608.000	-0.045	118.3%	85.2%	-0.007	108.0%	0.006
x		117.2%	-0.050	-8592.000	-0.053	115.8%	84.7%	-0.006	106.9%	0.008
%RSD		3.3	35.690	0.776	29.750	3.1	1.6	18.160	2.2	24.000

11-1738-023DL20 1/5/2012 12:32:15 PM LCSS = all w/in ± 15% of true value

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:32:24	121.2%	50.440	-6339.000	49.910	117.9%	86.2%	48.390	110.1%	49.120
2	12:32:33	125.0%	49.710	-6834.000	50.670	120.4%	86.9%	48.760	111.3%	49.290
3	12:32:42	126.8%	49.260	-6525.000	51.140	120.7%	88.0%	48.610	111.2%	49.290
x		124.3%	49.800	-6566.000	50.570	119.6%	87.0%	48.590	110.8%	49.230
%RSD		2.3	1.196	3.807	1.225	1.3	1.1	0.375	0.6	0.202

11-1738-007DL10 1/5/2012 12:35:35 PM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:35:44	150.5%	43.850	-6505.000	8.531	111.9%	88.5%	0.148	110.3%	10.040
2	12:35:53	157.3%	43.100	-6583.000	7.874	115.6%	89.6%	0.177	113.4%	10.040
3	12:36:02	161.2%	44.070	-5582.000	7.960	116.7%	89.2%	0.173	114.7%	10.010
x		156.3%	43.670	-6223.000	8.122	114.7%	89.1%	0.166	112.8%	10.030
%RSD		3.5	1.162	8.949	4.398	2.2	0.6	9.683	2.0	0.178

11-1738-015DL10 1/5/2012 12:38:55 PM DUP

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:04	144.0%	45.670	-5760.000	6.007	112.4%	87.9%	0.134	109.2%	6.875
2	12:39:13	151.0%	45.320	-7078.000	6.040	116.8%	88.7%	0.165	112.6%	6.940
3	12:39:22	154.6%	44.860	-5914.000	5.960	116.1%	90.0%	0.137	114.3%	6.928
x		149.8%	45.280	-6251.000	6.002	115.1%	88.8%	0.145	112.0%	6.915
%RSD		3.6	0.893	11.530	0.663	2.0	1.2	12.000	2.3	0.507

11-1738-017DL20 1/5/2012 12:42:17 PM MS

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:42:27	130.1%	75.290	-4381.000	56.210	113.3%	85.8%	50.880	107.9%	54.100
2	12:42:36	134.6%	74.810	-4771.000	55.540	113.1%	86.7%	53.210	110.0%	54.330
3	12:42:45	137.8%	75.760	-4709.000	56.420	114.8%	85.3%	51.450	110.7%	53.950
x		134.2%	75.290	-4620.000	56.060	113.7%	85.9%	51.840	109.5%	54.120
%RSD		2.9	0.635	4.529	0.819	0.8	0.8	2.342	1.3	0.348

11-1738-008DL10 1/5/2012 12:45:38 PM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:45:47	139.9%	26.920	-7628.000	5.601	114.5%	88.9%	0.070	110.7%	5.124
2	12:45:56	148.8%	26.570	-6200.000	6.433	117.2%	89.0%	0.075	113.3%	5.139
3	12:46:06	150.3%	26.050	-7104.000	5.762	118.9%	92.6%	0.067	114.1%	5.151
x		146.3%	26.520	-6977.000	5.932	116.9%	90.2%	0.070	112.7%	5.138
%RSD		3.8	1.652	10.360	7.442	1.9	2.3	6.303	1.6	0.262

11-1738-009DL10 1/5/2012 12:49:00 PM

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:09	137.3%	50.360	-7420.000	11.070	112.4%	88.2%	0.192	110.5%	19.110
2	12:49:18	143.2%	50.000	-7232.000	11.470	115.8%	90.2%	0.246	112.6%	19.150
3	12:49:27	143.7%	50.080	-6414.000	11.920	117.2%	88.7%	0.192	112.7%	19.270
x		141.4%	50.150	-7022.000	11.490	115.1%	89.0%	0.210	112.0%	19.180
%RSD		2.5	0.374	7.615	3.688	2.2	1.2	14.780	1.1	0.437

QLSTDDL2 1/5/2012 12:52:21 PM true value = 0.25ug/L

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:52:31	113.5%	0.244	-8523.000	0.318	111.5%	84.7%	0.223	103.6%	0.226
2	12:52:41	117.1%	0.185	-8505.000	0.274	112.4%	85.8%	0.263	106.2%	0.238
3	12:52:50	118.4%	0.228	-8094.000	0.223	112.9%	85.6%	0.250	106.4%	0.228
x		116.3%	0.219	-8374.000	0.272	112.2%	85.4%	0.245	105.4%	0.231
%RSD		2.2	14.100	2.896	17.430	0.6	0.7	8.240	1.5	2.771

CCV 1/5/2012 12:55:44 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:53	116.6%	49.160	-5448.000	50.170	114.6%	88.9%	49.390	106.8%	49.410
2	12:56:02	121.8%	49.550	-5360.000	50.050	116.0%	89.3%	49.890	109.8%	49.470
3	12:56:11	122.4%	49.240	-5922.000	50.120	116.2%	89.1%	50.550	109.8%	49.700
x		120.3%	49.320	-5577.000	50.110	115.6%	89.1%	49.940	108.8%	49.530
%RSD		2.7	0.415	5.423	0.112	0.8	0.2	1.164	1.6	0.308

CCB 1/5/2012 12:59:06 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	45Sc	52Cr	53Cl O	75As	103Rh	103Rh H2	111Cd	159Tb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:15	113.6%	0.005	-8262.000	0.057	109.6%	85.6%	-0.003	103.4%	-0.003
2	12:59:24	117.7%	-0.001	-8040.000	0.020	114.3%	84.9%	0.005	105.5%	-0.003
3	12:59:33	121.3%	0.016	-8717.000	0.017	115.0%	86.4%	0.005	106.3%	-0.003
x		117.6%	0.007	-8340.000	0.031	113.0%	85.6%	0.002	105.1%	-0.003
%RSD		3.3	132.300	4.135	71.160	2.6	0.9	195.700	1.4	11.790

end of run

01-05-12

Hg DIGESTION LOG - method AM E-245

sr # 11-1684; 11-1738

analysis instrument: Hg by CVAAS (CETAC QuickTrace M-7500) hotblock temperature (°C): 95 CO

	sample number	amount aliquoted (mL) or grams	aliquot basis	digestion method number	comments
1	11-1738-020	40	as rec'd	245.1	PBW
2	11-1738-021	↓	↓	↓	LCS-W
3	-006				006 CO 12-29-11
4	-018				006D
5	-019				006 MS
6	11-1684-001	↓	↓	↓	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

comments: MS = add 0.2 mL of 0.4 mg/L Hg to produce a 2 ug/L spike (except TCLPs have own spike form).

analyst and start date: CO 12-29-11 original filed with sr # 11-1738

Hg DIGESTION LOG - method AM E-245

sr # 11-1738

analysis instrument: Hg by CVAAS (CETAC QuickTrace M-7500) hotblock temperature (°C): 95 ✓00

	sample number	amount aliquoted mL or grams (circled)	aliquot basis	digestion method number	comments
1	11-1738-022	assume 0.1g 01-05-12	as rec'd	245.5	PBS
2	-023	↓	↓		LCS-S
3	-007	0.164			007
4	-015	0.204			007 D
5	-017	0.159			007 MS
6	-008	0.158			
7	-009	0.214	↓	↓	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

comments: MS = add 0.2 mL of 0.4 mg/L Hg to produce a 2 ug/L spike (except TCLPs have own spike form).

analyst and start date: CO 12-29-11 original filed with sr # 11-1738

Hg standards prep

sr# 11-1684 ; 11-1738

Hg intermediate solution prep:

0.4 mg/L Hg in 1% HNO_3 (used for ICV, LCS spiking and sample spiking):

1. half fill a 50-mL tube with DDI-water
2. add 0.5 mL of conc. HNO_3 and mix
3. add 2 mL of 10 mg/L Hg purchased stock solution (**Spex, lot# 16-180HG, exp. 02/15/12**)
4. dilute to a 50-mL final volume with DDI-water and mix

0.08 mg/L Hg in 1% HNO_3 (used for Calibration Standards, QLSTD, CCVs, and sample spiking):

1. half fill a 50-mL tube with DDI-water
2. add 0.5 mL of conc. HNO_3 and mix
3. add 0.2 mL of 20 mg/L Hg purchased stock solution (**Ultra Scientific, lot# J00178A, exp. 02/28/12**)
4. dilute to a 50-mL final volume with DDI-water and mix

HNO_3 = JT Baker, lot# J19023

intermediate solutions prep analyst and date: CO 12-29-11

Hg Calibration and QC Standards Prep:

1. in labeled 50-mL tubes add the following volumes of DDI-water and Hg intermediate solution:

solution	mL of DDI-H_2O	mL of Hg intermediate solution
s0.0 ug/L, ICB, CCB	40	none
s0.1 ug/L & QLSTD	40	0.05 mL of 0.08 mg/L Hg int. soln.
s1.0 ug/L	39.5	0.5 mL of 0.08 mg/L Hg int. soln.
s5.0 ug/L & CCV	37.5	2.5 mL of 0.08 mg/L Hg int. soln.
s10.0 ug/L	35	5 mL of 0.08 mg/L Hg int. soln.
ICV (2.0 ug/L, range = 1.8 - 2.2)	39.8	0.2 mL of 0.4 mg/L Hg int. soln.

note: The number of CCVs and CCBs varies with the number of samples being analyzed.

2. add 2 mL of conc. H_2SO_4 to each tube and mix
3. add 1 mL of conc. HNO_3 to each tube and mix
4. add 6 mL of 5% $KMnO_4$ to each tube and mix
5. add 3.2 mL of 5% $K_2S_2O_8$ to each tube and mix
6. standards are now ready for analysis

calibration and QC standards prep analyst and date: CO 12-30-11

Hg Prep Control Samples :

LCSW/LCSS = 2.0 ug/L spiked blank, **range** (± 15 %) **= 1.7 - 2.3 ug/L**
add 0.2 mL of 0.40 mg/L Hg to 39.8 mL of DDI-water

ȳ 01-05-12
LCSS (assume 0.1g)
TV= 0.8 mg/kg range= 0.68 - 0.92
(±15%)

TCLP LCSW = 0.0020 mg/L spiked blank, **range** (± 20 %) **= 0.0016 - 0.0024 mg/L**
add 0.2 mL of 0.40 mg/L Hg to 10 mL of TCLP Blank and 29.8 mL of DDI-water

Weyerhaeuser Analytical Chemistry and Microstructure

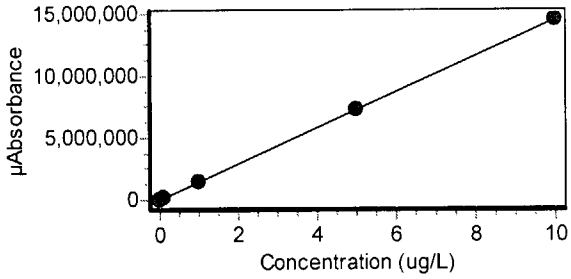
Report Generated By CETAC QuickTrace
Analyst: wawtcmetal
Worksheet file: C:\Program Files\QuickTrace\Worksheets\hg12302011.wsz
Date Started: 12/30/2011 11:16:18 AM CO 12/30/11
Comment:

Results

Sample Name	Type	Date/Time	Conc (ug/L)	%RSD	Flags
Calibration Blank	STD	12/30/11 11:27:47 am	0.000	0.00	
Replicates 59062.3					
Standard #1 (0.1 ug/L)	STD	12/30/11 11:29:50 am	0.100	0.00	
Replicates 218112.0					
Standard #2 (1.0 ug/L)	STD	12/30/11 11:31:53 am	1.000	0.00	
Replicates 1536400.1					
Standard #3 (5.0 ug/L)	STD	12/30/11 11:34:39 am	5.000	0.00	
Replicates 7300061.0					
Standard #4 (10.0 ug/L)	STD	12/30/11 11:37:58 am	10.000	0.00	
Replicates 14548242.0					

Calibration

Equation: A = 71794.020 + 1447386.000C
R2: 1.00000 ✓
SEE: 13452.0000
Flags:



CCV	OPR	12/30/11 11:41:40 am	5.040	0.00	S
Replicates 7360040.0					
% Recovery 100.71 ✓					
ICV	ICV	12/30/11 11:44:50 am	1.970	0.00	S
Replicates 2926063.8					
% Recovery 98.60 ✓					

Sample Name	Type	Date/Time	Conc (ug/L)	%RSD	Flags
ICB	ICB	12/30/11 11:47:51 am	-0.009	0.00	<
Replicates 58898.4					
QLSTD	CRDL	12/30/11 11:49:58 am	0.102	0.00	
Replicates 219057.2					
% Recovery 101.74 ✓					
11-1738-020	UNK	12/30/11 11:52:01 am	0.008	0.00	<
Replicates 83812.8					
11-1738-021 LCS - 102%	UNK	12/30/11 11:54:03 am	2.040	0.00	S
Replicates 3027174.5 ✓					
11-1738-006	UNK	12/30/11 11:57:06 am	0.021	0.00	<
Replicates 102759.7					
11-1738-018	UNK	12/30/11 11:59:10 am	0.025	0.00	<
Replicates 108440.7					rpd = NC
11-1738-019 MS %Recovery - 115%	UNK	12/30/11 12:01:13 pm	2.290	0.00	S
Replicates 3389518.0					
11-1684-001	UNK	12/30/11 12:04:22 pm	0.058	0.00	<
Replicates 156052.9					
11-1738-022	UNK	12/30/11 12:06:27 pm	0.005	0.00	<
Replicates 79567.7					
11-1738-023 LCS = 103%	UNK	12/30/11 12:09:25 pm	2.060	0.00	S
Replicates 3048502.5 ✓					
11-1738-007	UNK	12/30/11 12:12:22 pm	0.169	0.00	= 0.0462 mg/kg
Replicates 315802.1					
11-1738-015	UNK	12/30/11 12:15:03 pm	0.191	0.00	0.0375 = ~~0.04~~ mg/kg 12-30-11
Replicates 348886.8					rpd = 9%

Sample Name	Type	Date/Time	Conc (ug/L)	%RSD	Flags
CCV	CCV	12/30/11 12:17:43 pm	4.970	0.00	S
Replicates 7263195.5					
% Recovery 99.37 ✓					
CCB	CCB	12/30/11 12:21:07 pm	-0.010	0.00	<
Replicates 57003.2					
11-1738-017 MS % Recovery - 99% ✓	UNK	12/30/11 12:23:12 pm	2.150	0.00	S
Replicates 3178381.8					
11-1738-008	UNK	12/30/11 12:26:14 pm	0.067	0.00	<
Replicates 169153.4					
11-1738-009	UNK	12/30/11 12:28:16 pm	0.115	0.00	= 0.02 mg/kg
Replicates 238663.5					
CCV	CCV	12/30/11 12:30:21 pm	4.950	0.00	S
Replicates 7240240.0					
% Recovery 99.05 ✓					
CCB	CCB	12/30/11 12:33:48 pm	-0.010	0.00	<
Replicates 57561.1					

Notes

End of run 12-30-11 CO

Analysis Parameters

Instrument M-7500 Mercury Analyzer

Conditions

Gas flow (mL/min)	Sample Uptake (s)	Rinse (s)	Read delay (s)	Replicates (#)	Replicate time (s)	Pump speed (%)	Wavelength (nm)
100	35.00	80.00	67.00	1	6.00	50	253.65

Instrumental Zero

Zero before first sample: No

Zero periodically: Yes

Before each calibration.

Baseline Correction

#1 Start time (s)	#1 End time (s)	#2 Start time (s)	#2 End time (s)
30.00	34.00		

Standby Mode

Enabled: Yes

Standby Options: pump slow

Autodilution

Enabled: No

Condition:

Tube # range:

If no autodilution tubes remaining

Calibration

Settings

Algorithm	Through blank	Weighted fit	Cal. Type	Racalibration rate	Reslope rate	Reslope standard
Linear	No	No	Normal	0	0	N/A

Limits

Calibration slope		Reslope		Coeff. of Determination
Lower (%)	Upper (%)	Lower (%)	Upper (%)	
20	150	75	125	0.99500

Error action: Flag and continue

QC

GLP Override: Yes

QC Tests

CCB

Concentration (ug/L)
0.1000

Failure flag: Q

Error action for manually inserted QC: Flag and continue

ICB

Concentration (ug/L)
0.1000

Failure flag: Z

Error action for manually inserted QC: Flag and continue

CCV

Concentration (ug/L)	Low Limit %	High Limit %
5.0000	90.0000	110.0000

Failure flag: Q

Error action for manually inserted QC: Flag and continue

ICV

Concentration (ug/L)	Low Limit %	High Limit %
2.0000	90.0000	110.0000

Failure flag: Q

Error action for manually inserted QC: Flag and continue

CRDL

Concentration (ug/L)	Low Limit %	High Limit %
0.1000	70.0000	130.0000

Failure flag: Y

Error action for manually inserted QC: Flag and continue

OPR

Concentration (ug/L)	Low Limit %	High Limit %
5.0000	95.0000	105.0000

Failure flag: Q

Error action for manually inserted QC: Flag and continue

Results Worksheet For HG on SR # 11-1738

	Sample Prep Code	Solids Code	Hg - ug/L (raw)	Hg - ug/L	Hg - mg/kg
			ug/L	ug/L	mg/kg
11-1738-006	3-HG-W		< 0.1	< 0.1	
11-1738-007	3-HG-S	SL-OD-1	0.169		0.04
11-1738-008	3-HG-S	SL-OD-1	< 0.1		< 0.03
11-1738-009	3-HG-S	SL-OD-1	0.115		0.03
11-1738-015	3-HG-S	SL-OD-1	0.191		0.04
11-1738-017	3-HG-S	SL-OD-1	2.15		0.57
11-1738-018	3-HG-W		< 0.1	< 0.1	
11-1738-019	3-HG-W		2.29	2.3	
11-1738-020	3-HG-W		< 0.1	< 0.1	
11-1738-021	3-HG-W		2.04	2.0	
11-1738-022	3-HG-S	1	< 0.1		< 0.04
11-1738-023	3-HG-S	1	2.06		0.82

Printed on: Jan 5, 2012 2:44 PM

Data Retrieved: Jan 5, 2012 2:44 PM

Weyerhaeuser Analytical & Testing Services
32901 Weyerhaeuser Way South
Federal Way, WA 98003

Service Request 11-1738
WA Cert. No: C1219

Report
Weyer-EW Compliance Monitoring
Unit in mg/L
Method - NWTPH-D

Client ID	Sample Date	Time	Lab ID		Diesel Fuel Range 624-92-0	Motor Oil Range 74-93-1	o-terphenyl Surrogate % Rec	Date Extracted	Analyzed
MW-1301R-1211	12/19/11	15:18	003		**0.045**	<0.20	81%	12/21/11	12/27/11
MW-2301R-1211	12/19/11	15:18	004		**0.045**	<0.20	78%	12/21/11	12/27/11
MW-2301R-1211	12/19/11	15:18	012	Dup	<0.043	<0.22	87%	12/21/11	12/27/11
WATER-1	12/19/11	17:00	006		**0.052**	<0.20	82%	12/21/11	12/27/11
Method Blank			BLANK		<0.040	<0.20	83%	12/21/11	12/27/11
Lab Control Spike			LCS		90%	NA	79%	12/21/11	12/27/11

Unit in mg/kg
Method - NWTPH-D

Client ID	Sample Date	Time	Lab ID		Diesel Fuel Range 624-92-0	Motor Oil Range 74-93-1	o-terphenyl Surrogate % Rec	Date Extracted	Analyzed
SOIL-1	12/19/11	16:35	007		<23	**760**	106%	12/22/11	12/28/11
SOIL-1	12/19/11	16:35	015	Dup	<25	**890**	119%	12/22/11	12/28/11
SOIL-2	12/19/11	16:45	008		<23	<91	113%	12/22/11	12/28/11
SOIL-3	12/19/11	16:55	009		**72**	**1000**	103%	12/22/11	12/28/11
Method Blank			BLANK		<25	<99	88%	12/22/11	12/28/11
Lab Control Spike			LCS		89%	NA	73%	12/22/11	12/28/11

Approved: Randy Eatherton Date: 12/28/11
Telephone: (253) 924-6431

Weyerhaeuser
Analysis and Testing Services

Lab Process Checklist
Organic Chromatography

Service Request Number(s)	Client/Project
11 - 1738	Everett
Sample Number(s)	
Date Initiated: 12/28/11	Initiated By: [signature]

Process Checklist	Comments	Check	Review
☑ Extraction log filled out and witnessed		☐	
☑ Moisture log filled out and witnessed		☐	✓
☐ Sample pH recorded		☐	
☐ Refrigerator log entry completed		☐	
☑ Instrument run log completed (HPLC column log)		☐	
☑ Standard log (reference to source)		☐	
☑ Sample data included		☐	
☑ Initial calibration data included (forms and data)		☐	
☑ Continuing calibration data included (forms and data)		☐	
☑ Quantitation report initialed		☐	
☑ QC chart updated		☐	

Approved	Date
[signature]	12/29/11

Comments

Waters had silicagel (acid cleanup, but this didn't work very well - orginal ran before cleanup & met g.l. - this is what was reported.

2E
LIQUID WTPH SURROGATE RECOVERY

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

GC Column(1): DB5MS ID: 0.25 (mm)

	EPA SAMPLE NO.	S1 %REC #	S2 %REC #	S3 %REC #	S4 %REC #	S5 %REC #	S6 %REC #	TOT %REC #	OUT
01	MW-1301R-121	81							0
02	MW-2301R-121	78							0
03	WATER-1	82							0
04	DBLK1_W122111	83							0
05	DLCS1_W122111	79							0
06	MW-2301R-121DUP	87							0
07									
08									
09									
10									
11									
12									
13									
14									
15									
16									
17									
18									
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21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

ADVISORY
QC LIMITS

S1 = o-Terphenyl (~~63-129~~) 66-125

12/28/11

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

2F
SOLID WTPH SURROGATE RECOVERY

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

GC Column(1): DB5MS ID: 0.25 (mm)

	EPA SAMPLE NO.	S1 %REC	#	S2 %REC	#	S3 %REC	#	S4 %REC	#	S5 %REC	#	S6 %REC	#	TOT %REC	#	OUT
01	SOIL-1	106													0	
02	SOIL-2	113													0	
03	SOIL-3	103													0	
04	DBLK1_S122211	88													0	
05	DLCS1_S122211	73													0	
06	SOIL-1 [DUP]	119													0	
07																
08																
09																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																
27																
28																
29																
30																

ADVISORY
QC LIMITS

S1 = o-Terphenyl (~~72-126~~) 77-128

12/8/11

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

3E
LIQUID PESTICIDE LAB CONTROL SAMPLE

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Matrix Spike - EPA Sample No.:

Extraction Date: 12/21/11 File Name: 020911DF25.d

Lab ID: 111738011

Instrument ID (1): hpdos4_2.i GC Column(1): DB5MS ID: 0.25 (mm)

COMPOUND	SPIKE ADDED (mg/L)	AMOUNT RECOVERED (mg/L)	LCS % REC #	QC. LIMITS REC.
Diesel Range	0.400	0.359	89.8	~~35-140~~ 76-139

12/28/11

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 1 outside limits
COMMENTS: _____

3F
SOLID PESTICIDE LAB CONTROL SAMPLE

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Matrix Spike - EPA Sample No.:

Extraction Date: 12/22/11 File Name: 020911DF66.d

Lab ID: 111738014

Instrument ID (1): hpdos4_2.i GC Column(1): DB5MS ID: 0.25 (mm)

COMPOUND	SPIKE ADDED (mg/Kg)	AMOUNT RECOVERED (mg/Kg)	LCS % REC #	QC. LIMITS REC.
Diesel Range	200.000	177.550	88.8	~~35-148~~ 72-126

12/28/11

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 1 outside limits
COMMENTS: _____

4C

WTPH METHOD BLANK SUMMARY

EPA SAMPLE NO.

DBLK1_S122211

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Lab Sample ID: 111738013 Lab File ID: 020911DF65

Matrix (soil/water) SOLID Extraction:(SepF/Cont/Sonc) SEPF

Sulfur Cleanup (Y/N) N Date Extracted: 12/22/11

Date Analyzed (1): 12/28/11 Date Analyzed (2):

Time Analyzed (1): 1057 Time Analyzed (2):

Instrument ID (1): HPDOS4_2 Instrument ID (2):

GC Column (1): DB5MS ID: 0.25(mm) GC Column (2): ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	DLCS1_S122211	111738014	12/28/11	
02	SOIL-1	111738007	12/28/11	
03	SOIL-1 [DUP]	111738015	12/28/11	
04	SOIL-2	111738008	12/28/11	
05	SOIL-3	111738009	12/28/11	
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS: _____

4C

WTPH METHOD BLANK SUMMARY

EPA SAMPLE NO.

DBLK1_W122111

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Lab Sample ID: 111738010 Lab File ID: 020911DF24

Matrix (soil/water) LIQUID Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup (Y/N) N Date Extracted: 12/21/11

Date Analyzed (1): 12/27/11 Date Analyzed (2):

Time Analyzed (1): 0949 Time Analyzed (2):

Instrument ID (1): HPDOS4_2 Instrument ID (2):

GC Column (1): DB5MS ID: 0.25(mm) GC Column (2): ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	DLCS1_W122111	111738011	12/27/11	
02	MW-1301R-121	111738003	12/27/11	
03	MW-2301R-121	111738004	12/27/11	
04	MW-2301R-121DUP	111738012	12/27/11	
05	WATER-1	111738006	12/27/11	
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS:

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1301R-121

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: 11-1738 Method: DIESEL-NW SDG No.: 11-1738-001

Matrix: (soil/water) LIQUID Lab Sample ID: 111738003

Sample wt/vol: 500 (g/mL) mL Lab File ID: 020911DF26

% Moisture: _____ decanted: (Y/N)___ Date Received: 12/21/11

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/21/11

Concentrated Extract Volume: 1000(uL) Date Analyzed: 12/27/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

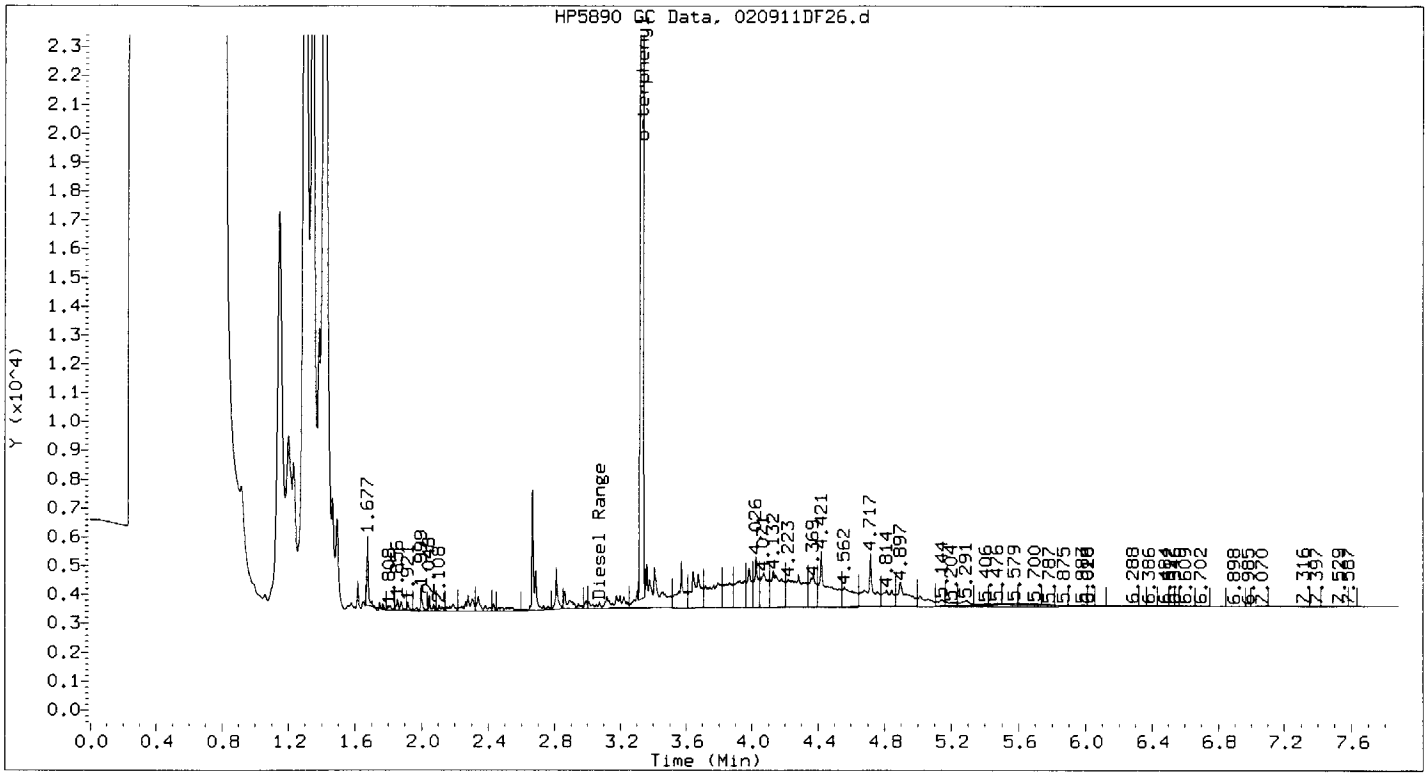
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	----------Diesel Range	0.045	
	----------Motor Oil Range	0.20	U

FORM I PEST

WTPH-7

Weyerhaeuser
DB5MS Column



SAMPLE: 111738003 Client ID: MW-1301R-121
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF26.d
Acquired: 27-DEC-2011 10:19 SampleType: SAMPLE

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.677			34757	2241	PV		
2	1.808			4722	146	PV		
3	1.856			11782	377	VV		
4	1.921			4524	209	VV		
5	1.999			15352	782	VV		
6	2.048			9324	435	PV		
7	2.108			6543	176	VV		
8	3.075	3.075	0.000	869023	16073		0.02287	Diesel Range
CALC:	**[(869000 / 43271000) +0.0027905] = 0.02287 mg/mL**							
9	3.337	3.320	0.017	5972306	474479		0.08286	o-terphenyl
CALC:	**[(5972000 / 72255000) +0.00020350] = 0.08286 mg/mL**							
10	4.026			57445	1754	HHS		
11	4.071			71497	1182	HHS		
12	4.132			110583	1249	HHS		
13	4.223			145238	1135	HHS		
14	4.369			62615	1084	HHS		
15	4.421			131724	1929	HHS		
16	4.562			66578	675	HHS		
17	4.717			97769	1851	HHS		
18	4.814			45907	581	HHS		
19	4.897			64716	832	HHS		
20	5.144			11000	210	BVT		
21	5.204			9629	142	VVT		
22	5.291			13293	181	VVT		
23	5.406			5122	65	PVT		
24	5.476			3738	58	VVT		
25	5.579			3567	53	VVT		
26	5.700			5447	37	VVT		
27	5.787			1034	11	VVT		
28	5.875			185	5	VVT		

$$\frac{0.02287\ mg/mL \times 1mL}{0.5L}$$

$$\Rightarrow 0.046\ mg/L$$

12/28/11

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
29	5.983			935	19	PVT		
30	6.015			856333	11386			
31	6.020			391	7	VVT		
32	6.288			838	11	PVT		
33	6.386			475	7	VVT		
34	6.484			513	8	VVT		
35	6.512			241	8	VVT		
36	6.546			176	5	VVT		
37	6.609			468	7	VVT		
38	6.702			418	7	VVT		
39	6.898			159	2	PVT		
40	6.985			38	2	VVT		
41	7.070			189	4	PVT		
42	7.316			779	5	PVT		
43	7.397			333	6	PVT		
44	7.529			692	5	VVT		
45	7.587			47	3	PVT		

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-2301R-121

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: 11-1738 Method: DIESEL-NW SDG No.: 11-1738-001

Matrix: (soil/water) LIQUID Lab Sample ID: 111738004

Sample wt/vol: 500 (g/mL) mL Lab File ID: 020911DF27

% Moisture: _____ decanted: (Y/N)___ Date Received: 12/21/11

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/21/11

Concentrated Extract Volume: 1000(uL) Date Analyzed: 12/27/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

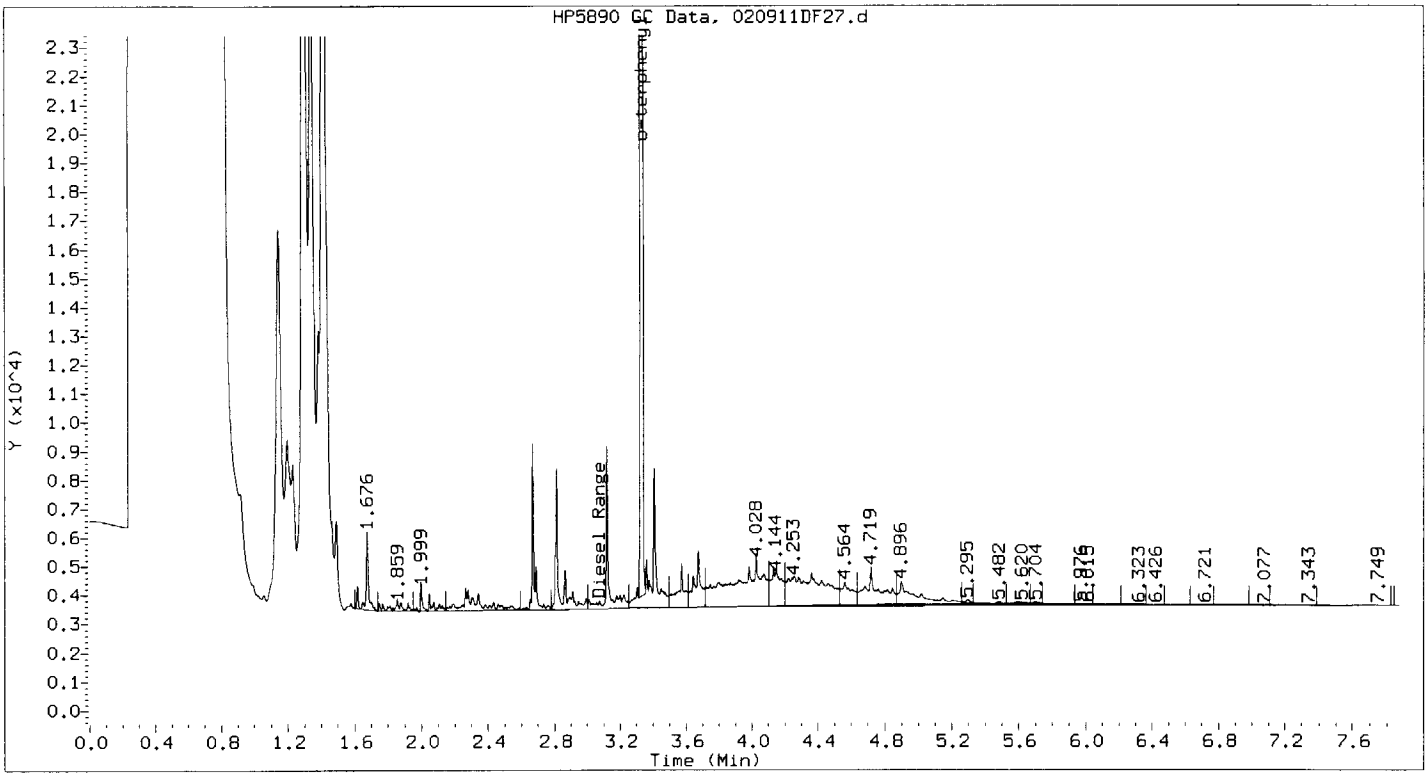
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	----------Diesel Range	0.045	
	----------Motor Oil Range	0.20	U

FORM I PEST

WTPH-10

Weyerhaeuser
DB5MS Column



SAMPLE: 111738004 Client ID: MW-2301R-121
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF27.d
Acquired: 27-DEC-2011 10:34 SampleType: SAMPLE

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.676			61402	2595	PV		
2	1.859			28601	334	PV		
3	1.999			32397	822	VV		
4	3.075	3.075	0.000	854713	25212		0.02254	Diesel Range
CALC:	**[(854700 / 43271000) +0.0027905] = 0.02254 mg/mL**							
5	3.337	3.320	0.018	5767367	471378		0.08002	o-terphenyl
CALC:	**[(5767000 / 72255000) +0.00020350] = 0.08002 mg/mL**							
6	4.028			399964	1792	HHS		
7	4.144			119296	1284	HHS		
8	4.253			311526	1116	HHS		
9	4.564			69934	800	HHS		
10	4.719			139882	1298	HHS		
11	5.295			4672	114	BVT		
12	5.482			80	59	PVT		
13	5.620			3703	27	PVT		
14	5.704			2267	51	VBT		
15	5.976			1207	18	BVT		
16	6.015			772514	5626			
17	6.323			1460	16	PVT		
18	6.426			1267	12	VVT		
19	6.721			508	8	PVT		
20	7.077			227	4	PVT		
21	7.343			1340	8	PVT		
22	7.749			1831	5	PBT		
23	4.896			113313	806	HBS		

12/28/2011 13:26 020911DF27.d WTPH-11

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WATER-1

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: 11-1738 Method: DIESEL-NW SDG No.: 11-1738-001

Matrix: (soil/water) LIQUID Lab Sample ID: 111738006

Sample wt/vol: 500 (g/mL) mL Lab File ID: 020911DF29

% Moisture: _____ decanted: (Y/N)___ Date Received: 12/21/11

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/21/11

Concentrated Extract Volume: 1000(uL) Date Analyzed: 12/27/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

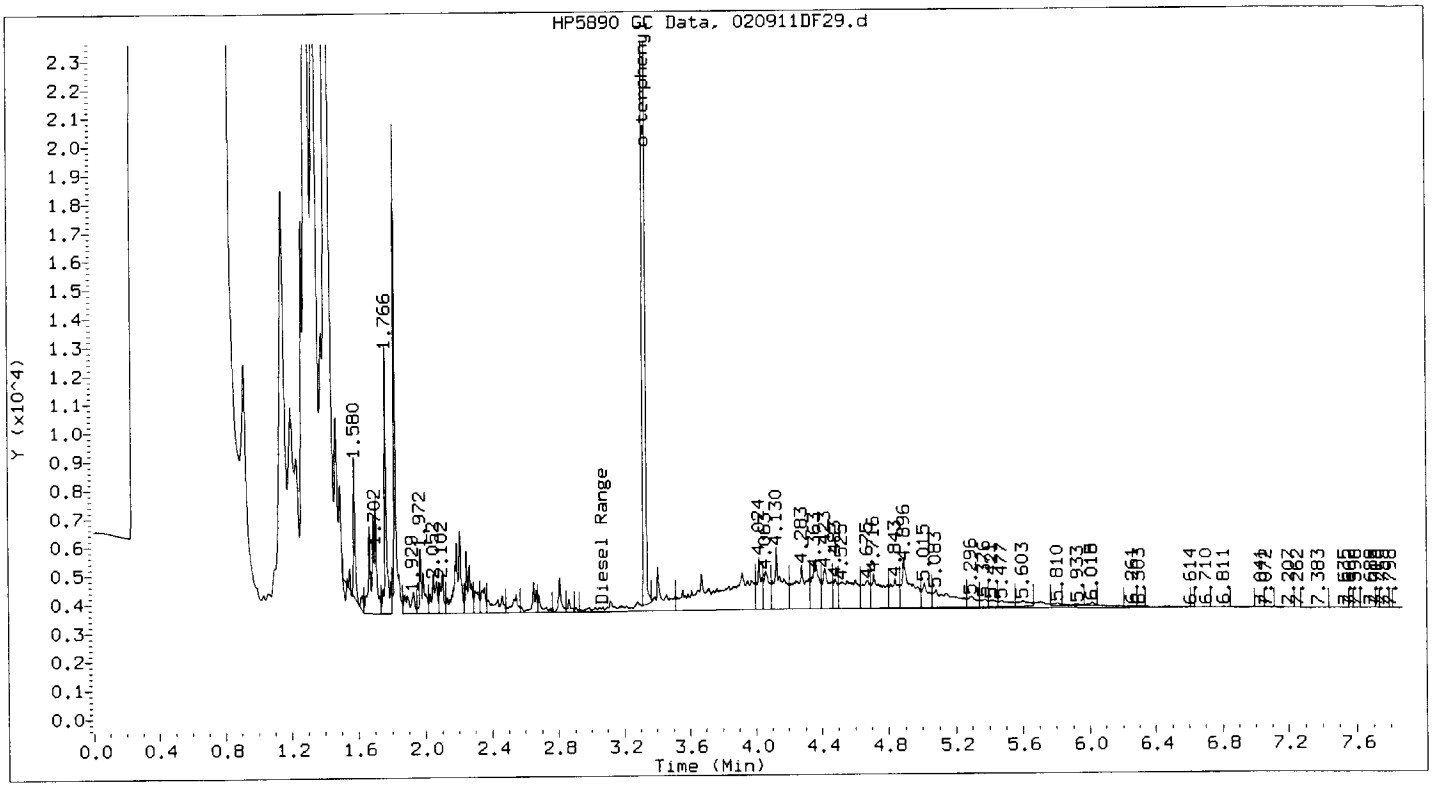
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	----------Diesel Range	0.052	
	----------Motor Oil Range	0.20	U

FORM I PEST

WTPH-12

Weyerhaeuser
DB5MS Column



SAMPLE: 111738006 Client ID: WATER-1
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF29.d
Acquired: 27-DEC-2011 11:04 SampleType: SAMPLE

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.580			74705	4890	BV		
2	1.702			169081	4188	PV		
3	1.766			149696	9396	HHS		
4	1.929			43874	756	BVT		
5	1.972			68284	2263	PVT		
6	2.052			52056	1355	VVT		
7	2.102			41355	1480	VVT		
8	3.075	3.075	0.000	1009975	14135		0.02613	Diesel Range
CALC:	**[(1010000 / 43271000) +0.0027905] = 0.02613 mg/mL**							
9	3.337	3.320	0.017	6031104	494294		0.08367	o-terphenyl
CALC:	**[(6031000 / 72255000) +0.00020350] = 0.08367 mg/mL**							
10	4.024			63526	1809	HHS		
11	4.063			63403	1323	HHS		
12	4.130			139512	2161	HHS		
13	4.283			144210	1523	HHS		
14	4.363			101720	1679	HHS		
15	4.423			79188	1409	HHS		
16	4.483			39826	1024	HHS		
17	4.525			140592	990	HHS		
18	4.675			61818	967	HHS		
19	4.716			106083	1184	HHS		
20	4.843			64828	1014	HHS		
21	4.896			131395	1753	HHS		
22	5.015			45820	842	HHS		
23	5.083			97497	623	HHS		
24	5.296			25512	363	HHS		
25	5.376			14896	265	HHS		
26	5.421			13179	219	HHS		
27	5.477			18628	192	HHS		
28	5.603			17887	186	HHS		

12/28/2011 13:26 020911DF29.d WTPH-13

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
29	5.810			5947	92	BVT		
30	5.933			5653	55	PVT		
31	6.015			1331212	18139			
32	6.018			5302	112	VVT		
33	6.261			970	19	PVT		
34	6.303			323	12	VVT		
35	6.614			91	4	PVT		
36	6.710			458	9	PVT		
37	6.811			1342	17	VVT		
38	7.041			159	6	PVT		
39	7.072			237	6	PVT		
40	7.207			435	6	VVT		
41	7.262			153	5	VVT		
42	7.383			521	11	PVT		
43	7.535			1213	13	VVT		
44	7.562			322	12	VVT		
45	7.598			496	13	VVT		
46	7.689			996	11	VVT		
47	7.715			188	10	VVT		
48	7.755			330	7	VVT		
49	7.798			81	2	VVT		

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL-1

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: 11-1738 Method: DIESEL-NS SDG No.: 11-1738-001

Matrix: (soil/water) SOLID Lab Sample ID: 111738007

Sample wt/vol: 11.5 (g/mL) g Lab File ID: 020911DF67

% Moisture: 6 decanted: (Y/N) N Date Received: 12/21/11

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/22/11

Concentrated Extract Volume: 10000(ul) Date Analyzed: 12/28/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

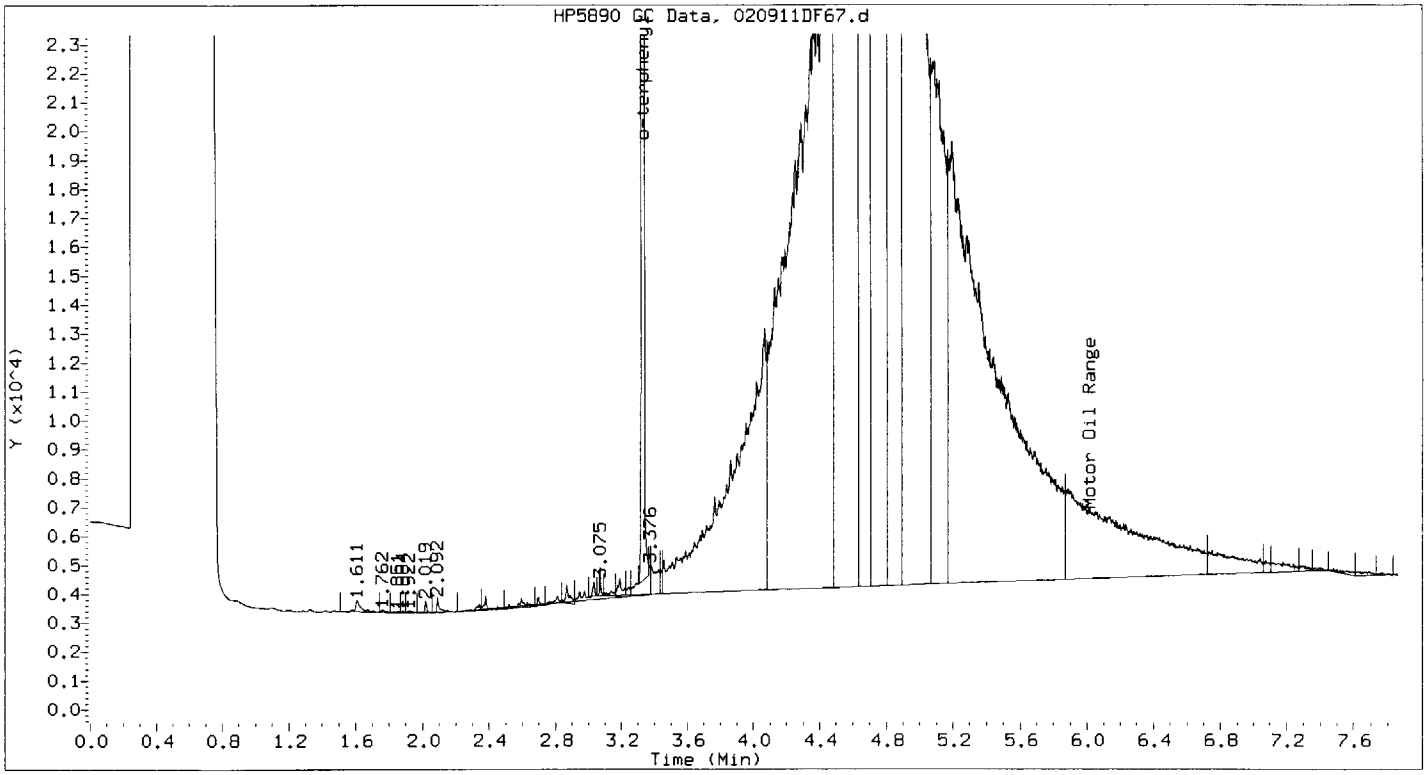
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/Kg	Q
	----------Diesel Range	23	U
	----------Motor Oil Range	760	

FORM I PEST

WTPH-15

Weyerhaeuser
DB5MS Column



SAMPLE: 111738007 Client ID: SOIL-1
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF67.d
Acquired: 28-DEC-2011 11:27 SampleType: SAMPLE

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 10000 ul | AmountInj: 1.000 ul | AmountExt: 11.53 g | Moisture: 5.720 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.611			17808	400	BV		
2	1.762			2699	63	PV		
3	1.851			1522	41	VV		
4	1.884			1106	50	VV		
5	1.922			2385	59	VV		
6	2.019			6791	345	PV		
7	2.092			12303	478	PV		
8	3.075			264209	7251			
9	3.376			66493	1012			
10	3.337	3.320	0.017	7813231	591376		0.1083	o-terphenyl
CALC:	**[(7813000 / 72255000) +0.00020350] = 0.1083 mg/mL**							
11	6.015	6.015	0.000	38157591	230949		0.8237	Motor Oil Range
CALC:	**[(38160000 / 46042000) -0.0050919] = 0.8237 mg/mL**							

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL-2

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: 11-1738 Method: DIESEL-NS SDG No.: 11-1738-001

Matrix: (soil/water) SOLID Lab Sample ID: 111738008

Sample wt/vol: 12.4 (g/mL) g Lab File ID: 020911DF69

% Moisture: 13 decanted: (Y/N) N Date Received: 12/21/11

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/22/11

Concentrated Extract Volume: 10000(ul) Date Analyzed: 12/28/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

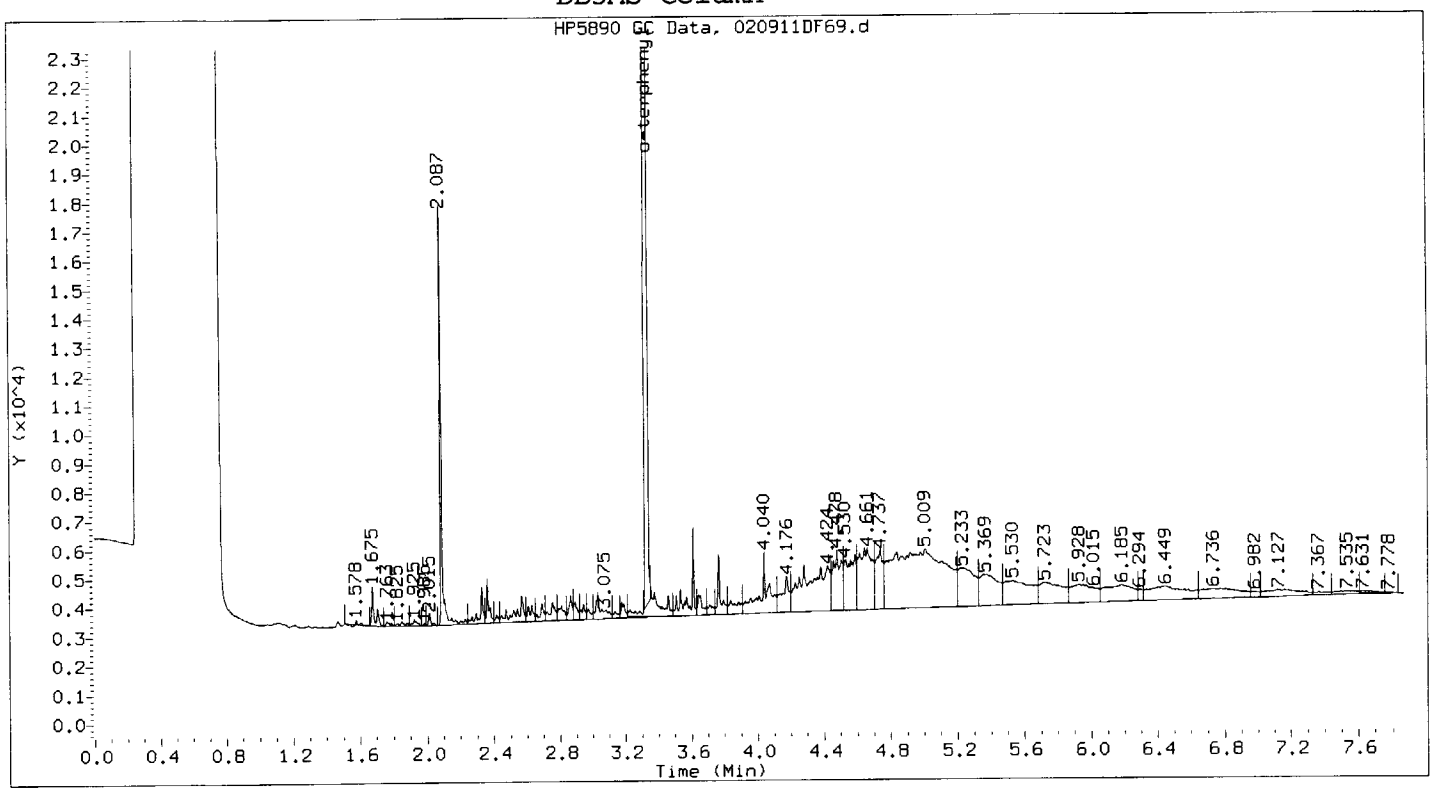
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/Kg	Q
	----------Diesel Range	23	U
	----------Motor Oil Range	91	U

FORM I PEST

WTPH-17

Weyerhaeuser
DB5MS Column



SAMPLE: 111738008 Client ID: SOIL-2
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF69.d
Acquired: 28-DEC-2011 11:57 SampleType: SAMPLE

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 10000 ul | AmountInj: 1.000 ul | AmountExt: 12.40 g | Moisture: 12.60 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.578			68	123	BV		
2	1.675			31063	1269	PV		
3	1.763			5715	132	PV		
4	1.825			8914	94	VV		
5	1.925			8167	195	VV		
6	1.985			1654	91	VV		
7	2.015			8506	388	VV		
8	2.087			181546	14459			
9	3.075			674848	17979			
10	3.337	3.320	0.018	8299127	622691		0.1151	o-terphenyl
CALC:	**[(8299000 / 72255000) +0.00020350] = 0.1151 mg/mL**							
11	4.040			145354	2094	HHS		
12	4.176			74277	1246	HHS		
13	4.424			318366	1626	HHS		
14	4.478			145346	2079	HHS		
15	4.530			155955	1900	HHS		
16	4.661			238567	2150	HHS		
17	4.737			119095	2117	HHS		
18	5.009			889776	2031	HHS		
19	5.233			182065	1340	HHS		
20	5.369			161149	1088	HHS		
21	5.530			187295	849	HHS		
22	5.723			141318	731	HHS		
23	5.928			124637	636	HHS		
24	6.015			3413054	22493			
25	6.185			133088	581	HHS		
26	6.294			16180	395	HHS		
27	6.449			148651	480	HHS		
28	6.736			106026	349	HHS		
29	6.982			12968	192	HHS		
30	7.127			66952	238	HHS		

12/28/2011 13:26 020911DF69.d WTPH-18

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
31	7.367			12327	114	HHS		
32	7.535			19392	113	HHS		
33	7.631			12113	105	HHS		
34	7.778			2154	39	HBS		

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL-3

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: 11-1738 Method: DIESEL-NS SDG No.: 11-1738-001

Matrix: (soil/water) SOLID Lab Sample ID: 111738009

Sample wt/vol: 11.2 (g/mL) g Lab File ID: 020911DF70

% Moisture: 30 decanted: (Y/N) N Date Received: 12/21/11

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/22/11

Concentrated Extract Volume: 10000(ul) Date Analyzed: 12/28/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

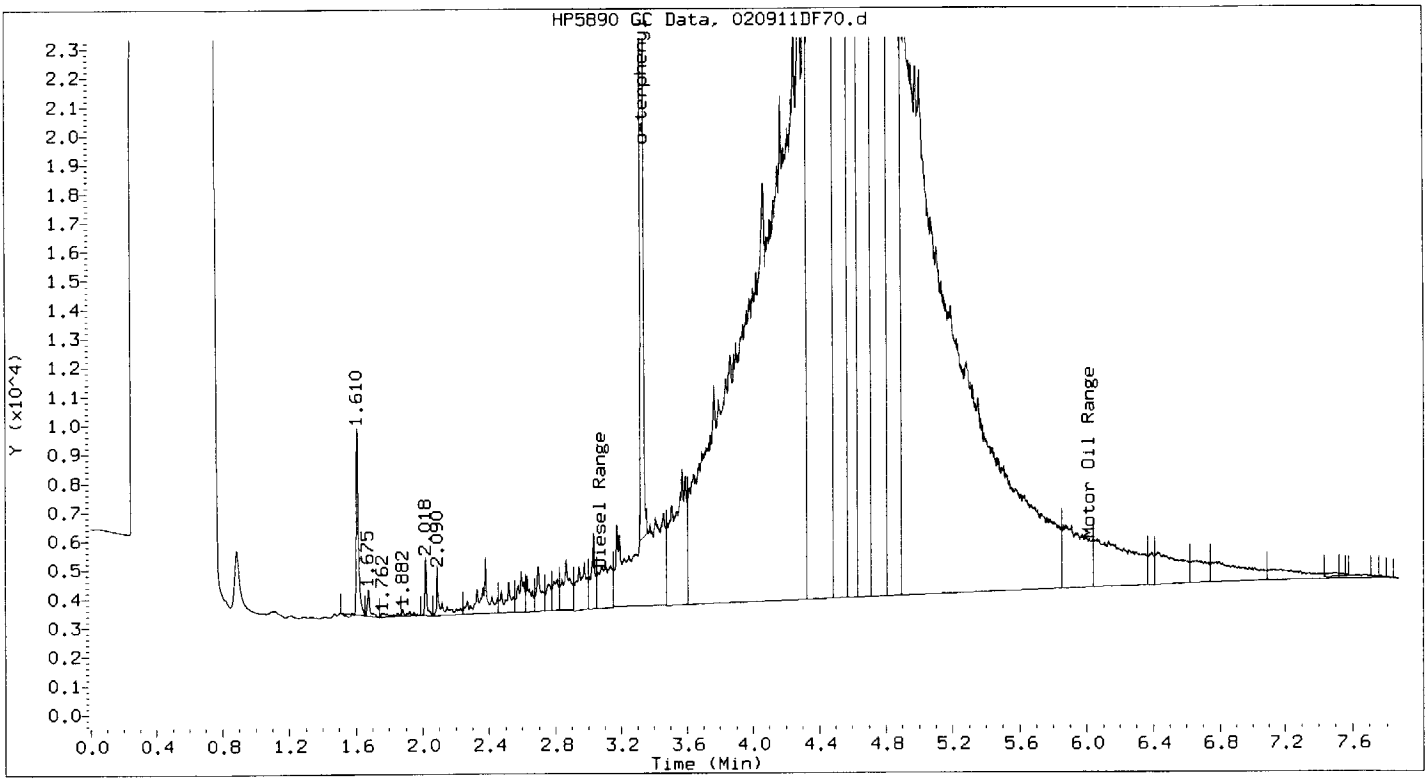
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/Kg	Q
	----------Diesel Range	72	
	----------Motor Oil Range	1000	

FORM I PEST

WTPH-20

Weyerhaeuser
DB5MS Column



SAMPLE: 111738009 Client ID: SOIL-3
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF70.d
Acquired: 28-DEC-2011 12:12 SampleType: SAMPLE

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 10000 ul | AmountInj: 1.000 ul | AmountExt: 11.19 g | Moisture: 30.40 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.610			113331	6103	BV		
2	1.675			18787	866	VV		
3	1.762			10780	114	PV		
4	1.882			9844	218	VV		
5	2.018			30602	1997	PV		
6	2.090			56001	1732	PV		
7	3.075	3.075	0.000	2291443	24751		0.05575	Diesel Range
CALC:	[(2291000 / 43271000) +0.0027905] = 0.05575 mg/mL							
8	3.337	3.320	0.018	7611414	633456		0.1055	o-terphenyl
CALC:	[(7611000 / 72255000) +0.00020350] = 0.1055 mg/mL							
9	6.015	6.015	0.000	36938981	229792		0.7972	Motor Oil Range
CALC:	[(36940000 / 46042000) -0.0050919] = 0.7972 mg/mL							

$$\frac{0.7972\ mg/mL \times 10\ mL}{0.01119\ kg \times 0.696}$$

$\Rightarrow$ 1023 mg/kg

12/28/11

12/28/2011 13:26 020911DF70.d WTPH-21

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-2301R-121DUP

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: 11-1738 Method: DIESEL-NW SDG No.: 11-1738-001

Matrix: (soil/water) LIQUID Lab Sample ID: 111738012

Sample wt/vol: 460 (g/mL) mL Lab File ID: 020911DF28

% Moisture: _____ decanted: (Y/N)___ Date Received: 12/21/11

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/21/11

Concentrated Extract Volume: 1000(uL) Date Analyzed: 12/27/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

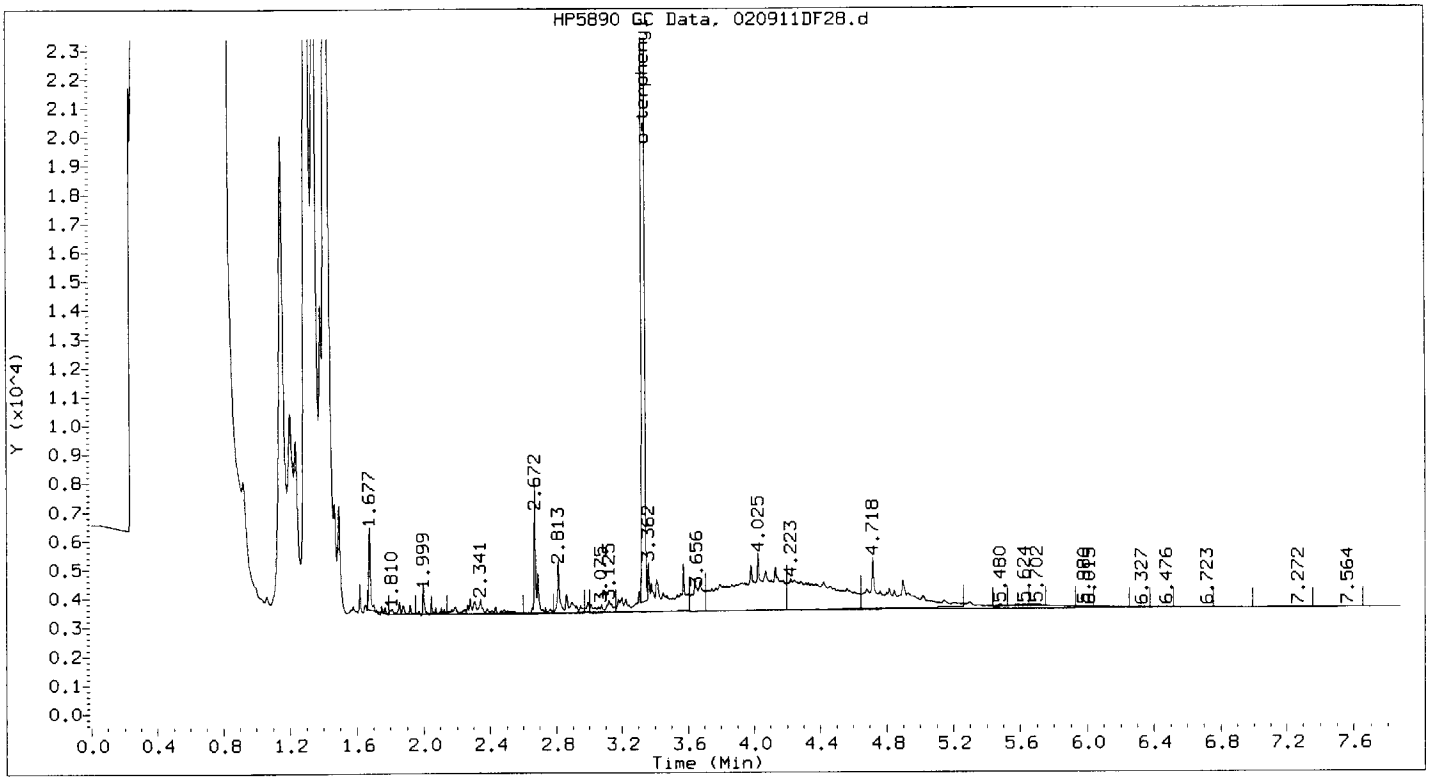
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	----------Diesel Range	0.043	U
	----------Motor Oil Range	0.22	U

FORM I PEST

WTPH-22

Weyerhaeuser
DB5MS Column



SAMPLE: 111738012 Client ID: MW-2301R-121DUP
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF28.d
Acquired: 27-DEC-2011 10:49 SampleType: SAMPLE

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 460.0 ml | Sample Volume: 460.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.677			43024	2602	PV		
2	1.810			20675	164	PV		
3	1.999			28677	845	VV		
4	2.341			72474	529	VV		
5	2.672			84288	4703	PV		
6	2.813			69948	1786	PV		
7	3.075			620062	10266			
8	3.125			38361	422	BV		
9	3.362			266439	1694			
10	3.338	3.320	0.018	6407184	514584		0.08888	o-terphenyl
CALC:	**[(6407000 / 72255000) +0.00020350] = 0.08888 mg/mL**							
11	3.656			88552	1132	HHS		
12	4.025			559806	1983	HHS		
13	4.223			412589	1073	HHS		
14	4.718			284246	1740	HHS		
15	5.480			2367	58	BVT		
16	5.624			3918	39	VVT		
17	5.702			3257	44	VBT		
18	5.980			970	15	BBT		
19	6.015			712760	3005			
20	6.327			1035	10	BVT		
21	6.476			968	9	PVT		
22	6.723			280	2	VBT		
23	7.272			1482	8	BVT		
24	7.564			1648	7	PVT		

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL-1 [DUP]

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: 11-1738 Method: DIESEL-NS SDG No.: 11-1738-001

Matrix: (soil/water) SOLID Lab Sample ID: 111738015

Sample wt/vol: 10.7 (g/mL) g Lab File ID: 020911DF68

% Moisture: 6 decanted: (Y/N) N Date Received: 12/21/11

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/22/11

Concentrated Extract Volume: 10000(ul) Date Analyzed: 12/28/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

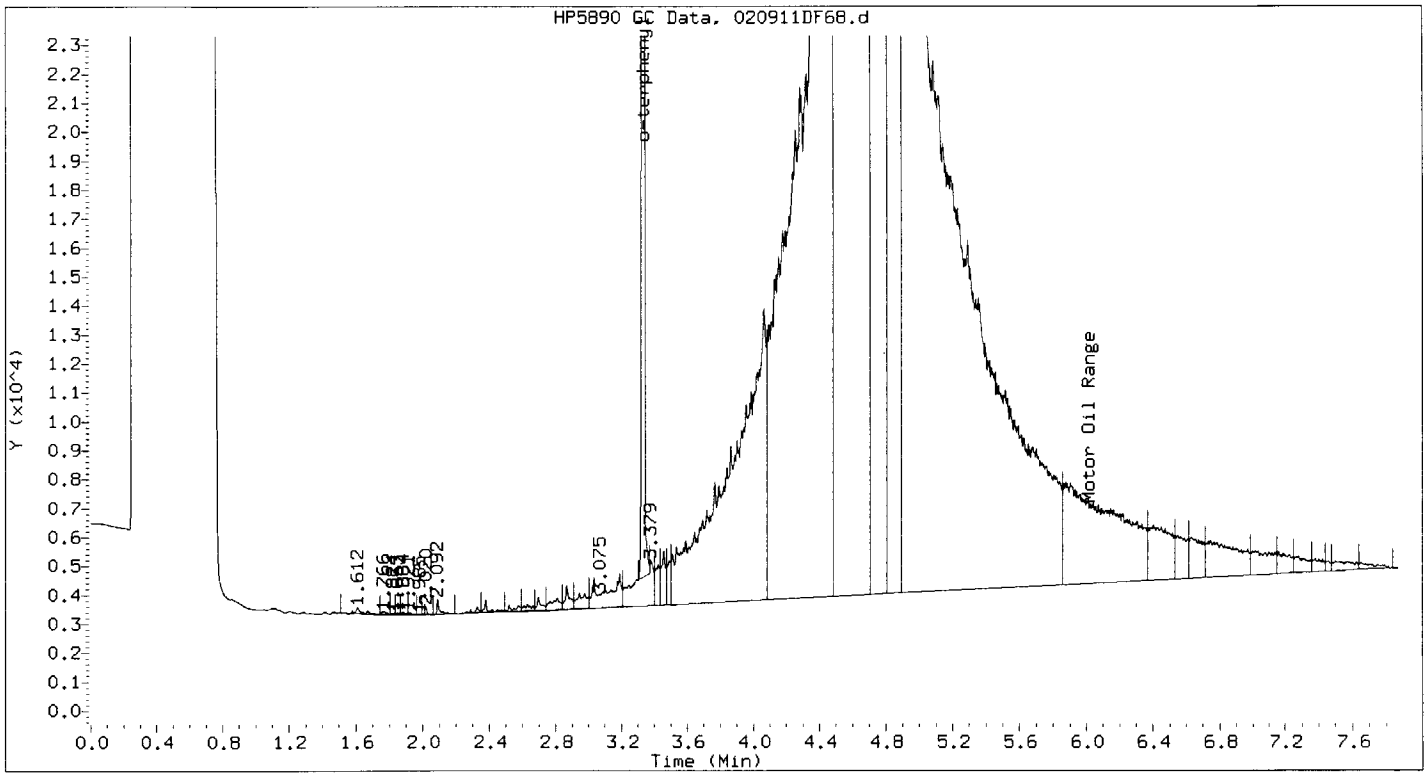
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/Kg	Q
	----------Diesel Range	25	U
	----------Motor Oil Range	890	

FORM I PEST

WTPH-24

Weyerhaeuser
DB5MS Column



SAMPLE: 111738015 Client ID: SOIL-1 [DUP]
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF68.d
Acquired: 28-DEC-2011 11:42 SampleType: SAMPLE

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 10000 ul | AmountInj: 1.000 ul | AmountExt: 10.69 g | Moisture: 5.720 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.612			10394	198	BV		
2	1.766			4104	92	PV		
3	1.824			1085	41	VV		
4	1.853			1318	52	VV		
5	1.884			2588	84	VV		
6	1.921			2253	71	VV		
7	1.985			262	12	PV		
8	2.020			4852	225	VV		
9	2.092			12307	476	PV		
10	3.075			718970	10939			
11	3.379			215930	1562			
12	3.339	3.320	0.019	8731069	649343		0.1210	o-terphenyl
CALC:	**[(8731000 / 72255000) +0.00020350] = 0.1210 mg/mL**							
13	6.015	6.015	0.000	41350482	186619		0.8930	Motor Oil Range
CALC:	**[(41350000 / 46042000) -0.0050919] = 0.8930 mg/mL**							

FORM 6
WTPH INITIAL CALIBRATION DATA

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Instrument ID: HPDOS4_2 Calibration Date(s): 02/07/11 02/07/11

Column: DB5MS ID: 0.25 (mm) Calibration Time(s): 1116 1515

LAB FILE ID: RF200: 020711D011 RF400: 020711D012 RF800: 020711D013
RF0: 020711D014 RF0: 020711D015

COMPOUND	RF200	RF400	RF800	RF0	RF0
Diesel Range	41040600	39615100	42067950	41318150	41307195
Motor Oil Range	48436480	46644150	46422860	45786968	47160647
o-Terphenyl	69141176	70653922	69661951	71408113	70987879

FORM 6
WTPH INITIAL CALIBRATION DATA

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Instrument ID: HPDOS4_2 Calibration Date(s): 02/07/11 02/07/11

Column: DB5MS ID: 0.25 (mm) Calibration Time(s): 1116 1515

LAB FILE ID: RF0: 020711D016 RF0: 020711D017

COMPOUND	RF0	RF0
Diesel Range		43205776
Motor Oil Range	46679268	45986136
o-Terphenyl	70757849	72418100

FORM 6
WTPH INITIAL CALIBRATION DATA

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Instrument ID: HPDOS4_2 Calibration Date(s): 02/07/11 02/07/11

Column: DB5MS ID: 0.25 (mm) Calibration Time(s): 1116 1515

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	
Diesel Range	LINR	0.00279049	2.311e-08	1.000	<-
Motor Oil Range	LINR	-0.0050919	2.1719e-08	1.000	
o-Terphenyl	LINR	0.00020350	1.384e-08	1.000	

7B

PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Instrument ID: HPDOS4_2 Calibration Date: 12/27/11 Time: 0933

Lab File ID: 020911DF23 Init. Calib. Date(s): 02/07/11 02/07/11

Init. Calib. Times: 1116 1246

COMPOUND	SAMPLE AMOUNT	CAL0 AMOUNT	CURVE	%D	MAX %d
Diesel Range	0.105	0.100	LINR	5.0	20.0
o-terphenyl	0.011	0.010	LINR	10.0	20.0

FORM VII SV-1

WTPH-29

7B

PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Instrument ID: HPDOS4_2 Calibration Date: 12/27/11 Time: 1134

Lab File ID: 020911DF31 Init. Calib. Date(s): 02/07/11 02/07/11

Init. Calib. Times: 1116 1246

COMPOUND	SAMPLE AMOUNT	CAL0 AMOUNT	CURVE	%D	MAX %d
Diesel Range	0.106	0.100	LINR	6.0	20.0
o-terphenyl	0.011	0.010	LINR	10.0	20.0

FORM VII SV-1

WTPH-30

7B

PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Instrument ID: HPDOS4_2 Calibration Date: 12/28/11 Time: 1027

Lab File ID: 020911DF64 Init. Calib. Date(s): 02/07/11 02/07/11

Init. Calib. Times: 1116 1246

COMPOUND	SAMPLE AMOUNT	CAL0 AMOUNT	CURVE	%D	MAX %d
Diesel Range	0.113	0.100	LINR	13.0	20.0
o-terphenyl	0.012	0.010	LINR	20.0	20.0

FORM VII SV-1

WTPH-31

7B

PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

Instrument ID: HPDOS4_2 Calibration Date: 12/28/11 Time: 1313

Lab File ID: 020911DF73 Init. Calib. Date(s): 02/07/11 02/07/11

Init. Calib. Times: 1116 1246

COMPOUND	SAMPLE AMOUNT	CAL0 AMOUNT	CURVE	%D	MAX %d
Diesel Range	0.111	0.100	LINR	11.0	20.0
o-terphenyl	0.011	0.010	LINR	10.0	20.0

FORM VII SV-1

WTPH-32

8D
PESTICIDE ANALYTICAL SEQUENCE

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

GC Column: DB5MS ID: 0.25 (mm) Init. Calib. Date(s): 02/07/11 02/07/11

Instrument ID: HPDOS4_2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 3.32

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	RT #
01	DIESEL_LEVEL1	DIESELL1	02/07/11	1116	3.32	
02	DIESEL_LEVEL2	DIESELL2	02/07/11	1131	3.31	
03	DIESEL_LEVEL3	DIESELL3	02/07/11	1146	3.32	
04	DIESEL_LEVEL4	DIESELL4	02/07/11	1201	3.32	
05	DIESEL_LEVEL5	DIESELL5	02/07/11	1216	3.32	
06	DIESEL_LEVEL6	DIESELL6	02/07/11	1231	3.32	
07	DIESELL7	DIESELL7	02/07/11	1246	3.33	
08	MOTEROIL_LEVEL1	OILL1	02/07/11	1316		
09	MOTEROIL_LEVEL2	OILL2	02/07/11	1331		
10	MOTEROIL_LEVEL3	OILL3	02/07/11	1346		
11	MOTEROIL_LEVEL4	OILL4	02/07/11	1430		
12	MOTEROIL_LEVEL5	OILL5	02/07/11	1445		
13	MOTEROIL_LEVEL6	OILL6	02/07/11	1500		
14	OILL7	OILL7	02/07/11	1515		
15	IBLK68	IBLK68	12/27/11	0918	3.33	
16	DIESELCC68	DIESELCC68	12/27/11	0933	3.33	
17	DBLK1_W122111	111738010	12/27/11	0949	3.33	
18	DLCS1_W122111	111738011	12/27/11	1004	3.34	
19	MW-1301R-121	111738003	12/27/11	1019	3.34	
20	MW-2301R-121	111738004	12/27/11	1034	3.34	
21	MW-2301R-121DUP	111738012	12/27/11	1049	3.34	
22	WATER-1	111738006	12/27/11	1104	3.34	
23	IBLK69	IBLK69	12/27/11	1119	3.34	
24	DIESELCC69	DIESELCC69	12/27/11	1134	3.33	
25	IBLK73	IBLK73	12/28/11	1011	3.34	
26	DIESELCC73	DIESELCC73	12/28/11	1027	3.33	
27	DBLK1_S122211	111738013	12/28/11	1057	3.34	
28	DLCS1_S122211	111738014	12/28/11	1112	3.34	
29	SOIL-1	111738007	12/28/11	1127	3.34	
30	SOIL-1 [DUP]	111738015	12/28/11	1142	3.34	
31	SOIL-2	111738008	12/28/11	1157	3.34	
32	SOIL-3	111738009	12/28/11	1212	3.34	

QC LIMITS
S1 = o-terphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

8D
PESTICIDE ANALYTICAL SEQUENCE

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO Case No.: SAS No.: 1613 SDG No.: 11-1738-001

GC Column: DB5MS ID: 0.25 (mm) Init. Calib. Date(s): 02/07/11 02/07/11

Instrument ID: HPDOS4_2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 3.32

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	RT #
01	IBLK74	IBLK74	12/28/11	1258	3.35	
02	DIESELCC74	DIESELCC74	12/28/11	1313	3.33	
03						
04						
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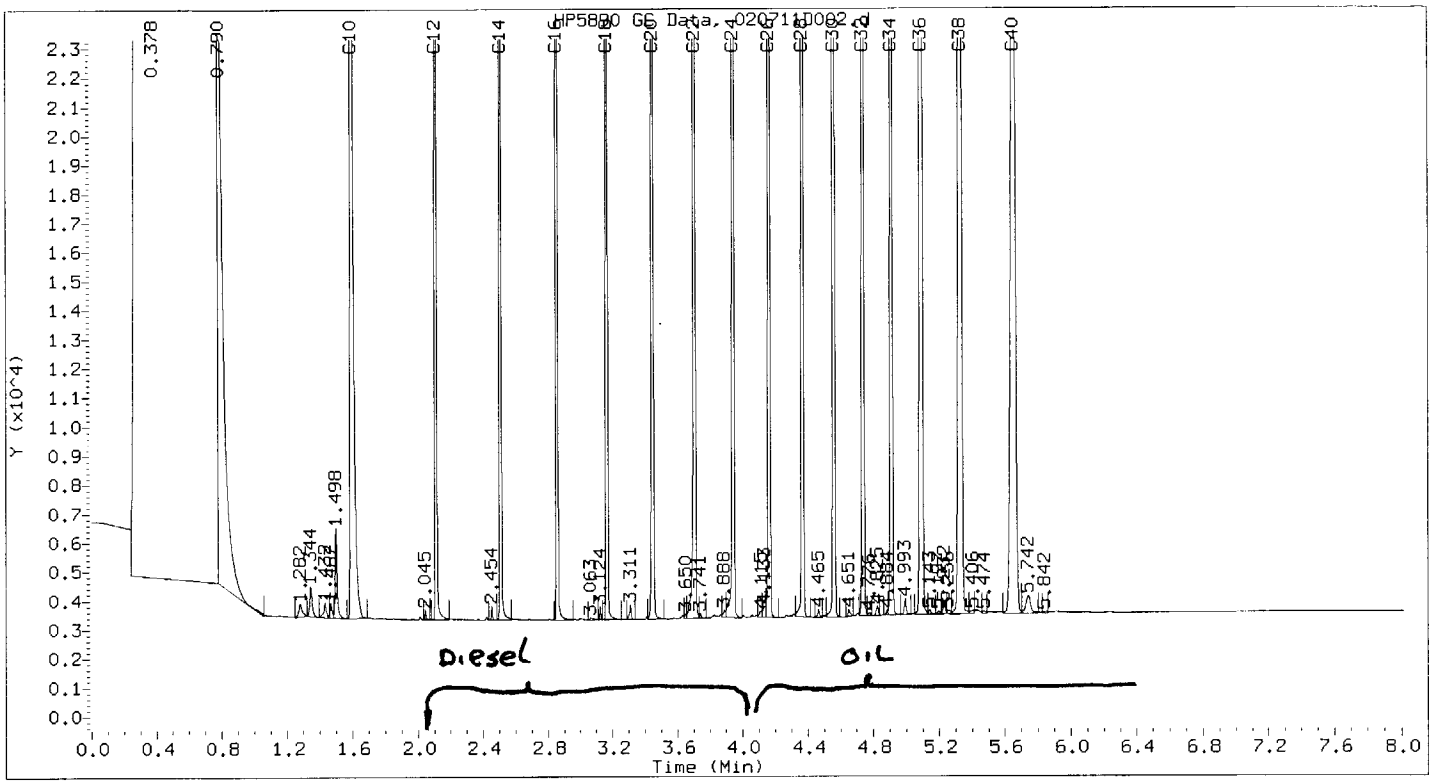
31						
32						

QC LIMITS
S1 = o-terphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

Weyerhaeuser
DB5MS Column



SAMPLE: RT;50_70118 Client ID: RT
Processing File: 00_021011_racerHydro.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D002.d
Acquired: 07-FEB-2011 11:01 SampleType: SAMPLE

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	Ng injected	Component Name
1	0.378			722024316	63783305	VHC		
2	0.790			46170	20193	HVC		
3	1.282			658	439	VV		
4	1.344			1110	1038	VV		
5	1.432			587	504	VHC		
6	1.467			404	507	HHC		
7	1.498			2547	3084	HVC		
8	1.597	1.597	0.000	68966	75421	VV	24.88	C10
CALC:	[(1/2772.3)* 68970] = 24.88 ug/mL							
9	2.045			180	333	VV		
10	2.111	2.113	0.002	68749	142542	VV	24.94	C12
CALC:	[(1/2756.4)* 68750] = 24.94 ug/mL							
11	2.454			245	499	VV		
12	2.510	2.512	0.002	69404	144822	VV	25.01	C14
CALC:	[(1/2774.7)* 69400] = 25.01 ug/mL							
13	2.857	2.858	0.001	70449	145808	VV	24.47	C16
CALC:	[(1/2878.4)* 70450] = 24.47 ug/mL							
14	3.063			112	67	VHC		
15	3.124			216	442	HHC		
16	3.167	3.168	0.001	70687	137479	HVC	24.11	C18
CALC:	[(1/2931.9)* 70690] = 24.11 ug/mL							
17	3.311			346	509	VV		
18	3.449	3.450	0.001	71031	132052	HVC	23.91	C20
CALC:	[(1/2970.3)* 71030] = 23.91 ug/mL							
19	3.650			106	143	HHC		
20	3.708	3.708	0.001	71443	124300	HHC	24.02	C22
CALC:	[(1/2973.9)* 71440] = 24.02 ug/mL							

Diesel 2.13 - 4.02

Oil 4.03 - 8.0

12/28/2011 13:34 020711D002.d WTPH-81

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	Ng injected	Component Name
21	3.741			114	152	HHC		
22	3.888			264	241	HHC		
23	3.945	3.946	0.001	70103	123756	HHC	23.31	C24
CALC:	**[(1/3007.2)* 70100] = 23.31 ug/mL**							
24	4.115			215	210	HHC		
25	4.133			413	366	HHC		
26	4.165	4.167	0.002	70594	118192	HHC	23.08	C26
CALC:	**[(1/3058.8)* 70590] = 23.08 ug/mL**							
27	4.370	4.372	0.002	71257	117256	HVC	22.92	C28
CALC:	**[(1/3109.3)* 71260] = 22.92 ug/mL**							
28	4.465			222	277	VHC		
29	4.562	4.562	0.000	72865	121745	HVC	22.75	C30
CALC:	**[(1/3202.7)* 72870] = 22.75 ug/mL**							
30	4.651			230	245	VV		
31	4.742	4.743	0.001	72181	115548	HHC	22.93	C32
CALC:	**[(1/3147.7)* 72180] = 22.93 ug/mL**							
32	4.776			111	127	HHC		
33	4.825			300	331	HVC		
34	4.884			132	181	VHC		
35	4.912	4.915	0.003	74320	115466	HHC	23.20	C34
CALC:	**[(1/3203.9)* 74320] = 23.20 ug/mL**							
36	4.993			473	551	HHC		
37	5.093	5.089	0.003	70836	80072	HHC	23.46	C36
CALC:	**[(1/3018.9)* 70840] = 23.46 ug/mL**							
38	5.143			156	141	HHC		
39	5.197			101	96	HHC		
40	5.232			353	342	HHC		
41	5.256			151	124	HHC		
42	5.330	5.328	0.002	65865	57446	HHC	25.28	C38
CALC:	**[(1/2605.0)* 65860] = 25.28 ug/mL**							
43	5.406			167	110	HVC		
44	5.474			137	87	VV		
45	5.654	5.654	0.000	58954	32895	VHC	27.56	C40
CALC:	**[(1/2139.0)* 58950] = 27.56 ug/mL**							
46	5.742			1235	624	HVC		
47	5.842			103	53	VV		

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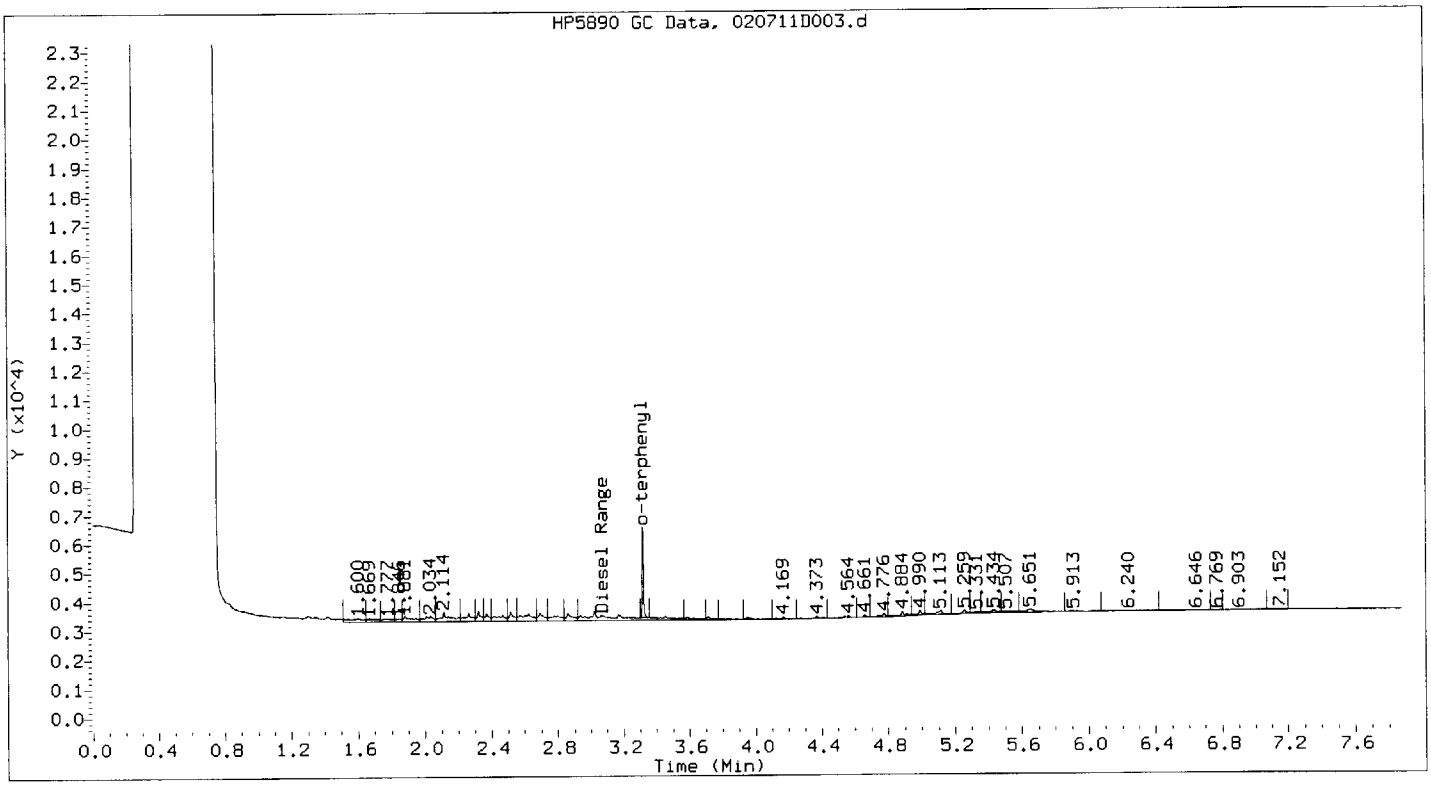
DB5MS Column



SAMPLE: DIESELL1;50_L4 Client ID: DIESEL_level1
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D003.d
Acquired: 07-FEB-2011 11:16 SampleType: CALIB_1

Dilution: 1.00

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.600			14269	114	BV		
2	1.669			8747	113	PV		
3	1.777			8256	101	PV		
4	1.846			4523	101	VV		
5	1.881			13198	189	VV		
6	2.034			12955	181	VV		
7	2.114			22461	321	VV		
8	3.075	3.075	0.000	205203	2852		0.005000	Diesel Range
CALC:	**[(205200 / 43271000) +0.0027905] = 0.007533 mg/mL**					**%D=33.6**		
9	3.317	3.317	0.000	35262	3148		0.0005100	o-terphenyl
CALC:	**[(35260 / 72255000) +0.00020350] = 0.0006915 mg/mL**					**%D=26.2**		
10	4.169			2901	73	PV		
11	4.373			3073	80	PV		
12	4.564			2340	74	PV		
13	4.661			1831	82	VV		
14	4.776			4709	127	VV		
15	4.884			6432	155	VV		
16	4.990			5056	164	VV		
17	5.113			8962	135	VV		
18	5.259			5316	121	VV		
19	5.331			3150	67	VV		
20	5.434			7384	100	VV		
21	5.507			4515	35	VV		
22	5.651			9931	102	VV		
23	5.913			3840	35	VV		
24	6.240			6294	29	VV		
25	6.646			4620	17	VV		
26	6.769			742	16	VV		
27	6.903			3000	16	VV		
28	7.152			1307	8	VV		

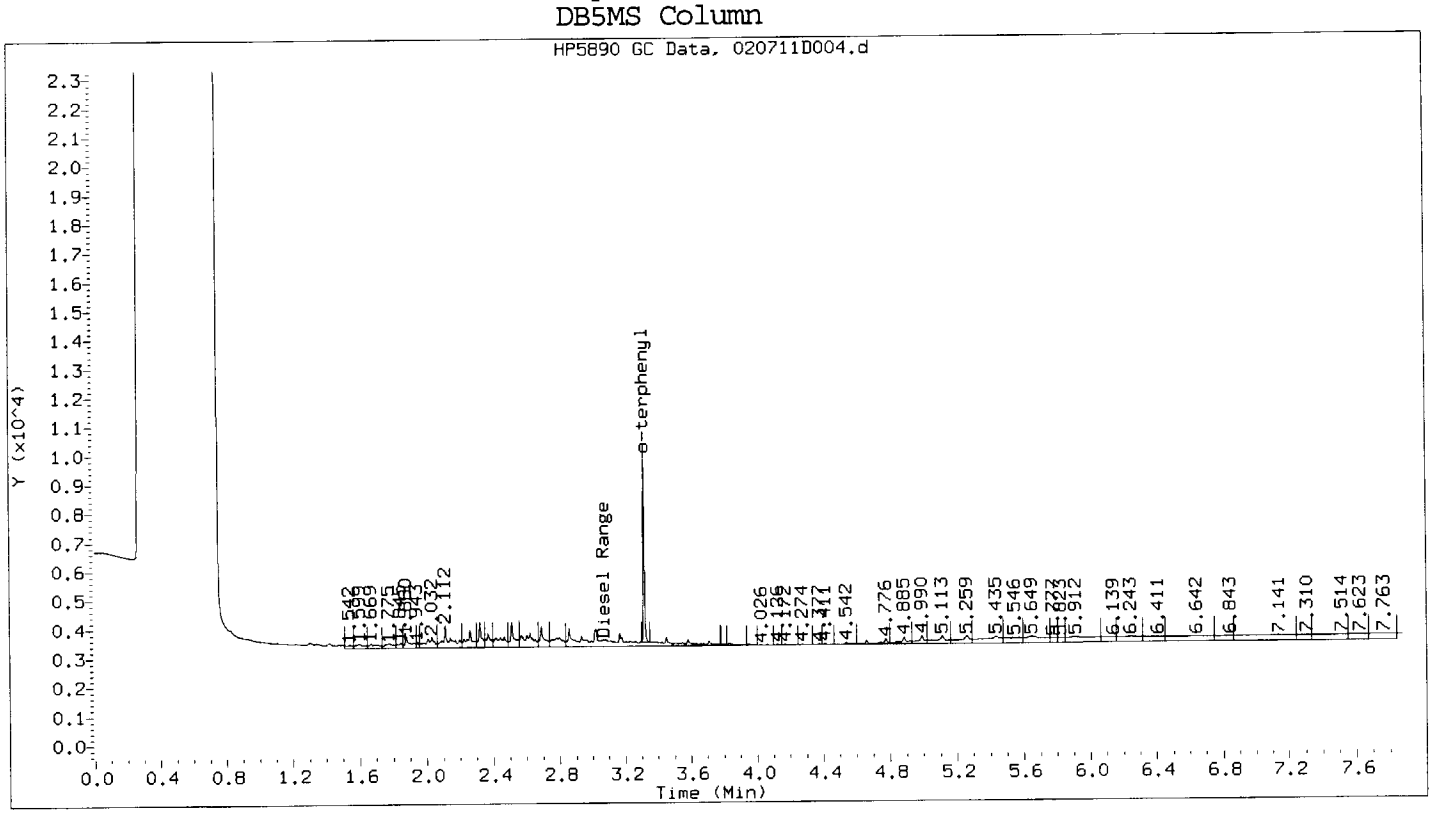
use level 2 for gl.

12/28/2011 13:26 020711D003.d WTPH-35

Weyerhaeuser
DB5MS Column

RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name

Weyerhaeuser
DB5MS Column



SAMPLE: DIESELL2;100_L4 Client ID: DIESEL_level2
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D004.d
Acquired: 07-FEB-2011 11:31 SampleType: CALIB_2

Dilution: 1.00

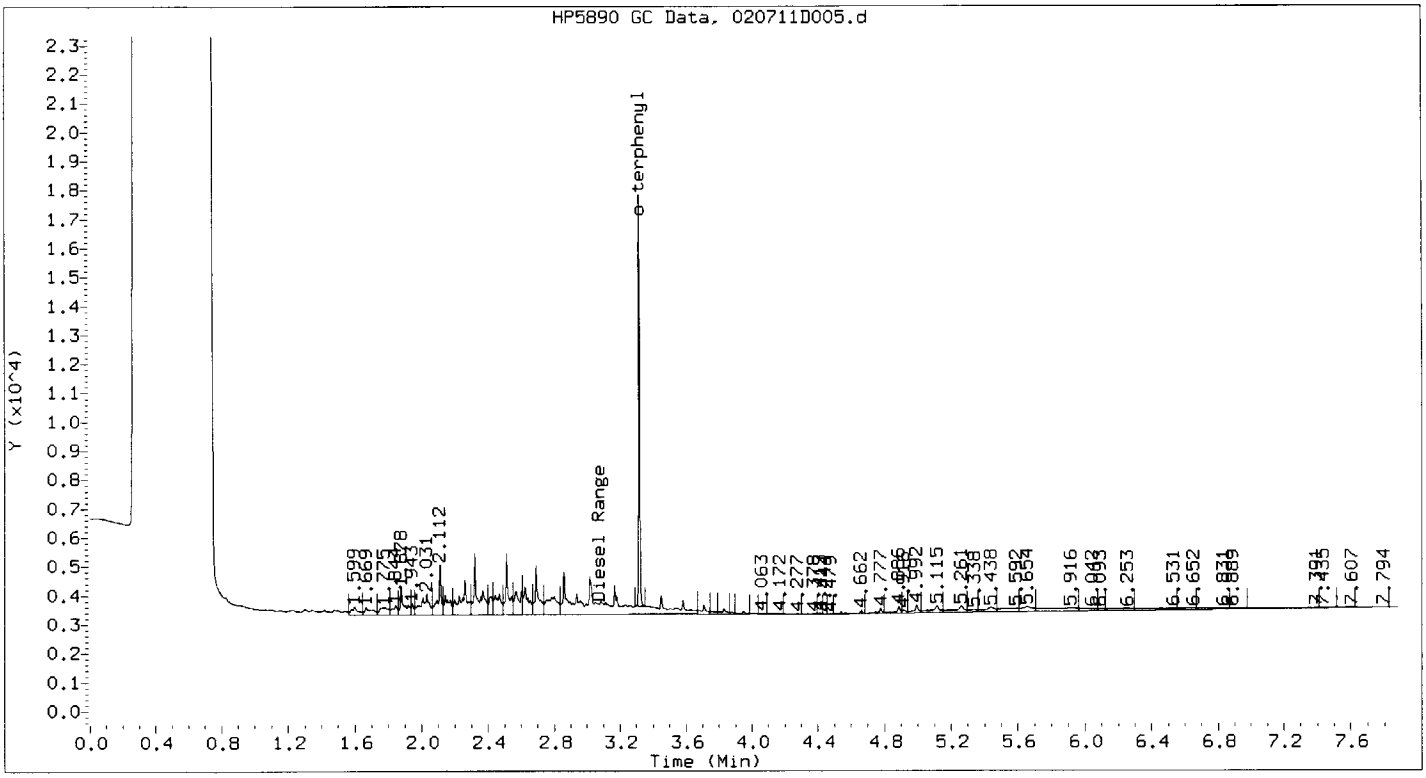
	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.542			6306	113	BV		
2	1.599			11346	169	PV		
3	1.669			11271	165	VV		
4	1.775			11933	155	PV		
5	1.845			6942	171	VV		
6	1.880			17156	406	VV		
7	1.943			3848	207	VV		
8	2.032			25468	366	VV		
9	2.112			43243	759	VV		
10	3.075	3.075	0.000	396151	5484		0.01000	Diesel Range
CALC:	**[(396200 / 43271000) +0.0027905] = 0.01195 mg/mL**						**%D=16.3**	
11	3.315	3.317	0.002	72067	6799		0.001020	o-terphenyl
CALC:	**[(72070 / 72255000) +0.00020350] = 0.001201 mg/mL**						**%D=15.1**	
12	4.026			968	25	VV		
13	4.126			367	22	PV		
14	4.172			603	29	PV		
15	4.274			454	29	PV		
16	4.377			632	28	PV		
17	4.411			1121	45	VV		
18	4.542			3205	71	VV		
19	4.776			11255	177	VV		
20	4.885			13149	224	VV		
21	4.990			14140	273	VV		
22	5.113			22256	254	VV		
23	5.259			22432	249	VV		
24	5.435			34734	226	VV		
25	5.546			25053	178	VV		
26	5.649			35398	221	VV		
27	5.777			9944	170	VV		
28	5.823			9034	169	VV		

12/28/2011 13:26 020711D004.d WTPH-37

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
29	5.912			43204	184	VV		
30	6.139			17316	163	VV		
31	6.243			32549	176	VV		
32	6.411			27178	170	VV		
33	6.642			61151	177	VV		
34	6.843			22718	173	VV		
35	7.141			81282	183	VV		
36	7.310			19980	184	VV		
37	7.514			46201	184	VV		
38	7.623			27158	185	VV		
39	7.763			36935	191	VB		

Weyerhaeuser
DB5MS Column



SAMPLE: DIESELL3;100_L5 Client ID: DIESEL_level3
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D005.d
Acquired: 07-FEB-2011 11:46 SampleType: CALIB_3

Dilution: 1.00 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.599			15223	279	PV		
2	1.669			16183	272	VV		
3	1.775			18534	260	PV		
4	1.844			12880	316	VV		
5	1.878			31481	932	VV		
6	1.943			6829	386	VV		
7	2.031			47959	718	VV		
8	2.112			43548	1714	VV		
9	3.075	3.075	0.000	841359	13809		0.02000	Diesel Range
CALC:	**[(841400 / 43271000) +0.0027905] = 0.02223 mg/mL %D=10.1**							
10	3.317	3.317	0.000	142808	14153		0.002050	o-terphenyl
CALC:	**[(142800 / 72255000) +0.00020350] = 0.002180 mg/mL %D=5.96**							
11	4.063			1426	44	PVT		
12	4.172			1614	38	PVT		
13	4.277			629	29	PVT		
14	4.378			599	23	PVT		
15	4.413			729	39	VVT		
16	4.444			79	3	VVT		
17	4.479			175	5	VVT		
18	4.662			4598	113	PVT		
19	4.777			5614	167	VVT		
20	4.886			7854	211	VVT		
21	4.916			2923	97	VVT		
22	4.992			10076	251	VVT		
23	5.115			16129	240	VVT		
24	5.261			16759	216	VVT		
25	5.338			6306	97	VVT		
26	5.438			14454	166	VVT		
27	5.592			17197	111	VVT		
28	5.654			14570	162	VVT		

12/28/2011 13:26 020711D005.d WTPH-39

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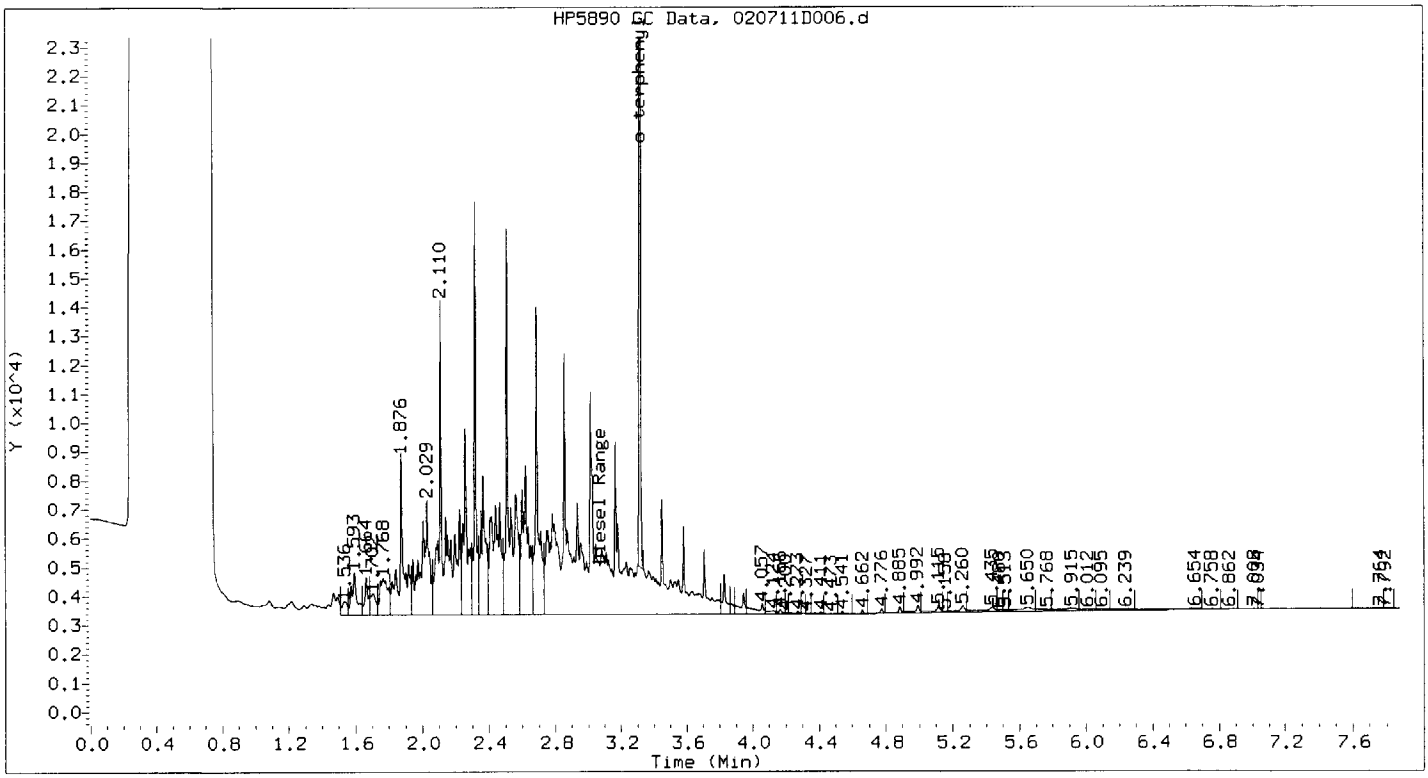
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
29	5.916			29978	112	VVT		
30	6.042			10764	78	VVT		
31	6.093			3998	76	VVT		
32	6.253			13857	73	VVT		
33	6.531			17392	59	VVT		
34	6.652			7919	58	VVT		
35	6.831			10574	44	VVT		
36	6.889			4380	38	VVT		
37	7.391			13384	23	VVT		
38	7.435			2338	23	VVT		
39	7.607			1748	12	VVT		
40	7.794			1617	7	VVT		

Weyerhaeuser
DB5MS Column



SAMPLE: DIESELL4;100_L7 Client ID: DIESEL_level4
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D006.d
Acquired: 07-FEB-2011 12:01 SampleType: CALIB_4

Dilution: 1.00 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.536			21038	478	BV		
2	1.593			64459	1467	PV		
3	1.664			35108	1287	VV		
4	1.702			34274	740	VV		
5	1.768			87357	1266	VV		
6	1.876			226749	5621	VV		
7	2.029			274224	3964	VV		
8	2.110			509467	10867	HHS		
9	3.075	3.075	0.000	4131816	70145		0.1000	Diesel Range
CALC:	**[(4132000 / 43271000) +0.0027905] = 0.09828 mg/mL %D=1.75**							
10	3.317	3.317	0.000	730506	72753		0.01023	o-terphenyl
CALC:	**[(730500 / 72255000) +0.00020350] = 0.01031 mg/mL %D=0.811**							
11	4.057			24997	359	VVT		
12	4.124			7990	123	PVT		
13	4.166			5443	172	PVT		
14	4.200			1181	58	PVT		
15	4.273			4053	102	PVT		
16	4.327			855	26	PVT		
17	4.411			2436	66	PVT		
18	4.473			590	11	VVT		
19	4.541			1490	77	PVT		
20	4.662			1863	119	PVT		
21	4.776			3657	166	PVT		
22	4.885			6085	212	VVT		
23	4.992			9568	246	VVT		
24	5.115			12754	227	VVT		
25	5.158			2170	56	VVT		
26	5.260			11720	213	VVT		
27	5.435			15965	162	VVT		
28	5.480			2769	70	VVT		

12/28/2011 13:26 020711D006.d WTPH-41

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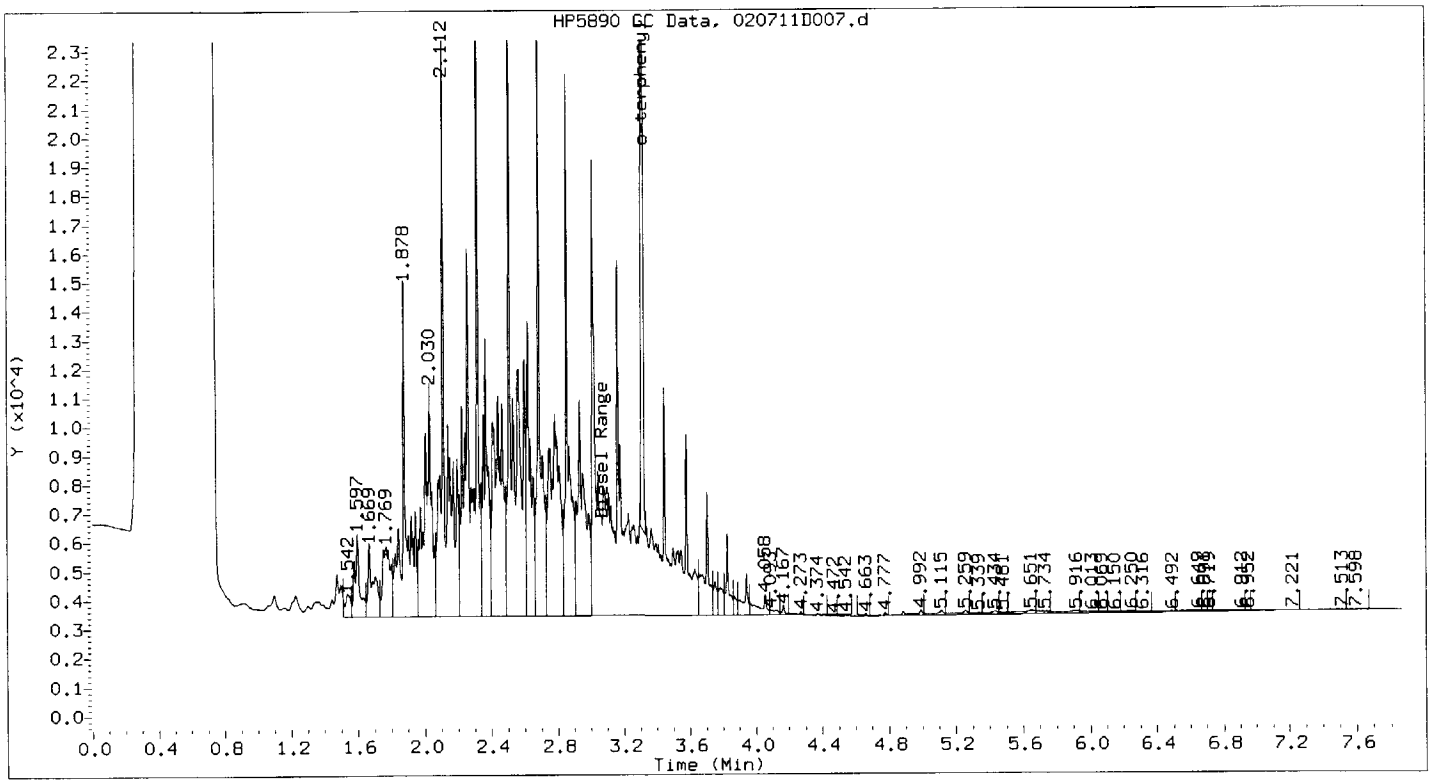
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
29	5.513			2801	72	VVT		
30	5.650			18571	153	VVT		
31	5.768			7760	68	VVT		
32	5.915			14344	97	VVT		
33	6.012			6933	56	VVT		
34	6.095			4659	50	VVT		
35	6.239			8125	56	VVT		
36	6.654			14043	33	VVT		
37	6.758			2522	21	VVT		
38	6.862			1759	17	VVT		
39	7.008			976	6	VVT		
40	7.034			29	2	VVT		
41	7.764			362	5	BV		
42	7.792			178	4	VB		

Weyerhaeuser
DB5MS Column



SAMPLE: DIESELL5;200_L7 Client ID: DIESEL_level5
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D007.d
Acquired: 07-FEB-2011 12:16 SampleType: CALIB_5

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.542			37676	807	BV		
2	1.597			117166	2869	PV		
3	1.669			123306	2575	VV		
4	1.769			163041	2434	VV		
5	1.878			492830	11663	HHS		
6	2.030			477105	8076	HHS		
7	2.112			846889	22160	HHS		
8	3.075	3.075	0.000	8261439	166502		0.2000	Diesel Range
CALC:	**[(8261000 / 43271000) +0.0027905] = 0.1937 mg/mL**					**%D=3.24**		
9	3.319	3.317	0.002	1452412	144588		0.02046	o-terphenyl
CALC:	**[(1452000 / 72255000) +0.00020350] = 0.02030 mg/mL**					**%D=0.764**		
10	4.058			44823	715	VVT		
11	4.093			10417	168	PVT		
12	4.167			7842	335	PVT		
13	4.273			4740	121	PVT		
14	4.374			1823	32	PVT		
15	4.472			2682	20	PVT		
16	4.542			3814	4	VVT		
17	4.663			1074	61	PVT		
18	4.777			2853	104	VVT		
19	4.992			12864	164	VVT		
20	5.115			11122	155	VVT		
21	5.259			11647	138	VVT		
22	5.339			4910	60	VVT		
23	5.434			7931	107	VVT		
24	5.481			3727	60	VVT		
25	5.651			16564	120	VVT		
26	5.734			8569	84	VVT		
27	5.916			14791	84	VVT		
28	6.013			8402	62	VVT		

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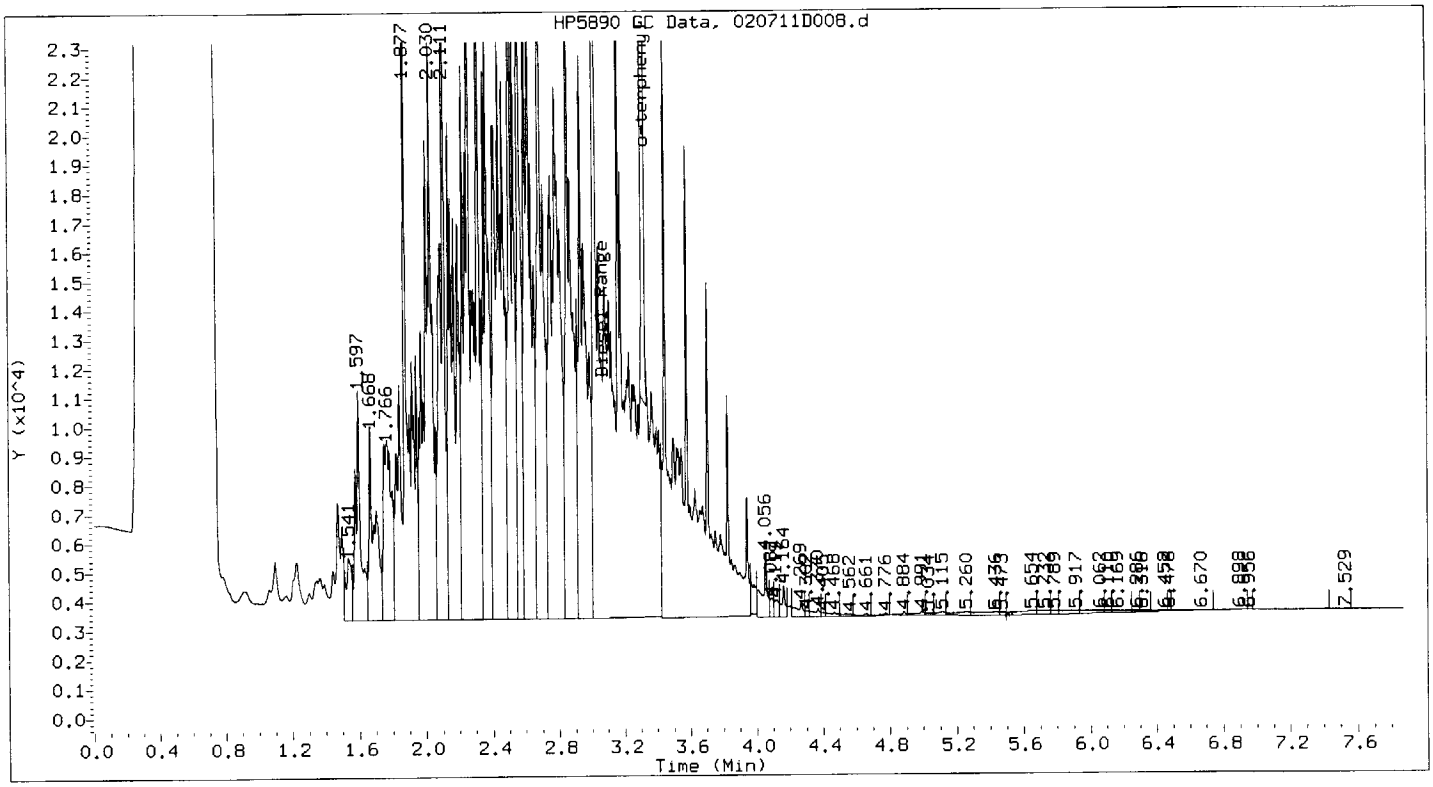
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
29	6.069			3565	58	VVT		
30	6.150			5002	54	VVT		
31	6.250			5219	54	VVT		
32	6.316			5188	44	VVT		
33	6.492			6204	37	VVT		
34	6.649			6968	39	VVT		
35	6.691			1431	36	VVT		
36	6.719			1299	35	VVT		
37	6.912			6753	27	VVT		
38	6.952			1022	25	VVT		
39	7.221			6536	16	VVT		
40	7.513			3050	9	VVT		
41	7.598			631	10	VVT		

Weyerhaeuser
DB5MS Column



SAMPLE: DIESELL6;500_L7 Client ID: DIESEL_level6
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D008.d
Acquired: 07-FEB-2011 12:31 SampleType: CALIB_6

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

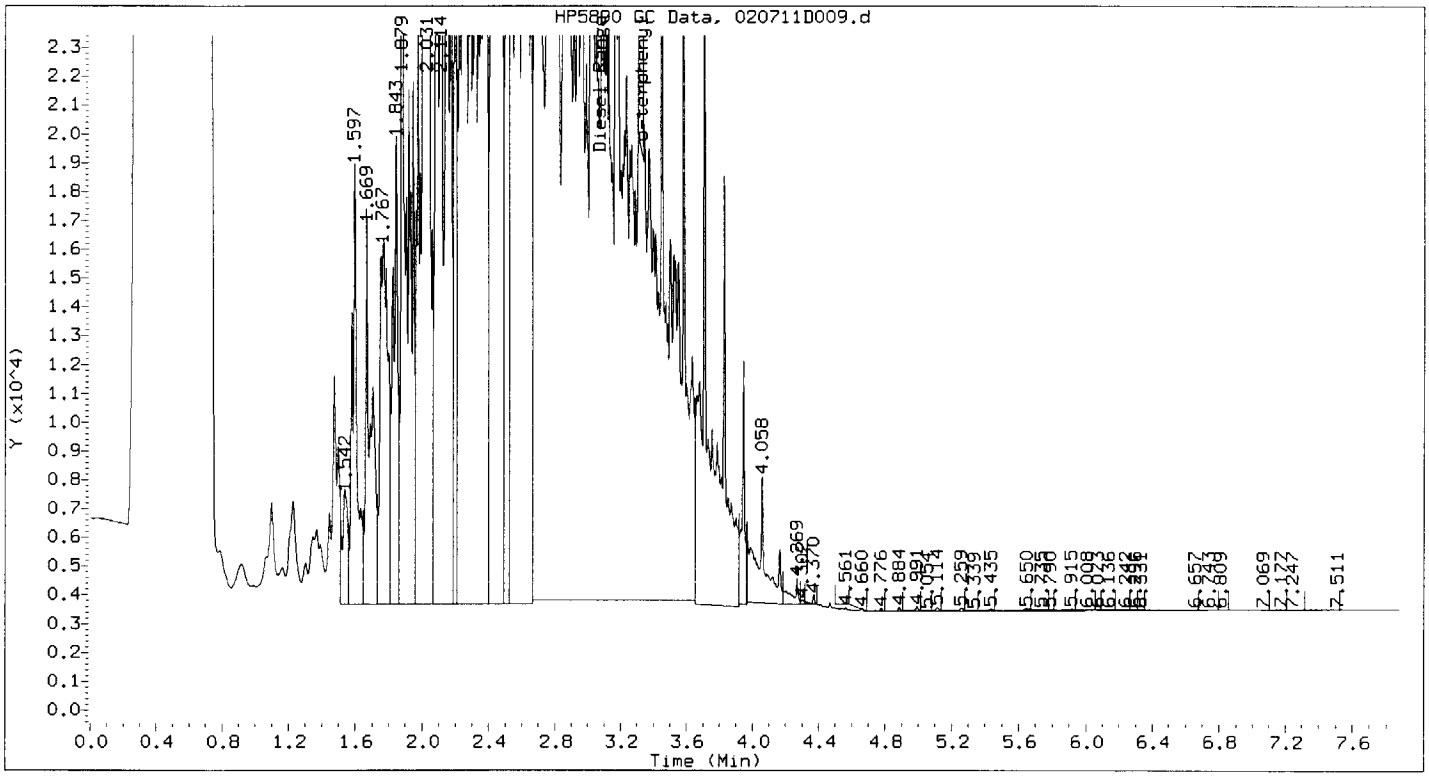
	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.541			100039	2165	BV		
2	1.597			316818	7904	PV		
3	1.668			324304	6675	VV		
4	1.766			413615	6200	VV		
5	1.877			1263905	30321	HHS		
6	2.030			1215747	20109	HHS		
7	2.111			1163723	55498	HHS		
8	3.075	3.075	0.000	22112873	454226		0.5000	Diesel Range
CALC:	**[(22110000 / 43271000) +0.0027905] = 0.5138 mg/mL %D=2.69**							
9	3.323	3.317	0.006	3619264	317025		0.05115	o-terphenyl
CALC:	**[(3619000 / 72255000) +0.00020350] = 0.05029 mg/mL %D=1.70**							
10	4.056			86452	2223	PVT		
11	4.087			20243	640	PVT		
12	4.119			22625	603	VVT		
13	4.164			31378	1078	VVT		
14	4.269			29795	546	PVT		
15	4.302			6680	212	PVT		
16	4.370			16194	286	VVT		
17	4.405			4707	149	PVT		
18	4.468			10711	154	VVT		
19	4.562			8402	105	PVT		
20	4.661			7466	106	PVT		
21	4.776			5500	85	PVT		
22	4.884			4792	108	VVT		
23	4.991			8774	138	VVT		
24	5.034			4652	76	VVT		
25	5.115			8506	136	VVT		
26	5.260			16585	140	VVT		
27	5.436			21683	131	VVT		
28	5.473			4861	116	VVT		

12/28/2011 13:26 020711D008.d WTPH-45

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
29	5.654			25173	145	PVT		
30	5.732			13227	127	VVT		
31	5.789			6593	120	VVT		
32	5.917			16649	110	VVT		
33	6.062			16811	92	VVT		
34	6.110			4523	85	VVT		
35	6.169			10375	76	VVT		
36	6.286			3447	61	VVT		
37	6.316			4381	57	VVT		
38	6.452			5793	45	VVT		
39	6.478			1083	43	VVT		
40	6.670			9841	32	VVT		
41	6.898			3720	12	VVT		
42	6.956			148	7	VVT		
43	7.529			296	3	BV		

Weyerhaeuser
DB5MS Column



SAMPLE: DIESELL7;110202 Client ID: DIESELL7
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D009.d
Acquired: 07-FEB-2011 12:46 SampleType: CALIB_7

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

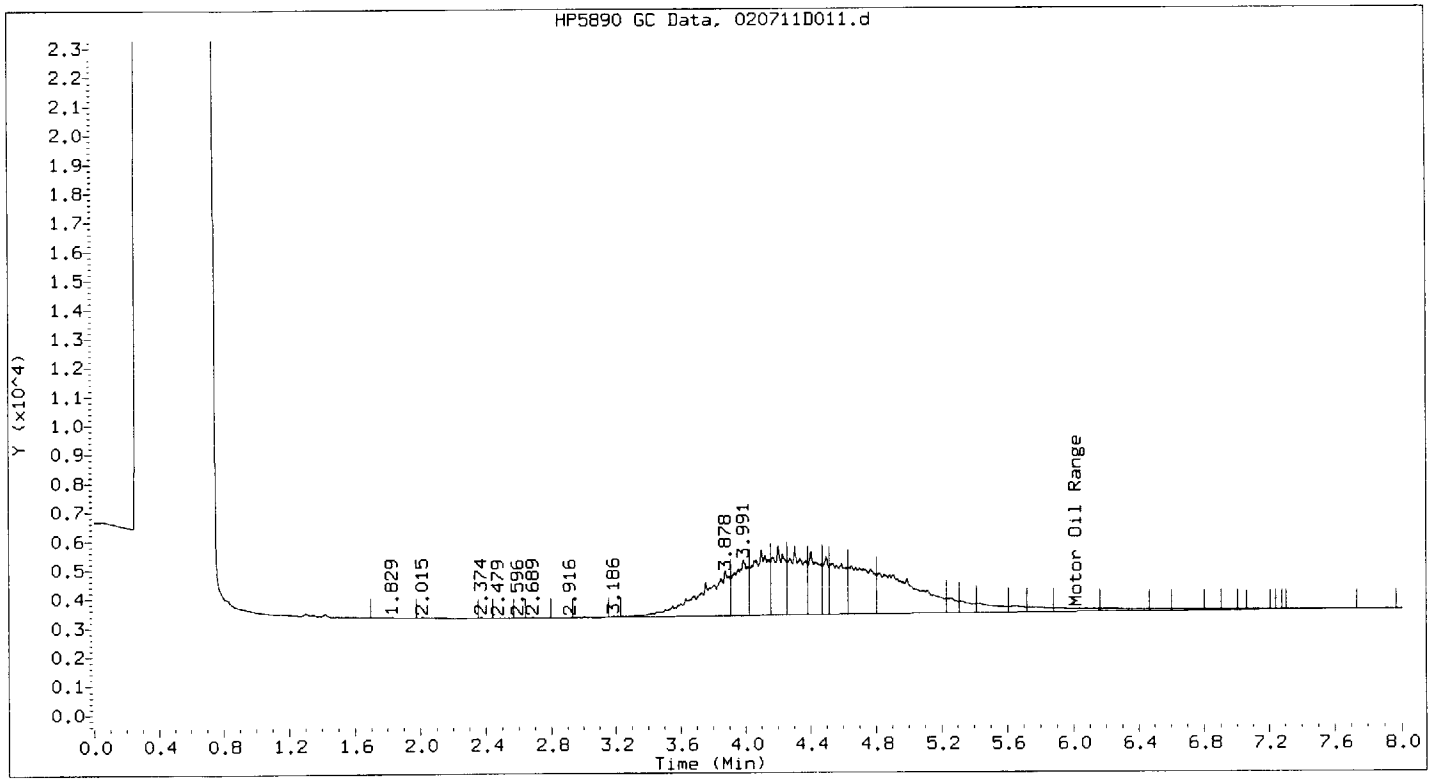
	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.542			184179	3988	BV		
2	1.597			600349	15300	HHS		
3	1.669			620271	13716	HHS		
4	1.767			836381	12706	HHS		
5	1.843			627681	16245	HHS		
6	1.879			1920743	60367	HHS		
7	2.031			2463767	41875	HHS		
8	2.114			3752625	113871	HHS		
9	3.075	3.075	0.000	43205776	567189		1.000	Diesel Range
CALC:	**[(43210000 / 43271000) +0.0027905] = 1.001 mg/mL %D=0.129**							
10	3.329	3.317	0.012	7409820	537899		0.1023	o-terphenyl
CALC:	**[(7410000 / 72255000) +0.00020350] = 0.1028 mg/mL %D=0.423**							
11	4.058			333352	4381			
12	4.269			46237	901	PVT		
13	4.302			3801	135	PVT		
14	4.370			6838	320	VVT		
15	4.561			16630	116	PVT		
16	4.660			11492	24	PVT		
17	4.776			2017	98	PVT		
18	4.884			2675	123	PVT		
19	4.991			4685	146	VVT		
20	5.054			1769	22	VVT		
21	5.114			3656	116	VVT		
22	5.259			4419	106	VVT		
23	5.339			1078	13	VVT		
24	5.435			2875	65	VVT		
25	5.650			6570	70	VVT		
26	5.735			4487	35	VVT		
27	5.790			1211	35	VVT		
28	5.915			4963	49	VVT		

12/28/2011 13:26 020711D009.d WTPH-47

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
29	6.008			3663	27	VVT		
30	6.073			980	25	VVT		
31	6.136			2467	24	VVT		
32	6.242			2553	27	VVT		
33	6.296			977	16	VVT		
34	6.331			635	13	VVT		
35	6.657			3911	14	VVT		
36	6.743			880	9	VVT		
37	6.809			398	8	VVT		
38	7.069			1479	6	VVT		
39	7.177			763	7	VVT		
40	7.247			257	5	VVT		
41	7.511			395	5	PVT		

Weyerhaeuser
DB5MS Column



SAMPLE: OILL1;20_L7 Client ID: MoterOil_level1
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D011.d
Acquired: 07-FEB-2011 13:16 SampleType: CALIB_1

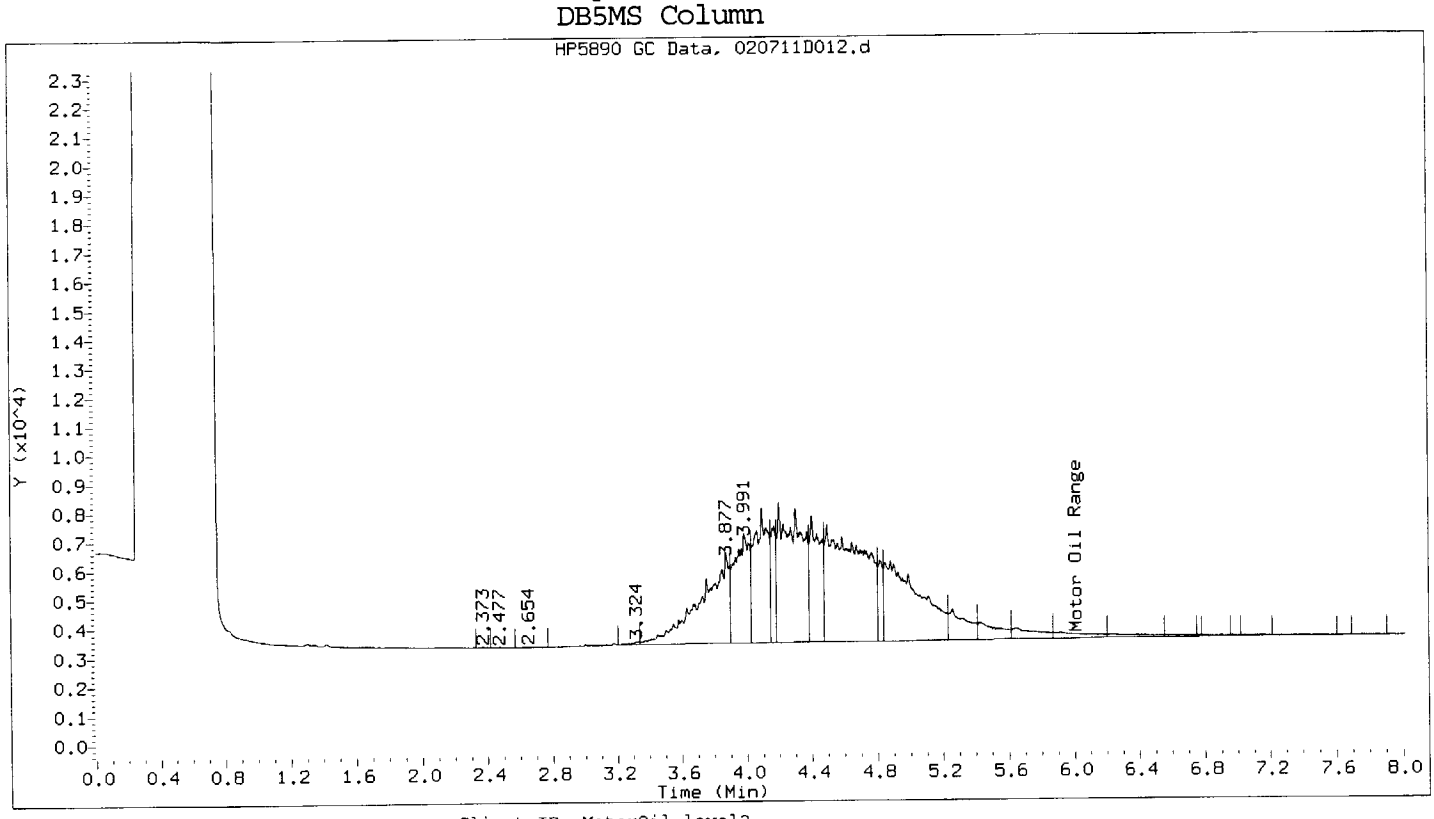
Dilution: 1.00 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.829			330	6	BV		
2	2.015			736	23	PV		
3	2.374			653	36	PV		
4	2.479			587	6	PV		
5	2.596			277	5	PV		
6	2.689			872	36	VV		
7	2.916			284	5	PV		
8	3.186			1317	26	PV		
9	3.878			379767	1510	VV		
10	3.991			222341	1896	VV		
11	6.015	6.015	0.000	2421824	17946		0.05000	Motor Oil Range

use level 2 for gl.

CALC: [(2422000 / 46042000) -0.0050919] = 0.04751 mg/mL %D=5.25

Weyerhaeuser
DB5MS Column



SAMPLE: OILL2;40_L7 Client ID: MoterOil_level2
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D012.d
Acquired: 07-FEB-2011 13:31 SampleType: CALIB_2

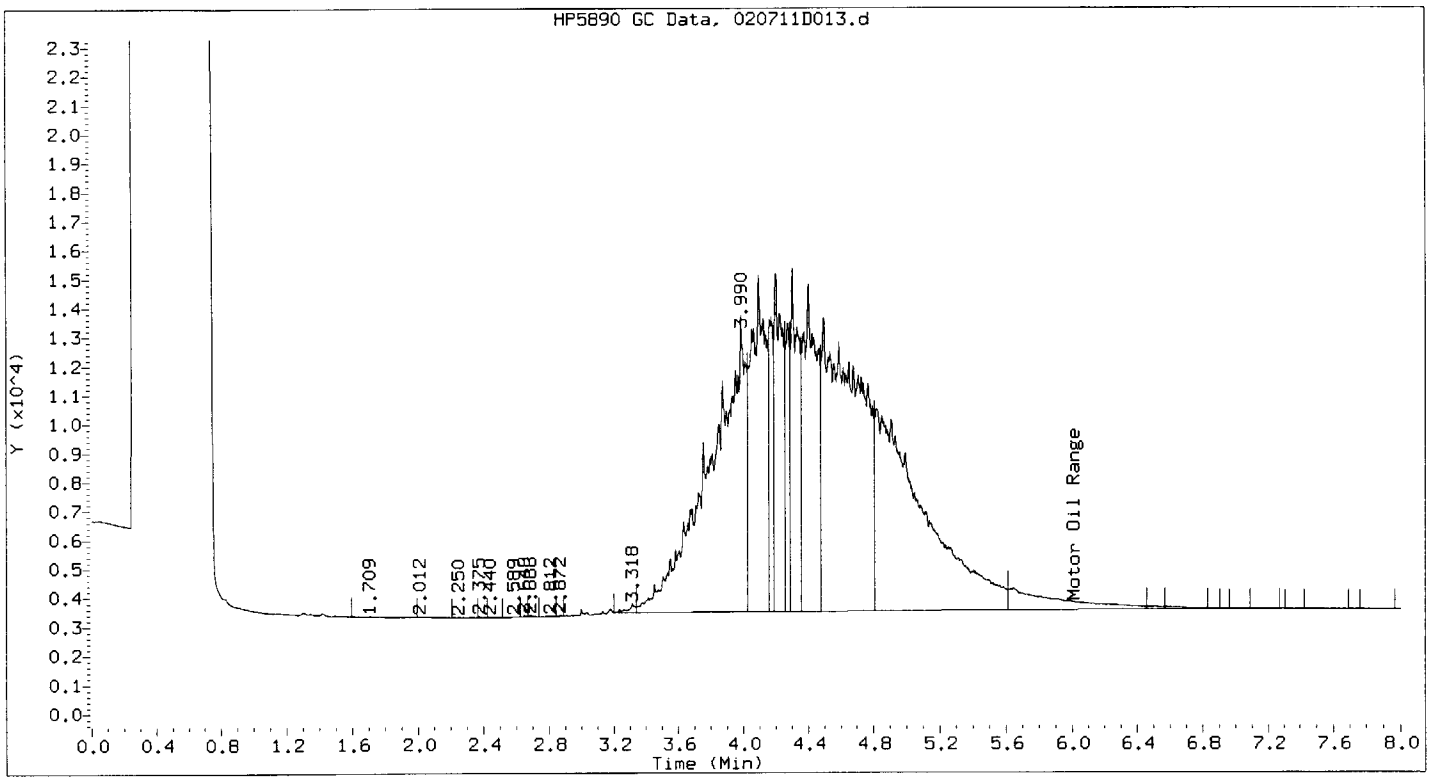
Dilution: 1.00

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	2.373			322	12	PV		
2	2.477			370	5	PV		
3	2.654			1139	11	PV		
4	3.324			6277	91	PV		
5	3.877			729168	3007	VV		
6	3.991			475034	3693	VV		
7	6.015	6.015	0.000	4664416	29563		0.1000	Motor Oil Range

CALC: [(4664000 / 46042000) -0.0050919] = 0.09621 mg/mL %D=3.93

12/28/2011 13:26 020711D012.d WTPH-50

Weyerhaeuser
DB5MS Column



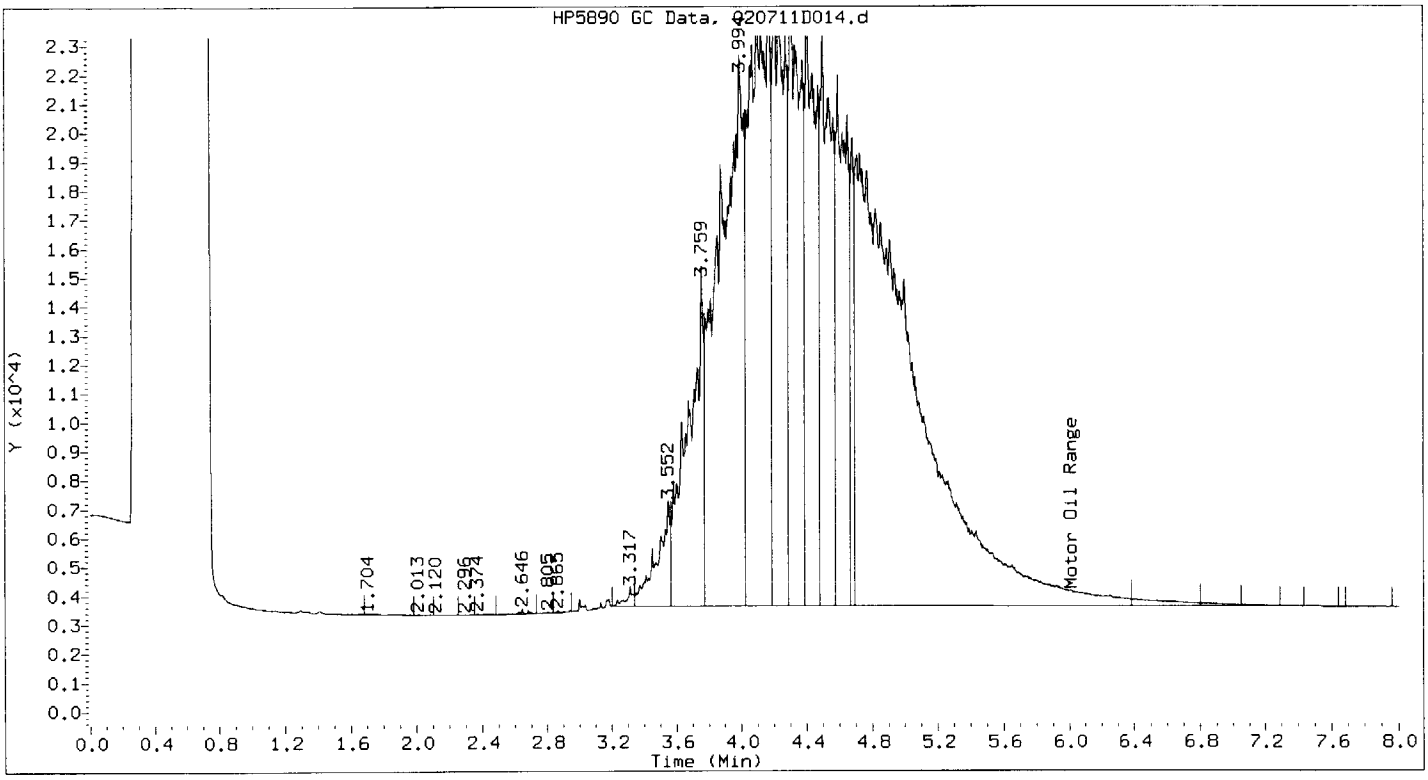
SAMPLE: OILL3;100_L7 Client ID: MoterOil_level3
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D013.d
Acquired: 07-FEB-2011 13:46 SampleType: CALIB_3

Dilution: 1.00

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.709			1128	11	BV		
2	2.012			668	20	PV		
3	2.250			389	6	PV		
4	2.375			430	30	PV		
5	2.440			564	14	PV		
6	2.589			549	11	PV		
7	2.649			967	51	VV		
8	2.688			1396	51	VV		
9	2.812			603	9	PV		
10	2.872			453	19	PV		
11	3.318			17550	286	PV		
12	3.990			3077409	9884	VV		
13	6.015	6.015	0.000	11605715	83952		0.2500	Motor Oil Range

CALC: [(11610000 / 46042000) -0.0050919] = 0.2470 mg/mL %D=1.23

Weyerhaeuser
DB5MS Column



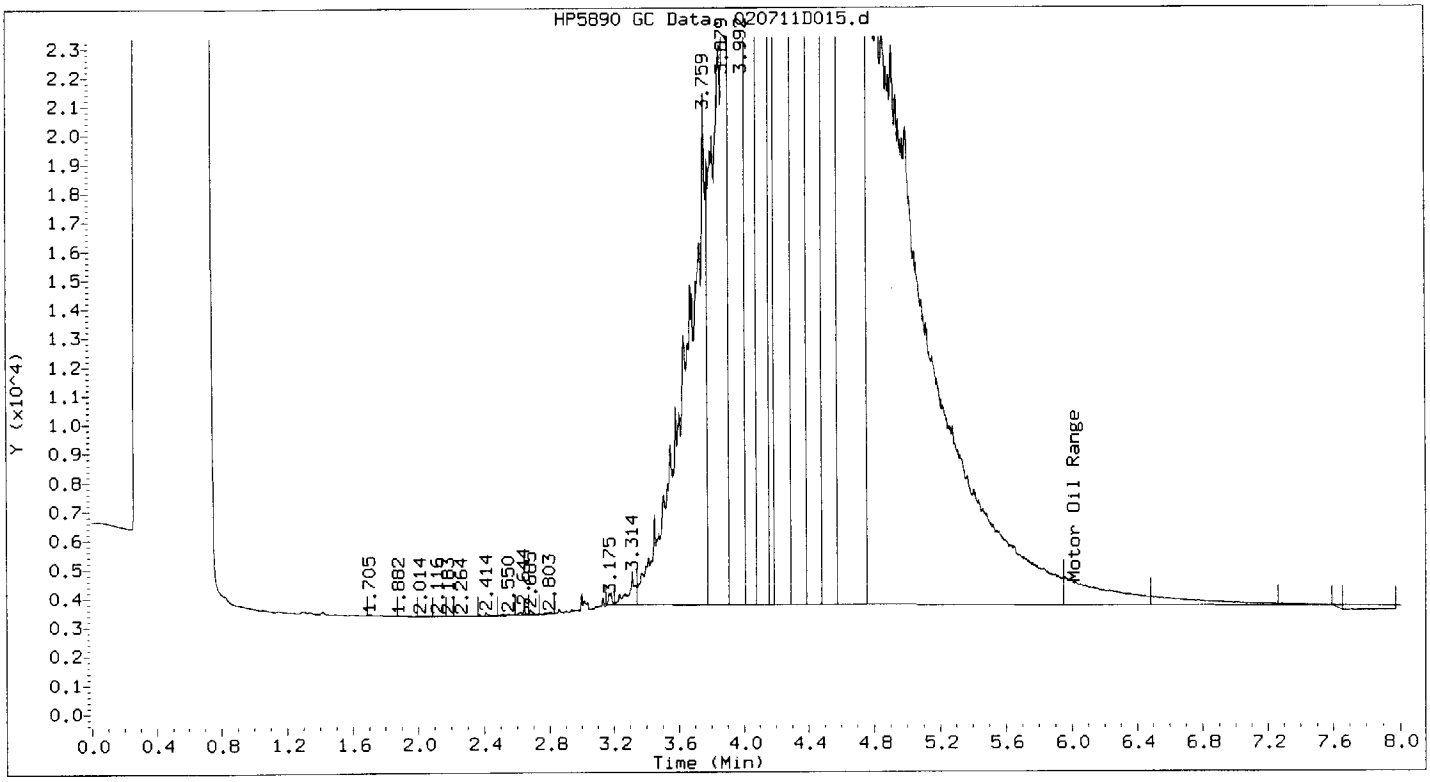
SAMPLE: OILL4;10_100103 Client ID: MoterOil_level4
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D014.d
Acquired: 07-FEB-2011 14:30 SampleType: CALIB_4

Dilution: 1.00 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.704			1673	18	PV		
2	2.013			521	21	PV		
3	2.120			320	5	PV		
4	2.296			424	8	PV		
5	2.374			2000	37	PV		
6	2.646			7709	115	PV		
7	2.805			1483	27	PV		
8	2.865			1753	67	PV		
9	3.317			35108	615	PV		
10	3.552			398124	3595	VV		
11	3.759			1553066	11348	VV		
12	3.994			4014303	18144	VV		
13	6.015	6.015	0.000	22893485	158597		0.5000	Motor Oil Range

CALC: **[(22890000 / 46042000) -0.0050919] = 0.4921 mg/mL %D=1.60**

Weyerhaeuser
DB5MS Column



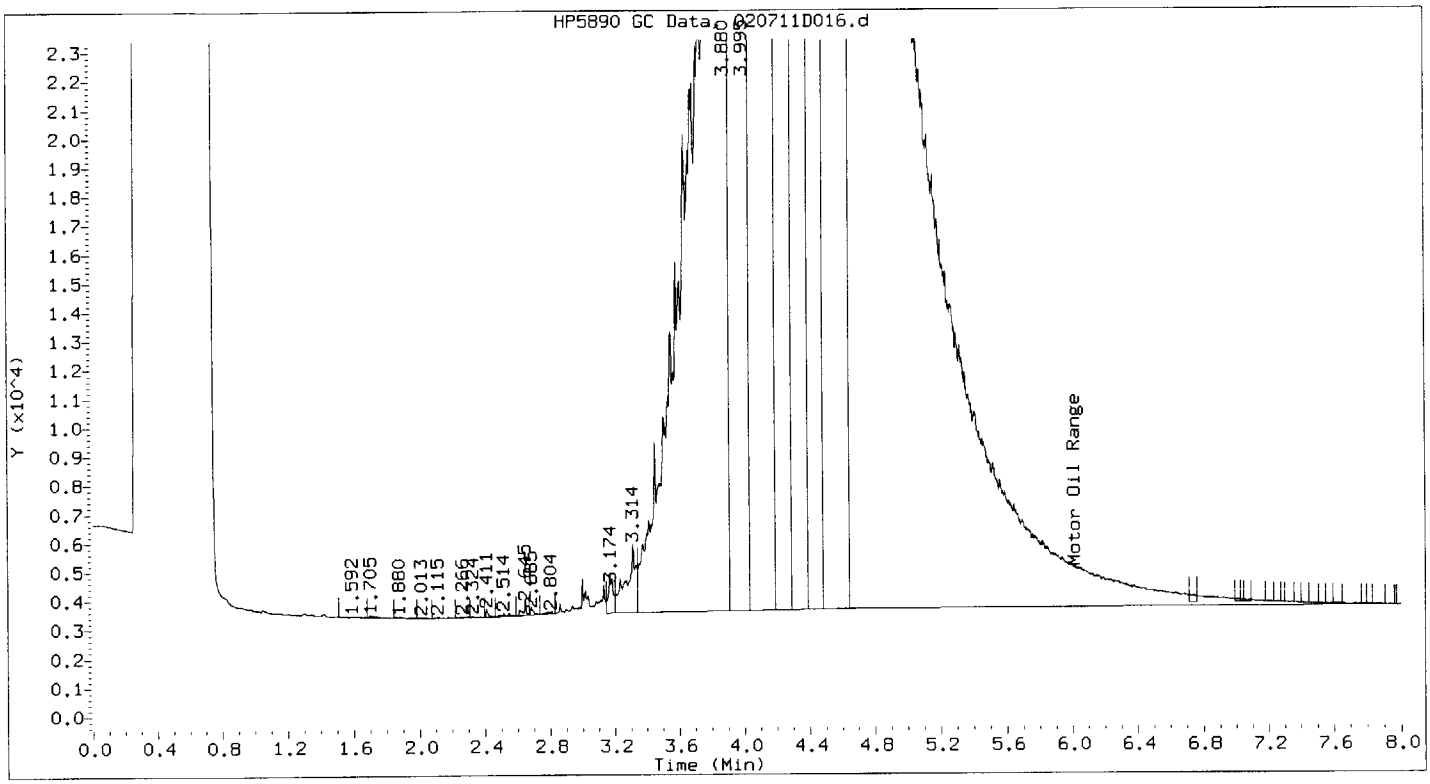
SAMPLE: OILL5;15_100103 Client ID: MoterOil_level5
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D015.d
Acquired: 07-FEB-2011 14:45 SampleType: CALIB_5

Dilution: 1.00

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.705			1651	35	PV		
2	1.882			522	14	VV		
3	2.014			757	25	PV		
4	2.116			621	17	PV		
5	2.183			244	6	VV		
6	2.264			1098	9	VV		
7	2.414			3328	91	PV		
8	2.550			2387	43	PV		
9	2.644			5898	218	PV		
10	2.685			4019	162	VV		
11	2.803			2130	33	PV		
12	3.175			11396	425	PV		
13	3.314			63866	1131	VV		
14	3.759			3061798	17694	VV		
15	3.879			2849926	24053	VV		
16	3.992			2851060	29645	VV		
17	6.015	6.015	0.000	35370485	277976		0.7500	Motor Oil Range

CALC: [(35370000 / 46042000) -0.0050919] = 0.7631 mg/mL %D=1.72

Weyerhaeuser
DB5MS Column



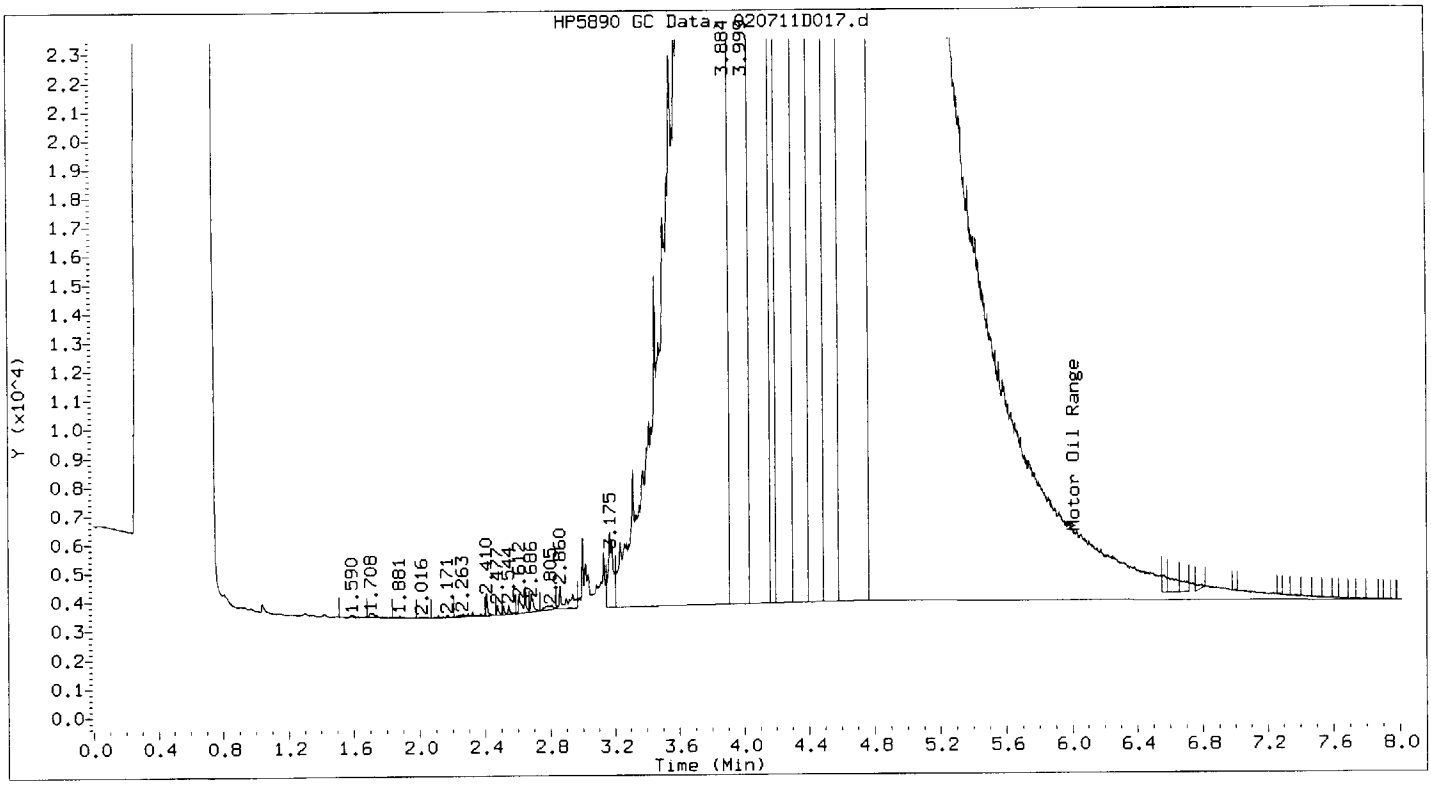
SAMPLE: OILL6;25_100103 Client ID: MoterOil_level6
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D016.d
Acquired: 07-FEB-2011 15:00 SampleType: CALIB_6

Dilution: 1.00

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.592			271	17	BV		
2	1.705			3494	62	PV		
3	1.880			1351	25	PV		
4	2.013			709	15	PV		
5	2.115			1396	29	PV		
6	2.266			1749	28	PV		
7	2.324			1547	54	VV		
8	2.411			5064	268	PV		
9	2.514			5484	94	VV		
10	2.645			11276	339	PV		
11	2.685			6507	258	VV		
12	2.804			3600	58	PV		
13	3.174			53662	1330	PV		
14	3.314			191192	2369	VV		
15	3.880			9973856	39911	HHS		
16	3.995			5966264	49013	HHS		
17	6.015	6.015	0.000	58349085	325391		1.250	Motor Oil Range

CALC: [(58350000 / 46042000) -0.0050919] = 1.262 mg/mL %D=0.966

Weyerhaeuser
DB5MS Column



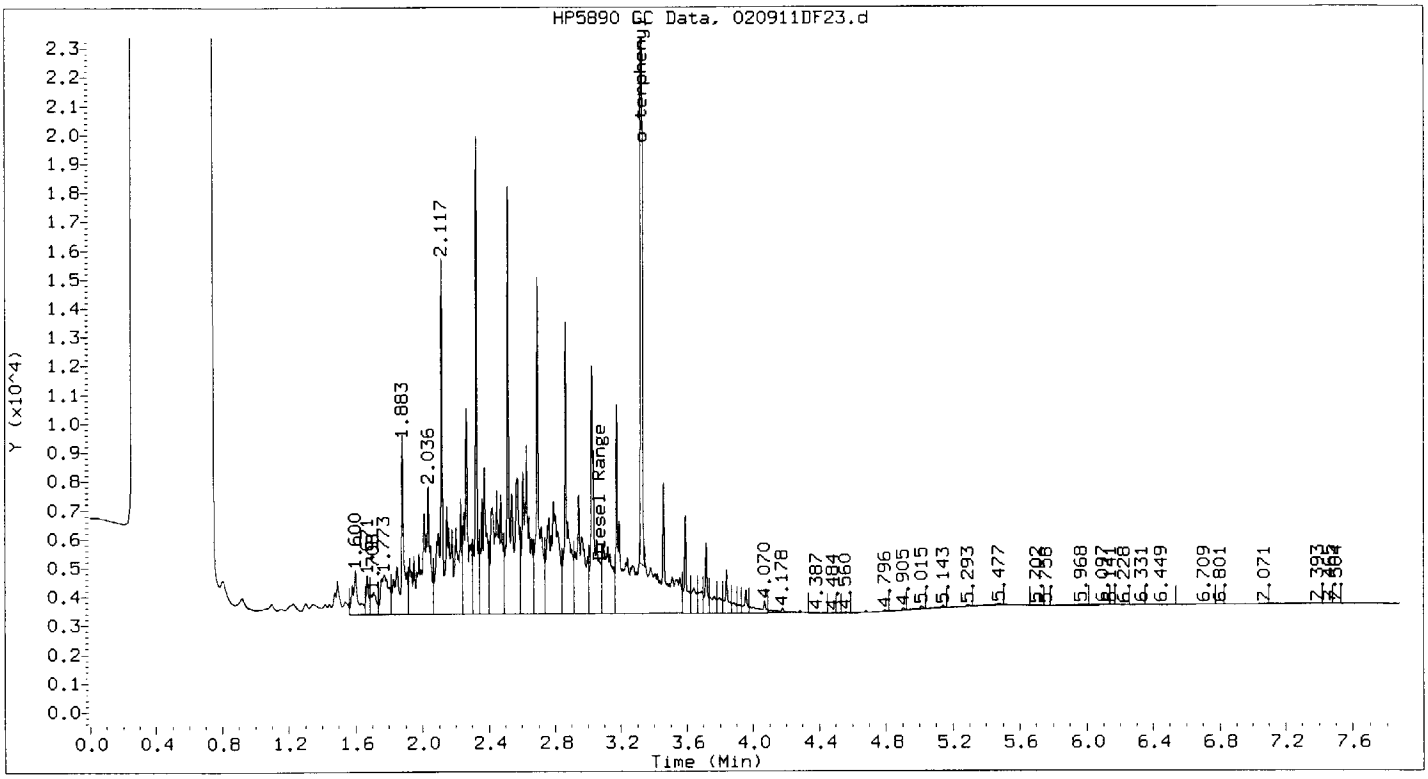
SAMPLE: OILL7;50_100103 Client ID: OILL7
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020711d0_racer.b/020711D017.d
Acquired: 07-FEB-2011 15:15 SampleType: CALIB_7

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.590			1663	43	BV		
2	1.708			8291	114	VV		
3	1.881			2606	53	PV		
4	2.016			1513	42	PV		
5	2.171			3711	86	PV		
6	2.263			9833	100	PV		
7	2.410			10824	691	PV		
8	2.477			5514	300	VV		
9	2.544			9714	288	VV		
10	2.612			25759	548	PV		
11	2.686			13723	564	VV		
12	2.805			9482	161	PV		
13	2.860			41723	784	PV		
14	3.175			108664	2606	PV		
15	3.884			19945058	75716	HHS		
16	3.999			11418622	96179	HHS		
17	6.015	6.015	0.000	114965339	822162		2.500	Motor Oil Range

CALC: **[(115000000 / 46042000) -0.0050919] = 2.492 mg/mL %D=0.327**

Weyerhaeuser
DB5MS Column



SAMPLE: DIESELCC68;L4 Client ID: DIESELCC68
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF23.d
Acquired: 27-DEC-2011 09:33 SampleType: CCALIB_4

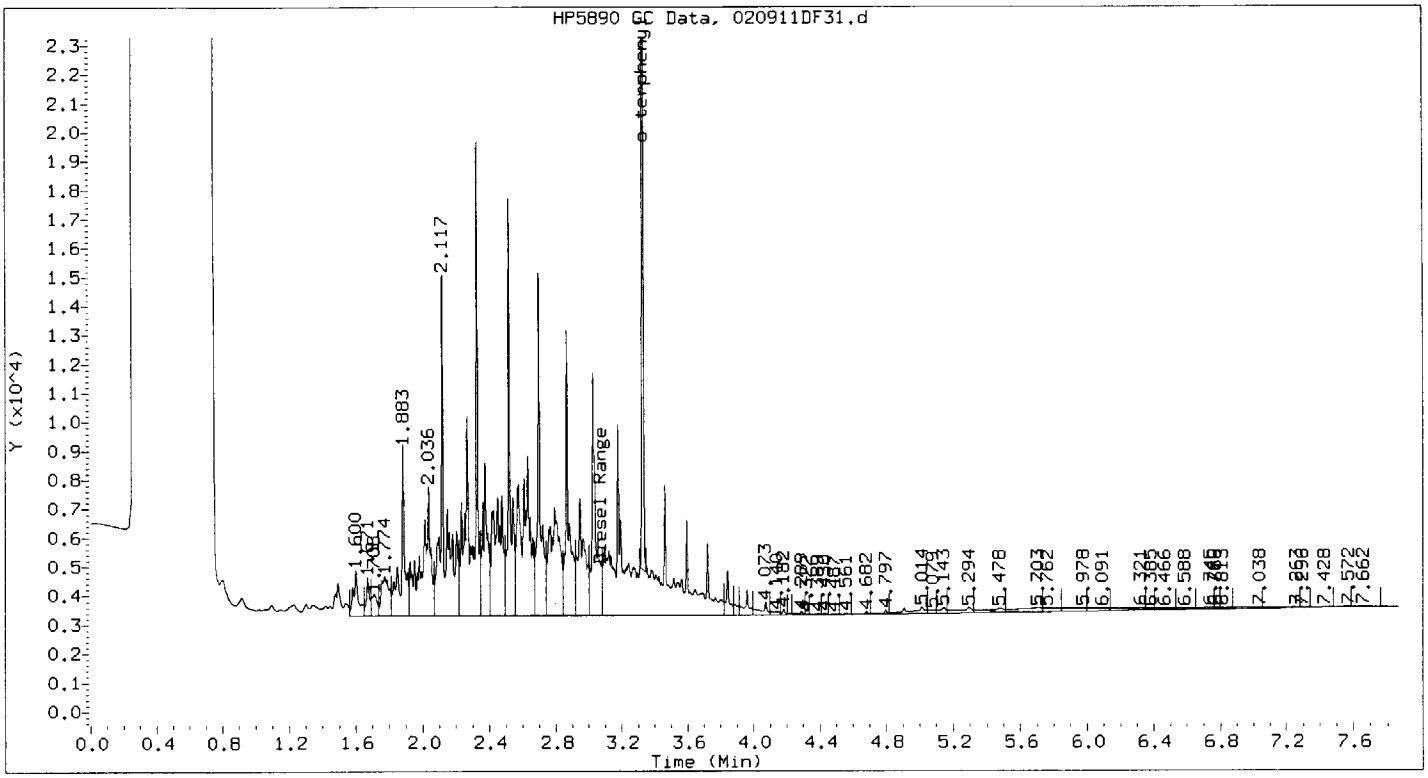
Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 10000 ul | AmountInj: 1.000 ul | AmountExt: 10.00 g | Moisture: 0.000 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.600			67492	1526	PV		
2	1.671			31248	1347	VV		
3	1.708			32840	768	VV		
4	1.773			89570	1363	VV		
5	1.883			194897	6182	VV		
6	2.036			335093	4414	VV		
7	2.117			549786	12314	HHS		
8	3.075	3.075	0.000	4440618	113182		0.1000	Diesel Range
CALC:	**[(4441000 / 43271000) +0.0027905] = 0.1054 mg/mL %D=5.14**							
9	3.328	3.320	0.008	803306	80054		0.01023	o-terphenyl
CALC:	**[(803300 / 72255000) +0.00020350] = 0.01132 mg/mL %D=9.64**							
10	4.070			23416	427	VVT		
11	4.178			13420	170			
12	4.387			810	27	PVT		
13	4.484			114	10	PVT		
14	4.560			471	39	PVT		
15	4.796			982	63	PVT		
16	4.905			2455	95	PVT		
17	5.015			5225	116	VVT		
18	5.143			5233	92	VVT		
19	5.293			2851	64	VVT		
20	5.477			3505	40	VBT		
21	5.702			745	21	BVT		
22	5.758			67	1	PVT		
23	5.968			4482	30	PVT		
24	6.097			3755	31	VVT		
25	6.141			782	22	VVT		
26	6.228			1453	14	VVT		
27	6.331			1747	20	VVT		
28	6.449			3016	15	VVT		

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
29	6.709			2482	12	VVT		
30	6.801			358	8	VVT		
31	7.071			1124	8	VVT		
32	7.393			2069	9	VVT		
33	7.465			194	4	PVT		
34	7.504			173	4	VVT		

Weyerhaeuser
DB5MS Column



SAMPLE: DIESELCC69;L4 Client ID: DIESELCC69
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF31.d
Acquired: 27-DEC-2011 11:34 SampleType: CCALIB_4

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

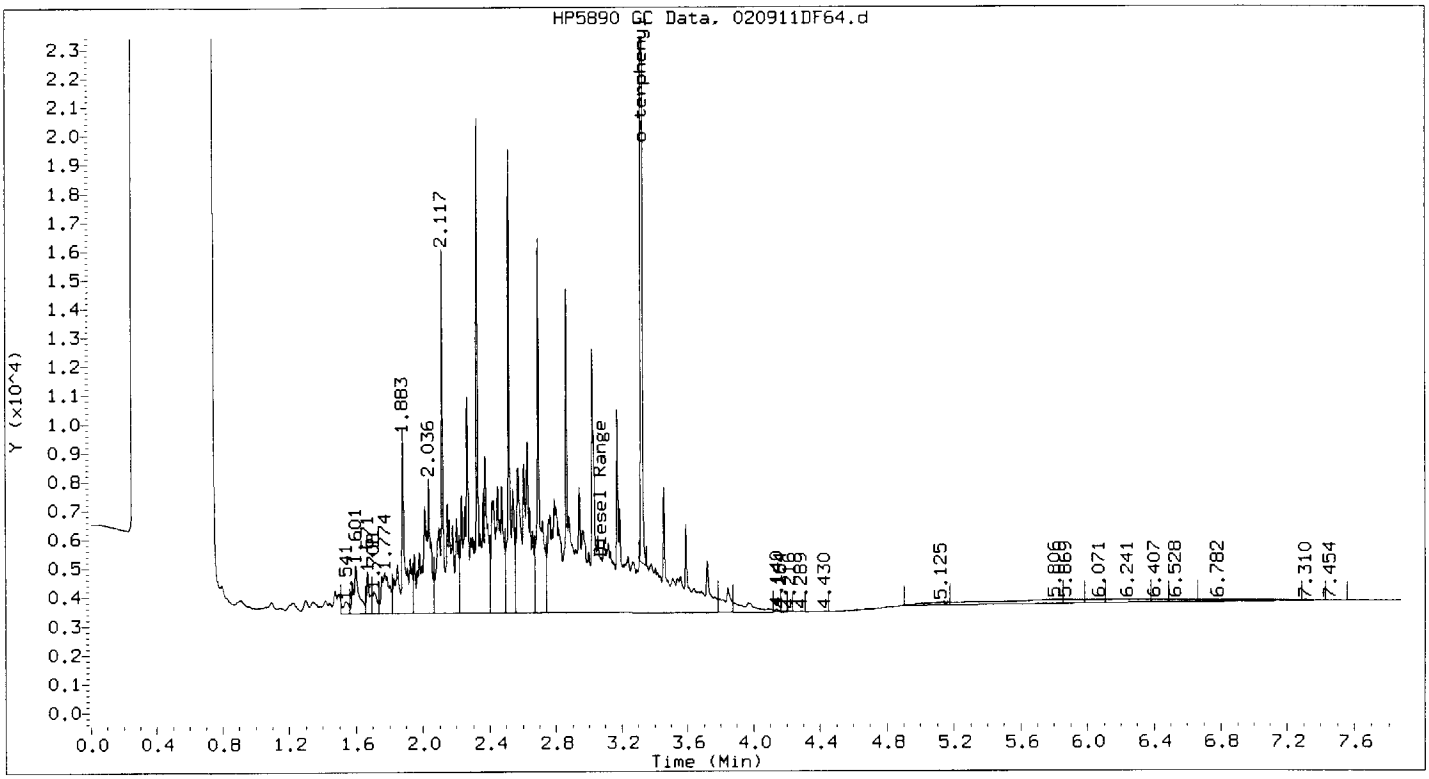
	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.600			66169	1571	PV		
2	1.671			34728	1320	VV		
3	1.708			33225	757	VV		
4	1.774			89992	1374	VV		
5	1.883			194423	5907	VV		
6	2.036			333738	4463	VV		
7	2.117			463501	11769	HHS		
8	3.075	3.075	0.000	4499822	92981		0.1000	Diesel Range
CALC:	**[(4500000 / 43271000) +0.0027905] = 0.1068 mg/mL %D=6.35**							
9	3.330	3.320	0.010	804508	83869		0.01023	o-terphenyl
CALC:	**[(804500 / 72255000) +0.00020350] = 0.01134 mg/mL %D=9.77**							
10	4.073			21946	450	PVT		
11	4.140			8021	117	PVT		
12	4.182			4707	203	PVT		
13	4.289			4825	119	PVT		
14	4.322			829	29	PVT		
15	4.389			1967	50	PVT		
16	4.430			1461	70	PVT		
17	4.487			1113	28	PVT		
18	4.561			1448	70	PVT		
19	4.682			1768	91	PVT		
20	4.797			4117	130	VVT		
21	5.014			23161	221	VVT		
22	5.079			6459	103	VVT		
23	5.143			9775	194	VVT		
24	5.294			19638	181	VVT		
25	5.478			21898	139	VVT		
26	5.703			28711	149	VVT		
27	5.762			16022	120	VVT		
28	5.978			19411	113	VVT		

12/28/2011 13:26 020911DF31.d WTPH-58

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
29	6.091			15598	92	VVT		
30	6.321			21383	88	VVT		
31	6.385			4887	78	VVT		
32	6.466			11018	73	VVT		
33	6.588			9114	64	VVT		
34	6.745			7652	60	VVT		
35	6.768			2123	57	VVT		
36	6.813			4536	51	VVT		
37	7.038			9406	41	VVT		
38	7.263			9594	35	VVT		
39	7.296			2128	33	VVT		
40	7.428			3483	21	VVT		
41	7.572			1770	14	VVT		
42	7.662			1284	10	VVT		

Weyerhaeuser
DB5MS Column



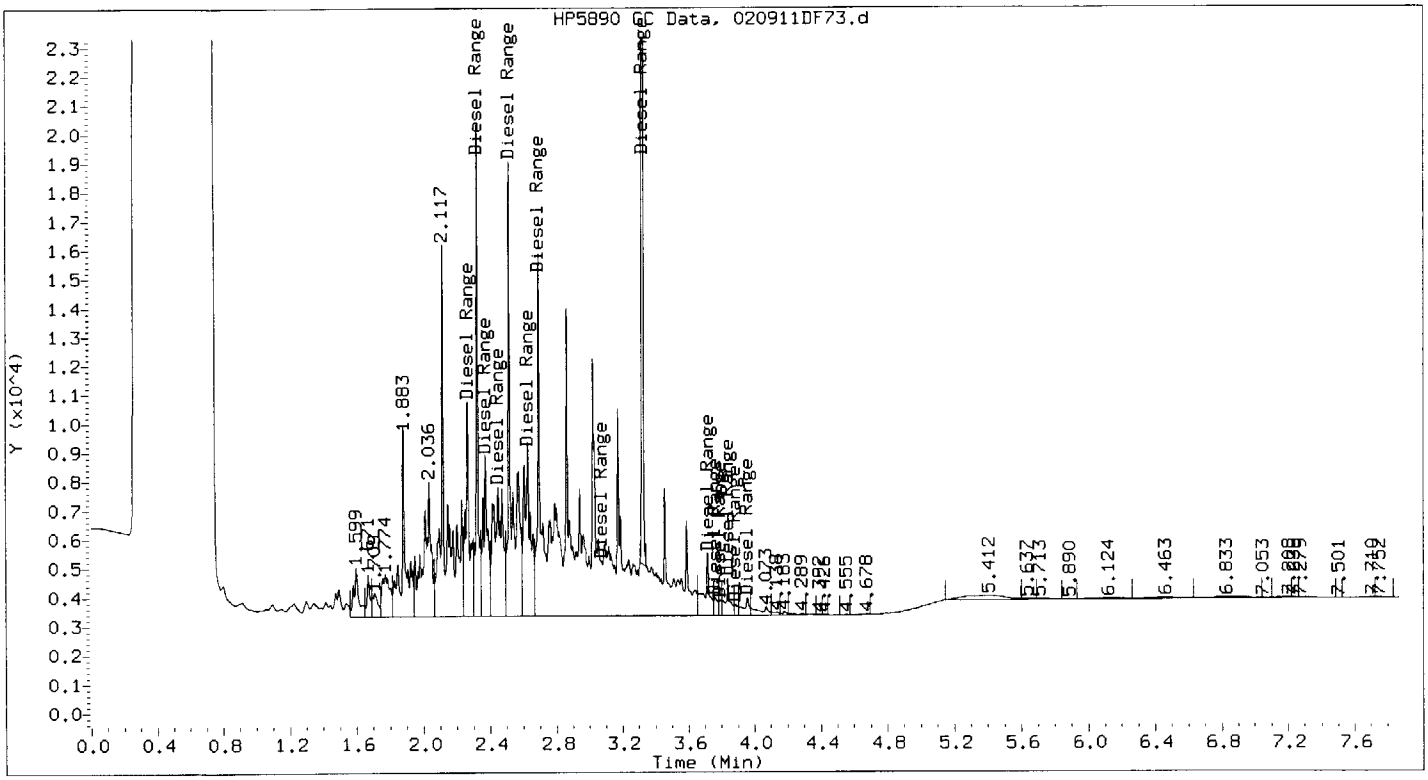
SAMPLE: DIESELCC73;L4 Client ID: DIESELCC73
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF64.d
Acquired: 28-DEC-2011 10:27 SampleType: CCALIB_4

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.541			20044	429	BV		
2	1.601			77486	1652	PV		
3	1.671			37478	1448	VV		
4	1.708			27492	778	VV		
5	1.774			95308	1414	VV		
6	1.883			246363	6371	VV		
7	2.036			311033	4656	VV		
8	2.117			495957	12605	HHS		
9	3.075	3.075	0.000	4793014	69023		0.1000	Diesel Range
CALC:	**[(4793000 / 43271000) +0.0027905] = 0.1136 mg/mL**					**%D=11.9**		
10	3.327	3.320	0.007	859096	86092		0.01023	o-terphenyl
CALC:	**[(859100 / 72255000) +0.00020350] = 0.01209 mg/mL**					**%D=15.4**		
11	4.140			3480	88	PVT		
12	4.164			1536	48			
13	4.216			754	25	PVT		
14	4.289			974	33	VVT		
15	4.430			21	24	PVT		
16	5.125			20172	97	BV		
17	5.806			81307	128	VV		
18	5.869			17864	124	VV		
19	6.071			15679	107	VV		
20	6.241			32227	101	VV		
21	6.407			10626	87	VV		
22	6.528			14757	76	VV		
23	6.782			33267	59	VV		
24	7.310			2596	20	VV		
25	7.454			893	11	VV		

12/28/2011 13:26 020911DF64.d WTPH-60

Weyerhaeuser
DB5MS Column



SAMPLE: DIESELCC74;L4 Client ID: DIESELCC74
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF73.d
Acquired: 28-DEC-2011 13:13 SampleType: CCALIB_4

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 10000 ul | AmountInj: 1.000 ul | AmountExt: 10.00 g | Moisture: 0.000 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.599			70111	1694	PV		
2	1.671			36749	1457	VV		
3	1.709			38116	823	VV		
4	1.774			94621	1466	VV		
5	1.883			249200	6543	VV		
6	2.036			307638	4653	VV		
7	2.117			579856	12833	HHS		
8	3.075	3.075	0.000	242849	7409	HHS	0.1000	Diesel Range
CALC:	[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL					%D=10.1		
9	3.075	3.075	0.000	271388	16975	HHS	0.1000	Diesel Range
CALC:	[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL					%D=10.1		
10	3.075	3.075	0.000	209964	5591	HHS	0.1000	Diesel Range
CALC:	[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL					%D=10.1		
11	3.075	3.075	0.000	339220	4461	HHS	0.1000	Diesel Range
CALC:	[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL					%D=10.1		
12	3.075	3.075	0.000	489905	15702	HHS	0.1000	Diesel Range
CALC:	[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL					%D=10.1		
13	3.075	3.075	0.000	319645	5992	HHS	0.1000	Diesel Range
CALC:	[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL					%D=10.1		
14	3.075	3.075	0.000	2603700	12530		0.1000	Diesel Range
CALC:	[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL					%D=10.1		
15	3.075	3.075	0.000	4691443	74258		0.1000	Diesel Range
CALC:	[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL					%D=10.1		
16	3.075	3.075	0.000	851630	88806		0.1000	Diesel Range
CALC:	[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL					%D=10.1		

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
17	3.075	3.075	0.000	94680	2170	VVT	0.1000	Diesel Range
CALC:	**[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL**					**%D=10.1**		
18	3.075	3.075	0.000	20876	621	PVT	0.1000	Diesel Range
CALC:	**[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL**					**%D=10.1**		
19	3.075	3.075	0.000	12383	533	VVT	0.1000	Diesel Range
CALC:	**[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL**					**%D=10.1**		
20	3.075	3.075	0.000	48467	1289	VVT	0.1000	Diesel Range
CALC:	**[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL**					**%D=10.1**		
21	3.075	3.075	0.000	10639	374	VVT	0.1000	Diesel Range
CALC:	**[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL**					**%D=10.1**		
22	3.075	3.075	0.000	27727	611	PVT	0.1000	Diesel Range
CALC:	**[(4691000 / 43271000) +0.0027905] = 0.1112 mg/mL**					**%D=10.1**		
23	4.073			25829	296	VVT		
24	4.138			5587	104	PVT		
25	4.183			4165	121	VVT		
26	4.289			4383	68	PVT		
27	4.392			444	20	PVT		
28	4.426			507	28	VVT		
29	4.555			410	25	PVT		
30	4.678			587	21	PVT		
31	5.412			53159	151	BV		
32	5.637			3473	34	VV		
33	5.713			2962	27	VV		
34	5.890			576	10	VV		
35	6.124			9426	38	VV		
36	6.463			13988	51	VV		
37	6.833			15279	49	VV		
38	7.053			1238	21	VV		
39	7.208			3142	27	VV		
40	7.238			1030	23	VV		
41	7.279			3510	28	VV		
42	7.501			168	6	VV		
43	7.710			1702	12	PV		
44	7.752			1000	12	VB		

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DBLK1_S122211

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: Method: SDG No.: 020911df_racernw

Matrix: (soil/water) SOLID Lab Sample ID: 111738013

Sample wt/vol: 10.0 (g/mL) g Lab File ID: 020911DF65

% Moisture: 0 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/22/11

Concentrated Extract Volume: 10000(ul) Date Analyzed: 12/28/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

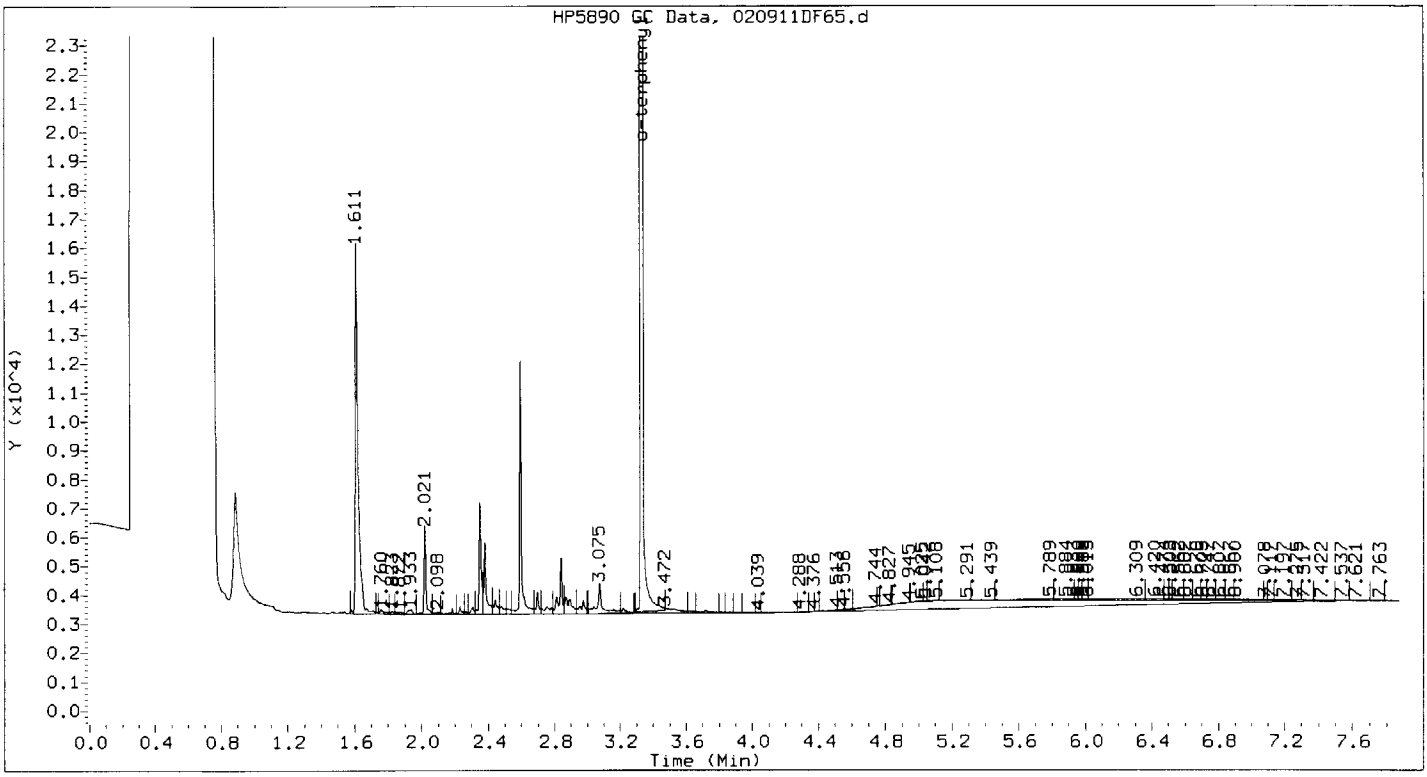
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/Kg	Q
	----------Diesel Range	25	U
	----------Motor Oil Range	99	U

FORM I PEST

WTPH-63

Weyerhaeuser
DB5MS Column



SAMPLE: 111738013 Client ID: DBLK1_S122211
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF65.d
Acquired: 28-DEC-2011 10:57 SampleType: BLANK

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 10000 ul | AmountInj: 1.000 ul | AmountExt: 10.00 g | Moisture: 0.000 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.611			301145	12839			
2	1.760			6032	159	BVT		
3	1.823			2645	100	PVT		
4	1.872			3642	84	PVT		
5	1.933			6228	160	PVT		
6	2.021			46310	3054	PVT		
7	2.098			2603	86	VVT		
8	3.075			526508	22490			
9	3.472			35412	173			
10	3.336	3.320	0.016	6497457	533432		0.09013	o-terphenyl
CALC:	**[(6497000 / 72255000) +0.00020350] = 0.09013 mg/mL**							
11	4.039			572	19			
12	4.288			808	23			
13	4.376			426	11			
14	4.513			501	2			
15	4.556			174	10			
16	4.744			1896	19			
17	4.827			696	12			
18	4.945			644	8			
19	5.025			1530	28			
20	5.042			682	35			
21	5.108			2130	23			
22	5.291			3555	26	VVT		
23	5.439			3207	26	VVT		
24	5.789			14447	63	VVT		
25	5.884			8892	64	VVT		
26	5.933			1692	60	VVT		
27	5.960			1384	58	VVT		
28	5.988			2245	55	VVT		
29	6.015			101363	1209			
30	6.309			20938	64	VVT		

12/28/2011 13:26 020911DF65.d WTPH-64

Weyerhaeuser
DB5MS Column

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
31	6.420			7836	63	VVT		
32	6.474			2017	56	VVT		
33	6.508			1142	54	VVT		
34	6.562			3504	51	VVT		
35	6.602			2441	48	VVT		
36	6.670			2079	40	VVT		
37	6.705			1503	39	VVT		
38	6.747			1698	34	VVT		
39	6.807			1952	34	VVT		
40	6.867			1669	32	VVT		
41	6.900			4232	29	VVT		
42	7.078			421	22	VVT		
43	7.117			764	21	VVT		
44	7.197			1380	22	VVT		
45	7.275			548	14	VVT		
46	7.317			525	15	VVT		
47	7.422			522	11	VVT		
48	7.537			41	7	VVT		
49	7.621			297	8	VVT		
50	7.763			373	3	VVT		

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DBLK1_W122111

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: Method: SDG No.: 020911df_racernw

Matrix: (soil/water) LIQUID Lab Sample ID: 111738010

Sample wt/vol: 500 (g/mL) mL Lab File ID: 020911DF24

% Moisture: _____ decanted: (Y/N)___ Date Received:

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/21/11

Concentrated Extract Volume: 1000(uL) Date Analyzed: 12/27/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

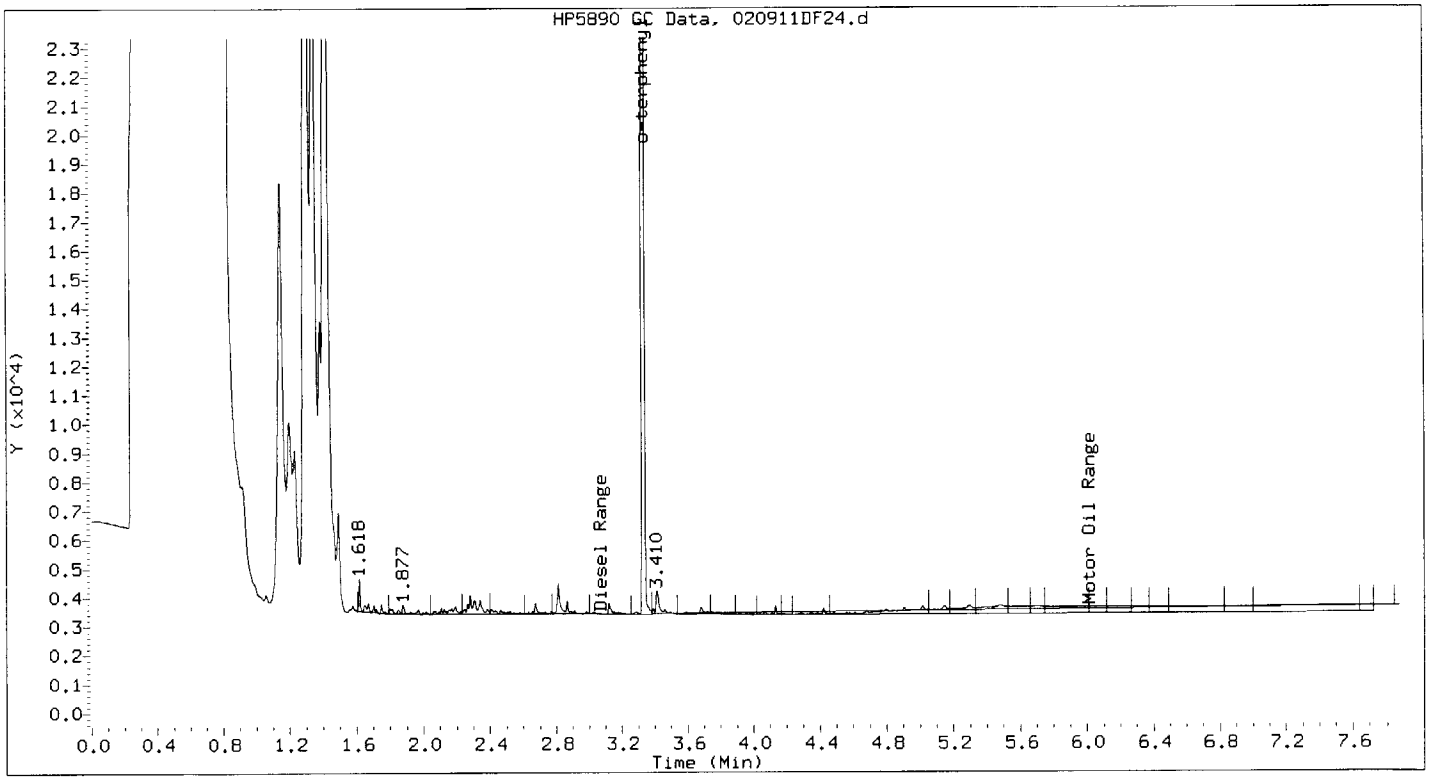
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	----------Diesel Range	0.040	U
	----------Motor Oil Range	0.20	U

FORM I PEST

WTPH-66

Weyerhaeuser
DB5MS Column



SAMPLE: 111738010 Client ID: DBLK1_W122111
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF24.d
Acquired: 27-DEC-2011 09:49 SampleType: BLANK

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.618			29765	1026	PV		
2	1.877			18719	301	PV		
4	3.335	3.320	0.015	6132704	486065	HHS	0.08508	o-terphenyl
CALC:	**[(6133000 / 72255000) +0.00020350] = 0.08508 mg/mL**							
6	3.410			76682	680	HBS		

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DLCS1_S122211

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: Method: SDG No.: 020911df_racernw

Matrix: (soil/water) SOLID Lab Sample ID: 111738014

Sample wt/vol: 10.0 (g/mL) g Lab File ID: 020911DF66

% Moisture: 0 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/22/11

Concentrated Extract Volume: 10000(ul) Date Analyzed: 12/28/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

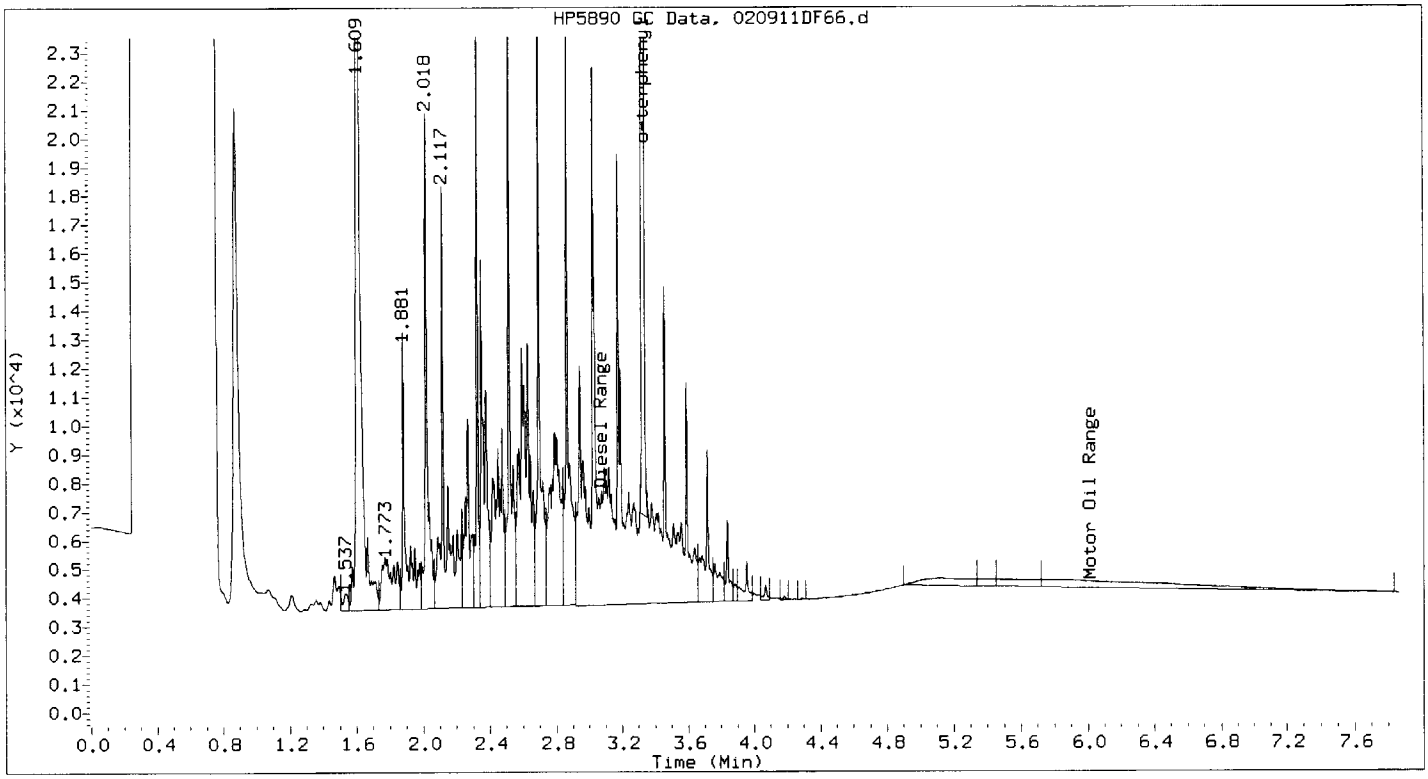
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/Kg	Q
	----------Diesel Range	180	
	----------Motor Oil Range	6.8	J

FORM I PEST

WTPH-68

Weyerhaeuser
DB5MS Column



SAMPLE: 111738014 Client ID: DLCS1_S122211
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF66.d
Acquired: 28-DEC-2011 11:12 SampleType: LCS

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 10000 ul | AmountInj: 1.000 ul | AmountExt: 10.00 g | Moisture: 0.000 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.537			27220	608	BV		
2	1.609			1532908	65116	HHS		
3	1.773			187812	1841	HHS		
4	1.881			287444	9618	HHS		
5	2.018			369817	17249	HHS		
6	2.117			518059	14691	HHS		
7	3.075	3.075	0.000	7561972	158066		0.1776	Diesel Range
CALC:	**[(7562000 / 43271000) +0.0027905] = 0.1776 mg/mL**							
8	3.335	3.320	0.015	5398740	445140		0.07492	o-terphenyl
CALC:	**[(5399000 / 72255000) +0.00020350] = 0.07492 mg/mL**							
9	6.015	6.015	0.000	546438	1748		0.006776	Motor Oil Range
CALC:	**[(546400 / 46042000) -0.0050919] = 0.006776 mg/mL**							

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DLCS1_W122111

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: Method: SDG No.: 020911df_racernw

Matrix: (soil/water) LIQUID Lab Sample ID: 111738011

Sample wt/vol: 500 (g/mL) mL Lab File ID: 020911DF25

% Moisture: _____ decanted: (Y/N)___ Date Received:

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:12/21/11

Concentrated Extract Volume: 1000(uL) Date Analyzed: 12/27/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

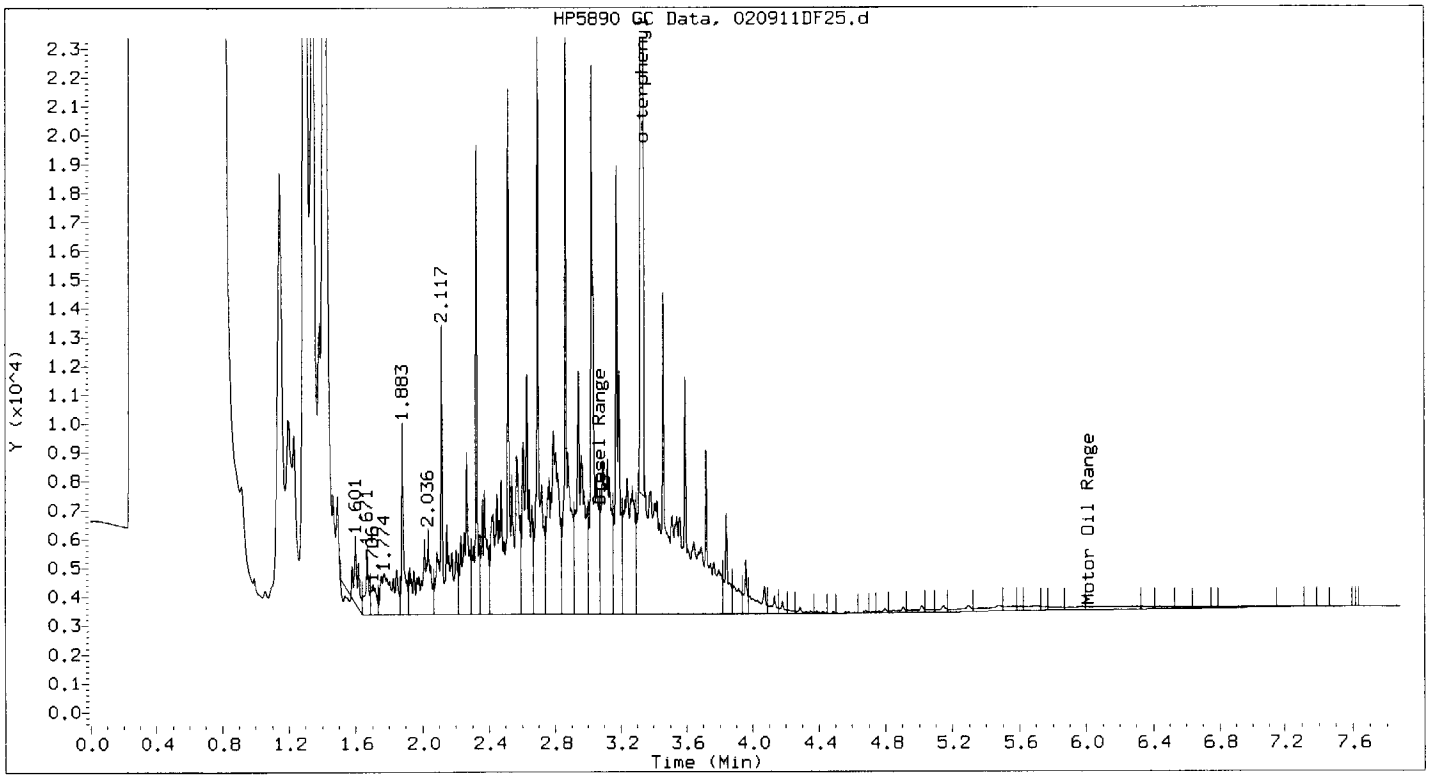
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	----------Diesel Range	0.36	
	----------Motor Oil Range	0.0060	J

FORM I PEST

WTPH-70

Weyerhaeuser
DB5MS Column

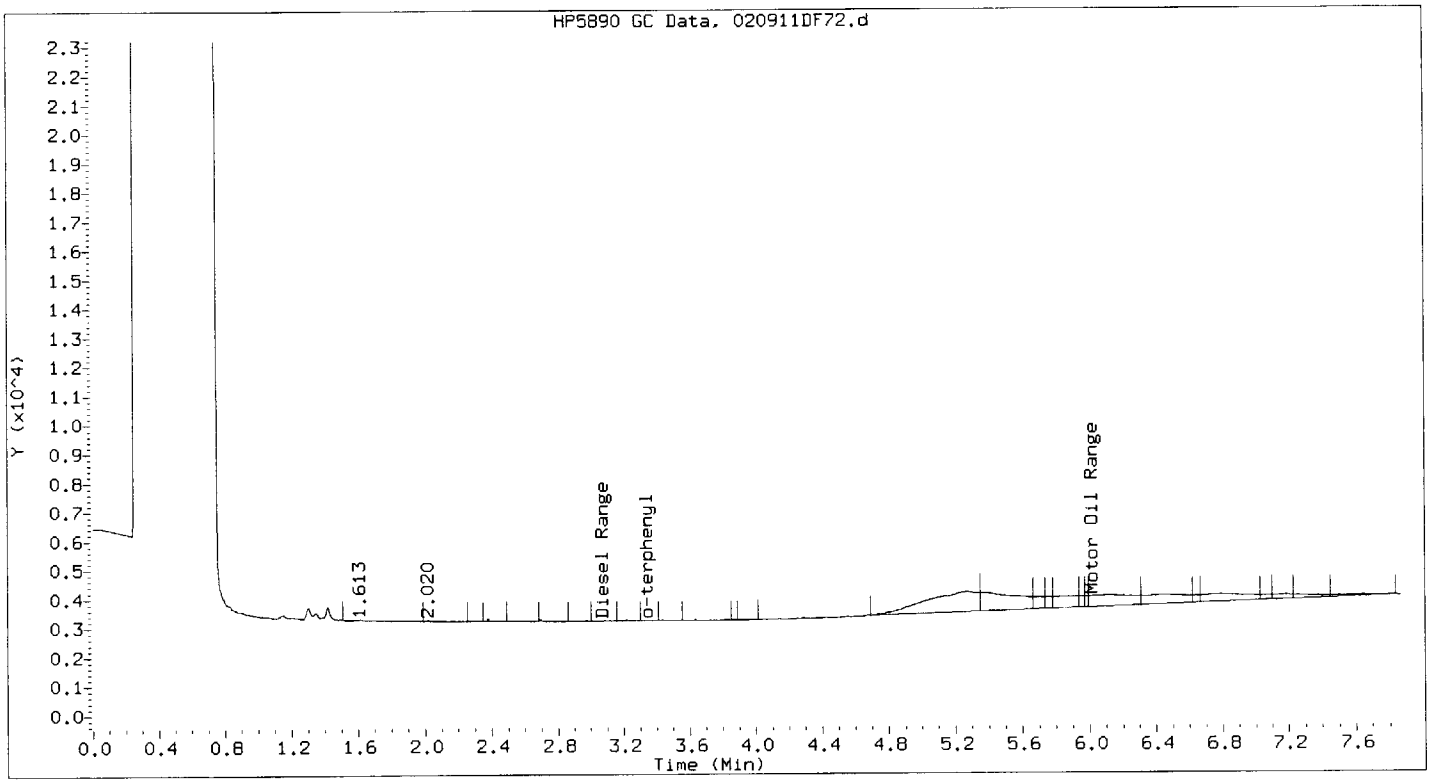


SAMPLE: 111738011 Client ID: DLCS1_W122111
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF25.d
Acquired: 27-DEC-2011 10:04 SampleType: LCS

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.601			51776	2345	BV		
2	1.671			61855	2344	PV		
3	1.706			41843	1040	VV		
4	1.774			165238	1551	PV		
5	1.883			122198	6657	VV		
6	2.036			247587	2954	VV		
7	2.117			367256	10051	HHS		
8	3.075	3.075	0.000	7665982	169956		0.1800	Diesel Range
CALC:	**[(7666000 / 43271000) +0.0027905] = 0.1800 mg/mL**							
9	3.337	3.320	0.018	5826494	495900		0.08084	o-terphenyl
CALC:	**[(5826000 / 72255000) +0.00020350] = 0.08084 mg/mL**							
10	6.015	6.015	0.000	382978	5242		0.003226	Motor Oil Range
CALC:	**[(383000 / 46042000) -0.0050919] = 0.003226 mg/mL**							

Weyerhaeuser
DB5MS Column



SAMPLE: IBLK74 Client ID: IBLK74
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF72.d
Acquired: 28-DEC-2011 12:58 SampleType: INSTBLANK

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 10000 ul | AmountInj: 1.000 ul | AmountExt: 10.00 g | Moisture: 0.000 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.613			468	28	BV		
2	2.020			702	35	PV		
4	3.345	3.320	0.025	577	11	PV	0.0002115	o-terphenyl

CALC: [(577.0 / 72255000) +0.00020350] = 0.0002115 mg/mL

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IBLK73

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: Method: SDG No.: 020911df_racernw

Matrix: (soil/water) LIQUID Lab Sample ID: IBLK73

Sample wt/vol: 500 (g/mL) mL Lab File ID: 020911DF63

% Moisture: _____ decanted: (Y/N)___ Date Received:

Extraction: (SepF/Cont/Sonc) ____ Date Extracted:12/21/11

Concentrated Extract Volume: 1000(uL) Date Analyzed: 12/28/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

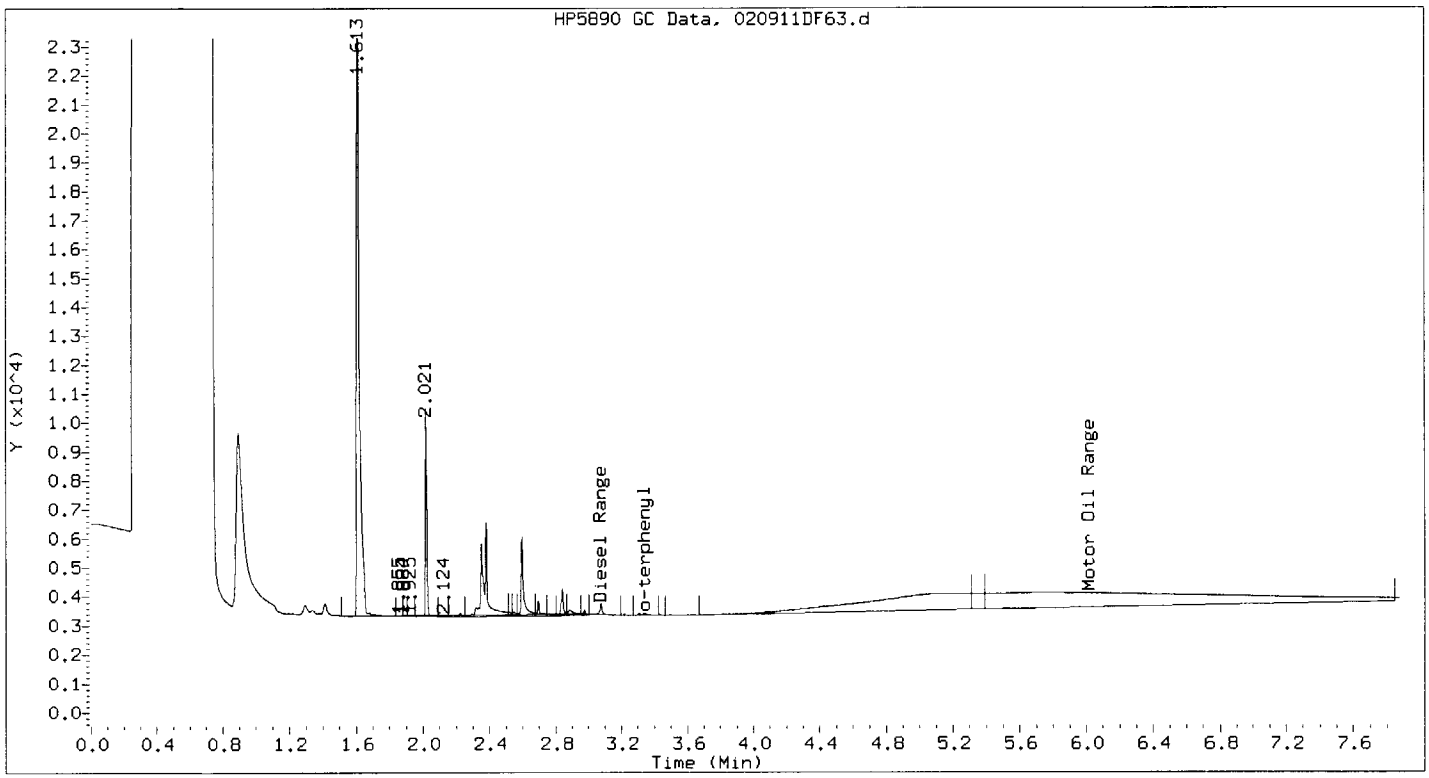
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	----------Diesel Range	0.040	U
	----------Motor Oil Range	0.20	U

FORM I PEST

WTPH-73

Weyerhaeuser
DB5MS Column



SAMPLE: IBLK73 Client ID: IBLK73
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF63.d
Acquired: 28-DEC-2011 10:11 SampleType: INSTBLANK

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.613			469865	22216	BBS		
2	1.855			221	11	BVT		
3	1.884			94	5	PVT		
4	1.925			500	26	PVT		
5	2.021			88007	5614	PVT		
6	2.124			199	15	PVT		
8	3.339	3.320	0.019	3916	70	PV	0.0002577	o-terphenyl

CALC: [(3915 / 72255000) +0.00020350] = 0.0002577 mg/mL

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IBLK69

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: Method: SDG No.: 020911df_racernw

Matrix: (soil/water) LIQUID Lab Sample ID: IBLK69

Sample wt/vol: 500 (g/mL) mL Lab File ID: 020911DF30

% Moisture: _____ decanted: (Y/N)___ Date Received:

Extraction: (SepF/Cont/Sonc) ____ Date Extracted:12/21/11

Concentrated Extract Volume: 1000(uL) Date Analyzed: 12/27/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

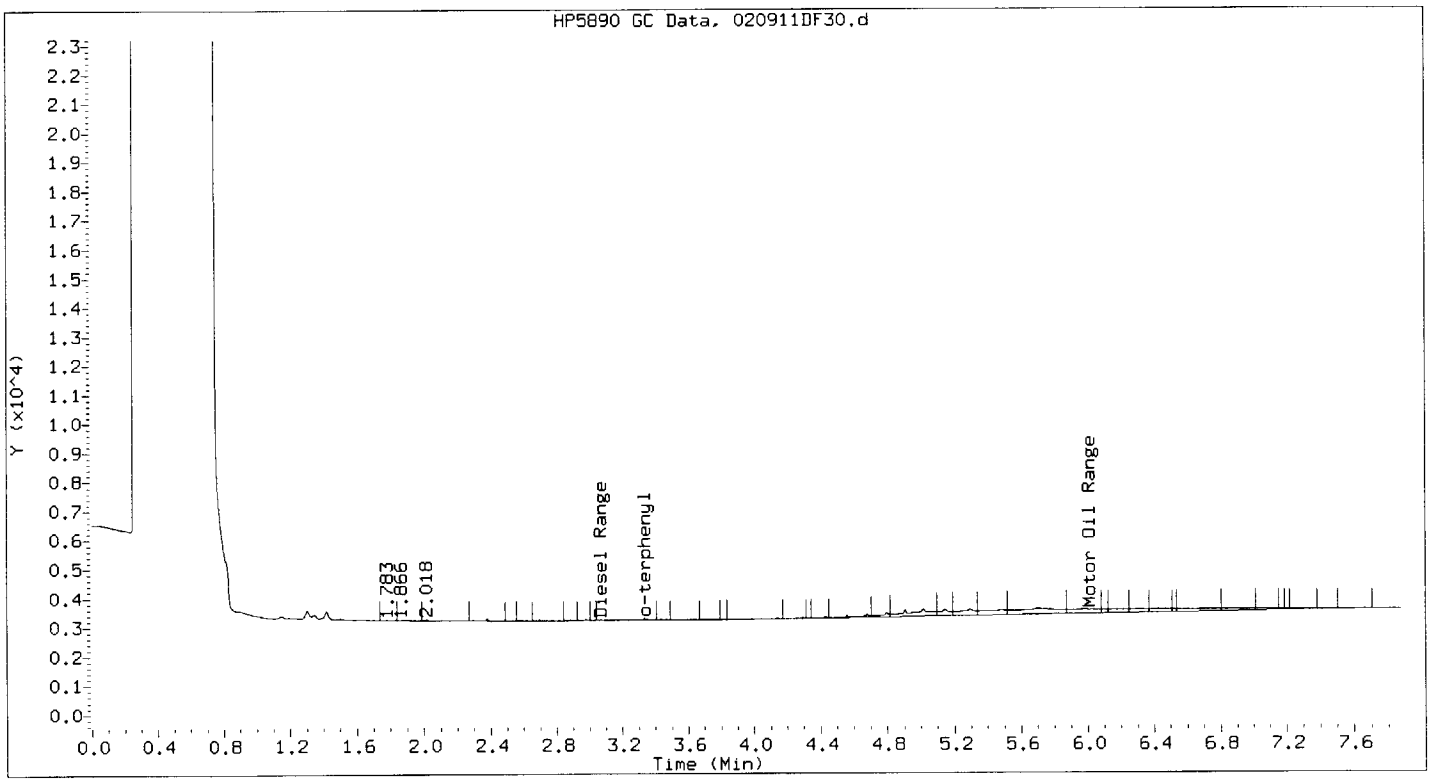
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	----------Diesel Range	0.040	U
	----------Motor Oil Range	0.20	U

FORM I PEST

WTPH-75

Weyerhaeuser
DB5MS Column



SAMPLE: IBLK69 Client ID: IBLK69
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF30.d
Acquired: 27-DEC-2011 11:19 SampleType: INSTBLANK

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 1000 uL | AmountExt: 500.0 ml | Sample Volume: 500.0 ml | AmountInj: 1.000 uL |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.783			855	13	PV		
2	1.866			954	9	PV		
3	2.018			1177	27	PV		
5	3.338	3.320	0.018	1564	56	BV	0.0002251	o-terphenyl

CALC: [(1563 / 72255000) +0.00020350] = 0.0002251 mg/mL

1D

WTPH ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IBLK68

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYCO SR No.: Method: SDG No.: 020911df_racernw

Matrix: (soil/water) SOLID Lab Sample ID: IBLK68

Sample wt/vol: 10.0 (g/mL) g Lab File ID: 020911DF22

% Moisture: 0 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) ____ Date Extracted:11/15/11

Concentrated Extract Volume: 10000(ul) Date Analyzed: 12/27/11

Injection Volume: 1.0(uL) Dilution Factor: 1.0

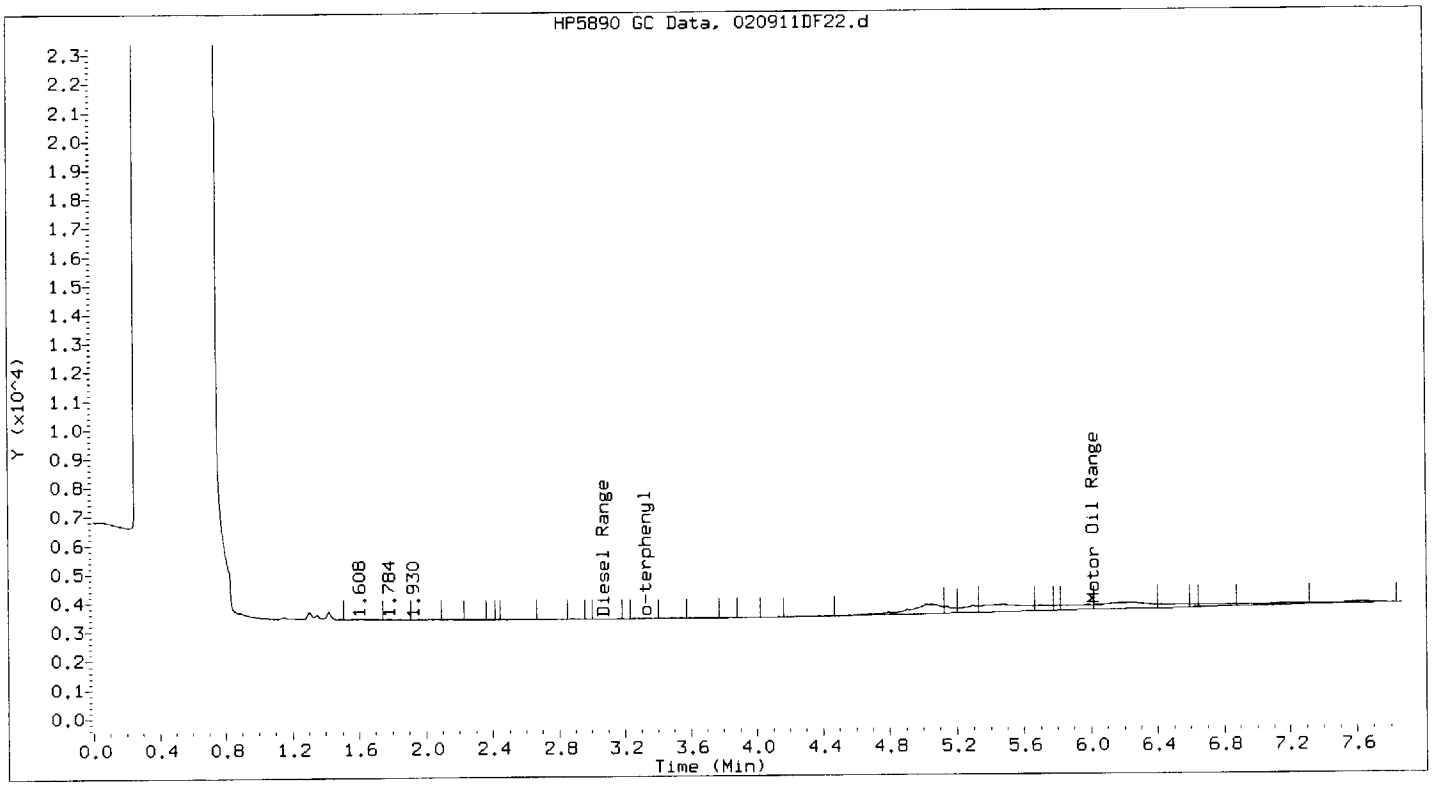
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/Kg	Q
	----------Diesel Range	25	U
	----------Motor Oil Range	99	U

FORM I PEST

WTPH-77

Weyerhaeuser
DB5MS Column



SAMPLE: IBLK68 Client ID: IBLK68
Processing File: 00-020711_WTPHD.m Sample File: /chem/hpdos4_2.i/020911df_racernw.b/020911DF22.d
Acquired: 27-DEC-2011 09:18 SampleType: INSTBLANK

Dilution: 1.00 | UnitFactor: 1.000 | FinalVol: 10000 ul | AmountInj: 1.000 ul | AmountExt: 10.00 g | Moisture: 0.000 |

	RT	Exp.RT	Diff	Area	Peak Height	Code	ug injected	Component Name
1	1.608			347	7	BV		
2	1.784			857	9	PV		
3	1.930			830	5	VV		
5	3.330	3.320	0.010	1108	24	VV	0.0002188	o-terphenyl

CALC: [(1107 / 72255000) +0.00020350] = 0.0002188 mg/mL

PERCENT MOISTURE NOTEBOOK

Weyerhaeuser Company

NAME [signature] SR# 11-1738 DATE 12/22/11

SAMPLE#	PAN #	PAN WT.	PAN+SAMPLE	PAN+DRY SAMP	% MOISTURE	pH			
173807	2.589 →		28.773	27274	5.72				
08		2.600	15.158	13.572	12.6				
09		2.587	12.545	9.512	30.4				

Witness [signature] Date 12-28-11

FUELS NOTEBOOK

Weyerhaeuser Analytical and Testing Services

NAME [signature] SR# 11-1738 DATE 12/21/11

METHOD NWTPHD

SAMPLE#	VOL/WT	MATRIX	SURR # 111102 AMOUNT	SPK # 110902 AMOUNT	SPK # AMOUNT	EXTRACT DATE	Turbo Vap KBI DATE	ACID SILICA CLN-UP		FINAL VOL	FINAL DIL	VIAL LOC
Blank	500mL	~~WATER~~	0.1mL				12/27	12/27		1.0mL		
LCS				0.1mL								
11-1738 004												
003												
006												
004dup	460mL											

Witness [signature] Date 12-28-11

FUELS NOTEBOOK

Weyerhaeuser Analytical and Testing Services

NAME [signature]

METHOD NWTPH-D SR# 11-1738 DATE 12/22/11

SAMPLE#	VOL/WT	MATRIX	SURR #111102 AMOUNT	SPK # 110902 AMOUNT	SPK # AMOUNT	EXTRACT DATE	Turbovap ~~KD~~ DATE	ACID SILICA CLN-UP		FINAL VOL	FINAL DIL	VIAL LOC
Blank			1.0 mL				12/27	12/27		6.0 mL		
LCS			↓	1.0 mL			↓	↓		↓		
11-1738-007	11.53											
008	12.69											
009	12.40											
007dup	11.19											

Witness [signature] Date 12-28-11

WEYERHAEUSER ANALYTICAL
GC RUN LOG for ROVER(hpdos4_2)

Vial	file name	Lab ID	Client ID	Acquisition Date	Fraction
01	020711D001	IBLKXX	IBLKXX	07-FEB-2011 10:30	WTPH
01_2	020711D001_2	IBLKXX	IBLKXX	07-FEB-2011 10:46	WTPH
02	020711D002	RT;50_70118	RT	07-FEB-2011 11:01	WTPH
03	020711D003	DIESELL1;50_L4	DIESEL_level1	07-FEB-2011 11:16	WTPH
04	020711D004	DIESELL2;100_L4	DIESEL_level2	07-FEB-2011 11:31	WTPH
05	020711D005	DIESELL3;100_L5	DIESEL_level3	07-FEB-2011 11:46	WTPH
06	020711D006	DIESELL4;100_L7	DIESEL_level4	07-FEB-2011 12:01	WTPH
07	020711D007	DIESELL5;200_L7	DIESEL_level5	07-FEB-2011 12:16	WTPH
08	020711D008	DIESELL6;500_L7	DIESEL_level6	07-FEB-2011 12:31	WTPH
09	020711D009	DIESELL7;110202	DIESELL7	07-FEB-2011 12:46	WTPH
10	020711D010	IBLKXX	IBLKXX	07-FEB-2011 13:01	WTPH
11	020711D011	OILL1;20_L7	MoterOil_level1	07-FEB-2011 13:16	WTPH
12	020711D012	OILL2;40_L7	MoterOil_level2	07-FEB-2011 13:31	WTPH
13	020711D013	OILL3;100_L7	MoterOil_level3	07-FEB-2011 13:46	WTPH
14	020711D014	OILL4;10_100103	MoterOil_level4	07-FEB-2011 14:30	WTPH
15	020711D015	OILL5;15_100103	MoterOil_level5	07-FEB-2011 14:45	WTPH
16	020711D016	OILL6;25_100103	MoterOil_level6	07-FEB-2011 15:00	WTPH
17	020711D017	OILL7;50_100103	OILL7	07-FEB-2011 15:15	WTPH
18	020711D018	IBLKXX	IBLKXX	07-FEB-2011 15:31	WTPH

Witness: Date: 02/22/2011

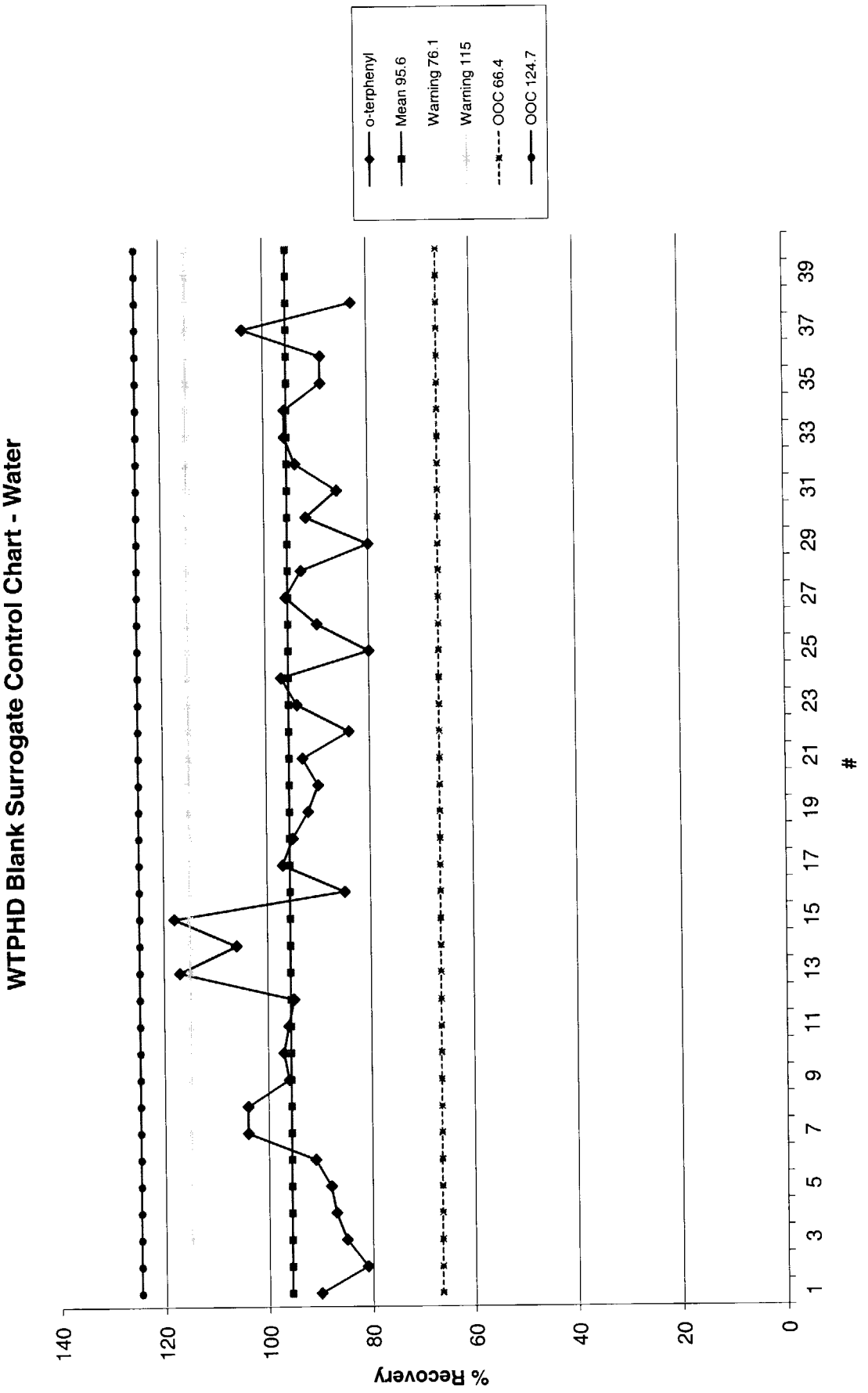
WEYERHAEUSER ANALYTICAL
GC RUN LOG for ROVER(hpdos4_2)

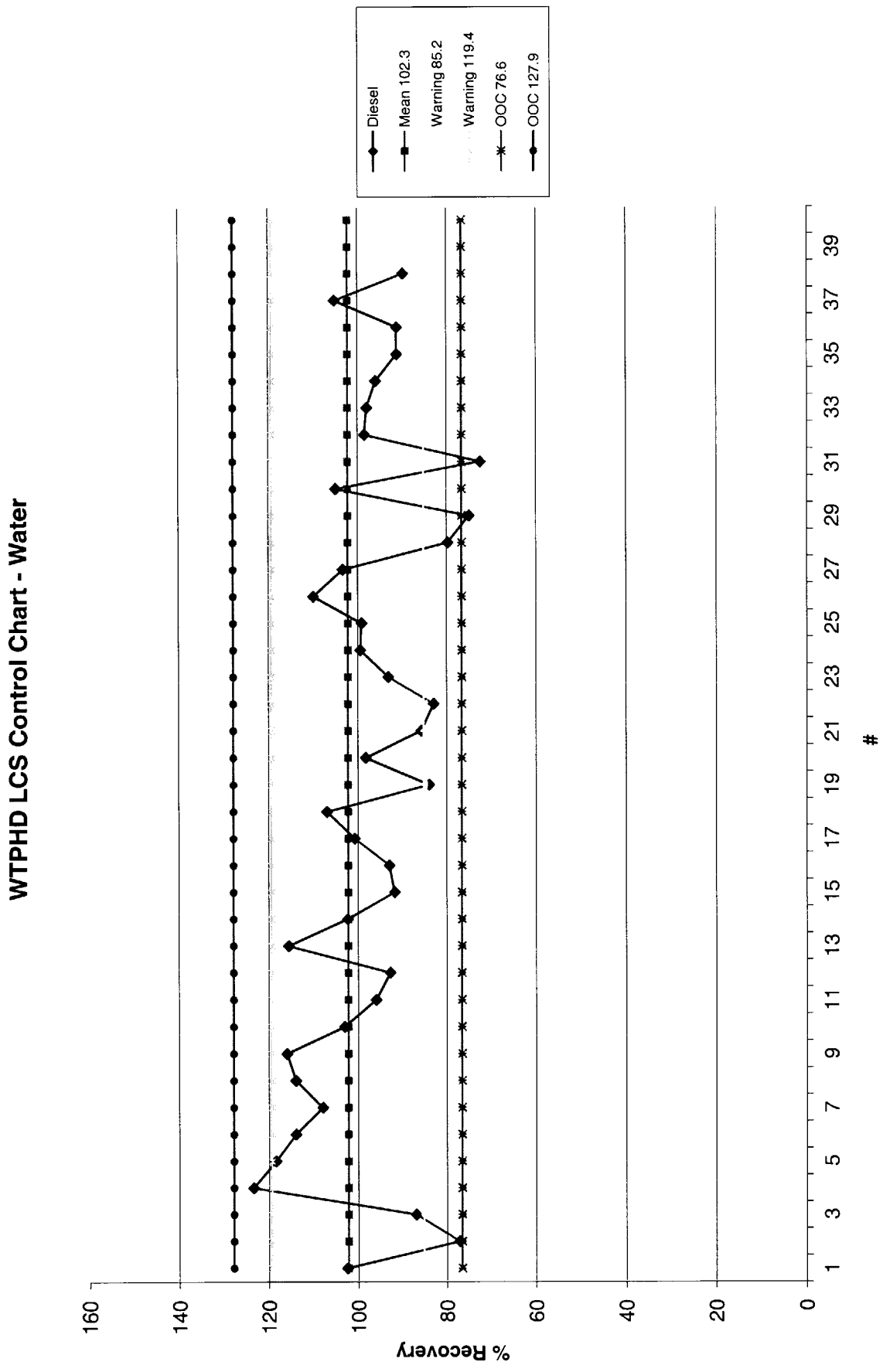
Vial	file name	Lab ID	Client ID	Acquisition Date	Fraction
01	020911DF01	IBLK64	IBLK64	15-NOV-2011 15:07	WTPH
02	020911DF02	DIESELCC64;L4	DIESELCC64	15-NOV-2011 14:21	WTPH
03	020911DF03	DBLK1_S111511	DBLK1_S111511	15-NOV-2011 14:54	WTPH
04	020911DF04	DLCS1_S111511	DLCS1_S111511	15-NOV-2011 15:09	WTPH
05	020911DF05	111561001DL10	Diesel 7DL	15-NOV-2011 15:24	WTPH
06	020911DF06	111561002DL10	Diesel 8DL	15-NOV-2011 15:39	WTPH
07	020911DF07	111561002DDL10	Diesel 8DUPDL	15-NOV-2011 15:54	WTPH
08	020911DF08	111561002	Diesel 8	15-NOV-2011 16:09	WTPH
09	020911DF09	111561002DUP	Diesel 8DUP	15-NOV-2011 16:24	WTPH
10	020911DF10	111561001	Diesel 7	15-NOV-2011 16:38	WTPH
11	020911DF11	IBLK65	IBLK65	15-NOV-2011 16:53	WTPH
11_2	020911DF11_2	IBLK65	IBLK65	15-NOV-2011 17:08	WTPH
12	020911DF12	DIESELCC65;L4	DIESELCC65	15-NOV-2011 17:23	WTPH
22	020911DF22	IBLK68	IBLK68	27-DEC-2011 09:18	WTPH
23	020911DF23	DIESELCC68;L4	DIESELCC68	27-DEC-2011 09:33	WTPH
24	020911DF24	111738010	DBLK1_W122111	27-DEC-2011 09:49	WTPH
25	020911DF25	111738011	DLCS1_W122111	27-DEC-2011 10:04	WTPH
26	020911DF26	111738003	MW-1301R-121	27-DEC-2011 10:19	WTPH
27	020911DF27	111738004	MW-2301R-121	27-DEC-2011 10:34	WTPH
28	020911DF28	111738012	MW-2301R-121DUP	27-DEC-2011 10:49	WTPH
29	020911DF29	111738006	WATER-1	27-DEC-2011 11:04	WTPH
30	020911DF30	IBLK69	IBLK69	27-DEC-2011 11:19	WTPH
31	020911DF31	DIESELCC69;L4	DIESELCC69	27-DEC-2011 11:34	WTPH
33	020911DF33	DBLK1_W122111	DBLK1_W122111	27-DEC-2011 12:42	WTPH
34	020911DF34	DLCS1_W122111	DLCS1_W122111	27-DEC-2011 12:57	WTPH
35	020911DF35	111738003	MW-1301R-121	27-DEC-2011 13:12	WTPH
36	020911DF36	111738004	MW-2301R-121	27-DEC-2011 13:27	WTPH
37	020911DF37	111738004DUP	MW-2301R-121	27-DEC-2011 13:42	WTPH
38	020911DF38	111738006	WATER-1	27-DEC-2011 13:57	WTPH
39	020911DF39	111738003	MW-1301R-121	27-DEC-2011 14:13	WTPH
40	020911DF40	111738004	MW-2301R-121	27-DEC-2011 14:27	WTPH
41	020911DF41	111738004DUP	MW-2301R-121DUP	27-DEC-2011 14:43	WTPH
42	020911DF42	111738006	WATER-1	27-DEC-2011 14:57	WTPH
43	020911DF43	DLCS1_W122111	DLCS1_W122111	27-DEC-2011 15:13	WTPH
44	020911DF44	IBLK70	IBLK70	27-DEC-2011 15:28	WTPH
45	020911DF45	DIESELCC70;L4	DIESELCC70	27-DEC-2011 15:43	WTPH
46	020911DF46	DBLK1_S122211	DBLK1_S122211	27-DEC-2011 15:58	WTPH
47	020911DF47	DLCS1_S122211	DLCS1_S122211	27-DEC-2011 16:13	WTPH
48	020911DF48	111738007	SOIL-1	27-DEC-2011 16:28	WTPH
49	020911DF49	111738007DUP	SOIL-1DUP	27-DEC-2011 16:43	WTPH
50	020911DF50	111738008	SOIL-2	27-DEC-2011 16:58	WTPH
51	020911DF51	111738009	SOIL-3	27-DEC-2011 17:13	WTPH
52	020911DF52	IBLK71	IBLK71	27-DEC-2011 17:28	WTPH
53	020911DF53	DIESELCC71;L4	DIESELCC71	27-DEC-2011 17:43	WTPH
54	020911DF54	IBLK72	IBLK72	28-DEC-2011 07:39	WTPH
55	020911DF55	DIESELCC72;L4	DIESELCC72	28-DEC-2011 07:54	WTPH
56	020911DF56	DBLK1_W122111	DBLK1_W122111	28-DEC-2011 08:09	WTPH
57	020911DF57	DLCS1_W122111	DLCS1_W122111	28-DEC-2011 08:24	WTPH
58	020911DF58	111738003	MW-1301R-121	28-DEC-2011 08:39	WTPH
59	020911DF59	111738004	MW-2301R-121	28-DEC-2011 09:10	WTPH
60	020911DF60	111738004DUP	MW-2301R-121DUP	28-DEC-2011 09:25	WTPH
61	020911DF61	111738006	WATER-1	28-DEC-2011 09:40	WTPH
63	020911DF63	IBLK73	IBLK73	28-DEC-2011 10:11	WTPH
64	020911DF64	DIESELCC73;L4	DIESELCC73	28-DEC-2011 10:27	WTPH
65	020911DF65	111738013	DBLK1_S122211	28-DEC-2011 10:57	WTPH
66	020911DF66	111738014	DLCS1_S122211	28-DEC-2011 11:12	WTPH
67	020911DF67	111738007	SOIL-1	28-DEC-2011 11:27	WTPH

Witness: Date: 12/28/2011

WEYERHAEUSER ANALYTICAL
GC RUN LOG for ROVER(hpdos4_2)

Vial	file name	Lab ID	Client ID	Acquisition Date	Fraction
68	020911DF68	111738015	SOIL-1 [DUP]	28-DEC-2011 11:42	WTPH
69	020911DF69	111738008	SOIL-2	28-DEC-2011 11:57	WTPH
70	020911DF70	111738009	SOIL-3	28-DEC-2011 12:12	WTPH
71	020911DF71	IBLKXX	IBLKXX	28-DEC-2011 12:42	WTPH
72	020911DF72	IBLK74	IBLK74	28-DEC-2011 12:58	WTPH
73	020911DF73	DIESELCC74;L4	DIESELCC74	28-DEC-2011 13:13	WTPH


WTPHD Blank Surrogate Control Chart - Water
o-terphenyl
Mean 95.6
Warning 76.1
Warning 115
OOC 66.4
OOC 124.7
% Recovery
#
140
120
100
80
60
40
20
0
1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
37
39


WTPHD LCS Control Chart - Water
Diesel
Mean 102.3
Warning 85.2
Warning 119.4
OOC 76.6
OOC 127.9
% Recovery
#
160
140
120
100
80
60
40
20
0
1
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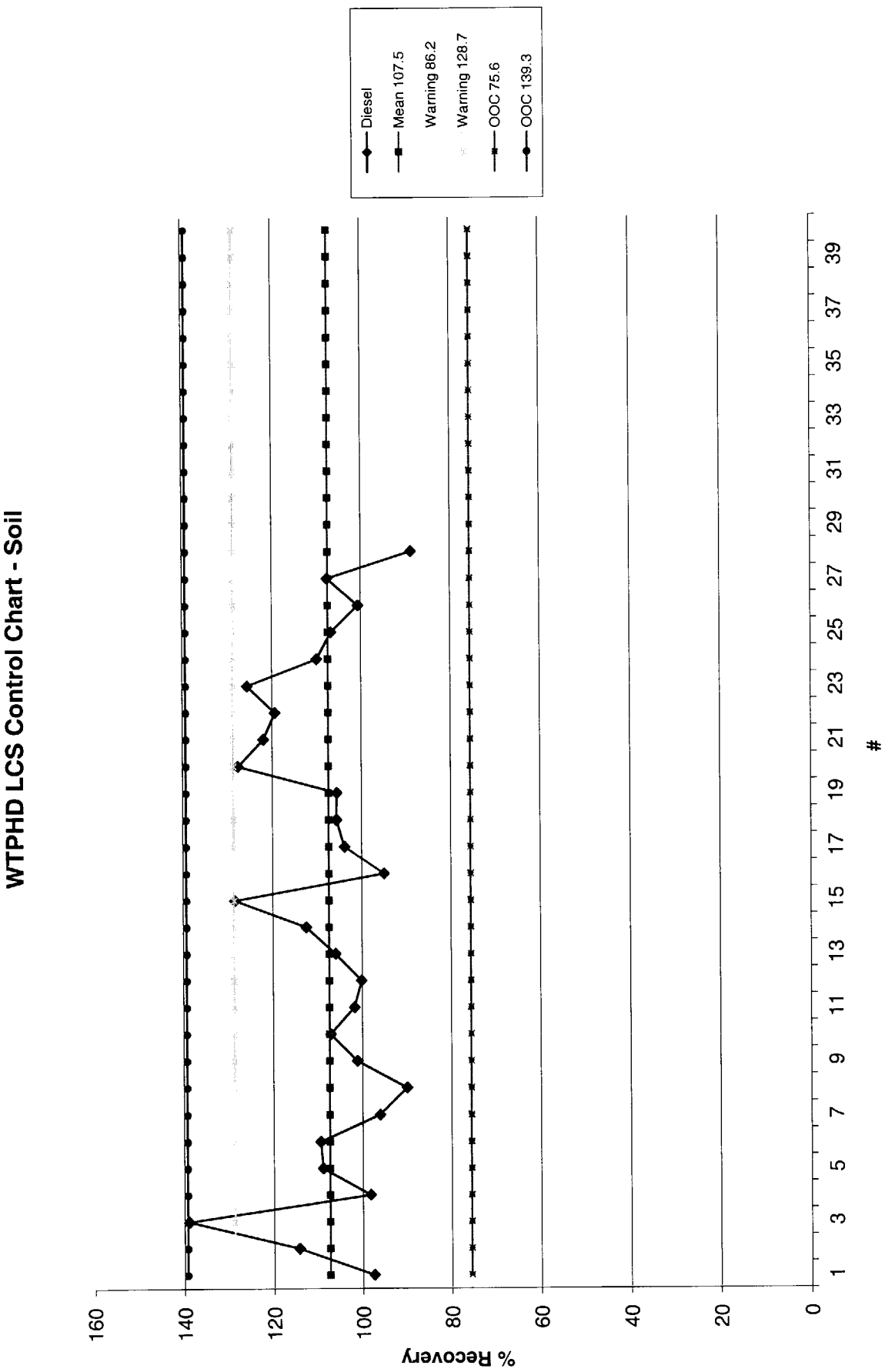
WTPHD LCS Control Chart - Soil
Diesel
Mean 107.5
Warning 86.2
Warning 128.7
OOC 75.6
OOC 139.3
% Recovery
#
160
140
120
100
80
60
40
20
0
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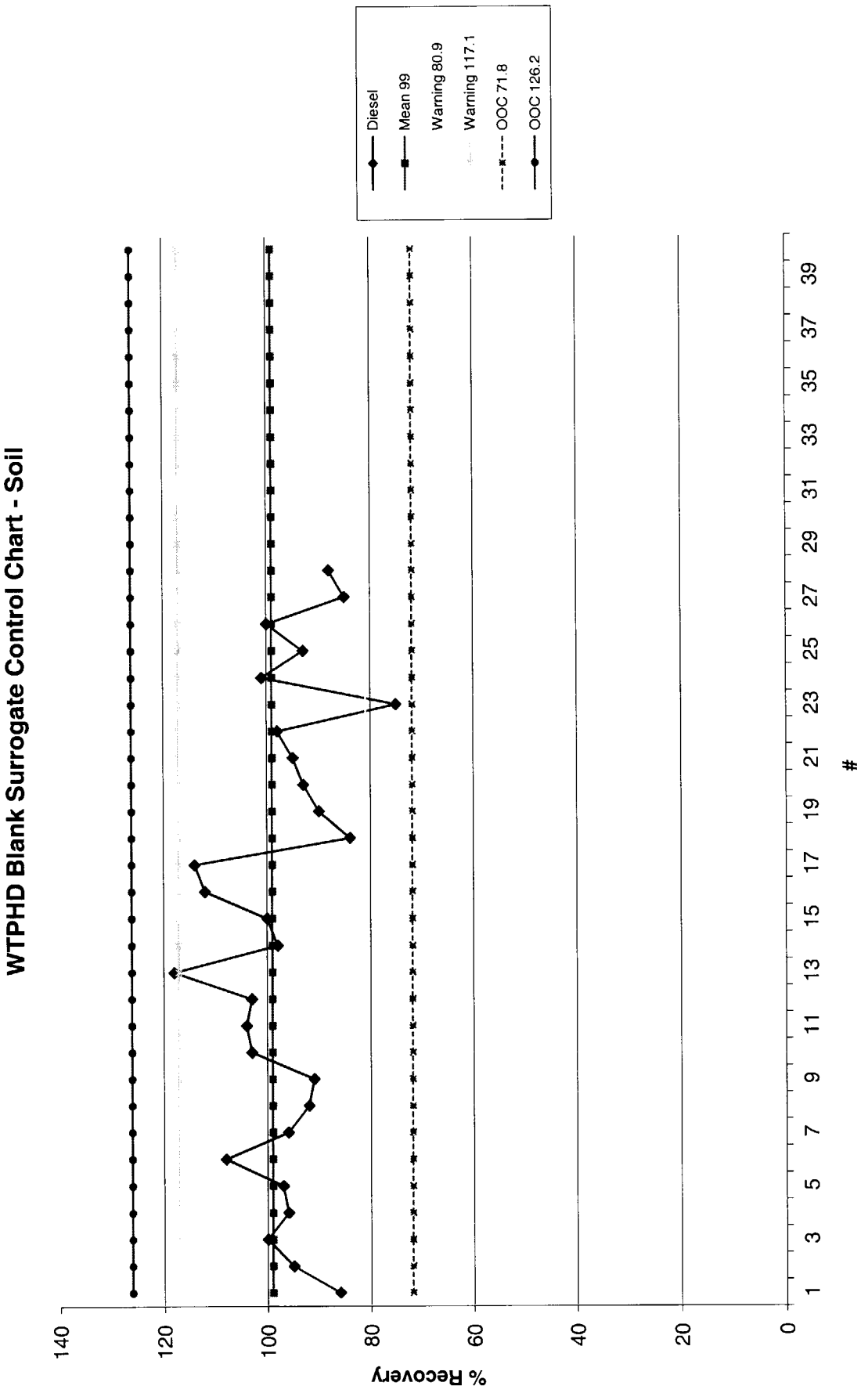
WTPHD Blank Surrogate Control Chart - Soil
Diesel
Mean 99
Warning 80.9
Warning 117.1
OOC 71.8
OOC 126.2
% Recovery
#
140
120
100
80
60
40
20
0
1
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5
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