Weyerhaeuser

101 East Marine View Drive
Everett, Washington 98201
Tel (206) 339 2800
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May 24, 1994

Mr. Paul Skyllingstad
Department of Ecology
Industrial Section
Post Office Box 47600
Olympia, WA 98504-7600

Dear Mr. Skyllingstad:

Enclosed are three copies of the environmental assessment reports for the Weyerhaeuser Everett West Site. The chronological order of assessment activities and associated documentation provided is as follows:

- *Draft Report, Overall Site Assessment, Weyerhaeuser Everett West and East Properties,* preliminary draft submitted to Weyerhaeuser August 4, 1992, (Attachment A)
- *Project Status - Priority 1 and 2 Sampling, Weyerhaeuser Everett Site,* preliminary draft submitted to Weyerhaeuser September 17, 1992, (Attachment B)
- *Progress Report, Priority 1 and 2 Sampling, Everett Facility* preliminary draft submitted to Weyerhaeuser November 30, 1992, (Attachment C)
- *Sand Blast Shed, Soil Sampling - Total Metals Analyses, Everett Facility,* preliminary draft submitted to Weyerhaeuser January 15, 1993, (Attachment D)
- Priority and Sand Blast Shed Sampling Laboratory Reports (Attachment D-1)
- *Work Plan for Everett West Site Phase I Assessments*, submitted to Weyerhaeuser May 21, 1993, (Attachment E)

- *Draft Report, Phase 1 Site Assessment for Areas 11 through 18, Weyerhaeuser Everett West Site,* submitted to Weyerhaeuser in September of 1993, (Attachment F)

- Phase 1 Site Assessment Laboratory Reports (Attachment F-1)

- *Draft Work Plan for Everett West Site Phase 2 Assessment and Proposal for Area 14 Phase 2 Assessment,* submitted to Weyerhaeuser February 11, 1994, (Attachment G)

- *Draft Summary of Findings, Everett West Site Area 14 and Phase 2 Assessment,* submitted to Weyerhaeuser in May of 1994, (Attachment H)

- West Site and Area 14 Phase 2 Assessment Laboratory Reports (Attachment H-1)

- *Summary of West Site Groundwater Sampling Activities,* submitted to Weyerhaeuser in May of 1994, (Attachment I)

- Groundwater Sampling Laboratory Reports (Attachment I-1)

- *Data Validation Report* (Attachment J)

The *Overall Site Assessment, Priority 1 and 2 Sampling, Sand Blast Shed, and Preliminary Site Assessment for Areas 11 through 18* documents were submitted to Weyerhaeuser as preliminary draft reports. For the purpose of this letter, these documents were edited to include only information pertaining to the West Site. Assessment activities, results, and maps showing sampling locations associated with these documents are attached at the back of this letter. Sample locations associated with the Phase 1 and Phase 2 West Site Assessment activities are shown on Map 1 (attached).

The following summaries are made based on the review of results associated with the above-referenced assessment activities:

Preliminary Overall Site Assessment

During July 1992, EMCON performed preliminary site assessment activities at the West Site. These activities included the review of West Site blueprints, reports, aerial photographs, agency files and interviews with former and current Weyerhaeuser employees. In addition, EMCON personnel toured and photographed the West Site to document site conditions.

Based on the findings regarding preliminary site assessment activities, former and existing structures, and past practices, the West Site was divided into eight areas of concern. An area-specific priority site sampling program was developed for each area of concern. The findings and recommendations for the preliminary overall site assessment activities were reported to Weyerhaeuser in the *Overall Site Assessment, Weyerhaeuser Everett West and East Properties,* August 4, 1992, (Attachment A).

Priority 1 and 2 Sampling

During August 1992, EMCON performed priority sampling activities on the West Site. The sampling locations included the portable compressor, and the rotary lime kiln trunnions in Area 13; the sand blast fill area in Area 11; and the Bunker C fuel tank in Area 15. The priority sampling activities included drilling 28 soil borings, excavating 12 test pits, and taking groundwater samples from 4 temporary wellpoints.

The Priority 1 and 2 sampling activities are described in the letter report entitled *Project Status, Priority 1 and 2 Sampling, Weyerhaeuser Everett Site,* September 17, 1992, (Attachment B). EMCON reported its findings to Weyerhaeuser in the *Progress Report, Priority 1 and 2 Sampling, Everett Facility,* November 30, 1992, (Attachment C). The laboratory reports associated with priority site sampling activities are included in Attachment D-1.

Sand Blast Shed Sampling

During August 1992, soil samples were collected at five locations in the vicinity of the sand blast shed in Area 17. Each sample was analyzed for TCLP metals.

In December 1992, six grab soil samples were collected in the vicinity of the former sand blast shed and analyzed for total metals. The findings of the sand blast shed sampling were reported to Weyerhaeuser in the *Sand Blast Shed, Soil Sampling - Total Metals Analyses, Everett Facility,* January 15, 1993, (Attachment D). The TCLP and total metals laboratory reports are included as Attachment D-1.

Work Plan for Everett West Site Phase 1 Assessment

EMCON prepared a work plan for proposed West Site Phase 1 Assessment activities. The work plan was submitted to Weyerhaeuser in May 1993. A copy of the *West Site Phase 1 Work Plan* is included as Attachment E.

Preliminary Draft Report - Phase 1 Site Assessment for Areas 11 through 18

During June 1993, EMCON performed Phase 1 assessment activities at the West Site. The field assessment program included the collection of 50 soil samples from 26 soil borings and 24 test pits, installation of groundwater monitoring wells and 16 temporary wellpoints, and 4 piezometers. The detailed procedures pertaining to the field assessment program, including laboratory parameters and results, are presented in *Draft Report, Phase 1 Site Assessment for Areas 11 through 18, Weyerhaeuser Everett West Site,* September 1993 (Attachment F). Laboratory reports associated with the Phase 1 assessment activities can be found in Attachment F-1.

Draft Work Plan for Everett West Site Phase 2 Assessment

EMCON prepared a draft work plan for Phase 2 Assessment activities to be conducted at the West Site. The draft work plan was submitted to Weyerhaeuser in February 1994. A copy of the *Draft Work Plan for Everett West Site Phase 2 Assessment* is attached as Attachment G.

Draft Summary of the Phase 2 West Site Assessment Activities

Based on the findings of the Phase 1 West Site Assessment and the draft Phase 2 work plan, a Phase 2 assessment was performed during March 1994. *The Draft Summary of Findings, Everett West Site Phase 2 and Area 14 Assessments* report is included as Attachment H. The laboratory reports associated with the Phase 2 Assessment of the West Site and Area 14 are included in Attachment H-1.

Draft Summary of Groundwater Sampling Activities, West Site

A *Draft Summary of Groundwater Sampling Activities, West Site* is included as Attachment I. Laboratory reports associated with West Site groundwater sampling activities are attached as Attachment I-1.

Data Validation of Laboratory Results

EMCON reviewed analytical data generated for soil and groundwater sampling at the West Site to determine the validity and compliance with data quality objectives. At this time, only data associated with the Preliminary Phase 1 and Phase 2 Site Assessments have been validated. The *Data Validation Report* is included as Attachment J.

Laboratory data associated with West Site Priorities 1 and 2, and the Sand Blast Shed sampling activities are currently undergoing data validation. The data validation report pertaining to these data will be submitted as an amendment to this report as it becomes available.

SUMMARY AND CONCLUSIONS

The West Site consists of a former Kraft pulp mill situated on approximately 35 acres located on the western portion of the Weyerhaeuser Everett property. The site is relatively flat and is bordered on the north by the Snohomish River, and on the east, west, and south by the Burlington Northern Railroad tracks. The pulp mill was closed in 1992.

Field Investigation

Several phases of field investigation have been conducted at the West Site since 1992, including:

- Sixteen hand augers, sixty-six test pits, and fifty-five soil borings have been completed at the site.
- Seven new monitoring wells and sixteen temporary wellpoints were installed at the site.
- Three rounds of groundwater samples have been collected from the 7 new wells, 16 wellpoints, 1 existing monitoring well, and 4 existing piezometers.
- Soil samples were collected from hand augers, test pits, and soil borings and submitted to a laboratory for testing.

Geology

The site was formerly an estuarine tide flat adjacent to the Snohomish River. It was filled in the early 1900s by using sand dredged from the river bottom. The sediment underlying the site consists of imported fill and dredge fill (upper sand) overlying natural estuarine (silt) and fluvial sediment (lower sand). The dredge fill, which forms a shallow perched aquifer, ranges from 3 to 10 feet thick across the site. The estuarine silt forms an aquitard beneath the shallow aquifer.

Groundwater

The upper sand hydrostratrographic unit predominantly is composed of fine to medium sand. The upper sand unit is unconfined, and the water table is at a depth of approximately 4 feet below grade in most areas. Groundwater beneath the site is not currently or historically used as a source of potable water.

SAMPLE RESULTS

Soil

Seven areas have been identified where soil has been impacted by past operating practices. These seven areas and associated contaminants are:

- Diesel and oil-range petroleum hydrocarbons were detected in samples collected from the upper 3 feet of soil within the Bunker C fuel tank containment berm in Area 15.

- Oil-range petroleum hydrocarbons and low concentrations of two volatile organic compounds were detected in samples collected from the upper 4 feet of soil adjacent to the lube-oil storage shack in Area 16.

- Oil-range petroleum hydrocarbons, PCBs, and chromium were detected in surface samples collected from the sand blast fill in Area 11.

- Oil-range petroleum hydrocarbons were detected in samples collected from various depths (6 feet maximum) in the vicinity of former Mill C in Area 12.

- Oil-range petroleum hydrocarbons were detected in samples collected from soil underlying 2 to 6 feet of wood chips in Area 14. Soil samples were collected from the upper 2 feet of soil. Mercury was detected at 4.0 mg/kg in one soil sample collected in Area 14.

- Oil-range petroleum hydrocarbons were detected in samples collected from soil beneath the concrete bases of three rotary lime kiln trunnions in Area 13.

- Total lead was detected at 1,000 mg/kg in one surface grab soil sample collected in the vicinity of the former sand blast shed in Area 17.

Groundwater

Petroleum hydrocarbons as diesel and oil were detected in six samples collected during first round groundwater sampling in June 1993, at concentrations less than 2.0 mg/L. However, no petroleum hydrocarbons were detected in groundwater samples collected during second or third round sampling performed in October 1993 and March 1994, respectively.

Interim Actions

Since 1991, Weyerhaeuser has undertaken several interim actions at the West Site. The interim actions have been primarily soil removals at various locations across the site. These cleanups and removals are as follows:

- Excavation and removal of about 300 cubic yards of TPH-impacted soil adjacent to the Bunker C above ground tank in Area 15.
- Excavation and removal of about 2,000 cubic yards of TPH-impacted soil near the former Mill C in Area 12.
- Excavation and removal of about 50 cubic yards of TPH-impacted soil near a former active rotary kiln trunnion in Area 13.
- Disposal of more than 150 cubic yards of sand blast grit excavated from the vicinity of the former sand blast shed in Area 17. The sand blast grit was disposed of at Chemical Waste Managements Hazardous Waste Landfill in Arlington, Oregon.
- Removal and proper disposal of all transformers containing PCBs from the Pulp Mill facility.

If you have any questions or concerns, please contact us at (206) 339-2871.

Sincerely,

Stuart Triolo

Stuart Triolo
Environmental Engineer
ST:hh/DOE0524

Attachments: Map 1 - West Site

A - *Draft Report, Overall Site Assessment, Weyerhaeuser Everett West and East Properties,* August 4, 1992

B - *Project Status, Priority 1 and 2 Sampling, Weyerhaeuser Everett Site,* September 17, 1992

C - *Progress Report, Priority 1 and 2 Sampling, Everett Facility,* November 30, 1992

D - Priority and Sand Blast Shed Sampling Laboratory Reports

D-1 - Priority and Sand Blast Shed Sampling Laboratory Reports

E - *Work Plan for Everett West Site Phase 1 Assessment,* May 21, 1993

F - *Draft Report, Phase 1 Assessment for Areas 11 through 18, Weyerhaeuser Everett West Site,* September 1993

F-1 - West Site Phase 1 Laboratory Reports

G - *Draft Work Plan for Everett West Site Phase 2 Assessment,* February 11, 1994

H - *Draft Summary of Findings, Everett West Site Phase 2 and Area 14 Assessment*

H-1 - West Site and Area 14 Phase 2 Assessment Laboratory Reports

I - *Summary of Groundwater Sampling Activities,* May 1994

I-1 - Groundwater Sampling Laboratory Reports

J - *Data Validation Report*

pc: Harold Ruppert - Weyerhaeuser Everett
John Gross - CH 1K29 (Weyerhaeuser)
Kevin Godbout - CH 1L28 (Weyerhaeuser)
Kim Hughes - CH 2J28 (Weyerhaeuser)
Kva Resources, Inc.
File
File - CLEANW01

Weyerhaeuser

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Tel (253) 924-2729
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E-mail: shari.brown@weyerhaeuser.com

October 11, 1999

Ms. Judy Aitken
Northwest Regional Office
Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452

Re: Weyerhaeuser Everett West Site - 1999 Annual Evaluation including Fourteenth Round Compliance Ground Water Monitoring Data

Dear Ms. Aitken:

Enclosed are two copies of the report titled "1999 Annual Evaluation including Fourteenth Round Compliance Monitoring Ground Water Sampling Results - Weyerhaeuser Everett West Site" and a computer floppy disk containing sample results.

This data is being submitted according to the terms and schedule outlined in the Consent Decree between Ecology and Weyerhaeuser. Compliance ground water monitoring at the Everett West Site began in January 1995. The sampling and analytical methods, data evaluation, and report format were performed according to methods specified in the Ecology-approved Ground Water Compliance Monitoring Plan for Weyerhaeuser Everett West Site (March 2, 1995).

Weyerhaeuser has completed the groundwater monitoring schedule as specified in the Groundwater Compliance Monitoring Plan. During the five year monitoring schedule, all of the samples collected had concentrations below the TPH-D and dissolved arsenic cleanup levels as specified in the Consent Decree. Based on these results, Weyerhaeuser requests amending the Consent Decree, per the Groundwater Compliance Monitoring Plan, to discontinue groundwater compliance monitoring at the Everett West Site.

Should you require further information or would like to discuss our request to discontinue groundwater monitoring at this site, please contact me at (253) 924-2729.

Sincerely,

Shari Brown

Shari Brown
Associate Environmental Manager

Enclosures: "1999 Annual Evaluation including Fourteenth Round Compliance Monitoring Ground Water Sampling Results - Weyerhaeuser Everett West Site" (2 copies) and computer floppy disk containing sample results.

cc: Glen Wyatt WTC2G2 - Floppy disk without result data
Mike Elmer - NWPE – Result data without floppy disk

ATTACHMENT A

OVERALL SITE ASSESSMENT, WEYERHAEUSER EVERETT WEST AND EAST PROPERTIES
AUGUST 4, 1993
(Revised May 1994)

Mr. Harold Ruppert
Weyerhaeuser Paper Company
101 East Marine View Drive
Everett, Washington 98201

Re: Overall Site Assessment (August 4, 1992)
Weyerhaeuser Everett West Site

Dear Mr. Ruppert:

EMCON Northwest, Inc. (EMCON), is pleased to present the results of the overall site assessment pertaining to the Everett West Site. The purpose of the assessment was to identify past practices that may have affected soil or groundwater quality on the site.

Initially, the overall site assessment focused on the entire Everett Mill Site. The work for the assessment was completed on August 4, 1992, and a preliminary draft report was submitted to Weyerhaeuser for review. Due to future site development, The Weyerhaeuser Everett Mill Site has been divided into separate operable units. The initial preliminary draft overall assessment report has been edited to reflect findings pertaining specifically to the West Site; these findings are described herein.

PROJECT APPROACH

The following information was obtained through reviewing previous consultants' reports, blueprints of facilities, aerial photographs, agency files, and employee interviews. Previous soil boring, test pits, and groundwater monitoring wells completed across the site are shown on Map 1.

Blueprint Review

Site maps and blueprints were reviewed to identify the location of pertinent site features. From the various maps and prints, one drawing was prepared to cover the Everett West Site (Map 1 in map pocket at end of document). For ease of assessment, the West Site was divided into eight subareas shown on Map 1 also in map pocket. The area boundaries were determined based on past practices and their potential for environmental significance. Areas 11 through 18 are located on the area now known as the West Site. Table A-1 lists the eight subareas and includes a brief description of each.

Interviews and Site Walk

EMCON interviewed current and past Weyerhaeuser employees to identify potential ares of environmental concern at the site. During the interviews, Weyerhaeuser employees discussed the operating history of the site, including chemical usage, and explained the primary chemicals and their uses. This includes the following:

- Diesel fuel and hydraulic fluids used in forklifts and trucks
- Chemicals used in the Kraft Mill
- Lubricants associated with the mill machinery
- Transformer coolant oil containing polychlorinated biphenyls (PCBs)

EMCON walked the Everett West Site and took photographs to document site conditions. Copies and descriptions of the photographs are included in Attachment A-A.

Agency Files Review

EMCON reviewed state of Washington Department of Ecology (Ecology) and United States Environmental Protection Agency (USEPA) files and archives for records of spills or other environmental concerns. Copies of spill report memos are provided in Attachment A-B.

Report Review

Site characterization reports were reviewed to identify the extent of soil and groundwater investigations. A list of previous reports reviewed is included as Attachment A-C. A list of all Weyerhaeuser West tanks, their contents, and a location figure are included in Attachment A-D.

Aerial Photographs Review

Historic aerial photographs were examined to evaluate past site practices. Aerial photographs were useful for identifying locations of demolished buildings and historical land use.

FINDINGS

Table A-2 lists each area of the site, identifies the photographs taken in each area, and provides a discussion of observations and potential environmental contaminants.

RECOMMENDATIONS FOR ADDITIONAL SAMPLING

As described on Table A-1, EMCON identified a variety of areas at the site potentially affected by historic mill operations. EMCON developed a recommended sampling program for each area. To assist Weyerhaeuser in its evaluation of these areas, EMCON set priorities for the areas according to their potential for environmental significance. Priority 1 sites include areas where past practices may have resulted in significant impact to the site or where proposed construction or building demolition is planned. Priority 2 sites include areas with confirmed or visual signs of impacted soil. All remaining areas were classified as Priority 3.

After classifying the areas, EMCON developed a recommended sampling program for each classification level. Table A-3 provides recommended sampling for the Priority 1, 2, and 3 areas only. Evaluation of the Priority 1 areas will provide Weyerhaeuser with information on environmental conditions, focusing on only the most obvious potentially impacted areas at the site. Evaluation of both Priority 1 and 2 areas would provide Weyerhaeuser with information on the majority of the potentially impacted areas, and evaluation of all areas would provide Weyerhaeuser with a thorough analysis of environmental conditions at the site. EMCON will work with Weyerhaeuser to identify sampling needs and to develop additional sampling activities consistent with the long-term environmental goals for this site.

EMCON appreciates the opportunity to assist Weyerhaeuser with this project. Please call if you have any questions.

Sincerely,

EMCON Northwest, Inc.

John H. Guenther
Project Manager

Steven R. Sagstad, R.G.
Director of Geology Services

Attachments: Table A-1
Table A-2
Table A-3
Attachment A-A
Attachment A-B
Attachment A-C
Attachment A-D

Table A-1

Weyerhaeuser Everett West Site
Description of Subareas

Location	Area Number	Description
Weyerhaeuser West Site	11	SAND BLAST FILL. This area includes an abandoned clarifier (used for Mill C), a cement foundation that was later used to mount a transformer, and fill debris.
	12	FORMER MILL C. No buildings currently exist. The area contains abundant fill, including woodwaste.
	13	POWERHOUSE, RECOVERY, AND CAUSTICIZING AREA.
	14	NORTHERN CHIP STORAGE. The former tidal flat area has been filled, including filling and covering two sunken barges.
	15	FUEL TANK AREA. A Bunker C tank and a diesel tank are present.
	16	PULP MILL.
	17	WAREHOUSE AND FILTER PLANT.
	18	FORMER WHITE LIQUOR STORAGE AREA.

Table A-3

Weyerhaeuser Everett West Site
Proposed Site Sampling Plan

Area	Location	Sample Type	Parameters	Priority
11	Sand Blast Fill Area	Test borings, soil	TPH PCBs pH Metals	2
	Former Transformer	Composite Soil	TPH PCBs	3
12	Former Mill C	Test boring, soil Test boring, groundwater	TPH PCBs pH Metals	2
13	Portable Compressor Area	Test borings, soil	TPH	1
		Test boring, groundwater	TPH VOCs	1
	Causticizing Area	Composite soil	pH Metals TPH	1
	Sand Blast Shed	Test borings, soil	Metals	3
	Kiln Trunions	Test borings, soil	TPH	1
	Lime Kiln	Test borings, soil	pH Metals TPH	1
	Caustic Lime Pile	Composite soil	pH Metals TPH	3
	Power Room	Composite soil	TPH	3
	Recovery Boiler #1	Composite soil	PCBs	3
	Recovery Boiler #2	Composite soil	PCBs	3
	Main Stack Base	Composite soil	TPH	3
14	Chip Pile Fill Areas (Northend)	Composite soil	TPH Metals pH	3
	New Chemical Processing Area	Composite soil	TPH Metals pH	3
15	Bunker C/Diesel Fuel Tanks	Test borings, soil	TPH	2

Table A-2

Weyerhaeuser Everett West Site
Features and Potential Contaminant Sources

Area	Site	Photo #	Observations/Comments	Potential Contaminants
11	Former Transformer	43	Former transformer mounted on concrete foundation for a hog fuel burner. No observed staining on concrete.	PCBs, TPH
	Sandblast Fill Area	44	Sandblast grit, soils, and unknown fill debris.	TPH, Metals
	Abandoned Clarifier		Concrete foundation partially filled with water. Possible oil in soil from equipment maintenance.	TPH
12	Former Mill C Area	45-48	Possible TPH and PCBs in soil from former Mill operations. Area includes placement of fill, abandoned creosoted piles, and subdrains. Groundwater seeps along bulkheads have oily sheen. Soil excavation in 1989 included parking area.	TPH, PCBs, Lime, pH, Solvents, Metals
13	Kiln Trunions	54-55	Limited excavation of soils. No verification conducted around and under all trunion mounts.	TPH
	Portable Compressor Area (power house)	59	Reported diesel release (500 gallons) from portable tank.	TPH
	Sand Blast Shed		Sand blasting of equipment. Blast grit is present around shed.	PCBs, TPH, Metals
	Recovery Boiler #1		Four transformers, five capacitors	PCBs
	Recovery Boiler #2		Two transformers, one capacitor	PCBs
	Main Stack Base		Possible fuel oil in soils.	#6 Fuel Oil
	Lime Kiln		One transformer, two capacitors. Possible caustic in soil.	Caustic (Base)
	Lime Holding Area (Willins Pond)		Lime mud stored in cement-lined pond; possible affected soil and groundwater.	Lime, TPH
14	Chip Pile Fill Area (north end)	50-51	Filled area (including filled-in sunken barges). Fill may include lime waste and sand blasting sand wastes.	Lime/TPH/Metals
	Proposed Chemical Processing Area		Proposed building to overlie a soil fill area.	Lime/TPH/Metals
15	Bunker C/Diesel Tanks	60, 61	Debris and tank support integrity limited by previous affected soil excavation.	TPH

Table A-2

Weyerhaeuser Everett West Site
Features and Potential Contaminant Sources

Area	Site	Photo #	Observations/Comments	Potential Contaminants
16	Machine Room/ Warehouse		Lube oil on concrete floors	TPH
	Steam Cleaner		Concrete bermed area with floor drain, concrete stained.	TPH, Solvents, Metals
	Maintenance Building		Includes oil dispensers, solvent tanks and parts cleaning areas. Floor drain present. Oil stains on floor.	Solvents, TPH, Metals
	Paint can disposal area and solvent recycling	65	Paint staining on asphalt paving	Paint, Solvents, Metals
	Lube and Waste Oil Storage at Oil Shack Solvent Dispensing	66	Thirty to forty oil drums listed in SPCC plan. Area recently paved. Drums located in area north of oil shack solvent dispensing area.	TPH
	Oil Shack Solvent Dispensing	66	Possible petroleum and solvent contamination in soil and groundwater.	TPH, Solvents
	Bleach Plant/Pulping Tanks		Turpentine, caustic, oil, and acid tanks	Pulping Liquor, $CaCO_3$, Chlorine, NaOH, Sodium Hypochlorite, H_2SO_4, Peroxide, Sodium Silicate, Lime,Turpentine, Vanillin
17	Sand Blasting Shed	67	Lead and chromium in blast grit sands. Partially excavated.	Metals/TPH
	Gasoline UST		One thousand-gallon tank near filter plant. Yearly tightness testing suggests tank is not leaking. Possible soil and groundwater contamination.	BTEX/TPH
	Filter Plant		Gas pumps, empty used drum storage.	TPH, PCBs/ Solvents
	Transformers		Possible PCB-affected soil. Soil staining observed.	PCBs

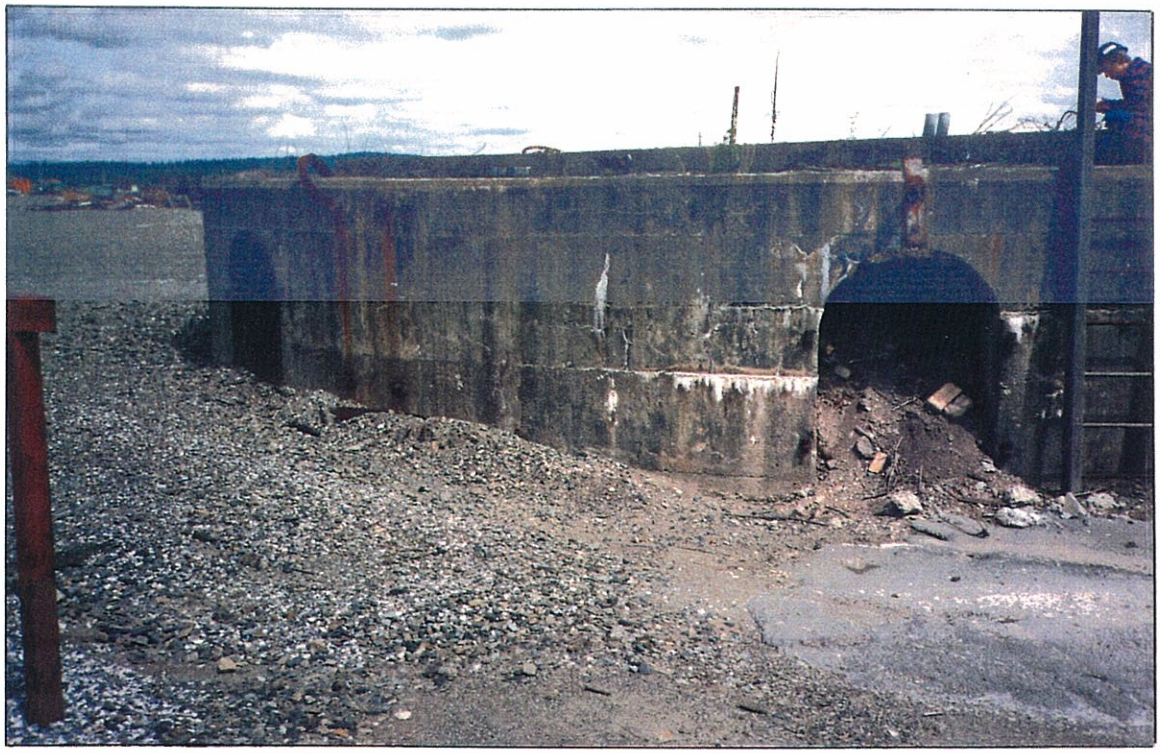
Table A-3

Weyerhaeuser Everett West Site
Proposed Site Sampling Plan

Area	Location	Sample Type	Parameters	Priority
16	Machine Room/Warehouse	Composite soil	TPH	3
	Steam Cleaner	Test boring, soil	TPH Metals VOCs	1
	Maintenance Building	Composite soil	TPH VOCs Metals PCBs	3
	Paint Can Disposal Area/Solvent Recycling	Test boring, soil	Metals VOCs	3
	Lube and Waste Oil Storage/Oil Shack Solvent Dispensing	Composite soil	TPH VOCs	1
	Bleach Plant/Pumping Tanks	Composite soil	TPH pH	1
17	Sand Blasting Shed	Test borings, soil	Metals	2
	Gasoline UST	Test boring, soil	TPH BTEX	3
	Filter Plant	Composite soil	TPH PCBs VOCs	3
	Transformers	Composite soil	PCBs	3

Attachment A-A

SITE PHOTOGRAPHS



NO. 43 - FORMER TRANSFORMER PAD, AREA 11

NO. 44 - SAND BLAST FILL AREA, AREA 11

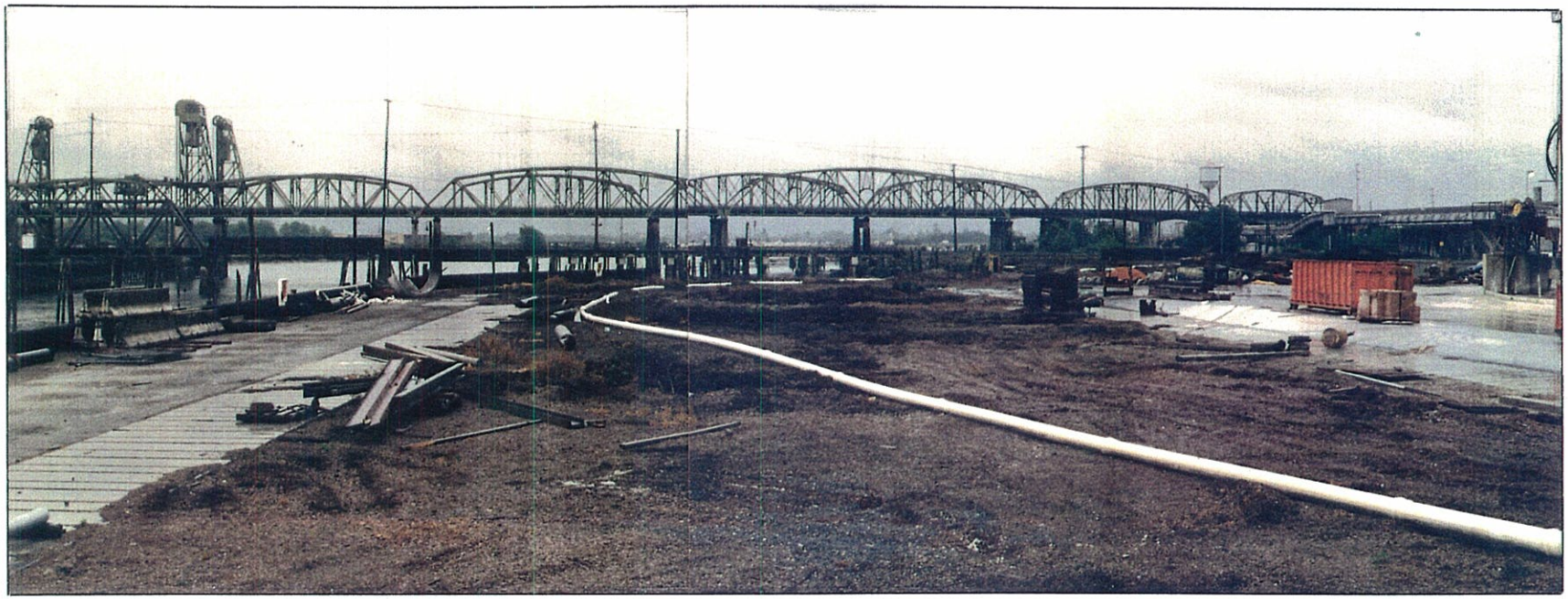
EMCON Northwest, Inc

DATE 4-94
DWN. MLP
APPR. _____
REVIS. _____
PROJECT NO. 0141-037.61

WEYERHAEUSER EVERETT WEST SITE
OVERALL SITE ASSESSMENT

PHOTO DOCUMENTATION

150969



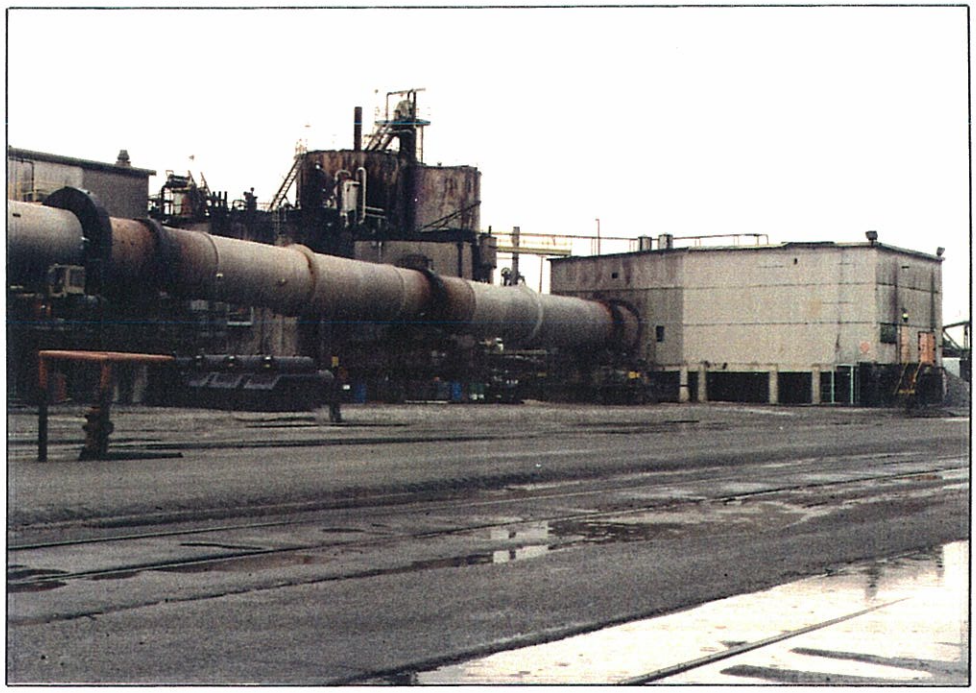
NO. 47 AND NO. 48 - FORMER MILL C (FOREGROUND), AREA 12

EMCON Northwest, Inc.

DATE 4-94
DWN. MLP
APPR.
REVIS.
PROJECT NO. 0141-037.61

WEYERHAEUSER EVERETT WEST SITE
OVERALL SITE ASSESSMENT

PHOTO DOCUMENTATION



NO. 54 - ROTARY KILN, AREA 13

NO. 55 - ROTARY KILN, AREA 13

EMCON Northwest, Inc

DATE 4-94
DWN. MLP
APPR.
REVIS.
PROJECT NO. 0141-037.61

WEYERHAEUSER EVERETT WEST SITE
OVERALL SITE ASSESSMENT

PHOTO DOCUMENTATION

NO. 50 - CHIP PILE FILL, AREA 14

NO. 51 - CHIP PILE FILL, AREA 14

EMCON Northwest, Inc.

DATE 4-94
DWN. MLP
APPR.
REVIS.
PROJECT NO. 0141-037.61

WEYERHAEUSER EVERETT WEST SITE
OVERALL SITE ASSESSMENT

PHOTO DOCUMENTATION

NO. 60 - DIESEL DISPENSER, AREA 15

NO. 61 - BUNKER C TANK, AREA 15

EMCON Northwest, Inc

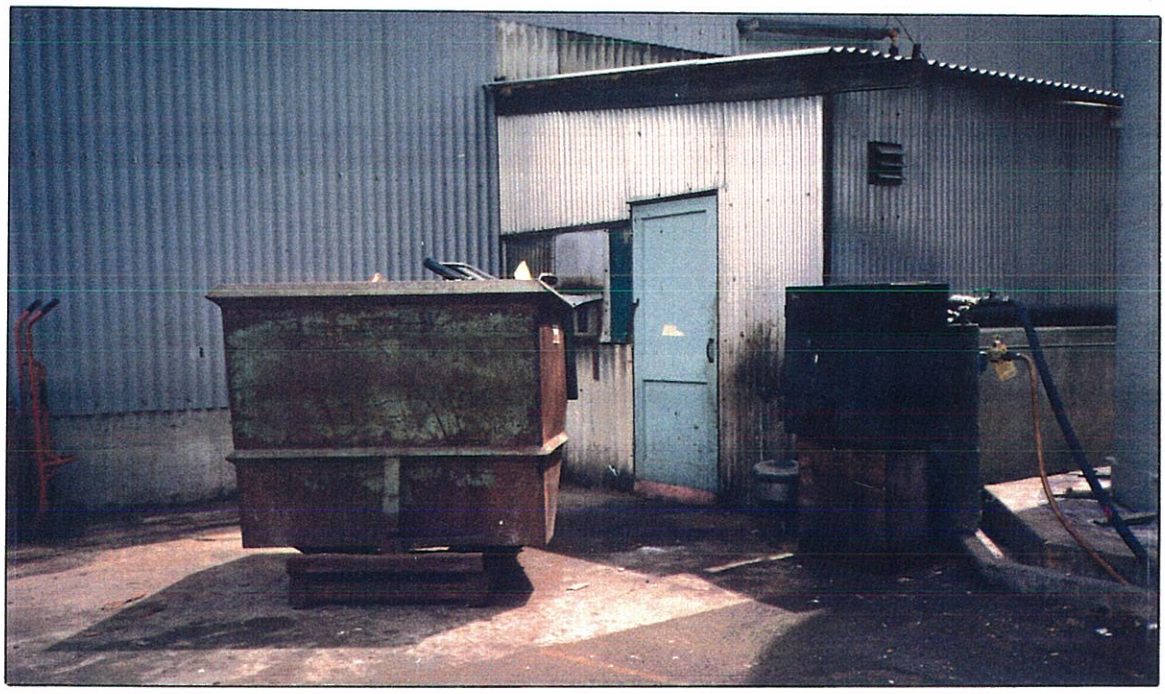
DATE 4-94
DWN. MLP
APPR.
REVIS.
PROJECT NO. 0141-037.61

WEYERHAEUSER EVERETT WEST SITE
OVERALL SITE ASSESSMENT

PHOTO DOCUMENTATION

142322

NO. 65 - PAINT AND SOLVENT RECYCLING, AREA 16



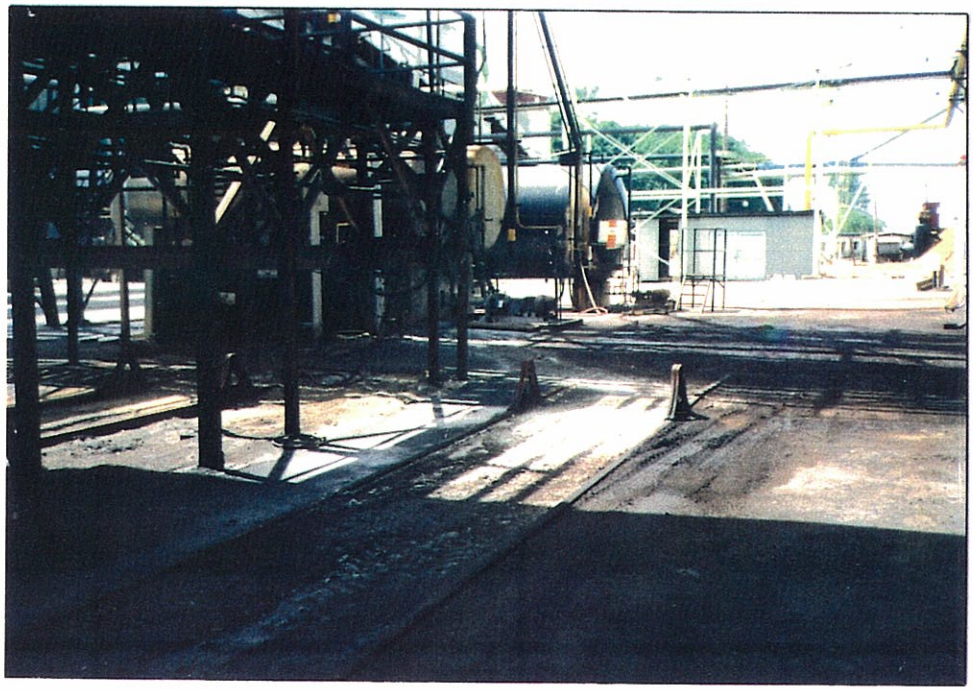
NO. 66 - OIL SHACK, AREA 16

EMCON Northwest, Inc.

DATE 4-94
DWN. MLP
APPR.
REVIS.
PROJECT NO. 0141-037.61

WEYERHAEUSER EVERETT WEST SITE
OVERALL SITE ASSESSMENT

PHOTO DOCUMENTATION



NO. 59 - PORTABLE COMPRESSOR AREA, AREA 13

NO. 67 - SAND BLAST SHED, AREA 17

EMCON Northwest, Inc

DATE 4-94
DWN. MLP
APPR.
REVIS.
PROJECT NO. 0141-037.61

WEYERHAEUSER EVERETT WEST SITE
OVERALL SITE ASSESSMENT

PHOTO DOCUMENTATION

Attachment A-B

AGENCY FILES

MEMORANDUM
Department of Ecology

	Check
Information	
For Action	
Permit	
Other	

TO: Craig Baker & Files

DATE: December 22, 1972

FROM: Larry Lewis

SUBJECT: OIL SPILL - WEYERHAEUSER, WOOD PRODUCTS, EVERETT - DECEMBER 19, 1972

John Glynn and I investigated the above oil spill during cleanup operations. Weyerhaeuser contained and removed most of the 15-20 gallons of oil (SAE 20) spilled. The cooling water from the first floor of the power plant (which carried the oil outside the building) drained into a collection well just outside the building. Several other sources of waste water drained there also. The well, triangular in shape 60 feet along the base by 20 feet by 6 feet deep at its deepest point, drains to the Snohomish River via a pipe at the bottom of the well. This section of the river is influenced by tidal action, therefore, so is the well.

The spill occurred during a flood tide, trapping most of the oil in the well. Cleanup operations were completed for the most part before the water level dropped on the following ebb exposing the well drain. A boom was placed around the well effluent in the river.

Mr. Gordon Chaffee, plant supervisor, expressed interest in an oil separator and an oil pickup system along the line of a vacuum cleaner. I am sending to him copies of "Guidelines for Design of Gravity Oil/Water Separator", "Treatment of Oil Contaminated Water", and Chapters 5 & 6 from the "Manual on Disposal of Refinery Wastes", API. Nothing was sent concerning a vacuum type oil pickup system. If you have any information on same, please forward it to Mr. Chaffee.

LLL:as

12-22-72 dt

Department of Ecology

ENVIRONMENTAL COMPLAINT REPORT FORM

1. Complaint No. _____
2. Date of Complaint 2/9/81
3. Date of Investigation _____

I. COMPLAINT REPORTED BY

Name Dick Burkhalter Phone No. [234-2966]

Address _____

Date and time complaint first noted AM, 2-9-81

Other information _____

II. LOCATION:

4. Watercourse Snohomish R
5. Region: ☒ Northwest ☐ Southwest ☐ Central ☐ Eastern
6. District: (1) _____ (2) ✓
7. County and Town Everett

7a. Legal _____ Section _____ Township _____ Range _____

III. POLLUTANT:

8. Pollutant Source Weyerhaeuser Kraft Mill — Everett
9. Material Black Digested Liquor
10. Quantity "Major Spill" — quantity unknown
Area or miles affected _____

(If dead or dying fish are visible, fill out Nos. X, XI and XIII.)

IV. RESPONSIBILITY

11. Person or Entity: Name Weyco Phone No. _____
Address Bill Duncan (259-8313)
Fred Howard — plant STP

Violator: ☑ Confirmed ☐ Suspected ☐ Unknown

V. CAUSE:

12. Brief Description: Major spill, black liquor (dark color, high pH, toxic, contains "resin acids") to storm drain + Snohomish River. Burkhalter guessed maybe as much as 30,000 gal.
Fish kill a definite possibility

VI. CLASSIFICATION:

13. Source: ☐ Ground Water ☒ Surface Water ☐ Flood Control ☐ Shoreline

14. Permit Involved: ☒ Yes ☐ No

15. If Yes, Type and Number _____

VII. COMPLAINT RECEIVED BY:

Name D Munnally

Time and date Noon, 2-9-81

VIII. COMPLAINT INVESTIGATED BY:

Name Roger Stanley en route with Goat

Action Taken: other Lab people probably will respond

IX. MISCELLANEOUS:

Were pictures taken? ☒ Yes ☐ No Were samples taken? ☒ Yes ☐ No

Individuals and agencies notified _____

Witnesses: Name _____ Name _____

Address _____ Address _____

Attachments _____

X. FISH KILL

Estimated number of dead fish _____ Estimated percent scrapfish _____

Predominant species and size _____

XI. SUSPECTED AGENT OR REASON FOR KILL

Agent Digested Black Liquor

Describe effects Black, high pH, may foam, toxic.

Action taken _____

XII. ADDITIONAL INFORMATION:

Attachment A-C

HISTORICAL SITE REPORTS

HISTORICAL SITE REPORTS

Rittenhouse-Zeman & Assoc., *Preliminary Subsurface Exploration, Weyerhaeuser Site — Snohomish County, Resource Recovery Facility Siting*, June 1987.

Sweet-Edwards/EMCON, Inc., *Hydrogeologic Investigation, Weyerhaeuser Landfill, Everett Kraft Mill*, November 9, 1988.

Weyerhaeuser Co., *Spill Prevention Control and Countermeasure, Plan for The Everett Kraft Mill*, July 30, 1985.

Weyerhaeuser, Inc., various Memos to File.

Attachment A-D

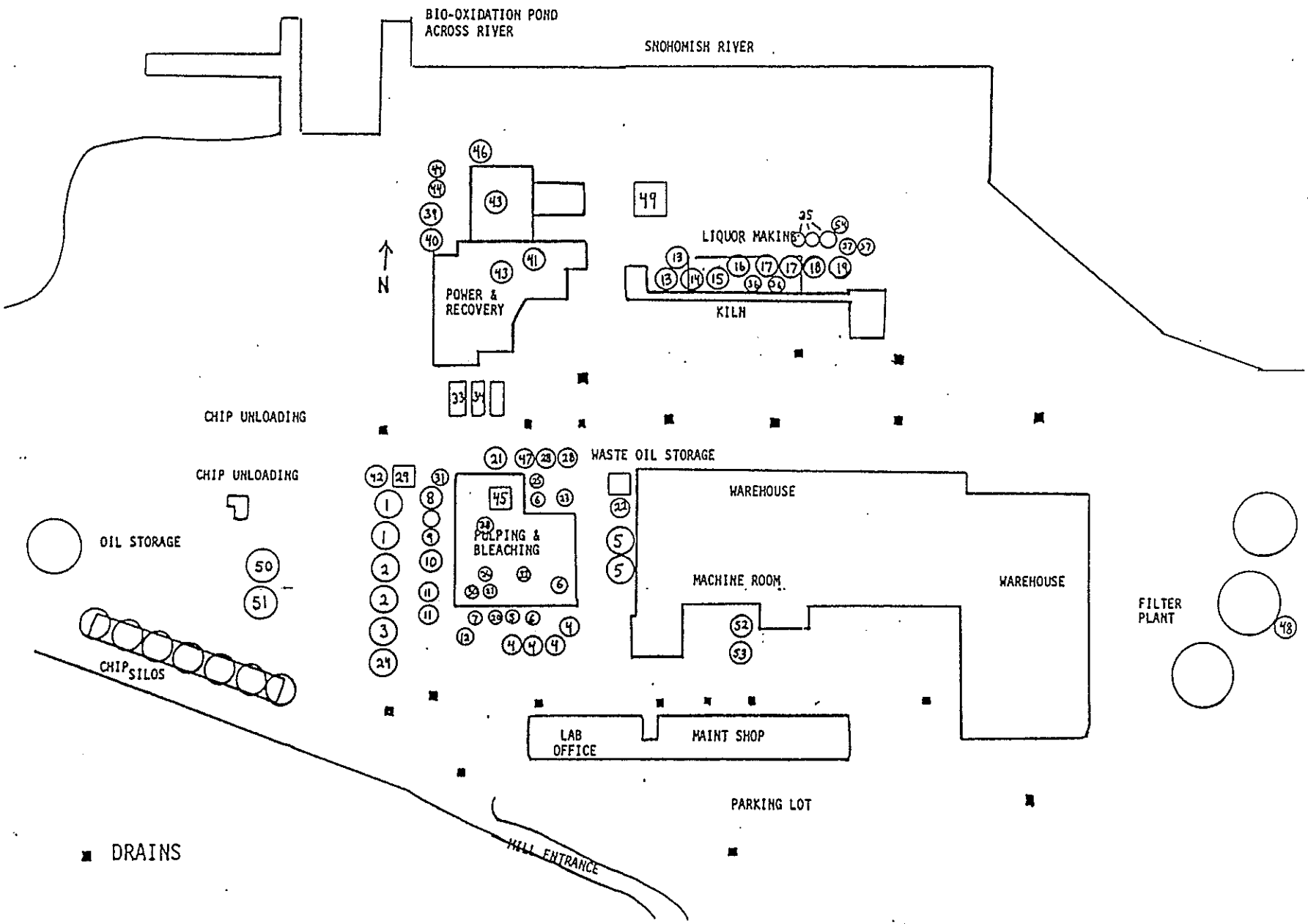
TANK LIST WEYERHAEUSER WEST

ık ıber	Description/Tank Contents	Drainage Route	Max[illegible]lume of Spill, Gallons	Existing Containment	Proposed Diversion
	White Liquor Storage	A	317,152	Cement curb	See Sec. VII
	Black Liquor Storage	A	158,576	Cement curb	Installed
	Deaerator Tank (Mill effluent)	A	15,709	Cement curb	Installed
	Filtrate Tanks (Weak black liquor)	B	989,976	None	Divert 002 flow to bio-ponds.
	Low Density Tanks (Pulp)	B	160,000	None	Same as 4
	High Density Tanks (Pulp)	B	94,000	None	Same as 4
	Foam Tanks (Weak black liquor)	B	66,198	Cement curb	Installed
	Hot and Cold Water (Water)	A	163,316	Cement curb	Installed
	Surface Condenser and Separator (Water)	A		Cement curb	Installed
	Blow Tank (Pulp with black liquor)	A	3,890	Cement curb	Installed
	Black and White Liquor Measuring Tanks	A	50,388	Cement curb	See Sec. VII
	Fiber Collection Tank (Pulp with black liquor)	B	62,000	None	Same as 4
	Raw Green Liquor Storage	C	275,264	Cement curb	See Sec. VII
	Clear Green Liquor Storage	C	137,632	Cement curb	See Sec. VII
	Green Liquor Clarifier	C	288,729	Cement curb	See Sec. VII

nk mber	Description/Tank Contents	Drainage Route	Maximum Volume of Spill, Gallons	Existing Containment	Proposed Diversion
6	Dregs Wash Tank (Weak white liquor)	C	67,431	Cement curb	Installed
7	Mud Tanks ($CaCO_3$ slurry)	C	930,696	Cement curb	Installed
8	Mud Wash Tanks (Weak $CaCO_3$ solution)	C	171,171	Cement curbing	Installed
9	White Liquor Clarifer	C	345,576	Cement curbing	See Sec. VII
0	Chlorination Tower (Pulp & Chlorine in solution)	B	94,848	Cement curbing	Installed
1	Chlorine Dioxide Storage	A	21,700		Same as 4
2	Sodium Chlorate Storage	A	24,056	Cement curbing	Installed
3	Chlorine Dioxide Spent Liquor (Sulfuric acid and chlorine compounds)	A	1,900	Cement curbing	Installed
4	Primary Caustic (50% NaOH)	B	119,475	None	See Sec. VII
5	Secondary Caustic (50% NaOH)	A	66,375	Cement curb	See Sec. VII
6	Caustic Mix Tank (8% NaOH)	A	476	Cement curb	Installed
7	Caustic Circulation Tank	A	66,375	Cement curb	See Sec. VII
8	Hypo Receiving Tanks (Sodium hypochlorite solution)	A	13,800		Same as 4
9	Sulfuric Acid Tank	A	19,448	Cement curb	Installed

ink mber	Description/Tank Contents	Drainage Route	Maximum Volume of Spill, Gallons	Existing Containment	Proposed Diversion
0	Knot Tank (Pulp and B.L.)	A	18,026	Cement curb	Installed
1	Turpentine Day Tank	A	2,992	Cement curb	Installed
2	Peroxide Day Tank	A	2,879	Cement curb	Installed
3	Peroxide Storage	H	11,325	None	Same as 4
4	Sodium Silicate Storage	H	7,542	None	Same as 4
5	Causticizer Tanks	C	33,625	Cement curb	Installed
6	Weak Wash Tanks (Weak white liquor)	C	93,948	Cement curb	Installed
7	Lime Storage	Solid Material			
8	Bleaching Tanks (Pulp and bleaching chemicals)	A	90,000	Cement curb	Installed
9	Strong Black Liquor Storage (45% solids)	C	158,650	Cement curb	See Sec. VII
0	Weak Black Liquor Storage (15% solids)	C	158,650	Cement curb	Installed
1	Oxidized Black Liquor	C	317,301	Cement curb	Instlled
2	Turpentine Storage	B	10,023	Cement curb	Installed
3	Dissolving Tanks	C	33,789	Cement curb	Installed
4	Black Liquor Oxidation	C	314,332	Cement curb	See Sec. VII
5	Bleached Bellmer	D	279,357	Cement curb	Same as 4
6	Concentrated Black Liquor (65% solids)	C		Surrounded by recovery drains.	Installed

ınk ımber	Description/Tank Contents	Drainage Route	Maximum Volume of Spill, Gallons	Existing Containment	Proposed Diversion
·7	4% Caustic Storage	A	13,800		Same as 4.
·8	Water Treatment Chemical (Magnifloc 573-C)	F	20,196	None	None
49	Mud Pond ($CaCO_3$ Slurry)	C			None
50	Kamyr Filtrate Tank Vanillin storage	G	471,000	Cement curb	Installed
51	Kamyr High Density Vanillin storage	G	560,000	Cement curb	Installed
52	Drainage	A	7,000	Cement curb	Installed
53	Sheet Softner	A	10,000	Cement curb	Installed
54	Slaker	C	11,840	Cement curb	Installed


BIO-OXIDATION POND
ACROSS RIVER
SNOHOMISH RIVER
N
POWER &
RECOVERY
LIQUOR MAKING
KILN
CHIP UNLOADING
CHIP UNLOADING
OIL STORAGE
CHIP SILOS
PULPING &
BLEACHING
WASTE OIL STORAGE
WAREHOUSE
MACHINE ROOM
WAREHOUSE
FILTER
PLANT
LAB
OFFICE
MAINT SHOP
PARKING LOT
MILL ENTRANCE
DRAINS

ATTACHMENT B
PROJECT STATUS, PRIORITY 1 AND 2 SAMPLING
WEYERHAEUSER EVERETT SITE
SEPTEMBER 17, 1992
(Revised May 1994)

Mr. Harold Ruppert
Weyerhaeuser Paper Company
101 East Marine View Drive
Everett, Washington 98201

Re: Project Status (September 17, 1992)
Priority 1 and 2 Sampling
Weyerhaeuser Everett West Site

Dear Mr. Ruppert:

EMCON Northwest, Inc., has completed field activities associated with proposals dated July 28 and August 20, 1992. The scope of work was intended to assess the potential for subsurface soil and groundwater contamination at several locations across the Everett West Site. These locations were designated as Priority 1 and 2 sites during a meeting held July 20, 1992. Additional locations for assessment were identified during a meeting held August 5, 1992. Assessment activities were performed at the following locations:

- Area 13 Portable Compressor Area: Advanced four exploratory soil borings, placed well points in each boring and collected groundwater samples, and submitted four soil and four groundwater samples for analysis.

- Area 13 Rotary Lime Kiln Area: Advanced eight soil borings, and submitted eight soil samples for analysis.

- Area 11 Sand Blast Fill Area: Excavated 6 test pits, submitted 15 soil samples for analysis including 2 grab samples collected from the surface.

- Area 17 Sandblast Shed: Excavated seven shallow test pits, submitted five soil samples for analysis.

- Area 15 Bunker C Tank Containment Area: Advanced 16 hand auger borings, submitted 19 soil samples for analysis.

Excavation of exploratory test pits was performed by A.L. Sleister & Sons Construction, Inc., of Mukilteo, Washington at the direction of EMCON personnel. Drilling services were provided by Geoboring and Development, Inc., of Puyallup, Washington.

Soil and groundwater samples were submitted to Weyerhaeuser Analytical and Testing Services, located in Federal Way, Washington for chemical analyses. Chain-of-Custody forms for samples are included. A list of samples and requested analyses is presented in Table B-1. Laboratory data for the samples will be forwarded to your office as they become available. Boring logs, test pit logs, and additional assessment information will be presented to Weyerhaeuser following receipt of the associated laboratory data.

If you have any questions regarding the above-referenced activities, please call me.

Sincerely,

EMCON Northwest, Inc.

John H. Guenther
Project Manager

Steven R. Sagstad, R.G.
Project Director

Attachment: Table B-1

Table B-1

Summary of Samples and Analyses

Sample Name	Collection Date	WTPH-D	pH	Total Metals	TCLP Metals	Total Lead
Area 11 Sand Blast Fill Area						
TP-100, S-1,S-2,S-3	8/18/92	X		X		
TP-101, S-1,S-2	8/18/92	X		X		
TP-102, S-1,S-2	8/18/92	X		X		
TP-103, S-1,S-2,S-3	8/18/92	X		X		
TP-104, S-1	8/18/92	X		X		
TP-105, S-1,S-2	8/18/92	X		X		
SBSURF-1	8/18/92	X		X		
SBSURF-2	8/18/92	X	X	X		
Area 13 Kiln Trunion						
KT-1-0892	8/24/92	X				
KT-2-0892	8/24/92	X				
KT-3A-0892	8/24/92	X				X
KT-3B-0892	8/24/92	X				X
KT-4A-0892	8/24/92	X				
KT-4B-0892	8/24/92	X				
KT-5A-0892	8/24/92	X				
KT-5B-0892	8/24/92	X				
Area 13 Portable Compressor						
PC-1-0892	8/25/92	X				
PC-2-0892	8/25/92	X				
PC-3-0892	8/25/92	X				
PC-4-0892	8/25/92	X				
PC-1-0892 Water	8/25/92	X				
PC-2-0892 Water	8/25/92	X				
PC-3-0892 Water	8/25/92	X				
PC-4-0892 Water	8/25/92	X				
Area 17 Sand Blast Shed						
TP-92-26-S-1	9/2/92				X	
TP-92-27-S-1	9/2/92				X	
TP-92-28-S-1	9/2/92				X	
TP-92-29-S-1	9/2/92				X	
TP-92-30-S-1	9/2/92				X	

Table B-1

Summary of Samples and Analyses

Sample Name	Collection Date	WTPH-D	pH	Total Metals	TCLP Metals	Total Lead
Area 15 Bunker C Tank Area						
HA-1-A	8/27/92	X				
HA-2-A	8/27/92	X				
HA-3-A	8/27/92	X				
HA-4-A	8/27/92	X				
HA-6-A	8/27/92	X				
HA-7-A	8/27/92	X				
HA-8-A	8/27/92	X				
HA-9-A	8/27/92	X				
HA-10-A	8/27/92	X				
HA-10-B	8/27/92	X				
HA-11-A	8/27/92	X				
HA-12-A	8/27/92	X				
HA-12-B	8/27/92	X				
HA-13-A	8/27/92	X				
HA-13-B	8/27/92	X				
HA-14-A	8/27/92	X				
HA-15-A	8/27/92	X				
HA-16-A	8/27/92	X				
HA-16-B	8/27/92	X				

ATTACHMENT C

PROGRESS REPORT, PRIORITY 1 AND 2 SAMPLING
WEYERHAEUSER EVERETT SITE
NOVEMBER 30, 1992
(Revised May 1994)

Mr. Harold Ruppert
Weyerhaeuser Paper Company
101 East Marine View Drive
Everett, Washington 98201

Re: Progress Report (November 30, 1992)
Priority 1 and 2 Sampling
Weyerhaeuser Everett West Site

Dear Mr. Ruppert:

EMCON Northwest, Inc., is pleased to present this letter report describing soil and groundwater sampling performed at the Weyerhaeuser Everett West Site. Field activities were performed in general accordance with EMCON's proposals dated July 28 and August 20, 1992.

Exploratory test pits and soil borings were advanced during August and September at several locations across the West Site. Soil and groundwater samples were submitted to Weyerhaeuser Analytical Testing Services of Federal Way, Washington, for analysis. EMCON personnel prepared boring or test pit logs describing subsurface soil conditions for each sampling location. Copies of boring logs and test pit logs are attached at the back of this report. Laboratory reports are included in Attachment D-1.

Excavation and drilling activities were performed at the following locations:

- **Area 11 Sandblast Fill** — Six exploratory test pits (TP-100, TP-101, TP-102, TP-103, TP-104, and TP-105) were advanced in the sandblast fill area at locations shown in Figure 1. A two or three part composite sample was submitted for analysis from each test pit. Two discrete samples (SB-Surf-1 and SB-Surf-2) were also submitted for analysis. Samples were analyzed for total metals and fuel hydrocarbons by Washington State Department of Ecology method WTPH-D. No test pit logs were completed for the above-mentioned test pits.

- **Area 17 Sandblast Shed** — Seven shallow exploratory test pits (TP-92-24, TP-95-25, TP-92-26, TP-92-27, TP-92-28, TP-92-29, and TP-92-30) were advanced in the vicinity of the sandblast shed at locations shown on Figure 2. Test pits TP-92-24 and TP-92-25 were excavated for the purpose of obtaining visual information only and were not sampled. One soil sample was collected from each of five test pits and submitted for analysis by the Toxicity Characteristic Leaching Procedure (TCLP) for metals.

- **Area 15 Bunker C Tank** — Sixteen soil borings (HA-1 through HA-16) were advanced with a hand auger adjacent to the above ground Bunker C fuel tank at the locations shown on Figure 3. One or two soil samples were collected from each boring and submitted for analysis. Nineteen soil samples were submitted for WTPH-D analysis.

- **Area 13 Kiln Trunion** — Nine shallow soil borings (KT-1, KT-2A, KT-2B, KT-3A, KT-3B, KT-4A, KT-4B, KT-5A, and KT-5B) were advanced by using hollow-stem auger drilling equipment at the locations shown on Figure 4 . Soil samples were collected continuously during drilling from ground surface to the water table. One soil sample from each boring was submitted for WTPH-D analysis. Following collection of the final soil sample each boring was abandoned by filling it with bentonite chips as the auger was withdrawn.

- **Area 13 Portable Compressor** — Four shallow soil borings (PC-1, PC-2A and 2B, PC-3, and PC-4) were advanced in the vicinity of a diesel fuel release by using hollow-stem auger drilling equipment at the locations shown on Figure 4. Soil samples were collected continuously during drilling, from the ground surface to the water table. One soil sample from each boring was submitted for WTPH-D analysis. Additionally, a stainless steel well point was installed through the auger in each boring to allow collection of a groundwater sample. One groundwater sample was collected from each boring and submitted for WTPH-D analysis. Following sample collection the well point was withdrawn, and the boring was abandoned by backfilling the boring with bentonite chips.

Laboratory data for the above-mentioned samples are summarized in Tables C-1, C-2, and C-3.

Remedial activities associated with each of the areas discussed in this report will be addressed in a separate proposal and scope of work. If you have any questions regarding the data presented in this report, please call me.

Sincerely,
EMCON Northwest, Inc.

John H. Guenther
Project Manager

Steven R. Sagstad, R.G.
Director of Geology Services

Attachments: Table C-1
Table C-2
Table C-3
Figure 1
Figure 2
Figure 3
Figure 4

B/WEY/COAD-MD/ATTACH-C.510-94/lha:3
0141-037.63

Table C-1

Weyerhaeuser Everett West Site
Summary of WTPH-D Laboratory Results

Sample Name	Collection Date	TPH as Diesel mg/kg	TPH as Oil mg/kg
Area 11 Sand Blast Fill			
TP-100, S-1,S-2,S-3	8/18/92	90	130
TP-101, S-1,S-2	8/18/92	43	120
TP-102, S-1,S-2	8/18/92	ND	ND
TP-103, S-1,S-2,S-3	8/18/92	ND	82
TP-104, S-1	8/18/92	4	9
TP-105, S-1,S-2	8/18/92	ND	17
SBSURF-1	8/18/92	97	170
SBSURF-2	8/18/92	710	1,000
Area 13 Kiln Trunion			
KT-1-0892	8/24/92	ND	63
KT-2-0892	8/24/92	ND	150
KT-3A-0892	8/24/92	ND	160
KT-3B-0892	8/24/92	ND	48
KT-4A-0892	8/24/92	46	250
KT-4B-0892	8/24/92	ND	210
KT-5A-0892	8/24/92	ND	190
KT-5B-0892	8/24/92	ND	1,800
Area 13 Portable Compressor			
PC-1-0892	8/25/92	270	ND
PC-2-0892	8/25/92	2	7
PC-3-0892	8/25/92	3	6
PC-4-0892	8/25/92	4	8
PC-1-0892 Water	8/25/92	6	ND
PC-2-0892 Water	8/25/92	<0.2	ND
PC-3-0892 Water	8/25/92	<0.2	ND
PC-4-0892 Water	8/25/92	<0.2	ND

Table C-1

Weyerhaeuser Everett West Site
Summary of WTPH-D Laboratory Results

Sample Name	Collection Date	TPH as Diesel mg/kg	TPH as Oil mg/kg
Area 15 Bunker C Tank			
HA-1-A	8/27/92	ND	63
HA-2-A	8/27/92	1,100	1,100
HA-3-A	8/27/92	2,100	5,600
HA-4-A	8/27/92	200	90
HA-6-A	8/27/92	120	380
HA-7-A	8/27/92	1,200	1,000
HA-8-A	8/27/92	340	520
HA-9-A	8/27/92	ND	1,000
HA-10-A	8/27/92	ND	650
HA-10-B	8/27/92	ND	200
HA-11-A	8/27/92	ND	1,300
HA-12-A	8/27/92	ND	470
HA-12-B	8/27/92	ND	510
HA-13-A	8/27/92	12,000	700
HA-13-B	8/27/92	530	720
HA-14-A	8/27/92	ND	96
HA-15-A	8/27/92	230	500
HA-16-A	8/27/92	580	690
HA-16-B	8/27/92	ND	190

NOTE: ND = Not detected at laboratory detection limit.

5

Table C-2

Weyerhaeuser Everett West Site
Summary of Total Metals Analytical Data

Sample Name	Date Collected	Arsenic mg/kg	Chromium mg/kg	Copper mg/kg	Lead mg/kg	Mercury mg/kg
Area 11 Sandblast Fill						
TP-100 S-1,S-2,S-3	8/18/92	13.7 NS	37.4 *	86.6 N*	78.4 P	ND
TP-101 S-1,S-2	8/18/92	9.4 N	34.1 *	26.9 N*	25.8 P	ND
TP-102 S-1,S-2	8/18/92	17.8 N	21.3 *	12.8 N*	3.1 F*	ND
TP-103 S-1,S-2,S-3	8/18/92	21.0 N	87.9 *	29.1 N*	39.0 P	ND
TP-104 S-1	8/18/92	2.3 N	25.7 *	11.6 N*	2.0 F*	ND
TP-105 S-1,S-2	8/18/92	2.6 N	28.2 *	12.1 N*	2.6 P*	ND
SB SURF-1	8/18/92	4.7 N	2,930 *	63.6 N*	285 P	0.09
SB SURF-2	8/18/92	2.9 N	11.1 *	53.4 N*	67.0 P	ND

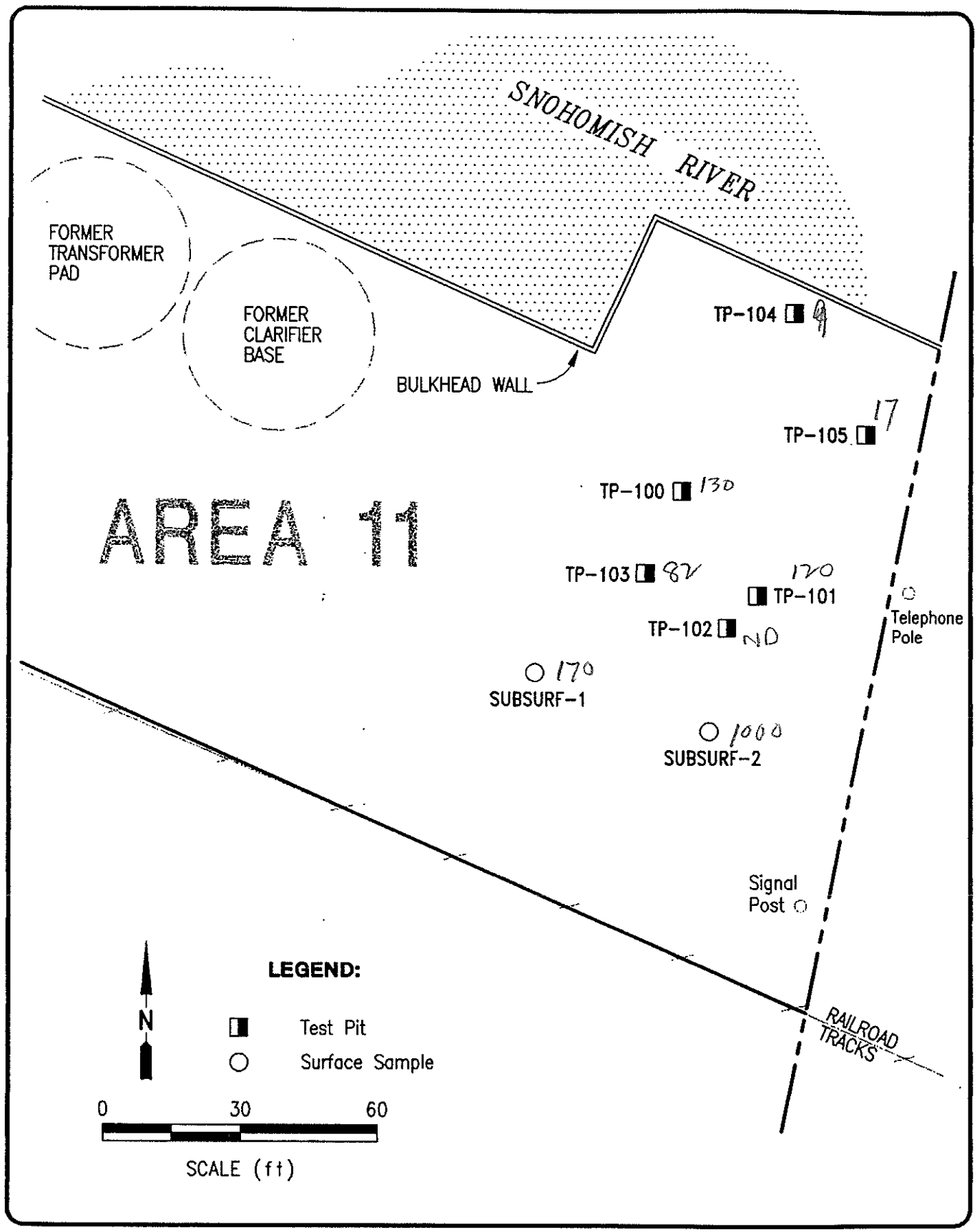
NOTE:
N Indicates spiked samples recovery not within control limits
* Indicates duplicate analysis not within control limits
S Indicates the reported value was determined by the Method of Standard Addition (MSA)
F Indicates Method Qualifier - Furnace AA
P Indicates Method Qualifier - ICP
NS = Not detected at laboratory detection limit.

Table C-3

Weyerhaeuser Everett West Site
Summary of TCLP Metals Laboratory Results

Sample I.D.	Collection Date	Silver mg/L	Arsenic mg/L	Barium mg/L	Cadmium mg/L	Chromium mg/L	Mercury mg/L	Lead mg/L	Selenium mg/L
Area 17 Sandblast Shed									
TP-92-26, S-1	9/2/92	<0.01	<0.1	0.7	<0.01	<0.01	<0.001	<0.05	<0.2
TP-92-27, S-1	9/2/92	<0.01	<0.1	0.5	<0.01	<0.01	<0.001	<0.05	<0.2
TP-92-28, S-1	9/2/92	<0.01	<0.1	0.8	<0.01	<0.01	<0.001	<0.05	<0.2
TP-92-29, S-1	9/2/92	<0.01	<0.1	0.8	<0.01	<0.01	<0.001	<0.05	<0.2
TP-92-30, S-1	9/2/92	<0.01	<0.1	0.6	<0.01	<0.01	<0.001	<0.05	<0.2

NOTE: <0.01 = not detected at the indicated laboratory detection limit.



EMCON Northwest, Inc.

DATE	11-92
DWN.	MDC
REV.	
APPR.	
PROJECT NO.	0141-037.26

Figure 1
WEYERHAEUSER PAPER COMPANY
EVERETT FACILITY

SAND BLAST FILL AREA TEST PIT LOCATIONS

1=30 05-17-94 0141\037\26C06

WAREHOUSE

FORMER TRANSFORMER PAD

CLARIFIERS

CLARIFIERS

EXISTING SAND BLAST SHED

TP-92-25

TP-92-24

all ND TCLP

TP-92-30

AREA BOUNDRY

TP-92-27

PROPERTY FENCELINE

TP-92-26

TP-92-29

BURLINGTON NORTHERN RAILROAD

TP-92-28

LEGEND:

TP-92-26 EMCON TEST PITS (8/92)

0 30 60

SCALE (ft)

N

EMCON Northwest, Inc.

DATE 11/92
DWN. KLM
REV.
APPR.
PROJECT NO.
0141-037.26

Figure 2
WEYERHAEUSER PAPER COMPANY
EVERETT SITE ASSESSMENT
SANDBLAST SHED AREA

1= 30 05-11-94 J:\DATA\DWG\0141\037\26C03

E43000

E43500

WEYERHAEUSER
RAILROAD TRACKS

BURLINGTON NORTHERN
RAILROAD TRACKS

SNOHOMISH RIVER

BULKHEAD

CONTAINMENT BERM

AREA 15

FORMER ABOVE-GROUND
DIESEL TANK LOCATION
(TANK MOVED OFF-SITE MARCH 1994)

FORMER ABOVE-GROUND
DIESEL TANK LOCATION

AREA 14

690
HA-16

90
HA-4
63
HA-1
1106
HA-2
HA-7
500 1000

HA-3
HA-8
HA-6
5600
520
380
700/1200

HA-5

HA-13

HA-15

BUNKER C
FUEL TANK

PRODUCT DISPENSING
PIPING

1000
HA-9

HA-12
510

96
HA-14

650
HA-10

1300
HA-11

AREA 16

PROPERTY LINE FENCE

N39500

N

0 50 100

SCALE (ft)

LEGEND:

✕ HAND AUGER BORING (EMCON 8/92)

EMCON
Northwest, Inc.

DATE	11/92
DWN.	KLM
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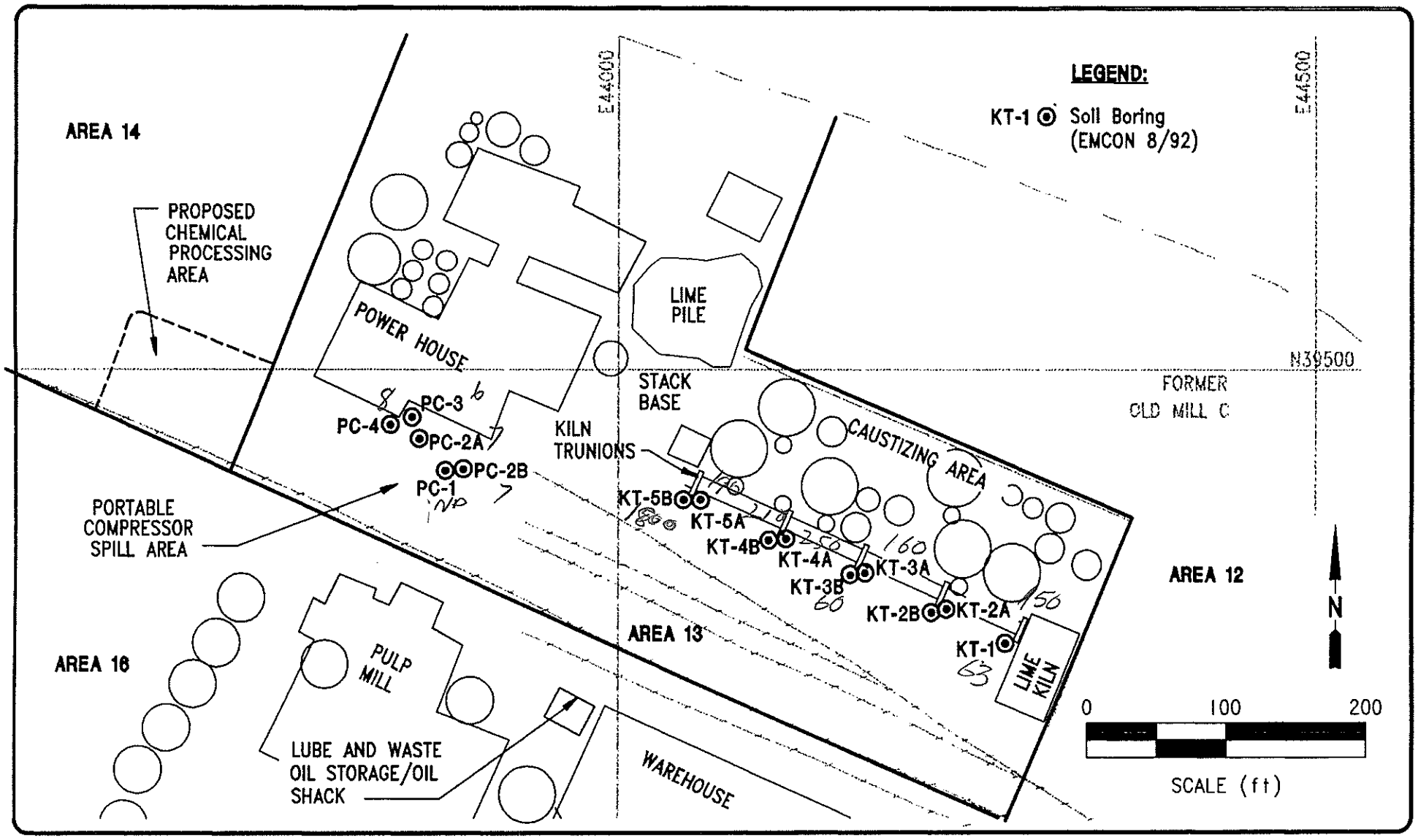
APPR.	
PROJECT NO.	0141-037.26

Figure 3
WEYERHAEUSER PAPER COMPANY
EVERETT SITE ASSESSMENT
BUNKER "C" TANK, HAND AUGER LOCATIONS

1= 50 05-17-94 D:\0141\037\26C02



EMCON Northwest, Inc.

DATE	11-92
DWN.	MLP
REV.	
APPR.	
PROJECT NO.	0141-037.26

Figure 4
WEYERHAEUSER PAPER COMPANY
EVERETT FACILITY

KILN TRUNION AND PORTABLE COMPRESSOR RELEASE, SOIL BORING LOCATIONS

1=100 05-17-94 0141\037\26C05

EXPLANATION OF SYMBOLS ON EXPLORATORY BORING LOGS

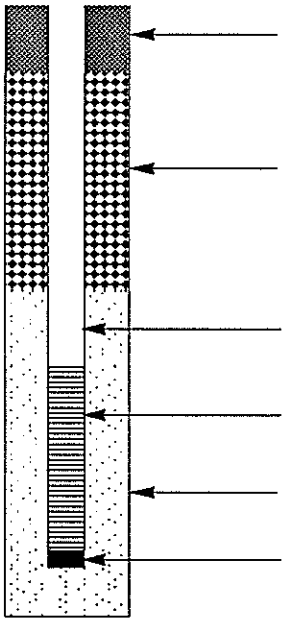
EMCON
Northwest

SAMPLE COLUMN

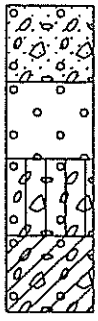
SAMPLE OBTAINED

SAMPLER DRIVEN, NO SAMPLE OBTAINED

WELL DETAILS COLUMN



LITHOLOGIC COLUMN

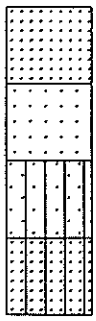


GW

GP

GM

GC

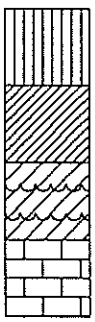


SW

SP

SM

SW-SM



ML

CL

OH

LIME

LOG OF EXPLORATORY BORING

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	BORING NO.	**KT- 1**
LOCATION	**Kiln Trunion**	PAGE	**1 OF 1**
DRILLED BY	**Geoboring**	GROUND ELEV.	**N/A**
DRILL METHOD	**HSA**	TOTAL DEPTH	**6.00'**
LOGGED BY	**Sharon Burkett**	DATE COMPLETED	**08/24/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 0.5 foot: CONCRETE
						0.5 to 1.5 feet: SANDY GRAVEL (GP), fine to medium gravel, fine to medium sand, brown, moist. (FILL)
	4					**1.5 to 6.0 feet: SAND (SP)**, fine to medium, trace coarse sand, trace fine gravel, gray brown, few orange mottles.
	3					
	3					
	2					@ 3.0 to 3.1 feet: rusty orange to black staining.
	3					
	7					
SS/*KT-1-0892	2					
	3	▽	5			@ 5.0 feet: wet.
	3					
						Bottom of boring at 6.0 feet.
						Abandoned with slough to 1.0 foot bgs. Concrete to the surface.
			10			

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME **Weyerhaeuser - Everett, Phase 2**
LOCATION **Kiln Trunion**
DRILLED BY **Geoboring**
DRILL METHOD **HSA**
LOGGED BY **Sharon Burkett**

BORING NO. **KT- 2**
PAGE **1 OF 1**
GROUND ELEV. **N/A**
TOTAL DEPTH **6.50'**
DATE COMPLETED **08/24/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 1.0 foot: CONCRETE
						1.0 to 1.5 feet: SANDY GRAVEL (GP), fine to medium gravel, fine to medium sand, brown, moist. (FILL)
	4					1.5 to 3.5 feet: SAND (SP), fine to medium, trace coarse sand, dark gray to black, moist, some wood debris. Six inches recovery.
	5					
	6					
	6					3.5 to 4.0 feet: SAND (SP), fine to medium, abundant organic matter, trace wood debris, slight odor, black, moist.
SS/*KT-2-0892	8					
	9					4.0 to 6.5 feet: SAND (SP), fine to medium, trace coarse sand, light gray, moist.
	5	▽	5			@ 5.0 feet: wet.
	5					
	7					
						Bottom of boring at 6.5 feet.
						Abandoned with bentonite chips to 1.5 feet bgs. Concrete to the surface.
			10			

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	KT- 3A
LOCATION	Kiln Trunion	PAGE	1 OF 1
DRILLED BY	Geoboring	GROUND ELEV.	N/A
DRILL METHOD	HSA	TOTAL DEPTH	5.00'
LOGGED BY	Sharon Burkett	DATE COMPLETED	08/24/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 1.0 foot: CONCRETE
						1.0 to 1.5 feet: SANDY GRAVEL (GP), fine to medium gravel, fine to medium sand, brown, moist. (FILL)
	6					**1.5 to 3.3 feet: SAND (SP)**, fine to medium, trace coarse sand, trace fine gravel, few orange mottles, gray brown, moist.
	4					
	4					
	3					**3.3 to 3.5 feet: SANDY SILT (ML)**, fine to medium sand, brown, moist. White granular substance 1 cm in diameter in the silt.
SS/*KT-3A-0892	8					**3.5 to 3.75 feet: SAND (SP)**, fine to medium, trace coarse sand, gray brown, moist.
	12	▽	5			**3.75 to 5.0 feet: SAND (SP)**, fine to medium, with wood fragments, black, moist. @ 4.75 feet: wet.
						Bottom of boring at 5.0 feet.
			10			Abandoned with bentonite chips to 1.5 feet bgs. Concrete to the surface.

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	BORING NO.	**KT- 3B**
LOCATION	**Kiln Trunion**	PAGE	**1 OF 1**
DRILLED BY	**Geoboring**	GROUND ELEV.	**N/A**
DRILL METHOD	**HSA**	TOTAL DEPTH	**5.00'**
LOGGED BY	**Sharon Burkett**	DATE COMPLETED	**08/24/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 10-inches: CONCRETE
						10-inches to 2.0 feet: SANDY GRAVEL (GP), medium to coarse gravel, angular, some concrete debris, moist. (FILL)
						2.0 to 3.5 feet: SAND (SP), fine to medium, trace coarse sand, trace fine gravel, gray brown with orange mottles, moist.
						3.5 to 4.0 feet: WOOD (WOOD), dark brown to black.
						4.0 to 5.0 feet: SAND (SP), fine to medium, trace coarse sand, trace gravel, gray brown, moist to wet. @ 4.5 feet: wet.
			5			Bottom of boring at 5.0 feet. Abandoned with bentonite chips to 1 foot bgs. Concrete to the surface.
			10			

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	BORING NO.	**KT- 4A**
LOCATION	**Kiln Trunion**	PAGE	**1 OF 1**
DRILLED BY	**Geoboring**	GROUND ELEV.	**N/A**
DRILL METHOD	**HSA**	TOTAL DEPTH	**5.50'**
LOGGED BY	**Sharon Burkett**	DATE COMPLETED	**08/24/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 1.0 foot: SANDY GRAVEL (GP), fine to coarse, angular, fine to medium sand, gray brown, dry to damp. (FILL)
	2					**1.0 to 3.75 feet: SAND (SP)**, medium to coarse sand, trace fine sand, trace fine gravel, brown, moist to wet.
	1					
	2					
	1					
SS/*KT-4A-0892	2	▽				
	2					@ 3.5 feet: wet.
	3					**3.75 to 4.5 feet: WOOD DEBRIS (WOOD)**, dark brown, loose, wet.
	4					**4.5 to 5.5 feet: SAND (SP)**, fine to medium, dark gray to black, wet.
	8		5			Bottom of boring at 5.5 feet.
						Abandoned with bentonite chips to 1 foot bgs. Gravel to the surface.
			10			

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photolonization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	BORING NO.	**KT- 4B**
LOCATION	**Kiln Trunion**	PAGE	**1 OF 1**
DRILLED BY	**Geoboring**	GROUND ELEV.	**N/A**
DRILL METHOD	**HSA**	TOTAL DEPTH	**4.00'**
LOGGED BY	**Sharon Burkett**	DATE COMPLETED	**08/24/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 1.0 feet: SANDY GRAVEL (GP), fine to medium sand, fine to coarse gravel, angular, gray brown, dry to damp. (FILL)
	2					**1.0 to 2.5 feet: SAND (SP)**, medium to coarse, trace fine sand, brown, damp to moist.
	1					
	3					
SS/*KT-4B-0892	3	▽				**2.5 to 4.0 feet: SAND (SP)**, fine to medium, trace fine gravel, trace wood fragments, dark gray, moist to wet.
	5					@ 3.0 feet: wet.
	10					
						Bottom of boring at 4.0 feet.
			5			Abandoned with bentonite chips to 1 foot bgs. Gravel to the surface.
			10			

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	KT- 5A
LOCATION	Kiln Trunion	PAGE	1 OF 1
DRILLED BY	Geoboring	GROUND ELEV.	N/A
DRILL METHOD	HSA	TOTAL DEPTH	5.50'
LOGGED BY	Sharon Burkett	DATE COMPLETED	08/24/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 4-inches: ASPHALT
						4-inches to 1 foot: SANDY GRAVEL (GP), fine to coarse gravel, angular to subrounded, trace cobbles, gray brown, dry to moist. (FILL)
	7					1.0 to 3.5 feet: SAND (SP), fine to coarse, gray brown, loose, moist.
	11					
	11					@ 2.2 to 2.3 feet: SAND (SW), coarse, gray brown.
	3					
	4					
SS/*KT-5A-0892	6	▽				3.5 to 5.5 feet: SAND (SP), fine to coarse, trace gravel, rusty orange brown, moist to wet, few black mottles.
	3					@ 4.0 feet: wet, color change to dark gray.
	4					
	5		5			
						Bottom of boring at 5.5 feet.
						Abandoned with bentonite chips to 1 foot bgs. Concrete to the surface.
			10			

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	KT- 5B
LOCATION	Kiln Trunion	PAGE	1 OF 1
DRILLED BY	Geoboring	GROUND ELEV.	N/A
DRILL METHOD	HSA	TOTAL DEPTH	4.00'
LOGGED BY	Sharon Burkett	DATE COMPLETED	08/24/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 5-inches: ASPHALT, black staining on surface, very soft.
						5-inches to 1.0 foot: SANDY GRAVEL (GP), fine to medium sand, fine to medium gravel, brown, moist. (FILL)
	8					**1.0 to 3.0 feet: SAND (SP)**, fine to medium, trace coarse sand, loose, moist, gray brown.
	10					
	12					@ 2.3 to 2.5 feet: orange mottles.
SS/*KT-5B-0892	14					
	9					**3.0 to 3.2 feet: GRAVEL (GP)**, angular, black, medium to coarse.
	12	▽				**3.2 to 4.0 feet: SAND (SP)**, fine to medium, trace coarse sand, gray brown, wet.
						@ 3.5 feet: wet.
			5			Bottom of boring at 4.0 feet.
			10			

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME **Weyerhaeuser - Everett, Phase 2**
LOCATION **Compressor Spill Area**
DRILLED BY **Geoboring**
DRILL METHOD **HSA**
LOGGED BY **Sharon Burkett**

BORING NO. **PC- 1**
PAGE **1 OF 1**
GROUND ELEV. **N/A**
TOTAL DEPTH **8.50'**
DATE COMPLETED **08/25/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 3-inches: ASPHALT.
		10					**3-inches to 1.0 foot: SANDY GRAVEL (GP)**, fine to medium sand, fine to coarse gravel, angular to subrounded, wood fragments (railroad tie), brown, loose, moist. (FILL)
		11					
		12					**1.0 to 8.2 feet: SAND (SP)**, fine to medium, trace coarse sand, brown, loose, moist to wet.
SS/*PC-1-0892		6					@ 2.5 feet: hydrocarbon-like odor.
		6					@ 3.5 feet: wet.
		7					@ 4.0 to 5.5 feet: strong hydrocarbon-like odor, oily, iridescent sheen.
		4					Set well point from 3.0 to 5.5 feet, pulled up auger, purged with peristaltic pump. Water sample PC-1-0892W.
		5					@ 5.5 to 7.0 feet: slight iridescence, slight hydrocarbon-like odor.
		9		5			
		5					
		6					
		13					**8.2 to 8.5 feet: SAND (SW)**, fine to medium, black, strong hydrocarbon odor, wet.
		9					@ 8.4 feet: SILT (ML), with abundant wood fragments, strong hydrogen sulfide odor, gray.
		9					Bottom of boring at 8.5 feet.
		9		10			
							Abandoned with bentonite chips to 0.5 feet.
							Concrete to the surface.
				15			
				20			

TPH 270 5 7

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	PC- 2
LOCATION	Compressor Spill Area	PAGE	1 OF 1
DRILLED BY	Geoboring	GROUND ELEV.	N/A
DRILL METHOD	HSA	TOTAL DEPTH	11.00'
LOGGED BY	Sharon Burkett	DATE COMPLETED	08/25/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 3-inches: ASPHALT.
		23					3-inches to 1.0 foot: SANDY GRAVEL (GP), fine to coarse gravel, fine to medium sand, brown, loose, dry to damp. (FILL)
		50/6"					
SS/*PC-2-0892		17					1.0 to 2.5 feet: SAND (SP), fine to medium, trace coarse sand, very dense, several lenses of sand appear to be cemented together.
		26	▽				
		23					2.5 to 3.0 feet: SAND (SP), fine to medium, trace coarse sand, dark gray to black, moist.
		6					
		8					
		10		5			3.0 to 6.0 feet: SAND (SP), increasing coarse sand, slight odor.
							@ 3.5 feet: wet.
		3					Set point from 3.5 to 6.0 feet. Pulled up auger, purged with peristaltic pump. Water sample: PC-2-0892W.
		6					
		19					6.0 to 7.5 feet: SAND (SP), fine to medium, dark gray with black mottles, slight odor.
		8					
		11					7.5 to 10.0 feet: SAND (SP), fine to medium, trace coarse sand, dark gray to black, slight hydrogen sulfide odor, wet.
		23					
		2					
		1		10			10.0 to 11.0 feet: SILT (ML), with abundant wood fragments, gray, wet.
		1					
							Bottom of boring at 11.0 feet.
							Abandoned with bentonite chips to 0.5 feet bgs. Concrete to the surface.
				15			
				20			

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	PC- 3
LOCATION	Compressor Spill Area	PAGE	1 OF 1
DRILLED BY	Geoboring	GROUND ELEV.	N/A
DRILL METHOD	HSA	TOTAL DEPTH	10.00'
LOGGED BY	Sharon Burkett	DATE COMPLETED	08/25/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 3-inches: ASPHALT.
		3					3-inches to 1.0 foot: SANDY GRAVEL (GP), fine to medium sand, fine to medium gravel, trace wood fragments, loose, brown, dry. (FILL)
		5					
		6					1.0 to 6.0 feet: SAND (SP), fine to medium, trace coarse sand, orange-brown, damp, trace wood fragments from 1.0 to 1.5 feet, trace fine gravel.
SS/*PC-3-0892		4					
		6	▽				
		8					@ 3.0 feet: color change to gray.
		4					@ 3.5 feet: wet.
		5		5			Set well point from 3.0 to 5.5 feet. Pulled up auger, purged with peristaltic pump. Water sample: PC-3-0892W.
		9					
		6					6.0 to 9.0 feet: SAND (SP), fine to medium, gray, wet.
		9					
		19					
		4					@ 7.5 feet: color change to orange brown. Trace coarse sand.
		8					
		18					
		3					9.0 to 9.7 feet: SAND (SW), fine, black, slight odor.
		3					
		3		10			9.7 to 10.0 feet: SILT (ML), dark gray to black at top of unit becoming light gray with depth. Abundant wood fragments.
							Bottom of boring at 10.0 feet.
							Abandoned with bentonite chips to 0.5 feet. Concrete to the surface.
				15			
				20			

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photolonization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME **Weyerhaeuser - Everett, Phase 2**
LOCATION **Compressor Spill Area**
DRILLED BY **Geoboring**
DRILL METHOD **HSA**
LOGGED BY **Sharon Burkett**

BORING NO. **PC- 4**
PAGE **1 OF 1**
GROUND ELEV. **N/A**
TOTAL DEPTH **10.00'**
DATE COMPLETED **08/25/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 3-inches: ASPHALT, very soft.
		15					**3-inches to 1.5 feet: SANDY GRAVEL (GP)**, fine to medium sand, fine to coarse gravel, angular to subrounded, loose, dry to damp, brown. (FILL)
		14					
		13					**1.5 to 4.0 feet: SAND (SP)**, fine to medium, trace coarse sand, brown, damp to wet.
SS/*PC-4-0892		7					
		4	▽				@ 3.5 feet: wet.
		7					
		3					**4.0 to 5.5 feet: SAND (SP)**, fine to medium, trace coarse sand, brown, wet, slight oily sheen.
		7					
		8		5			Set well point from 3.0 to 5.5 feet. Pulled up auger, purged with peristaltic pump. Water sample: PC-4-0892W
		4					**5.5 to 8.0 feet: SAND (SP)**, fine to coarse, brown, wet, no sheen or odor.
		6					
		10					
		14					
		16					**8.0 to 9.7 feet: SAND (SP)**, fine to coarse, some fine gravel, dark gray.
		18					
		15					
		3					
		8		10			**9.7 to 10.0 feet: SILT (ML)**, abundant organic matter. Strong hydrogen sulfide odor, gray.
							Bottom of boring at 10.0 feet.
							Abandoned with bentonite chips to 0.5 feet. Concrete to the surface.
				15			
				20			

REMARKS

Drilled with Mobile B-61, 6 1/4-inch hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split barrel sampler. PID = photoionization detector. Background reading = less than 1 ppm. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	HA- 1
LOCATION	Bunker C Tank	PAGE	1 OF 1
DRILLED BY	EMCON Northwest, Inc.	GROUND ELEV.	N/A
DRILL METHOD	Hand Auger	TOTAL DEPTH	3.25'
LOGGED BY	Carl/Garson	DATE COMPLETED	08/28/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 3.1 feet: SAND AND GRAVEL (SP). (FILL)
						@ 6-inches: sand moist.
						@ 3.0 feet: sand moist.
*HA-1-A						Bottom of borehole at 3.1 feet. Auger meets refusal.
			5			
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	HA- 2
LOCATION	Bunker C Tank	PAGE	1 OF 1
DRILLED BY	EMCON Northwest, Inc.	GROUND ELEV.	N/A
DRILL METHOD	Hand Auger	TOTAL DEPTH	3.50'
LOGGED BY	Carl/Garson	DATE COMPLETED	08/28/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 3.5 feet: SAND AND GRAVEL (SP). (FILL)
						@ 6-inches: sand moist.
*HA-2-A						@ 3.0 feet: black sand with gravel, wood chips, hydrocarbon-like odor.
						Bottom of borehole at 3.5 feet. Auger meets refusal.
			5			
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	HA- 3
LOCATION	Bunker C Tank	PAGE	1 OF 1
DRILLED BY	EMCON Northwest, Inc.	GROUND ELEV.	N/A
DRILL METHOD	Hand Auger	TOTAL DEPTH	2.50'
LOGGED BY	Carl/Garson	DATE COMPLETED	08/28/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 1.0 feet: SAND AND GRAVEL (SP). (FILL) @ 6-inches: sand damp.
*HA-3-1						**1.0 to 2.5 SAND (SM),** black with abundant wood debris, hydrocarbon-like odor. @ 1.3 feet: difficulty augering deeper.
			5			Bottom of borehole at 2.5 feet. Auger meets refusal.
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	HA- 4
LOCATION	Bunker C Tank	PAGE	1 OF 1
DRILLED BY	EMCON Northwest, Inc.	GROUND ELEV.	N/A
DRILL METHOD	Hand Auger	TOTAL DEPTH	4.50'
LOGGED BY	Carl/Garson	DATE COMPLETED	08/28/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 2.5 feet: SAND WITH GRAVEL (SP). (FILL)
						@ 6-inches: sand damp.
						@ 2.5 feet: auger encountered difficulty.
*HA-4-A				■		**2.5 to 4.5 feet: SAND (SM),** black with abundant wood debris, hydrocarbon-like odor.
		▽				@ 4.5 feet: sand wet.
			5			Bottom of borehole at 4.5 feet.
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	BORING NO.	**HA- 5**
LOCATION	**Bunker C Tank**	PAGE	**1 OF 1**
DRILLED BY	**EMCON Northwest, Inc.**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hand Auger**	TOTAL DEPTH	**1.50'**
LOGGED BY	**Carl/Garson**	DATE COMPLETED	**08/28/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 1.5 feet: SAND WITH GRAVEL (SP). (FILL)
						@ 1.0 feet: sand damp.
						Bottom of borehole at 1.5 feet. Auger meets refusal.
			5			
			10			

REMARKS

No sample collected. Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	BORING NO.	**HA- 6**
LOCATION	**Bunker C Tank**	PAGE	**1 OF 1**
DRILLED BY	**EMCON Northwest, Inc.**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hand Auger**	TOTAL DEPTH	**2.00'**
LOGGED BY	**Carl/Garson**	DATE COMPLETED	**08/28/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*HA-6-1			5			**0 to 2.0 feet: SAND WITH GRAVEL (SP).** (FILL) @ 6-inches: sand damp. @ 1.5 feet: difficult to auger, abundant wood debris. Bottom of borehole at 2.0 feet.
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	HA- 7
LOCATION	Bunker C Tank	PAGE	1 OF 1
DRILLED BY	EMCON Northwest, Inc.	GROUND ELEV.	N/A
DRILL METHOD	Hand Auger	TOTAL DEPTH	2.50'
LOGGED BY	Carl/Garson	DATE COMPLETED	08/28/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 2-inches: GRAVEL WITH SAND (GP), moist. (FILL)
						2-inches to 2.5 feet: SAND WITH GRAVEL (SP).
*HA-7-A		▽		■		@ 2.3 feet: sand wet, difficulty augering.
			5			Bottom of borehole at 2.5 feet.
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	HA- 8
LOCATION	Bunker C Tank	PAGE	1 OF 1
DRILLED BY	EMCON Northwest, Inc.	GROUND ELEV.	N/A
DRILL METHOD	Hand Auger	TOTAL DEPTH	5.00'
LOGGED BY	Carl/Garson	DATE COMPLETED	08/28/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 6-inches: SAND WITH GRAVEL (SP), moist. (FILL)
*HA-8-A						6-inches to 5.0 feet: SAND (SM), black sand with abundant wood debris. (DREDGE SAND)
		▽				@ 3.0 feet: sand wet.
						@ 4.0 feet: slight obstruction.
			5			Bottom of borehole at 5.0 feet.
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	HA- 9
LOCATION	Bunker C Tank	PAGE	1 OF 1
DRILLED BY	EMCON Northwest, Inc.	GROUND ELEV.	N/A
DRILL METHOD	Hand Auger	TOTAL DEPTH	1.50'
LOGGED BY	Carl/Garson	DATE COMPLETED	08/28/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*HA-9-A			5			0 to 1.5 feet: SAND WITH GRAVEL (SP). (FILL) @ 1.2 to 1.5 feet: sand with gravel and abundant wood chips. Bottom of borehole at 1.5 feet. Auger meets refusal.
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	BORING NO.	**HA-10**
LOCATION	**Bunker C Tank**	PAGE	**1 OF 1**
DRILLED BY	**EMCON Northwest, Inc.**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hand Auger**	TOTAL DEPTH	**5.20'**
LOGGED BY	**Carl/Garson**	DATE COMPLETED	**08/28/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 1.0 feet: SAND WITH GRAVEL (SP). (FILL)
						@ 5-inches: sand moist.
*HA-10-A				■		**1.0 to 5.2 feet: SAND (SM),** black with abundant wood debris.
*HA-10-B				■		@ 4.0 feet: slight obstruction.
		▽	5			@ 4.5 feet: wet sand.
						@ 5.0 feet: water in borehole.
			10			Bottom of borehole at 5.2 feet. Auger meets refusal.

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	HA-11
LOCATION	Bunker C Tank	PAGE	1 OF 1
DRILLED BY	EMCON Northwest, Inc.	GROUND ELEV.	N/A
DRILL METHOD	Hand Auger	TOTAL DEPTH	1.80'
LOGGED BY	Carl/Garson	DATE COMPLETED	08/28/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 6-inches: SAND WITH GRAVEL (SP). (FILL)
*HA-11-A				■		6-inches to 1.8 feet: SAND (SM), black sand with abundant wood fragments.
			5			Bottom of borehole at 1.8 feet. Auger meets refusal.
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	BORING NO.	**HA-12**
LOCATION	**Bunker C Tank**	PAGE	**1 OF 1**
DRILLED BY	**EMCON Northwest, Inc.**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hand Auger**	TOTAL DEPTH	**5.00'**
LOGGED BY	**Carl/Garson**	DATE COMPLETED	**08/28/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 6-inches: SAND WITH GRAVEL (SP). (FILL)
*HA-12-A				■		**6-inches to 3.0 feet: BLACK AND RED WOOD CHIPS WITH SAND** (80 to 90 percent chips).
*HA-12-B		▽	5	■		**3.0 to 5.0 feet: SAND (SM),** black, with wood debris. @ 4.9 feet: water in hole.
			10			Bottom of borehole at 5.0 feet.

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	BORING NO.	HA-13
LOCATION	Bunker C Tank	PAGE	1 OF 1
DRILLED BY	EMCON Northwest, Inc.	GROUND ELEV.	N/A
DRILL METHOD	Hand Auger	TOTAL DEPTH	1.50'
LOGGED BY	Carl/Garson	DATE COMPLETED	08/28/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*HA-13-A						0 to 4-inches: BLACK SAND (SM).
						4-inches to 1.5 feet: SAND WITH GRAVEL (SP), gray. (FILL)
*HA-13-B						Bottom of borehole at 1.5 feet. Auger refusal.
			5			
			10			

REMARKS

Approximately 100 square feet of surface is stained black immediately around tank spiggot. Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	BORING NO.	**HA-14**
LOCATION	**Bunker C Tank**	PAGE	**1 OF 1**
DRILLED BY	**EMCON Northwest Inc.**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hand Auger**	TOTAL DEPTH	**4.80'**
LOGGED BY	**Carl/Garson**	DATE COMPLETED	**08/28/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 1.8 feet: SAND WITH GRAVEL (SP). (FILL)
						@ 1.6 to 1.8 feet: brown-red sand with wood debris, very moist. Grades to almost 100 percent wood.
						1.8 to 4.8 feet: RED-BLACK WOOD CHIPS AND ORGANIC DEBRIS (WOOD), moist.
*HA-14-A		▽		■		@ 3.7 feet: wood chips, wet.
			5			Bottom of borehole at 4.8 feet.
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME **Weyerhaeuser - Everett, Phase 2**
LOCATION **Bunker C Tank**
DRILLED BY **Inc.**
DRILL METHOD **Hand Auger**
LOGGED BY **Carl/Garson**

BORING NO. **HA-15**
PAGE **1 OF 1**
GROUND ELEV. **N/A**
TOTAL DEPTH **1.50'**
DATE COMPLETED **08/28/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 8-inches: SAND WITH GRAVEL (SP). (FILL)
*HA-15-A				■		8-inches to 1.5 feet: WOOD CHIPS AND ORGANIC DEBRIS (WOOD), difficult to auger.
						Bottom of borehole at 1.5 feet. Auger met refusal.

5

10

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME **Weyerhaeuser - Everett, Phase 2**
LOCATION **Bunker C Tank**
DRILLED BY **Inc.**
DRILL METHOD **Hand Auger**
LOGGED BY **Carl/Garson**

BORING NO. **HA-16**
PAGE **1 OF 1**
GROUND ELEV. **N/A**
TOTAL DEPTH **3.00'**
DATE COMPLETED **08/28/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 8-inches: SAND WITH GRAVEL (SP). (FILL)
*HA-16-A				■		**8-inches to 3.0 feet: SAND (SM),** medium, dark brown, moist.
						@ 1.0 foot, light brown sand.
*HA-16-B				■		@ 2.5 to 2.8 feet: sand black, damp, with abundant wood debris.
						Bottom of boring at 3.0 feet. Auger met refusal.
			5			
			10			

REMARKS

Drilled with a 4-inch I.D. hand auger. NA = not surveyed. * = Sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	TEST PIT NO.	TP92-24
LOCATION	**Sandblast Shed Area**	PAGE	1 OF 1
DUG BY	**A.L. Sleister**	GROUND ELEV.	N/A
METHOD	**Backhoe**	TOTAL DEPTH	2.00'
LOGGED BY	**Nick Garson**	DATE COMPLETED	09/02/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab			5			**0 to 2.0 feet: SAND (SP/SM)**, dark gray, fine to medium, trace silt, dry. (FILL)
			10			Bottom of Test Pit = 2.0 feet.

REMARKS

Test pits were excavated using a track hoe and backfilled following sample collection. N/A = not surveyed. * = Sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	TEST PIT NO.	TP92-25
LOCATION	Sandblast Shed Area	PAGE	1 OF 1
DUG BY	A.L. Sleister	GROUND ELEV.	N/A
METHOD	Backhoe	TOTAL DEPTH	2.00'
LOGGED BY	Nick Garson	DATE COMPLETED	09/02/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 0.5 foot: SAND/GRAVEL (SP), brown to black, fine to medium sand with fine gravel, trace silt, dry. (FILL)
						0.5 to 2.0 feet: SAND (SP/SM), dark gray, fine to medium, trace fine gravel, dry. (FILL)
*Grab						
						Bottom of Test Pit = 2.0 feet.
			5			
			10			

REMARKS

Test pits were excavated using a track hoe and backfilled following sample collection. N/A = not surveyed. * = Sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	TEST PIT NO.	TP92-26
LOCATION	Sandblast Shed Area	PAGE	1 OF 1
DUG BY	A.L. Sleister	GROUND ELEV.	N/A
METHOD	Backhoe	TOTAL DEPTH	2.00'
LOGGED BY	Nick Garson	DATE COMPLETED	09/02/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 0.5 foot: SAND/GRAVEL (SP), brown to black, fine to medium sand with fine gravel, trace silt, dry. (FILL)
						0.5 to 2.0 feet: SAND (SP/SM), dark gray, fine to medium, trace fine gravel, dry. (FILL)
*Grab						
						Bottom of Test Pit = 2.0 feet.
			5			
			10			

REMARKS

Test pits were excavated using a track hoe and backfilled following sample collection. N/A = not surveyed. * = Sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	TEST PIT NO.	TP92-27
LOCATION	Sandblast Shed Area	PAGE	1 OF 1
DUG BY	A.L. Sleister	GROUND ELEV.	N/A
METHOD	Backhoe	TOTAL DEPTH	2.00'
LOGGED BY	Nick Garson	DATE COMPLETED	09/02/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 0.5 foot: SAND/GRAVEL (SP), brown to black, fine to medium sand with fine gravel, trace silt, dry. (FILL)
						0.5 to 2.0 feet: SAND (SP/SM), dark gray, fine to medium, trace fine gravel, dry. (FILL)
*Grab						
						Bottom of Test Pit = 2.0 feet.
			5			
			10			

REMARKS

Test pits were excavated using a track hoe and backfilled following sample collection. N/A = not surveyed. * = Sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**Weyerhaeuser - Everett, Phase 2**	TEST PIT NO.	**TP92-28**
LOCATION	**Sandblast Shed Area**	PAGE	**1 OF 1**
DUG BY	**A.L. Sleister**	GROUND ELEV.	**N/A**
METHOD	**Backhoe**	TOTAL DEPTH	**2.00'**
LOGGED BY	**Nick Garson**	DATE COMPLETED	**09/02/92**

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 0.5 foot: SAND/GRAVEL (SP), brown to black, fine to medium sand with fine gravel, trace silt, dry. (FILL)
						0.5 to 2.0 feet: SAND (SP/SM), dark gray, fine to medium, trace fine gravel, dry. (FILL)
*Grab						
						Bottom of Test Pit = 2.0 feet.
			5			
			10			

REMARKS

Test pits were excavated using a track hoe and backfilled following sample collection. N/A = not surveyed. * = Sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	TEST PIT NO.	TP92-29
LOCATION	Sandblast Shed Area	PAGE	1 OF 1
DUG BY	A.L. Sleister	GROUND ELEV.	N/A
METHOD	Backhoe	TOTAL DEPTH	2.00'
LOGGED BY	Nick Garson	DATE COMPLETED	09/02/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 0.5 foot: SAND/GRAVEL (SP), brown to black, fine to medium sand with fine gravel, trace silt, dry. (FILL)
						0.5 to 2.0 feet: SAND (SP/SM), dark gray, fine to medium, trace fine gravel, dry. (FILL)
*Grab						
						Bottom of Test Pit = 2.0 feet.
			5			
			10			

REMARKS

Test pits were excavated using a track hoe and backfilled following sample collection. N/A = not surveyed. * = Sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	Weyerhaeuser - Everett, Phase 2	TEST PIT NO.	TP92-30
LOCATION	Sandblast Shed Area	PAGE	1 OF 1
DUG BY	A.L. Sleister	GROUND ELEV.	N/A
METHOD	Backhoe	TOTAL DEPTH	2.00'
LOGGED BY	Nick Garson	DATE COMPLETED	09/02/92

SAMPLING METHOD AND NUMBER	PID (in ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
						0 to 0.5 foot: SAND/GRAVEL (SP), brown to black, fine to medium sand with fine gravel, trace silt, dry. (FILL)
						0.5 to 2.0 feet: SAND (SP/SM), dark gray, fine to medium, trace fine gravel, dry. (FILL)
*Grab						
						Bottom of Test Pit = 2.0 feet.
			5			
			10			

REMARKS

Test pits were excavated using a track hoe and backfilled following sample collection. N/A = not surveyed. * = Sample submitted for laboratory analysis.

ATTACHMENT D

SAND BLAST SHED, SOIL SAMPLING
TOTAL METALS ANALYSES
EVERETT FACILITY
JANUARY 15, 1993
(Revised May 1994)

Mr. Harold Ruppert
Weyerhaeuser Paper Company
101 East Marine View Drive
Everett, Washington 98201

Re: Sand Blast Shed (January 15, 1993)
Soil Sampling - Total Metals Analyses
Everett West Site

Dear Mr. Ruppert:

EMCON Northwest, Inc., is pleased to present this letter report detailing follow-up soil sampling performed at the Weyerhaeuser Everett West Site.

Six "grab" soil samples were collected December 2, 1992, in the vicinity of the sandblast shed at locations shown on Figure D-1. The soil samples were submitted to Weyerhaeuser Testing Services of Federal Way, Washington, for total metals analysis. This information supplements the analyses of soil samples collected earlier in 1992 from test pits TP-92-26, TP-92-27, TP-92-28, TP-92-29, and TP-92-30 (also shown on Figure D-1). Those earlier samples were submitted for analysis by the Toxicity Characteristic Leaching Procedure (TCLP) for metals and were not analyzed for total metals. Laboratory data for the above-mentioned grab samples are summarized in Table D-1. The total metals laboratory reports are included in Attachment D-1.

Grab samples were collected by hand-shoveling a shallow (6- to 12-inch-deep) hole and scooping the soil from 2 to 6 inches below ground surface directly into a prelabelled sample jar. Sample description summaries are as follows:

- Grab-1-1292: sand, medium to coarse grained, some gravel, medium brown to dark gray-brown, moist

- Grab-2-1292: sand, medium brown, moist, a 1-inch-thick white layer 3 inches below ground surface

- Grab-3-1292: 0 to 3 inches: sand, medium grained, yellow-brown, some wood chips; 3 to 5 inches: sand, fine to medium grained, dark brown, some wood chips

- Grab-4-1292: sand, coarse to medium grained, some fine gravel, medium brown with dark gray lenses or streaks
- Grab-5-1292: sand, medium grained, trace gravel, medium brown to medium gray, spotty iron staining and black stringers in sands
- Grab-6-1292: sand, silt, and fine gravel, light to dark brown, one 4-inch cobble in sample hole

If you have any questions regarding these data, please call me.

Sincerely,

EMCON Northwest, Inc.

John H. Guenther
Project Manager

Steven R. Sagstad, R.G.
Director of Geology Services

Attachments: Table D-1
Figure D-1

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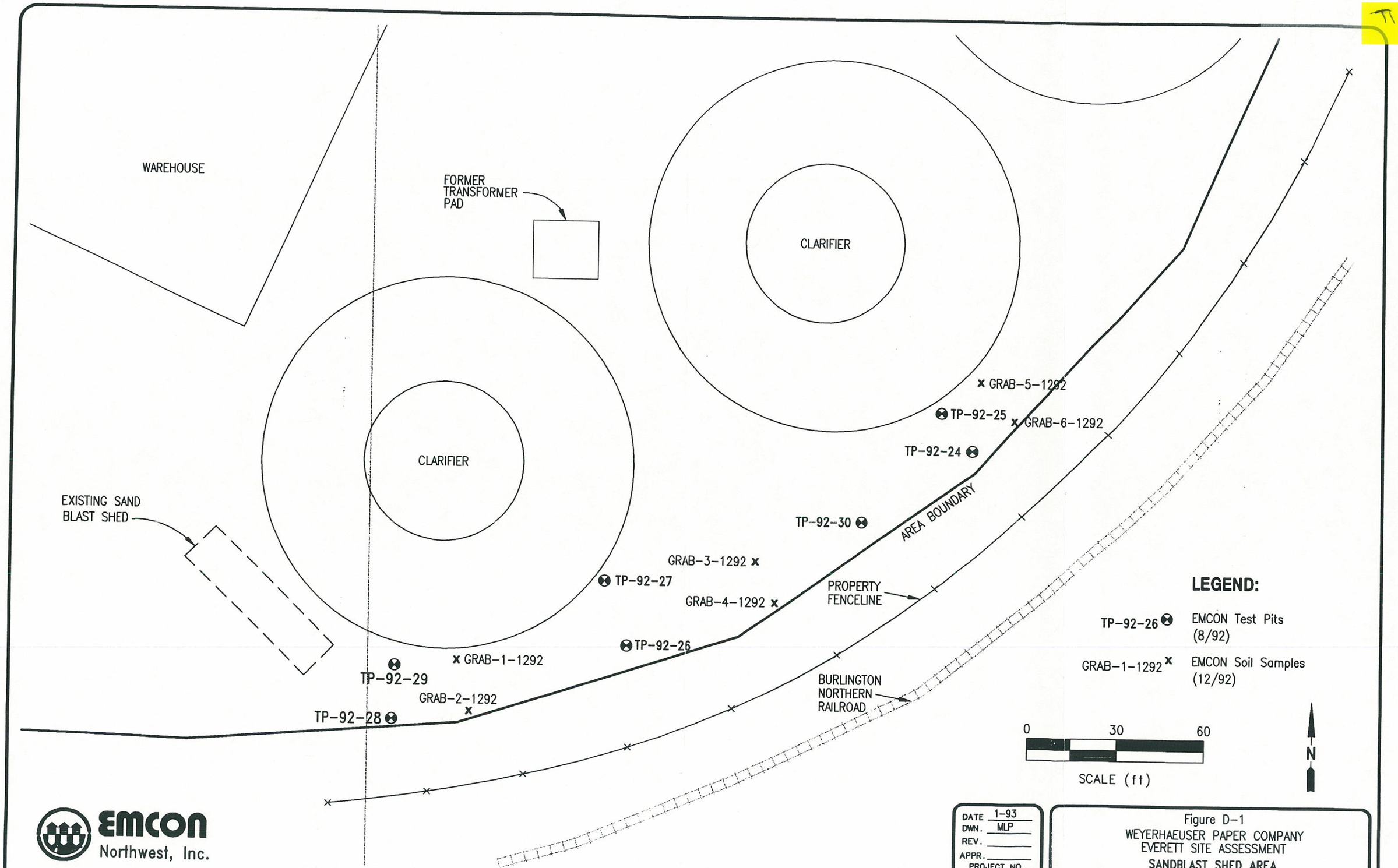
Table D-1

Summary of Grab Sample Laboratory Results
Sand Blast Shed
Weyerhaeuser Everett West Site

Total Metal	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
	Compound reported in mg/kg, dry basis							
EPA Method Number	3050/ 6010	3050/ 7060	3050/ 6010	3050/ 6010	3050/ 6010	7471	3050/ 7421	3050/ 7740
Sample Name								
Grab-1-1292	<1	24	48	<1	38	<0.1	59	<0.4
Grab-2-1292	<1	61	57	<1	27	<0.1	34	<0.4
Grab-3-1292	<1	219	53	<1	23	<0.1	12	<0.4
Grab-4-1292	<1	111	34	<1	45	<0.1	65	<0.4
Grab-5-1292	<1	21	41	<1	30	1.4	1,000	<0.4
Grab-6-1292	<1	22	48	<1	39	0.8	48	<0.4

NOTE: <1 = not detected at indicated laboratory detection limit.



EMCON Northwest, Inc.

DATE	1-93
DWN.	MLP
REV.	
APPR.	
PROJECT NO.	0141-037.26

Figure D-1
WEYERHAEUSER PAPER COMPANY
EVERETT SITE ASSESSMENT
SANDBLAST SHED AREA
TEST PIT AND GRAB SAMPLE LOCATIONS

1= 30 05-17-94 J:\DATA\DWG\0141\037\26C08

ATTACHMENT D-1

PRIORITY SAMPLING AND SAND BLAST SHED SAMPLING LABORATORY REPORTS

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

December 31, 1992

Mr. John North
EMCON Northwest
18912 North Creek Parkway
Suite 100
Bothell, WA. 98011

JAN - 4 1993

Dear John:

Enclosed are the results from the samples you requested we analyze for you. This work has been performed under our service request number 10403.

If you have any technical questions concerning the results please contact me at (206) 924-6148.

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

Sincerely,

Kari Doxsee

Kari H. Doxsee, Lab Manager
Analytical Chemistry Department
Weyerhaeuser Analysis & Testing Services

Enclosure

cmw

cc: Anne Budworth - WTC 2F25

WEYERHAEUSER COMPANY
ANALYTICAL LABORATORIES
ATOMIC SPECTROSCOPY
Tacoma, WA

Everett/Phase II - Emcon Northwest Soil
SR 10403
Total Metals Analysis

Element	00705 GRAB-1-1292 1416 Soil	00706 GRAB-2-1292 1420 Soil	00707 GRAB-3-1292 Soil 1430	00708 GRAB-4-1292 Soil 1435	00709 GRAB-5-1292 Soil 1440	00710 GRAB-6-1292 Soil 1445	EPA Method Number
			(mg/kg, dry basis)				
Ag	1	1	<1	1	<1	1	3050/6010
As	24	61	219	111	21	22	3050/7060
Ba	48	57	53	34	41	48	3050/6010
Cd	<1	<1	<1	<1	<1	<1	3050/6010
Cr	38	27	23	45	30	39	3050/6010
Hg	<0.1	<0.1	<0.1	<0.1	1.4	0.8	7471
Pb	59	34	12	65	1000	48	3050/7421
Se	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	3050/7740
			(% at 105C)				
Total Solids	87.5	88.7	91.0	97.8	86.3	89.1	SM 2540B

Approved _____ 12/30/92 Notebook _____

WEYERHAEUSER COMPANY
ANALYTICAL LABORATORIES
ATOMIC SPECTROSCOPY
Tacoma, WA

Everett/Phase II - Emcon Northwest Soil
SR 10403
Total Metals Analysis

Duplicate Report
(mg/kg, dry basis)

Element	Sample 00705 Found	Duplicate 00705 Found	RPD
Ag	1	1	N/A
As	24	28	15.4
Ba	48	47	2.1
Cd	< 1	< 1	N/A
Cr	38	55	36.6
Hg	<0.1	<0.1	N/A
Pb	59	62	5.0
Se	<0.4	<0.4	N/A

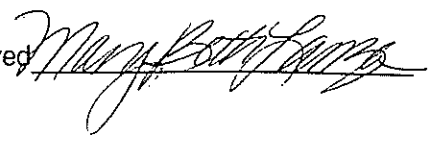
Approved Mary Beth Lamb 12/30/92 Notebook _____

ANALYTICAL LABORATORIES
ATOMIC SPECTROSCOPY
Tacoma, WA

Everett/Phase II - Emcon Northwest Soil
SR 10403
Total Metals Analysis

Spike Recovery Report
(mg/kg, dry basis)

Element	Sample 00705 Found	Spike 00705 Found	Net Spike	Spike Level	% Recovery
Ag	1.2	5.7	4.5	5.4	83.3
As	24.3	29.6	5.3	4.6	115
Ba	48	245	197	214	92.1
Cd	< 1	5	5	5	100
Cr	38	57	19	21	90.5
Hg	<0.1	0.63	0.63	0.47	134
Pb	59.0	61.6	2.6	2.3	113
Se	<0.4	0.61	0.61	1.0	61.0

Approved  12/30/92 Notebook _____

ANALYTICAL LABORATORIES
ATOMIC SPECTROSCOPY
Tacoma, WA

Everett/Phase II - Emcon Northwest Soil
SR 10403
Total Metals Analysis

Laboratory Control Sample Report
(mg/kg, as received basis)

Element	Sample Found	True Value	Lower Limit	Upper Limit	% Recovery
Ag	22.2	22.2	15.5	29	100
As	950	917	635	1199	104
Ba	5.3	4.8	0	40	110
Cd	40.0	45.4	35.7	55	88.1
Cr	88.9	99.6	79.2	120	89.3
Hg	15.2	12.7	8.5	17	120
Pb	251	236	188	285	106
Se	38.3	39.2	19.1	59	97.7

Approved [signature] 12/30/92 Notebook _____

ADDED // WINFLOW AUD

ANALYTICAL LABORATORY SERVICES REQUEST

Weyerhaeuser Research and Development - Analysis and Testing

Request Number: 09441

Title: EVERETT EMCON / PHASE II SOILS #120-2974670

Number of Samples: 35	Project Number: 046-5632	Groups: 1,3,4,6
Date Received: 08/19/92	Date Desired: 09/16/92	Estimated Completion Date: 09/16/92
Submitted By: NORTH, JOHN	Location: EMCON, NW	Telephone: 485-5000
Reviewed By: DOXSEE Kari	Location: 2F 25	Telephone: 924-6148
Project Title: WPC-EVERTT PULP	Project Leader: MIHOK	
Copy To:		

Sample Description and History:

***CLP DELIVERABLES ** CLP DELIVERABLES *** EXTRACT & HOLD ON PCB & PENTA ON DESIGNATED (**) SAMPLES

Group	Series	Test Code	Test Description		
			Report Range	Report Basis	Lower Limit of Sensitivity
1	A	WTPH-D	TPH-DIESEL		
1	B	PCB-S	PCBs on solids by GC/EC		
1	C	PENTA-S	Pentachlorophenol (PCP) on solids by GC/ECD		
1	D	PCB-S	PCBs on solids by GC/EC **EXTRACT AND HOLD**		
1	E	PENTA-S	Pentachlorophenol (PCP) on solids by GC/ECD **EXTRACT AND HOLD**		
3	F	NOCODE/1	COMPOSITE SAMPLES **SEE MDL BEFORE COMPOSITING**		
3	G	GF-2	Graphite Furnace AAS Elements - 2 **AS, PB**		
3	H	ICP-1-2	ICP Elements - 1 or 2 **CR, CU**		
3	I	HG	Mercury Analysis		
4	J	PH-S	pH of soils		

Sample Number	Series to Be Evaluated	Submitter's Designation	
94607	F	SS-1 08/14 1200 SOIL COMPOSITE WITH 94608 & 94609	08/17/92
94608	F	SS-2 08/14 1200 SOIL COMPOSITE WITH 94607 & 94609	08/17/92

Reference: 9428

Record Book:

Results Approved: Kari DOXSEE Date: 10-21-92 Signature Applies To Attached Pages:

Page Numbers: To:

Printed on: 08/20/92 at 12:24:38

ANALYTICAL LABORATORY SERVICES REQUEST

Weyerhaeuser Research and Development - Analysis and Testing

Request Number: 09441

Title: EVERETT EMCON / PHASE II SOILS #120-2974670

Sample Number	Series to Be Evaluated	Submitter's Designation	
94609	F	SS-3 08/14 1200 SOIL COMPOSITE WITH 94607 & 94608	08/17/92
94610	F	SS-4 08/14 1225 SOIL COMPOSITE WITH 94611 & 94612	08/18/92
94611	F	SS-5 08/14 1225 SOIL COMPOSITE WITH 94610 & 94612	08/18/92
94612	F	SS-6 08/14 1225 SOIL COMPOSITE WITH 94610 & 94611	08/18/92
94613	A GHI	COMPOSITE OF SS-1, SS-2 & SS-3	
94614	A GHI	COMPOSITE OF SS-4, SS-5 & SS-6	
94615	ABC	TP-97, S-1 08/14 1320 SOIL	08/17/92
94616	ABC	TP-97B S-1 08/17 0740 SOIL	08/17/92
94617	A DE	TP-97B S-2 08/17 0755 SOIL **	08/17/92
94618	ABC	TP-98 S-1 08/17 0822 SOIL	08/17/92
94619	A DE	TP-98 S-2 08/17 0840 SOIL **	08/18/92
94829	ABC	TP-99 S-1 08/18 0745 SOIL	08/19/92
94830	A DE	TP-99 S-2 08/18 0807 SOIL **	08/19/92
94831	F	TP-100 S-1 08/18 0838 SOIL COMPOSITE W/ 94832 & 94833	08/19/92
94832	F	TP-100 S-2 08/18 0852 SOIL COMPOSITE W/ 94831 & 94833	08/19/92
94833	F	TP-100 S-3 08/18 0854 SOIL COMPOSITE W/ 94831 & 94832	08/19/92
94834	A GHI	SB SURF-1 08/18 0905 SOIL	08/19/92
94835	F	TP-101 S-1 08/18 0923 SOIL COMPOSITE W/ 94858	08/19/92
94858	F	TP-101 S-2 08/18 0934 SOIL COMPOSITE W/ 94835	08/19/92
94859	F	TP-102 S-1 08/18 1035 SOIL COMPOSITE W/ 94860	08/19/92
94860	F	TP-102 S-2 08/18 1043 SOIL COMPOSITE W/ 94859	08/19/92
94861	F	TP-103 S-1 08/18 1115 SOIL COMPOSITE W/ 94862 & 94863	08/19/92
94862	F	TP-103 S-2 08/18 1125 SOIL COMPOSITE W/ 94861 & 94863	08/19/92
94863	F	TP-103 S-3 08/18 1130 SOIL COMPOSITE W/ 94861 & 94862	08/19/92
94864	F	TP-105 S-1 08/18 1255 SOIL COMPOSITE W/ 94865	08/19/92
94865	F	TP-105 S-2 08/18 1308 SOIL COMPOSITE W/ 94864	08/19/92
94866	A GHI	COMPOSITE OF TP-100 S-1, S-2, S-3	08/19/92
94867	A GHI	COMPOSITE OF TP-101 S-1, S-2	08/19/92
94868	A GHI	COMPOSITE OF TP-102 S-1, S-2	08/19/92
94869	A GHI	COMPOSITE OF TP-103 S-1, S-2, S-3	08/19/92
94870	A GHI	COMPOSITE OF TP-105 S-1, S-2	08/19/92
94871	A GHI	TP-104 S-1 08/18 1158 SOIL	08/19/92
94872	A GHIJ	SB SURF-2 08/18 1246 SOIL	08/19/92

Weyerhaeuser Analytical and Testing Services

Service Request 09441

Everett EMCON / Phase II Soils
#120-2974670

Method WTPH-D
Fuel Fingerprint

Samples were prepared per method WTPH-D and analyzed by GC/FID for diesel range and heavy oil range compounds such as motor oil. Not all recovery data are reported due to matrix interference. Results are expressed in ppm (mg/kg).

Approved ______________ Date 10/3/92

Service Request 09441
Date 10/2/92
Analyst K. Orr

Sample ID	Analyte (s)	Concentration (ppm)	Surrogate Recovery (%)
94834	Diesel Range	97	113
/ SB SURF-1 8/18 0905 SOIL	Heavy Oil Range	170	
94866	Diesel Range	90	110
/ Composite: TP-100 S-1,S-2,S-3	Heavy Oil Range	130	

WTPH-D

Service Request 09441

Sample ID	Analyte (s)	Concentration (ppm)	Surrogate Recovery (%)
94867 Composite: TP-101 S-1,S-2	Diesel Range Heavy Oil Range	43 120	117
94868 Composite: TP-102 S-1,S-2	ND	< 2	136
94869 Composite: TP-103 S-1,S-2,S-3	Heavy Oil Range	82	128
94870 Composite: TP-105 S-1,S-2	Heavy Oil Range	17	134
94871 TP-104 S-1 8/18 1158 SOIL	Diesel Range Heavy Oil Range	4 9	128
94872 SB SURF-2 8/18 1246 SOIL	Diesel Range Heavy Oil Range	710 1000	136
	Quality Control Data		
Method Blank	ND	< 2	116
94613 MS Percent Recovery	Diesel Fuel	33	-
94613 MSD Percent Recovery	Diesel Fuel	54	-
LCS Percent Recovery	Diesel Fuel	86	119

ANALYTICAL LABORATORY SERVICES REQUEST

Weyerhaeuser Research and Development – Analysis and Testing

Request Number:	09547

Title: EVERETT EMCON / PHASE II SOILS #120-2974670		
Number of Samples: 19	Project Number: 046-5632	Groups: ~~1~~, 6
Date Received: 08/28/92	Date Desired: 09/24/92	Estimated Completion Date: 09/24/92

Submitted By: NORTH, JOHN	Location: EMCON, NW	Telephone: 485-5000
Reviewed By: DOXSEE Kari	Location: 2F 25	Telephone: 924-6148
Project Title: WPC-EVERTT PULP	Project Leader: MIHOK	
Copy To:		

Sample Description and History:

** CLP DELIVERABLES ** CLP DELIVERABLES **

Group	Series	Test Code	Test Description		
			Report Range	Report Basis	Lower Limit of Sensitivity

1 A WTPH-D TPH-DIESEL

Sample Number	Series to Be Evaluated	Submitter's Designation			
95350	A	HA-1-A	08/26	1110	08/28/92
95351	A	HA-2-A	08/26	1125	08/28/92
95352	A	HA-3-A	08/26	1132	08/28/92
95353	A	HA-4-A	08/27	1150	08/28/92
95354	A	HA-6-A	08/27	1408	08/28/92
95355	A	HA-7-A	08/27	1420	08/28/92
95356	A	HA-8-A	08/27	1431	08/28/92
95357	A	HA-9-A	08/27	1450	08/28/92
95358	A	HA-10-A	08/27	1500	08/28/92
95359	A	HA-11-A	08/27	1520	08/28/92
95360	A	HA-12-A	08/27	1535	08/28/92
95361	A	HA-12-B	08/27	1545	08/28/92
95362	A	HA-10-B	08/27	1505	08/28/92
95363	A	HA-13-A	08/27	1607	08/28/92
95364	A	HA-13-B	08/27	1609	08/28/92
95365	A	HA-14-A	08/27	1620	08/28/92
95366	A	HA-15-A	08/27	1445	08/28/92
95367	A	HA-16-A	08/27	1700	08/28/92
95368	A	HA-16-B	08/27	1705	08/28/92

Reference: 9441			Record Book:
Results Approved: Kari Doxsee	Date: 10-12-92	Signature Applies To Attached Pages:	Page Numbers: To:

Printed on: 08/28/92 at 16:22:18

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

Case Number: 09547
SDG Number: HA-1-A
Contract Number: #120-2974670

Samples from this case (09547) were received on 8/28/92. This case was comprised of soil samples for WTPHD. The requested analyses were as follows:

SAMPLE ID	MATRIX	ANALYSIS REQUESTED
HA-1-A	Soil	WTPH
HA-2-A	Soil	WTPH
HA-3-A	Soil	WTPH
HA-4-A	Soil	WTPH
HA-6-A	Soil	WTPH
HA-7-A	Soil	WTPH
HA-8-A	Soil	WTPH
HA-9-A	Soil	WTPH
HA-10-A	Soil	WTPH
HA-11-A	Soil	WTPH
HA-12-A	Soil	WTPH
HA-12-B	Soil	WTPH
HA-10-B	Soil	WTPH
HA-13-A	Soil	WTPH
HA-13-B	Soil	WTPH
HA-14-A	Soil	WTPH
HA-15-A	Soil	WTPH
HA-16-A	Soil	WTPH
HA-16-B	Soil	WTPH
HA-1-A MS	Soil	WTPH
HA-1-A MSD	Soil	WTPH

Several anomalies existed with this sample set that are listed below. The anomalies are broken up into categories for ease of explanation.

1. WTPH

   a) Due to high analyte concentrations in several of these samples. The surrogate recoveries were not calculatable for WTPHD.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

10/12/92

Dennis M. Catalano
Laboratory Manager

Date

Please feel free to contact me with any questions concerning this data report. I can be reached at (206) 924-6242.

Sincerely,

Dennis M. Catalano, Manager
Organic Laboratory
Weyerhaeuser Analytical & Testing Services

Weyerhaeuser Analytical and Testing Services

Service Request 09547

Everett EMCON/Phase II Soils
#120-2974670

Method WTPH-D

Samples were prepared per method WTPH-D and analyzed by GC/FID for diesel range and heavy oil range compounds such as motor oil. Not all recovery data are reported due to high analyte concentration in the samples. Results are expressed in ppm (mg/kg).

Approved _____ Date 10/9/92

Service Request 09547
Date 10/9/92
Analyst K. Orr

Sample ID	Analyte (s)	Concentration (ppm)	Surrogate Recovery (%)
95350 HA-1-A 8/26 1110	Heavy Oil Range	63	71
95351 HA-2-A 8/26 1125	Diesel Range Heavy Oil Range	1100 1100	-
95352 HA-3-A 8/26 1132	Diesel Range Heavy Oil Range	2100 5600	-
95353 HA-4-A 8/27 1150	Diesel Range Heavy Oil Range	200 90	72
95354 HA-6-A 8/27 1408	Diesel Range Heavy Oil Range	120 380	83
95355 HA-7-A 8/27 1420	Diesel Range Heavy Oil Range	1200 1000	-
95356 HA-8-A 8/27 1431	Diesel Range Heavy Oil Range	340 520	74
95357 HA-9-A 8/27 1450	Heavy Oil Range	1000	76
95358 HA-10-A 8/27 1500	Heavy Oil Range	650	90
95359 HA-11-A 8/27 1520	Heavy Oil Range	1300	48
95360 HA-12-A 8/27 1535	Heavy Oil Range	470	69

COC
BX

Service Request 09547

Sample ID	Analyte (s)	Concentration (ppm)	Surrogate Recovery (%)
95361 HA-12-B 8/27 1545	Heavy Oil Range	510	100
95362 HA-10-B 8/27 1505	Heavy Oil Range	200	97
95363 HA-13-A 8/27 1607	Diesel Range Heavy Oil Range	12000 700	-
95364 HA-13-B 8/27 1609	Diesel Range Heavy Oil Range	530 720	-
95365 HA-14-A 8/27 1620	Heavy Oil Range	96	94
95366 HA-15-A 8/27 1445	Diesel Range Heavy Oil Range	230 500	86
95367 HA-16-A 8/27 1700	Diesel Range Heavy Oil Range	580 690	-
95368 HA-16-B 8/27 1705	Heavy Oil Range	190	112
Quality Control Data			
Method Blank	Diesel Fuel	< 2	111
LCS Percent Recovery	Diesel Fuel	115	51
95350 MS Percent Recovery	Diesel Fuel	107	32
95350 MSD Percent Recovery	Diesel Fuel	45	28

Service Request 09547
Date 10/9/92
Analyst K. Orr

Sample ID	Analyte (s)	Concentration (ppm)	Surrogate Recovery (%)
95350 HA-1-A 8/26 1110	Heavy Oil Range	63	71
95351 HA-2-A 8/26 1125	Diesel Range Heavy Oil Range	1100	-
95352 HA-3-A 8/26 1132	Diesel Range Heavy Oil Range	2100	-
95353 HA-4-A 8/27 1150	Diesel Range Heavy Oil Range	200	72
95354 HA-6-A 8/27 1408	Diesel Range Heavy Oil Range	120 380	83
95355 HA-7-A 8/27 1420	Diesel Range Heavy Oil Range	1200	-
95356 HA-8-A 8/27 1431	Diesel Range Heavy Oil Range	340	74
95357 HA-9-A 8/27 1450	Heavy Oil Range	1000	76
95358 HA-10-A 8/27 1500	Heavy Oil Range	650	90
95359 HA-11-A 8/27 1520	Heavy Oil Range	1300	48
95360 HA-12-A 8/27 1535	Heavy Oil Range	470	69

Service Request 09547

Sample ID	Analyte (s)	Concentration (ppm)	Surrogate Recovery (%)
95361 HA-12-B 8/27 1545	Heavy Oil Range	510	100
95362 HA-10-B 8/27 1505	Heavy Oil Range	200	97
95363 HA-13-A 8/27 1607	Diesel Range Heavy Oil Range	12000 700	-
95364 HA-13-B 8/27 1609	Diesel Range Heavy Oil Range	530 720	-
95365 HA-14-A 8/27 1620	Heavy Oil Range	96	94
95366 HA-15-A 8/27 1445	Diesel Range Heavy Oil Range	230 500	86
95367 HA-16-A 8/27 1700	Diesel Range Heavy Oil Range	580 690	-
95368 HA-16-B 8/27 1705	Heavy Oil Range	190	112
	Quality Control Data		
Method Blank	Diesel Fuel	< 2	111
LCS Percent Recovery	Diesel Fuel	115	51
95350 MS Percent Recovery	Diesel Fuel	107	32
95350 MSD Percent Recovery	Diesel Fuel	45	28

ANALYTICAL LABORATORY SERVICES REQUEST

Weyerhaeuser Research and Development – Analysis and Testing

Request Number: 09507

Title: EVERETT EMCON / PHASE II SOIL AND WATER #120-2974670

umber of Samples: 16	Project Number: 046-5632	Groups: 1,3,6
Date Received: 08/26/92	Date Desired: 09/23/92	Estimated Completion Date: 09/22/92
Submitted By: NORTH, JOHN	Location: EMCON NW	Telephone: 485-5000
Reviewed By: DOXSEE Kari	Location: 2F 25	Telephone: 924-6148
Project Title: WPC-EVERTT PULP	Project Leader: MIHOK	
Copy To:		

Sample Description and History:

***CLP DELIVERABLES *** CLP DELIVERABLES ***

Group	Series	Test Code	Test Description		
			Report Range	Report Basis	Lower Limit of Sensitivity
1	A	WTPH-D	TPH-DIESEL		
3	B	GF-1	Graphite Furnace AAS Elements - 1 **Pb**		

Sample Number	Series to Be Evaluated	Submitter's Designation				
95097	A	KT-1-0892	08/24	SOIL	0900	08/25/92
95098	A	KT-2-0892	08/24	SOIL	0955	08/25/92
95099	AB	KT-3A-0892	08/24	SOIL	1050	08/25/92
95100	AB	KT-3B-0892	08/24	SOIL	1130	08/25/92
95101	A	KT-4A-0892	08/24	SOIL	1215	08/25/92
95102	A	KT-4B-0892	08/24	SOIL	1400	08/25/92
95103	A	KT-5A-0892	08/24	SOIL	1450	08/25/92
95104	A	KT-5B-0892	08/24	SOIL	1535	08/25/92
95199	A	PC-1-0892	08/25/92	SOIL	1005	08/26/92
95200	A	PC-2-0892	08/25/92	SOIL	1425	08/26/92
95201	A	PC-3-0892	08/25/92	SOIL	1317	08/26/92
95202	A	PC-4-0892	08/25/92	SOIL	1145	08/26/92
95203	A	PC-1-0892W	08/25/92	WATER		08/26/92
95204	A	PC-2-0892W	08/25/92	WATER	1500	08/26/92
95205	A	PC-3-0892W	08/25/92	WATER	1340	08/26/92
95206	A	PC-4-0892W	08/25/92	WATER	1200	08/26/92

Reference: 9441			Record Book:
Results Approved: Kari Doxsee	Date: 11-3-92	Signature Applies To Attached Pages:	Page Numbers: To:

Printed on: 09/03/92 at 14:32:13

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

Case Number: 09507
SDG Number: KT-1
Contract Number: #120-2974670

Samples from this case (09507) were received on 8/25/92 and 8/26/92. This case was comprised of soil and water samples for WTPHD. The requested analyses were as follows:

SAMPLE ID	MATRIX	ANALYSIS REQUESTED
KT-1	Soil	WTPH
KT-2	Soil	WTPH
KT-3A	Soil	WTPH
KT-3B	Soil	WTPH
KT-4A	Soil	WTPH
KT-4B	Soil	WTPH
KT-5A	Soil	WTPH
KT-5B	Soil	WTPH
PC-1	Soil	WTPH
PC-2	Soil	WTPH
PC-3	Soil	WTPH
PC-4	Soil	WTPH
PC-1W	Water	WTPH
PC-2W	Water	WTPH
PC-3W	Water	WTPH
PC-4W	Water	WTPH
KT-1 MS	Soil	WTPH
KT-1 MSD	Soil	WTPH
WBLK MS	Water	WTPH
WBLK MSD	Water	WTPH

Several anomalies existed with this sample set that are listed below. The anomalies are broken up into categories for ease of explanation.

1. WTPH

   a) Due to high analyte concentrations in two of these samples. The surrogate recoveries were not calculatable for WTPHD.

   b) No sample remained for QC on the water samples hence a blank spike and spike duplicate were performed.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

10/8/92

Dennis M. Catalano
Laboratory Manager

Date

Please feel free to contact me with any questions concerning this data report. I can be reached at (206) 924-6242.

Sincerely,

Dennis M. Catalano, Manager
Organic Laboratory
Weyerhaeuser Analytical & Testing Services

Weyerhaeuser Analytical and Testing Services

Service Request 09507

Everett EMCON Phase II Soil Samples #120-2974670

Method WTPH-D
Fuel Fingerprint

Samples were prepared per method WTPH-D and analyzed by GC/FID for diesel range and heavy oil range compounds such as motor oil. Not all recovery data are reported due to matrix interference. Results are expressed in ppm (mg/kg, mg/l).

Approved *Kathleen A-Om*   Date *10/8/92*

Service Request 09507
Date 10/8/92
Analyst K. Orr

Sample ID	Analyte (s)	Concentration (ppm)	Surrogate Recovery (%)
95097 KT-1-0892 8/24 SOIL 0900	Heavy Oil Range	63	97
95098 KT-2-0892 8/24 SOIL 0955	Heavy Oil Range	150	70
95099 KT-3A-0892 8/24 SOIL 1050	Heavy Oil Range	160	76
95100 KT-3B-0892 8/24 SOIL 1130	Heavy Oil Range	48	88
95101 KT-4A-0892 8/24 SOIL 1215	Diesel Range Heavy Oil Range	46 250	-
95102 KT-4B-0892 8/24 SOIL 1400	Heavy Oil Range	210	81
95103 KT-5A-0892 8/24 SOIL 1450	Heavy Oil Range	190	130
95104 KT-5B-0892 8/24 SOIL 0900	Heavy Oil Range	1800	85
95199 PC-1-0892 8/25 SOIL 1005	Diesel Range	270	-
95200 PC-2-0892 8/25 SOIL 1425	Diesel Range Heavy Oil Range	2 7	105
95201 PC-3-0892 8/25 SOIL 1317	Diesel Range Heavy Oil Range	3 6	95

Service Request 09507

Sample ID	Analyte (s)	Concentration (ppm)	Surrogate Recovery (%)
95202 PC-4-0892 8/25 SOIL 1145	Diesel Range Heavy Oil Range	4 8	94
95203 PC-1-0892W 8/25 WATER	Diesel Range	6	46
95204 PC-2-0892W 8/25 WATER 1500	Diesel Range	< 0.2	80
95205 PC-3-0892W 8/25 WATER 1340	Diesel Range	< 0.2	91
95206 PC-4-0892W 8/25 WATER 1200	Diesel Range	< 0.2	91
Quality Control Data			
Soil Method Blank	ND	< 2	122
Water Method Blank	ND	< 0.2	100
Soil LCS Percent Recovery	Diesel Fuel	98	63
Watrer LCS Percent Recovery	Diesel Fuel	95	49
Water LCS DUP Percent Recovery	Diesel Fuel	91	50
95097 MSD Percent Recovery	Diesel Fuel	77	51
95097 MS Percent Recovery	Diesel Fuel	103	48

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

SDG Number: MEK099
Service Request: 09507
Contract Number: 68-D2-0045

Samples from this service request were received on 08/25/92. This case was comprised of soils for metals analysis. The requested analyses were as follows:

Sample ID	Matrix	Analysis Requested
MEK099 (KT-3A-0892)	SOIL	METALS
MEK100 (KT-3B-0892)	SOIL	METALS

EPA CLP Statement of Work ILM02.0 was followed for the analysis of these samples. All data qualifiers and flags are as described in the SOW. There are no anomilies in this data package.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Kari Doxsee

Kari H. Doxsee, Manager
Analytical Chemistry Laboratories

11-3-92
Date

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

SOW No.: ILM02.0

EPA Sample No.	Lab Sample ID.
MEK099	95099
MEK099D	95099D
MEK099S	95099S
MEK100	95100

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Kari Doxsee Name: Kari Doxsee

Date: 11-3-92 Title: Lab Mgr

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1A

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEK099

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Matrix (soil/water): SOIL Lab Sample ID: 95099

Level (low/med): LOW Date Received: 08/25/92

% Solids: 81.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	50.4		*	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: BLACK Clarity Before: Texture: FINE

Color After: BLACK Clarity After: Artifacts:

Comments:

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16

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEK100

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Matrix (soil/water): SOIL Lab Sample ID: 95100

Level (low/med): LOW Date Received: 08/25/92

% Solids: 75.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	16.1		*	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: BLACK Clarity Before: Texture: FINE

Color After: BLACK Clarity After: Artifacts:

Comments:

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Initial Calibration Source: SPEX

Continuing Calibration Source: BAKER/IN.VEN

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	50.0	49.60	99.2	35.0	35.50	101.4	34.30	98.0	F
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Initial Calibration Source: SPEX

Continuing Calibration Source: BAKER/IN.VEN

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	50.0	51.30	102.6	35.0	36.00	102.9	36.00	102.9	F
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2B
CRDL STANDARD FOR AA AND ICP

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

AA CRDL Standard Source: BAKER

ICP CRDL Standard Source:

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	3.0	3.10	103.3					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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2B

CRDL STANDARD FOR AA AND ICP

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

AA CRDL Standard Source: BAKER

ICP CRDL Standard Source:

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	3.0	3.00	100.0					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

3A
BLANKS

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	0.9	U	0.9	U	0.9	U			0.090	U	F
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3B
BLANKS

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	0.9	U	0.9	U	0.9	U					F
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

ICP ID Number: ICAP61 ICS Source:

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEK099S

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 81.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead		31.5904		50.4470		2.42	-779.2		F
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

9

ICP SERIAL DILUTIONS

EPA SAMPLE NO.

MEK099L

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum							
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium							NR
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							F
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR

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8
STANDARD ADDITION RESULTS

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Concentration Units: ug/L

EPA Sample No.	An	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q

not required

7

LABORATORY CONTROL SAMPLE

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Solid LCS Source: EPA-LV

Aqueous LCS Source:

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				236.0	247.1		188.0	285.0	104.7
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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10A

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

ICP ID Number: Date: 10/16/92

Flame AA ID Number:

Furnace AA ID Number: PE3030

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.10	BZ	3.0	0.5	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

U.S. EPA - CLP

10b

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

ICP ID Number: Date: 10/16/92

Flame AA ID Number:

Furnace AA ID Number: PE5100B

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.31	BZ	3.0	0.9	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

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11A

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

ICP ID Number: ICAP61 Date: 07/15/92

Analyte	Wave-length (nm)	Interelement correction Factors for: Al	Ca	Fe	Mg	MN
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

Comments:

U.S. EPA - CLP

11B

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

ICP ID Number: ICAP61 Date: 07/15/92

Analyte	Wavelength (nm)	Interelement Correction Factors for: V	CR	NI	CU	AS
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

Comments:

U.S. EPA - CLP

11B

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

ICP ID Number: ICAP61 Date: 07/15/92

Analyte	Wavelength (nm)	Interelement Correction Factors for: ZN	NA	TI	CO	SI
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

Comments:

U.S. EPA - CLP

11B

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

ICP ID Number: ICAP61 Date: 07/15/92

Analyte	Wave-length (nm)	Interelement Correction Factors for: SE		SN		
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

Not Required

Comments:

12
ICP LINEAR RANGES (QUARTERLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

ICP ID Number: ICAP61 Date: 10/16/92

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum			NR
Antimony			NR
Arsenic			NR
Barium			NR
Beryllium			NR
Cadmium			NR
Calcium			NR
Chromium			NR
Cobalt			NR
Copper			NR
Iron			NR
Lead			NR
Magnesium			NR
Manganese			NR
Mercury			NR
Nickel			NR
Potassium			NR
Selenium			NR
Silver			NR
Sodium			NR
Thallium			NR
Vanadium			NR
Zinc			NR

Comments:

U.S. EPA - CLP

13
PREPARATION LOG

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Method: F

EPA Sample No.	Preparation Date	Weight (gram)	Volume (ml)
LCSS1	10/16/92	0.51	100
MEK099	10/16/92	1.16	100
MEK099D	10/16/92	1.21	100
MEK099S	10/16/92	1.02	100
MEK100	10/16/92	1.26	100
PBS1	10/16/92	1.00	100

U.S. EPA - CLP

14A

ANALYSIS RUN LOG

Lab Name: WEYERHAEUSER COMPANY
Lab Code: WEYER Case No.:
Instrument ID Number: PE5100B
Start Date: 10/29/92

Contract: 68-D2-0045
SAS No.: SDG No.: MEK099
Method: F
End Date: 10/29/92

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1906													X											
S3	1.00	1910													X											
S35	1.00	1915													X											
S75	1.00	1919													X											
ICV1	1.00	1923													X											
ICB1	1.00	1928													X											
CRA1	1.00	1932													X											
PBS1	1.00	1936													X											
PBS1A	1.00	1941	92.5												X											
LCSS1	50.00	1945																								
LCSSA	50.00	1950	91.5																							
CCV1	1.00	1954													X											
CCB1	1.00	1958													X											
MEK100	1.00	2008																								
MEK100A	1.00	2012	1843.0																							
MEK099	1.00	2017																								
MEK099A	1.00	2021																								
MEK099D	1.00	2025																								
MEK099DA	1.00	2030																								
MEK099S	1.00	2034																								
CCV2	1.00	2038													X											
CCB2	1.00	2043													X											

U.S. EPA - CLP

14b

ANALYSIS RUN LOG

Lab Name: WEYERHAEUSER COMPANY　　Contract: 68-D2-0045
Lab Code: WEYER　　Case No.:　　SAS No.:　　SDG No.: MEK099
Instrument ID Number: PE3030　　Method: F
Start Date: 10/29/92　　End Date: 10/29/92

EPA Sample No.	D/F	Time	% R	AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	2020													X												
S3	1.00	2023													X												
S35	1.00	2027													X												
S75	1.00	2031													X												
ICV2	1.00	2035													X												
ICB2	1.00	2039													X												
CRA2	1.00	2043													X												
LCSS1	50.00	2047													X												
LCSSA	50.00	2051	106.0												X												
MEK100	10.00	2055													X												
MEK100A	10.00	2059	98.0												X												
MEK099D	10.00	2103																									
[illegible]K099DA	10.00	2107	90.5																								
MEK099	10.00	2110													X												
MEK099A	10.00	2114	96.5												X												
MEK099S	10.00	2118													X												
CCV3	1.00	2122													X												
CCB3	1.00	2126													X												
MEK099D	20.00	2130													X												
MEK099DA	20.00	2134	100.5												X												
CCV4	1.00	2138													X												
CCB4	1.00	2142													X												

ANALYTICAL LABORATORY SERVICES REQUEST

Weyerhaeuser Research and Development – Analysis and Testing

Request Number: 09507

Title: EVERETT EMCON / PHASE II SOIL AND WATER #120-2974670

Number of Samples: 16	Project Number: 046-5632	Groups: 1,3,6
Date Received: 08/26/92	Date Desired: 09/23/92	Estimated Completion Date: 09/22/92
Submitted By: NORTH, JOHN	Location: EMCON NW	Telephone: 485-5000
Reviewed By: DOXSEE Kari	Location: 2F 25	
Project Title: WPC-EVERTT PULP	Project Leader: MIHOK	
Copy To:		

UPD 9/3

added QC to GF-1

Sample Description and History:

***CLP DELIVERABLES *** CLP DELIVERABLES ***

Group	Series	Test Code	Test Description		
			Report Range	Report Basis	Lower Limit of Sensit
1	A	WTPH-D	TPH-DIESEL		
3	B	GF-1	Graphite Furnace AAS Elements - 1 **Pb**		

Sample Number	Series to Be Evaluated	Submitter's Designation				
95097	A	KT-1-0892	08/24	SOIL	0900	08/25/92
95098	A	KT-2-0892	08/24	SOIL	0955	08/25/92
95099	AB	KT-3A-0892	08/24	SOIL	1050	08/25/92
95100	AB	KT-3B-0892	08/24	SOIL	1130	08/25/92
95101	A	KT-4A-0892	08/24	SOIL	1215	08/25/92
95102	A	KT-4B-0892	08/24	SOIL	1400	08/25/92
95103	A	KT-5A-0892	08/24	SOIL	1450	08/25/92
95104	A	KT-5B-0892	08/24	SOIL	1535	08/25/92
95199	A	PC-1-0892	08/25/92	SOIL	1005	08/26/92
95200	A	PC-2-0892	08/25/92	SOIL	1425	08/26/92
95201	A	PC-3-0892	08/25/92	SOIL	1317	08/26/92
95202	A	PC-4-0892	08/25/92	SOIL	1145	08/26/92
95203	A	PC-1-0892W	08/25/92	WATER		08/26/92
95204	A	PC-2-0892W	08/25/92	WATER	1500	08/26/92
95205	A	PC-3-0892W	08/25/92	WATER	1340	08/26/92
95206	A	PC-4-0892W	08/25/92	WATER	1200	08/26/92

Reference: 9441			Record Book:
Results Approved:	Date:	Signature Applies To Attached Pages:	Page Numbers: To:

Printed on: 09/03/92 at 14:32:13

0028

CLP

MEK009

ASE

ASE # Everett

Weyerhaeuser Company

Analytical Laboratories
Tacoma, Washington

Request # 9507

Form 1

EPA Samp. No.	Matrix	Level	% Solids	Date Rec'd	Color Before	Color After	Clarity Before	Clarity After	Texture
MEK004	S	L	80.97	8-25	Black	Black			Fine
~~MEK004D~~	↓	↓		↓	+	↓			↓
MEK005	↓	↓	75.12	↓	+	↓			↓

SW 10-16-92

10-16-92 SW

Notes/Comments: (Include sample# and artifacts present.)

SW

MATRIX - Water (W), Soil (S)
LEVEL - Low (L), Medium (M)
COLOR - Red, blue, yellow, green, orange, violet, white, colorless, brown, grey, black
- Clear, cloudy, opaque
TEXTURE - Fine (powdery), medium (sand), coarse (large crystals or rocks)
ARTIFACTS - Any man-made materials present

Witness - DJD · 29OCT92

0029

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Client/Case #	Service Req. Number / SDG# 95Ø7
Analysis for: GFAAS METALS	Method Number: CLP SOIL DIGEST - 3Ø5Ø

DATA

Sample Number	Client Sample Number	Aliquot (g, as rec'd)	Final Dilution (ml)	Matrix	Comments
PBS	PBS	—	100 ml	2% HNO3	
LCSS	LCSS	Ø.5Ø7 g	↓	↓	
95Ø99	MEKØ99	1.1104 g			
95Ø99D	MEKØ99D	1.213 g			
95Ø99S	MEKØ99S	1.Ø21 g			
951ØØ	MEK1ØØ	1.259 g			

10-16-92 8W

Comments: LCSS= (0287) ICF

Analyst [signature]	Date 10-16-92	NB Number Time: 12:3Ø
Witness [signature]	Date 29OCT92	Page Number

0030

9-15-92 S100GFSP.XLS

SR# 9507

SDG# _____

SAMPLE# MEK099S

GFAA

SPIKE SHEET

SOIL SAMPLES

(IN 100 ML)

						SOILS
Analyte	Source	Lot#	Exp. Date	Conc. in Digestate (ppb)	Conc. in Spike sol'n. (ppm)	Vol. Spike Added (for 100-mL)
CLP-A						
As	Baker	E04616	Jan-93	40	4.0	1.0
Se	Baker	E29637	Aug-93	10	1.0	
Tl	SPEX	3-99Tl	Oct-92	50	5.0	
Pb	Baker	E48620	Dec-93	20	2.0	

Prep Technician Sherry Ellis Date 10-14-92

witness: Don Deprez - 29OCT92

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Sample Number(s)	Service Request Number 9507
Analysis for: % Solids	Method Number

Temperature: 105°C **DATA**
Time In: 10-16-92 12:15 Time Out: 10-17-92 11:00

Weyer. Sample No.	Client Sample No.	Tare (g)	Sample + Tare (g, as is)	Sample (g, as is)	Sample + Tare (g, O.D.)	Sample (g, O.D.)	% Solids
950999 MEK099	MEK099	1.183g	7.424g		6.2362g		
950999D	MEK099D	1.244g	7.3102g		6.2092g		
951000	MEK100	1.193g	7.0785g		5.6099g		

10-16-92 JW

Comments:

Analyst Penny Ulmer Date 10-16-92 NB Number

Witness Dan Deprez Date 29OCT92 Page Number 0032

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									

Comments:

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

MEK099D

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK099

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 81.0 % Solids for Duplicate: 82.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								
Lead		50.4470		70.8091		33.6	*	F
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Case: EVERETT	Service Request : 9507
Analysis for: % Solids	Method Number SOW ILM02.0

Temperature: 105°C **DATA**

Date In: 10/16/92 Time In:12:15 Date Out:10/17/92 Time Out:11:00

Weyer. Sample No.	Client Sample No.	Tare (g)	Sample + Tare (g, as is)	Sample (g, as is)	Sample + Tare (g, O.D.)	Sample (g, O.D.)	% Solids
95099	MEK099	1.1830	7.4240	6.2410	6.2362	5.0532	80.97
95099D	MEK099D	1.2440	7.3400	6.0960	6.2692	5.0252	82.43
95100	MEK100	1.1930	7.0730	5.8800	5.6099	4.4169	75.12

Comments:

Analyst Sherry Weiss	Date 10/16/92	NB Number	
Witness	Date 11-2-92	Page Number	

Project No. _____ PERKINELMER USER COMPANY

TITLE PE3030 Run Log Book Book No. 12077 TE

From Page No. ___

date	SR# / SDG#	ELEM Lamp#	Run #	ENERGY mA	75 Std Abs	ICV(2x) µg/l	CCB µg/l	CRA µg/l	LCSW LCSS	INTLS
26OCT92	9684	Se2	2	55	.272	49.5	1.3	5.3		DRM
25OCT92	9684	Se2	1	55	Rerun 10/26/92					
26OCT92	9684	Se2	3	55	0.280	47.7	0.2	4.5	—	DRM
26OCT92	9684	Se2	4	55	0.281	48.5	-0.3	5.1	—	DRM
26OCT92	9560 · 9768	↓	↓	↓	↓	↓	↓	↓		DRM
27OCT92	9953 · 9531	Tl1	1	64	0.340	49.9	-0.2	9.9	4900.0(W)	RAE
27OCT92	9395	Tl1	1	64	↓	↓	↓	↓	—	RAE
27OCT92	9179	Tl1	7	64	↓	↓	↓	↓	40.0(S)	RAE
27OCT92	9845	Tl1	1	64	Rer 27OCT92					RAE
27OCT92	9845	Tl1	1	64	0.414	51.9	0.2	10.1	4850.0(W)	DRM/RAE
27OCT92	↓	Tl1	2	64	0.420	49.9	-0.2	9.8	—	DRM
27OCT92	9508	Pb1	1	71	0.432	51.6	0.1	2.9	5120.0(W)	DRM
27OCT92	9845	Sb1	1	67	0.165	46.8	0.6	4.5	9220.0(W)	RAE/DRM
28OCT92	9845	Sb1	2	69	0.164	49.6	0.2	5.2	—	RAE
28OCT92	10011	Sb1	1	69	0.160	48.2	0.6	5.3	224.0(S)	RAE
28OCT92	9636	Se1	1	55	0.249	50.6	0.1	4.4	—	DRM
28OCT92	9395	↓	↓	↓	↓	↓	↓	↓	—	DRM
29OCT92	9953	Cd3	2	61	0.219	1.63	0.01	0.47	—	RAE
29OCT92	9560	Se1	3	54	0.271	48.5	1.3	4.8	327 µg/g	DRM
↓	9768	↓	3	↓	↓	↓	↓	↓	↓	DRM
↓	9740	↓	2	↓	↓	↓	↓	↓	50.7 µg/l	DRM
↓	9684	↓	5	↓	↓	↓	↓	↓	↓	DRM
↓	9507	Pb2	2	66	0.421	51.3	-0.2	3.0	248.5 µg/g	DRM

To Page No. ___

Witnessed & Understood by me,	Date	Invented by	Date
MBR	11/3/92	Recorded by	

Project No.

TITLE 10276 PE5100B Run log book

Book No. 10276

From Page No.

date	SR# / SDG#	LAMP ELEM	RUN #	ENERGY mA	75 Std Abs	ICV(2X) mg/l	ICB mg/l	CRA mg/l	LCSS mg/kg / LCSW mg/l	INTLS
14OCT	9593	Se2	~~1~~ 2	61	0.320	51.5	1.4	5.6	—	DRM
14OCT	IDL	Se2	3	61	0.318	55.2	0.5	4.9	—	DRM
15OCT92	IDC	Tl2	3	52	0.318	52.5	—	9.0	—	RAE
14OCT92	9593	Se2	1	61	0.321	51.5	0.5	5.5	—	DRM
15OCT92	9657	Pb2	1	66	0.277	53.9	0.1	3.6	LCSW 49.7/207.6 LCSS [illegible]	DRM
16OCT92	9745	Sb1	1	61	0.268	50.0	0.7	4.7	LCSS 262.5	DRM
18OCT92	9953	As2	1	57	0.308	49.9	-1.2	8.4	LCSW 46.4	DRM
18OCT92	9801	As2	1	57	0.287	51.9	0.5	9.9	LCSW 47.9	DRM
19OCT92	9745	As2	1	57	0.251	47.8	-0.9	9.9	846.3(S)	RAE
14OCT92	9467	As1	2	54	0.370	46.2	0.6	9.7	LCSW 50.9	DRM
19OCT92	9593	As2	3	57	0.340	48.7	1.0	9.2	—	DRM
19OCT92	9801	As2	2	57	0.329	49.9	0.7	10.7	—	DRM
19OCT92	9684	As2	1	57	0.314	51.4	-0.1	10.1	LCSW 5.0	DRM
20OCT92	9551	Pb	2	64	0.377	53.3	0.2	3.7	—	DJD
20OCT92	9684	Pb	1	64	↓	↓	↓	↓	(10X digestion) 492.0 mg/L(W)	DJD
20OCT92	9661	Pb2	1	64	0.376	52.4	0.2	3.1	LCSS 244.5mg/kg	DRM
20OCT92	9768	↓	↓	↓	↓	↓	↓	↓	LCSS 251.5mg/kg	DRM
27OCT92	9797	Pb2	1	66	0.420	52.0	~~2.5~~ -0.0	2.5	5120(W)	DRM
27OCT92	9477	Pb2	1	67	0.459	51.7	-0.1	2.6	4960.0(W)	RAE/DRM
28OCT92	9486	Pb1	1	62	0.450	50.4	0.4	3.0	4890.0(W)	RAE
28OCT92	9395	Pb1	1	64	0.329	—	—	—	—	DRM
28OCT92	9636	Pb1	1	64	0.342	52.9	0.6	3.0	—	DRM
28OCT92	10011	Pb1	1	64	0.471	51.9	1.1	3.9	215.2mg/kg	DRM
29OCT92	9521	Pb2	1	68	0.362	49.8	0.3	3.1	243.0(S)	RAE
29OCT92	9521	Pb2	2	67	0.431	50.7	0.1	2.9		RAE
29OCT92	9507	Pb2	1	66	0.316	49.6	-0.1	3.1	—	DRM
30OCT92	10021	As1	2	56						RAE
30OCT92	10011	As1	3	56	0.348	47.9	-1.3	8.3	—	RAE
30OCT92		As1								

To Page No.

Witnessed & Understood by me,	Date	Invented by	Date
MBL	11-3-92	Recorded by	

56 Weyerhaeuser Analytical & Testing Service, Analytical Chemistry - WTC 2F25, Tacoma, WA 98477

Project No. _____ Book No. 8809 TITLE GFAAS Solution Prep.

From Page No. _____

Date:	Solution (s)	Time Initials	How made?
26OCT92	50 ppb Cd Int. Soln. in 2% HNO_3 11:15	RAC	5.0 ml of 1000 ppb Cd Int. Soln. - 200CT92
26OCT92	50, 50.5, 51.0, 52.0 ppb Cd Stds in 2% HNO_3 11:20	RAC	0.0, 0.5, 1.0, 2.0 ml of 50 ppb Cd Int. Soln. - 260CT92
26OCT92	ICV-2C 1.5 ppb Cd in 2% HNO_3 12:15	RAC	1.5 ml of ICV-2C 50 ppb As, Pb, Se, Tl, 10 ppb Cd Int Soln - 190CT92
26OCT92	ICV-2C 50 ppb As, Pb, Se, Tl, 10 ppb Cd in 2% HNO_3	RAC	10.0 ml of ICV-2C Int. Soln 50 ppb As, Pb, Se, Tl - 100 ppb Cd - 190CT92
26OCT92	1000 ppb Cd. Int. Soln. in 2% HNO_3	RAC	0.1 ml of 1000 ppm Cd-2 Stk Baker Lot # D47610 Exp. 12/92
26OCT92	50, 50.5, 51.0, 52.0 ppb Cd Stds in 2% HNO_3 13:45	RAC	0.0, 1.0, 2.0, 4.0 ml 50 ppb Cd Int. Soln. - 260CT92
26OCT92	50 ppb Cd Int. Soln. in 2% HNO_3 13:45	RAC	5.0 ml of 1000 ppb Cd Int. Soln. - 260CT92
26OCT92	50, 520, 550, 5100 ppb Std Sn in 2% HNO_3 5% HCl 16:50	RAC	0.0, 2.5, 10.0 ml of 1000 ppb Sn Int. Soln - 10CT92
26OCT92	50, 535, 575, 550 ppb As, Pb, Se, Tl 2% HNO_3	DRM	0.0, 3.5, 7.5, 5.0 ml of 1000 ppb As Pb Se Tl + 2 ml 5% HNO_3 EXP 25 NOV 92
27OCT92	Tl Modifier 2% H_2SO_4	RAC	2.0 ml H_2SO_4 diluted into 1000 ml D.D.I. H_2O
27OCT92	50, 535, 550, 575 ppb As, Pb, Se, Tl 2% HNO_3	DRM	0, 3.5, 5.0, 7.5 ml of 1000 ppb As Pb Se Tl, 2 ml HNO_3 EXP 25 NOV 92
27OCT92	50, 55, 535, 575 ppb Sb 2% HNO_3 5% HCl	DRM	0, 0.5, 3.5, 7.5 ml 1000 ppb Sb (EXP 21 NOV 92) 2 ml HNO_3 5 ml HCl
~~28OCT92~~ 29OCT92 ~~26OCT92~~ 29OCT92	As 10 Pb 3, Se 5, Tl 10 ppb CRA Std in 2% HNO_3	RAC 08:55	0.1 ml As 10 Pb 3, Se 5, Tl 10 ppm CRA Int. Soln. - 250CT92
30CT92	50, 535, 550, 575 ppb As, Pb, Se, Tl Stds. in 2% HNO_3	RAC 08:55	0.0, 3.5, 5.0, 7.5 ml 1000 ppb As, Pb, Se, Tl Int. Soln - 250CT92
29OCT92	50, 50.5, 51.0, 52.0 ppb Cd Stds in 2% HNO_3	RAC 12:30	0.0, 1.0, 2.0, 4.0 ml of 50 ppb Cd Int. Soln - 290CT92
29OCT92	50 ppb Cd Int. Soln. in 2% HNO_3	RAC 12:30	5.0 ml of 1000 ppb Cd Int. Soln. - 260CT92
29OCT92	ICV-2C 1.5 ppb Cd Std. in 2% HNO_3	RAC 12:30	15.0 ml of ICV-2C As, Pb, Se, Tl - 50 ppb, Cd - 10 ppb Int. Soln. - 260CT92

0036

To Page No. _____

Witnessed & Understood by me, MR Date 11-3-92

Invented by _____ Date _____

Recorded by _____

GFAAS - SOLID

SDG # MEK099
SAS #
CASE # Everett

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Request # 9507

DATA SHEET - RUN LOG

Element Pb

Energy (Pb 2) = mA 6

	Lab Code	EPA Sample No.	Result mg/L (Mark)	Sample Basis	Weight	Volume	Dilution	Prep. Date	Analysis Date	Time Started	
1	S0	S0						10/16/92	29 Oct 92	19	04
2	SCRDL	S 3									
3	S35	S35									
4	S75	S75									
5	ICV1	ICV1	49.6								
6	ICB1	ICB1	-0.1								
7	CRA1	CRA1	3.1								
4 8	PBS1	PBS1	-0.0		1.00	100					
9	PBS1A	PBS1A	18.5		↓	↓					
5 10	LCSS1	LCSS1	-0.1		0.51		50X				
11	LCSSA	LCSSA	18.3		↓	↓	↓				
12	CCV1	CCV1	35.5								
13	CCB1	CCB1	-0.1								
6 14	95100	MEK 100	173.9		1.26	100					
15	95100A	100A	542.5		↓	↓					
7 16	95099	099			1.16						
17	95099A	099A			↓						
8 18	95099D	099D			1.21						
19	95099DA	099DA			↓						
9 20	95099S	099S			1.02	↓					
21	CCV2	CCV2	34.3								
20:43 22	CCB2	CCB2	-0.2								
5 23		LCSS	END RUN LAST CCV OUT								
24		LCSSA	drm 10/29/92								
6 25		MEK 100					10X				
26		100A									
7 27		099									
28		099A									
8 29		099D									
30		099DA									
9 31		099S									
32	CCV										
21:31 33	CCB										
34											
35											
36											
37											
38											

INSTRUMENT: PE5100B

RUN NUMBER: 1

A= +20 UG/L

ICV-2C SPEX EXP date
LOT #4-109AS 3/Jul/93

Rerun

dil 10 x

Record every analysis in the order analyzed, whether valid or failed.

Analyst drm
Witness DJD 30OCT92

Increment

drmyers
10/29/92

Pb ID: S0 Seq. No.: 00101 A/S Pos.: 0 Date: 10/29/92

Replicate 1 Time: 19:04
Peak Area (A-s): 0.005 Peak Height (A): 0.011
Background Pk Area (A-s): 0.082 Background Pk Height (A): 0.036
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.2

Replicate 2 Time: 19:06
Peak Area (A-s): 0.005 Peak Height (A): 0.009
Background Pk Area (A-s): 0.107 Background Pk Height (A): 0.045
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.1

S4

Mean Conc (ug/L): -0.1 SD: 0.01 RSD(%): 4.69

Auto-zero performed.

~~~~~~

Pb ID: S3 Seq. No.: 00102 A/S Pos.: 35 Date: 10/29/92

Replicate 1 Time: 19:08
Peak Area (A-s): 0.020 Peak Height (A): 0.052
Background Pk Area (A-s): 0.110 Background Pk Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 2.1

Replicate 2 Time: 19:10
Peak Area (A-s): 0.022 Peak Height (A): 0.050
Background Pk Area (A-s): 0.118 Background Pk Height (A): 0.049
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 2.2

Mean Conc (ug/L): 2.2 SD: 0.11 RSD(%): 5.20

Standard number 1 applied. [3.0]
Correlation coefficient: 1.00000 Slope: 0.0053

~~~~~~

Pb ID: S35 Seq. No.: 00103 A/S Pos.: 36 Date: 10/29/92

Replicate 1 Time: 19:12
Peak Area (A-s): 0.183 Peak Height (A): 0.462
Background Pk Area (A-s): 0.148 Background Pk Height (A): 0.078
Blank Corrected Pk Area (A-s): 0.178
Concentration (ug/L): 33.5

Replicate 2 Time: 19:15
Peak Area (A-s): 0.185 Peak Height (A): 0.475
Background Pk Area (A-s): 0.152 Background Pk Height (A): 0.082
Blank Corrected Pk Area (A-s): 0.179
Concentration (ug/L): 33.8

Mean Conc (ug/L): 33.7 SD: 0.25 RSD(%): 0.74

Standard number 2 applied. [35.0]
Correlation coefficient: 1.00000 Slope: 0.0053

~~~~~~

Pb ID: S75 Seq. No.: 00104 A/S Pos.: 37 Date: 10/29/92

Replicate 1 Time: 19:17
Peak Area (A-s): 0.353 Peak Height (A): 0.801
Background Pk Area (A-s): 0.189 Background Pk Height (A): 0.167
Blank Corrected Pk Area (A-s): 0.348
Concentration (ug/L): 71.2

.346

Replicate 2 Time: 19:19
Peak Area (A-s): 0.349 Peak Height (A): 0.812
Background Pk Area (A-s): 0.182 Background Pk Height (A): 0.162
Blank Corrected Pk Area (A-s): 0.344
Concentration (ug/L): 70.3
~~~~~~

Mean Conc (ug/L): 70.8 SD: 0.63 RSD(%): 0.89

Standard number 3 applied. [75.0]
Correlation coefficient: 1.00000 Slope: 0.0053

~~~~~~

Pb ID: ICV Seq. No.: 00105 A/S Pos.: 1 Date: 10/29/92

Replicate 1 Time: 19:21
Peak Area (A-s): 0.248 Peak Height (A): 0.582
Background Pk Area (A-s): 0.160 Background Pk Height (A): 0.104
Blank Corrected Pk Area (A-s): 0.243
Concentration (ug/L): 48.9

Replicate 2 Time: 19:23
Peak Area (A-s): 0.255 Peak Height (A): 0.629
Background Pk Area (A-s): 0.168 Background Pk Height (A): 0.116
Blank Corrected Pk Area (A-s): 0.249
Concentration (ug/L): 50.4

Mean Conc (ug/L): 49.6 SD: 1.05 RSD(%): 2.12

QC sample is within range 44.8 - 55.2

~~~~~~

Pb ID: ICB Seq. No.: 00106 A/S Pos.: 2 Date: 10/29/92

Replicate 1 Time: 19:26
Peak Area (A-s): 0.005 Peak Height (A): 0.010
Background Pk Area (A-s): 0.126 Background Pk Height (A): 0.053
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Replicate 2 Time: 19:28
Peak Area (A-s): 0.005 Peak Height (A): 0.010
Background Pk Area (A-s): 0.119 Background Pk Height (A): 0.050
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.0

Mean Conc (ug/L): -0.1 SD: 0.04 RSD(%): 73.35

QC sample is within range -3.0 - 3.0

~~~~~~

Pb ID: CRA Seq. No.: 00107 A/S Pos.: 3 Date: 10/29/92

Replicate 1 Time: 19:30
Peak Area (A-s): 0.022 Peak Height (A): 0.055
Background Pk Area (A-s): 0.119 Background Pk Height (A): 0.047
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 3.1

Replicate 2 Time: 19:32
Peak Area (A-s): 0.022 Peak Height (A): 0.057
Background Pk Area (A-s): 0.122 Background Pk Height (A): 0.048
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 3.1

Mean Conc (ug/L): 3.1 SD: 0.01 RSD(%): 0.25
~~~~~~

CRA

QC sample is within range 0.0 - 6.0

Pb ID: PBS Seq. No.: 00108 A/S Pos.: 4 Date: 10/29/92

Replicate 1 Time: 19:34
Peak Area (A-s): 0.006 Peak Height (A): 0.008
Background Pk Area (A-s): 0.143 Background Pk Height (A): 0.059
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.1

Replicate 2 Time: 19:36
Peak Area (A-s): 0.004 Peak Height (A): 0.007
Background Pk Area (A-s): 0.143 Background Pk Height (A): 0.059
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.1

Mean Conc (ug/L): -0.0 SD: 0.17 RSD(%): 635.82

Pb ID: PBS A Seq. No.: 00109 A/S Pos.: 4 Date: 10/29/92

Replicate 1 Time: 19:39
Peak Area (A-s): 0.103 Peak Height (A): 0.260
Background Pk Area (A-s): 0.153 Background Pk Height (A): 0.056
Blank Corrected Pk Area (A-s): 0.098
Concentration (ug/L): 18.8

Replicate 2 Time: 19:41
Peak Area (A-s): 0.101 Peak Height (A): 0.266
Background Pk Area (A-s): 0.156 Background Pk Height (A): 0.058
Blank Corrected Pk Area (A-s): 0.095
Concentration (ug/L): 18.3

Mean Conc (ug/L): 18.5 SD: 0.35 RSD(%): 1.89

Recovery is ~~92.8%~~ 92.5% dm 10/29/92

Pb ID: LCSS (50X) Seq. No.: 00110 A/S Pos.: 5 Date: 10/29/92

Replicate 1 Time: 19:43
Peak Area (A-s): 0.005 Peak Height (A): 0.010
Background Pk Area (A-s): 0.134 Background Pk Height (A): 0.056
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Replicate 2 Time: 19:45
Peak Area (A-s): 0.005 Peak Height (A): 0.008
Background Pk Area (A-s): 0.138 Background Pk Height (A): 0.058
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.0

Mean Conc (ug/L): -0.1 SD: 0.04 RSD(%): 85.89

Rerun dm 10/29/92

Pb ID: LCSS A (50X) Seq. No.: 00111 A/S Pos.: 5 Date: 10/29/92

Replicate 1 Time: 19:47

LCSS A 50X

Peak Area (A-s): 0.102 Peak Height (A): 0.257
Background Pk Area (A-s): 0.156 Background Pk Height (A): 0.059
Blank Corrected Pk Area (A-s): 0.097
Concentration (ug/L): 18.6

Rerun dm 10/29/92

Replicate 2 Time: 19:50
Peak Area (A-s): 0.099 Peak Height (A): 0.250
Background Pk Area (A-s): 0.145 Background Pk Height (A): 0.054
Blank Corrected Pk Area (A-s): 0.094
Concentration (ug/L): 18.0

Mean Conc (ug/L): 18.3 SD: 0.43 RSD(%): 2.32

Recovery is 91.9%

Pb ID: CCV Seq. No.: 00112 A/S Pos.: 36 Date: 10/29/92

Replicate 1 Time: 19:52
Peak Area (A-s): 0.188 Peak Height (A): 0.456
Background Pk Area (A-s): 0.156 Background Pk Height (A): 0.079
Blank Corrected Pk Area (A-s): 0.183
Concentration (ug/L): 36.0

Replicate 2 Time: 19:54
Peak Area (A-s): 0.184 Peak Height (A): 0.495
Background Pk Area (A-s): 0.158 Background Pk Height (A): 0.083
Blank Corrected Pk Area (A-s): 0.179
Concentration (ug/L): 35.0

Mean Conc (ug/L): 35.5 SD: 0.66 RSD(%): 1.87

ok

QC sample is within range 31.4 - 38.6

Pb ID: CCB Seq. No.: 00113 A/S Pos.: 0 Date: 10/29/92

Replicate 1 Time: 19:56
Peak Area (A-s): 0.005 Peak Height (A): 0.009
Background Pk Area (A-s): 0.133 Background Pk Height (A): 0.055
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Replicate 2 Time: 19:58
Peak Area (A-s): 0.005 Peak Height (A): 0.009
Background Pk Area (A-s): 0.124 Background Pk Height (A): 0.051
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Mean Conc (ug/L): -0.1 SD: 0.01 RSD(%): 14.14

ok

QC sample is within range -3.0 - 3.0

Pb ID: MEK100 Seq. No.: 00115 A/S Pos.: 6 Date: 10/29/92

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 20:06
Peak Area (A-s): 0.496 Peak Height (A): 1.104

MEK 100

Background Pk Area (A-s): 0.892 Background Pk Height (A): 0.285
Blank Corrected Pk Area (A-s): 0.491
Concentration (ug/L): 167.2

Sample abs. is greater than that of the largest standard.
Replicate 2 Time: 20:08
Peak Area (A-s): 0.503 Peak Height (A): 1.096
Background Pk Area (A-s): 0.914 Background Pk Height (A): 0.391
Blank Corrected Pk Area (A-s): 0.498
Concentration (ug/L): 181.5

Sample abs. is greater than that of the largest standard.
Mean Conc (ug/L): 173.9 SD: 10.10 RSD(%): 5.79

~~~~~~

Pb ID: MEK100 A Seq. No.: 00116 A/S Pos.: 6 Date: 10/29/92

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 20:10
Peak Area (A-s): 0.539 Peak Height (A): 1.138
Background Pk Area (A-s): 0.902 Background Pk Height (A): 0.389
Blank Corrected Pk Area (A-s): 0.534
Concentration (ug/L): 555.1

Sample abs. is greater than that of the largest standard.
Replicate 2 Time: 20:12
Peak Area (A-s): 0.538 Peak Height (A): 1.102
Background Pk Area (A-s): 0.909 Background Pk Height (A): 0.378
Blank Corrected Pk Area (A-s): 0.533
Concentration (ug/L): 530.5

dil 10X akm 10/29/92

Sample abs. is greater than that of the largest standard.
Mean Conc (ug/L): 542.5 SD: 17.38 RSD(%): 3.20

Recovery is 1843.0%

~~~~~~

Pb ID: MEK099 Seq. No.: 00117 A/S Pos.: 7 Date: 10/29/92

Sample abs. is outside range of the calibration function.
Replicate 1 Time: 20:15
Peak Area (A-s): 1.027 Peak Height (A): 2.217
Background Pk Area (A-s): 1.247 Background Pk Height (A): 0.810
Blank Corrected Pk Area (A-s): 1.022
Concentration (ug/L): ----------

Sample abs. is outside range of the calibration function.
Replicate 2 Time: 20:17
Peak Area (A-s): 1.000 Peak Height (A): 2.219
Background Pk Area (A-s): 1.241 Background Pk Height (A): 0.794
Blank Corrected Pk Area (A-s): 0.995
Concentration (ug/L): ----------

Sample abs. is outside range of the calibration function.
Mean Conc (ug/L): ---- SD: ---- RSD(%): ----

~~~~~~

Pb ID: MEK099 A Seq. No.: 00118 A/S Pos.: 7 Date: 10/29/92
~~~~~~

MEK099A

Sample abs. is outside range of the calibration function.
Replicate 1 Time: 20:19
Peak Area (A-s): 0.995 Peak Height (A): 2.202
Background Pk Area (A-s): 1.218 Background Pk Height (A): 0.802
Blank Corrected Pk Area (A-s): 0.989
Concentration (ug/L): ----------

Sample abs. is outside range of the calibration function.
Replicate 2 Time: 20:21
Peak Area (A-s): 0.987 Peak Height (A): 2.222
Background Pk Area (A-s): 1.199 Background Pk Height (A): 0.799
Blank Corrected Pk Area (A-s): 0.982
Concentration (ug/L): ----------

Sample abs. is outside range of the calibration function.
Mean Conc (ug/L): ---- SD: ---- RSD(%): ----

Recovery is -22.1%

~~~~~~

Pb ID: MEK099D Seq. No.: 00119 A/S Pos.: 8 Date: 10/29/92

Sample abs. is outside range of the calibration function.
Replicate 1 Time: 20:23
Peak Area (A-s): 1.247 Peak Height (A): 2.228
Background Pk Area (A-s): 1.340 Background Pk Height (A): 1.043
Blank Corrected Pk Area (A-s): 1.240
Concentration (ug/L): ----------

Sample abs. is outside range of the calibration function.
Replicate 2 Time: 20:25
Peak Area (A-s): 1.174 Peak Height (A): 2.148
Background Pk Area (A-s): 1.314 Background Pk Height (A): 1.119
Blank Corrected Pk Area (A-s): 1.169
Concentration (ug/L): ----------

Sample abs. is outside range of the calibration function.
Mean Conc (ug/L): ---- SD: ---- RSD(%): ----

dil 10X Rerun
drm 10/29/92

~~~~~~

Pb ID: MEK099D A Seq. No.: 00120 A/S Pos.: 8 Date: 10/29/92

Sample abs. is outside range of the calibration function.
Replicate 1 Time: 20:28
Peak Area (A-s): 1.148 Peak Height (A): 2.109
Background Pk Area (A-s): 1.282 Background Pk Height (A): 1.098
Blank Corrected Pk Area (A-s): 1.143
Concentration (ug/L): ----------

Replicate 2 Time: 20:30
Peak Area (A-s): 0.346 Peak Height (A): 0.834
Background Pk Area (A-s): 0.421 Background Pk Height (A): 0.226
Blank Corrected Pk Area (A-s): 0.341
Concentration (ug/L): 73.5

Sample abs. is outside range of the calibration function.
Mean Conc (ug/L): ---- SD: ---- RSD(%):

Recovery is -483.3%

~~~~~~

Pb ID: MEK099S Seq. No.: 00121 A/S Pos.: 9 Date: 10/29/92

Sample abs. is outside range of the calibration function.

Replicate 1 Time: 20:32
Peak Area (A-s): 0.639 Peak Height (A): 1.719
Background Pk Area (A-s): 1.114 Background Pk Height (A): 0.653
Blank Corrected Pk Area (A-s): 0.634
Concentration (ug/L): -------

dil 10x rerun
drm 10/29/92

Replicate 2 Time: 20:34
Peak Area (A-s): 0.119 Peak Height (A): 0.337
Background Pk Area (A-s): 0.393 Background Pk Height (A): 0.136
Blank Corrected Pk Area (A-s): 0.113
Concentration (ug/L): 21.8

Mean Conc (ug/L): ---- SD: ---- RSD(%): ----

~~~~~~

Pb ID: CCV Seq. No.: 00122 A/S Pos.: 36 Date: 10/29/92

Replicate 1 Time: 20:36
Peak Area (A-s): 0.179 Peak Height (A): 0.478
Background Pk Area (A-s): 0.150 Background Pk Height (A): 0.102
Blank Corrected Pk Area (A-s): 0.174
Concentration (ug/L): 34.1

Replicate 2 Time: 20:38
Peak Area (A-s): 0.182 Peak Height (A): 0.494
Background Pk Area (A-s): 0.146 Background Pk Height (A): 0.083
Blank Corrected Pk Area (A-s): 0.176
Concentration (ug/L): 34.6

Mean Conc (ug/L): 34.3 ok SD: 0.37 RSD(%): 1.08

QC sample is within range 31.4 - 38.6

~~~~~~

Pb ID: CCB Seq. No.: 00123 A/S Pos.: 0 Date: 10/29/92

Replicate 1 Time: 20:41
Peak Area (A-s): 0.005 Peak Height (A): 0.010
Background Pk Area (A-s): 0.104 Background Pk Height (A): 0.040
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Replicate 2 Time: 20:43
Peak Area (A-s): 0.003 Peak Height (A): 0.010
Background Pk Area (A-s): 0.103 Background Pk Height (A): 0.039
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.3

Mean Conc (ug/L): -0.2 ok SD: 0.19 RSD(%): 97.32 ok

QC sample is within range -3.0 - 3.0

0045

~~~~~~

Pb ID: LCSS Seq. No.: 001[illegible] A/S Pos.: [illegible] Date: 10/29/92

END RUN DRM 10/29/92

PE3030 INTL STARTTIME 20:20

GFAAS - SOLID

Weyerhaeuser Company

Analytical Laboratories
Tacoma, Washington

Request # 9507

SDG # MEK099
SAS #
CASE # Everett

DATA SHEET - RUN LOG

Element Pb

Energy (Pb2) = mA 66

Mean

	Lab Code	EPA Sample No.	Result ~~mg/kg~~ UG/L	~~Sample Basis~~	Weight	Volume	Dilution
1	S0	S0					
2	SCRDL	S 3					
3	S35	S35					
4	S75	S75					
5	ICV2	ICV2	51.3				
6	ICB2	ICB2	-0.2				
7	CRA2	CRA 2	3.0				
8	LCSS1	LCSS1	25.2		0.51	100	50x
9	LCSSA	LCSSA	46.4		↓		↓
10	95100	MEK100	15.2		1.26		10x
11	95100A	100A	34.8		↓		
12	95099D	099D	70.2		1.21		-20x
13	95099DA	099DA	88.3		↓		
14	95099	099	47.4		1.16		
15	95099A	099A	66.7		↓		
16	95099S	↓ 099S	26.1		1.02	↓	↓
17	CCV3	CCV3	36.0				
18	CCB3	CCB3	-0.3				
19	95099D	MEK 099D	34.7		1.21	100	20
20	95099DA	↓ 099DA	54.8		↓	↓	↓
21	CCV4	CCV4	36.0				
22	CCB4	CCB4	-0.1				
23							
24							
25		Dam 10/29/92					
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37							
38							

3:53

Prep. Date	Analysis Date	Time Started	
10/16/92	29OCT92	20	20

INSTRUMENT: PE3030

RUN NUMBER: 2

A= + 20 UG/L

ICV-2C SPEX Exp date
LOT #4-109AS 31 Jul 93

Record every analysis in the order analyzed, whether valid or failed.

Analyst Dam
Witness DJD. 30OCT92

Increment

Page 1 of 1

0046

PE: S0 REVIEWED BY STAFF 10-1-92

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.005	0.006
PEAK AREA (ABS-SECONDS)	0.004	0.005	-0.001

READ: 0.009 r = 0.999 .004

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.011	0.004	0.010
PEAK AREA (ABS-SECONDS)	0.001	0.008	-0.001

READ: 0.007

MEAN= 0.008 STD.DEV.= 0.002 COEF.VAR.= 21.68 %

0.000 AUTOZERO

PE: S3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.045	0.040	0.011
PEAK AREA (ABS-SECONDS)	0.022	0.022	0.000

READ: 0.018 .022

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.047	0.041	0.012
PEAK AREA (ABS-SECONDS)	0.024	0.023	0.001

READ: 0.019

MEAN= 0.019 STD.DEV.= 0.000 COEF.VAR.= 2.60 %

3.0 STANDARD 1

PE: S35

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.523	0.446	0.077
PEAK AREA (ABS-SECONDS)	0.255	0.219	0.036

READ: 34.6 0.218

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.528	0.454	0.077
PEAK AREA (ABS-SECONDS)	0.255	0.218	0.037

READ: 34.5

MEAN= 34.6 STD.DEV.= 0.1 COEF.VAR.= 0.26 %

34.6

E-50: READING GREATER THAN HIGHEST STANDARD

35.0 STANDARD 2

PE: S75

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.995	0.837	0.158
PEAK AREA (ABS-SECONDS)	0.497	0.424	0.072

READ: 69.5 0.421

(CONTINUED)

S75

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.002	0.842	0.160
PEAK AREA (ABS-SECONDS)	0.496	0.418	0.078

READ: 68.5

MEAN= 69.0 STD.DEV.= 0.7 COEF.VAR.= 1.06 %

69.0

E-50: READING GREATER THAN HIGHEST STANDARD

75.0 STANDARD 8

PE 0005 ICV 20:35

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.738	0.626	0.112
PEAK AREA (ABS-SECONDS)	0.361	0.308	0.053

READ: 51.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.735	0.628	0.110
PEAK AREA (ABS-SECONDS)	0.356	0.304	0.052

READ: 50.9 OK

MEAN= 51.3 STD.DEV.= 0.6 COEF.VAR.= 1.12 %

PE 0006 ICB 20:39

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.012	0.004	0.012
PEAK AREA (ABS-SECONDS)	0.002	0.002	0.000

READ: -0.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.013	0.004	0.014
PEAK AREA (ABS-SECONDS)	0.002	0.003	-0.001

READ: -0.2

OK

MEAN= -0.2 STD.DEV.= 0.0 COEF.VAR.= 9.30 %

PE 0007 CRA 20:43

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.047	0.044	0.014
PEAK AREA (ABS-SECONDS)	0.026	0.024	0.002

READ: 3.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.047	0.042	0.013
PEAK AREA (ABS-SECONDS)	0.026	0.024	0.002

READ: 3.0 OK

MEAN= 3.0 STD.DEV.= 0.0 COEF.VAR.= 1.30 %

PB 0008 LCSS (50X)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.333	0.286	0.047
PEAK AREA (ABS-SECONDS)	0.197	0.161	0.036

READ: 25.0 248.5 ng/g

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.336	0.290	0.047
PEAK AREA (ABS-SECONDS)	0.198	0.168	0.035

READ: 25.4 OK

MEAN= 25.2 STD.DEV.= 0.3 COEF.VAR.= 1.38 %

****

PB 0009 LCSS A (50X)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.546	0.486	0.080
PEAK AREA (ABS-SECONDS)	0.336	0.280	0.056

READ: 46.4 106%

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.569	0.486	0.083
PEAK AREA (ABS-SECONDS)	0.334	0.280	0.054

READ: 46.4

MEAN= 46.4 STD.DEV.= 0.0 COEF.VAR.= 0.07 %

****

PB 0010 MEK 100 (10X)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.259	0.222	0.048
PEAK AREA (ABS-SECONDS)	0.162	0.105	0.057

READ: 15.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.259	0.222	0.046
PEAK AREA (ABS-SECONDS)	0.163	0.100	0.064

READ: 14.8

MEAN= 15.2 STD.DEV.= 0.6 COEF.VAR.= 4.09 %

****

PB 0011 MEK 100A (10X)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.534	0.454	0.081
PEAK AREA (ABS-SECONDS)	0.294	0.215	0.078

READ: 34.5 98%

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.544	0.462	0.082
PEAK AREA (ABS-SECONDS)	0.302	0.219	0.082

READ: 35.2

MEAN= 34.8 STD.DEV.= 0.6 COEF.VAR.= 1.59 %

****

PB 0012 MEK099D (10X)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.957	0.800	0.157
PEAK AREA (ABS-SECONDS)	0.526	0.401	0.126

READ: 70.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.938	0.784	0.155
PEAK AREA (ABS-SECONDS)	0.525	0.388	0.127

READ: 69.9

MEAN= 70.2 STD.DEV.= 0.5 COEF.VAR.= 0.69 %

****

PB 0013 MEK099DA (10X)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.156	0.954	0.202
PEAK AREA (ABS-SECONDS)	0.630	0.485	0.145

READ: 89.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.116	0.924	0.194
PEAK AREA (ABS-SECONDS)	0.621	0.478	0.143

READ: 87.5

MEAN= 88.3 STD.DEV.= 1.4 COEF.VAR.= 1.60 %

****

88.3

E-50: READING GREATER THAN HIGHEST STANDARD

****

dil 20X dfm 10/29/98

PB 0014 MEK 099 (10X)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.706	0.589	0.117
PEAK AREA (ABS-SECONDS)	0.398	0.286	0.111

READ: 47.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.726	0.606	0.120
PEAK AREA (ABS-SECONDS)	0.389	0.284	0.105

READ: 47.2

MEAN= 47.4 STD.DEV.= 0.3 COEF.VAR.= 0.68 %

****

PB 0015 MEK099A (10X)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.938	0.780	0.160
PEAK AREA (ABS-SECONDS)	0.508	0.383	0.125

READ: 66.9 96.5 %

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.938	0.779	0.160
PEAK AREA (ABS-SECONDS)	0.503	0.382	0.121

READ: 66.6

MEAN= 66.7 STD.DEV.= 0.2 COEF.VAR.= 0.37 %

****

MEK099A DF 14/01/92 (10X)
S

PB 0016

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.462	0.381	0.083
PEAK AREA (ABS-SECONDS)	0.254	0.171	0.083

READ: 26.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.426	0.348	0.078
PEAK AREA (ABS-SECONDS)	0.245	0.165	0.080

READ: 25.6

MEAN= 26.1 STD.DEV.= 0.8 COEF.VAR.= 3.05 %

****

PB 0017 CCV 21:22

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.626	0.534	0.094
PEAK AREA (ABS-SECONDS)	0.264	0.227	0.037

READ: 36.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.600	0.513	0.087
PEAK AREA (ABS-SECONDS)	0.258	0.222	0.036

READ: 35.6 OK

MEAN= 36.0 STD.DEV.= 0.7 COEF.VAR.= 1.99 % 0051

****

PB 0018 CCB 21:26

	AA	ZAA	BG

CC13

READ: -0.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.012	0.004	0.015
PEAK AREA (ABS-SECONDS)	-0.001	0.002	-0.003

READ: -0.3

ok ok

MEAN= -0.3 STD.DEV.= 0.1 COEF.VAR.= 32.07 %

****

PE 0019 MEK099D (20X)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.536	0.457	0.080
PEAK AREA (ABS-SECONDS)	0.288	0.218	0.071

READ: 34.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.548	0.465	0.082
PEAK AREA (ABS-SECONDS)	0.286	0.216	0.070

READ: 34.6

MEAN= 34.7 STD.DEV.= 0.3 COEF.VAR.= 0.74 %

****

MEK099DA (20X)

PE 0020

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.820	0.690	0.139
PEAK AREA (ABS-SECONDS)	0.412	0.322	0.091

READ: 54.4 100.5%

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.803	0.677	0.126
PEAK AREA (ABS-SECONDS)	0.419	0.326	0.093

READ: 55.2

MEAN= 54.8 STD.DEV.= 0.6 COEF.VAR.= 1.10 %

****

PB 0021 21.20

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.625	0.532	0.093
PEAK AREA (ABS-SECONDS)	0.266	0.224	0.042

READ: 36.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.613	0.524	0.090
PEAK AREA (ABS-SECONDS)	0.262	0.224	0.039

READ: 35.9 OK

MEAN= 36.0 STD.DEV.= 0.1 COEF.VAR.= 0.23 %

****

PB 0022 CCB 21:42

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.013	0.004	0.015
PEAK AREA (ABS-SECONDS)	0.001	0.002	-0.001

READ: -0.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.014	0.005	0.014
PEAK AREA (ABS-SECONDS)	0.001	0.004	-0.002

READ: 0.0 OK

MEAN= -0.1 STD.DEV.= 0.1 COEF.VAR.= 99.99 % ok

****

ANALYTICAL LABORATORY SERVICES REQUEST

Weyerhaeuser Research and Development - Analysis and Testing

Request Number: 09610

Title: EVERETT EMCON / PHASE II SOILS #120-2974670 - SANDBLAST AREA		
Number of Samples: 9	Project Number: 046-5632	Groups: 3,6
Date Received: 09/03/92	Date Desired: 09/29/92	Estimated Completion Date: 09/29/92
Submitted By: NORTH, JOHN	Location: EMCON, NW	Telephone: 485-5000
Reviewed By: DOXSEE Kari	Location: 2F 25	Telephone: 924-6148
Project Title: WPC-EVERTT PULP	Project Leader: MIHOK	
Copy To:		

Sample Description and History:

** CLP DELIVERABLES ** CLP DELIVERABLES

Group	Series	Test Code	Test Description		
			Report Range	Report Basis	Lower Limit of Sensitivity
3	A	TCLP-EM	TCLP (Extraction and metals - Ag, As, Ba, Cd, Cr, Pb, Se, Hg) * IF TCLP FAILS RUN EP-TOX *		

Sample Number	Series to Be Evaluated	Submitter's Designation		
95826	A	TP-92-20,S-1	9/02 0910	09/03/92
95827	A	TP-92-21,S-1	9/02 1000	09/03/92
95828	A	TP-92-22,S-1	9/02 1030	09/03/92
95829	A	TP-92-23,S-1	9/02 1100	09/03/92
95832	A	TP-92-26-S-1	9/2 1245	09/03/92
95833	A	TP-92-27-S-1	9/2 1300	09/03/92
95834	A	TP-92-28-S-1	9/2 1315	09/03/92
95835	A	TP-92-29-S-1	9/2 1325	09/03/92
95836	A	TP-92-30-S-1	9/2 1343	09/03/92

Reference: 9609			Record Book:
Results Approved: Julie Remey	Date: 11-5-92	Signature Applies To Attached Pages:	Page Numbers: To: 0001

Printed on: 09/03/92 at 14:49:57

WEYERHAEUSER COMPANY
ANALYTICAL LABORATORIES
ATOMIC SPECTROSCOPY
Tacoma, WA

Everett Emcon/Phase II Soils
SR 09610
TCLP Metals Analysis

Element	95826 TP-92-20 S-1	95826D Duplicate	95827 TP-92-21 S-1	95828 TP-92-22 S-1	95829 TP-92-23 S-1	SW-846 Method Number
	(mg/L in the TCLP extract)					
Ag	< 0.01	< 0.01	< 0.01	0.02	< 0.01	1311/3010/6010
As	0.3	0.3	0.1	0.1	< 0.1	1311/3010/6010
Ba	1.5	1.5	2.6	< 0.5	0.8	1311/3010/6010
Cd	0.02	0.02	0.02	< 0.01	< 0.01	1311/3010/6010
Cr	<0.01	<0.01	<0.01	0.02	<0.01	1311/3010/6010
Hg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	1311/7470
Pb	7.36	7.39	7.39	1.18	0.33	1311/3010/6010
Se	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	1311/3010/6010

Note: (1) TCLP metals results have not been corrected for spike recovery.

(2) Lead exceeds the TCLP maximum contamination level for samples 95826 and 95827.

Approved _____ 11/6/92 Notebook _____

0003

WEYERHAEUSER COMPANY
ANALYTICAL LABORATORIES
ATOMIC SPECTROSCOPY
Tacoma, WA

Everett Emcon/Phase II Soils
SR 09610
TCLP Metals Analysis

Element	95832 TP-92-26 S-1	95833 TP-92-27 S-1	95834 TP-92-28 S-1	95835 TP-92-29 S-1	95836 TP-92-30 S-1	SW-846 Method Number
	(mg/L in the TCLP extract)					
Ag	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	1311/3010/6010
As	< 0.1	< 0.1	< 0.1	0.1	< 0.1	1311/3010/6010
Ba	0.7	0.5	0.8	0.8	0.6	1311/3010/6010
Cd	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	1311/3010/6010
Cr	<0.01	<0.01	<0.01	<0.01	<0.01	1311/3010/6010
Hg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	1311/7470
Pb	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1311/3010/6010
Se	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	1311/3010/6010

Note: TCLP metals results have not been corrected for spike recovery.

Approved _____ 11/6/92 Notebook _____

0003

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

SAMPLE NUMBER(S): 95826-36 · 96108-10 · 96613

SERVICE REQUEST NUMBER: 9610 · 9661 · 9743

FOR: DETERMINATION OF EXTRACTION FLUID

METHOD NUMBER: 1311

DATA

SAMPLE NUMBER	ALIQUOT (g. as is)	D.I. H_2O ADDED	INITIAL pH	1N HCl ADDED	FINAL pH	EXTRACTION FLUID NUMBER
95826	5.0 g.	96.5 mL	8.39	3.5 mL	1.84	#1
95827	↓	↓	8.50	↓	1.78	↓
95828			11.25		SN 9-22 6.5.90	#2
95829			8.91		1.80	#1
95832			8.85		1.78	↓
95833			8.85		1.92	
95834			9.03		1.77	
95835			8.29		1.85	
95836			8.51		1.75	
96108			8.88		1.76	
96109			7.07		1.84	
96110			8.74		1.75	
96613	↓	↓	8.41	↓	4.98	↓

Comments: Temp. 23 °C
pH of extraction fluid # ___ = ___

ANALYST: Sherry Wilson   DATE: 9-23-92

WITNESS: [signature]   DATE: 10-6-92

NB NUMBER

PAGE NUMBER

0001

VG 11/0611 6/84

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

SAMPLE NUMBER(S): 95826-36 · 96108-10 · 96613
SERVICE REQUEST NUMBER: 9610 · 9661 · 9743

LYSIS FOR: TCLP EXTRACTION
METHOD NUMBER: 1311

DATA

	SAMPLE NUMBER	ALIQUOT (g. as is)	FLUID # AND AMOUNT (mL)	DAY / TIME ON	DAY / TIME OFF	FINAL pH	% SOLI
#1	TCLP BLANK		#1: 2000 ml	9-23 / 17:45	9-24 / 11:45	——	
#2	95826	100.0 g	↓	↓	↓	5.10	100%
#3	95827	↓	↓	↓	↓	4.84	↓
#4	95828	↓	#2: 2000 ml	↓	↓	5.07	↓
#5	95829	↓	#1: 2000 ml	↓	↓	4.89	↓
#6	95830	↓	↓	↓	↓	4.75	↓
#7	95833	↓	↓	↓	↓	5.01	↓
#8	95834	↓	↓	↓	↓	4.86	↓
#9	95835	↓	↓	↓	↓	4.81	↓
#10	95836	↓	↓	↓	↓	4.75	↓
		↓	↓	↓	↓	↓	↓
D	96105	↓	↓	↓	↓	4.97	↓
#16	96108	↓	↓	↓	↓	↓	↓
#17	96109	↓	↓	↓	↓	4.94	↓
#18	96109	↓	↓	↓	↓	↓	↓
#100	96110	↓	↓	↓	↓	4.96	↓
#101	96110	↓	↓	↓	↓	↓	↓
——	96613						<0.5%

☒ Samples had no free liquid; Solid was extracted: SW 9-22-92 95826-36, 96108-

☐ Samples < 0.5% Solid; Filtrate is extract: 96613

☐ Samples > 0.5% Solid; Solid was extracted and the extract was combined with original filtrate: ——

Comments: Minimum Temperature: 23 °C Maximum Temperature 23 °C
Filtering Device # ——
#2 pH = 2.90
#1 #492 pH = 4.98
#1 (A+B were combined)

ANALYST: Sherry Klein — DATE: 9-23-92 — NB NUMBER:
WITNESS: MPL — DATE: 10-6-92 — PAGE NUMBER:

VG 11/061

0005

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

SAMPLE NUMBER(S)	SERVICE REQUEST NUMBER
95826-29, 32-36	9516
ANALYSIS FOR: TCLP METALS	METHOD NUMBER: 3010

DATA

SAMPLE NUMBER	ALIQUOT (mL)	FINAL DILUTION (mL)	MATRIX	% SOLID	TYPE OF SAMPLE
TCLP BLANK	100 ml	100 ml	2% HNO_3 5% HCl		Extr. Fluid #1
Sp. TCLP Blank	↓	↓	↓		↓
95826				100%	soil
95826D				↓	↓
95826S					
95827					
95828					
95829					
95832					
95833					
95834					
95835					
95836	↓	↓	↓	↓	↓

10-20-92 SW

Comments:

ANALYST	DATE	NB NUMBER
Sherry Wilson	10-20-92	Time: 14:00
WITNESS	DATE	PAGE NUMBER
JR	11-5-92	0006

VG 11/061

9-15-92 S1NONSP.XLS

SR# 9616

SAMPLE# 95326

ICP
NON-CLP
SOIL SPIKE SHEET
(IN 100 ML)

Analyte	Source	Lot #	Exp. Date	Conc. in Digestate (ppb)	Conc. in Spike sol'n. (ppm)	SOILS Vol. Spike Added (for 100-mL)
STD-2						
Al				1000	100	1.0
As				1000	100	
Bi				1000	100	
B				1000	100	
Ca		Inorganic		1000	100	
Fe		Ventures		1000	100	
K				5000	500	
Mg		Lot# H-MEB13074		1000	100	
Na		Exp. 5-1-93		1000	100	
Ni				1000	100	
P				5000	500	
Pb				1000	100	
Se				1000	100	
Tl				1000	100	
STD-3						
Ag				1000	100	1.0
Ba				1000	100	
Be		Inorganic		1000	100	
Cd		Ventures		1000	100	
Co				1000	100	
Cr		Lot# H-MEB14131		1000	100	
Cu		Exp. 7-1-93		1000	100	
Li				1000	100	
Mn				1000	100	
Sr				1000	100	
V				1000	100	
Zn				5000	500	
SP-X						
Mo	Baker	D40625	Nov-92	500	50	1.0
Sb	SPEX	2-123-MD	Oct-92	500	50	
Sn	EMSci	31305	Nov-93	500	50	

Prep Technician Sherry [signature]

Date 10-20-92

22 Weyerhaeuser Co. Project No. _____ Book No. 10425 TITLE ICAP 61E Run Log

~~Roll Page~~ No.	SR, SDG	Method	# Samp	Initials	Comments
27oct92	9846, 9846R	CLP1150	20+	DAH	Everett
28oct92	9690	Wexcoppm	6+	DAH	URS Filters
	9829		5+	DAH	2nd & 3rd Quarter Pulp
	9636		6+	DAH	Ace Project
	9987		4+	DAH	N. Bend Used Oil
	10065		4+	DAH	N. Bend USED Oil
	9985		6+	DAH	N. Caroling Water For Si
	SR010011	CLP1150	2+	DAH	Marine Tissue URS/SAIC
29oct92	TCLP Spike Sol.	CLP1150	1+	DAH	1/100 and 1/10 dil Lot HMEB161449
	Sr-121		1+	DAH	1/10 dil Lot EM30331
	9684 Reanalysis		2+	DAH	only ran Blk + LCSW then hold autosamp probs.
	~~9684 Reanalysis 2~~				DAH 10-29-92
	9981	FBA1150	14+	DAH	Valliant Recaust
	9909	FBA1150	3+	DAH	Valliant Dig Scale
	9487, 9487R	CLP1150	20	DAH	Everett Waters
30oct92	9684 Reanalysis 2	CLP1150	16+	DAH	New Bern Ash Grndwtr.
	SR010011	CLP1150	2+	DAH	Reanalysis CF = 1000
	9984	CLP1150	13+	DAH	Plymouth Grndwtrs.
31oct92	9984	CLP1150	6+	DAH	Samples 98040 > 98046 5/10 dil
01Nov92	9982	CLP1150	3+	DAH	Polyacrylic Acid 5000 treated Fiber
	10127	CLP1150	1+	DAH	Caustic Soda
	10080	CLP1150	9+	DAH	Metals in Liquid Acids
02Nov92	10021	CLP1150	20+	DAH	Everett Soils for As Run Nos
	10021	CLP1150	20+	DAH	Everett Soils Run #2
	10093	CLP1150	1+	DAH	1 sample for Ca
	9610	CLP1150	9+	DAH	Everett TCLPs - last CCB not ana
03Nov92	9610 #2	Wexcoppm	9+	DAH	Everett TCLPs

To Page No. _____

Witnessed & Understood by me,	Date	Invented by	Date
	11-5-92	Recorded by	

WEYERHAEUSER COMPANY Project No. _____

2 Book No. 10428 TITLE STD-1 BLANK

From Page No. _____

HCl 5% HCl in DDI H_2O

DATE	INit.	Source	Comments
25AUG92	DAH	GFST4	
26AUG92	DAH	GFST4	
28AUG92	DAH	GFST4	
01Sept92	DAH	GFST5	
08Sept92	DAH	GFST5	
09Sept92	DAH	GFST4	
10 Sept92	DAH	GFST4	
11 Sept92	DAH	GFST4	
12 Sept92	DAH	GFST4	
14 Sept92	DAH	GFST4	
15 Sept92	DAH	GFST4	
16 Sept92	DAH	GFST4	
17 Sept92	DAH	GFST4	
18 Sept92	DAH	GFST4	
23 Sept92	DAH	GFST4	
25 Sept92	JR	GFS-T4	
30 Sept92	JR	GFS-T4	MBL 10-2-92
~~08 SEP 92~~	~~JR~~	JR 10-8-92	
08-OCT-92	JR	Baker Lot # E39054	
19-OCT-92	JR	~~Baker~~ JR 10-19-92	Baker Lot # F06822
21-OCT-92	JR	Baker Lot # F06822	
27 oct 92	DAH	Baker Lot # F06822	
29oct 92	DAH	Baker Lot F06822	
30oct 92	DAH	Baker Lot F06822	
31oct92	DAH	Baker Lot F06822	
02NOV92	DAH	Baker Lot F06822	

To Page N

Witnessed & Understood by me,	Date	Invented by	Date
JR	11-5-92	Recorded by	

0003

TITLE STD-2

Project No.

Book No. 10428

From Page No.

Contents: DAH 10/14

10 ppm Al, As, Bi, Ca, Fe, Mg, Na, Ni, Pb, Se, Tl, B

50 ppm P, K

20 ppm Fe

Recipe:

1/10 dilution of Inorganic Ventures STD-2 in 5% HC with DDI water.

Date	Initials	Source/Lot #	Designated Bottle #	Exp Date	Comments
12 MAY 92	DAH	H MEB12137-IV	"B"	4-1-93	Na = 200 ug/ml in I.V.
18 MAY 92	DAH	H MEB12137-IV	"B" "	4-1-93	" "
31 MAY 92	DAH	H MEB12137-IV	"B" "	4-1-93	" "
19 Jun 92	DAH	HMEB12137-IV	"B" "	4-1-93	" "
30 Jun 92	DAH	HMEB12137-IV	"B" "	4-1-93	+2.5 mls 1000 ppm Fe Lot F086
~~09 Jul 92~~	~~DAH~~	~~HMEB12137-IV~~	~~"B" "~~	~~4-1-93~~	DAH 09 Jul 92 Forgot to add Fe
Jul 92	DAH	HMEB13074	"C"	5-1-93	+2.5 mls 1000 ppm Fe-3 Lot F08644
09 Jul 92	DAH	HMEB12137	B	4-1-93	+2.5 mls 1000 ppm Fe-3 Lot F08644
20 Jul 92	DAH	HMEB12137	B	4-1-92	+2.5 mls 1000 ppm Fe Lot I
03 Jul 92	DAH	HMEB13074	C DAH 8-3	5-1-93	+2.5 mls 1000 ppm Fe Lot F
11 AUG 92	DAH	HMEB13074	C	5-1-93	+2.5 mls Fe 1000 ppm Lot
24 AUG 92	DAH	HMEB13074	C	5-1-93	+2.5 mls Fe 1000 ppm Lo
08 Sept 92	DAH	HMEB13074	C	5-1-93	+2.5 mls Fe 1000 ppm Lot F086
16 Sept 92	DAH	HMEB13074	D	5-1-93	+ " " "
23 Sept 92	DAH	HMEB13074	D	5-1-93	+ " " "
23 OCT-92	JF	H-MEB13074	D	5-1-93	+2.5 ml Fe 1000 ppm Lot F08

To Page N

Witnessed & Understood by me, JF Date 11-5-92

Invented by

Date

TITLE STD-3

Project No. WEYERHAEUSER COMPANY
Book No. 10428

Page No.

Contents:
1 ppm Ba, Be, Cd, Co, Cr, Cu, Li, Mn, Sr, V, Ag
5 ppm Zn

Recipe: 1/100 dilution of Inorganic Ventures STD-3 in 5% HNO3

DATE	Source/Lot #	"Bottle"	Initials	Comments
12MAY92	IV GMEB07060	B	DAH	expires 7-1-92
14MAY92	IV GMEB07060	A	DAH	" "
31MAY92	IV GMEB07060	A	DAH	" "
19Jun92	IV GMEB07060	A	DAH	" "
~~08Jul92~~	~~IV GMEB07060~~	~~A~~	~~DAH~~	" " pH Source expired
08Jul92	IV H-MEB14131	C	DAH	7-1-93 expires
16Jul92	IV H MEB14131	C	DAH	" "
Jul92	IV H MEB14131	D	DAH	" " MBL 8-3-
03AUG92	IV H MEB14131	D	DAH	7-1-93
13AUG92	IV H MEB14131	D	DAH	7-1-93
26AUG92	IV H MEB14131	D	DAH	7-1-93 jpr 9-1-92
10Sept92	IV H MEB14131	D	DAH	7-1-93
23Sept92	IV H MEB14131	D	DAH	7-1-93 MBL 10-2-9
23-OCT-92	IV H-MEB14131	D	jpr	7-1-93

0011

To Page

Witnessed & Understood by me, jpr | Date 11-5-92 | Invented by | Date

TITLE STD-4

Project No. (WEYERHAEUSER COMPANY)

Book No. 10428

From Page No.

Contents:
10ppm Sb, Sn, Ti, Mo

Recipe: 1/100 dilution of 1000ppm Baker Standards in 5% HCl

DATE	Initials	Source (Assigned Bottle Number) Mo	Sb	Sn	Ti	Comments
12 MAY 92	DAH 5-12 DH	~~18~~ 85	68	79	104	
22 MAY 92	DAH	85	68	79	104	
11 Jun 92	DAH	85	68	79	104	
02 Jul 92	DAH	85	68	79	104	
18 Jul 92	DAH	85	68	125	104	
23 Jul 92	DAH	120	68	125	104	UBL 8-3-92
03 AUG 92	DAH DAH 8-3-92	~~85~~ 120	68	125	104	
3 AUG 92	DAH	120	68	125	104	JR 9-1-92
11 Sept 92	DAH	120	68	125	104	
23 Sept 92	DAH	120	68	125	104	UBL 10-4-92
23-OCT-92	JR	120	Sb-3	125	104	

001

To Page

Witnessed & Understood by me, JR Date 11-5-92 1-21-92

Invented by

Date

STD-5

Contents: 100 ppm Fe
150 ppm Mg
50 ppm Si

Recipe: - 1/10 dilution of 1000 ppm Fe in 5% HCl
- 37.5 mls of 1000 ppm Mg (in 250 ml Final Volume), in 5% HCl
- 1/20 dilution of 1000 ppm Si in 5% HCl

Date	Initials	Source (Assigned Bottle Number) Fe	Mg	Si	Comments
MAY 92	DAH	80	119	123	
8 Jun 92	DAH	Fe 3	117	123	
8 Jul 92	DAH	Fe-3	117	123	
3 Jul 92	DAH	Fe-3	119	113	MBL 8-3-92
3 AUG 92	DAH	Fe-3	119	123	
3 [illegible] 92	DAH	Fe-3	Mg-8	124	JR 9-1-92
1 Sept 92	DAH	Fe-3	Mg-8	113	
23 Sept 92	DAH	Fe-3	Mg-8	113	MBL 10-2-92
3 OCT 92	JR	Fe-3	Mg-9	113	

To Page No

Witnessed & Understood by me, JR Date 11-5-92 / 1-28-92

Invented by

Date

From Page No.

Recipe: +0.5mL SPEX-2A (4107AS), 0.5mL SPEX 2B(4-108AS), 0.5mL SPEX 2C(4-109
+0.1mL Mo, 0.1mL Sr, 0.25mL 1000ppm Sn
+0.2mL B, 0.2mL Li, 0.2mL Si, 0.2mL Bi, 0.2mL Tl.
+2.0mL P, 3mLs K
dilute to 250mLs in appropriate matrix

Contents: 8.0ppm P, 16.0ppm K
4.0ppm Ca, Na, Mg, ~~K~~ DAH 9-2-92
2.0ppm Al, Sb, Ba, Fe,
1.0ppm Co, Pb, Ni, V, Sn, Tl, Se, As
0.4ppm Cr, Cu, Sr, Mo
0.8ppm Li, Bi, Ti, Si, B
0.2ppm, Be, Cd, Mn, Zn, Ag

SOURCES

DATE	SPEX Lot #	SPEX Lot #	SPEX Lot #	Assigned Bottle Number: Li	Si	Sn	Bi	Mo	B	P	Ti	Sr	K
				Baker 116	Baker Si-5	EM Sn-5	EM 115	Baker 650 B Baker	Baker 45	SPEX 58	Baker Ti-4	EM 121	
8-22-92	2A(4-107AS)	2B(4-108AS)	2C(4109AS										
9-2-92	2A(4-107AS)	2B(4-108AS)	2C(4-109AS)	116	Si-5	Sn-5	115		45	58	Ti-4	121	
9-14-92	2A(4-107AS)	2B(4-108AS)	2C(4-109AS)	116	Si-5	Sn-5	EM 115	85	45	58	Ti-4	EM 121	K 5
9-24-92	2A(4-107AS)	2B(4-108AS)	2C(4-109AS)	VWR 108	Si-5	Sn-5	Baker Bi-1	85	45	58	Ti-4	EM 121	K:
21-OCT-92	2A(107AS)	2B(4-108AS)	2C(4-107AS)	108	Si-5	Sn-5	Bi-1	85	45	58	Ti-4	Baker Si-3	K-

To Page No.

Witnessed & Understood by me, [signature] Date 9-1-92

Invented by

Recorded by

Date

TITLE CLP CCV (cont)

Project No. _____ Book No. 10428

WEYERHAEUSER COMPANY 49

From Page No. — Inorganic Ventures Stocks

DATE	Initials	I.V. STD 2	I.V. STD 3	Assigned Bottle Number Mg	Si	Sb	Sn	Ti	Mo	Fe	Bottle #
28Jul92	DAH	HMEB12137 A	HMEB14131 D	119	113	68	125	104	85	3	
31Jul92	DAH	HMEB12137A	HMEB14131 D	118	113	68	125	104	120	3	
03Aug 92	DAH	HMEB13074C	HMEB14131 D	119	113	68	125	104	85	3	MBL 8-
04Aug 92	DAH	HMEB13074C	HMEB14131 D	119	113	68	125	104	~~85~~ DAH 8/4 120	3	500mls w
05AUG92	DAH	HMEB13074C	HMEB14131 D	119	113	68	125	104	120	3	Bottle 1
05AUG92	DAH	HMEB13074C	HMEB14131 D	119	113	68	125	104	120	3	Bottle 2
14AUG92	DAH	HMEB13074C	HMEB14131 D	114	113	68	Sn-5	104	120	3	#1
14AUG92	DAH	HMEB13074C DAH 8/21	HMEB14131 D	119	113	68	Sn-5	104	120	3	#2
23AUG92	DAH	HMEB13074C	HMEB14131 D	Mg-8	124	68	125	104	120	3	#1
23AUG92	DAH	HMEB13074C	HMEB14131 D	Mg-8	124	68	125	104	120	3	#2
8Sept92	DAH	HMEB13074C	HMEB14131 D	Mg-8	124	68	5	104	120	3	#1
8Sept92	DAH	HMEB13074C	HMEB14131 D	Mg-8	124	68	5	104	120	3	#2
11Sept92	DAH	HMEB13074C	HMEB14131 D	Mg-8	113	68	125	104	120	3	#1
11Sept92	DAH	HMEB13074C	HMEB14131 D	Mg-8	113	68	125	104	120	3	#2
16Sept92	DAH	HMEB13074D	HMEB14131 D	Mg-8	113	68	Sn-5	104	120	3	#1
16Sept92	DAH	HMEB13074D	HMEB14131 D	Mg-8	113	68	Sn-5	104	120	3	#2
24Sept92	DAH	HMEB13074D	HMEB14131 D	Mg-8	113	68	Sn-5	Ti-4	120	3	#1
24Sept92	DAH	HMEB13074D	HMEB14131 D	Mg-8	113	68	Sn-5	Ti-4	120	3	#2
07-OCT-92	JR	H-MEB13074 D	H-MEB14131 D	Mg-8	113	Sb-3	Sn-5	Ti-4	85	Fe-3	#1
07-OCT-92	JR	H-MEB13074 D	H-MEB14131 D	Mg-8	113	Sb-3	Sn-5	Ti-4	85	Fe-3	#2
21-OCT-92	JR	H-MEB13074D	H-MEB14131 D	Mg-9	113	Sb-3	Sn-5	Ti-4	85	Fe-3	#1
21-OCT-92	JR	H-MEB13074D	H-MEB14131 D	Mg-9	113	Sb-3	Sn-5	Ti-4	85	Fe-3	#2
27-OCT-92	DAH	H-MEB13074D	H-MEB14131 D	Mg-9	Si-5	Sb-3	Sn-5	104	120	Fe-3	#1
27-OCT-92	DAH	H-MEB13074D	H-MEB14131 D	Mg-9	Si-5	Sb-3	Sn-5	104	120	Fe-3	#2
02NOV92	DAH	HMEB13074D	HMEB14131 D	Mg-9	113	Sb-3	Sn-5	104	120	Fe3	#1
02NOV92	DAH	HMEB13074D	HMEB14131 D	Mg-9	113	Sb-3	Sn-5	104	120	Fe3	#2

To Page No. — To Page No.

Witnessed & Understood by me, MBL Date 8-3-92

Invented by Date

Recorded by

0015

From Page No.

Contents: 1/10 dilution of EPA ICSA in 5% HCl and DDI Water

Date	Initials	Source / Lot number ICSA	
12MAY92	DAH	ICS(0590)	
03JUN92	DAH	ICS (0590)	A
10 Jun 92	DAH	ICS (0590)	A
18 Jun 92	DAH	ICS(0590)	A
29 Jun 92	DAH	ICS (0590)	A
18Jul92	DAH	ICS(0590)	B
23Jul92	DAH	ICS(0590)	
27Jul92	DAH	ICS (0590)	
03 Aug 92	DAH	ICS (0590)	B
12 Aug 92	DAH	ICS (0590)	B
24Aug92	DAH	ICS (0590)	B
02Sept92	DAH	ICS(0590)	Z
09Sept92	DAH	ICS(0590)	Z
12 Sept 92	DAH	ICS(0590)	Z
16 Sept 92	DAH	ICS(0590)	Z
24Sept92	DAH	ICS 0590	F
30 SEP 92	JR	ICS 0590	
09-OCT-92	JR	ICS 0590	F
19-OCT-92	JR	ICS 0590	F
22-OCT92	JR	ICS 0590	F
27 OCT 92	DAH	ICS 0590	C
02 NOV 92	DAH	ICS 0590	C

LCL 8-3-92

JR 9-1-92
+ 250 µl of 10 ppm Cr Baker

MBL 10-2-92

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Witnessed & Understood by me, MBL

Date 6-30-92

Invented by

Recorded by

Date

001

From Page No.

Contents: 1/10 dilution of ICSA + 1/10 dilution of ICSAB in 5% HCl

+2.5mls Stock 1, 2.5mls STOCK 2, 2.5mls 1000ppm Na, K, P

DATE	Initials	Source / Lot Number ICSA	ICSAB	
14MAY 92	DAH	0590 "A"	1089	
10 Jun 92	DAH	0590 A	1089 A	
18 Jun 92	DAH	0590 A	1089 A	
29 Jun 92	DAH	0590 B	1089 A	
18 Jul 92	DAH	0590 B	1089 A	+0.5ml of 1000ppm Mo #8
20 Jul 92	DAH	0590	1089 A	+ " " "
27 Jul 92	DAH	0590	1089 A	
03 AUG 92	DAH	0590 B	1089 A	MBL 8-3-92
12 AUG 92	DAH	0590 B	1089 A	
21 AUG 92	DAH	0590 B	1089 A	
02 Sept 92	DAH	0590 A Z	1089 A	
16 Sept 92	DAH	0590 C	1089	
30 SEP 92	JR	0590 A	1089	
22-OCT-92	JR	0590	1089	
26 OCT 92	DAH	0590 C	1089	
30 Oct 92	DAH	0590 F,Z	1089	

(See page 93) STOCK 1 + STOCK 2 + N

DATE Prepared Assigned			
STOCK 1	STOCK 2	Na	K
8-21-92	8-21-92	88	88
8-22-92	8-22-92	127	88
8-22-92	8-22-92	128	K-5
8-22-92	8-22-92	128	K-5
8-22-92	8-22-92	128	K-5
8-22-92	8-22-92	128	K5

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To Page No.

Witnessed & Understood by me, MBL Date 6-30-92

Invented by

Recorded by

Date

From Page No.

STOCK 1 : 10.0 mLs of the following 1000 ppm Standards
Li, Ti, Sr, Sb, Mo diluted to 100 mLs in ~~5% HCl~~ 2% HNO_3
DAH 8-24-92

STOCK 2 : 10.0 mLs of the following 1000 ppm
Standards diluted to 100 mLs in ~~5% HCl~~ 2% HNO_3
Sn, Tl, Bi, Se, B, Si DAH 8-24-92

Added TO ICSAB 2.5 mls STOCK 1 + 2.5 mls Stock 2 + 2.5 mls
1000 ppm Na, K, P, diluted to 250 mls
ASSIGNED Bottle Numbers

		STOCK 1					STOCK 2						OTHERS		
DATE	Initials	Li	Ti	Sr	Mo	Sb	Sn	Tl	Bi	Se	B	Si	P	K	Na
8-21-92	DAH	116	104	121	85	68	Sn-5	103	115	110	45	Si-5	58	88	128 127
8-22-92	DAH	116	104	121	85	68	Sn-5	103	115	110	45	Si-5	59	89	128 127

To Page No.

Witnessed & Understood by me, Date 9-1-92 Invented by Date
Recorded by

0015

utions

TITLE CRI

From Page No.

Contents: 2X The CRDL or 2X IDL of each element (whichever is higher) except Al, Ba, Ca, Fe, Mg, K, and Na

Recipe: 1.0mL of Stock solution #1 + 1.0mL of Stock solution diluted to 100mLs in 5% HCl

Date	Initials	CRI STOCK Date Made	Pb, Se, Tl, As Stock Date Made	
3 Jun 92	DAH	5-12-92	5-12-92	
15 Jun 92	DAH	5-12-92	5-12-92	
29 Jun 92	DAH	5-12-92	5-12-92	
20 Jul 92	DAH	5-12-92	5-12-92	
27 Jul 92	DAH	5-12-92	5-12-92	LMR 8-3-92
04 Aug	DAH	5-12-92	5-12-92	
14 Aug 92	DAH	5-12-92	5-12-92	JR 9-1-92
09 Sept 92	DAH	5-12-92	5-12-92	DAH
13 Sept 92	DAH	5-12-92	5-12-92	
21 Sept 92	DAH	5-12-92	5-12-92	
28 Sept 92	JR	5-12-92	5-12-92	
02 Oct 92	JR	5-12-92	5-12-92	LMR 10-2-92
16-Oct-92	JR	5-12-92	10-16-92	
22-Oct-92	JR	5-12-92	10-16-92	
27 Oct 92	DAH	10-27-92	10-27-92	
03 Nov 92	DAH	10-27-92 Added DAH 0.2mls 10ppm	10-27-92	Added 0.2mls 10ppm from Ag 10Z

To Page No.

Witnessed & Understood by me, LMR — Date 6-30-92

Invented by — Date

Recorded by

WEYERHAEUSER COMPANY Project No.____

76 Book No. 10423 TITLE CRI STOCK Solutions

From Page No.__

Contents Stock Solution #1

DAH 10-27-92 Sb - 12 ppm Mn - 3 ppm

Zn, Be, Co, V, - 10 ppm Ni, Zn - 4 ppm

Cr, Ag - 2 ppm Be, Cd - 1 ppm

Cu - 5 ppm

Recipe: Partially Fill a clean Class A 100mL volumetric W/DDI water and add ~~5.0mLs 1:1 HCl~~ 2.0mL HNO_3 DAH 10-27-92 TO This add 1.2mls ~~1000ppm~~ DAH 10-27-92 1000ppm Sb; 1.0mLs 1000ppm Co, V; 0.5mLs 1000ppm Cu; 0.4mL 1000ppm Ni, Zn; 0.3mL 1000ppm Mn; 0.2mL 1000ppm Cr, Ag; and 0.1mL 1000ppm Be, Cd. dilute to Vol. W/DDI.

Contents STOCK Solution #2

As 4ppm

Pb 4ppm

Se 8ppm

Tl 200ppm

Recipe: Partially Fill a 100mL Class A Volumetric with DDI water and ~~2.0mLs~~ DAH 10-27-92 2.0mLs HNO_3 Add 0.4mLs 1000ppm As, Pb; 0.8mLs 1000ppm Se, 2.0mL 1000ppm Tl, dilute to Volume W/ DDI water. STOCK #2

DATE	Init.	Assigned Bottle Number										
		Sb	Co	V	Cr	Ag	Cu	Mn	Zn	Ni	Be	Cd
10-27-92	DAH	Sb-3	47	V-2	Cr-1	102	Cu-2	Mn-1	111	48	Be 2	Cd-2

DATE	init	As	Pb	Se	Tl
10-27-92	DAH	46	Pb-2	Se-3	Tl-3

To Page No.____

Witnessed & Understood by me, Date 11-5-92

Invented by Date

Recorded by

SK09610 Run #2

Standardization Rpt. Tue 11-03-92 06:48:27 AM page 1

Method: WEYCOPPM Standard: STD1-Blank

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Avge	.0261	-.0003	.0000	.0022	.0001	.1084	.0007
#1	.0264	.0006	.0000	.0022	.0001	.1088	.0004
#2	.0258	-.0012	.0000	.0022	.0002	.1080	.0010

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Avge	.0003	.0004	.0010	.0643	.0075	.0110	.0112
#1	.0002	.0004	.0008	.0648	.0058	.0133	.0112
#2	.0004	.0004	.0013	.0638	.0092	.0086	.0112

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Avge	.0014	1.194	.0661	.1969	.0271	.0018	.0166
#1	.0019	1.196	.0668	.1980	.0274	.0020	.0166
#2	.0009	1.191	.0654	.1958	.0268	.0016	.0166

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Avge	.0002	.0070	.0003	.0016	-.0709	.0017	.0014
#1	.0002	.0070	.0002	.0022	-.0634	.0020	.0012
#2	.0002	.0070	.0004	.0010	-.0784	.0014	.0016

Elem	P_2149	Se1960	B_2496	Si2881
Avge	.0577	-.0012	.0070	.1051
#1	.0576	-.0012	.0070	.1062
#2	.0578	-.0012	.0070	.1040

TCLP elements

Samples 95826, 95827 Flunk ~~AALCS~~ MCL's for Pb (JR 11-5-92)

DAH 11-3-92

Method: WEYCOPPM Standard: STD2

Elem	Al3082	Ca3179	Fe2599	Pb2203	Ni2316	K_7664	Na5889
Avge	2.399	4.346	11.59	8.226	4.144	2.377	3.323
#1	2.388	4.333	11.55	8.188	4.130	2.375	3.312
#2	2.410	4.359	11.63	8.265	4.157	2.378	3.334

Elem	Tl3775	Bi2230	As1936	P_2149	Se1960	B_2496
Avge	2.636	.8334	1.580	3.385	2.089	.9271
#1	2.621	.8338	1.578	3.387	2.074	.9210
#2	2.651	.8330	1.583	3.384	2.105	.9332

9-15-92 H2OGFSP.XLS

SR# 9411
SDG# MEK613
SAMPLE# MEK613 S

GFAA
SPIKE SHEET
WATER SAMPLES

Analyte	Source	Lot#	Exp. Date	Conc. in Digestate (ppb)	Conc. in Spike sol'n. (ppm)	WATERS Vol. Spike Added (for 100-mL)
CLP-A						
As	Baker	E04616	Jan-93	40	4.0	1.0
Se	Baker	E29637	Aug-93	10	1.0	
Tl	SPEX	3-99Tl	Oct-92	50	5.0	
Pb	Baker	E48620	Dec-93	20	2.0	

Prep Technician Sherry Wilson Date 10-02-92

MBL 10/20/92

0064

SR# 9441
SDG# MEK613
SAMPLE# MEK613 S

ICP CLP
SOIL SPIKE SHEET
(IN 100 ML)

Analyte	Source	Lot#	Exp. Date	Conc. in Digestate (ppb)	Conc. in Spike sol'n. (ppm)	SOILS Vol. Spike Added (for 100-mL)
CLP-B						
Al				2000	400	0.5
Ba				2000	400	
Be				50	10	
Cd		Inorganic		50	10	
Co		Ventures		500	100	
Cr				200	40	
Cu		Lot# G-MEB10078		250	50	
Fe		Exp. Nov-92		1000	200	
Pb				500	100	
Mn				500	100	
Ni				500	100	
Sb				500	100	
V				500	100	
Zn				500	100	
CLP-C						
Ag	Baker	E16617	Jun-93	50	10	0.5

Prep Technician [signature] Date 10-02-92

MBL 10-20-92

Weyerhaeuser Analytical and Testing Services

Analytical Chemistry - WTC 2F25

Tacoma, WA 98477

ICP Worksheet: Spike/post spike calculations

Method: CLP1150

Units: ~~ug/L~~ mg/kg, as rec'd

SR# 9441

SDG# MEK613

SAMPLE# MEK613

MATRIX Soil

Units changed due to variation in sample weight of sample & Spike. 10-5-92 JK

Analyte	CRDL	IDL	Spike conc.	Sample	Spike	% REC	A . % REC
Al	200	42.2	2000				
Sb	60	19.1	500				
Ba	200	0.82	2000				
Be	5	0.21	50				
Cd	5	2.1	50				
Cr	10	4.0	17.97 ~~200~~	23.55	39.08	86.4%	
Co	50	2.0	500				
Cu	25	3.9	22.46 ~~250~~	55.09	83.02	124%	
Fe	100	15.9	1000				
Mn	15	1.2	500				
Ni	40	10.3	500				
Ag	10	3.0	50				
V	50	2.6	500				
Zn	20	3.5	500				
Pb	3	27.7	44.92 ~~500~~	55.34	95.42	89.2%	
Post spike determination			Not required				

Analyst Julie Reimer Date 10-5-92

Witness MPN Date 10-20-92

ANALYTICAL WORKSHEET

SD6# MEK613

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Sample Number(s)	Service Request Number 9441
Analysis for: % Solids	Method Number SOW ILM Ø2.Ø

Temperature: _____ **DATA**

Time In: 10-02-92 12:00 Time Out: 10-03-92 12:00

Weyer. Sample No.	Client Sample No.	Tare (g)	Sample + Tare (g, as is)	Sample (g, as is)	Sample + Tare (g, O.D.)	Sample (g, O.D.)	% Solids
941613	MEK1613	1.Ø877g	6.1Ø54g		6.1781g		
941613D	MEK1613D	1.Ø167g	7.Ø28g		6.4782g		
941614	MEK1614	1.Ø164g	7.1614g		6.9217g		
94834	MEK834	1.Ø87g	8.Ø9Øg		8.Ø55Øg		
948606	MEK8606	1.213g	7.Ø29g		5.8231Øg		
948607	MEK8607	1.1Ø8g	9.334g		8.27Ø3g		
948608	MEK8608	1.Ø82g	1Ø.555g		1Ø.2463g		
948609	MEK8609	1.Ø89g	9.849g		7.3168g		
94870	MEK870	1.Ø85g	7.1Ø43g		6.8Ø88g		
94871	MEK871	1.Ø46Øg	9.515g		8.8278g		
94872	MEK872	1.1169g	7.171g		7.1Ø95g		

10-02-92

Comments:

Analyst Sheryl Allen	Date 10-02-92	NB Number
Witness MBL	Date 10-20-92	Page Number 0067

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Case: SDG# MEK613 | Service Request : 9441

Analysis for: % Solids | Method Number SOW ILM02.0

Temperature: 105°C **DATA**

Date In:10/2/92 Time In:12:00 Date Out:10/3/92 Time Out:12:00

Weyer. Sample No.	Client Sample No.	Tare (g)	Sample + Tare (g, as is)	Sample (g, as is)	Sample + Tare (g, O.D.)	Sample (g, O.D.)	% Solids
94613	MEK613	1.0877	6.6654	5.5777	6.1781	5.0904	91.26
94613D	MEK613D	1.0670	7.0280	5.9610	6.4782	5.4112	90.78
94614	MEK614	1.0640	7.6140	6.5500	6.9217	5.8577	89.43
94834	MEK834	1.0870	8.0900	7.0030	8.0556	6.9686	99.51
94866	MEK866	1.2130	7.0290	5.8160	5.6236	4.4106	75.84
94867	MEK867	1.1080	9.3340	8.2260	8.2703	7.1623	87.07
94868	MEK868	1.0820	10.5550	9.4730	10.2463	9.1643	96.74
94869	MEK869	1.0890	9.8490	8.7600	7.3668	6.2778	71.66
94870	MEK870	1.0850	7.6430	6.5580	6.8088	5.7238	87.28
94871	MEK871	1.0460	9.5150	8.4690	8.8278	7.7818	91.89
94872	MEK872	1.1160	7.1710	6.0550	7.1005	5.9845	98.84

10.19.92

Comments:

Analyst Sherry Weiss Date 10-02-92 NB Number

Witness MBC Date 10-20-92 Page Number 0068

From Page No.

5% HCl in DDI H_2O

DATE	INIT.	HCl Source	Comments
25AUG92	DAH	GFST4	
26AUG92	DAH	GFST4	
28AUG92	DAH	GFST4	
01Sept92	DAH	GFST5	
08Sept92	DAH	GFST5	
09Sept92	DAH	GFST4	
10 Sept92	DAH	GFST4	
11 Sept92	DAH	GFST4	
12 Sept92	DAH	GFST4	
14 Sept92	DAH	GFST4	
15 Sept92	DAH	GFST4	
16 Sept92	DAH	GFST4	
17 Sept92	DAH	GFST4	
18 Sept92	DAH	GFST4	
23 Sept92	DAH	GFST4	
Sept92	JR	GFS-T4	
30 Sept92	JR	GFS-T4	

To Page No

Witnessed & Understood by me, HBL Date 10-30-92 Invented by Date

TITLE STD-2

Project No.

Book No. 10428

WEYERHAEUSER CO

From Page No.

Contents:

10 ppm Al, As, Bi, Ca, Fe, Mg, Na, Ni, Pb, Se, Tl, B
50 ppm P, K

Recipe:
1/10 dilution of Inorganic Ventures STD-2 in 5% H
with DDI Water.

Date	Initials	Source / Lot #	Designated Bottle #	EXP DATE	Comments
12 MAY 92	DAH	H MEB12137-IV	"B"	4-1-93	Na = 200 ug/ml in I.V
18 MAY 92	DAH	H MEB12137-IV	" B "	4-1-93	" "
31 MAY 92	DAH	H MEB12137-IV	" B "	4-1-93	" "
19 Jun 92	DAH	HMEB12137-IV	" B "	4-1-93	" "
30 Jun 92	DAH	HMEB12137-IV	" B "	4-1-93	+ 2.5 mls 1000 ppm Fe Lot F08
~~09 Jul 92~~	~~DAH~~	~~HMEB12137-IV~~	" B "	4-1-93	DAH 09 Jul 92 Forgot to add
09 Jul 92	DAH	HMEB13074	"C"	5-1-93	+ 2.5 mls 1000 ppm Fe-3 Lot FO96
09 Jul 92	DAH	HMEB12137	B	4-1-93	+ 2.5 mls 1000 ppm Fe-3 Lot FO869
20 Jul 92	DAH	HMEB12137	B	4-1-92	+ 2.5 mls 1000 ppm Fe Lot
03 Jul 92	DAH	HMEB13074	C DAH 8-3	5-1-93	+ 2.5 mls 1000 ppm Fe Lot
11 AUG 92	DAH	HMEB13074	C	5-1-93	+ 2.5 mls Fe 1000 ppm L
24 AUG 92	DAH	HMEB13074	C	5-1-93	+ 2.5 mls Fe 1000 ppm L
08 Sept 92	DAH	HMEB13074	C	5-1-93	+ 2.5 mls Fe 1000 ppm Lot FO
16 Sept 92	DAH	HMEB13074	D	5-1-93	+ " " "
23 Sept 92	DAH	HMEB13074	D	5-1-93	+ " " "

To Page

Witnessed & Understood by me, MM

Date 1-30-97

Invented by

Recorded by

Date

TITLE STD-3

Project No. WEYERHAEUSER COMPANY

Book No. 10428

From Page No.

Contents:
1 ppm Ba, Be, Cd, Co, Cr, Cu, Li, Mn, Sr, V, Ag
5 ppm Zn

Recipe: 1/100 dilution of Inorganic Ventures STD-3 in 5% HNO3

DATE	Source/Lot #	"Bottle"	Initials	Comments
12MAY92	IV GMEB07060	B	DAH	expires 7-1-92
14MAY92	IVGMEB07060	A	DAH	" "
31MAY92	IVGMEB07060	A	DAH	" "
19Jun92	IVGMEB07060	A	DAH	" "
~~08Jul92~~	~~IVGMEB07060~~	~~A~~	~~DAH~~	" " pH Source expired
08Jul92	IV-H-MEB14131	C	DAH	7-1-93 expires
16Jul92	IV H MEB14131	C	DAH	" "
23Jul92	IV H MEB14131	D	DAH	" " MBL 8-3
3AUG92	IV HMEB14131	D	DAH	7-1-93
13AUG92	IV HMEB14131	D	DAH	7-1-93
26AUG92	IV HMEB14131	D	DAH	7-1-93 gr 9-1-92
10Sept92	IV HMEB14131	D	DAH	7-1-93
23Sept92	IV HMEB14131	D	DAH	7-1-93

Witnessed & Understood by me, Date

Invented by Date

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TITLE STD-4

Project No. WEYERHAEUSER COMPANY

Book No. 10428

From Page No.

Contents:
10ppm Sb, Sn, Ti, Mo

Recipe: 1/100 dilution of 1000ppm Baker Standards in 5% HCl

DATE	Initials	Source (Assigned Bottle Number) Mo	Sb	Sn	Ti	Comments
12 MAY 92	DAH 5-12 DH	~~18~~ 85	68	79	104	
22 MAY 92	DAH	85	68	79	104	
11 Jun 92	DAH	85	68	79	104	
02 Jul 92	DAH	85	68	79	104	
18 Jul 92	DAH	85	68	125	104	
23 Jul 92	DAH	120	68	125	104	UBL 8-3-92
03 AUG 92	DAH DH 8-3-92	~~85~~ 120	68	125	104	
AUG 92	DAH	120	68	125	104	gpr 9-1-92
11 Sept 92	DAH	120	68	125	104	
23 Sept 92	DAH	120	68	125	104	

0072

To Page No.

Witnessed & Understood by me,

Date 1-7h-92

Invented by

Date

TITLE STD-5

Project No. _____ Book No. 10428

WEYERHAEUSER CO

From Page No. ___

Contents: 100ppm Fe
150ppm Mg
50ppm Si

Recipe: - 1/10 dilution of 1000ppm Fe in 5%HCl
- 37.5mls of 1000ppm Mg (in 250ml Final Volume) in 5%HC
- 1/20 dilution of 1000ppm Si in 5%HCl

Date	Initials	Source (Assigned Bottle Number) Fe	Mg	Si	Comments
14MAY92	DAH	80	119	123	
08Jun92	DAH	Fe 3	117	123	
08Jul92	DAH	Fe-3	117	123	
23Jul92	DAH	Fe-3	119	113	MBL 8-3-92
03AUG92	DAH	Fe-3	119	123	
23AUG92	DAH	Fe-3	Mg-8	124	gjr 9-1-92
Sept92	DAH	Fe-3	Mg-8	113	
23Sept92	DAH	Fe-3	Mg-8	113	

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To Page N

Witnessed & Understood by me, _____ Date 7/8/97

Invented by _____ Date _____

From Page No.

Recipe : +0.5mL SPEX-2A (4107AS), 0.5mL SPEX 2B(4-108AS), 0.5mL SPEX 2C(4-109AS)
+0.1mL Mo, 0.1mL Sr, 0.25mL 1000ppm Sn
+0.2mL B, 0.2mL Li, 0.2mL Si, 0.2mL Bi, 0.2mL Tl.
+2.0mL P, 3mLs K
dilute to 250mLs in appropriate matrix

Contents
8.0ppm P, 16.0ppm K
4.0ppm Ca, Na, Mg, ~~K~~ DAH 9-2-92
2.0ppm Al, Sb, Ba, Fe,
1.0ppm Co, Pb, Ni, V, Sn, Tl, Se, As
0.4ppm Cr, Cu, Sr, Mo
0.8ppm Li, Bi, Ti, Si, B
0.2ppm, Be, Cd, Mn, Zn, Ag

DATE	SOURCES			ASSIGNED Bottle Number										
	? SPEX													Initials DAH 9-2 init DAH
	Lot #	Lot #	Lot #	Li	Si	Sn	Bi	Mo	B	P	Ti	Sr	K	
				BAKER	BAKER	EM	EM	Baker 85 0.875 EBaker 85 1.	Baker	SPEX		EM	DAH	
8-22-92	2A(4-107AS)	2B(4-108AS)	2C(4109AS)	116	Si-5	Sn-5	115		45	58	Baker Ti-4	121	Baker 88	
9-2-92	2A(4-107AS)	2B(4-108AS)	2C(4-109AS)	116	Si-5	EM Sn-5	EM 115		45	58		EM 121		
9-14-92	2A(4-107AS)	2B(4-108AS)	2C(4-109AS)	116	Si-5	Sn-5	EM 115	85	45	58	Ti-4	EM 121	K5	
9-24-92	2A(4-107AS)	2B(4-108AS)	2C(4-109AS)	VWR 108	Si-5	Sn-5	BAKER Bi-1	.85	45	58	Ti-4	EM 121	K5	

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TITLE ICSA

Project No.

Book No. 10428

WEYERHAEUSER COMP

Page No.

Contents: 1/10 dilution of EPA ICSA in 5% HCl and DI water

Date	Initials	Source / Lot number ICSA	
12MAY92	DAH	ICS(0590)	
03JUN92	DAH	ICS (0590) A	
10 Jun 92	DAH	ICS (0590) A	
18 Jun 92	DAH	ICS(0590) A	
29 Jun 92	DAH	ICS (0590) A	
18Jul92	DAH	ICS(0590) B	
23Jul92	DAH	ICS(0590)	
27Jul92	DAH	ICS (0590)	
3 Aug 92	DAH	ICS (0590) B	LCL 8-3-92
12 Aug 92	DAH	ICS (0590) B	
24Aug92	DAH	ICS(0590) B	JR 9-1-92
02Sept92	DAH	ICS(0590) Z	+ 250ml of 10ppm Cr Baker
09Sept92	DAH	ICS(0590) Z	
12 Sept 92	DAH	ICS(0590) Z	
16 Sept 92	DAH	ICS(0590) Z	
24Sept92	DAH	ICS 0590 F	
30 SEP 92	JR	ICS 0590	

0075

To Page N

Witnessed & Understood by me, | Date | Invented by | Date

LE ICSAB

Project No. _____ WEYERHAEUSER COMPANY

Book No. 10428

m Page No.

Contents: 1/10 dilution of ICSA + 1/10 dilution of ICSAB in 5% HCl

+2.5mls Stock 1, 2.5mls STOCK 2, 2.5mls 1000ppm Na, K, T

		Source / Lot Number		
DATE	Initials	ICSA	ICSAB	
14MAY 92	DAH	0590 "A"	1089	
0 Jun 92	DAH	0590 A	1089 A	
8 Jun 92	DAH	0590 A	1089 A	
9 Jun 92	DAH	0590 B	1089 A	
8 Jul 92	DAH	0590 B	1089 A	+0.5ml of 1000ppm Mo±
0 Jul 92	DAH	0590	1089 A	+ " " "
7 Jul 92	DAH	0590	1089 A	
3 AUG 92	DAH	0590 B	1089 A	MSL 8-3-92
AUG 92	DAH	0590 B	1089 A	
UG92	DAH	0590 B	1089A	(See page 93) STOCK 1 + STOCK 2

DATE Prepared STOCK 1	DATE Prepared STOCK 2	Assign # Na	Assign # K
8-21-92	8-21-92	~~128~~ 127	88
8-22-92	8-22-92	127	88
8-22-92	8-22-92	128	K-5
8-22-92	8-22-92	128	K-5

1AUG92	DAH	0590 B	1089A
Sept 92	DAH	0590 ~~A~~ Z	1089A
Sept 92	DAH	0590 C	1089
0 SEP 92	JR	0590 A	1089

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To Page No.

Witnessed & Understood by me, | Date | Invented by | Date

TITLE CRI

Project No. WEYERHAEUSER COMP

Book No.

From Page No.

Contents: 2X The CRDL or 2X IDL of each eleme
(Whichever is higher) except Al, Ba, Ca, Fe, Mg, K, and

Date	Initials	CRI STOCK Date Made	Pb, Se, Tl, As Stock Date Made	
3 Jun 92	DAH	5-12-92	5-12-92	
15 Jun 92	DAH	5-12-92	5-12-92	
29 Jun 92	DAH	5-12-92	5-12-92	
20 Jul 92	DAH	5-12-92	5-12-92	
27 Jul 92	DAH	5-12-92	5-12-92	LBL 8-3-9
4 Aug	DAH	5-12-92	5-12-92	
14 Aug 92	DAH	5-12-92	5-12-92	JR 9-1-9
09 Sept 92	DAH	5-12-92	5-12-92	DM
13 Sept 92	DAH	5-12-92	5-12-92	
21 Sept 92	DAH	5-12-92	5-12-92	
28 Sept 92	JR	5-12-92	5-12-92	

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To Page N

Witnessed & Understood by me, | Date | Invented by | Date

TITLE CLP CCV (cont)

Project No. _____ Book No. 10428

WEYERHAEUSER COMP

From Page No. _____ Inorganic Ventures Stocks

DATE	Initials	I.V. STD 2	I V STD 3	Assigned Bottle Number Mg	Si	Sb	Sn	Ti	Mo	Fe	
20Jul92	DAH	HMEB12137 A	HMEB14131 D	119	113	68	125	104	85	3	
31Jul92	DAH	HMEB12137A	HMEB14131 D	118	113	68	125	101	120	3	
03Aug 92	DAH	HMEB13074C	HMEB14131 D	119	113	68	125	104	85	3	ME
04Aug 92	DAH	HMEB13074C	HMEB14131 D	119	113	68	125	104	~~85~~ DAH-81 92 120	3	500
05AUG92	DAH	HMEB13074C	HMEB14131 D	119	113	68	125	104		3	Bott
05AUG92	DAH	HMEB13074C	HMEB14131 D	119	113	68	125	104	120	3	Bt
14AUG92	DAH	HMEB13074C	HMEB14131 D	114	113	68	Sn-5	104	120	3	#1
14AUG92	DAH	HMEB DAH-929 13074C	HMEB14131 D	118	113	68	Sn-5	104	120	3	#2
23AUG92	DAH	HMEB13074C	HMEB14131 D	Mg-8	124	68	125	104	120	3	#1
23AUG92	DAH	HMEB13074C	HMEB14131 D	Mg-8	124	68	125	104	120	3	#2
8Sept92	DAH	HMEB13074C	HMEB14131 D	Mg-8	124	68	5	104	120	3	#1
8Sept92	DAH	HMEB13074C	HMEB14131 D	Mg-8	124	68	5	104	120	3	#2
11Sept92	DAH	HMEB13074C	HMEB14131 D	Mg-8	113	68	125	104	120	3	#1
11Sept92	DAH	HMEB13074C	HMEB14131 D	Mg-8	113	68	125	104	120	3	#2
16Sept92	DAH	HMEB13074D	HMEB14131 D	Mg-8	113	68	Sn-5	104	120	3	#1
16Sept92	DAH	HMEB13074D	HMEB14131 D	Mg-8	113	68	Sn-5	104	120	3	#2
17Sept92	DAH	HMEB13074D	HMEB14131 D	Mg-8	113	68	Sn-5	Ti-4	120	3	#1
17Sept92	DAH	HMEB13074D	HMEB14131 D	Mg-8	113	68	Sn-5	Ti-4	120	3	#2

0078

To Page No.

Witnessed & Understood by me, _____ Date 5-3-92

Invented by _____ Date _____

Weyerhaeuser Analytical & Testing Services
Analytical Chemistry - WTC 2F25
Tacoma, WA 98477

TITLE GFAAS Soln Prep

Project No.
Book No. 0809

From Page No.

date	Solution	INTL'S	How Made
25Sep92	0.0, 5.0, 35.0, 75.0, ~~1000~~ ppb solns Sb	DRM	0, .5, 3.5, 7.5 mls 1000ppb Sb soln + 10mls 6N HCL + 2mls H...
25SEP92	0.0, 5.5, 35, 75 ppb Sb in 2% HNO₃, 5% HCl	RAG	0.0, 0.5, 3.5, 7.5 ml of 1000ppb Sb Stock - 24SEP92, q.s. to 100ml
25SEP92	1000ppb As, Pb, Se, Tl Stock in 2% HNO_3	RAG	0.1 ml of "Baker" 1000μg/ml As-46 Std. Lot# E04616
			0.1 ml of "Baker" 1000μg/ml Pb-2 Std. Lot# E48620
			0.1 ml of "Baker" 1000μg/ml Se-110 Std. Lot# E29637
			0.1 ml of "SPEX" 1000μg/ml Tl-103 Std. Lot# 3-99TL
25SEP92	5.0, 35, 50, 75 ppb As, Pb, Se, Tl in 2% HNO_3	RAG	0.0, 3.5, 5.0, 7.5 ml of 1000ppb As, Pb, Se, Tl Stock - 25SEP92
25SEP92	As, Pb, Se, Tl CRA in 2% HNO_3	RAG	0.1 ml of As, Pb, Se, Tl CRA Stock - 23SEP92
~~26~~ Sep 92 27	50, 535, 550, 575 ppb As, Pb, Se, Tl 2% HNO3	DRM	0.0 ml of 1000ppb Stock As, Pb, Se, Tl + 2ml HNO₃
		DRM	3.5 ml " " "
		DRM	5.0 ml " " "
		DRM	7.5 ml " " "
	CRA (10, 3, 5, 10) ppb As, Pb, Se, Tl 2% HNO₃	DRM	0.1 ml CRA Stock Soln + 2ml HNO₃
	50, 5ppb, 35ppb, 75ppb Sb 5% HCl 2% HNO₃	DRM	0.0 ml of 1000ppb Stock Sb + 10ml 6N HCL + 2ml HNO₃
		DRM	0.5 ml " " " "
		DRM	3.5 ml " " " "
		DRM	7.5 ml " " " "
	50ppb Sb ICV 2B	DRM	0.5ml ICV-2B 1000ppm Std + 10ml 6N HCl + 2ml HNO₃
↓	ICV 2C (50ppb As, Pb, Se, Tl; 10ppb Cd) 2% HNO₃	DRM	10.0ml ICV-2C Stock Soln + 2ml HNO₃
28SEP92	0.5% $Mg(NO_3)_2$	RAG	0.5g $Mg(NO_3)_2$ diluted to 100ml with DDI H_2O "Baker" ($Mg(NO_3)_2 \cdot 6H_2O$) 97.0% Lot# 709111
28SEP92	50, 535, 550, 575 ppb As, Pb, Se, Tl in 2% HNO_3	RAG	0.0, 3.5, 5.0, 7.5 ml of 1000ppb As, Pb, Se, Tl Stock - 25SEP92
28SEP92	As-10, Pb-3, Se-5, Tl-10 ppb CRA in 2% HNO_3	RAG	0.1 ml of As, Pb, Se, Tl CRA Stock ~~in~~ - 23SEP92
28SEP92	50, 55, 535, 575 ppb Sb in 2% HNO_3, 5% HCl	RAG	0.0, 0.5, 3.5, 7.5 ml of 1000ppb Sb Stock - 24SEP92
29SEP92	IDL 5ppb As, Pb, Se, Tl in 2% HNO_3	RAG	0.5ml of 1000ppb As, Pb, Se, Tl Stock - ~~24SEP92~~ 25SEP92
29SEP92	50, 535, 550, 575 ppb As, Pb, Se, Tl in 2% HNO₃	RAG	0.0, 3.5, 5.0, 7.5 ml of 1000ppb As, Pb, Se, Tl Stock - 25SEP92
29SEP92	As-10, Pb-3, Se-5, Tl-10 ppb CRA in 2% HNO_3	RAG	0.1 ml of As, Pb, Se, Tl CRA Stock - 23SEP92
29Sep92	50, 55, 535, 575 ppb Sb in 2% HNO₃ 10% HCl	DRM	0.0, 0.5, 3.5, 7.5 ml 1000ppb Sb + 2ml HNO₃ + 10ml 6N HCl
30SEP92	As-10, Pb-3, Se-5, Tl-10ppm CRA Stock in 2% HNO_3	RAG	1.0 ml of "Baker" 1000μg/ml As-46 Std. Lot# E04616
			0.3 ml of Baker 1000μg/ml Pb-2 Std. Lot# E48620
			0.5 ml of "Baker" 1000μg/ml Se-110 Std. Lot# E29637
			1.0 ml of "SPEX" 1000μg/ml Tl-103 Std. Lot# 3-99TL
30SEP92	50, 535, 550, 575 ppb As, Pb, Se, Tl in 2% HNO_3	RAG	0.0, 3.5, 5.0, 7.5 ml of 1000ppb As, Pb, Se, Tl Stock - 25SEP92
30SEP92	As-10, Pb-3, Se-5, Tl-10 ppb CRA in 2% HNO_3	RAG	0.1 ml of As-10, Pb-3, Se-5, Tl-10ppm CRA Stock 30SEP92

00729

To Page No.

Witnessed & Understood by me, MBL | Date 10/7/92 | Invented by | Date | Recorded by

Weyerhaeuser Analytical & Testing Service
Analytical Chemistry - WTC 2F25
Tacoma, WA 98477

Project No. _____ Book No. 8809 TITLE GFAAS Solution Prep.

From Page No. ___

date	Solution	Initls	How made
30Sep92	1,000 ppb Sb 2% HNO_3 5% HCl	DRM	0.1ml 1000ppm Sb #68 stock soln 2mls HNO_3 5mls 6N HCl
↓	0.0, 0.5, 3.5, 7.5 ppb Sb 2% HNO_3 5% HCl	DRM	0.0, 0.5, 3.5, 7.5ml 1000ppb Sb + 2mls HNO_3 / 5mls 6N HCl
1OCT92	S0, S35, S50, S75 ppb As, Pb, Se, Tl in 2% HNO_3	RAC	0.0, 3.5, 5.0, 7.5ml of 1000ppm As, Pb, Se, Tl Stock - 25 SEP92
1OCT92	As-10, Pb-3, Se-5, Tl-10 ppm CRA in 2% HNO_3	RAC	0.1ml of As-10 Pb-3 Se-5 Tl-10ppm CRA Stock - 30SEP92
1OCT92	1000ppb As, Pb, Se, Tl Stock in 2% HNO_3	RAC	0.1ml of "Baker" 1000ppm As-46 Std. Lot # E-04616
			0.1ml of "Baker" 1000ug/ml Pb-2 Std. Lot # E48620
			0.1ml of "Baker" 1000ug/ml Se-110 Std. Lot # E29637
			0.1ml of "SPEX" 1000ug/ml Tl-103 Std. Lot # 3-99TL
1OCT92	1000ppb Sn Stock in 2% HNO_3, 5% HCl	RAC	0.1ml of "EM Science" 1000ug/ml Sn-5 Std. Lot # 31305
1OCT92	S0, S20, S50, S100 ppb Sn in 2% HNO_3, 5% HCl	RAC	0.0, 2.0, 5.0, 10.0ml of 1000ppb Sn Stock - 1 OCT 92
2OCT92	S0, S35, S50, S75 ppb As, Pb, Se, Tl in 2% HNO_3	RAC	0.0, 3.5, 5.0, 7.5ml of 1000ppb As, Pb, Se, Tl Stock - 1Oct92
2OCT92	As-10, Pb-3, Se-5, Tl-10 ppb CRA in 2% HNO_3	RAC	0.1ml of As-10 Pb-3 Se-5 Tl-10 ppm CRA Stock - 30 SEP92
2OCT92	800ppb As, Pb, Se, Tl in 2% HNO_3	RAC	8.0ml of 1000ppb As, Pb, Se, Tl Stock - 1OCT92 + 2.0ml DI
4OCT92	S0, S35, S50, S75 ppb As, Pb, Se, Tl 2% HNO_3	DRM	0.0ml of 1000ppb As, Pb, Se, Tl + 2ml HNO_3 qs to
↓			3.5 " " " " "
			5.0 " " " " "
			7.5 " " " " "
	(10, 3, 5, 10) ppb As, Pb, Se, Tl 2% HNO_3		0.1ml of CRA Stock Soln + 2ml HNO_3 qs to 100ml w/DI
↓	ICV-2C As, Pb, Se, Tl 2% HNO_3	↓	10.0ml ICV-2C Stock " " " "
5OCT92	1000ppb Sb Stock in 2% HNO_3, 5% HCl	RAC	0.1ml of SPEX 1000ppm Sb-68 Std. Lot # 2-123-ND Exp. Dec 31
5OCT92	S0, S5, S35, S75 ppb Sb in 2% HNO_3, 5% HCl	RAC	0.0, 0.5, 3.5, 7.5ml of 1000ppb Sb Stock - 5OCT92
5OCT92	S0, S35, S50, S75 ppb As, Pb, Se, Tl in 2% HNO_3	RAC	0.0, 3.5, 5.0, 7.5ml of 1000ppb As, Pb, Se, Tl Stock - 10CT9
5OCT92	As-10, Pb-3, Se-5, Tl-10 CRA in 2% HNO_3	RAC	0.1ml of As, Pb, Se, Tl CRA Stock - 30SEP92
6OCT92	As, Pb, Se, Tl S ppb-IDL in 2% HNO_3	RAC	0.5ml of 1000ppb As, Pb, Se, Tl Stock - 1OCT92
6OCT92	S0, S5, S35, S75 ppb Sb in 2% HNO_3, 5% HCl	RAC	0.0, 0.5, 3.5, 7.5ml of 1000ppb Sb Stock - 5OCT92
6OCT92	800ppb As, Pb, Se, Tl in 2% HNO_3	RAC	80ml of 1000ppb As, Pb, Se, Tl Stock - 1OCT92
6OCT92	S0, S35, S50, S75 ppb As, Pb, Se, Tl in 2% HNO_3	RAC	0.0, 3.5, 5.0, 7.5ml of 10000ppb As, Pb, Se, Tl Stock - 6OCT
6OCT92	As-10, Pb-3, Se-5, Tl-10 CRA in 2% HNO_3	RAC	0.1ml of As-10, Pb-3, Se-5, Tl-10 ppm CRA Stock - 30SEP92
6OCT92	10000ppb As, Pb, Se, Tl Stock in 2% HNO_3	RAC	0.1ml of "Baker" 10000ug/ml As-46 Std. Lot # E-04616
			0.1ml of "Baker" 1000 ug/ml Pb-2 Std. Lot # E48620
			0.1ml of "Baker" 1000 ug/ml Se-110 Std. Lot # E29637
			0.1ml of "SPEX" 1000 ug/ml Tl-103 Std. Lot # 3-99TL
6OCT92	NiO Modifier	RAC	6.35gm NiO + 100ml HNO_3 diluted into 500ml DDI
7OCT92	S0, S35, S50, S75 ppb As, Pb, Se, Tl in 2% HNO_3	RAC	0.0, 3.5, 5.0, 7.5ml of 1000ppb As, Pb, Se, Tl Stock - 6OCT
7OCT92	A-10, Pb-3, Se-5, Tl-10 ppb CRA in 2% HNO_3	RAC	As-10, Pb-3, Se-5, Tl-10 ppm CRA Stock - 7OCT92

To Page No. ___

Witnessed & Understood by me, MBL Date 10/8/92

Invented by _____ Date _____

Recorded by _____

TITLE GFAAS Solution Prep.

Project No.

Book No. 8809

Analytical & Testing Services
Chemical Chemistry - WTC 2F25
Tacoma, WA 98477

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From Page No.

Date	Solution	Initials	How made?
~~7OCT92~~ 6OCT92	As-10 Pb-3 Se-5 Tl-10 ppm CRA Stock in 2% HNO_3	RAG	1.0 ml of 1000 ug/ml "Baker" As-46 Std. Lot # E04616
			0.3 ml of "Baker" 1000 ug/ml Pb-2 Std. Lot # E48620
			0.5 ml of "Baker" 1000 ug/ml Se-110 Std. Lot # E29637
			1.0 ml of "SPEX" 1000 ug/ml Tl-103 Std. Lot # 3-99TL
~~7OCT92~~ Dam 10/9/92	ICV-2C 50 ppb As, Pb, Se, Tl 10 ppb Cd in 2% HNO_3	RAG	10.0 ml of 500 ppb As, Pb, Se, Tl, 100 ppb Cd ICV-2C Stock 18SEP92
	ICV-2B 500 ppb Sb 2% HNO_3 5% HCl	DRM	50 µl of ICV-2B 1000 ppm Sb 2 ml HNO_3 5 ml HCl
	0.0, 5.0, 35.0, 95.0 ppb Sb 2% HNO_3 5% HCl	DRM	0.0 ml 1000 ppb Stol + 2 ml HNO_3 + 5 ml HCl (SB)
		DRM	0.5 ml " " "
		DRM	3.5 ml " " "
		DRM	7.5 ml " " "
8OCT92	50, 35, 50, 75 ppb As, Pb, Se, Tl 2% HNO_3	DRM	0.0 ml 1000 ppb Std + 2 ml HNO_3
		DRM	35 ml " "
		DRM	50 ml " "
	~~CRA As, Pb, Se, Tl (10, 3.5, 10) ppb 2% HNO_3~~ Dam 10/9/92	DRM	7.5 ml " "
	CRA As, Pb, Se, Tl (10, 3.5, 10) ppb 2% HNO_3	DRM	0.1 ml CRA Stock + 2 ml HNO_3
9OCT92	50, 535, 575, 550 ppb As, Pb, Se, Tl in 2% HNO_3	RAG	0.0, 3.5, 7.5, 5.0 ml of 10000 ppb As, Pb, Se, Tl Stock - 6OCT92
9OCT92	As-10 Pb-3, Se-5, Tl-10 ppb CRA in 2% HNO_3	RAG	0.1 ml of As-10 Pb-3, Se-5, Tl-10 ppm CRA Stock - 7OCT92
9OCT92	50, 55, 535, 550, 575 ppb Sb in 2% HNO_3 5% HCl	RAG	0.0, 0.3, 3.5, 5.0, 7.5 ml of 1000 ppb Sb Stock - 5OCT92

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To Page No.

Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by	

Project No.
Book No. 10425 TITLE Run Log ICP 61-E Purge

From Page No.

DATE	SR, SDG	Method	# SAMP	Initials	Comments
24Sept92	9668	WeycoPPM	5+	DAH	Synthetic Urine
↓	9608	WeycoPPM	2+	DAH	Cosy OE Filtration
	9744	WeycoPPM	1+	DAH	N. Bend Used Oil
	9652	WeycoPPM	1+	DAH	Electrostatic Dust
	9551	WeycoPPM	4+	DAH	Pb SCAN For GFAA
↓	9657	CLP1150	13+	DAH	URS/SAIC up to sample
25SEP92	9509	CLP1150	6+	JR	Wastech - TCLP extract "CLP s
28SEP92	9233	CLP1150	20+	JR	Jacobs Waters - Rerun dilu
29SEP92	9808	CLP1150	4+	JR	North Bend Waste Oil for Com
↓	9543	↓	4+	JR	North Carolina Water Mgt
	9543		4	JR	" " " " Dea
	9544		2+	JR	Cosy OE Filtration - PP
	9608		2+	JR	Cosy OE Filtration - PP M
	9668		5	JR	Removal of Ions from Syntheti
	9740		1	JR	Weyco Wastewater Permit Testi
	9758		6	JR	North Bend Landfill Monitorin
↓	9233	↓	20+	JR	Jacobs Waters - Rerun for dilu
30SEP92	9657	CLP1150	13+	JR	URS/SAIC Marine Sediments
↓	9233	↓	11+	JR	Jacobs Waters - Run #5
01OCT92	9657	CLP1150	10	JR	URS/SAIC Marine Sediments -
↓	9710	↓	1+	JR	Lion Industries Alum Sav
	9711		5+	JR	North Bend Grdwater - Cr^{+6} an
	9672		8+	JR	Prince Albert Black Liquors
	9724		6+	JR	Saxon & Associates - Pb in pain
	9725		3+	JR	Saxon & Associates - Pb in pa
	STD Verified		4	JR	1000 ppm STOCK Ca, Fe, Mg, Si
~~10-2-92~~ JR	~~9443~~	↓	~~5+~~	JR	~~Everett/Koppers Waters Re~~
02OCT92	9443	CLP1150	5+	JR	Everett/Koppers - Water R
↓	9683	↓	3+	JR	URS/SAIC Marine Sediments - Run
	9593		4+	JR	EPA Round Robin WP029 (9/10
↓	9395	↓	4+	JR	Weyco Round Robin - August (
02OCT92	Std Verified	CLP1150	4	JR	Inorganic Ventures ICSCCPP, CHK,
05OCT92	9441	CLP1150	10+	JR	Everett EMCON Soils - Run #1

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To Page N

Witnessed & Understood by me,	Date	Invented by	Date
[signature]	10-7-92	Recorded by	

TITLE PE5100A (Lab) Run Log Book

Project No.

Book No. 10275

From Page No.

Date	SR# /SDG#	Lamp. Elem.	Run #	Energy mA	75 Std. Abs.	ICU ug/L	ICB ug/L	CRA ug/L	LCSS LCSW	Init
6OCT92	9441	Pb1	1	65	0.398	52.8	0.3	2.9	256.5 (S)	RAC
↓	9517	Pb1	2	65	0.435	51.6	0.5	2.8	—	DRM
↓	9544/9608	Pb1	1	64	0.426	52.8	0.4	3.0	50.5 (LCSW)	DRM
↓	~~9544/9608~~	~~Pb1~~	~~2~~	~~64~~	DRM 10/6/92					
↓	9441	Pb2	2	64	0.434	53.8	0.1	2.9	—	DRM
6OCT92	9544/9608	Pb2	2	64	0.402	50.8	0.2	2.9	—	DJD/
7OCT92	9544·9608	As1	2	54	0.311	52.8	-0.6	11.1	—	RAC
7OCT92	9544·9608	As1	3	54	0.294	48.9	0.4	9.5	5670.0(W) LCSW 46.2	RAC
↓	↓	Tl2	1	65	0.185	50.0	0.5	9.0		DRM
↓	↓	Tl2	2	65	0.106	51.6	-2.4	7.8	—	DRM
↓	↓	Tl2	2	65	0.115	49.1	-0.2	8.8	—	DRM
8OCT92	9544·9608	Se3	1	57	0.172	52.8	1.0	6.6	—	RAC
8OCT92	9544·9608	Se3	2	57	0.218	51.4	-0.8	5.3	~~5000.0(W)~~ 4900.0(W) RAC 8OCT92	RAC
8OCT92	9544·9608	Se3	3	53	0.241	50.7	0.2	4.2		RAC
8OCT92	9710·9810·9941·9870	Pb1	1	63	0.403	52.9	-0.1	2.7	47.7 LCSW	DRM
↓	9441	Pb1	2	64	0.406	53.8	-0.0	3.5	—	DRM
↓	9711	Pb1	1	63	0.433	54.7	0.1	2.7	45.7 LCSW	DRM
↓	9683	Pb1	1	63	0.455	54.6	0.1	3.2	—	DRM

To Page No...

Witnessed & Understood by me, Date

Invented by Date

Recorded by

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"MO"

TITLE PE3030 - Run Log Book

Project No.

Book No. 10277

WEYERHAEUSER COMPANY

From Page No.

Date	SR#/SDG#	ELEM Lamp#	Run #	Energy mA	75 Std. Abs.	ICV(2x) ug/L	ICB ug/L	CRA ug/L	LCSS(S) LCSW(W)	Initials
80CT92	9544-9608	T13	3	67	0.314	50.5	0.2	9.8	—	RAC
80CT92	9768	T13	1	67	↓	↓	↓	↓	34.4 (S)	RAC
80CT92	9074	T13	~~1~~ age/80CT92	66	↓	↓	↓	↓	—	RAC
80CT92	9179	T13	~~1~~ 7	66	↓	↓	↓	↓	—	RAC
80CT92	9517	Sb3	3	62	0.126	49.0	1.3	7.1	—	DRM
↓	9683	As2	3	54	0.482	53.4	0.6	12.1	—	DRM
↓	9517	As2	4	54	0.508	49.6	-0.1	9.6	—	DRM
90CT92	9441	As2	2	55	0.482	53.7	0.9	10.7	—	RAC
90CT92	IDL	As2	1	55	↓	↓	↓	↓	—	RAC

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To Page No.

Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by	

WEYERHAEUSER COMPANY
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Project No. _____
Book No. 10276 TITLE PE 5100B Run Log Book

From Page No. ___

Date	SR# / SDG#	Lamp Elem.	Run #	Energy MA	75 Std. ABS.	ICV (2x) ug/L	ICB ug/L	CRA ug/L	LCSS mg/kg LCSW ug/L	Initials
29SEP	IDL	Sb3	1	64	0.222	48.6	0.3	6.0	———	RAC
↓	9620	Sb3	2	64	0.227	49.5	0.0	5.2	44.7 LCSW	DRM
	9620	Sb3	5	64	0.240	49.5	0.6	4.9	—	DRM
30SEP92	9492-9179	Pb1	3	66	0.344	52.6	-0.2	3.1	103.8 (W)	RAC
30SEP92	9179	Pb1	4							RAC
	IDL	Pb1	3	67	—	—	—	—	—	DRM
	9620	As2	4	53	0.390	50.7	0.5	10.1	—	DRM
	9473	As2	3	53	0.378	49.4	-0.6	9.3	—	DRM
	9517	As2	1	53	0.350	51.3	-0.1	9.8	LCSS 1017. mg/kg	DRM
1OCT92	9786	Se2	1	60	0.315	52.2	0.7	5.6	———	RAC
1OCT92	9786	Se2	2	60	0.326	52.3	0.0	5.1	———	RAC
1OCT92	9325	Pb1	6	66	0.334	50.2	0.3	4.0	242.5 LCSS	DRM
2OCT92	9325 9443	Pb2	2	63	0.364	50.5	0.2	2.9	5120.0 (W)	RAC
4OCT92	9517	Tl2	2	51	0.303	49.1	0.6	10.4	—	DRM
	9517 5OCT92	Tl2	3	51	0.264	51.3	-1.0	10.0	———	DRM
5OCT92	IDL	Tl2	1	51	0.312	50.4	-0.3	10.0	———	RAC
5OCT92	9473	Sb3	1	62	0.256	49	2.9	4.0	48.1 LCSW 257.7 LCSS	RAC/DRM
5OCT92	9517	Tl2	3	51	0.312	50.4	-0.3	10.0	———	RAC/DRM
5OCT92	9517	Tl2	4	48	0.194	50.0	-0.0	11.7	———	RAC
6OCT92	9517	Sb3	1	61	0.212	45.6	0.4	4.6	272.5 (S) 8960.0 (W)	RAC
6OCT92	9517	Sb3	2	62	0.223	48.5	0.0	3.7	———	RAC/DRM
7OCT92	9544 9608	Se2	1	60	0.302	51.4	1.0	5.5	———	RAC/—
8OCT92	9711	As1	1	55	0.289	51.2	0.6	9.7	48.1 LCSW	DRM
	9740-9841	As1	1	55	0.294	53.1	0.5	9.8	37.2 LCSW	DRM
↓	9441	As1	1	55	0.297	51.7	0.6	10.1	104.2 LCSS	DRM/RAC

To Page No. ___

Witnessed & Understood by me, MBL

Date 10-7-92

Invented by

Recorded by

Date

0085

CLP - ICP

SDG # MEK613	
SAS #	
CASE # Everett	

Weyerhaeuser Company

Analytical Laboratories
Tacoma, Washington

ICP ADDITIONAL DATA - RUN LOG

Request # 9441

Prep Date 10/2/92

Report Cr, Cu, Pb only

	Lab Code (Samp.No.)	EPA Sample No. (6 characters)	Prep wt, g / Date KSK	Dilution
	std1	SØ		
Pb only	std2	S		
no elems	std4	S		
Cr, Cu	std3	S		
no elems	std5	S		
	ICV1	ICV1		
	ICB1	ICB1		
	CCV1	CCV1		
	CCB1	CCB1		
	ICSAI	ICSAI		
	ICSABI	ICSABI		
	CRII	CRII		
	PBS1	PBS1	1.0	
	LCSS1	LCSS1	0.50	
	94613	MEK613	1.23	
	94613D	MEK613D	1.18	
	94613S	MEK613S	1.11	
	94613L	MEK613L		5
	CCV2	CCV2		
	CCB2	CCB2		
	94614	MEK614	1.16	
No elems	94834	MEK834	1.48	
	94866	MEK866	1.16	
	94867	MEK867	1.38	
No Pb	94868	MEK868	1.13	
	94869	MEK869	1.26	
No Pb	94870	MEK870	1.40	
No Pb	94871	MEK871	1.48	

Lab Code (Samp.No.)	EPA Sample No. (6 characters)	Prep wt, g / Date KSK	Dilution
94872	MEK872	1.19	
94834	MEK834	1.48	10
CCV3	CCV3		
CCB3	CCB3		
ICSAF	ICSAF		
ICSABF	ICSABF		
CRIF	CRIF		
CCV4	CCV4		
CCB4	CCB4		

Run 5 10/13/92

Record every analysis in the order analyzed, whether valid or failed.

Preparer_____

Analyst_____

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Page_____of_____

Table Name: SR09441 Set #
Auto Rinse?
Sample Positions: 44/60 STD Positions (approx.): 2/19

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
-S	1/5	STD1-Blank			
-S	1/4	STD2			
-S	1/3	STD4			
-S	1/2	STD3			
-S	1/1	STD5			
-R	(RS)	Rinse			
-Q	1/6	ICV1	1000	SPEXICV	No Action
-B	1/7	ICB1	1000		
-Q	1/8	CCV1	1000	CCV	No Action
-B	1/9	CCB1	1000		
-Q	1/10	ICSAI	1000	ICSA	No Action
-Q	1/11	ICSABI	1000	ICSAB	No Action
-R	(RS)	Rinse			
-R	(RS)	Rinse			

Table Name: SR09441 Set #
Auto Rinse?
Sample Positions: 44/60 STD Positions (approx.): 2/19

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
-Q	1/12	CRII	1000	CRI	No Action
1	2/1	PBS	1000		
2	2/2	LCSS	1000		
-R	(RS)	Rinse			
-R	(RS)	Rinse			
3	2/3	MEK613	1000		
4	2/4	MEK613D	1000		
5	2/5	MEK613S	1000		
-R	(RS)	Rinse			
6	2/6	MEK613L	1000		
-Q	1/8	CCV1	1000	CCV	No Action
-B	1/9	CCB1	1000		
7	2/7	MEK614	1000		
8	2/8	MEK834	1000		

Table Name: SR09441 Set #
Auto Rinse?
Sample Positions: 44/60 STD Positions (approx.): 2/19

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
9	2/9	MEK866	1000		
10	2/10	MEK867	1000		
11	2/11	MEK868	1000		
12	2/12	MEK869	1000		
13	2/13	MEK870	1000		
14	2/14	MEK871	1000		
15	2/15	MEK872	1000		
16	2/16	~~MEK613A~~ MEK834 1/D	1000		
-Q	1/8	CCV1	1000	CCV	No Action
-B	1/9	CCB1	1000		
-Q	1/13	ICSAF	1000	ICSA	No Action
-Q	1/14	ICSABF	1000	ICSAB	No Action
-R	(RS)	Rinse			
-R	(RS)	Rinse			

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Table Name: SR09441 Set #
Auto Rinse?
Sample Positions: 44/60 STD Positions (approx.): 2/19

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action

-B	1/17	CCB2		1000	

Method: CMR2 Sample Name: CU MN CD RATIO Operator: JR
Run Time: 10/05/92 13:41:54
Comment:
Mode: INT Corr. Factor: 1

Elem	Cu3247	Mn2576	Cd2288
Avge	6799	36640	685
SDev	66	203	2
%RSD	.9738	.5533	.2874
#1	6756	36500	686
#2	6745	36480	687
#3	6889	36820	684
#4	6805	36730	685
#5	6849	36730	681
#6	6809	36630	687
#7	6723	36360	686
#8	6702	36370	683
#9	6821	36830	687
#10	6890	36940	685

Method: CLP1150 Standard: STD1-Blank

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Avge	.0291	-.0030	.0001	.0024	.0000	.1082	.0009
#1	.0274	.0006	.0001	.0024	.0000	.1082	.0010
#2	.0308	-.0066	.0002	.0024	.0000	.1082	.0008

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Avge	.0001	.0002	.0015	.0650	.0070	.0088	.0116
#1	-.0007	.0004	.0010	.0654	.0112	.0094	.0116
#2	.0008	.0000	.0019	.0646	.0028	.0082	.0116

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Avge	.0007	1.206	.0654	.1989	.0269	.0025	-.0026
#1	-.0015	1.209	.0654	.1978	.0270	.0024	-.0012
#2	.0029	1.202	.0654	.2000	.0268	.0026	-.0040

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Avge	-.0022	-.0888	.0015	.0007	.0166	.0000	.0070
#1	-.0064	-.0854	.0012	.0008	.0166	.0000	.0070
#2	.0020	-.0922	.0018	.0006	.0166	.0000	.0070

Elem	Mo2020	Sn1899	P_2149	Si2881
Avge	-.0002	.0002	.0599	.1148
#1	-.0008	.0012	.0608	.1142
#2	.0004	-.0008	.0590	.1154

Method: CLP1150 Standard: STD2

Elem	Al3082	Ca3179	Fe2599	Pb2203	Ni2316	K_7664	Na5889
Avge	2.335	4.206	11.27	8.292	4.206	2.347	3.225
#1	2.317	4.198	11.21	8.277	4.183	2.347	3.184
#2	2.353	4.213	11.33	8.307	4.229	2.346	3.266

Elem	As1936	Se1960	Tl3775	B_2496	Bi2230	P_2149
Avge	1.613	2.186	2.505	.9480	.8307	3.462
#1	1.607	2.169	2.481	.9410	.8196	3.445
#2	1.618	2.204	2.530	.9550	.8418	3.479

Method: CLP1150 Standard: STD4

Elem	Sb2068	Ti3349	Mo2020	Sn1899
Avge	5.137	1.879	3.172	2.278
#1	5.104	1.843	3.136	2.259
#2	5.169	1.915	3.208	2.297

No elems

Method: CLP1150 Standard: STD3

Elem	Ba4934	Be3130	Cd2288	Cr2677	Co2286	Cu3247	Mn2576
Avge	.5828	1.016	.1377	.7420	.5885	.1374	.7825
#1	.5796	1.014	.1380	.7416	.5853	.1372	.7818
#2	.5860	1.017	.1374	.7424	.5917	.1376	.7832

Elem	Ag3280	V_2924	Zn2138	Li6707	Sr4215
Avge	.6665	.3049	3.153	.2173	.7821
#1	.6656	.3044	3.152	.2168	.7796
#2	.6674	.3054	3.154	.2178	.7846

Method: CLP1150 Standard: STD5

Elem	Fe2714	Mg3832	Si2881
Avge	2.918	25.42	8.775
#1	2.915	25.43	8.775
#2	2.921	25.42	8.775

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Method: CLP1150 Sample Name: ICV1 Operator: JR
Run Time: 10/05/92 14:07:48
Comment: 2A(4-107AS) 2B(4-108AS) 2C(4-109AS) SPEX
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	2098.	2024.	2039.	202.7	201.2	4171.	413.6
#1	2109.	2033.	2043.	203.3	202.0	4180.	415.1
#2	2088.	2015.	2035.	202.1	200.4	4163.	412.1
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2000.	2000.	2000.	200.0	200.0	4000.	400.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	1017.	415.7	2098.	2140.	1061.	4171.	202.9
#1	1022.	415.7	2105.	2132.	1057.	4194.	203.2
#2	1011.	415.7	2092.	2148.	1065.	4147.	202.6
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1000.	400.0	2000.	2000.	1000.	4000.	200.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1054.	16920.	202.3	4096.	1008.	215.4	1033.
#1	1063.	16780.	202.3	4112.	1009.	215.9	1024.
#2	1046.	17060.	202.3	4080.	1007.	214.9	1042.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1000.	16000.	200.0	4000.	1000.	200.0	1000.
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1036.	Q1101.	858.6	820.8	802.7	788.8	Q446.5
#1	1063.	1066.	870.3	813.6	803.2	792.0	Q447.7
#2	1010.	Q1135.	847.0	828.1	802.2	785.6	Q445.4
Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	1000.	1000.	800.0	800.0	800.0	800.0	400.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	399.2	995.4	8442.	862.2
#1	402.0	989.2	8505.	845.5
#2	396.3	1002.	8379.	879.0
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	400.0	1000.	8000.	800.0
Range	10.00	10.00	10.00	10.00

0095

Method: CLP1150 Sample Name: ICB1 Operator: JR
Run Time: 10/05/92 14:11:19
Comment:
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-9.487	8.397	.2574	-.1060	1.706	5.613	.8380
#1	-10.82	13.65	.4291	-.2023	.0060	5.857	1.509
#2	-8.157	3.145	.0858	-.0097	3.406	5.369	.1669

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	-1.017	1.458	1.048	38.54	.3439	18.59	-.0001
#1	-2.290	-1.457	1.792	42.21	-1.498	18.29	-.0002
#2	.2569	4.373	.3031	34.87	2.185	18.88	-.0000

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-3.805	745.0	2.495	-.9913	2.875	-1.087	9.915
#1	-3.567	473.3	2.329	-2.974	2.515	-.7655	-1.217
#2	-4.042	1017.	2.662	.9913	3.235	-1.408	21.05

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-5.470	35.40	-5.282	-4.824	.9965	1.597	.1290
#1	-21.00	-.4153	-7.395	10.84	.9965	2.129	.2580
#2	10.06	71.22	-3.169	-20.49	.9965	1.064	.0000

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	1.891	1.314	30.75	18.47
#1	1.891	1.752	57.24	5.770
#2	1.891	.8761	4.261	31.18

Method: CLP1150 Sample Name: CCV1 Operator: JR
Run Time: 10/05/92 14:14:57
Comment:
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5293.	5241.	521.3	513.4	494.7	5251.	512.2
#1	5301.	5222.	523.0	513.9	491.0	5250.	511.4
#2	5285.	5260.	519.6	512.9	498.4	5251.	513.0
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	500.0	500.0	500.0	5000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	506.7	517.4	10610.	10550.	5210.	78030.	509.3
#1	507.0	518.9	10620.	10520.	5209.	78130.	509.1
#2	506.4	516.0	10600.	10580.	5211.	77920.	509.4
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0	500.0	10000.	10000.	5000.	75000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5238.	25520.	503.3	5240.	523.2	2537.	5264.
#1	5250.	25430.	501.7	5250.	523.6	2533.	5273.
#2	5227.	25620.	505.0	5230.	522.9	2540.	5256.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	25000.	500.0	5000.	500.0	2500.	5000.
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5408.	5448.	5243.	5288.	533.1	5031.	519.7
#1	5436.	5473.	5247.	5255.	536.1	5027.	520.7
#2	5380.	5424.	5239.	5320.	530.1	5035.	518.6
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	5000.	5000.	500.0	5000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	5058.	4953.	26630.	25600.
#1	5059.	4936.	26670.	25620.
#2	5056.	4971.	26580.	25580.
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	25000.	25000.
Range	10.00	10.00	10.00	10.00

Method: CLP1150 Sample Name: CCB1 Operator: JR
Run Time: 10/05/92 14:18:31
Comment:
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-.3767	11.33	-.2574	-.0084	.1546	6.589	.5680
#1	15.27	20.68	-.0858	.1897	-.9359	7.322	.4366
#2	-16.02	1.979	-.4291	-.2065	1.245	5.857	.6994

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	-.8406	.0004	3.213	59.68	.4620	17.12	-.0004
#1	.6069	-1.457	3.663	70.05	2.177	28.33	-.0004
#2	-2.288	1.458	2.762	49.31	-1.253	5.905	-.0003

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	3.804	679.2	3.161	-.0000	2.875	-.1315	19.15
#1	2.140	780.0	3.660	2.313	3.233	.8289	19.68
#2	5.468	578.4	2.662	-2.313	2.517	-1.092	18.62

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	24.72	13.39	3.171	-2.407	.4983	1.064	.0000
#1	46.66	6.238	3.171	1.208	.9965	2.129	.0000
#2	2.777	20.54	3.171	-6.022	.0000	.0000	.0000

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	3.784	3.950	4.316	39.26
#1	3.784	5.265	-25.12	49.65
#2	3.784	2.634	33.75	28.87

Method: CLP1150 Sample Name: ICSAI Operator: JR
Run Time: 10/05/92 14:22:00
Comment: ICF ICS PART A = LOT 0590
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	543000.	6.580	11.93	.1655	-3.035	502800.	5.592
#1	548900.	10.06	11.76	.1729	-2.503	504300.	6.698
#2	537200.	3.099	12.10	.1581	-3.566	501300.	4.486
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value	540100.					494000.	
Range	20.00					20.00	

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	1.288	14.73	191800.	187800.	-6.744	508800.	43.50
#1	.3517	14.89	193000.	188600.	-8.714	514000.	44.14
#2	2.224	14.56	190500.	187000.	-4.775	503600.	42.86
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value			206200.			531400.	
Range			20.00			20.00	

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	6.064	-902.7	20.22	1859.	12.71	275.7	12.45
#1	20.69	-1744.	18.76	1871.	10.69	276.6	-37.27
#2	-8.559	-61.35	21.68	1847.	14.74	274.9	62.16
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	183.4	103.1	30.14	-4.830	4.983	7.451	479.7
#1	156.9	54.79	22.13	6.024	3.986	7.451	485.6
#2	210.0	151.4	38.15	-15.68	5.979	7.451	473.7
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	5.441	-31.11	2483.	783.5
#1	7.058	-31.81	2469.	780.6
#2	3.824	-30.41	2496.	786.3
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value				
Range				

Method: CLP1150 Sample Name: ICSABI Operator: JR
Run Time: 10/05/92 14:25:30
Comment: ICF ICS PART A=0590, PART B=1089
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	544000.	1001.	490.0	470.2	895.6	499900.	477.4
#1	544800.	990.3	491.3	471.0	891.6	499200.	478.2
#2	543200.	1012.	488.7	469.4	899.7	500600.	476.6
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	536500.	1000.	502.0	480.0	907.0	512200.	529.0
Range	20.00	20.00	20.00	20.00	20.00	29.00	20.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	439.7	532.2	191700.	187100.	4629.	509300.	487.0
#1	439.6	533.7	191700.	187100.	4618.	510000.	487.4
#2	439.8	530.7	191700.	187200.	4640.	508600.	486.6
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value	477.0	543.0	199800.		4724.	527500.	496.0
Range	20.00	20.00	20.00		20.00	20.00	20.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	898.2	9268.	944.0	12560.	470.2	1245.	950.4
#1	896.1	9089.	943.6	12610.	469.7	1243.	892.3
#2	900.4	9448.	944.3	12520.	470.7	1247.	1008.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	940.0	10000.	960.0	12000.	509.0	1208.	1000.
Range	20.00	50.00	20.00	20.00	20.00	20.00	20.00

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1189.	1194.	1156.	954.3	1089.	929.3	1521.
#1	1196.	Q1219.	1175.	955.5	1093.	931.4	1524.
#2	1182.	1170.	1137.	953.1	1085.	927.1	1518.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1000.	1000.	1000.	1000.	1000.	1000.	1460.
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	881.8	873.3	12300.	3087.
#1	880.5	897.0	12270.	3080.
#2	883.0	849.6	12340.	3095.
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	1000.	1000.	12000.	2700.
Range	20.00	20.00	20.00	20.00

0100

Method: CLP1150 Sample Name: CRII Operator: JR
Run Time: 10/05/92 14:31:49
Comment:
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	48.59	122.9	-.0858	10.47	12.14	72.97	24.27
#1	49.88	125.8	-.2574	10.47	12.99	74.19	24.41
#2	47.30	120.0	.0858	10.47	11.29	71.75	24.13
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value		114.3		10.60	8.020		
Range		58.10		3.500	16.20		

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	106.3	56.86	39.51	136.2	62.34	69.99	31.65
#1	104.9	56.86	40.14	136.3	62.55	69.10	31.65
#2	107.7	56.86	38.88	136.1	62.14	70.88	31.65
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value		50.40			40.00		30.60
Range		28.40			36.20		4.000

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	100.7	1459.	25.78	105.4	107.2	45.08	49.53
#1	99.18	1551.	25.28	103.4	107.5	45.08	37.75
#2	102.3	1367.	26.28	107.4	106.8	45.08	Q61.30
Errors	QC Pass	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value	70.40		15.30		99.73	46.30	40.00
Range	44.20		16.00		8.880	14.00	20.00

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	76.35	161.3	11.64	10.86	1.993	2.129	.2580
#1	61.74	170.3	11.64	-3.600	2.990	2.129	.2580
#2	90.97	152.4	11.64	25.32	.9965	2.129	.2580
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	100.0						
Range	50.00						

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	.9799	4.392	38.49	68.07
#1	-1.227	2.636	32.61	65.76
#2	3.187	6.148	44.37	70.38
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value				
Range				

Method: CLP1150 Sample Name: PBS Operator: JR
Run Time: 10/05/92 14:35:18
Comment:
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	93.68	4.963	1.116	.0089	.1790	58.33	3.230
#1	95.84	10.61	1.116	.0102	-.0576	56.13	2.282
#2	91.52	-.6885	1.116	.0076	.4156	60.52	4.178

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	1.157	4.375	14.81	-28.39	17.10	39.54	-.0016
#1	1.163	4.375	14.63	-49.53	11.55	46.04	-.0016
#2	1.151	4.375	14.99	-7.258	22.66	33.05	-.0016

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-4.161	-1174.	-1.830	318.5	-.7275	1.256	17.46
#1	1.903	-1446.	-2.661	319.5	-1.088	1.730	5.692
#2	-10.22	-902.7	-.9977	317.5	-.3669	.7822	29.23

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	27.60	93.37	120.4	-27.72	-.9965	3.193	.0000
#1	24.86	75.72	119.4	-44.58	-1.993	3.193	.0000
#2	30.35	111.0	121.5	-10.86	.0000	3.193	.0000

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	2.206	22.82	23.22	136.8
#1	3.784	25.46	45.24	139.7
#2	.6288	20.19	1.204	133.9

Report Pb by ICP for

MEK613 JR 10-6-92
614
834
866
867
869
872

0102

Method: CLP1150 Sample Name: LCSS Operator: JR
Run Time: 10/05/92 14:38:46
Comment: ICF LABORATORY CONTROL SAMPLE (LOT 0287)
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1532.	1113.	25.49	89.11	189.4	873900.	444.9
#1	1526.	1107.	25.14	88.62	186.7	868500.	442.0
#2	1537.	1118.	25.83	89.60	192.1	879300.	447.9

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	665.0	32320.	105200.	101400.	1082.	539200.	954.6
#1	660.2	32240.	104700.	100900.	1082.	536900.	950.2
#2	669.8	32400.	105700.	102000.	1081.	541500.	958.9

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	263.8	-1486.	127.1	427.9	314.9	897.0	4831.
#1	254.4	-1507.	125.5	424.6	313.9	889.8	4778.
#2	273.2	-1464.	128.8	431.2	315.9	904.2	4885.

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	286.0	324.0	81.20	236.7	5.481	91.54	265.4
#1	276.1	341.7	84.20	246.4	4.983	91.54	264.5
#2	295.8	306.3	78.20	227.0	5.979	91.54	266.3

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	222.7	53.63	730.9	3512.
#1	224.5	48.74	729.9	3481.
#2	220.8	58.53	731.8	3544.

Method: CLP1150 Sample Name: MEK613 Operator: JR
Run Time: 10/05/92 14:45:06
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	118800.	28.23	1169.	.5939	3.238	61870.	289.3
#1	118200.	23.20	1166.	.6257	2.031	61400.	288.4
#2	119500.	33.25	1172.	.5620	4.445	62350.	290.1

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	91.89	676.5	224900.	219800.	679.2	64050.	3898.
#1	91.75	671.9	223700.	218400.	682.1	63780.	3872.
#2	92.04	681.0	226200.	221200.	676.4	64330.	3923.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	302.0	7533.	14.43	4998.	386.6	1159.	130.6
#1	312.5	7607.	13.90	4967.	384.3	1153.	107.7
#2	291.5	7458.	14.96	5028.	388.9	1166.	153.5

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	270.6	638.6	135.8	-11.34	160.4	6007.	401.0
#1	285.5	658.9	130.0	-6.506	159.4	5968.	399.4
#2	255.8	618.3	141.5	-16.17	161.4	6045.	402.5

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	12.21	92.05	6483.	7623.
#1	11.86	103.8	6503.	7583.
#2	12.56	80.30	6462.	7663.

Method: CLP1150 Sample Name: MEK613D Operator: JR
Run Time: 10/05/92 14:48:42
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	125400.	39.95	1318.	.7961	1.121	64720.	358.5
#1	125000.	33.71	1314.	.8615	1.047	64390.	356.6
#2	125900.	46.18	1321.	.7308	1.194	65050.	360.5

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	106.5	903.8	336800.	334000.	687.7	71840.	4884.
#1	106.4	899.3	335400.	332700.	689.8	71580.	4863.
#2	106.7	908.4	338300.	335300.	685.5	72100.	4906.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	360.7	6928.	19.67	5320.	433.8	1292.	162.9
#1	367.4	6740.	19.13	5306.	431.2	1287.	136.0
#2	354.1	7117.	20.21	5334.	436.4	1297.	189.9

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	469.0	608.1	154.9	12.56	166.9	5694.	397.5
#1	421.5	601.8	150.1	19.80	166.4	5672.	396.3
#2	516.4	614.3	159.6	5.321	167.4	5716.	398.7

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	20.32	100.4	7382.	8380.
#1	20.27	103.3	7318.	8333.
#2	20.36	97.48	7447.	8427.

Method: CLP1150 Sample Name: MEK613S Operator: JR
Run Time: 10/05/92 14:52:20
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	112200.	171.5	3066.	48.34	47.07	67020.	435.4
#1	112400.	179.9	3075.	48.56	48.17	66820.	435.9
#2	112100.	163.2	3058.	48.11	45.98	67210.	434.8

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	551.0	923.8	199100.	194700.	1062.	57470.	4222.
#1	549.9	928.2	199000.	194300.	1047.	57530.	4217.
#2	552.1	919.5	199200.	195000.	1077.	57400.	4227.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	765.2	7134.	58.54	6646.	831.1	1508.	137.1
#1	750.8	6722.	58.37	6674.	831.1	1501.	136.4
#2	779.6	7546.	58.71	6618.	831.1	1514.	137.9

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	303.7	596.1	121.5	9.232	141.5	5972.	381.8
#1	280.0	576.8	125.6	10.42	141.5	5986.	383.7
#2	327.4	615.4	117.3	8.042	141.5	5958.	379.8

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	12.53	98.60	6027.	10310.
#1	13.15	95.92	6033.	10280.
#2	11.91	101.3	6021.	10330.

Method: CLP1150 Sample Name: MEK613L Operator: JR
Run Time: 10/05/92 14:57:13
Comment: 2/10 DIL, SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	25560.	5.495	247.6	.2299	.9092	13810.	62.53
#1	25400.	14.05	245.5	.2026	.2883	13790.	63.63
#2	25720.	-3.064	249.6	.2572	1.530	13830.	61.44

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	20.85	147.9	50310.	48890.	157.9	13820.	861.0
#1	21.36	147.9	50110.	48770.	164.2	13740.	857.9
#2	20.34	148.0	50510.	49000.	151.6	13910.	864.1

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	68.49	3330.	8.393	1416.	89.15	268.3	56.54
#1	76.33	3488.	10.05	1409.	89.20	267.9	46.90
#2	60.64	3173.	6.735	1424.	89.11	268.6	66.19

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	77.90	130.0	211.0	4.713	35.38	1290.	85.41
#1	109.7	174.7	208.8	10.74	35.87	1276.	84.63
#2	46.14	85.36	213.1	-1.317	34.88	1304.	86.18

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	2.164	14.78	1468.	1851.
#1	1.529	14.34	1459.	1847.
#2	2.799	15.22	1477.	1856.

Method: CLP1150 Sample Name: CCV1 Operator: JR
Run Time: 10/05/92 15:00:43
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5203.	5229.	505.4	507.0	504.6	5333.	515.1
#1	5173.	5190.	500.7	503.1	500.9	5311.	514.1
#2	5233.	5268.	510.0	510.9	508.2	5356.	516.0
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	500.0	500.0	500.0	5000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	509.6	499.9	10620.	10690.	5259.	76990.	511.5
#1	508.3	498.5	10550.	10650.	5241.	76460.	508.9
#2	510.9	501.4	10690.	10720.	5278.	77530.	514.1
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0	500.0	10000.	10000.	5000.	75000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5236.	27060.	508.7	5103.	525.5	2562.	5260.
#1	5203.	27180.	506.3	5063.	523.1	2556.	5226.
#2	5269.	26940.	511.0	5143.	528.0	2569.	5294.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	25000.	500.0	5000.	500.0	2500.	5000.
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5328.	5316.	5168.	5199.	515.7	4938.	506.6
#1	5296.	5338.	5129.	5226.	512.2	4866.	502.4
#2	5361.	5293.	5207.	5171.	519.2	5010.	510.9
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	5000.	5000.	500.0	5000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	5059.	5078.	26880.	25510.
#1	5032.	5054.	26700.	25400.
#2	5087.	5101.	27060.	25620.
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	25000.	25000.
Range	10.00	10.00	10.00	10.00

Method: CLP1150 Sample Name: CCB1 Operator: JR
Run Time: 10/05/92 15:04:11
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-5.086	-6.173	-.2574	-.2178	-.5298	17.57	.0639
#1	10.11	-1.117	-.2574	-.2181	-.9575	17.57	1.282
#2	-20.28	-11.23	-.2574	-.2176	-.1021	17.57	-1.154

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	-2.465	1.458	3.518	147.7	2.717	-5.314	.5185
#1	-2.128	1.458	3.336	140.6	21.66	1.179	.5185
#2	-2.802	1.458	3.700	154.8	-16.23	-11.81	.5185

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-3.686	2305.	7.320	18.83	6.475	-.7412	14.80
#1	-2.141	2524.	7.653	22.80	6.834	-.4198	20.90
#2	-5.232	2086.	6.987	14.87	6.116	-1.063	8.693

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	24.72	-3.151	6.340	-4.824	3.488	1.597	.2580
#1	41.17	21.10	5.284	-6.027	2.990	2.129	.2580
#2	8.272	-27.40	7.397	-3.620	3.986	1.064	.2580

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	-.3152	-.4414	64.67	36.37
#1	-1.261	-1.759	77.86	33.48
#2	.6302	.8766	51.47	39.26

Method: CLP1150 Sample Name: MEK614 Operator: JR
Time: 10/05/92 15:07:40
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	110500.	86.31	1338.	.2115	1.788	62470.	297.9
#1	110200.	78.76	1337.	.2599	1.428	62160.	299.9
#2	110700.	93.86	1339.	.1632	2.147	62790.	296.0

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	81.85	1079.	237300.	232200.	837.9	56300.	3564.
#1	81.28	1079.	236600.	231300.	848.8	56190.	3551.
#2	82.41	1079.	238100.	233000.	827.0	56410.	3578.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	297.4	8707.	16.01	4949.	383.4	1564.	93.75
#1	299.9	8554.	15.65	4946.	381.8	1559.	93.26
#2	294.9	8861.	16.36	4952.	385.1	1569.	94.23

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	288.9	591.4	148.6	-4.543	153.5	5604.	385.8
#1	261.3	640.4	145.1	-21.41	151.5	5576.	385.2
#2	316.6	542.4	152.0	12.32	155.5	5633.	386.3

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	15.11	415.4	7219.	7740.
#1	12.25	426.8	7212.	7708.
#2	17.96	404.1	7226.	7771.

Method: CLP1150 Sample Name: MEK834 Operator: JR
Run Time: 10/05/92 15:11:09
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	k76330.	k341.0	714.4	k1.930	k2.623	62320.	k35320.
#1	k76140.	k320.5	714.1	k2.029	k1.463	62140.	k35220.
#2	k76520.	k361.5	714.8	k1.832	k3.783	62500.	k35410.

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	k577.7	k1100.	S2836000.	k837700.	k3387.	1205000.	k13110.
#1	k578.3	k1102.	S2836000.	k835900.	k3376.	1202000.	k13080.
#2	k577.1	k1099.	S2836000.	k839500.	k3398.	1209000.	k13140.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	18060.	1805.	k111.0	3053.	k46.64	k1735.	k-449.0
#1	18060.	1691.	k110.1	3034.	k43.53	k1729.	k-442.2
#2	18060.	1919.	k111.8	3071.	k49.75	k1740.	k-455.7

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	k25860.	k800.3	k759.1	k60.74	30.89	1726.	178.0
#1	k25880.	k806.8	k756.9	k78.81	29.90	1720.	177.5
#2	k25850.	k793.8	k761.2	k42.67	31.89	1732.	178.6

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	k89.82	k325.4	k-6528.	k21650.
#1	k91.39	k314.0	k-6597.	k21580.
#2	k88.24	k336.8	k-6458.	k21720.

Report results from 1/10 dilution due to Fe saturation.
JR 10-6-92

Method: CLP1150 Sample Name: MEK866 Operator: JR
Time: 10/05/92 15:14:39
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	154000.	77.35	5647.	1.156	1.767	625900.	328.5
#1	152100.	78.62	5566.	1.090	1.547	620200.	324.4
#2	155900.	76.09	5729.	1.221	1.987	631500.	332.6

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	83.71	761.2	181500.	177000.	689.7	112100.	17290.
#1	85.20	753.7	179500.	175300.	681.8	110700.	17110.
#2	82.21	768.7	183400.	178800.	697.5	113500.	17470.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	328.4	20740.	23.00	14610.	364.6	657.6	96.18
#1	329.3	20680.	23.63	14440.	361.5	649.8	83.31
#2	327.4	20790.	22.37	14780.	367.7	665.4	109.1

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	157.3	708.5	438.6	-.5649	121.6	7158.	3960.
#1	122.7	695.6	433.7	5.468	121.6	7069.	3905.
#2	191.9	721.5	443.5	-6.598	121.6	7248.	4014.

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	8.076	449.6	30770.	10070.
#1	5.495	434.5	30520.	9981.
#2	10.66	464.6	31030.	10170.

Method: CLP1150 Sample Name: MEK867 Operator: JR
Run Time: 10/05/92 15:20:00
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	148200.	25.57	891.9	.6485	1.424	91410.	409.8
#1	148800.	27.68	899.8	.6630	1.364	91060.	408.1
#2	147600.	23.46	884.0	.6340	1.484	91760.	411.6

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	109.1	323.6	213300.	208700.	310.3	89370.	4162.
#1	108.7	326.6	213300.	208600.	293.9	89690.	4162.
#2	109.6	320.7	213200.	208900.	326.7	89050.	4163.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	522.7	10140.	17.54	6825.	463.5	687.0	101.7
#1	516.5	9614.	16.22	6871.	463.0	685.2	107.1
#2	528.9	10660.	18.87	6778.	463.9	688.7	96.20

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	264.0	787.4	131.7	-18.02	162.4	8393.	426.3
#1	277.8	792.1	132.8	-1.162	163.4	8450.	429.1
#2	250.1	782.7	130.6	-34.88	161.4	8336.	423.4

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	4.982	91.76	8392.	9119.
#1	4.038	85.52	8239.	9126.
#2	5.927	98.00	8545.	9111.

Method: CLP1150 Sample Name: MEK868 Operator: JR
Time: 10/05/92 15:23:38
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	116900.	30.59	319.5	.4740	-.1657	32690.	232.4
#1	117100.	18.51	320.7	.6468	-.8937	32640.	232.0
#2	116700.	42.68	318.3	.3011	.5623	32740.	232.8

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	81.89	140.2	192300.	188400.	69.62	67600.	2543.
#1	82.05	140.2	192400.	188300.	58.86	67700.	2544.
#2	81.73	140.1	192200.	188500.	80.38	67500.	2542.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	236.1	8799.	15.95	2758.	379.8	398.7	174.1
#1	253.0	8484.	15.78	2741.	379.7	398.0	174.4
#2	219.3	9115.	16.11	2775.	379.8	399.3	173.9

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	275.8	642.4	83.16	10.87	190.3	6436.	156.5
#1	265.5	609.2	83.20	15.70	189.3	6474.	157.1
#2	286.1	675.5	83.12	6.041	191.3	6398.	155.9

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	2.709	27.00	5802.	4174.
#1	1.455	22.12	5813.	4162.
#2	3.962	31.88	5791.	4185.

Report Pb by GFAA
JR 10-6-92

Method: CLP1150 Sample Name: MEK869 Operator: JR
Run Time: 10/05/92 15:27:23
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	117700.	33.07	385.3	-.0310	-1.606	48440.	793.9
#1	116200.	32.43	379.7	.0110	-1.480	47860.	781.1
#2	119100.	33.70	390.9	-.0730	-1.732	49020.	806.7

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	82.43	262.5	191800.	188200.	351.9	95820.	2819.
#1	81.58	259.3	189400.	185800.	341.0	94600.	2783.
#2	83.29	265.8	194200.	190500.	362.8	97040.	2855.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	534.3	10180.	17.39	3604.	410.5	657.5	173.2
#1	518.6	10260.	18.66	3549.	405.3	647.7	161.2
#2	550.0	10110.	16.13	3658.	415.6	667.3	185.2

Elem	Se1960	T13775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	296.7	721.9	177.0	9.764	180.9	6991.	238.5
#1	262.2	704.5	179.3	-3.498	178.4	6902.	235.3
#2	331.1	739.4	174.7	23.03	183.4	7080.	241.8

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	18.52	42.59	5342.	9498.
#1	18.44	40.22	5230.	9401.
#2	18.60	44.97	5454.	9595.

Method: CLP1150 Sample Name: MEK870 Operator: JR
Time: 10/05/92 15:31:00
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	158200.	28.20	675.8	.3055	-3.321	32060.	344.3
#1	157800.	20.78	674.6	.3464	-2.758	31900.	342.3
#2	158500.	35.61	677.0	.2647	-3.884	32220.	346.3

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	102.9	148.2	198100.	194300.	79.20	72770.	2516.
#1	102.9	146.7	197600.	193600.	84.63	72610.	2509.
#2	103.0	149.7	198700.	195100.	73.78	72920.	2522.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	552.2	9207.	17.45	2645.	467.3	362.1	34.59
#1	533.8	8931.	16.27	2639.	466.0	359.0	15.98
#2	570.5	9483.	18.63	2652.	468.6	365.3	53.19

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	300.6	891.9	129.6	-10.58	101.6	9634.	148.4
#1	308.9	913.6	125.1	-13.00	101.6	9602.	148.1
#2	292.4	870.3	134.0	-8.160	101.6	9666.	148.6

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	4.535	21.52	5617.	12160.
#1	6.720	18.87	5590.	12130.
#2	2.350	24.18	5643.	12200.

Report Pb by GFAA.
JR 10-6-92

Method: CLP1150 Sample Name: MEK871 Operator: JR
Time: 10/05/92 15:34:36
ament: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	153000.	22.62	615.9	.2167	-.0847	34500.	349.8
#1	153400.	15.01	619.7	.2867	-.2469	34550.	349.9
#2	152500.	30.22	612.1	.1467	.0775	34450.	349.7

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	107.8	157.8	193200.	189600.	79.47	77350.	2355.
#1	106.2	157.8	193700.	190100.	82.93	77600.	2361.
#2	109.4	157.7	192600.	189200.	76.01	77090.	2349.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	573.7	10420.	19.82	3677.	475.0	374.6	38.96
#1	572.4	10040.	19.17	3679.	476.0	374.6	53.58
#2	575.0	10800.	20.47	3676.	474.1	374.6	24.34

Elem	Se1960	T13775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	248.8	936.1	145.8	-19.01	97.66	10210.	122.8
#1	231.1	921.6	147.0	1.471	98.65	10300.	123.3
#2	266.5	950.6	144.5	-39.49	96.66	10120.	122.3

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	-.0223	20.65	5357.	13820.
#1	-.9518	15.30	5470.	13830.
#2	.9071	26.01	5243.	13800.

Report Pb by GFAA

jpc 10-6-92

Method: CLP1150 Sample Name: MEK872 Operator: JR
Time: 10/05/92 15:38:16
ment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	12480.	30.94	1516.	.1906	1.397	S3905000.	130.2
#1	12470.	25.45	1517.	.0930	2.387	S3905000.	130.0
#2	12490.	36.43	1515.	.2883	.4066	S3905000.	130.3

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	9.303	627.6	28560.	k27300.	787.9	29890.	1332.
#1	7.845	626.1	28460.	k27200.	771.2	29860.	1328.
#2	10.76	629.1	28670.	k27400.	804.6	29920.	1337.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	143.0	731.8	26.82	17770.	130.9	321.0	41.62
#1	124.4	403.2	26.31	17760.	129.5	318.4	50.40
#2	161.7	1060.	27.32	17790.	132.3	323.5	32.83

Elem	Se1960	T13775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
nits	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	37.86	146.4	87.12	15.10	75.73	794.1	4305.
#1	25.56	115.5	84.97	5.449	75.73	792.0	4304.
#2	50.17	177.2	89.27	24.75	75.73	796.2	4306.

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	9.728	54.79	29240.	9811.
#1	10.98	49.07	29100.	9779.
#2	8.475	60.50	29380.	9843.

Method: CLP1150 Sample Name: MEK834 1/10 DIL Operator: JR
Time: 10/05/92 15:41:52
ment: 1/10 DIL, SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	8678.	45.40	79.29	-.0583	-1.740	7815.	4321.
#1	8687.	44.97	79.55	-.0613	-2.011	7616.	4327.
#2	8669.	45.84	79.04	-.0552	-1.470	8013.	4316.

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	69.54	93.68	103900.	102100.	419.4	137300.	1595.
#1	69.09	93.69	104000.	102200.	415.7	137400.	1597.
#2	69.99	93.68	103900.	102100.	423.0	137200.	1593.

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	2256.	3348.	16.57	567.0	68.51	243.1	13.04
#1	2262.	3471.	16.24	570.7	68.49	242.6	4.312
#2	2251.	3225.	16.90	563.4	68.53	243.6	21.77

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	151.3	-45.84	68.07	-8.024	7.972	198.5	20.90
#1	154.9	-48.54	60.68	-47.78	7.972	196.9	20.64
#2	147.7	-43.15	75.45	31.73	7.972	200.1	21.16

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	5.175	15.06	848.0	2852.
#1	2.340	5.413	853.2	2857.
#2	8.010	24.71	842.8	2846.

Method: CLP1150 Sample Name: CCV1 Operator: JR
Run Time: 10/05/92 15:45:26
Comment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5082.	5144.	487.7	491.7	491.3	5259.	506.5
#1	5076.	5128.	487.5	491.4	492.6	5248.	504.3
#2	5087.	5160.	487.9	492.0	489.9	5271.	508.6
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	500.0	500.0	500.0	5000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	501.4	483.9	10390.	10550.	5203.	74930.	503.1
#1	504.2	483.9	10380.	10540.	5189.	74930.	501.9
#2	498.7	483.9	10400.	10560.	5217.	74940.	504.2
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0	500.0	10000.	10000.	5000.	75000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5170.	27390.	502.8	4925.	515.8	2534.	5213.
#1	5150.	27240.	501.7	4921.	516.9	2530.	5189.
#2	5190.	Q27550.	504.0	4928.	514.7	2537.	5238.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	25000.	500.0	5000.	500.0	2500.	5000.
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5230.	5140.	5008.	5147.	492.8	4794.	489.6
#1	5203.	5122.	5002.	5077.	492.3	4800.	489.5
#2	5257.	5157.	5015.	5217.	493.3	4789.	489.7
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	5000.	5000.	500.0	5000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	4966.	5036.	26250.	24990.
#1	4968.	5050.	26240.	24990.
#2	4963.	5023.	26260.	24990.
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	25000.	25000.
Range	10.00	10.00	10.00	10.00

Method: CLP1150 Sample Name: CCB1 Operator: JR
Time: 10/05/92 15:48:58
ment: SR 9441, EVERETT EMCON/ SOILS, UG/L, AS REC'D
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-10.64	-2.457	-.5149	-.1304	-.6698	23.43	.7632
#1	-17.58	-3.775	-.2574	-.2281	-.6770	23.43	2.113
#2	-3.704	-1.139	-.7723	-.0328	-.6626	23.43	-.5861

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	-1.362	1.459	6.845	200.2	6.009	5.608	1.037
#1	-1.424	4.374	7.148	189.7	16.39	.5954	1.037
#2	-1.299	-1.457	6.542	210.7	-4.376	10.62	1.037

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1.426	3138.	10.15	19.83	8.991	-.7179	-5.641
#1	9.986	3330.	9.649	18.17	8.992	-.7259	-4.988
#2	-7.134	2945.	10.65	21.48	8.990	-.7099	-6.295

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	10.14	-27.01	3.172	6.024	4.484	.5322	.5161
#1	2.832	19.64	1.059	15.67	4.983	1.064	.5161
#2	17.45	-73.65	5.285	-3.618	3.986	.0000	.5161

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	2.839	-.8780	94.00	34.64
#1	1.264	8.779	107.2	21.94
#2	4.413	-10.54	80.78	47.35

Method: CLP1150 Sample Name: ICSAF Operator: JR
Time: 10/05/92 15:52:31
Comment: ICF ICS PART A=0590
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	533800.	14.66	12.96	.1433	-3.151	510200.	15.44
#1	532100.	-12.75	12.79	.1430	-4.308	508300.	14.42
#2	535500.	42.07	13.13	.1436	-1.993	512100.	16.47
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value	540100.					494000.	
Range	20.00					20.00	

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	3.262	17.77	192700.	189000.	21.69	501700.	44.96
#1	3.612	17.68	192000.	188300.	22.25	500000.	44.77
#2	2.911	17.85	193400.	189600.	21.12	503500.	45.14
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value			206200.			531400.	
Range			20.00			20.00	

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	2.735	1512.	26.90	1805.	19.65	278.1	-43.76
#1	-22.11	1560.	27.05	1793.	20.02	276.8	-71.06
#2	27.58	1464.	26.76	1818.	19.29	279.4	-16.47
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	76.57	97.78	32.59	-37.37	7.972	9.048	468.7
#1	49.30	139.4	23.90	-22.93	7.972	9.580	467.0
#2	103.8	56.14	41.28	-51.81	7.972	8.516	470.4
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	8.306	-22.64	2681.	836.0
#1	6.389	-17.91	2638.	827.9
#2	10.22	-27.38	2725.	844.1
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value				
Range				

Method: CLP1150 Sample Name: ICSABF Operator: JR
n Time: 10/05/92 15:56:10
mment: ICF ICS PART A=0590, PART B=1089
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	527800.	975.6	470.4	459.5	896.6	503200.	480.2
#1	530900.	976.6	473.8	462.2	900.3	504200.	482.3
#2	524700.	974.6	466.9	456.9	892.8	502200.	478.1
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	536500.	1000.	502.0	480.0	907.0	512200.	529.0
Range	20.00	20.00	20.00	20.00	20.00	29.00	20.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	439.9	507.3	190500.	186500.	4694.	495800.	486.1
#1	440.5	510.3	191300.	187100.	4712.	498500.	487.4
#2	439.3	504.3	189800.	185900.	4676.	493100.	484.8
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value	477.0	543.0	199800.		4724.	527500.	496.0
Range	20.00	20.00	20.00		20.00	20.00	20.00

lem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	909.0	11550.	940.3	11950.	471.6	1251.	1001.
#1	935.6	11270.	943.0	12030.	472.9	1252.	955.5
#2	882.5	11820.	937.6	11880.	470.3	1251.	1046.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	940.0	10000.	960.0	12000.	509.0	1208.	1000.
Range	20.00	50.00	20.00	20.00	20.00	20.00	20.00

Elem	Se1960	T13775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1150.	1139.	1119.	949.5	1026.	900.0	1467.
#1	1174.	1120.	1125.	919.4	1034.	908.0	1477.
#2	1126.	1157.	1113.	979.6	1018.	892.0	1457.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1000.	1000.	1000.	1000.	1000.	1000.	1460.
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	886.1	864.8	12340.	3120.
#1	888.7	862.7	12240.	3140.
#2	883.6	866.9	12440.	3101.
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	1000.	1000.	12000.	2700.
Range	20.00	20.00	20.00	20.00

Method: CLP1150 Sample Name: CRIF Operator: JR
Run Time: 10/05/92 16:02:32
Comment:
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	24.03	126.5	.2574	10.34	11.69	45.88	23.26
#1	17.08	111.5	-.2574	10.43	12.83	42.95	22.05
#2	30.98	141.5	.7723	10.25	10.56	48.81	24.46
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value		114.3		10.60	8.020		
Range		58.10		3.500	16.20		

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	106.2	53.94	15.79	234.4	40.87	45.50	32.95
#1	104.3	51.02	15.49	192.3	31.90	17.17	33.21
#2	108.0	56.85	16.10	276.5	49.85	73.83	32.69
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value		50.40			40.00		30.60
Range		28.40			36.20		4.000

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	112.5	3322.	30.94	44.94	Q114.0	44.04	57.62
#1	107.5	2691.	30.27	44.61	Q114.7	44.21	52.70
#2	Q117.5	3953.	Q31.61	45.27	Q113.3	43.87	Q62.54
Errors	QC Pass	NOCHECK	QC Pass	NOCHECK	QC Fail	QC Pass	QC Pass
Value	70.40		15.30		99.73	46.30	40.00
Range	44.20		16.00		8.880	14.00	20.00

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	72.40	137.9	13.74	3.642	6.477	1.597	.6451
#1	54.12	84.08	15.85	-1.178	4.983	.0000	.5161
#2	90.68	191.8	11.63	8.462	7.972	3.193	.7741
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	100.0						
Range	50.00						

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	1.928	11.41	94.58	211.3
#1	3.188	10.54	65.36	204.3
#2	.6681	12.29	123.8	218.2
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value				
Range				

0124

Method: CLP1150 Sample Name: CCV2 Operator: JR
Run Time: 10/05/92 16:06:20
Comment:
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5186.	5232.	502.6	510.6	505.8	5383.	524.3
#1	5143.	5187.	497.5	505.9	494.8	5357.	520.6
#2	5229.	5278.	507.8	515.2	516.9	5408.	527.9
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	500.0	500.0	500.0	5000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	512.8	495.6	10690.	10830.	5297.	76800.	515.4
#1	510.7	492.6	10600.	10790.	5264.	76150.	511.7
#2	514.8	498.5	10770.	10870.	5330.	77450.	519.0
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0	500.0	10000.	10000.	5000.	75000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5319.	27410.	512.3	5024.	528.8	2588.	5346.
#1	5280.	Q27550.	510.7	4969.	526.0	2573.	5327.
#2	5359.	27270.	514.0	5079.	531.6	2602.	5366.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	25000.	500.0	5000.	500.0	2500.	5000.
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5423.	5228.	5169.	5177.	508.2	4946.	505.2
#1	5352.	5242.	5112.	5111.	503.2	4881.	500.1
#2	5494.	5215.	5226.	5243.	513.2	5011.	510.4
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	5000.	5000.	500.0	5000.	500.0
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	5088.	5127.	27120.	25590.
#1	5050.	5095.	26910.	25420.
#2	5126.	5159.	27340.	25770.
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	5000.	25000.	25000.
Range	10.00	10.00	10.00	10.00

Method: CLP1150 Sample Name: CCB2 Operator: JR
Time: 10/05/92 16:10:11
ment:
Mode: CONC Corr. Factor: 1000

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-1.502	15.47	.0858	-.1344	-1.553	24.41	-.4400
#1	-8.907	12.53	-.2574	-.2307	-1.658	23.43	-.5785
#2	5.904	18.41	.4291	-.0381	-1.449	25.38	-.3014

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppb	ppb	ppb	PPB	ppb	ppb	ppb
Avge	-.8436	-.0002	-1.225	238.8	6.980	11.21	1.038
#1	-2.296	-1.458	-.6277	239.0	.1885	2.951	1.038
#2	.6089	1.457	-1.823	238.6	13.77	19.48	1.038

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	As1936
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-.2380	3449.	10.48	33.04	10.07	-1.021	9.157
#1	.2371	3199.	10.31	29.41	9.712	-1.656	18.49
#2	-.7132	3699.	10.65	36.68	10.43	-.3853	-.1745

Elem	Se1960	Tl3775	B_2496	Bi2230	Li6707	Ti3349	Sr4215
its	ppb	ppb	ppb	ppb	ppb	ppb	ppb
vge	24.66	5.839	3.169	-.0002	4.983	.5322	.5161
#1	24.67	.8482	5.282	-13.25	3.986	1.064	.5161
#2	24.65	10.83	1.056	13.25	5.979	.0000	.5161

Elem	Mo2020	Sn1899	P_2149	Si2881
Units	ppb	ppb	ppb	ppb
Avge	1.577	2.633	38.16	33.49
#1	1.262	-.8800	51.45	33.49
#2	1.892	6.146	24.88	33.49

GFAAS - SOLID

SDG #	MEK613
SAS #	
CASE #	Everett

Weyerhaeuser Company

Analytical Laboratories
Tacoma, Washington

Request # 9441

DATA SHEET - RUN LOG Element ~~Pb~~ As (DRM 7/14/92)

Energy (~~Pb~~ As) = mA 55 (DRM 7/14/92)

Prep. Date	Analysis Date	Time Started
10/2/92	~~7OCT93~~ 8OCT93 (DRM 10/8/92)	23 05

INSTRUMENT: ~~ZE030~~ → PE5100 B (DRM 10/8/92)

IDL = 1.5

RUN NUMBER: 1

A= + 20 UG/L

ICV-2C SPEX EXP date
LOT #4-109AS 31 Jul 493

			Lab Code	EPA Sample No.	Result mg/kg	Sample Basis	Weight	Volume (L)	Dilution	
		1	S0	S0 (DRM 10/8/92)						
		2	SCRDL	S ~~8~~ 10						
		3	S35	S35						
		4	S75	S75						
		5	ICV1	ICV1	51.7					
		6	ICB1	ICB1	0.6					
		7	CRA1	CRA1	10.1					
4	1	8	PBS1	PBS1	-0.6		1.00	0.1		
		9	PBS1A	PBS1A	21.6		↓	↓		
5	2	10	LCSS1	LCSS1	26.2		0.50	↓	200X	0.503g
		11	LCSSA	LCSSA	47.5		↓	↓	↓	dilutions via ICP data
6	3	12	94613	MEK613	45.3		1.34	↓	4X	
		13	94613A	613A	66.3		↓	↓	↓	
7	4	14	94613D	613D	37.4		1.01	↓	↓	
		15	94613DA	613DA	58.4		↓	↓	↓	
8	5	16	94613S	613S	57.1		1.15	↓	↓	
		17	CCV1	CCV1	35.8					
		18	CCB1	CCB1	0.4					
9	6	19	94614	MEK 614	37.6		1.34	0.1	4X	
		20	94614A	614A	59.6		↓	↓	↓	
10	7	21	94834	834	11.8		1.00	↓	↓	
		22	94834A	834A	33.1		↓	↓	↓	
11	8	23	94866	866	/37.6		1.46	↓	↓	MSA 8X +0, +10, +20, +30
		24	94866A	866A	/52.6		↓	↓	↓	
12	9	25	94867	867	26.5		1.30	↓	↓	
		26	94867A	867A	49.1		↓	↓	↓	
		27	CCV2	CCV2	35.6					
		28	CCB2	CCB2	-0.2					
13	10	29	94868	MEK 868	/55.6		1.34	0.1	4X	Dilute 10X
		30	94868A	868A	/77.9		↓	↓	↓	
14	11	31	94869	869	44.4		1.18	↓	↓	
		32	94869A	869A	65.7		↓	↓	↓	
15	12	33	94870	870	/ none (too large)		1.47	↓		Dilute 10X
		34	94870A	870A	/ ↓		↓	↓		
		35	CCV3	CCV3	34.9					
		36	CCB3	CCB3	-0.2					
16	13	37	94871	MEK 871	/ none (too large)		1.35	0.1		Dilute (10X)
		38	94871A	871A	/ ↓		↓	↓		

Record every analysis in the order analyzed, whether valid or failed.

Analyst DRM/RGG
Witness DJD. 13OCT92

Increment ______

Page 1 of 2

0127

GFAAS - SOLID

SDG # MEK613
SAS #
CASE # Everett

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Request # 9441

DATA SHEET - RUN LOG

Energy (Pb1) = mA

Element Pb As
PE5100B Run 1

	Lab Code	EPA Sample No.	Result mg/kg	Sample Basis	Weight	Volume	Dilution
17 M 39	94872	MEK872	34.6		1.22	0.1	
40	94872A	↓ 872A	52.3		↓	↓	
41	CCV4	CCV4	36.2				
42	CCB4	CCB4	0.0				
43							
44							
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Rdl 30 Oct 92

A= 20 UG/L

Record every analysis in the order analyzed, whether valid or failed.

Analyst RAM/RAG
Witness DJD 30OCT92

Increment

0128

Page 2 of 2

REVIEWED BY DRMYERS 10/8/92

Reviewed by RAG 9OCT92

[illegible] Pos.: 2

Replicate 1

S∅

Peak Area (A-s): 0.021 Peak Height (A): 0.024
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.055
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.4

Replicate 2 Time: 23:07
Peak Area (A-s): 0.001 Peak Height (A): 0.010
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.055
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.2

Mean Conc (ug/L): 0.3 SD: 0.1 RSD(%): 44.11 OK

Autozero performed

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As ID: S17 Seq. No.: 00053 A/S Pos.: 35 Date: 10/08/92

Replicate 1 Time: 23:09
Peak Area (A-s): 0.04- Peak Height (A): 0.134
Background Pk Area (A-s): 0.006 Background Pk Height (A): 0.054
Blank Corrected Pk Area (A-s): 0.043
Concentration (ug/L): 10.3

Replicate 2 Time: 23:12
Peak Area (A-s): 0.044 Peak Height (A): 0.133
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.057
Blank Corrected Pk Area (A-s): 0.043
Concentration (ug/L): 10.4

Mean Conc (ug/L): 10.4 SD: 0.08 RSD(%): 0.78 OK

Standard number 1 applied. (10.0)
Correlation coefficient: 1.00000 Slope: 0.0043

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As ID: S35 Seq. No.: 00054 A/S Pos.: 36 Date: 10/08/92

Replicate 1 Time: 23:14
Peak Area (A-s): 0.152 Peak Height (A): 0.454
Background Pk Area (A-s): 0.010 Background Pk Height (A): 0.065
Blank Corrected Pk Area (A-s): 0.149
Concentration (ug/L): 34.8

Replicate 2 Time: 23:16
Peak Area (A-s): 0.144 Peak Height (A): 0.455
Background Pk Area (A-s): 0.011 Background Pk Height (A): 0.066
Blank Corrected Pk Area (A-s): 0.143
Concentration (ug/L): 33.5

Mean Conc (ug/L): 34.1 SD: 0.92 RSD(%): 2.69 OK

Standard number 2 applied. (35.0)
Correlation coefficient: 1.00000 Slope: 0.0043

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As ID: S75 Seq. No.: 00055 A/S Pos.: 37 Date: 10/08/92

Replicate 1 Time: 23:19

0130
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S75

Peak Area (A-s): 0.296 — Peak Height (A): 0.929
Background Pk Area (A-s): 0.016 — Background Pk Height (A): 0.237
Blank Corrected Pk Area (A-s): 0.295
Concentration (ug/L): 73.4

Replicate 2 — Time: 23:21
Peak Area (A-s): 0.300 — Peak Height (A): 0.941
Background Pk Area (A-s): 0.014 — Background Pk Height (A): 0.094
Blank Corrected Pk Area (A-s): 0.299
Concentration (ug/L): 74.4

Mean Conc (ug/L): 73.9 — SD: 0.[illegible] — RSD(%): [illegible] OK

Standard number 1 applied. 075.01
Correlation coefficient: 1.00000 OK — Slope: 0.0043

Ag ID: ICV | Seq. No.: 00056 A/S Pos.: 1 Date: 10/05/9[illegible]

Replicate 1 — Time: 23:23
Peak Area (A-s): 0.214 — Peak Height (A): 0.669
Background Pk Area (A-s): 0.012 — Background Pk Height (A): 0.077
Blank Corrected Pk Area (A-s): 0.213
Concentration (ug/L): 52.2

Replicate 2 — Time: 23:26
Peak Area (A-s): 0.211 — Peak Height (A): 0.673
Background Pk Area (A-s): 0.012 — Background Pk Height (A): 0.077
Blank Corrected Pk Area (A-s): 0.210
Concentration (ug/L): 51.2

Mean Conc (ug/L): 51.7 OK — SD: 0.66 — RSD(%): 1.28 OK

QC sample is within range 44.8 - 55.2

Ag ID: ICB | Seq. No.: 00057 A/S Pos.: 2 Date: 10/08/90

Replicate 1 — Time: 23:28
Peak Area (A-s): 0.003 — Peak Height (A): 0.012
Background Pk Area (A-s): 0.004 — Background Pk Height (A): 0.049
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.5

Replicate 2 — Time: 23:31
Peak Area (A-s): 0.004 — Peak Height (A): 0.008
Background Pk Area (A-s): 0.003 — Background Pk Height (A): 0.047
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.6

Mean Conc (ug/L): 0.6 OK — SD: 0.08 — RSD(%): 14.23 OK

QC sample is within range -10.0 - 10.0

Ag ID: [illegible] | Seq. No.: 00058 A/S Pos.: 3 Date: 10/05/90

Replicate 1 — Time: 23:33
Peak Area (A-s): 0.044 — Peak Height (A): 0.140

0131

CRA1

Background Pk Area (A-s): 0.004 Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): 0.043
Concentration (ug/L): 10.2

Replicate 2 Time: 23:3[illegible]
Peak Area (A-s): 0.044 Peak Height (A): 0.13[illegible]
Background Pk Area (A-s): 0.004 Background Pk Height (A): 0.053
Blank Corrected Pk Area (A-s): 0.040
Concentration (ug/L): 10.2

Mean Conc (ug/L): 10.[illegible] ok SD: 0.1[illegible] RSD(%): 1.20 ok

[illegible] sample is within range [illegible]10.0 - 15.0

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As ID: PB3 Seq. No.: 00059 A/S Pos.: 4 Date: 10/08/92

Replicate 1 Time: 23:38
Peak Area (A-s): -0.007 Peak Height (A): 0.010
Background Pk Area (A-s): 0.000 Background Pk Height (A): 0.039
Blank Corrected Pk Area (A-s): -0.00[illegible]
Concentration (ug/L): -0.[illegible]

Replicate 2 Time: 23:40
Peak Area (A-s): -0.002 Peak Height (A): 0.007
Background Pk Area (A-s): 0.00[illegible] Background Pk Height (A): 0.041
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -0.[illegible] ok

Mean Conc (ug/L): -0.5 SD: 0.19 RSD(%): 39.97 ok

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As ID: PB3 A Seq. No.: 00060 A/S Pos.: 4 Date: 10/08/92

Replicate 1 Time: 23:42
Peak Area (A-s): 0.093 Peak Height (A): 0.304
Background Pk Area (A-s): 0.002 Background Pk Height (A): 0.05[illegible]
Blank Corrected Pk Area (A-s): 0.091
Concentration (ug/L): 21.6

Replicate 2 Time: 23:45
Peak Area (A-s): 0.092 Peak Height (A): 0.286
Background Pk Area (A-s): 0.006 Background Pk Height (A): 0.24[illegible]
Blank Corrected Pk Area (A-s): 0.09[illegible]
Concentration (ug/L): 21.5

Mean Conc (ug/L): 21.6 SD: 0.12 RSD(%): 0.[illegible]

Recovery is ~~11[illegible]~~ 108% DKM 10/8/92

~~~~~~

As ID: LCSA (200X) Seq. No.: 0006[illegible] A/S Pos.: [illegible] Date: [illegible]

Replicate 1 Time: 23:47
Peak Area (A-s): 0.109 Peak Height (A): 0.39[illegible]
Background Pk Area (A-s): 0.009 Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): [illegible].10[illegible]
Concentration (ug/L): 2[illegible]
~~~~~~

LCSS (200X)

Replicate 1 | Time: 23:5[illegible]
Peak Area (A-s): 0.11[illegible] | Peak Height (A): 0.375
Background Pk Area (A-s): 0.007 | Background Pk Height (A): 0.053
Blank Corrected Pk Area (A-s): 0.112
Concentration (ug/L): 26.6

Mean Conc (ug/L): 26.2 OK | SD: 0.60 | RSD(%): 2.30 ok

~~~~~~

As ID: LCSS A (200X) Seq. No.: 00061 A/S Pos.: 5 Date: 10/08/92

Replicate 1 | Time: [illegible]
Peak Area (A-s): 0.1[illegible] | Peak Height (A): 0.677
Background Pk Area (A-s): 0.009 | Background Pk Height (A): 0.062
Blank Corrected Pk Area (A-s): 0.194
Concentration (ug/L): 47.1

Replicate 2 | Time: [illegible]:54
Peak Area (A-s): 0.[illegible] | Peak Height (A): 0.6[illegible]
Background Pk Area (A-s): 0.008 | Background Pk Height (A): 0.060
Blank Corrected Pk Area (A-s): 0.197
Concentration (ug/L): 47.9

Mean Conc (ug/L): 47.5 | SD: 0.57 | RSD(%): 1.20 ok

Recovery is ~~10[illegible]~~ 106.5% DRM 10/8/92

~~~~~~

As ID: MEK61[illegible] (4X) Seq. No.: 0006[illegible] A/S Pos.: 6 Date: 10/08/92

Replicate 1 | Time: [illegible]
Peak Area (A-s): 0.[illegible] | Peak Height (A): 0.453
Background Pk Area (A-s): 0.514 | Background Pk Height (A): 1.049
Blank Corrected Pk Area (A-s): 0.190
Concentration (ug/L): 46.0

Replicate 2 | Time: 23:5[illegible]
Peak Area (A-s): 0.[illegible] | Peak Height (A): 0.430
Background Pk Area (A-s): 0.539 | Background Pk Height (A): 1.044
Blank Corrected Pk Area (A-s): 0.184
Concentration (ug/L): 44.5

Mean Conc (ug/L): 45.3 | SD: 1.0[illegible] | RSD(%): 2.38

~~~~~~

As ID: MEK613 A (4X) Seq. No.: 00064 A/S Pos.: 6 Date: 10/08/92

Replicate 1 | Time: 00:01
Peak Area (A-s): 0.[illegible] | Peak Height (A): 0.637
Background Pk Area (A-s): 0.521 | Background Pk Height (A): 1.026
Blank Corrected Pk Area (A-s): 0.269
Concentration (ug/L): 67.3

Replicate 2 | Time: 00:0[illegible]
Peak Area (A-s): 0.[illegible] | Peak Height (A): 0.617
Background Pk Area (A-s): 0.513 | Background Pk Height (A): 0.994
Blank Corrected Pk Area (A-s): 0.262
Concentration (ug/L): 65.3
~~~~~~

MEK 613 A (4X)

Mean Conc (ug/L): 56.3 SD: 1.39 RSD(%): 2.[illegible] ok

Recovery is ~~105.3%~~ 105% DRM 10/8/92

As ID: MEK613D (4X) Seq. No.: 00065 A/S Pos.: 7 Date: 10/09/92

Replicate 1 Time: 00:06
Peak Area (A-s): 0.159 Peak Height (A): 0.37[illegible]
Background Pk Area (A-s): 0.180 Background Pk Height (A): 0.64[illegible]
Blank Corrected Pk Area (A-s): 0.155
Concentration (ug/L): 37.9

Replicate 2 Time: 00:08
Peak Area (A-s): 0.158 Peak Height (A): 0.319
Background Pk Area (A-s): 0.264 Background Pk Height (A): 0.[illegible]
Blank Corrected Pk Area (A-s): 0.154
Concentration (ug/L): 36.9

Mean Conc (ug/L): 37.4 SD: 0.69 RSD(%): 1.84 ok

As ID: MEK613D A (4X) Seq. No.: 00066 A/S Pos.: 7 Date: 10/09/92

Replicate 1 Time: 00:11
Peak Area (A-s): 0.237 Peak Height (A): 0.532
Background Pk Area (A-s): 0.258 Background Pk Height (A): 0.611
Blank Corrected Pk Area (A-s): 0.236
Concentration (ug/L): 58.0

Replicate 2 Time: 00:13
Peak Area (A-s): 0.239 Peak Height (A): 0.545
Background Pk Area (A-s): 0.256 Background Pk Height (A): 0.592
Blank Corrected Pk Area (A-s): 0.238
Concentration (ug/L): 58.6

Mean Conc (ug/L): 58.4 SD: 0.31 RSD(%): 0.54 ok

Recovery is ~~104.7%~~ 105% DRM 10/8/92

As ID: MEK613S (4X) Seq. No.: 00067 A/S Pos.: 8 Date: 10/09/92

Replicate 1 Time: 00:15
Peak Area (A-s): 0.234 Peak Height (A): 0.521
Background Pk Area (A-s): 0.330 Background Pk Height (A): 0.721
Blank Corrected Pk Area (A-s): 0.233
Concentration (ug/L): 57.4

Replicate 2 Time: 00:18
Peak Area (A-s): 0.231 Peak Height (A): 0.532
Background Pk Area (A-s): 0.3[illegible] Background Pk Height (A): 0.69[illegible]
Blank Corrected Pk Area (A-s): 0.230
Concentration (ug/L): 56.[illegible]

Mean Conc (ug/L): 57.[illegible] ah SD: 0.47 RSD(%): 0.82

As ID: LCV Seq. No.: 00067 A/S Pos.: 36 Date: 10/09/92

Replicate 1 Time: 00:22
Peak Area (A-s): 0.153 Peak Height (A): 0.485
Background Pk Area (A-s): 0.074 Background Pk Height (A): 0.076
Blank Corrected Pk Area (A-s): 0.079
Concentration (ug/L): 36.5

Replicate 2 Time: 00:32
Peak Area (A-s): 0.147 Peak Height (A): 0.457
Background Pk Area (A-s): 0.212 Background Pk Height (A): 0.209
Blank Corrected Pk Area (A-s): 0.146
Concentration (ug/L): 35.8

OK

Mean Conc (ug/L): 35.8 SD: 1.07 RSD(%): 2.99

OK

All sample is within range 31.4 - 38.6

As ID: LCS Seq. No.: 00069 A/S Pos.: 8 Date: 10/09/92

Replicate 1 Time: 00:25
Peak Area (A-s): 0.002 Peak Height (A): 0.009
Background Pk Area (A-s): -0.001 Background Pk Height (A): 0.039
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.0

Replicate 2 Time: 00:27
Peak Area (A-s): 0.005 Peak Height (A): 0.011
Background Pk Area (A-s): -0.001 Background Pk Height (A): 0.036
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 0.5

OK

Mean Conc (ug/L): 0.4 SD: 0.62 RSD(%): 153.34

OK

All sample is within range -10.0 - 10.0

As ID: MB1A (4X) Seq. No.: 00070 A/S Pos.: 7 Date: 10/09/92

Replicate 1 Time: 00:29
Peak Area (A-s): 0.159 Peak Height (A): 0.339
Background Pk Area (A-s): 0.356 Background Pk Height (A): 0.711
Blank Corrected Pk Area (A-s): 0.158
Concentration (ug/L): 38.0

Replicate 2 Time: 00:31
Peak Area (A-s): 0.153 Peak Height (A): 0.337
Background Pk Area (A-s): 0.370 Background Pk Height (A): 0.759
Blank Corrected Pk Area (A-s): 0.154
Concentration (ug/L): 37.1

OK

Mean Conc (ug/L): 37.6 SD: 0.65 RSD(%): 1.73

As ID: MB1A (4X) Seq. No.: 00071 A/S Pos.: 9 Date: 10/09/92

Replicate 1 Time: 00:34

MEK614 A(4X)

Peak Area (A-s): 0.343 | Peak Height (A): 0.510
Background Pk Area (A-s): 0.349 | Background Pk Height (A): [illegible]
Blank Corrected Pk Area (A-s): 0.341
Concentration (ug/L): 59.7

Replicate 2 | Time: 00:36
Peak Area (A-s): 0.242 | Peak Height (A): 0.51[illegible]
Background Pk Area (A-s): 0.344 | Background Pk Height (A): 2.719
Blank Corrected Pk Area (A-s): 0.24[illegible]
Concentration (ug/L): 59.5

Mean Conc (ug/L): 59.6 SD: 0.12 RSD(%): 0.24

Recovery is 110.0%

ID: MEK834 (4X) Seq. No.: 00072 A/S Pos.: 10 Date: 10/09/92

Replicate 1 | Time: 00:3[illegible]
Peak Area (A-s): 0.[illegible] | Peak Height (A): 0.095
Background Pk Area (A-s): 0.30[illegible] | Background Pk Height (A): 0.413
Blank Corrected Pk Area (A-s): 0.05[illegible]
Concentration (ug/L): 12.0

Replicate 2 | Time: 00:40
Peak Area (A-s): 0.051 | Peak Height (A): 0.105
Background Pk Area (A-s): 0.231 | Background Pk Height (A): 0.398
Blank Corrected Pk Area (A-s): 0.050
Concentration (ug/L): 11.6

Mean Conc (ug/L): 11.8 SD: 0.25 RSD(%): 2.09

ID: MEK834 A(4X) Seq. No.: 00073 A/S Pos.: 10 Date: 10/09/92

Replicate 1 | Time: 00:43
Peak Area (A-s): 0.142 | Peak Height (A): 0.295
Background Pk Area (A-s): 0.381 | Background Pk Height (A): 0.431
Blank Corrected Pk Area (A-s): 0.141
Concentration (ug/L): 33.6

Replicate 2 | Time: 00:45
Peak Area (A-s): 0.137 | Peak Height (A): 0.300
Background Pk Area (A-s): 0.535 | Background Pk Height (A): 0.475
Blank Corrected Pk Area (A-s): 0.136
Concentration (ug/L): 32.5

Mean Conc (ug/L): 33.1 SD: 0.9[illegible] RSD(%): [illegible]

Recovery is ~~[illegible]~~ 106.5% RAC 9OCT92

~~ID: MEK866 (4X) Seq. No.: 00074 A/S Pos.: 11 Date: [illegible]~~

~~Replicate 1 | Time: 00:47~~
~~Peak Area (A-s): 0.157 | Peak Height (A): 0.501~~
~~Background Pk Area (A-s): 0.673 | Background Pk Height (A): 1.119~~
~~Blank Corrected Pk Area (A-s): 0.156~~
~~Concentration (ug/L): 37.5~~

MSA (8x) +0,+10,+20,+30 RAC 9OCT92

MEK866 (4X)

Replicate 2
Peak Area (A-s): 2.158
Background Pk Area (A-s): 0.431
Blank Corrected Pk Area (A-s): 0.157
Concentration (ug/L): 37.8

Time: 00:50
Peak Height (A): 0.500
Background Pk Height (A): 1.044

Mean Conc (ug/L): 37.6 SD: 0.22 RSD(%): 0.60

As ID: MEK866 A(4X) Seq. No.: 00075 A/S Pos.: 11 Date: 10/09/92

MSA(8X) +0, +10, +20, +30
RGA 9OCT92

Replicate 1
Peak Area (A-s): 2.217
Background Pk Area (A-s): 0.459
Blank Corrected Pk Area (A-s): 0.216
Concentration (ug/L): 52.9

Time: 00:52
Peak Height (A): 0.722
Background Pk Height (A): 0.997

Replicate 2
Peak Area (A-s): 0.2[illegible]
Background Pk Area (A-s): 0.505
Blank Corrected Pk Area (A-s): 0.214
Concentration (ug/L): 52.3

Time: 00:54
Peak Height (A): 0.701
Background Pk Height (A): 1.013

Mean Conc (ug/L): 52.6 SD: 0.43 RSD(%): 0.82

Recovery is ~~[illegible]~~ 75.0% RGA 9OCT92

As ID: MEK867 (4X) Seq. No.: 00076 A/S Pos.: 12 Date: 10/09/92

Replicate 1
Peak Area (A-s): 0.11[illegible]
Background Pk Area (A-s): 0.347
Blank Corrected Pk Area (A-s): 0.110
Concentration (ug/L): 26.1

Time: 00:56
Peak Height (A): 0.299
Background Pk Height (A): 0.774

Replicate 2
Peak Area (A-s): 0.114
Background Pk Area (A-s): 0.352
Blank Corrected Pk Area (A-s): 0.113
Concentration (ug/L): 27.0

Time: 00:59
Peak Height (A): 0.296
Background Pk Height (A): 0.746

Mean Conc (ug/L): 26.5 SD: 0.63 RSD(%): 2.36

As ID: MEK867 A(4X) Seq. No.: 00077 A/S Pos.: 12 Date: 10/09/92

Replicate 1
Peak Area (A-s): 0.200
Background Pk Area (A-s): 0.341
Blank Corrected Pk Area (A-s): 0.199
Concentration (ug/L): 48.5

Time: 01:01
Peak Height (A): 0.514
Background Pk Height (A): 0.706

Replicate 2
Peak Area (A-s): 0.205
Background Pk Area (A-s): 0.339
Blank Corrected Pk Area (A-s): 0.204
Concentration (ug/L): 49.7

Time: 01:03
Peak Height (A): 0.5[illegible]
Background Pk Height (A): 0.690

MEKOOTACIA)

Mean Conc (ug/L): 49.1 SD: 2.87 RSD(%): [illegible]

Recovery is ~~112.0%~~ 113.0% RAA 9OCT92

As ID: CCV Seq. No.: 20076 A/S Pos.: 36 Date: 10/09/92

Replicate 1 — Time: 01:06
Peak Area (A-s): 0.149 — Peak Height (A): 0.506
Background Pk Area (A-s): 0.094 — Background Pk Height (A): 0.283
Blank Corrected Pk Area (A-s): 0.149
Concentration (ug/L): 35.6

Replicate 2 — Time: 01:08
Peak Area (A-s): 0.149 — Peak Height (A): 0.519
Background Pk Area (A-s): 0.048 — Background Pk Height (A): 0.242
Blank Corrected Pk Area (A-s): 0.149
Concentration (ug/L): 35.6

Mean Conc (ug/L): 35.6 ah SD: 0.01 RSD(%): 0.02

QC sample is within range 31.4 - 38.6

As ID: ICB Seq. No.: 20077 A/S Pos.: 0 Date: 10/09/92

Replicate 1 — Time: 01:10
Peak Area (A-s): 0.001 — Peak Height (A): 0.012
Background Pk Area (A-s): 0.022 — Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.0

Replicate 2 — Time: 01:12
Peak Area (A-s): -0.000 — Peak Height (A): 0.009
Background Pk Area (A-s): 0.032 — Background Pk Height (A): 0.020
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.3

Mean Conc (ug/L): -0.2 ah SD: 0.24 RSD(%): 131.8 ah

QC sample is within range -10.0 - 10.0

As ID: MEK868 (4X) Seq. No.: 00050 A/S Pos.: 13 Date: 10/09/92

Replicate 1 — Time: 01:15
Peak Area (A-s): 0.227 — Peak Height (A): 0.553
Background Pk Area (A-s): 0.432 — Background Pk Height (A): 0.842
Blank Corrected Pk Area (A-s): 0.226
Concentration (ug/L): 55.6

Replicate 2 — Time: 01:17
Peak Area (A-s): 0.227 — Peak Height (A): 0.581
Background Pk Area (A-s): 0.465 — Background Pk Height (A): 0.604
Blank Corrected Pk Area (A-s): 0.226
Concentration (ug/L): 55.7

Mean Conc (ug/L): 55.6 SD: 0.01 RSD(%): 0.03

Dilute (10X) RAA 9OCT92

As ID: MEK868 A(4X) Seq. No.: 00081 A/S Pos.: 13 Date: 10/09/92

Replicate 1
Peak Area (A-s): 0.307
Background Pk Area (A-s): 0.433
Blank Corrected Pk Area (A-s): 0.306
Concentration (ug/L): 77.6

Time: 01:17
Peak Height (A): 0.716
Background Pk Height (A): 0.813

Dilute 10X
RGA 90CT92

Replicate 2
Peak Area (A-s): 0.309
Background Pk Area (A-s): 0.430
Blank Corrected Pk Area (A-s): 0.305
Concentration (ug/L): 77.3

Time: 01:21
Peak Height (A): 0.767
Background Pk Height (A): 0.856

Mean Conc (ug/L): 77.9 SD: 0.36 RSD(%): 0.46

Recovery is 111.3

As ID: MEK869 (4X) Seq. No.: 00082 A/S Pos.: 14 Date: 10/09/92

Replicate 1
Peak Area (A-s): 0.183
Background Pk Area (A-s): 0.334
Blank Corrected Pk Area (A-s): 0.182
Concentration (ug/L): 44.2

Time: 01:24
Peak Height (A): 0.456
Background Pk Height (A): 0.697

Replicate 2
Peak Area (A-s): 0.181
Background Pk Area (A-s): 0.332
Blank Corrected Pk Area (A-s): 0.184
Concentration (ug/L): 44.6

Time: 01:26
Peak Height (A): 0.453
Background Pk Height (A): 0.702

Mean Conc (ug/L): 44.4 SD: 0.26 RSD(%): 0.59

As ID: MEK869 A(4X) Seq. No.: 00083 A/S Pos.: 14 Date: 10/09/92

Replicate 1
Peak Area (A-s): 0.266
Background Pk Area (A-s): 0.241
Blank Corrected Pk Area (A-s): 0.265
Concentration (ug/L): 66.1

Time: 01:28
Peak Height (A): 0.622
Background Pk Height (A): 0.644

Replicate 2
Peak Area (A-s): 0.263
Background Pk Area (A-s): 0.259
Blank Corrected Pk Area (A-s): 0.262
Concentration (ug/L): 65.3

Time: 01:30
Peak Height (A): 0.627
Background Pk Height (A): 0.630

Mean Conc (ug/L): 65.7 SD: 0.61 RSD(%): 0.92

Recovery is RGA 90CT92 106.5%

As ID: MEK870 Seq. No.: 00084 A/S Pos.: 15 Date: 10/09/92

The signal is too large for the range of the electronics.

Dilute 10X
RGA 90CT92

MEK8+Ø

Replicate 1 Time: 01:[illegible]
Peak Area (A-s): 0.033 Peak Height (A): 0.827
Background Pk Area (A-s): 1.696 Background Pk Height (A): 3.06[illegible]
Blank Corrected Pk Area (A-s): 0.0[illegible]
Concentration (ug/L): --------

The signal is too large for the range of the electronics.
Replicate 2 Time: 01:[illegible]
Peak Area (A-s): 0.145 Peak Height (A): 1.076
Background Pk Area (A-s): 1.[illegible] Background Pk Height (A): 3.065
Blank Corrected Pk Area (A-s): 0.144
Concentration (ug/L): --------

Mean Conc (ug/L): ---- SD: ---- RSD(%): ----

Dilute 10X

Raw 9octa[illegible]

[illegible] ID: MEK5/0 A Seq. No.: 00035 A/S Pos.: 15 Date: 10/09/92

The signal is too large for the range of the electronics.
Replicate 1 Time: 01:37
Peak Area (A-s): 0.245 Peak Height (A): 1.157
Background Pk Area (A-s): 1.508 Background Pk Height (A): 3.066
Blank Corrected Pk Area (A-s): 0.244
Concentration (ug/L): --------

The signal is too large for the range of the electronics.
Replicate 2 Time: 01:39
Peak Area (A-s): 0.201 Peak Height (A): 1.025
Background Pk Area (A-s): 1.670 Background Pk Height (A): 3.069
Blank Corrected Pk Area (A-s): 0.200
Concentration (ug/L): --------

Mean Conc (ug/L): ---- SD: ---- RSD(%): ----

Recovery is 166.4%

[illegible] ID: DCV Seq. No.: 0003[illegible] A/S Pos.: 36 Date: 10/09/92

Replicate 1 Time: 01:42
Peak Area (A-s): 0.147 Peak Height (A): 0.503
Background Pk Area (A-s): 0.151 Background Pk Height (A): 0.179
Blank Corrected Pk Area (A-s): 0.146
Concentration (ug/L): 35.1

Replicate 2 Time: 01:44
Peak Area (A-s): 0.146 Peak Height (A): 0.511
Background Pk Area (A-s): 0.063 Background Pk Height (A): 0.06[illegible]
Blank Corrected Pk Area (A-s): 0.145
Concentration (ug/L): 34.7

Mean Conc (ug/L): 34.9 ah SD: [illegible] RSD(%): [illegible]

[illegible] within range 31.4 - 38.[illegible]

[illegible] ID: [illegible] Seq. No.: 0003[illegible] A/S Pos.: 0 Date: 10/09/92

0140

Replicate 1 Time: 01:4[illegible]

CCIS

Peak Area (A-s): 0.001 Peak Height (A): 0.01
Background Pk Area (A-s): 0.037 Background Pk Height (A): 0.004
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.1

Replicate 2 Time: 01:49
Peak Area (A-s): -0.001 Peak Height (A): 0.009
Background Pk Area (A-s): 0.036 Background Pk Height (A): 0.003
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.4

Mean Conc (ug/L): -0.1 SD: 0.35 %RSD: 196.15

CC sample is within range -10.0 - 10.0

As ID: MC-07 Seq. No.: 00052 A/S Pos.: 16 Date: 10/09/92

The signal is too large for the range of the electronics.
Replicate 1 Time: 01:51
Peak Area (A-s): 0.120 Peak Height (A): 0.810
Background Pk Area (A-s): 1.625 Background Pk Height (A): 0.021
Blank Corrected Pk Area (A-s): 2.117
Concentration (ug/L): ---------

The signal is too large for the range of the electronics.
Replicate 2 Time: 01:53
Peak Area (A-s): 0.066 Peak Height (A): 0.845
Background Pk Area (A-s): 1.677 Background Pk Height (A): 3.016
Blank Corrected Pk Area (A-s): 0.068
Concentration (ug/L): ---------

Mean Conc (ug/L): ---- SD: ---- %RSD: ----

Dilute (10x) Rerun 10/12

As ID: MSK871 A Seq. No.: 00089 A/S Pos.: 16 Date: 10/09/92

The signal is too large for the range of the electronics.
Replicate 1 Time: 01:55
Peak Area (A-s): 0.162 Peak Height (A): 0.879
Background Pk Area (A-s): 1.575 Background Pk Height (A): 3.243
Blank Corrected Pk Area (A-s): 2.151
Concentration (ug/L): ---------

The signal is too large for the range of the electronics
Replicate 2 Time: 01:56
Peak Area (A-s): 0.171 Peak Height (A): 1.238
Background Pk Area (A-s): 1.557 Background Pk Height (A): 3.477
Blank Corrected Pk Area (A-s): 2.174
Concentration (ug/L): ---------

Mean Conc (ug/L): ---- SD: ---- %RSD: ----

Recovery is 91.6%

As ID: MSK872 Seq. No.: 00090 A/S Pos.: 17 Date: 10/09/92

Replicate 1 Time: 02:00

MEK872

Peak Area (A-s): 0.144 — Peak Height (A): 0.392
Background Pk Area (A-s): 0.432 — Background Pk Height (A): 0.456
Blank Corrected Pk Area (A-s): 0.140
Concentration (ug/L): 35.5

Replicate 2 — Time: 22:01
Peak Area (A-s): 0.142 — Peak Height (A): 0.437
Background Pk Area (A-s): 0.319 — Background Pk Height (A): 0.375
Blank Corrected Pk Area (A-s): 0.141
Concentration (ug/L): 35.7

Mean Conc (ug/L): 34.6 — SD: 1.70 — RSD(%): 4.77

Std ID: MEK872 A — Seq. No.: 00049 — A/S Pos.: 17 — Date: 10/09/92

Replicate 1 — Time: 22:05
Peak Area (A-s): 0.215 — Peak Height (A): 0.593
Background Pk Area (A-s): 0.001 — Background Pk Height (A): 0.379
Blank Corrected Pk Area (A-s): 0.214
Concentration (ug/L): 52.5

Replicate 2 — Time: 22:07
Peak Area (A-s): 0.214 — Peak Height (A): 0.581
Background Pk Area (A-s): 0.325 — Background Pk Height (A): 0.365
Blank Corrected Pk Area (A-s): 0.213
Concentration (ug/L): 52.1

Mean Conc (ug/L): 52.3 — SD: 0.27 — RSD(%): 0.51

Recovery is 93.5%

Std ID: [illegible] — Seq. No.: 00092 — A/S Pos.: 36 — Date: 10/09/92

Replicate 1 — Time: 22:09
Peak Area (A-s): 0.152 — Peak Height (A): 0.505
Background Pk Area (A-s): 0.069 — Background Pk Height (A): 0.148
Blank Corrected Pk Area (A-s): 0.151
Concentration (ug/L): 36.3

Replicate 2 — Time: 22:10
Peak Area (A-s): 0.151 — Peak Height (A): 0.515
Background Pk Area (A-s): 0.029 — Background Pk Height (A): 0.111
Blank Corrected Pk Area (A-s): 0.150
Concentration (ug/L): 36.1

Mean Conc (ug/L): 36.2 ah — SD: 0.14 — RSD(%): 0.38

0% sample is within range 31.4 - 38.6

Std ID: [illegible] — Seq. No.: 00093 — A/S Pos.: 0 — Date: 10/09/92

Replicate 1 — Time: 22:14
Peak Area (A-s): 0.003 — Peak Height (A): 0.017
Background Pk Area (A-s): 0.215 — Background Pk Height (A): 0.086
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.4

0142

CCB

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.014
Blank Corrected Pk Area (A-s): -0.015
Concentration (ug/L): -0.4

Time: 02:16
Peak Height (A): 0.211
Background Pk Height (A): 0.481

Mean Conc (ug/L): -0.2 ah SD: 0.57 RSD(%): 4988.57 ah

IC sample is within range -10.0 - 10.2

GFAAS - SOLID

SDG # MEK613
SAS #
CASE # Everett/Emcon

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Request # 9441

DATA SHEET - RUN LOG

Element As

Energy (As2) = mA 55

	Lab Code	EPA Sample No.	Result mg/kg	Sample Basis	Weight	Volume (L)	Dilution	Prep. Date	Analysis Date	Time Started
1	S0	S0						10/24/92	30OCT92	09:28
2	SCRDL	S10								
3	S35	S35								
4	S75	S75								
5	ICV2	ICV 2	53.7							
6	ICB2	ICB2	0.9							
7	CRA2	CRA2	10.7							
8	94868	MEK868	23.1		1.34	0.1	10			
9	94868A	868A	40.4		↓	↓	↓			
10	94870	870	3.3		1.47	↓	↓			
11	94870A	870A	22.7		↓	↓	↓			
12	94871	871	2.9		1.35	↓	↓			
13	94871A	871A	21.5		↓	↓	↓			
(1025) 14	CCV5	CCV5	37.3							
~~1035~~ 15	CCB5	CCB5	0.7							
8 16	94866	MEK8660	0.128		1.46	0.1	8			
9 17	94866-1	MEK8661	0.195		↓	↓	↓			
10 18	94866-2	MEK8662	0.273		↓	↓	↓			
11 19	94866-3	MEK8663	0.329		↓	↓	↓			
20	CCV6	CCV6	37.9							
(11:48) 21	CCB6	CCB6	1.5							
22										
23										
24										
25										
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31										
32										
33										
34										
35										
36										
37										
38										

Res 90CT92

+0
+10
+20
+30

r = 0.9982

INSTRUMENT: PE3030
IDL = 1.1 ug/L

RUN NUMBER: 2

A= +20 UG/L

ICV-2C SPEX Exp. Date
LOT #4-109AS 31JUL93

MSA 1

Record every analysis in the order analyzed, whether valid or failed.

Analyst RAG
Witness DJD 30CT92

Increment

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.017	0.020	0.010
PEAK AREA (ABS-SECONDS)	0.004	-0.004	0.008

READ: -0.004

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.027	0.010	0.027
PEAK AREA (ABS-SECONDS)	0.039	-0.007	0.046

READ: -0.007

MEAN= -0.006 STD.DEV.= 0.002 COEF.VAR.= 29.03 %

****

0.000 AUTOZERO

****

AS S10

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.176	0.168	0.015
PEAK AREA (ABS-SECONDS)	0.075	0.058	0.017

READ: 0.063

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.171	0.129	0.044
PEAK AREA (ABS-SECONDS)	0.137	0.051	0.086

READ: 0.057

MEAN= 0.060 STD.DEV.= 0.004 COEF.VAR.= 7.30 %

****

10.0 STANDARD 1

****

AS S35

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.510	0.443	0.068
PEAK AREA (ABS-SECONDS)	0.321	0.201	0.120

READ: 34.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.607	0.570	0.040
PEAK AREA (ABS-SECONDS)	0.257	0.235	0.022

READ: 40.0

MEAN= 37.2 STD.DEV.= 4.0 COEF.VAR.= 10.89 %

****

37.2

E-50: READING GREATER THAN HIGHEST STANDARD

****

35.0 STANDARD 2

****

AS S75

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.254	1.194	0.060
PEAK AREA (ABS-SECONDS)	0.518	0.487	0.030

READ: 70.4

(CONTINUED)

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.224	1.164	0.064
PEAK AREA (ABS-SECONDS)	0.506	0.478	0.028

READ: 69.2

MEAN= 69.8 STD.DEV.= 0.7 COEF.VAR.= 0.94 %

****

69.8

E-50: READING GREATER THAN HIGHEST STANDARD

****

75.0 STANDARD 3 r>0.9999 ah

****

AS 0005 ICV2 09:48

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.912	0.866	0.047
PEAK AREA (ABS-SECONDS)	0.366	0.337	0.029

READ: 53.3

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.827	0.793	0.041
PEAK AREA (ABS-SECONDS)	0.366	0.342	0.024

READ: 54.1

MEAN= 53.7 ah STD.DEV.= 0.5 COEF.VAR.= 0.96 %

****

AS 0006 ICB2 09:53

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.021	0.019	0.012
PEAK AREA (ABS-SECONDS)	0.006	0.002	0.004

READ: 1.1

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.014	0.015	0.013
PEAK AREA (ABS-SECONDS)	0.010	-0.001	0.011

READ: 0.7

MEAN= 0.9 ah STD.DEV.= 0.3 COEF.VAR.= 33.75 % ah

****

AS 0007 CRA2 09:58

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.218	0.204	0.020
PEAK AREA (ABS-SECONDS)	0.081	0.063	0.018

READ: 11.0

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.196	0.184	0.028
PEAK AREA (ABS-SECONDS)	0.075	0.059	0.015

READ: 10.4

MEAN= 10.7 ah STD.DEV.= 0.4 COEF.VAR.= 3.93 %

****

AS 0008 MEK868 (10X)

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.067	0.340	0.732
PEAK AREA (ABS-SECONDS)	0.400	0.140	0.260

READ: 23.1

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.026	0.316	0.728
PEAK AREA (ABS-SECONDS)	0.391	0.141	0.250

READ: 23.2

MEAN= 23.1 STD.DEV.= 0.1 COEF.VAR.= 0.43 %

****

AS 0009 MEK868A (10X)

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.178	0.574	0.707
PEAK AREA (ABS-SECONDS)	0.520	0.249	0.271

READ: 39.9 86.5%

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.205	0.598	0.716
PEAK AREA (ABS-SECONDS)	0.519	0.255	0.264

READ: 40.8

MEAN= 40.4 STD.DEV.= 0.6 COEF.VAR.= 1.59 %

****

AS 0010 MEK870 (10X)

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.870	0.109	0.760
PEAK AREA (ABS-SECONDS)	0.304	0.020	0.283

READ: 4.2

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.808	0.063	0.779
PEAK AREA (ABS-SECONDS)	0.301	0.009	0.291

READ: 2.4

MEAN= 3.3 STD.DEV.= 1.3 COEF.VAR.= 39.04 % ah

****

AS 0011 MEK870A (10X)

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.030	0.282	0.777
PEAK AREA (ABS-SECONDS)	0.424	0.142	0.282

READ: 23.3 97.0%

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.020	0.260	0.788
PEAK AREA (ABS-SECONDS)	0.431	0.134	0.297

READ: 22.2

MEAN= 22.7 STD.DEV.= 0.8 COEF.VAR.= 3.61 %

****

AS 0012 MEK871 (10X)

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.762	0.046	0.755
PEAK AREA (ABS-SECONDS)	0.279	0.009	0.270

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.764	0.057	0.726
PEAK AREA (ABS-SECONDS)	0.291	0.015	0.276

READ: 3.3

MEAN= 2.9 STD.DEV.= 0.7 COEF.VAR.= 23.24 % ah

****

AS 0013 MEK 871A (16X)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.942	0.265	0.752
PEAK AREA (ABS-SECONDS)	0.404	0.129	0.276

READ: 21.3 93.0%

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.910	0.269	0.697
PEAK AREA (ABS-SECONDS)	0.412	0.131	0.280

READ: 21.7

MEAN= 21.5 STD.DEV.= 0.3 COEF.VAR.= 1.23 %

****

AS 0014 CCV 10:33

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.579	0.521	0.058
PEAK AREA (ABS-SECONDS)	0.252	0.232	0.020

READ: 37.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.527	0.497	0.033
PEAK AREA (ABS-SECONDS)	0.250	0.232	0.018

READ: 37.3

MEAN= 37.3 ah STD.DEV.= 0.0 COEF.VAR.= 0.02 %

****

AS 0015 CCB 10:38

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.018	0.015	0.012
PEAK AREA (ABS-SECONDS)	0.003	-0.003	0.006

READ: 0.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.016	0.015	0.012
PEAK AREA (ABS-SECONDS)	0.006	0.001	0.005

READ: 1.1

MEAN= 0.7 STD.DEV.= 0.5 COEF.VAR.= 66.80 % ah

0148

****

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.536	0.380	1.182
PEAK AREA (ABS-SECONDS)	0.565	0.131	0.435

r=0.9982

READ: 21.7

0.128

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.594	0.471	1.221
PEAK AREA (ABS-SECONDS)	0.577	0.126	0.451

READ: 20.9

MEAN= 21.3 STD.DEV.= 0.5 COEF.VAR.= 2.57 %

****

AS 0017 MEK 8661+10 (8X)

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.611	0.503	1.186
PEAK AREA (ABS-SECONDS)	0.660	0.196	0.464

READ: 31.7

0.195

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.652	0.529	1.163
PEAK AREA (ABS-SECONDS)	0.657	0.194	0.464

READ: 31.4

MEAN= 31.6 STD.DEV.= 0.2 COEF.VAR.= 0.67 %

****

AS 0018 MEK 8662+20(8X)

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	2.328	1.175	1.176
PEAK AREA (ABS-SECONDS)	0.751	0.282	0.469

READ: 45.0

0.273

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.878	0.906	1.127
PEAK AREA (ABS-SECONDS)	0.721	0.264	0.457

READ: 42.3

MEAN= 43.6 STD.DEV.= 1.9 COEF.VAR.= 4.37 %

****

AS 0019 MEK8663+30(8X)

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	3.464	2.389	1.167
PEAK AREA (ABS-SECONDS)	0.817	0.341	0.476

READ: 53.9

E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

0.329

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	1.908	1.130	1.262
PEAK AREA (ABS-SECONDS)	0.783	0.317	0.466

READ: 50.3

MEAN= 52.1 STD.DEV.= 2.5 COEF.VAR.= 4.73 %

****

		AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	11:03	0.596	0.557	0.045
PEAK AREA (ABS-SECONDS)		0.254	0.237	0.018

READ: 38.0

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.581	0.544	0.037
PEAK AREA (ABS-SECONDS)	0.248	0.235	0.013

READ: 37.8

MEAN= 37.9 ah STD.DEV.= 0.1 COEF.VAR.= 0.38 %

****

AS 0021 CCB 11:08

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.016	0.013	0.012
PEAK AREA (ABS-SECONDS)	0.004	0.005	-0.001

READ: 1.7

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.013	0.014	0.010
PEAK AREA (ABS-SECONDS)	0.000	0.003	-0.003

READ: 1.4

MEAN= 1.5 ah STD.DEV.= 0.2 COEF.VAR.= 14.31 % ah

****

epa#u	symbol	average	std			
MEK8660	AS	0.1280	0.0000	STD ADDNS	RESULT =	18.9574
MEK8661	AS	0.1950	10.0000	slope(m)	y-int(b)	correl(r)
MEK8662	AS	0.2730	20.0000	0.0068	0.1291	0.9982
MEK8663	AS	0.3290	30.0000			

GFAAS - SOLID

SDG # MEK613
SAS #
CASE # Everett

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Request # 9441

DATA SHEET - RUN LOG

Element Pb
Energy (Pb1) = mA 64

	Lab Code	EPA Sample No.	Result ug/L (Mean)	Sample Basis	Weight	Volume (L)	Dilution	Prep. Date	Analysis Date	Time Started
1	S0	S0						10/2/92	6OCT92	13:13
2	SCRDL	S3								
3	S35	S35								
4	S75	S75								
5	ICV2	ICV2	52.8							
6	ICB2	ICB2	0.3							
7	CRA2	CRA2	2.9							
4 8	PBS2	PBS2	0.7		1.00	0.1				
9	PBS2A	PBS2A	21.3		↓					
5 10	LCSS2	LCSS2	25.8		0.50		50			
11	LCSSA	LCSSA	46.4		↓		↓			
6 12	946613	MEK613	62.4		1.34		20			
13	946613A	MEK613A	80.7		↓					
7 14	946613D	MEK613D	30.5		1.01					
15	946613DA	MEK613DA	50.7		↓					
8 16	946613S	MEK613S	34.0		1.15	↓	↓			
17	CCV5	CCV5	35.9							
18	CCB5	CCB5	0.1							
9 19	94868	MEK868	20.2		1.34	0.1	2			
20	94868A	MEK868A	41.4		↓					
10 21	94870	MEK870	16.4		1.47					
22	94870A	MEK870A	37.8		↓					
11 23	94871	MEK871	12.7		1.35					
24	94871A	MEK871A	34.3		↓	↓	↓			
25	CCV2	CCV2	36.8							
14:57 26	CCB2	CCB2	0.0							
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										

INSTRUMENT: PE5100A
RUN NUMBER: 1 (2)
A= +20 UG/L
ICV-2C SPEX Exp Date
LOT #4-109AS 31JUL93

rerun (50x) — Dilutions Determined from ICAP Data

other samples reported from ICP data

Record every analysis in the order analyzed, whether valid or failed.

Analyst RCG
Witness 6OCT92

Increment

Page 1 of 0152

Reviewed by
RAG 6OCT92

~~~~~~

Pb ID: S0 Seq. No.: 00135 A/S Pos.: 0 Date: 10/06/92

Replicate 1 Time: 13:13
Peak Area (A-s): -0.004 Peak Height (A): 0.007
Background Pk Area (A-s): 0.228 Background Pk Height (A): 0.087
Blank Corrected Pk Area (A-s): -0.038
Concentration (ug/L): -8.2

Replicate 2 Time: 13:15
Peak Area (A-s): -0.002 Peak Height (A): 0.007
Background Pk Area (A-s): 0.242 Background Pk Height (A): 0.089
Blank Corrected Pk Area (A-s): -0.037
Concentration (ug/L): -7.9

Mean Conc (ug/L): -8.0 SD: 0.23 RSD(%): 2.81

Auto-zero performed.

~~~~~~

Pb ID: S3 Seq. No.: 00136 A/S Pos.: 35 Date: 10/06/92

Replicate 1 Time: 13:17

S3

Peak Area (A-s): 0.016 Peak Height (A): 0.042
Background Pk Area (A-s): 0.234 Background Pk Height (A): 0.085
Blank Corrected Pk Area (A-s): 0.020
Concentration (ug/L): 4.2

Replicate 2 Time: 13:19
Peak Area (A-s): 0.016 Peak Height (A): 0.041
Background Pk Area (A-s): 0.253 Background Pk Height (A): 0.090
Blank Corrected Pk Area (A-s): 0.020
Concentration (ug/L): 4.2

Mean Conc (ug/L): 4.2 SD: 0.00 RSD(%): 0.04

Standard number 1 applied. [3.0]
Correlation coefficient: 1.00000 Slope: 0.0065

~~~~~~

Pb ID: S35 Seq. No.: 00137 A/S Pos.: 36 Date: 10/06/92

Replicate 1 Time: 13:21
Peak Area (A-s): 0.198 Peak Height (A): 0.366
Background Pk Area (A-s): 0.273 Background Pk Height (A): 0.089
Blank Corrected Pk Area (A-s): 0.201
Concentration (ug/L): 30.8

Replicate 2 Time: 13:23
Peak Area (A-s): 0.203 Peak Height (A): 0.375
Background Pk Area (A-s): 0.280 Background Pk Height (A): 0.090
Blank Corrected Pk Area (A-s): 0.206
Concentration (ug/L): 31.4

Mean Conc (ug/L): 31.1 SD: 0.49 RSD(%): 1.56

Standard number 2 applied. [35.0]
Correlation coefficient: 1.00000 Slope: 0.0066

~~~~~~

Pb ID: S75 Seq. No.: 00138 A/S Pos.: 37 Date: 10/06/92

Replicate 1 Time: 13:25
Peak Area (A-s): 0.396 Peak Height (A): 0.687
Background Pk Area (A-s): 0.333 Background Pk Height (A): 0.171
Blank Corrected Pk Area (A-s): 0.399
Concentration (ug/L): 79.1

Replicate 2 Time: 13:27
Peak Area (A-s): 0.392 Peak Height (A): 0.676
Background Pk Area (A-s): 0.330 Background Pk Height (A): 0.168
Blank Corrected Pk Area (A-s): 0.396
Concentration (ug/L): 78.3

Mean Conc (ug/L): 78.7 SD: 0.63 RSD(%): 0.80

Standard number 3 applied. [75.0]
Correlation coefficient: 1.00000 Slope: 0.0066

ok

~~~~~~

Pb ID: ICV Seq. No.: 00139 A/S Pos.: 1 Date: 10/06/92
~~~~~~

1 CV

Replicate 1 — Time: 13:29
Peak Area (A-s): 0.289 — Peak Height (A): 0.509
Background Pk Area (A-s): 0.284 — Background Pk Height (A): 0.124
Blank Corrected Pk Area (A-s): 0.292
Concentration (ug/L): 52.5

Replicate 2 — Time: 13:31
Peak Area (A-s): 0.292 — Peak Height (A): 0.504
Background Pk Area (A-s): 0.308 — Background Pk Height (A): 0.126
Blank Corrected Pk Area (A-s): 0.295
Concentration (ug/L): 53.1

Mean Conc (ug/L): 52.8 ah — SD: 0.43 — RSD(%): 0.81

QC sample is within range 44.8 - 55.2

~~~~~~

Pb ID: ICB — Seq. No.: 00140 — A/S Pos.: 2 — Date: 10/06/92

Replicate 1 — Time: 13:33
Peak Area (A-s): -0.001 — Peak Height (A): 0.007
Background Pk Area (A-s): 0.258 — Background Pk Height (A): 0.094
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.3

Replicate 2 — Time: 13:35
Peak Area (A-s): -0.002 — Peak Height (A): 0.008
Background Pk Area (A-s): 0.259 — Background Pk Height (A): 0.096
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.2

Mean Conc (ug/L): 0.3 ah — SD: 0.04 — RSD(%): 15.12

QC sample is within range -3.0 - 3.0

~~~~~~

Pb ID: CRA — Seq. No.: 00141 — A/S Pos.: 3 — Date: 10/06/92

Replicate 1 — Time: 13:38
Peak Area (A-s): 0.013 — Peak Height (A): 0.038
Background Pk Area (A-s): 0.257 — Background Pk Height (A): 0.094
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 2.5

Replicate 2 — Time: 13:40
Peak Area (A-s): 0.018 — Peak Height (A): 0.042
Background Pk Area (A-s): 0.245 — Background Pk Height (A): 0.090
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 3.3

Mean Conc (ug/L): 2.9 ah — SD: 0.59 — RSD(%): 20.49 ah

QC sample is within range 0.0 - 6.0

~~~~~~

Pb ID: PBS — Seq. No.: 00142 — A/S Pos.: 4 — Date: 10/06/92

Replicate 1 — Time: 13:42
Peak Area (A-s): -0.000 — Peak Height (A): 0.012
~~~~~~

PBS

Background Pk Area (A-s): 0.245 Background Pk Height (A): 0.085
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.5

Replicate 2 Time: 13:44
Peak Area (A-s): 0.003 Peak Height (A): 0.013
Background Pk Area (A-s): 0.227 Background Pk Height (A): 0.078
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 1.0

Mean Conc (ug/L): 0.7 SD: 0.33 RSD(%): 46.04 ah

~~~~~~

Pb ID: PBS A Seq. No.: 00143 A/S Pos.: 4 Date: 10/06/92

Replicate 1 Time: 13:46
Peak Area (A-s): 0.126 Peak Height (A): 0.240
Background Pk Area (A-s): 0.260 Background Pk Height (A): 0.083
Blank Corrected Pk Area (A-s): 0.129
Concentration (ug/L): 21.3

Replicate 2 Time: 13:48
Peak Area (A-s): 0.127 Peak Height (A): 0.235
Background Pk Area (A-s): 0.285 Background Pk Height (A): 0.092
Blank Corrected Pk Area (A-s): 0.130
Concentration (ug/L): 21.4

Mean Conc (ug/L): 21.3 SD: 0.09 RSD(%): 0.42

Recovery is ~~103.2%~~ pac 60ct92 106.5%

~~~~~~

Pb ID: LCSS (50x) Seq. No.: 00144 A/S Pos.: 5 Date: 10/06/92

Replicate 1 Time: 13:50
Peak Area (A-s): 0.149 Peak Height (A): 0.278
Background Pk Area (A-s): 0.344 Background Pk Height (A): 0.111
Blank Corrected Pk Area (A-s): 0.153
Concentration (ug/L): 25.5

Replicate 2 Time: 13:52
Peak Area (A-s): 0.153 Peak Height (A): 0.278
Background Pk Area (A-s): 0.334 Background Pk Height (A): 0.106
Blank Corrected Pk Area (A-s): 0.156
Concentration (ug/L): 26.2

Mean Conc (ug/L): 25.8 ah SD: 0.48 RSD(%): 1.86

~~~~~~

Pb ID: LCSS A (50x) Seq. No.: 00145 A/S Pos.: 5 Date: 10/06/92

Replicate 1 Time: 13:54
Peak Area (A-s): 0.259 Peak Height (A): 0.457
Background Pk Area (A-s): 0.360 Background Pk Height (A): 0.118
Blank Corrected Pk Area (A-s): 0.262
Concentration (ug/L): 46.5

Replicate 2 Time: 13:56
Peak Area (A-s): 0.258 Peak Height (A): 0.440
~~~~~~

LCSS A (50X)

Background Pk Area (A-s): 0.366 Background Pk Height (A): 0.115
Blank Corrected Pk Area (A-s): 0.261
Concentration (ug/L): 46.2

Mean Conc (ug/L): 46.4 SD: 0.21 RSD(%): 0.44

Recovery is ~~102.7%~~ 103.0% (RAG 6OCT92)

~~~~~~

Pb ID: MEK613 (20x) Seq. No.: 00146 A/S Pos.: 6 Date: 10/06/92

Replicate 1 Time: 13:58
Peak Area (A-s): 0.334 Peak Height (A): 0.595
Background Pk Area (A-s): 0.375 Background Pk Height (A): 0.157
Blank Corrected Pk Area (A-s): 0.337
Concentration (ug/L): 62.0

Replicate 2 Time: 14:00
Peak Area (A-s): 0.338 Peak Height (A): 0.604
Background Pk Area (A-s): 0.369 Background Pk Height (A): 0.154
Blank Corrected Pk Area (A-s): 0.341
Concentration (ug/L): 62.9

Mean Conc (ug/L): 62.4 SD: 0.64 RSD(%): 1.02

~~~~~~

(50x) Rerun RAG 6Oct92

Pb ID: MEK613 A (20X) Seq. No.: 00147 A/S Pos.: 6 Date: 10/06/92

Replicate 1 Time: 14:02
Peak Area (A-s): 0.419 Peak Height (A): 0.695
Background Pk Area (A-s): 0.385 Background Pk Height (A): 0.179
Blank Corrected Pk Area (A-s): 0.422
Concentration (ug/L): 80.5

Replicate 2 Time: 14:04
Peak Area (A-s): 0.421 Peak Height (A): 0.703
Background Pk Area (A-s): 0.395 Background Pk Height (A): 0.183
Blank Corrected Pk Area (A-s): 0.424
Concentration (ug/L): 80.9

Mean Conc (ug/L): 80.7 SD: 0.34 RSD(%): 0.42

Recovery is 91.4%

~~~~~~

Pb ID: MEK613D (20x) Seq. No.: 00148 A/S Pos.: 7 Date: 10/06/92

Replicate 1 Time: 14:06
Peak Area (A-s): 0.178 Peak Height (A): 0.344
Background Pk Area (A-s): 0.323 Background Pk Height (A): 0.109
Blank Corrected Pk Area (A-s): 0.181
Concentration (ug/L): 30.7

Replicate 2 Time: 14:08
Peak Area (A-s): 0.175 Peak Height (A): 0.328
Background Pk Area (A-s): 0.320 Background Pk Height (A): 0.107
Blank Corrected Pk Area (A-s): 0.179
Concentration (ug/L): 30.3
~~~~~~

MEK613D (20X)

Mean Conc (ug/L): 30.5 SD: 0.34 RSD(%): 1.11

ID: MEK613D A (20X) Seq. No.: 00149 A/S Pos.: 7 Date: 10/06/92

Replicate 1 Time: 14:10
Peak Area (A-s): 0.280 Peak Height (A): 0.498
Background Pk Area (A-s): 0.330 Background Pk Height (A): 0.125
Blank Corrected Pk Area (A-s): 0.283
Concentration (ug/L): 50.7

Replicate 2 Time: 14:13
Peak Area (A-s): 0.280 Peak Height (A): 0.503
Background Pk Area (A-s): 0.330 Background Pk Height (A): 0.126
Blank Corrected Pk Area (A-s): 0.283
Concentration (ug/L): 50.7

Mean Conc (ug/L): 50.7 SD: 0.02 RSD(%): 0.05

Recovery is ~~101.2%~~ 101.0%
RPA 6OCT92

Pb ID: MEK613S (20X) Seq. No.: 00150 A/S Pos.: 8 Date: 10/06/92

Replicate 1 Time: 14:14
Peak Area (A-s): 0.198 Peak Height (A): 0.335
Background Pk Area (A-s): 0.334 Background Pk Height (A): 0.106
Blank Corrected Pk Area (A-s): 0.201
Concentration (ug/L): 34.6

Replicate 2 Time: 14:16
Peak Area (A-s): 0.192 Peak Height (A): 0.367
Background Pk Area (A-s): 0.335 Background Pk Height (A): 0.105
Blank Corrected Pk Area (A-s): 0.195
Concentration (ug/L): 33.4

Mean Conc (ug/L): 34.0 ah SD: 0.87 RSD(%): 2.56

Pb ID: CCV Seq. No.: 00151 A/S Pos.: 36 Date: 10/06/92

Replicate 1 Time: 14:19
Peak Area (A-s): 0.206 Peak Height (A): 0.373
Background Pk Area (A-s): 0.305 Background Pk Height (A): 0.098
Blank Corrected Pk Area (A-s): 0.209
Concentration (ug/L): 36.0

Replicate 2 Time: 14:21
Peak Area (A-s): 0.205 Peak Height (A): 0.382
Background Pk Area (A-s): 0.314 Background Pk Height (A): 0.109
Blank Corrected Pk Area (A-s): 0.208
Concentration (ug/L): 35.9

Mean Conc (ug/L): 35.9 ah SD: 0.13 RSD(%): 0.36

QC sample is within range 31.4 - 38.6

Pb ID: CCB Seq. No.: 00152 A/S Pos.: 0 Date: 10/06/92

Replicate 1 Time: 14:23
Peak Area (A-s): -0.004 Peak Height (A): 0.005
Background Pk Area (A-s): 0.255 Background Pk Height (A): 0.092
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.2

Replicate 2 Time: 14:24
Peak Area (A-s): -0.001 Peak Height (A): 0.007
Background Pk Area (A-s): 0.255 Background Pk Height (A): 0.092
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.4

Mean Conc (ug/L): 0.1 ah SD: 0.40 ah RSD(%): 328.39

QC sample is within range -3.0 - 3.0

Pb ID: MEK868 (2X) Seq. No.: 00153 A/S Pos.: 9 Date: 10/06/92

Replicate 1 Time: 14:26
Peak Area (A-s): 0.119 Peak Height (A): 0.228
Background Pk Area (A-s): 0.635 Background Pk Height (A): 0.191
Blank Corrected Pk Area (A-s): 0.122
Concentration (ug/L): 20.0

Replicate 2 Time: 14:28
Peak Area (A-s): 0.121 Peak Height (A): 0.222
Background Pk Area (A-s): 0.685 Background Pk Height (A): 0.207
Blank Corrected Pk Area (A-s): 0.124
Concentration (ug/L): 20.4

Mean Conc (ug/L): 20.2 SD: 0.24 RSD(%): 1.16

Pb ID: MEK868 A(2X) Seq. No.: 00154 A/S Pos.: 9 Date: 10/06/92

Replicate 1 Time: 14:30
Peak Area (A-s): 0.232 Peak Height (A): 0.415
Background Pk Area (A-s): 0.634 Background Pk Height (A): 0.186
Blank Corrected Pk Area (A-s): 0.236
Concentration (ug/L): 41.2

Replicate 2 Time: 14:33
Peak Area (A-s): 0.234 Peak Height (A): 0.408
Background Pk Area (A-s): 0.688 Background Pk Height (A): 0.204
Blank Corrected Pk Area (A-s): 0.237
Concentration (ug/L): 41.6

Mean Conc (ug/L): 41.4 SD: 0.27 RSD(%): 0.64

Recovery is ~~105.9%~~ ah 6OCT92 106.0%

Pb ID: MEK870 (2X) Seq. No.: 00155 A/S Pos.: 10 Date: 10/06/92

Replicate 1 Time: 14:35

| 12-8 / 8(2x)

Peak Area (A-s): 0.098 Peak Height (A): 0.183
Background Pk Area (A-s): 0.671 Background Pk Height (A): 0.202
Blank Corrected Pk Area (A-s): 0.101
Concentration (ug/L): 16.3

Replicate 2 Time: 14:37
Peak Area (A-s): 0.098 Peak Height (A): 0.182
Background Pk Area (A-s): 0.689 Background Pk Height (A): 0.209
Blank Corrected Pk Area (A-s): 0.102
Concentration (ug/L): 16.4

Mean Conc (ug/L): 16.4 SD: 0.10 RSD(%): 0.58

~~~~~~

Pb ID: MEK870 A(2X) Seq. No.: 00156 A/S Pos.: 10 Date: 10/06/92

Replicate 1 Time: 14:39
Peak Area (A-s): 0.213 Peak Height (A): 0.377
Background Pk Area (A-s): 0.687 Background Pk Height (A): 0.203
Blank Corrected Pk Area (A-s): 0.216
Concentration (ug/L): 37.4

Replicate 2 Time: 14:41
Peak Area (A-s): 0.217 Peak Height (A): 0.372
Background Pk Area (A-s): 0.654 Background Pk Height (A): 0.191
Blank Corrected Pk Area (A-s): 0.220
Concentration (ug/L): 38.2

Mean Conc (ug/L): 37.8 SD: 0.54 RSD(%): 1.43

Recovery is ~~107.3%~~ RGE 6OCT92 107.0%

~~~~~~

Pb ID: MEK871 (2X) Seq. No.: 00157 A/S Pos.: 11 Date: 10/06/92

Replicate 1 Time: 14:43
Peak Area (A-s): 0.077 Peak Height (A): 0.146
Background Pk Area (A-s): 0.646 Background Pk Height (A): 0.198
Blank Corrected Pk Area (A-s): 0.080
Concentration (ug/L): 12.7

Replicate 2 Time: 14:45
Peak Area (A-s): 0.076 Peak Height (A): 0.151
Background Pk Area (A-s): 0.643 Background Pk Height (A): 0.196
Blank Corrected Pk Area (A-s): 0.079
Concentration (ug/L): 12.7

Mean Conc (ug/L): 12.7 SD: 0.03 RSD(%): 0.25

~~~~~~

Pb ID: MEK871 A(2X) Seq. No.: 00158 A/S Pos.: 11 Date: 10/06/92

Replicate 1 Time: 14:47
Peak Area (A-s): 0.197 Peak Height (A): 0.357
Background Pk Area (A-s): 0.683 Background Pk Height (A): 0.201
Blank Corrected Pk Area (A-s): 0.200
Concentration (ug/L): 34.3

Replicate 2 Time: 14:49
~~~~~~

MEK07IA

Peak Area (A-s): 0.197 | Peak Height (A): 0.347
Background Pk Area (A-s): 0.676 | Background Pk Height (A): 0.200
Blank Corrected Pk Area (A-s): 0.200
Concentration (ug/L): 34.3

Mean Conc (ug/L): 34.3 SD: 0.02 RSD(%): 0.05

Recovery is 108.0%

~~~~~~

Pb ID: CCV Seq. No.: 00159 A/S Pos.: 36 Date: 10/06/92

Replicate 1 | Time: 14:51
Peak Area (A-s): 0.205 | Peak Height (A): 0.357
Background Pk Area (A-s): 0.288 | Background Pk Height (A): 0.087
Blank Corrected Pk Area (A-s): 0.208
Concentration (ug/L): 35.9

Replicate 2 | Time: 14:53
Peak Area (A-s): 0.214 | Peak Height (A): 0.395
Background Pk Area (A-s): 0.290 | Background Pk Height (A): 0.093
Blank Corrected Pk Area (A-s): 0.217
Concentration (ug/L): 37.7

Mean Conc (ug/L): 36.8 ah SD: 1.22 RSD(%): 3.33

QC sample is within range 31.4 - 38.6

~~~~~~

Pb ID: CCB Seq. No.: 00160 A/S Pos.: 0 Date: 10/06/92

Replicate 1 | Time: 14:55
Peak Area (A-s): -0.002 | Peak Height (A): 0.008
Background Pk Area (A-s): 0.257 | Background Pk Height (A): 0.091
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.2

Replicate 2 | Time: 14:57
Peak Area (A-s): -0.004 | Peak Height (A): 0.007
Background Pk Area (A-s): 0.254 | Background Pk Height (A): 0.090
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.1

Mean Conc (ug/L): 0.0 ah SD: 0.23 RSD(%): ah 712.11

QC sample is within range -3.0 - 3.0

Weyerhaeuser Company

Analytical Laboratories
Tacoma, Washington

Request # 9441

SDG # MEK613

SAS #

CASE # Everett

DATA SHEET - RUN LOG

Element Pb

Energy (~~Pb X 2~~) = mA 64

INSTRUMENT: PE5100A

RUN NUMBER: 2 (3)

A= + 20 UG/L

ICV-2C SPEX EXPDATE
LOT #4-109AS 31 JULY 92

	Lab Code	EPA Sample No.	Result ug/L	Sample Basis	Weight	Volume (L)	Dilution	Prep. Date	Analysis Date	Time Started
1	S0	S0						10/2/92	8OCT92	20 15
2	SCRDL	S 3								
3	S35	S35								
4	S75	S75								
5	ICV 3	ICV 3	53.8							
6	ICB 3	ICB 3	-0.0							
7	CRA 3 2	CRA 3 2	3.5		1.34	0.1	50X			
8	94613	MEK613	22.9							
9	94613A	MEK613A	42.9							
10	CCV 5 87	CCV 87	36.1							
11	CCB 87	CCB 87	-0.1							
12										
13										
14										
15										
16										
17										
18										
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33										
34										
35										
36										
37										
38										

Record every analysis in the order analyzed, whether valid or failed.

Analyst DEM

Witness JJD. 9OCT92

Increment 0162

Page 1 of 1

Pb ID: S0 Seq. No.: 00135 A/S Pos.: 0 Date: 10/08/92

Replicate 1 Time: 20:15
Peak Area (A-s): 0.000 Peak Height (A): 0.012
Background Pk Area (A-s): 0.037 Background Pk Height (A): 0.040
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.2

Replicate 2 Time: 20:17
Peak Area (A-s): 0.002 Peak Height (A): 0.016
Background Pk Area (A-s): 0.032 Background Pk Height (A): 0.026
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.0

Mean Conc (ug/L): -0.1 SD: 0.15 RSD(%): 253.58

Auto-zero performed.

Pb ID: S3 Seq. No.: 00136 A/S Pos.: 35 Date: 10/08/92

Replicate 1 Time: 20:19
Peak Area (A-s): 0.018 Peak Height (A): 0.070
Background Pk Area (A-s): 0.040 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.017

S35 DRM 10/...
S10 DRM 10/10/92
S3

Concentration (ug/L): 2.7

Replicate 2 Time: 20:21
Peak Area (A-s): 0.019 Peak Height (A): 0.070
Background Pk Area (A-s): 0.040 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 2.8

Mean Conc (ug/L): 2.7 SD: 0.11 RSD(%): 3.96 ok

Standard number 1 applied. [3.0]
Correlation coefficient: 1.00000 Slope: 0.0060

~~~~~~

Pb ID: S35 Seq. No.: 00137 A/S Pos.: 36 Date: 10/08/92

Replicate 1 Time: 20:23
Peak Area (A-s): 0.207 Peak Height (A): 0.481
Background Pk Area (A-s): 0.074 Background Pk Height (A): 0.098
Blank Corrected Pk Area (A-s): 0.206
Concentration (ug/L): 34.4

Replicate 2 Time: 20:25
Peak Area (A-s): 0.214 Peak Height (A): 0.569
Background Pk Area (A-s): 0.075 Background Pk Height (A): 0.120
Blank Corrected Pk Area (A-s): 0.213
Concentration (ug/L): 35.7

Mean Conc (ug/L): 35.1 SD: 0.88 RSD(%): 2.52 ok

Standard number 2 applied. [35.0]
Correlation coefficient: 1.00000 Slope: 0.0060

~~~~~~

Pb ID: S75 Seq. No.: 00138 A/S Pos.: 37 Date: 10/08/92

Replicate 1 Time: 20:28
Peak Area (A-s): 0.411 Peak Height (A): 0.994
Background Pk Area (A-s): 0.121 Background Pk Height (A): 0.241
Blank Corrected Pk Area (A-s): 0.410
Concentration (ug/L): 68.4

0.406

Replicate 2 Time: 20:30
Peak Area (A-s): 0.403 Peak Height (A): 0.896
Background Pk Area (A-s): 0.122 Background Pk Height (A): 0.211
Blank Corrected Pk Area (A-s): 0.402
Concentration (ug/L): 67.0

Mean Conc (ug/L): 67.7 SD: 0.98 RSD(%): 1.45 ok

S-shaped calibration curve detected. 2-coef. equation used.
Standard number 3 applied. [75.0]
Correlation coefficient: 0.99944 Slope: 0.0061

~~~~~~

Pb ID: ICV Seq. No.: 00139 A/S Pos.: 1 Date: 10/08/92

Replicate 1 Time: 20:32
Peak Area (A-s): 0.301 Peak Height (A): 0.758
~~~~~~

ICV

Background Pk Area (A-s): 0.094 Background Pk Height (A): 0.165
Blank Corrected Pk Area (A-s): 0.300
Concentration (ug/L): 53.0

Replicate 2 Time: 20:34
Peak Area (A-s): 0.310 Peak Height (A): 0.808
Background Pk Area (A-s): 0.097 Background Pk Height (A): 0.180
Blank Corrected Pk Area (A-s): 0.309
Concentration (ug/L): 54.6

Mean Conc (ug/L): 53.8 SD: 1.14 RSD(%): 2.13
OK OK
QC sample is within range 44.8 - 55.2

~~~~~~

Pb ID: ICB Seq. No.: 00140 A/S Pos.: 2 Date: 10/08/92

Replicate 1 Time: 20:36
Peak Area (A-s): 0.001 Peak Height (A): 0.017
Background Pk Area (A-s): 0.039 Background Pk Height (A): 0.048
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.0

Replicate 2 Time: 20:38
Peak Area (A-s): 0.000 Peak Height (A): 0.015
Background Pk Area (A-s): 0.048 Background Pk Height (A): 0.039
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.1

Mean Conc (ug/L): -0.0 SD: 0.08 RSD(%): 206.47
OK OK
QC sample is within range -3.0 - 3.0

~~~~~~

Pb ID: CRA Seq. No.: 00141 A/S Pos.: 3 Date: 10/08/92

Replicate 1 Time: 20:40
Peak Area (A-s): 0.022 Peak Height (A): 0.071
Background Pk Area (A-s): 0.040 Background Pk Height (A): 0.028
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 3.5

Replicate 2 Time: 20:42
Peak Area (A-s): 0.022 Peak Height (A): 0.067
Background Pk Area (A-s): 0.042 Background Pk Height (A): 0.031
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 3.4

Mean Conc (ug/L): 3.5 SD: 0.10 RSD(%): 2.85
OK OK
QC sample is within range 0.0 - 6.0

~~~~~~

ID: MEK613 (50X) Seq. No.: 00142 A/S Pos.: 4 Date: 10/08/92

Replicate 1 Time: 20:44
Peak Area (A-s): 0.137 Peak Height (A): 0.365
Background Pk Area (A-s): 0.082 Background Pk Height (A): 0.081
Blank Corrected Pk Area (A-s): 0.136
~~~~~~

MEK613 (50X)

Concentration (ug/L): 23.1

Replicate 2 Time: 20:46
Peak Area (A-s): 0.135 Peak Height (A): 0.329
Background Pk Area (A-s): 0.083 Background Pk Height (A): 0.077
Blank Corrected Pk Area (A-s): 0.134
Concentration (ug/L): 22.7

Mean Conc (ug/L): 22.9 SD: 0.28 RSD(%): 1.23 OK

~~~~~~

Pb ID: MEK613A (50X) Seq. No.: 00143 A/S Pos.: 4 Date: 10/08/92

Replicate 1 Time: 20:48
Peak Area (A-s): 0.250 Peak Height (A): 0.623
Background Pk Area (A-s): 0.102 Background Pk Height (A): 0.136
Blank Corrected Pk Area (A-s): 0.249
Concentration (ug/L): 43.3

Replicate 2 Time: 20:50
Peak Area (A-s): 0.245 Peak Height (A): 0.621
Background Pk Area (A-s): 0.106 Background Pk Height (A): 0.136
Blank Corrected Pk Area (A-s): 0.244
Concentration (ug/L): 42.5

Mean Conc (ug/L): 42.9 SD: 0.58 RSD(%): 1.35 OK

Recovery is ~~100.3%~~ 100% DRM 10/4/92

~~~~~~

Pb ID: CCV Seq. No.: 00144 A/S Pos.: 36 Date: 10/08/92

Replicate 1 Time: 20:52
Peak Area (A-s): 0.209 Peak Height (A): 0.555
Background Pk Area (A-s): 0.079 Background Pk Height (A): 0.116
Blank Corrected Pk Area (A-s): 0.208
Concentration (ug/L): 35.8

Replicate 2 Time: 20:54
Peak Area (A-s): 0.212 Peak Height (A): 0.562
Background Pk Area (A-s): 0.080 Background Pk Height (A): 0.119
Blank Corrected Pk Area (A-s): 0.211
Concentration (ug/L): 36.4

Mean Conc (ug/L): 36.1 SD: 0.36 RSD(%): 0.99 OK

QC sample is within range 31.4 - 38.6

~~~~~~

Pb ID: CCB Seq. No.: 00145 A/S Pos.: 0 Date: 10/08/92

Replicate 1 Time: 20:56
Peak Area (A-s): 0.001 Peak Height (A): 0.014
Background Pk Area (A-s): 0.038 Background Pk Height (A): 0.025
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.0

Replicate 2 Time: 20:58
Peak Area (A-s): 0.001 Peak Height (A): 0.016
~~~~~~

CCD

Background Pk Area (A-s): 0.037
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Background Pk Height (A): 0.026

Mean Conc (ug/L): -0.1

SD: 0.02

RSD(%): 27.30

QC sample is within range -3.0 - 3.0

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Client/Case:

Service Request Number 9441, 9443 & 9485

Analysis for: Hg

Method Number 245.1, 245.5 CLP-M 9255

DATA energy 72

Prep. Date: 9-8-9

corr= 0.9999

m= 172.2

Prep. Time: 1800

Weyer. Sample No.	Client Sample No.	Aliquot (g, as is)	Final Vol. (ml) (Dil.)	Peak Height (mm)	µg	µg/L	Spike Level	Start Time
S0.00µg	S0.0ug/L		100	0.5				23:55
S0.02µg	S0.2ug/L		100	4				23:56:30
S0.10µg	S1.0ug/L		100	18.5				23:58:15
S0.20µg	S2.0ug/L		100	36				00:00:15
S0.30µg	S3.0ug/L		100	53				00:02:15
S0.50µg	S5.0ug/L		100	86.5				00:04:15
ICV 1	ICV 1	50ML	100	40	0.227	2.27	2.5	00:06:15
ICB 1	ICB 1	100ML	100	1	<0.02	<0.2		00:08:15
CRA 1	CRA 1	100ML	100	4.5	0.021	0.21	0.2	00:10:00
PBS 1	PBS 1	↓	100	1	<0.02	<0.2		00:11:45
LCSS 1	LCSS 1	0.0231	100	48.5	0.276	2.76 mg/kg 12.0 mg/kg KCR 9-9-92	12.0 mg/kg	00:13:15
94613	composite KSK as rec'd MEK613	0.271	100	1	<0.02	<0.2		00:15:15
94613-D	MEK613D	0.237	100	1	↓	↓		00:17:00
94613-S	MEK613S	0.223	100	19	0.105	1.05	1.0 105%	00:19:00
94614	MEK614	0.255	100	1	<0.02	<0.2		00:20:45
94834	MEK834 as rec'd KSK	0.228	100	4.5	0.021	0.21		00:22:30
94866	MEK866 rec'd KSK composite	0.233	100	1	<0.02	<0.2		00:24:15
94867	MEK867	0.292	100	2	↓	↓		00:26:15
CCV 1	CCV 1	100 ml	100	36.5	0.206	2.06	2.0 103%	00:28:00
CCB 1	CCB 1	↓	100	1	<0.02	<0.2		00:29:45
94868	~~MEK868~~ as rec'd KSK	0.254	100	1				00:31:15
94869	MEK869	0.299	100	3				00:33:00
94870	MEK870	0.250	100	1				00:34:45
94871	MEK871 as rec'd KSK	0.221	100	1				00:36:30
94872	MEK872	0.212	100	1				00:38:15
PBW 1	~~PBW 1~~ KSK	100 ml	100	1				00:40:30
94836	as rec'd KSK	50 ml	100	1		<0.4		00:42:15
94836-D			100	1		<0.4		00:44:00
94836-S			100	19.5	0.108	KCR 9-9-92 2.16	1.0 108%	00:45:45
94837	↓	↓	100	1	<0.02	<0.4		00:47:45

SR 9441

SR 9443 KSK

COMMENTS LCSS=LCS0287 ICF

Spiking Solution: 0.1 mg/L Hg

ICV=ICV5(0689) 1/100 ICF exp 1-20-93

Volume used: 1.0 ml

Conc. in digestate: 1.0 ug/L

Analyst	KCR	Date	9-9-92	NB Number	
Witness	MBL	Date	10-20-92	Page Number	1 of 2

0.00 = 0.000
0.50 = 0.075

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Client/Case:	Service Request Number 9441, 9443, 9485 0
Analysis for: Hg	Method Number 245.1, 245.5 CLP-M 9255

DATA

Prep. Date:

corr= m= Prep. Time:

Weyer. Sample No.	Client Sample No.	Aliquot (g, as is)	Final Vol. (ml) (Dil.)	Peak Height (mm)	µg	µg/L	Spike Level	Start Time
CCV	CCV2	100 ml	100 ml	36	0.204	2.04	2.0 102%	00:49:53
CCB	CCB2	↓	↓	1	<0.02	<0.2		00:51:00
94838	~~[illegible]~~ KCR	50 ml	End of Run for SR#9441					00:53:00
94839				1				00:54:45
94840				1				00:56:45
PBS 1	PBS+KCR			1				00:58:30
LCSS 1	LCSS+KCR	0.0224		54	0.308	13.8 mg/kg		01:00:00
94996	~~[illegible]~~ KCR	0.298		4	<0.02	<0.2		01:02:00
94996.D		0.220		3	↓	↓		01:04:00
94996.S		0.299		21	0.116	1.16		01:05:30
95002		50 ml		20	0.111	1.22		01:07:15
95003	↓	↓		23	0.128	2.56		01:09:00
CCV 3	CCV3			35.5	0.201	2.01	2.0 100%	01:11:00
CCB 3	CCB3			1	<0.02	<0.2		01:13:00
95003.D	~~[illegible]~~ KCR	50 ml		21.5	0.119	2.39		01:14:30
95003.S		↓		32.5	0.183	3.67	1.0 64%	01:16:30
93685.D		0.259		1	<0.02	<0.2		01:18:30
93685.S	↓	0.222		19	0.105	1.05	1.0 105%	01:20:15
CCV 4	CCV4			34	0.192	1.92	2.0 96%	01:22:00
CCB 4	CCB4			1	<0.02	<0.2		01:23:45

SR #9443 → SR #9485

Comments LCSS=LCS0287
ICV=ICV5(0689)1/100

Spiking Solution:
Volume used:
Conc. in digestate:

Analyst	KCR	Date	9-9-92	NB Number	
Witness	MBL	Date	10-20-92	Page Number	2 of 2

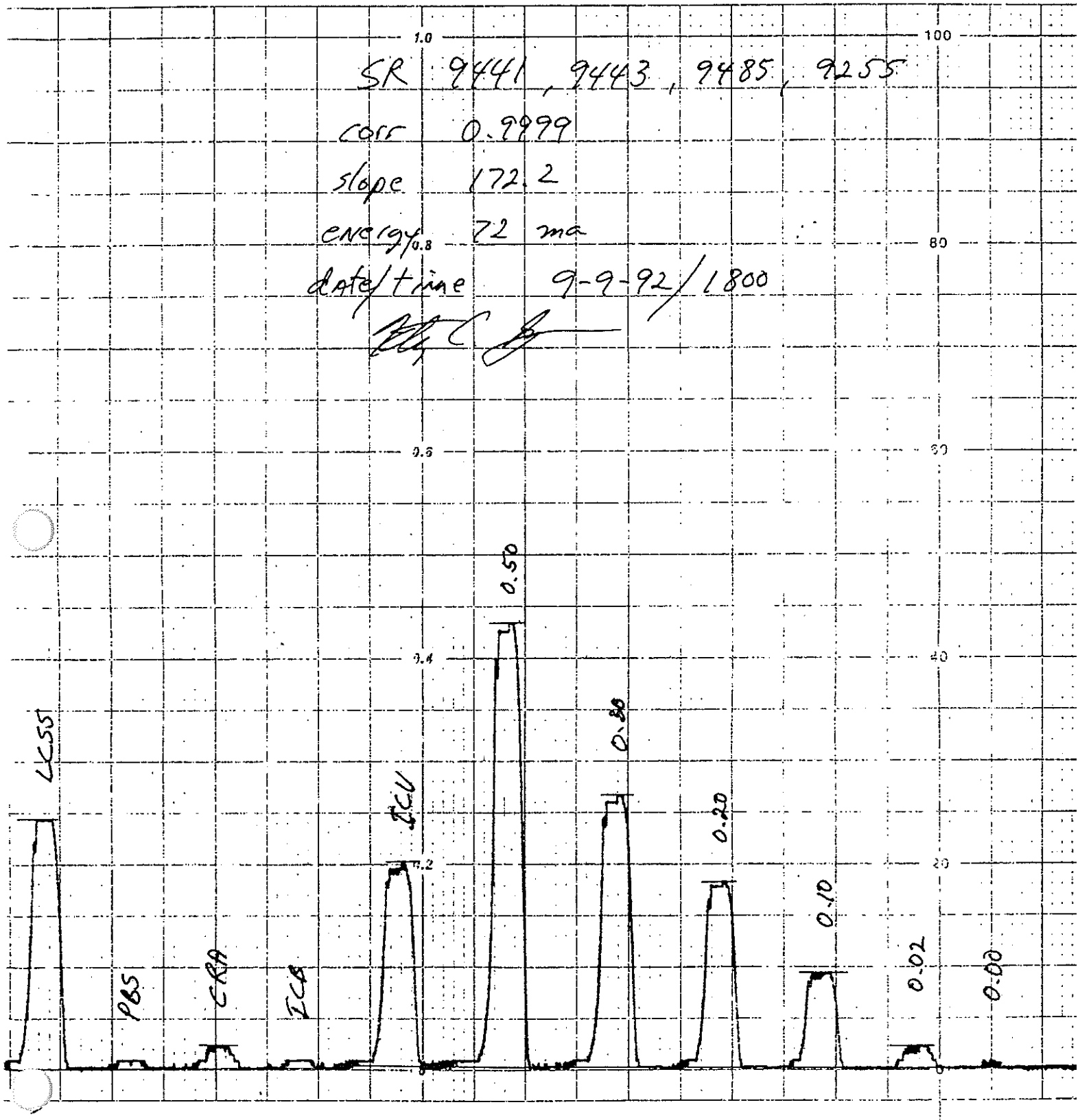
SR 9441, 9443, 9485, 9255

corr 0.9999

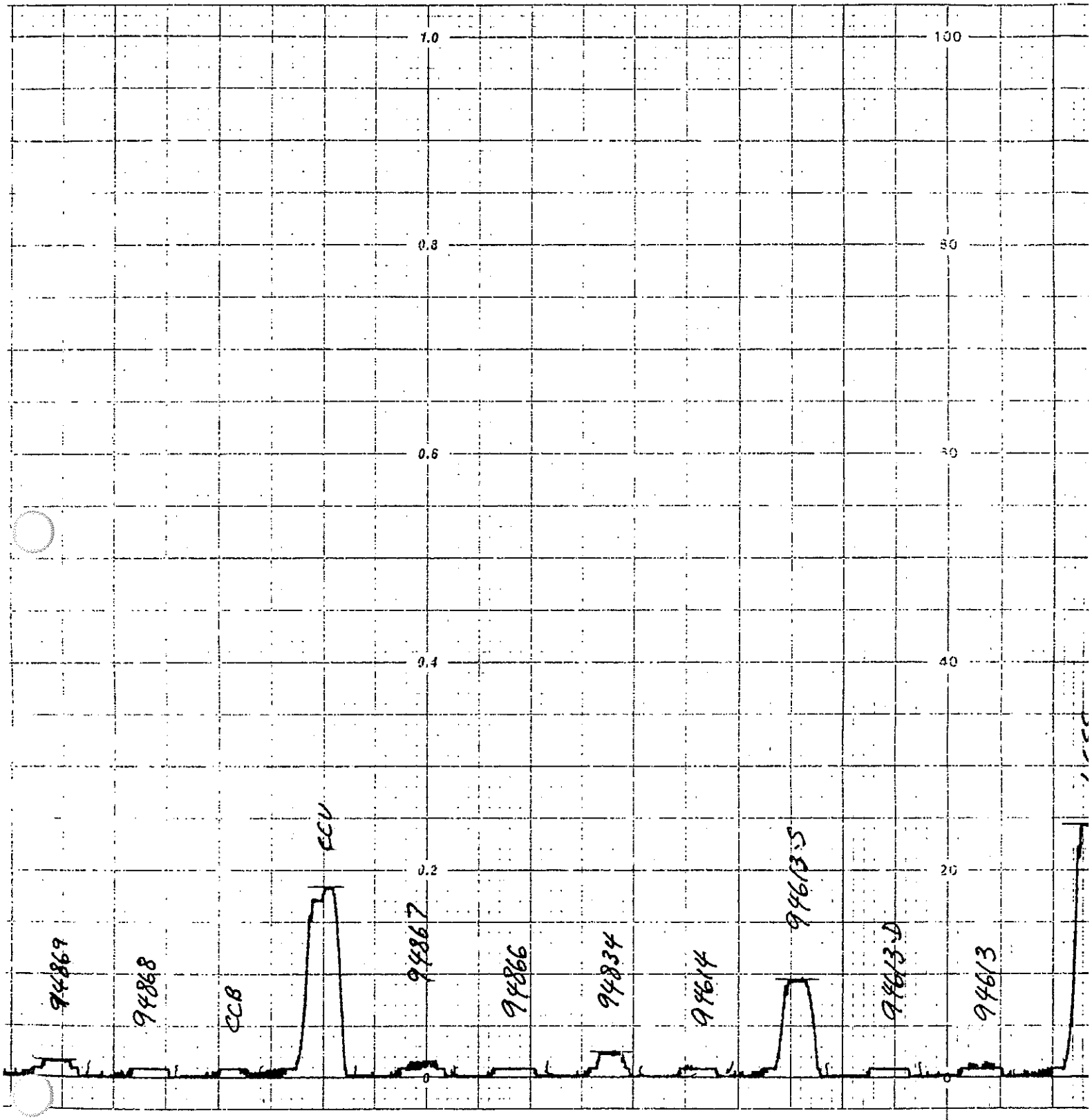
slope 172.2

energy 72 ma

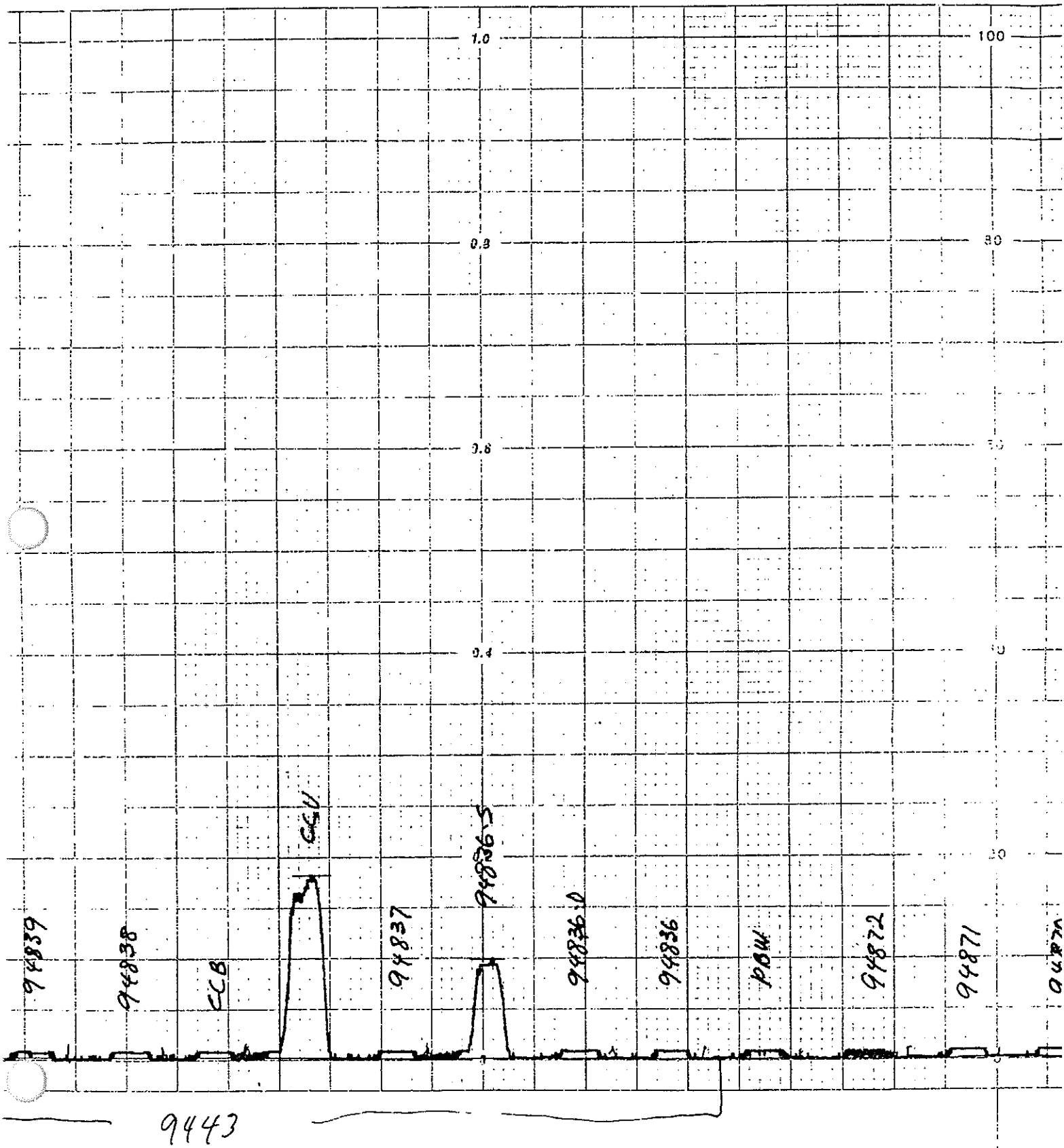
date/time 9-9-92/1800



0170

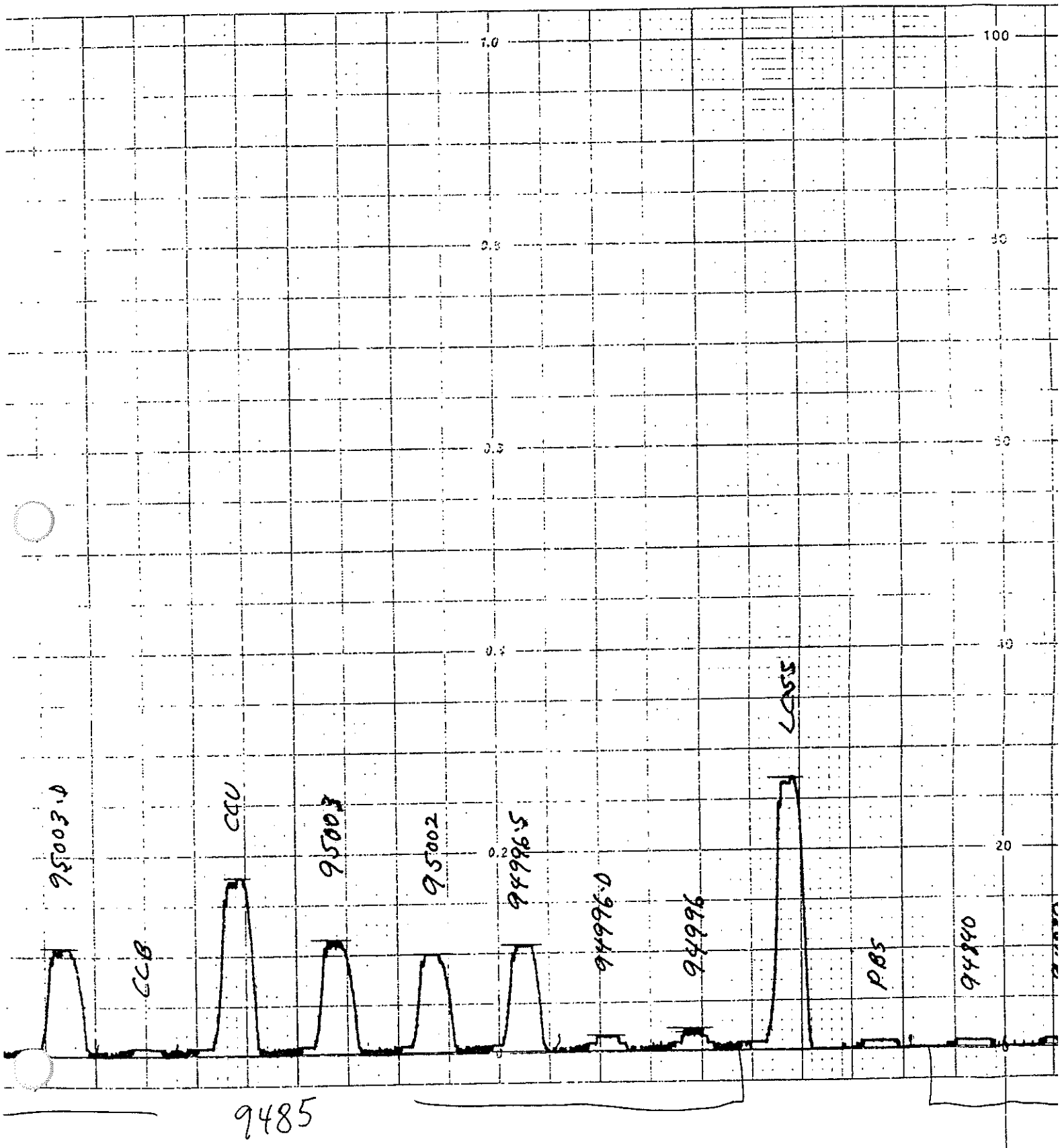

1.0
0.8
0.6
0.4
0.2
0
100
80
60
40
20
0
94869
94868
CCB
ECU
94867
94866
94834
94614
94635
94633
94613

PERKIN-ELMER Chart No. CP33402-0



9443

PERKIN-ELMER Chart No. CP33402-0

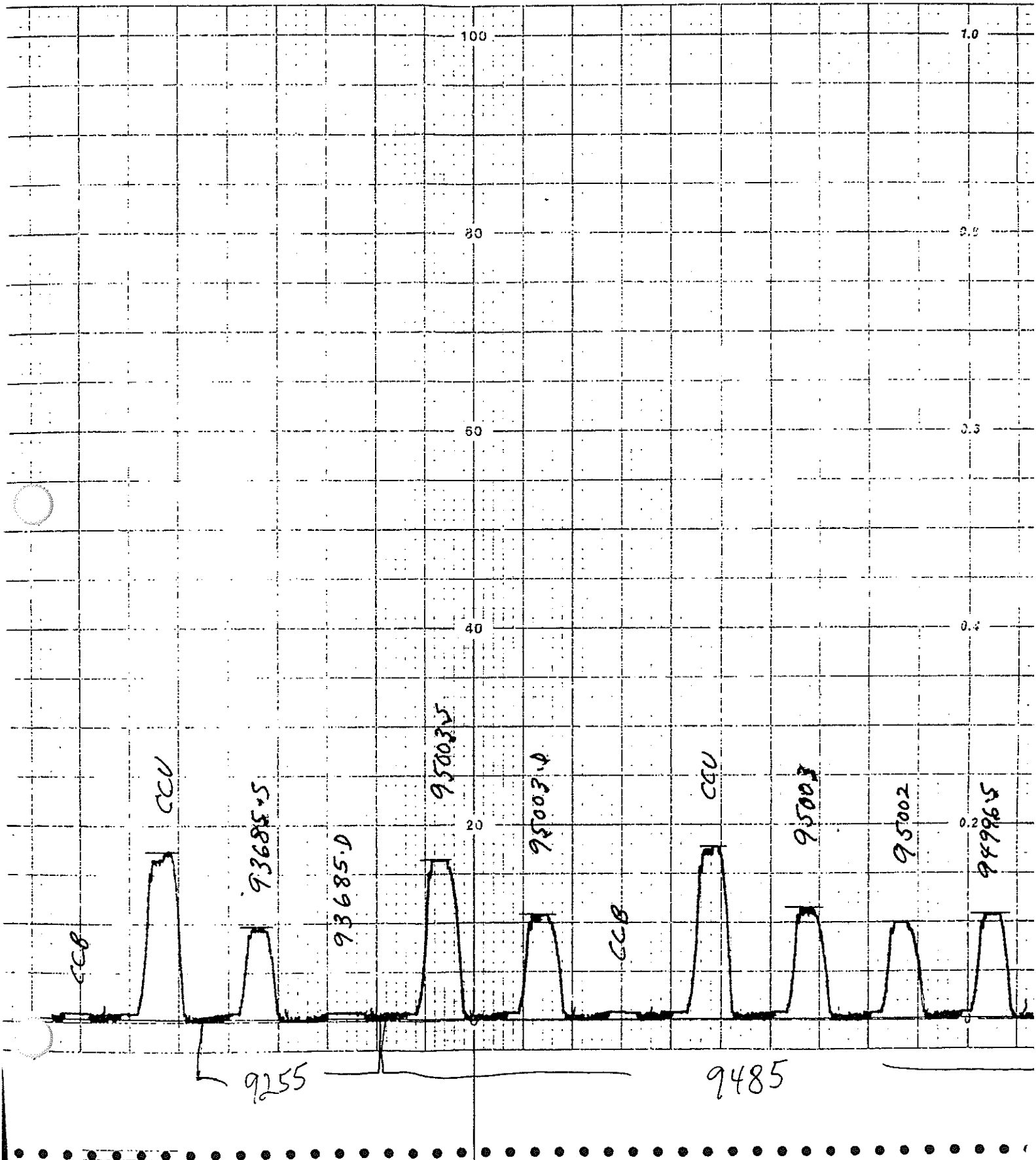


9485

No. CP33402-0

PERKIN-ELMER

Chart No. CP



ADDED 7/94 SAMPLES ADDED

ANALYTICAL LABORATORY SERVICES REQUEST

Weyerhaeuser Research and Development – Analysis and Testing

Request Number: 09441

Title: EVERETT EMCON / PHASE II SOILS #120-2974670

Number of Samples: 35	Project Number: 046-5632	Groups: 1,3,4,6
Date Received: 08/19/92	Date Desired: 09/16/92	Estimated Completion Date: 09/16/92
Submitted By: NORTH, JOHN	Location: EMCON, NW	Telephone: 485-5000
Reviewed By: DOXSEE Kari	Location: 2F 25	Telephone: 924-6148
Project Title: WPC-EVERTT PULP	Project Leader: MIHOK	
Copy To:		

Sample Description and History:

***CLP DELIVERABLES ** CLP DELIVERABLES *** EXTRACT & HOLD ON PCB & PENTA ON DESIGNATED (**) SAMPLES

Group	Series	Test Code	Test Description		
			Report Range	Report Basis	Lower Limit of Sensitivity
1	A	WTPH-D	TPH-DIESEL		
1	B	PCB-S	PCBs on solids by GC/EC		
1	C	PENTA-S	Pentachlorophenol (PCP) on solids by GC/ECD		
1	D	PCB-S	PCBs on solids by GC/EC **EXTRACT AND HOLD**		
1	E	PENTA-S	Pentachlorophenol (PCP) on solids by GC/ECD **EXTRACT AND HOLD**		
✓ 3	F	NOCODE/1	COMPOSITE SAMPLES **SEE MBL BEFORE COMPOSITING**		
✓ 3	G	GF-2	Graphite Furnace AAS Elements - 2 **AS, PB**		
✓ 3	H	ICP-1-2	ICP Elements - 1 or 2 **CR, CU**		
✓ 3	I	HG	Mercury Analysis		
✓ 4	J	PH-S	pH of soils		

Sample Number	Series to Be Evaluated	Submitter's Designation					
94607	F	SS-1	08/14	1200	SOIL	COMPOSITE WITH 94608 & 94609	08/17/92
94608	F	SS-2	08/14	1200	SOIL	COMPOSITE WITH 94607 & 94609	08/17/92

Reference: 9428			Record Book:
Results Approved:	Date: 9-21-92	Signature Applies To Attached Pages:	Page Numbers: To:

Printed on: 08/20/92 at 12:24:38

0171

WEYERHAEUSER TECHNOLOGY CENTER
Analytical Laboratories
Tacoma, Washington

REPORT

Everett

Sample Description	Analytical Lab Code	pH (1:2)*
SB Surf-2	94872	12.4; 12.5

* **Soil:H_2O**

Approved Maxine Ruta **Date** 9-21-92

Weyerhaeuser Technology Center
Analytical Laboratories
Tacoma, Washington

0816 w/

Sample Number(s)	Service Request 9418	9441
Analysis for: pH - SOIL	Method Number	EPA 150.1

Data

Sample Number	pH	Temperature Deg C
94496	7.40	20.8
94497	9.05	19.1
94497D	9.17	19.2
94872	12.44	20.5
94872D	12.49	20.6

Sample Number	pH	Temperature Deg C

Calibration	Lot Number	Nominal pH	Meter Reading	Temperature Deg C
Buffer 1		7	7.01	19.2
Buffer 2		10	10.03	19.1
			Nernstian Slope	96.2

Calibration	Lot Number	Nominal pH	Meter Reading	Temperature Deg C
Buffer 1				
Buffer 2				
			Nernstian Slope	

Comments all samples SOIL:H_2O = 1:2

Analyst P. Williamsen Date 9-16-92 NB Number

Witness Date Page Num 0173

Chain of Custody / Laboratory Analysis Request

EMCON Northwest, Inc.

SANDBLAST AREA PHASE II Sampling

DATE 9/2/92 PAGE 1 OF 1

PROJECT Southend Landfill # ~~541707~~ 541725

CLIENT INFO. CONTACT John North

ADDRESS EMCON - Bothell

TELEPHONE # 485-5000

SAMPLERS NAME NICK GARSON PHONE # 485-5000

SAMPLERS SIGNATURE N. Nicholas Garson

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE
TP-92-26-S-1	9/2/92	1245		Soil
TP-92-27-S-1	"	1310		"
TP-92-28-S-1	"	1315		"
TP-92-29-S-1	"	1325		"
TP-92-30-S-1	"	1345		"

ANALYSIS REQUESTED

BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ~~ORGANICS~~ metals	GENERAL CHEMISTRY (Specify) pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K	OTHER (Specify)	NUMBER OF CONTAINERS
									X					1
									X					1
									X					1
									X					1
									X					1

Relinquished By EMCON Northwest, Inc.
Signature: N. Nicholas Garson
Printed Name: NICK GARSON
Firm: Bothell
Date/Time: 9/2/92 1500

Relinquished By
Signature:
Printed Name:
Firm:
Date/Time:

Relinquished By
Signature:
Printed Name:
Firm:
Date/Time:

PROJECT INFORMATION
Shipping I.D. No.:
VIA:
Project:

SAMPLE RECEIPT
Total No. of Containers: yes
Chain of Custody Seals: yes
Received in good condition:
LAB NO.:

Received By
Signature: Lonnie Chappell
Printed Name: LONNIE CHAPPELL
Firm: Weyco
Date/Time: 9/3/92 1030

Received By
Signature:
Printed Name:
Firm:
Date/Time:

Received By
Signature:
Printed Name:
Firm:
Date/Time:

SPECIAL INSTRUCTIONS/COMMENTS

WHITE - return to originator YELLOW - lab; PINK - retained by originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

Columbia Analytical Services Inc.
1317 South 13th Ave. • Kelso, WA 98626 • (206) 577-7222, FAX (206) 636-1068

DATE 8-28-92 PAGE 1 OF 2

PROJECT NAME Weyro-Evl Phase II # 541-57.25
PROJECT MNGR John North
COMPANY/ADDRESS EMCON NW
PHONE 485-5000
SAMPLERS SIGNATURE Brian S Carl

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	WTPH-D	REMARKS
HA-1-A	8-27	1110		soil		X	
HA-2-A		1125				X	
HA-3-A		1132				X	
HA-4-A		1150				X	
HA-6-A		1408				X	
HA-7-A		1420				X	
HA-8-A		1431				X	
HA-9-A		1450				X	
HA-10-A		1500				X	
HA-11-A	↓	1520		↓		X	

ANALYSIS REQUESTED

Base/Neu/Acid Organics GC/MS 625/8270
Volatile Organics GC/MS 624/8240
Halogenated or Aromatic Volatiles 601/8010 ☐ 602/8020 ☐
Pesticides/PCBs 608/8080
Total Petroleum Hydrocarbons EPA 418.1 ☐ Oregon 418.1 ☐
TPH/Gas/BTEX 5030/8015/8020 Gas ☐ BTEX ☐
TPH 8015 Modified Diesel ☐ Hydrocarbon Scan ☐
TPH-HCID
TCLP Metals ☐ VOA ☐ Semi ☐ Pest/ ☐ VOA ☐ Herb ☐
Metals (total or dissolved) List Below
Cyanide
pH, Cond, Cl, SO4, PO4, F, Br NO2, NO3 (circle)
NH3-N, COD, Total-P, TKN, TOC (circle)
Total Organic Halides (TOX) 9020

RELINQUISHED BY:
Brian S Carl
Signature
Brian S. Carl
Printed Name
EMCON NW
Firm
8-28-92 0700
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS:
___ 24 hr ___ 48 hr ___ 5 day
___ Standard (~ 10-15 working days)
___ Provide Verbal Preliminary Results
___ Provide FAX Preliminary Results
Requested Report Date ___

REPORT REQUIREMENTS
___ I. Routine Report
___ II. Report (Includes DUP,MS, MSD, as required, may be charged as samples)
___ III. Data Validation Report (Includes All Raw Data)
___ IV. CLP Deliverable Report

INVOICE INFORMATION:
P.O. # ___
Bill to: ___

SAMPLE RECEIPT:
Shipping VIA: ___
Shipping #: ___
Condition: ___
Lab No.: ___

SPECIAL INSTRUCTIONS/COMMENTS:

DISTRIBUTION: WHITE - return to o...; YELLOW - lab; PINK - retained by originator

400-05

Columbia Analytical Services, Inc.

317 South 13th Ave. • Kelso, WA 98626 • (206) 577-7222, FAX (206) 636-1068

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 8-28-92 PAGE 2 OF 2

PROJECT NAME Weyro-Ed Phase II #541-37.25

PROJECT MNGR John North

COMPANY/ADDRESS EMCON NW

PHONE 4855000

SAMPLERS SIGNATURE Brian S Carl

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	ANALYSIS REQUESTED: WTPH-D	REMARKS
HA-12-A	8-27	1535		Soil		X	
HA-12-B		1545				X	
HA-10-B		1505				X	
HA-13-A		1607				X	
HA-13-B		1609				X	
HA-14-A		1620				X	
HA-15-A		1445				X	
HA-16-A		1700				X	
HA-16-B	↓	1705		↓			

Base-Neu/Acid Organics GC/MS 625/8270; Volatile Organics GC/MS 624/8240; Halogenated or Aromatic Volatiles 601/8010 ☐ 602/8020 ☐; Pesticides/PCBs 608/8080; Total Petroleum Hydrocarbons EPA 418.1 ☐ Oregon 418.1 ☐; TPH/Gas/BTEX 5030/8015/8020 Gas ☐ BTEX ☐; TPH 8015 Modified Diesel ☐ Hydrocarbon Scan ☐; TPH - HCID; TCLP Metals ☐ VOA ☐ Semi ☐ Pest ☐ VOA ☐ Herb ☐; Metals (total or dissolved) List Below; Cyanide; pH, Cond, Cl, SO_4, PO_4, F, Br, NO_2, NO_3 (circle); Nitr-N, COD, Total-P, TKN, TOC (circle); Total Organic Halides (TOX) 9020

RELINQUISHED BY:
Signature: Brian S Carl
Printed Name: Brian S Carl
Firm: EMCON NW
Date/Time: 8-28-92 0700

RECEIVED BY:
Signature:
Printed Name:
Firm:
Date/Time:

TURNAROUND REQUIREMENTS:
___ 24 hr ___ 48 hr ___ 5 day
X Standard (~ 10-15 working days)
___ Provide Verbal Preliminary Results
___ Provide FAX Preliminary Results
Requested Report Date:

REPORT REQUIREMENTS
___ I. Routine Report
___ II. Report (includes DUP, MS, MSD, as required, may be charged as samples)
___ III. Data Validation Report (Includes All Raw Data)
___ IV. CLP Deliverable Report

INVOICE INFORMATION:
P.O. #:
Bill to:

SAMPLE RECEIPT:
Shipping VIA:
Shipping #:
Condition:
Lab No.:

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RECEIVED BY:
Signature:
Printed Name:
Firm:
Date/Time:

SPECIAL INSTRUCTIONS/COMMENTS:

DISTRIBUTION: WHITE - return to o... YELLOW - lab; PINK - retained by originator

400-0...

Chain of Custody / Laboratory Analysis Request

EMCON Northwest, Inc.

DATE 8-25-92 PAGE 1 OF 1

PROJECT Weyerhaeuser - Phase II #54137.25
CLIENT INFO. CONTACT John North
ADDRESS EMCON - Bothell
TELEPHONE # 485-5000
SAMPLERS NAME Sharon E. Burkett PHONE # 485-5000
SAMPLERS SIGNATURE Sharon E. Burkett

ANALYSIS REQUESTED

GENERAL CHEMISTRY (Specify)

OTHER (Specify)

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	pH, COND ALK	NO_3-NO_2, Cl SO_4	Ca, Mg, Na, K	WTPH-D						NUMBER OF CONTAINERS
1. PC-1-0892	8/25/92	1005		SOIL														X						1
2. PC-1-0892W				Water														X						1
3. PC-2-0892		1415		SOIL														X						1
4. PC-2-0892W		1500		Water														X						1
5. PC-3-0892		1317		Soil														X						1
6. PC-3-0892W		1340		Water														X						1
7. PC-4-0892		1145		Soil														X						1
8. PC-4-0892W	↓	1200		Water														X						1

Relinquished By EMCON Northwest, Inc.
Signature: Sharon Burkett
Printed Name: Sharon E. Burkett
Firm: EMCON NW
Date/Time: 8/25/92 1930

Relinquished By
Signature
Printed Name
Firm
Date/Time

Relinquished By
Signature
Printed Name
Firm
Date/Time

PROJECT INFORMATION
Shipping I.D. No.
VIA
Project

SAMPLE RECEIPT
Total No. of Containers
Chain of Custody Seals
Received in good condition
LAB NO.

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature
Printed Name
Firm
Date/Time

SPECIAL INSTRUCTIONS/COMMENTS

Chain of Custody / Laboratory Analysis Request

emcon Northwest, Inc.

DATE 8-24-92 PAGE 1 OF 1

PROJECT Weyerhaeuser - Phase II Kit Trunion #54137.25

CLIENT INFO. CONTACT JOHN NORTH

ADDRESS EMCON - BOTHELL

TELEPHONE # 485-5000

SAMPLERS NAME Sharon Burkett PHONE # 485-5000

SAMPLERS SIGNATURE Sharon E. Burkett

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE
1. KT-1-0892	8/24/92	0900		SOIL
2. KT-2-0892		0955		
3. KT-3A-0892		1050		
4. KT-3B-0892		1130		
5. KT-4A-0892		1215		
6. KT-4B-0892		1400		
7. KT-5A-0892		1450		
8. KT-5B-0892		1535		

ANALYSIS REQUESTED

BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K	GENERAL CHEMISTRY (Specify) WTPH-D	OTHER (Specify) Total Lead					NUMBER OF CONTAINERS
													X						1
													X						1
													X	X					1
													X	X					1
													X						1
													X						1
													X						1
													X						1

Relinquished By EMCON Northwest, Inc.
Signature: Sharon Burkett
Printed Name: Sharon Burkett
Firm: EMCON NW
Date/Time: 8/25/92 1050

Relinquished By
Signature
Printed Name
Firm
Date/Time

Relinquished By
Signature
Printed Name
Firm
Date/Time

PROJECT INFORMATION
Shipping I.D. No.
VIA
Project

SAMPLE RECEIPT
Total No. of Containers
Chain of Custody Seals
Received in good condition
LAB NO.

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature
Printed Name
Firm
Date/Time

SPECIAL INSTRUCTIONS/COMMENTS

DISTRIBUTION: WHITE - return to originator; YELLOW: - lab; PINK - retained by originator

EMCON Northwest, Inc.

Chain of Custody / Laboratory Analysis Request

DATE 8-18-92 PAGE 1 OF ~~4~~ 3

PROJECT Weyco - Eut, ~~[illegible]~~ Phase II # 541-37.25
CLIENT INFO. CONTACT John North
ADDRESS EMCON NW
TELEPHONE # 485-5000
SAMPLERS NAME Brian S. Carl PHONE # 485-5000
SAMPLERS SIGNATURE Brian S Carl

ANALYSIS REQUESTED; GENERAL CHEMISTRY (Specify): A, C; OTHER (Specify): D

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/(TCLP METALS) (Circle One)	(METALS (TOTAL)) (See Special Inst.)	TCLP ORGANICS	pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K	WTPH-D	PCB's	Pentachlorophenol				NUMBER OF CONTAINERS
TP-99, S-1	8-18	0745		Soil														X	X	X				1
TP-99, S-2	8-18	0807		↓														X						1
TP-100, S-1	8-18	0838	composite	↓								X	X					X						1
TP-100, S-2	8-18	0852	composite	↓								X	X					X						1
TP-100, S-3	8-18	0854	composite	↓								X	X					X						1
SBSurf-1	8-18	0905	composite	↓								X	X					X						1
TP-101, S-1	8-18	0923	composite	↓								X	X					X						1
TP-101, S-2	8-18	0934	composite	↓								X	X					X						1

NO TCLP per J North 8/20 BC

Relinquished By EMCON Northwest, Inc.
Signature: Brian S Carl
Printed Name: Brian S. Carl
Firm: EMCON NW
Date/Time: 8-18-92 1600

Relinquished By
Signature
Printed Name
Firm
Date/Time

Relinquished By
Signature
Printed Name
Firm
Date/Time

PROJECT INFORMATION
Shipping I.D. No.
VIA
Project

SAMPLE RECEIPT
Total No. of Containers
Chain of Custody Seals
Received in good condition
LAB NO.

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature: Bonnie Chappel
Printed Name: BONNIE CHAPPEL
Firm: Weyco
Date/Time: 8/18/92 1600

SPECIAL INSTRUCTIONS/COMMENTS
Prepare extracts for PCB's, pentachlorophenol, but do not analyze (hold for possible later analysis

Weyco P.O. # 120-2974670

Chain of Custody / Laboratory Analysis Request

EMCON Northwest, Inc.

DATE 8-18-92 PAGE 2 OF ~~3~~

Phase II

PROJECT Weyco-Ext, ~~Southeast~~ , 541-37.25

CLIENT INFO. CONTACT John North

ADDRESS EMCON NW

TELEPHONE # 485-5000

SAMPLERS NAME Brian S. Carl PHONE # 485-5000

SAMPLERS SIGNATURE Brian S Carl

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE
1. TP-102, S-1	8-18	1035	composite	soil
2. TP-102, S-2	8-18	1043		
3. TP-103, S-1	8-18	1115	composite	
4. TP-103, S-2	8-18	1125		
5. TP-103, S-3	8-18	1130		
6. TP-104, S-1	8-18	1158	composite	
7. TP-105, S-1	8-18	1255		
8. TP-105, S-2	8-18	1308		

ANALYSIS REQUESTED

BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One) No TCLP per Work Plan 8/20	METALS (TOTAL) (See Special List)	TCLP ORGANICS	pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K	GENERAL CHEMISTRY (Specify) WTPH-D	OTHER (Specify) PCBs	Pentachlorophenol				NUMBER OF CONTAINERS
							X	X					X						1
							X	X					X						1
							X	X					X						1
							X	X					X						1
							X	X					X						1
							X	X					X						1
							X	X					X						1
							X	X					X						1

Relinquished By EMCON Northwest, Inc.
Signature: Brian S Carl
Printed Name: Brian S. Carl
Firm: EMCON NW
Date/Time: 8-18-92 1600

Relinquished By
Signature
Printed Name
Firm
Date/Time

Relinquished By
Signature
Printed Name
Firm
Date/Time

PROJECT INFORMATION
Shipping I.D. No.
VIA
Project

SAMPLE RECEIPT
Total No. of Containers
Chain of Custody Seals
Received in good condition
LAB NO.

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature: Bonnie Chappel
Printed Name: BONNIE CHAPPEL
Firm: Weyco
Date/Time: 8/19/92 1600

SPECIAL INSTRUCTIONS/COMMENTS
(*) Sample rec'd is labelled TP-102, S-1 ~~8/18~~ @ 1045 on ~~lid~~ jar
TP-102, S-2 on lid
~~DO~~ with info on lid COC

EMCON Northwest, Inc.

Chain of Custody / Laboratory Analysis Request

DATE 8-18-92 PAGE 3 OF 3

PROJECT Wexco-Eut, ~~Sandblast~~ Phase II, 541-37.025
CLIENT INFO. CONTACT John North
ADDRESS EMCON NW
TELEPHONE # 485-5000
SAMPLERS NAME Brian S. Carl PHONE # 485-5000
SAMPLERS SIGNATURE Brian S Carl

ANALYSIS REQUESTED / GENERAL CHEMISTRY (Specify) / OTHER (Specify)

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One) — NO TCLP per J North 8/20	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K	WTPH-D							NUMBER OF CONTAINERS
1. SBSurf-2	8-18	1246		soil?								X	X		X			X							1
2.																									
3.																									
4.																									
5.																									
6.																									
7.																									
8.																									

Relinquished By EMCON Northwest, Inc.
Signature: Brian S Carl
Printed Name: Brian S. Carl
Firm: EMCON NW
Date/Time: 8-19-92 1600

Relinquished By
Signature
Printed Name
Firm
Date/Time

Relinquished By
Signature
Printed Name
Firm
Date/Time

PROJECT INFORMATION
Shipping I.D. No.
VIA
Project

SAMPLE RECEIPT
Total No. of Containers
Chain of Custody Seals
Received in good condition
LAB NO.

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature: Bonnie Chappel
Printed Name: BONNIE CHAPPEL
Firm: Wexco
Date/Time: 8/19/92 1600

SPECIAL INSTRUCTIONS/COMMENTS

Method: WEYCOPPM Standard: STD4

Item	Sb2068	Ti3349	Mo2020	Sn1899
Avge	4.946	1.967	3.049	2.257
#1	4.947	1.963	3.043	2.260
#2	4.944	1.970	3.054	2.254

Method: WEYCOPPM Standard: STD3

Elem	Ba4934	Be3130	Cd2288	Cr2677	Co2286	Cu3247	Mn2576
Avge	.6294	1.057	.1385	.7604	.5897	.1466	.8011
#1	.6300	1.057	.1381	.7580	.5902	.1468	.8014
#2	.6288	1.056	.1390	.7628	.5893	.1464	.8008

Elem	Ag3280	V_2924	Zn2138	Li6707	Sr4215
Avge	.6984	.3140	3.124	.2282	.8337
#1	.6976	.3138	3.123	.2290	.8344
#2	.6992	.3142	3.125	.2274	.8330

Method: WEYCOPPM Standard: STD5

Item	Fe2714	Mg3832	Si2881
Avge	2.882	25.73	8.849
#1	2.884	25.81	8.857
#2	2.880	25.65	8.841

Method: WEYCOPPM Sample Name: ICV Operator: DAH

Run Time: 11/03/92 07:01:26

Segment: 2A(4107AS)2B(4-108AS)2C(4-109AS)SPEX sr09619 SR09610 Run #2

Mode: CONC Corr. Factor: 1 exp 7/13 DAH 11-3 7/13 DAH 11-3-92

OK

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.074	2.011	1.975	.1953	.1988	4.051	.4059
#1	2.068	1.992	1.975	.1950	.2001	4.037	.4051
#2	2.080	2.029	1.976	.1956	.1974	4.064	.4067
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	.2000	.2000	4.000	.4000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.9893	.4025	2.065	2.085	1.030	4.244	.1970
#1	.9840	.3997	2.060	2.071	1.018	4.229	.1968
#2	.9946	.4052	2.070	2.098	1.042	4.260	.1973
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	.4000	2.000	2.000	1.000	4.000	.2000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.045	15.76	.1950	4.129	.9806	.2104	.7940
#1	1.035	15.77	.1950	4.139	.9802	.2091	.7968
#2	1.054	15.76	.1950	4.119	.9809	.2117	.7911
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	16.00	.2000	4.000	1.000	.2000	.8000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.7924	.3955	.3865	.9779	Q1.106	.8252	.9831
#1	.7934	.3953	.3878	.9673	1.087	.8432	.9908
#2	.7913	.3958	.3852	.9886	Q1.125	.8071	.9755
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass
Value	.8000	.4000	.4000	1.000	1.000	.8000	1.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	8.384	1.046	.8495	.8500
#1	8.410	1.019	.8550	.8517
#2	8.359	1.073	.8441	.8482
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	8.000	1.000	.8000	.8000
Range	10.00	10.00	10.00	10.00

Method: WEYCOPPM Sample Name: ICB Operator: DAH
Run Time: 11/03/92 07:04:42
Comment: icb mg/l ~~sr09619~~ SR0961C Run #2 DAH 11-3-92
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0012	.0028	.0001	.0000	.0011	-.0028	.0016
#1	.0029	.0002	.0003	.0000	.0010	-.0028	.0009
#2	-.0005	.0054	-.0002	.0000	.0011	-.0028	.0022
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0600	.1000	.0050	.0050	.5000	.0100
Low	-.0500	-.0600	-.1000	-.0050	-.0050	-.5000	-.0100

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	-.0016	.0000	.0012	-.0033	-.0021	-.0064	-.0000
#1	-.0008	.0000	.0027	-.0034	.0089	-.0067	-.0000
#2	-.0024	-.0000	-.0003	-.0032	-.0131	-.0061	.0000
Errors	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0500	.0200	.0300		.0277	.1000	.0100
Low	-.0500	-.0200	-.0300		-.0277	-.1000	-.0100

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0013	-.4438	-.0011	-.0000	-.0007	-.0003	-.0000
#1	-.0017	-.4227	-.0011	-.0016	-.0003	-.0000	-.0000
#2	-.0010	-.4650	-.0011	.0016	-.0010	-.0007	-.0000
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0400	2.000	.0100	1.000	.0100	.0050	.0500
Low	-.0400	-2.000	-.0100	-1.000	-.0100	-.0050	-.0500

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0000	-.0003	-.0013	.0152	-.0301	.0000
#1	.0000	-.0000	.0003	.0018	.0174	-.0397	.0038
#2	.0000	-.0000	-.0010	-.0044	.0130	-.0204	-.0038
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.1000	.0100	.0100	.0300	.0937	.0500	.0185
Low	-.1000	-.0100	-.0100	-.0300	-.0937	-.0500	-.0185

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.0045	-.0029	-.0033	.0011
#1	-.0165	-.0172	-.0043	.0051
#2	.0256	.0115	-.0022	-.0029
Errors	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0446	.2000	.0470
Low	-.2000	-.0446	-.2000	-.0470

Method: WEYCOPPM Sample Name: CCV Operator: DAH
Run Time: 11/03/92 07:07:55
Comment: ccv mg/l ~~sr09619~~ SR09610 Run #2 DAH 11-3 92
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.204	4.975	.4993	.4871	.4811	5.005	.5285
#1	5.209	4.989	.5013	.4886	.4803	5.003	.5280
#2	5.199	4.961	.4973	.4855	.4820	5.006	.5290
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	5.000	.5000	.5000	.5000	5.000	.5000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.4848	.4952	10.34	10.53	5.013	76.49	.4845
#1	.4862	.4966	10.35	10.56	5.021	76.67	.4847
#2	.4834	.4938	10.33	10.50	5.005	76.31	.4842
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	.5000	10.00	10.00	5.000	75.00	.5000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.035	23.98	.4817	5.246	.4971	2.411	.5161
#1	5.036	23.80	.4802	5.274	.4981	2.413	.5180
#2	5.035	24.17	.4831	5.218	.4961	2.410	.5142
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	25.00	.5000	5.000	.5000	2.500	.5000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.001	.4973	4.912	4.697	5.360	5.048	5.019
#1	5.013	.4991	4.916	4.700	5.371	5.074	5.029
#2	4.988	.4955	4.909	4.695	5.349	5.023	5.009
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	.5000	5.000	5.000	5.000	5.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	25.90	5.261	5.160	25.71
#1	25.93	5.272	5.162	25.73
#2	25.87	5.249	5.157	25.70
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	25.00	5.000	5.000	25.00
Range	10.00	10.00	10.00	10.00

Method: WEYCOPPM Sample Name: CCB Operator: DAH
Run Time: 11/03/92 07:11:07
Comment: ccb mg/l
Mode: CONC Corr. Factor: 1

~~sr09619~~
SRC9610 Run #2
DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0013	-.0004	.0002	.0001	-.0013	-.0017	.0008
#1	-.0013	.0011	.0000	.0000	.0005	-.0047	.0009
#2	-.0013	-.0019	.0003	.0002	-.0032	.0014	.0006
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0600	.1000	.0050	.0050	.5000	.0100
Low	-.0500	-.0600	-.1000	-.0050	-.0050	-.5000	-.0100

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	-.0002	.0000	.0111	-.0533	-.0057	-.0035	.0005
#1	-.0005	.0000	.0042	-.0461	-.0108	-.0090	-.0000
#2	.0001	.0000	.0181	-.0605	-.0006	.0020	.0010
Errors	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0500	.0200	.0300		.0277	.1000	.0100
Low	-.0500	-.0200	-.0300		-.0277	-.1000	-.0100

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0037	-1.446	-.0021	-.0128	-.0024	.0009	-.0024
#1	.0056	-1.260	-.0017	-.0118	-.0024	.0009	-.0019
#2	.0019	-1.632	-.0024	-.0138	-.0024	.0009	-.0028
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0400	2.000	.0100	1.000	.0100	.0050	.0500
Low	-.0400	-2.000	-.0100	-1.000	-.0100	-.0050	-.0500

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	-.0000	.0013	.0004	-.0194	-.0096	-.0126
#1	-.0010	-.0000	-.0003	.0133	-.0096	-.0084	-.0164
#2	.0020	-.0000	.0030	-.0124	-.0291	-.0108	-.0088
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.1000	.0100	.0100	.0300	.0937	.0500	.0185
Low	-.1000	-.0100	-.0100	-.0300	-.0937	-.0500	-.0185

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	-.0196	.0145	.0011	-.0092
#1	.0256	.0431	.0022	-.0086
#2	-.0647	-.0141	.0000	-.0097
Errors	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0446	.2000	.0470
Low	-.2000	-.0446	-.2000	-.0470

Source ICP

Analysis Report QC Standard Tue 11-03-92 07:21:02 AM page 1

Method: WEYCOPPM Sample Name: ICSAI Operator: DAH
Run Time: 11/03/92 07:17:54
Comment: ICSA(0590) mg/L
Mode: CONC Corr. Factor: 1

~~sr09619~~ SR09610 Run #2
DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	542.8	.0297	.0127	.0003	-.0045	489.1	.0089
#1	542.4	.0357	.0127	.0002	-.0060	488.9	.0085
#2	543.2	.0236	.0127	.0004	-.0031	489.3	.0093
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value	540.1					494.0	
Range	20.00					20.00	

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0027	.0214	185.9	188.5	-.0129	519.7	.0423
#1	.0022	.0214	185.8	188.3	-.0129	519.2	.0424
#2	.0032	.0214	186.0	188.7	-.0128	520.2	.0423
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value			206.2			531.4	
Range			20.00			20.00	

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0084	-2.321	.0146	2.138	.0047	.2768	.0024
#1	.0022	-2.494	.0146	2.126	.0048	.2772	.0019
#2	-.0191	-2.147	.0146	2.151	.0047	.2764	.0028
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0071	.4668	.0085	-.0183	.0836	.0024	-.0801
#1	.0071	.4667	.0092	-.0219	.0997	.0060	-.0843
#2	.0071	.4669	.0079	-.0148	.0676	-.0012	-.0759
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	2.317	.0527	.0314	.7365
#1	2.356	.0117	.0281	.7348
#2	2.278	.0936	.0347	.7382
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value				
Range				

0030

Source ICP

Analysis Report QC Standard Tue 11-03-92 07:24:17 AM page 1

Method: WEYCOPPM Sample Name: ICSABI Operator: DAH

Run Time: 11/03/92 07:21:07

Comment: icsa(0590)icsab(1089) mg/l

Mode: CONC Corr. Factor: 1

~~sr09619~~ SRC9610 Run #2

DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	528.0	.9634	.4647	.4413	.8611	473.4	.4522
#1	527.4	.9632	.4643	.4406	.8583	472.5	.4515
#2	528.7	.9637	.4652	.4421	.8640	474.3	.4528
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	536.5	1.000	.5020	.4800	.9070	512.2	.5290
Range	20.00	20.00	20.00	20.00	20.00	29.00	20.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.4173	.5050	180.6	183.2	4.429	506.8	.4608
#1	.4151	.5050	180.4	182.9	4.419	506.3	.4597
#2	.4196	.5050	180.9	183.4	4.439	507.4	.4619
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value	.4770	.5430	199.8		4.724	527.5	.4960
Range	20.00	20.00	20.00		20.00	20.00	20.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.8613	7.870	.8972	12.42	.4410	1.178	1.051
#1	.8596	7.854	.8972	12.43	.4405	1.175	1.051
#2	.8629	7.887	.8972	12.41	.4416	1.182	1.051
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.9400	10.00	.9600	12.00	.5090	1.208	1.000
Range	20.00	50.00	20.00	20.00	20.00	20.00	20.00

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9002	1.445	.8458	.8112	1.147	.9115	.8743
#1	.8992	1.444	.8425	.8067	1.147	.9584	.8367
#2	.9012	1.447	.8491	.8156	1.147	.8646	.9120
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	1.460	1.000	1.000	1.000	1.000	1.000
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	11.49	.9725	1.152	3.143
#1	11.38	.9564	1.152	3.143
#2	11.61	.9885	1.152	3.142
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	12.00	1.000	1.000	2.700
Range	20.00	20.00	20.00	20.00

Method: WEYCOPPM Sample Name: CRII Operator: DAH
Run Time: 11/03/92 07:27:29
Comment: cri mg/l ~~sr09619~~ SR0961C Run #2
Mode: CONC Corr. Factor: 1 DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0098	.1177	-.0001	.0097	.0106	-.0042	.0213
#1	.0086	.1098	-.0002	.0097	.0086	-.0042	.0198
#2	.0111	.1256	.0000	.0097	Q.0126	-.0042	.0229
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value		.1200		.0100	.0100		.0200
Range		20.00		20.00	20.00		20.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0996	.0492	.0023	-.0455	.0470	.0070	.0286
#1	.0987	.0492	.0023	-.0704	.0504	-.0003	.0289
#2	.1004	.0492	.0024	-.0207	.0436	.0143	.0284
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value	.1000	.0500			.0400		.0300
Range	20.00	20.00			40.00		20.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm OK	ppm	ppm	ppm	ppm
Avge	.0774	-.9595	Q.0342 DAH 11-3-92	.0090	.0948	.0427	-.0009
#1	.0785	-1.023	Q.0340	.0035	.0945	.0430	-.0000
#2	.0763	-.8961	Q.0343	.0144	.0952	.0424	-.0019
Errors	QC Pass	NOCHECK	QC Fail	NOCHECK	QC Pass	QC Pass	NOCHECK
Value	.0800		~~.0200~~ 0.04		.1000	.0400	
Range	20.00		~~20.00~~ ~~40.0~~ 20.0		20.00	20.00	

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0001	.0000	.0022	.2071	-.0264	Q.0169
#1	.0000	-.0002	-.0016	-.0018	.1768	-.0252	Q.0011
#2	.0000	-.0000	.0017	.0062	.2375	-.0276	.0327
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Fail
Value					.2000		.0400
Range					40.00		40.00

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	-.0202	.0852	-.0076	-.0109
#1	-.0412	.0976	-.0109	-.0132
#2	.0008	.0727	-.0043	-.0086
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK
Value		.0800		
Range		40.00		

Method: WEYCOPPM Sample Name: PBW Operator: DAH
Run Time: 11/03/92 07:30:44
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~
Code: CONC Corr. Factor: 1

SR0961C Run #2
DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0091	.0088	.0969	.0000	-.0007	.0321	.0019
#1	.0070	.0136	.0972	.0000	-.0017	.0312	.0027
#2	.0113	.0039	.0966	.0000	.0004	.0330	.0011

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	-.0012	.0068	.0181	-.1065	.0040	.0128	-.0005
#1	-.0015	.0082	.0174	-.1314	.0054	.0137	-.0005
#2	-.0010	.0055	.0189	-.0816	.0025	.0120	-.0005

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	-2.743	-.0062	S5118.	-.0052	.0188	-.0033
#1	-.0077	-2.976	-.0062	S5118.	-.0059	.0195	-.0038
#2	.0077	-2.511	-.0062	S5118.	-.0045	.0182	-.0028

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0024	-.0003	.0222	.0174	-.0192	-.0057
#1	.0000	.0024	.0003	.0186	.0384	-.0181	-.0076
#2	.0000	.0024	-.0010	.0257	-.0037	-.0204	-.0038

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	-.0408	.0045	.0294	.0280
#1	-.0408	.0031	.0239	.0223
#2	-.0408	.0060	.0348	.0337

Method: WEYCOPPM Sample Name: TCLP SPIKE BLANK Operator: DAH
Run Time: 11/03/92 07:33:56
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~ SR09610 Run #2
Mode: CONC Corr. Factor: 1
DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.026	.4458	1.011 101%	.8840	.9006 90%	1.032	.9172 92%
#1	1.024	.4433	1.009	.8814	.8943	1.023	.9131
#2	1.029	.4483	1.012	.8866	.9070	1.040	.9213

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.8908	.9126	.9737	.9555	.9742 97%	1.031	.9019
#1	.8887	.9112	.9700	.9416	.9845	1.037	.8977
#2	.8928	.9139	.9774	.9695	.9640	1.024	.9061

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9552	4.227	.8413 84%	S5118.	.9153	4.511	1.065
#1	.9478	4.125	.8380	S5118.	.9132	4.491	1.063
#2	.9625	4.328	.8446	S5118.	.9174	4.531	1.067

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	.9200	.4317	.4165	.9813	.9725	.9967 100%
#1	.0000	.9184	.4317	.4072	.9786	.9195	.9777
#2	.0010	.9217	.4317	.4258	.9839	1.025	1.016

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	5.003	1.121 112%	1.000	.1163
#1	4.913	1.102	.9785	.1048
#2	5.093	1.139	1.022	.1277

Method: WEYCOPPM Sample Name: 95826 Operator: DAH
Run Time: 11/03/92 07:39:26
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~ SR09610 Run #2
Mode: CONC Corr. Factor: 1 DAH 11-3 92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4119	.0342	1.496	.0005	.0152	66.65	.0030
#1	.3950	.0290	1.501	.0004	.0140	66.33	.0031
#2	.4288	.0395	1.491	.0006	.0164	66.97	.0029

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0530	.2289	13.84	13.84	7.360	5.275	4.345
					Flunks		
#1	.0518	.2289	13.82	13.76	7.321	5.275	4.335
#2	.0541	.2289	13.85	13.91	7.399	5.275	4.355

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0481	5.799	-.0001	S5118.	.0014	21.54	.0066
#1	.0398	5.546	-.0012	S5118.	.0007	21.45	.0057
#2	.0563	6.053	.0010	S5118.	.0021	21.63	.0076

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0031	.4081	.0021	.0099	.0091	-.0158	.2819
#1	.0031	.4089	.0021	.0099	.0214	-.0279	.2922
#2	.0031	.4074	.0021	.0099	-.0031	-.0038	.2717

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.1582	.0321	.0929	27.62
#1	.1672	.0214	.0918	27.58
#2	.1491	.0428	.0940	27.66

Method: WEYCOPPM Sample Name: 95826D Operator: DAH 11-3-92
Run Time: 11/03/92 07:42:40
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~ SR09610 Run #2
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3984	.0421	1.520	.0006	.0171	66.92	.0028
#1	.3951	.0435	1.522	.0006	.0165	66.62	.0036
#2	.4018	.0407	1.517	.0006	.0178	67.22	.0021

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0557	.2234	13.95	13.94	7.389	5.332	4.375
					Flunks		
#1	.0557	.2234	13.93	13.90	7.357	5.345	4.366
#2	.0557	.2234	13.97	13.98	7.420	5.319	4.385

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0540	5.410	-.0017	S5118.	.0000	21.63	.0066
#1	.0519	5.165	-.0022	S5118.	-.0007	21.56	.0057
#2	.0560	5.656	-.0012	S5118.	.0007	21.71	.0076

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0025	.4142	-.0002	.0139	.0144	-.0315	.2731
#1	.0031	.4147	-.0006	.0152	.0496	-.0471	.2668
#2	.0020	.4137	.0001	.0126	-.0209	-.0158	.2794

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.1245	.0235	.0907	27.92
#1	.1486	.0246	.0940	27.88
#2	.1005	.0223	.0875	27.96

Method: WEYCOPPM Sample Name: 95826S Operator: DAH
Run Time: 11/03/92 07:45:54
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~ SR09610 Run #2
Mode: CONC Corr. Factor: 1 DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.411	.4787	2.405 91%	.8910	.9158 90%	68.39	.9065 91%
#1	1.403	.4842	2.409	.8896	.9086	67.93	.9011
#2	1.419	.4733	2.401	.8924	.9231	68.85	.9119

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.9404	1.118	14.89	15.02	8.386 103%	6.293	5.276
#1	.9333	1.121	14.84	14.91	8.334	6.260	5.253
#2	.9474	1.115	14.95	15.13	8.439	6.326	5.300

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.017	12.06	.8785 88%	S5118.	.9133	26.07	1.071
#1	1.002	11.78	.8765	S5118.	.9095	25.93	1.074
#2	1.032	12.33	.8806	S5118.	.9171	26.21	1.069

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0041	1.318	.4253	.4140	.9728	.9494	1.279 81%
#1	.0041	1.319	.4223	.4153	.9517	.9458	1.280
#2	.0041	1.318	.4282	.4127	.9939	.9531	1.279

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	5.361	1.088 106%	1.050	27.91
#1	5.325	1.080	1.044	27.80
#2	5.397	1.097	1.055	28.02

Method: WEYCOPPM   Sample Name: 95826L   .   Operator: DAH
Run Time: 11/03/92 07:51:21
Comment: Everett Emcon soils   mg/l in TCLP EXTRACT   ~~8109619~~ SRC9610 Run #2
Mode: CONC   Corr. Factor: 1   DAH 11-3 92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1047	.0059	.3187	.0002	.0038	14.46	.0022
#1	.1063	.0091	.3194	.0002	.0042	14.45	.0012
#2	.1030	.0026	.3181	.0002	.0034	14.48	.0031

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0132	.0496	3.025	3.041	1.618	1.130	.9433
#1	.0125	.0496	3.028	3.034	1.622	1.128	.9441
#2	.0139	.0496	3.023	3.048	1.615	1.132	.9426

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0072	.9595	.0009	284.4	.0014	4.739	.0024
#1	.0075	.8116	.0005	284.6	.0011	4.736	.0019
#2	.0070	1.107	.0014	284.2	.0018	4.741	.0028

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	.0872	-.0012	-.0027	.0189	-.0133	.0513
#1	.0010	.0873	-.0015	-.0022	.0071	-.0205	.0481
#2	.0010	.0871	-.0009	-.0031	.0307	-.0061	.0544

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.0454	.0114	.0424	6.160
#1	.0814	-.0010	.0402	6.168
#2	.0093	.0238	.0445	6.152

Method: WEYCOPPM Sample Name: 95827 Operator: DAH
Run Time: 11/03/92 07:55:41
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~ SR09610 Run #2
Mode: CONC Corr. Factor: 1

DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5376	.0537	2.563	.0003	.0240	96.09	.0035
#1	.5354	.0553	2.574	.0004	.0244	95.91	.0039
#2	.5397	.0520	2.552	.0002	.0237	96.27	.0031

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0326	.4911	10.43	10.49	7.390	4.831	4.490
					FlunKS		
#1	.0318	.4938	10.44	10.49	7.378	4.842	4.492
#2	.0334	.4884	10.42	10.50	7.402	4.821	4.489

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0357	5.478	.0023	S5118.	.0031	34.06	.0128
#1	.0340	5.208	.0012	S5118.	.0028	34.00	.0123
#2	.0374	5.749	.0034	S5118.	.0035	34.12	.0132

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0020	.4026	.0016	.0161	-.0008	.0103	.1276
#1	.0010	.4040	.0006	.0227	.0003	.0103	.1289
#2	.0031	.4011	.0026	.0094	-.0019	.0103	.1263

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.1714	.0493	.2232	32.80
#1	.1833	.0533	.2210	32.81
#2	.1595	.0453	.2254	32.78

Method: WEYCOPPM Sample Name: CCV2 Operator: DAH
Run Time: 11/03/92 07:58:54
Comment: ccv mg/l
Mode: CONC Corr. Factor: 1

~~SR09619~~
SR09616 Run #2
DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.108	4.935	.4812	.4797	.4824	5.098	.4891
#1	5.127	4.951	.4833	.4810	.4822	5.091	.4864
#2	5.088	4.919	.4790	.4783	.4826	5.105	.4919
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	5.000	.5000	.5000	.5000	5.000	.5000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.4859	.4760	10.11	10.56	5.065	74.95	.4836
#1	.4831	.4774	10.13	10.57	5.069	75.07	.4840
#2	.4887	.4746	10.09	10.55	5.060	74.83	.4833
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	.5000	10.00	10.00	5.000	75.00	.5000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.090	25.63	.4851	5.063	.4970	2.436	.4962
#1	5.061	25.67	.4850	5.121	.4977	2.434	.5009
#2	5.120	25.59	.4853	5.005	.4963	2.438	.4915
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	25.00	.5000	5.000	.5000	2.500	.5000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.890	.4826	4.892	4.827	5.187	5.056	5.000
#1	4.905	.4846	4.898	4.824	5.204	5.074	4.986
#2	4.875	.4807	4.886	4.830	5.169	5.038	5.015
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	.5000	5.000	5.000	5.000	5.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	25.95	5.250	5.089	25.61
#1	25.99	5.253	5.120	25.63
#2	25.91	5.247	5.057	25.60
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	25.00	5.000	5.000	25.00
Range	10.00	10.00	10.00	10.00

Method: WEYCOPPM Sample Name: CCB2 Operator: DAH
Run Time: 11/03/92 08:02:13
Comment: mg/l
Mode: CONC Corr. Factor: 1

~~sr09619~~ SR09610 Run 2
DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0026	.0138	.0001	.0001	-.0009	.0068	.0004
#1	.0064	.0188	.0000	.0002	-.0010	.0071	.0017
#2	-.0012	.0087	.0002	-.0000	-.0009	.0066	-.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0600	.1000	.0050	.0050	.5000	.0100
Low	-.0500	-.0600	-.1000	-.0050	-.0050	-.5000	-.0100

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	-.0010	.0000	.0009	.0676	.0005	-.0090	.0005
#1	-.0005	.0000	.0010	.0676	-.0052	-.0055	.0005
#2	-.0015	.0000	.0008	.0677	.0062	-.0125	.0005
Errors	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0500	.0200	.0300		.0205	.1000	.0100
Low	-.0500	-.0200	-.0300		-.0205	-.1000	-.0100

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0105	.7947	.0036	.0272	.0031	.0010	.0005
#1	-.0123	.9806	.0036	.0361	.0031	.0010	.0009
#2	-.0087	.6087	.0036	.0182	.0031	.0010	-.0000
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0400	2.000	.0100	1.000	.0100	.0050	.0500
Low	-.0400	-2.000	-.0100	-1.000	-.0100	-.0050	-.0500

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0002	-.0000	-.0018	-.0157	-.0132	-.0159
#1	.0000	.0002	-.0023	.0027	.0099	.0012	-.0102
#2	.0000	.0002	.0023	-.0062	-.0413	-.0277	-.0216
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.1000	.0100	.0100	.0300	.0948	.0500	.0219
Low	-.1000	-.0100	-.0100	-.0300	-.0948	-.0500	-.0219

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.0316	.0129	-.0065	.0177
#1	.0316	.0134	-.0065	.0063
#2	.0316	.0124	-.0065	.0292
Errors	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0357	.2000	.0470
Low	-.2000	-.0357	-.2000	-.0470

Method: WEYCOPPM Sample Name: 95828 Operator: DAH
Run Time: 11/03/92 08:05:30
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~ SR0961C Run #2
Mode: CONC Corr. Factor: 1 DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	48.19	.0608	.4366	.0148	.0062	S3776.	.0221
#1	48.05	.0663	.4353	.0149	.0047	S3776.	.0211
#2	48.33	.0553	.4379	.0148	.0077	S3776.	.0230

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0136	.1975	4.238	k4.190	1.180	34.45	.9629
#1	.0133	.1975	4.225	k4.215	1.172	34.35	.9607
#2	.0140	.1975	4.251	k4.164	1.189	34.54	.9652

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0284	-2.016	.0191	41.97	.0502	1.841	.0076
#1	.0311	-2.020	.0191	41.90	.0506	1.837	.0076
#2	.0256	-2.012	.0191	42.04	.0499	1.845	.0076

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1683	1.130	.0011	.0304	.0619	-.0218	.1288
#1	.1688	1.127	.0011	.0349	.0504	-.0062	.1334
#2	.1678	1.133	.0011	.0260	.0735	-.0375	.1243

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	1.386	-.0020	4.932	68.43
#1	1.387	-.0079	4.912	68.10
#2	1.386	.0039	4.953	68.77

Method: WEYCOPPM Sample Name: 95829 Operator: DAH
Run Time: 11/03/92 08:08:44
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~ SR09610 Rn #2
Mode: CONC Corr. Factor: 1 DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2741	.0237	.7599	.0002	.0009	26.91	.0034
#1	.2846	.0286	.7571	.0002	-.0013	26.76	.0046
#2	.2636	.0188	.7626	.0002	.0031	27.06	.0022

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0267	.0329	.3066	.3241	.3252	1.170	.5540
#1	.0273	.0329	.3061	.3241	.3350	1.170	.5507
#2	.0261	.0329	.3070	.3241	.3155	1.169	.5573

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0412	3.686	.0009	S5118.	.0019	.4695	.0014
#1	.0418	3.686	.0004	S5118.	.0015	.4680	.0009
#2	.0406	3.686	.0014	S5118.	.0022	.4709	.0019

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0020	.1616	-.0013	.0071	.0077	-.0180	.0238
#1	.0020	.1609	-.0016	.0125	.0417	.0036	.0275
#2	.0020	.1623	-.0010	.0018	-.0262	-.0397	.0200

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.0094	.0374	.1555	2.131
#1	.0184	.0268	.1523	2.135
#2	.0004	.0479	.1588	2.128

Method: WEYCOPPM Sample Name: 95832 Operator: DAH
Run Time: 11/03/92 08:11:56
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~109619~~ SR09610 Run #2
Mode: CONC Corr. Factor: 1 DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2183	.0171	.6648	-.0000	-.0006	14.28	.0038
#1	.2247	.0189	.6654	-.0000	-.0014	14.28	.0033
#2	.2120	.0152	.6641	-.0000	.0003	14.29	.0044

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0014	.0137	.1956	.2265	-.0018	5.178	.0440
#1	.0019	.0137	.1959	.2372	.0061	5.175	.0440
#2	.0009	.0137	.1954	.2158	-.0097	5.180	.0440

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0043	1.687	.0000	S5118.	.0020	.2532	.0024
#1	-.0089	1.539	-.0011	S5118.	.0017	.2530	.0019
#2	.0002	1.834	.0011	S5118.	.0024	.2534	.0028

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0036	.0683	-.0029	.0169	.0076	-.0241	.0203
#1	.0031	.0685	-.0036	.0195	.0226	-.0132	.0342
#2	.0041	.0682	-.0023	.0142	-.0074	-.0349	.0064

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.1348	.0039	.1848	1.409
#1	.1198	.0092	.1914	1.405
#2	.1498	-.0014	.1783	1.413

Method: WEYCOPPM Sample Name: 95833 Operator: DAH
Run Time: 11/03/92 08:15:10
ment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~ SR0961C Run #2
de: CONC Corr. Factor: 1 DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1886	.0163	.5275	.0002	.0007	167.3	.0053
#1	.1885	.0234	.5265	.0002	.0022	166.7	.0055
#2	.1886	.0092	.5284	.0002	-.0007	167.8	.0052

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0014	.0110	.0594	.2187	.0144	3.361	.1190
#1	.0021	.0110	.0594	.2189	.0159	3.357	.1185
#2	.0007	.0110	.0595	.2185	.0129	3.365	.1195

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0051	4.083	.0066	S5118.	.0089	.2865	.0052
#1	.0068	4.041	.0068	S5118.	.0082	.2865	.0057
#2	.0034	4.125	.0065	S5118.	.0096	.2865	.0047

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0020	.2601	.0000	.0102	.0340	-.0072	.0331
#1	.0020	.2593	-.0003	.0142	.0106	.0012	.0343
#2	.0020	.2608	.0003	.0062	.0573	-.0156	.0318

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.2403	-.0012	.2163	5.996
#1	.2493	-.0165	.2239	5.982
#2	.2313	.0141	.2087	6.009

Method: WEYCOPPM Sample Name: 95834 Operator: DAH
Run Time: 11/03/92 08:18:24
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~ SR09610 Run #2 DAH 11-3-92
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3478	.0074	.7561	.0003	.0009	11.75	.0075
#1	.3452	.0018	.7566	.0002	-.0010	11.73	.0078
#2	.3504	.0129	.7556	.0004	.0027	11.78	.0073

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0016	.0110	.3235	.4183	.0123	2.569	.0825
#1	.0005	.0110	.3231	.4114	.0045	2.560	.0820
#2	.0028	.0110	.3238	.4253	.0201	2.578	.0830

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0016	3.513	.0040	S5118.	.0055	.4234	.0066
#1	-.0002	3.272	.0040	S5118.	.0048	.4215	.0057
#2	-.0029	3.753	.0040	S5118.	.0062	.4254	.0076

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0066	.0548	-.0006	.0093	.0277	-.0024	-.0134
#1	.0061	.0549	-.0016	-.0053	.0217	-.0132	-.0096
#2	.0071	.0547	.0003	.0240	.0337	.0084	-.0172

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.0900	.0022	.2968	1.331
#1	.0900	.0022	.2957	1.318
#2	.0899	.0022	.2979	1.344

Method: WEYCOPPM Sample Name: 95835 Operator: DAH
Run Time: 11/03/92 08:21:38
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~sr09619~~ SRC9610 Run #2
Mode: CONC Corr. Factor: 1 DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3299	.0501	.8477	.0001	.0032	133.7	.0084
#1	.3317	.0520	.8475	-.0000	.0036	133.4	.0092
#2	.3282	.0481	.8480	.0002	.0028	133.9	.0076

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0120	.4651	.1264	.2185	.0391	2.030	.7610
#1	.0144	.4651	.1265	.2183	.0470	2.038	.7608
#2	.0095	.4651	.1263	.2186	.0313	2.021	.7611

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0171	3.618	.0037	S5118.	.0077	.7892	.0052
#1	.0237	3.627	.0036	S5118.	.0077	.7884	.0057
#2	.0106	3.610	.0039	S5118.	.0077	.7900	.0047

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0036	.2407	.0000	.0102	.0321	-.0293	.1108
#1	.0041	.2405	.0003	.0027	.0636	-.0257	.1108
#2	.0031	.2410	-.0003	.0177	.0006	-.0330	.1108

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.1671	-.0147	.2848	3.621
#1	.1596	-.0137	.2870	3.621
#2	.1747	-.0156	.2826	3.621

Method: WEYCOPPM Sample Name: 95836 Operator: DAH
Run Time: 11/03/92 08:27:09
Comment: Everett Emcon soils mg/l in TCLP EXTRACT ~~810961~~ SRC961C Run 2
Mode: CONC Corr. Factor: 1 DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2313	.0013	.5804	.0002	.0005	67.02	.0044
#1	.2237	-.0001	.5793	.0002	-.0003	66.98	.0054
#2	.2389	.0027	.5815	.0002	.0013	67.05	.0033

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0006	.0110	.0551	.0798	.0095	.9458	.1362
#1	-.0001	.0110	.0522	.0727	.0172	.9371	.1357
#2	.0014	.0110	.0580	.0868	.0017	.9546	.1367

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0052	.7355	-.0002	S5118.	.0016	4.482	.0028
#1	.0034	.6002	-.0011	S5118.	.0016	4.482	.0028
#2	.0070	.8707	.0008	S5118.	.0016	4.482	.0028

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	.1841	-.0023	.0106	.0261	-.0289	-.0146
#1	.0010	.1839	-.0023	.0124	.0499	-.0277	-.0101
#2	.0010	.1843	-.0023	.0089	.0024	-.0301	-.0190

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.0477	-.0031	.2098	.9447
#1	.0207	-.0166	.2109	.9395
#2	.0747	.0103	.2087	.9498

Source: ICF

Analysis Report QC Standard Tue 11-03-92 08:33:50 AM page 1

Method: WEYCOPPM Sample Name: ICSAF Operator: DAH
Run Time: 11/03/92 08:30:35
Comment: icsa(0590) mg/l
Mode: CONC Corr. Factor: 1

~~sr09619~~
SR09610 Run #2
DAH 11-3-92

OK

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	543.5	.0012	.0124	.0002	-.0068	503.2	.0058
#1	543.7	.0018	.0124	.0002	-.0075	502.4	.0065
#2	543.2	.0006	.0124	.0002	-.0060	504.0	.0052
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value	540.1					494.0	
Range	20.00					20.00	

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0005	.0150	189.3	193.2	-.0271	521.7	.0435
#1	.0005	.0136	189.1	192.8	-.0244	521.7	.0435
#2	.0004	.0164	189.4	193.6	-.0299	521.7	.0435
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value			206.2			531.4	
Range			20.00			20.00	

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0042	-1.048	.0196	2.151	.0116	.2802	.0033
#1	.0186	-1.099	.0194	2.139	.0116	.2796	.0028
#2	-.0101	-.9975	.0198	2.164	.0115	.2808	.0038
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0056	.4673	.0034	-.0245	.0339	-.0252	-.0065
#1	.0051	.4676	.0086	-.0196	.0446	-.0301	-.0045
#2	.0061	.4669	-.0019	-.0294	.0233	-.0204	-.0084
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	2.460	-.0003	.0282	.8400
#1	2.468	.0036	.0162	.8285
#2	2.452	-.0041	.0402	.8514
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value				
Range				

Section 15

Analysis Report QC Standard Tue 11-03-92 08:37:17 AM page 1

Method: WEYCOPPM Sample Name: ICSABF Operator: DAH
Run Time: 11/03/92 08:34:01
Comment: icsa(0590)icsab(1089) mg/l
Mode: CONC Corr. Factor: 1

~~sr09619~~ SR09610 Run #2 OK
DAH 11-3 92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	529.2	.9768	.4627	.4479	.8824	490.2	.4643
#1	530.9	.9828	.4649	.4492	.8849	489.5	.4624
#2	527.5	.9708	.4604	.4466	.8798	490.9	.4661
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	536.5	1.000	.5020	.4800	.9070	512.2	.5290
Range	20.00	20.00	20.00	20.00	20.00	29.00	20.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.4259	.5001	184.6	188.6	4.578	509.5	.4724
#1	.4249	.5001	184.7	188.6	4.557	511.0	.4729
#2	.4269	.5000	184.5	188.6	4.599	508.0	.4719
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value	.4770	.5430	199.8		4.724	527.5	.4960
Range	20.00	20.00	20.00		20.00	20.00	20.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.8753	9.570	.9161	12.32	.4543	1.218	1.032
#1	.8837	9.443	.9172	12.39	.4537	1.217	1.040
#2	.8668	9.697	.9150	12.26	.4549	1.218	1.025
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.9400	10.00	.9600	12.00	.5090	1.208	1.000
Range	20.00	50.00	20.00	20.00	20.00	20.00	20.00

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9053	1.445	.8745	.8392	1.090	.9524	.9475
#1	.9083	1.452	.8787	.8321	1.088	.9223	.9121
#2	.9022	1.438	.8702	.8463	1.092	.9824	.9830
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	1.460	1.000	1.000	1.000	1.000	1.000
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	12.05	.9848	1.146	Q3.264
#1	12.05	.9885	1.138	Q3.250
#2	12.05	.9811	1.154	Q3.277
Errors	QC Pass	QC Pass	QC Pass	QC Fail
Value	12.00	1.000	1.000	2.700
Range	20.00	20.00	20.00	20.00

0050

Method: WEYCOPPM Sample Name: CRIF Operator: DAH
Run Time: 11/03/92 08:40:53
Comment: mg/l
Mode: CONC Corr. Factor: 1

~~SR09619~~ SR09610 Run #2 DAH 11:342

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0151	.1181	.0000	.0097	.0099	.0408	.0189
#1	.0079	.1155	.0000	.0095	.0099	.0406	.0185
#2	.0223	.1207	.0000	.0099	.0099	.0411	.0193
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value		.1200		.0100	.0100		.0200
Range		20.00		20.00	20.00		20.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.0997	.0492	.0057	.1501	.0349	-.0035	.0301
#1	.0974	.0492	.0054	.1647	.0255	-.0183	.0299
#2	.1019	.0492	.0061	.1355	.0444	.0114	.0304
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value	.1000	.0500			.0400		.0300
Range	20.00	20.00			40.00		20.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0781	1.716	Q.0425	.0784	.1025	.0432	.0033
#1	.0727	1.708	Q.0429	.0765	.1021	.0431	.0028
#2	.0836	1.725	Q.0422	.0803	.1028	.0434	.0038
Errors	QC Pass	NOCHECK	QC Fail	NOCHECK	QC Pass	QC Pass	NOCHECK
Value	.0800		~~.0200~~ 0.04		.1000	.0400	
Range	20.00		20.00		20.00	20.00	

OK DAH 11:342

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0010	.0005	-.0006	-.0062	.1571	-.0132	Q.0117
#1	-.0010	.0005	-.0036	-.0035	.1415	-.0108	Q.0111
#2	-.0010	.0005	.0023	-.0089	.1727	-.0156	Q.0123
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Fail
Value					.2000		.0400
Range					40.00		40.00

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.0114	.0814	-.0163	.0446
#1	.0250	.0823	-.0174	.0531
#2	-.0022	.0804	-.0152	.0360
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK
Value		.0800		
Range		40.00		

Method: WEYCOPPM Sample Name: CCV3 Operator: DAH
Run Time: 11/03/92 08:44:23
Comment: mg/l
Mode: CONC Corr. Factor: 1

~~sr09619~~
SR9610 Run #2
DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.137	5.034	.4847	.4887	.4898	5.214	.4996
#1	5.122	5.040	.4836	.4881	.4897	5.213	.5007
#2	5.151	5.027	.4859	.4893	.4900	5.214	.4986
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	5.000	.5000	.5000	.5000	5.000	.5000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	.4938	.4774	10.28	10.82	5.181	75.72	.4927
#1	.4946	.4774	10.26	10.86	5.157	75.58	.4918
#2	.4929	.4774	10.30	10.79	5.204	75.86	.4936
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	.5000	10.00	10.00	5.000	75.00	.5000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.178	26.12	.4915	5.095	.5053	2.485	.4924
#1	5.158	26.14	.4926	5.071	.5039	2.480	.4896
#2	5.199	26.10	.4904	5.119	.5066	2.489	.4953
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	25.00	.5000	5.000	.5000	2.500	.5000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.964	.4869	4.963	4.901	5.152	5.116	5.122
#1	4.957	.4863	4.959	4.889	5.137	5.124	5.101
#2	4.971	.4875	4.967	4.912	5.167	5.107	5.142
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5.000	.5000	5.000	5.000	5.000	5.000	5.000
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	26.67	5.314	5.137	26.02
#1	26.74	5.340	5.118	26.01
#2	26.61	5.289	5.155	26.02
Errors	QC Pass	QC Pass	QC Pass	QC Pass
Value	25.00	5.000	5.000	25.00
Range	10.00	10.00	10.00	10.00

Analysis Report Blank Sample Tue 11-03-92 08:51:09 AM page 1

Method: WEYCOPPM Sample Name: CCB3 Operator: DAH

Run Time: 11/03/92 08:47:56

Comment: mg/l

Mode: CONC Corr. Factor: 1

~~SI09619~~ SRC9610 Run #2 DAH 11-3-92

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2288	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0051	.0077	.0000	-.0001	.0001	.0250	.0014
#1	.0038	.0071	.0000	-.0002	-.0002	.0241	.0002
#2	.0064	.0083	.0000	-.0000	.0004	.0260	.0026
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0500	.0600	.1000	.0050	.0050	.5000	.0100
Low	-.0500	-.0600	-.1000	-.0050	-.0050	-.5000	-.0100

Elem	Co2286	Cu3247	Fe2599	Fe2714	Pb2203	Mg3832	Mn2576
Units	ppm	ppm	ppm	PPB	ppm	ppm	ppm
Avge	-.0021	-.0014	.0080	.1176	-.0156	-.0026	.0010
#1	-.0034	-.0027	.0069	.1106	L-.0214	-.0166	.0010
#2	-.0009	.0000	.0090	.1245	-.0099	.0114	.0010
Errors	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass
High	.0500	.0200	.0300		.0205	.1000	.0100
Low	-.0500	-.0200	-.0300		-.0205	-.1000	-.0100

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0048	1.720	.0054	.0496	.0045	.0008	.0014
#1	-.0077	1.471	.0040	.0483	.0038	.0004	.0019
#2	-.0019	1.970	.0068	.0509	.0052	.0013	.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0400	2.000	.0100	1.000	.0100	.0050	.0500
Low	-.0400	-2.000	-.0100	-1.000	-.0100	-.0050	-.0500

Elem	Ti3349	Sr4215	Mo2020	Sn1899	Tl3775	Bi2230	As1936
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	.0005	-.0007	-.0089	-.0445	-.0060	-.0077
#1	-.0010	.0005	.0003	-.0044	-.0666	-.0060	-.0140
#2	.0000	.0005	-.0016	-.0133	-.0224	-.0060	-.0014
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.1000	.0100	.0100	.0300	.0948	.0500	.0219
Low	-.1000	-.0100	-.0100	-.0300	-.0948	-.0500	-.0219

Elem	P_2149	Se1960	B_2496	Si2881
Units	ppm	ppm	ppm	ppm
Avge	.0286	.0020	-.0065	H.0926
#1	.0316	.0183	-.0109	H.0703
#2	.0255	-.0142	-.0022	H.1149
Errors	LC Pass	LC Pass	LC Pass	LC High
High	.2000	.0357	.2000	.0470
Low	-.2000	-.0357	-.2000	-.0470

Cal to 9841

0053

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Client/Case:	Service Request Number 9610, 9745, 9531
Analysis for: Hg	Method Number 245.1,245.5 CLP-M

DATA energy 74 Prep. Date: 9-24-9

corr= 0.9998 m= 161.6 Prep. Time: 2000

Weyer. Sample No.	Client Sample No.	Aliquot (g, as is)	Final Vol. (ml) (Dil.)	Peak Height (mm)	µg	µg/L	Spike Level	Start Time
S0.00µg	S0.0ug/L		100	0				2200
S0.02µg	S0.2ug/L		100	4				22:01:45
S0.10µg	S1.0ug/L		100	12.5				22:03:30
S0.20µg	S2.0ug/L		100	32.5				22:05:15
S0.30µg	S3.0ug/L		100	50				22:07:15
S0.50µg	S5.0ug/L		100	81				22:09:30
ICV	ICV	50ML	100	37.5	0.228	2.28	2.5	22:11:15
ICB	ICB	100ML	100	0.5	<0.02	<0.2		22:13 45
CRA	CRA	100ML	100	4	0.021	0.21	0.2	22:15:15
PBW		100 ml	100	1	<0.02	<0.2		22:17:00
TCLP Blk			100	1				22:18:45
95826			100	1				22:20:15
95826·D			100	1				22:22:00
95826·S			100	19	0.113	1.13	1.0 113%	22:23.30
95827			100	1	<0.02	<0.2		22:25:15
95828			100	2				22:27:00
95829			100	1				22:28:45
95832			100	1				22:30.15
CCV			100	34.5	0.209	2.09	2.0 105%	22:32:00
CCB			100	1	<0.02	<0.2		22:33 45
95833			100	2				22:35.15
95834			100	1				22:37:00
95835			100	1				22:38:45
95836			100	1				22:40:15
PBS		100 ml	100	1				22:42:00
LCSS	as rec'd	0.0223	100	61	0.373	3.73	16.7 mg/kg	22:43:30
96615		2.036	100	6	0.033	0.33		22:45.30
96615·D		2.009	100	6	0.033	0.33		22:47:15
96615·S		2.052	100	21	0.126	1.26	1.0 93%	22:49:00
96616		2.007	100	7	0.039	0.39		22:51:00

COMMENTS LCSS=LCS0287 ICF Spiking Solution: 0.1 mg/L Hg

ICV=ICV5(0689) 1/100 ICF exp 1-20-93 Volume used: 1.0 ml

Conc. in digestate: 1.0 ug/L

Analyst	KCR	Date	9-25-92	NB Number	
Witness	MM	Date	11-5-92	Page Number	1 of 2

0.00 = 0.001 abs

0.50 = 0.072

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Client/Case:	Service Request Number 9610, 9745, 9531
Analysis for: Hg	Method Number 245.1,245.5 CLP-M

DATA

Prep. Date:

corr= m= Prep. Time:

Weyer. Sample No.	Client Sample No.	Aliquot (g, as is)	Final Vol. (ml) (Dil.)	Peak Height (mm)	µg	µg/L	Spike Level	Start Time
CCV		100 ml	100 ml	33.5	0.203	2.03	2.0 102%	22:52:30
CCB		↓		1	<0.02	<0.2		22 54 00
96617	as rec'd	2.037		5.5	0.030	0.30		22:55.45
96618		2.056		7	0.039	0.39		22 57: 30
96619		2.088		7	↓	↓		22:59:15
96620		2.170		5	0.027	0.27		23.01:00
96621		2.052		6.5	0.036	0.36		23 02:45
96622		2.073		10	0.058	0.58		23 04:15
96623		2.010		6.5	0.036	0.36		23 06.00
96624		2.047		8.5	0.048	0.48		23:08:00
96625		2.043		8.5	↓	↓		23 09:45
96626	↓	2.000		7	0.039	0.39		23 11:30
CCV		100 ml		32.5	0.197	1.97	2.0 98%	23.13:00
CCB		↓		1	<0.02	<0.2		23:14:45
96629	as rec'd	2.079		6.5	0.036	0.36		23 16 30
PBW		100 ml		1	<0.02	<0.2		23 18 15
95250		2 ml		35	0.212	106		23.19.45
95250.D		↓		35	↓	↓		23 21:30
95250.5		↓		49	0.299	149.5	50 87%	23 23 30
95251	↓	1 ml		55.5	0.339	339		23:25:15
CCV		100 ml		31.5	0.191	1.91	2.0 95%	23:27:15
CCB		↓	↓	1	<0.02	<0.2		23 29:15

Comments LCSS=LCS0287

ICV=ICV5(0689)1/100

Spiking Solution:

Volume used:

Conc. in digestate:

Analyst KCR	Date 9-25-92	NB Number
Witness	Date	Page Number 2 of 2

PERKIN-ELMER Chart No. [illegible]

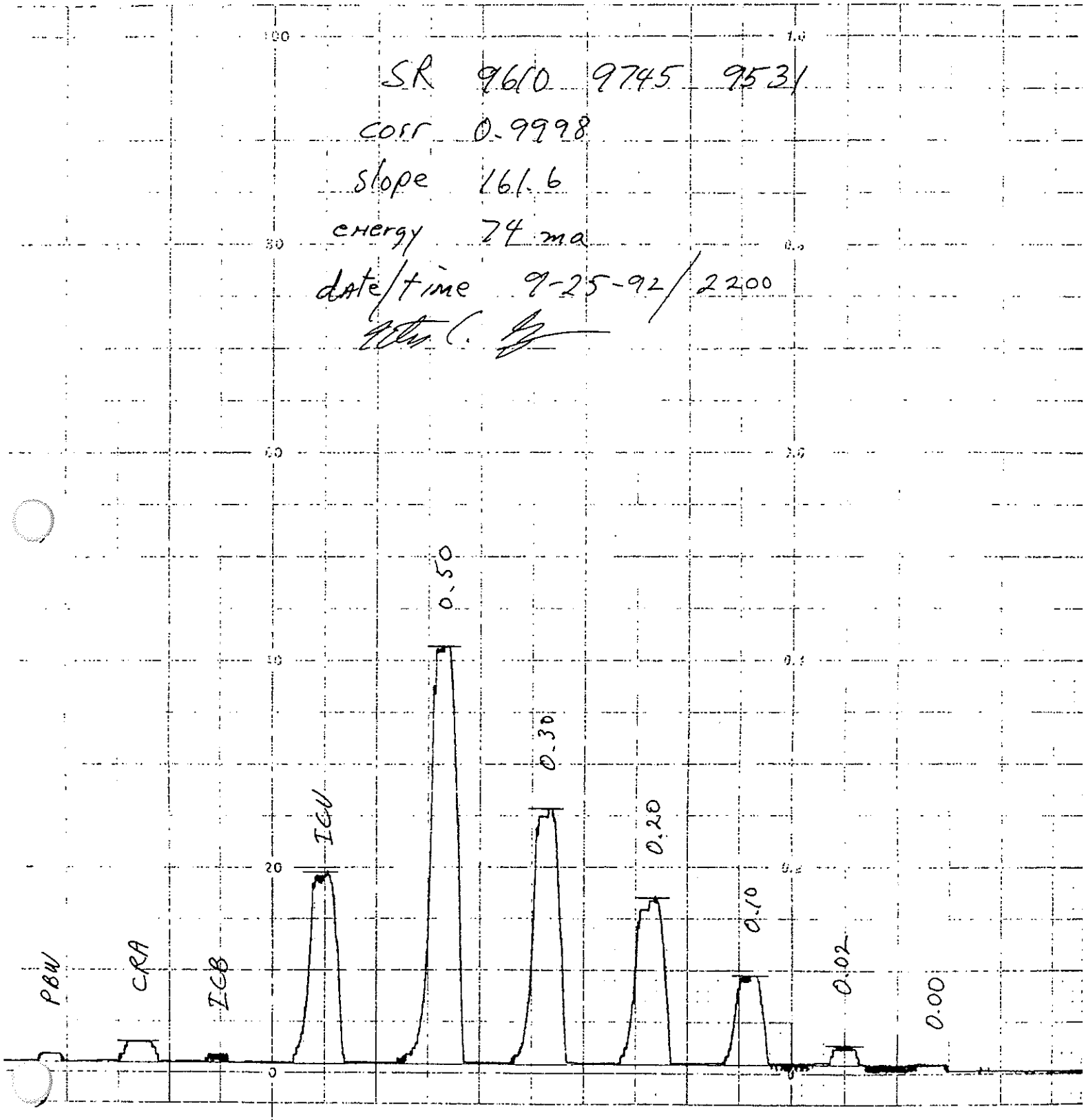
SR 9610 9745 9531

corr 0.9998

slope 161.6

energy 74 ma

date/time 9-25-92 / 2200



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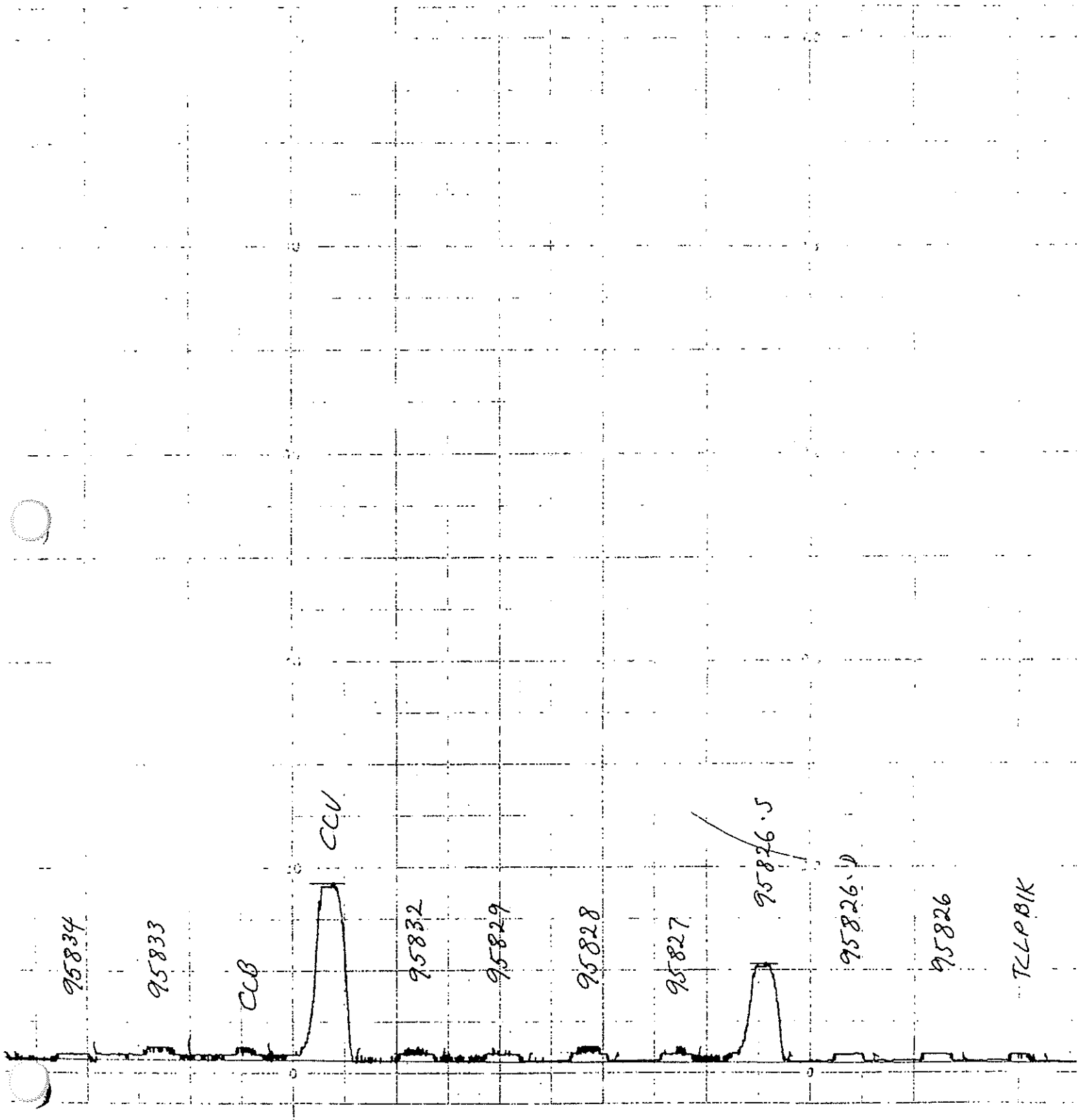
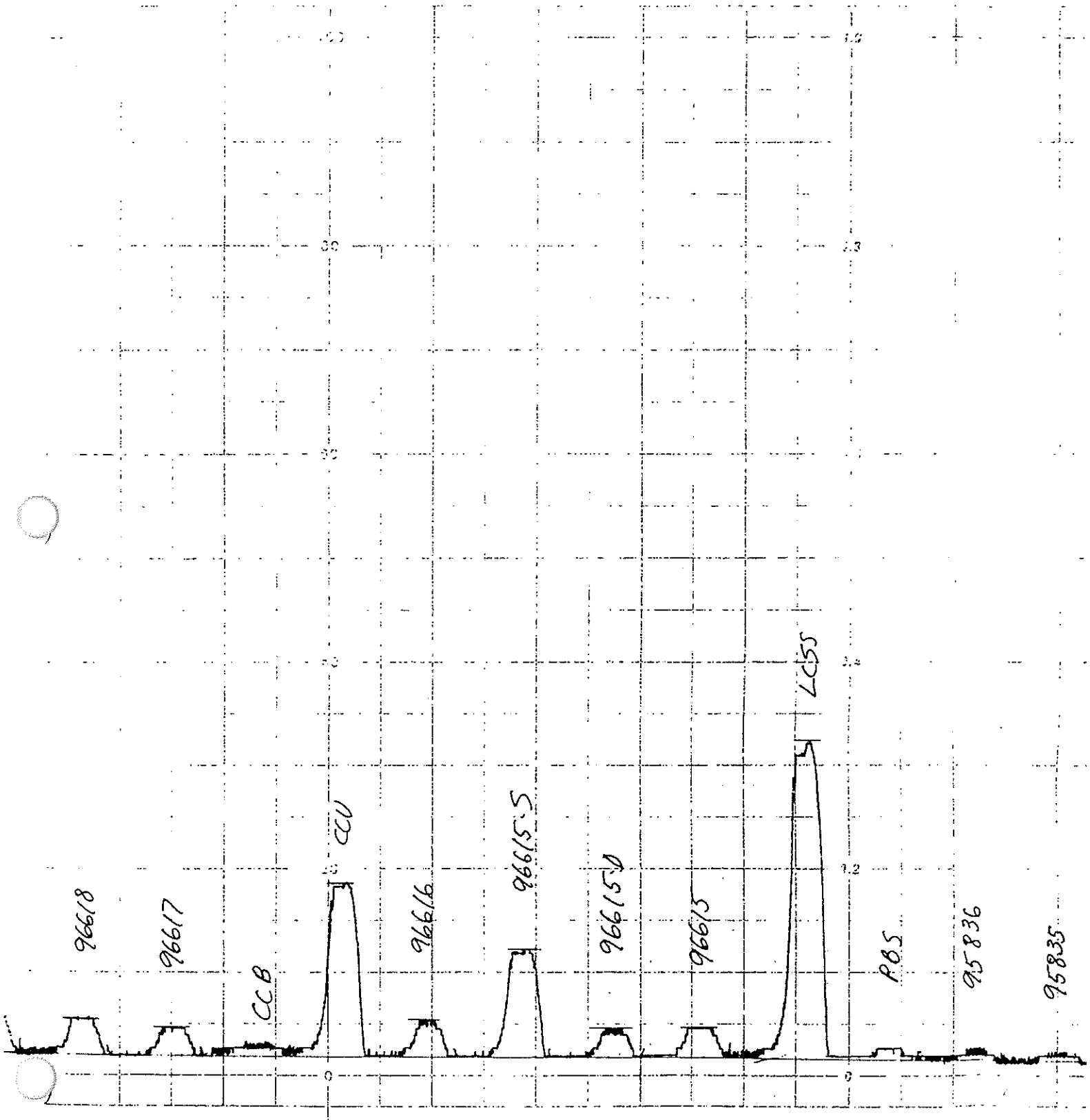
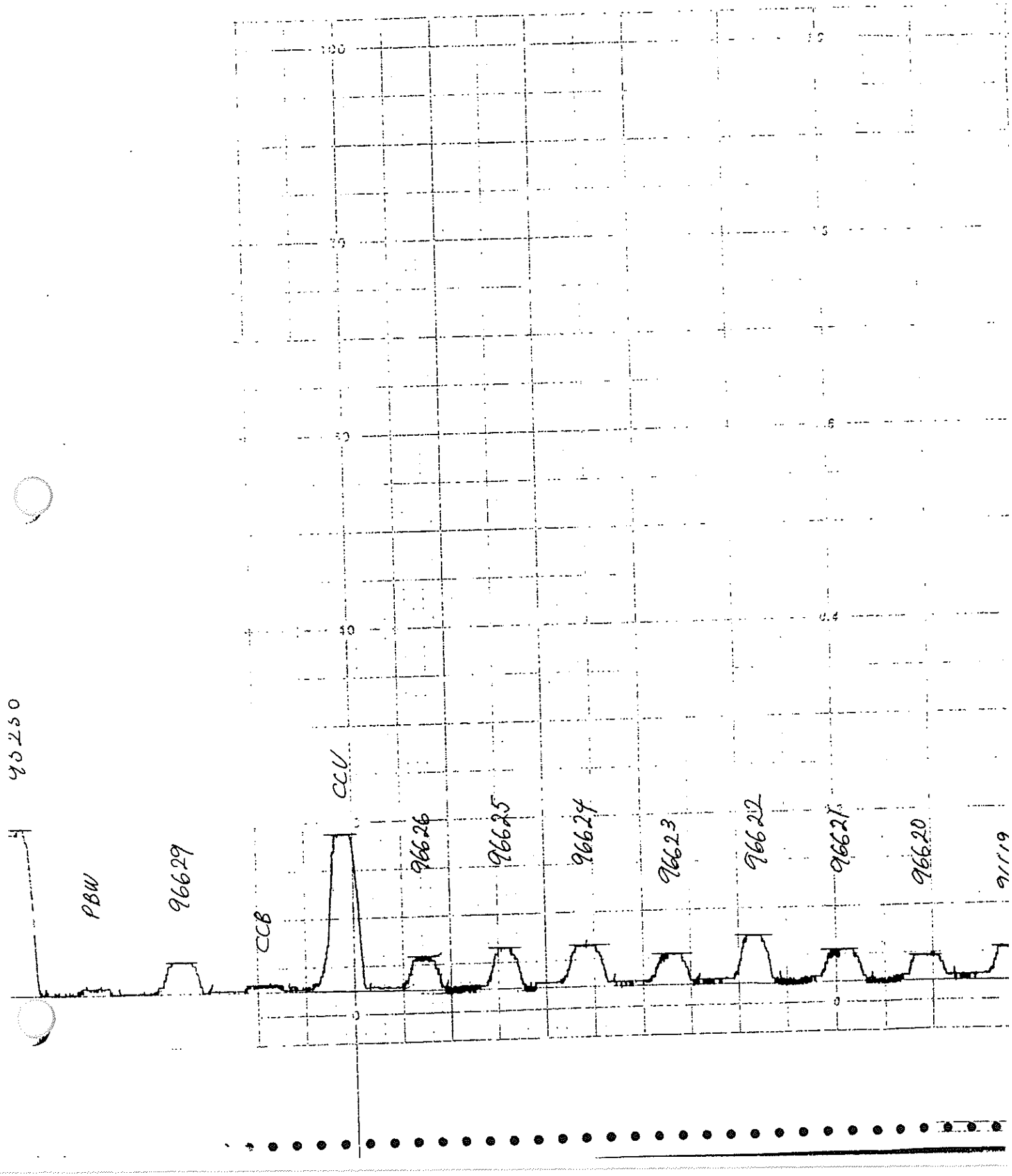
PERKIN-ELMER

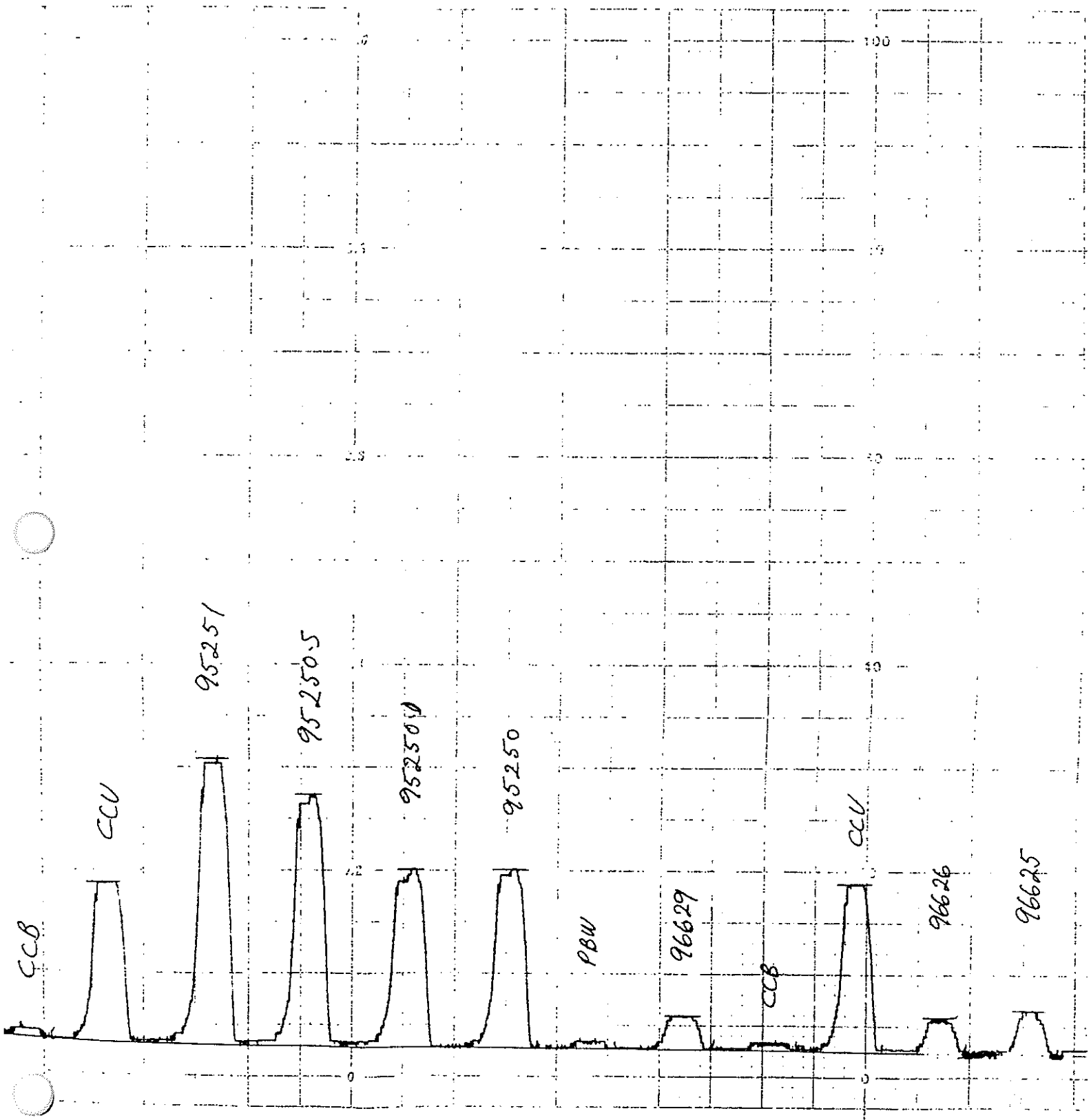


PERKIN-ELMER



PERKIN-ELMER




100
50
0
CCB
CCU
95251
95250.5
95250.0
95250
PBW
96629
CCB
CCU
96626
96625

Project No._____ WEYERHAEUSER CON

TITLE _____ Book No._____

From Page No.___

Date	element	SR#	# samples	high std abs	corr r	ICV ug/L	ref ID units	initials	Comments
25	Hg	9610	24	0.072	0.9998	2.28	LCSS 16.7 ug/kg	KCR	
↓	↓	9745	21	↓	↓	↓	↓	↓	↓
↓	↓	9531	7	↓	↓	↓	↓	↓	↓

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Witnessed & Understood by me, | Date | Invented by | Date

Recorded by

Cold Vapor + Flame STANDARDS

Project No.

Book No. 8815

Page No. / Date	Initials	Standards prepped: Analyte / concentration	Lot # stock	source stock	final matrix	how prepped / comments
-92	KCR	0.0, 0.02, 0.1, 0.2, 0.3, 0.5 ug/100 ml Hg	D30614	Baker	3.8% H_2SO_4 1.9% HNO_3	1/100 → 1/100 → 0.2 ml = 0.02 ug/L 1.0 ml = 1.0 ug/L etc
92	KCR	ICV-5 Hg	0689	ICF	"	→ 1/100 → 50 ml/(100 ml)
92	KCR	Hg / ICV-5	D30614 / 0689	Baker / ICF		Same as entry of 9-8-92
-92	KCR	Hg / ICV-5	D30614 / 0689	Baker / ICF		Same as entry of 9-8-92
-92	DTG	10 PPM ICV-2A (LOT#4-107AS)	4-107AS	SPEX	1% HNO_3	0.5 mls, 2000ppm ICV, 1ml HNO_3
-92	DTG	ICV-2A 1.0ppm K	↓	↓	5% HNO_3 + 5% HCl	5mls HNO_3 + 10mls HCl 10mls 10[illegible]
-92	DTG	ICV-2A 0.5ppm Na				+ 10mls 20000 mg/L Li: 5mls/10[illegible]
-92	KCR	Hg / ICV-5	D30614 / 0689	Baker / ICF		Same as entry of 9-8-92
-92	KCR	Hg / ICV-5	D30614 / 0689	Baker / ICF		Same as entry 9-8-92
-92	KCR	Hg / ICV-5	D30614 / 0689	Baker / ICF		Same as entry 9-8-92
-92	KCR	Hg / ICV-5	D30614 / 0689	Baker / ICF		Same as entry 9-8-92
-92	KCR	Hg / ICV-5	D30614 / 0689	Baker / ICF		Same as entry 9-8-92
-92	KCR	Hg / ICV-5	D30614 / 0689	Baker / ICF		Same as entry 9-8-92
-92	KCR	Hg / ICV-5	D30614 / 0689	Baker / ICF		Same as entry 9-8-92
3-92	DTG	0 ppm Na 5% HCl 2% HNO_3 2000 mg/L Li	6941-01	Baker	2000 mg/L Li 5% HCl 2% HNO_3	10mls 6N HCl, 2mls HNO_3, 10mls 20000 mg/L Li + 0 mls
		0.25ppm Na " " "	↓	↓	↓	↓ ↓ ↓ + 2.5mls
		0.50ppm Na " " "				+ 5.0 mL
		1.00ppm Na " " "				+ 10.0 ml
		ICV-2A (0.5ppm Na) " " "	4-107AS	SPEX		" " " + 5.0mls
2-92	KCR	ICV-5 / Hg	0689 / D30614	ICF / Baker		Same as entry 9-8-92
2-92	KCR	Hg / ICF	D30614 / 0689	Baker / ICF		Same as entry 9-8-92
4-92	KCR	Hg / ICF	D30614 / 0689	Baker / ICF		Same as entry 9-8-92

To Page No.

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Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by	

ANALYTICAL LABORATORY SERVICES REQUEST

Weyerhaeuser Research and Development - Analysis and Testing

Request Number: 09610

Title: EVERETT EMCON / PHASE II SOILS #120-2974670 - SANDBLAST AREA

Number of Samples: 9	Project Number: 046-5632	Groups: 3,6
Date Received: 09/03/92	Date Desired: 09/29/92	Estimated Completion Date: 09/29/92
Submitted By: NORTH, JOHN	Location: EMCON, NW	Telephone: 485-5000
Reviewed By: DOXSEE Kari	Location: 2F 25	Telephone: 924-6148
Project Title: WPC-EVERTT PULP	Project Leader: MIHOK	
Copy To:		

Sample Description and History:

** CLP DELIVERABLES ** CLP DELIVERABLES

Group	Series	Test Code	Test Description		
			Report Range	Report Basis	Lower Limit of Sensitivity
3	A	TCLP-EM	TCLP (Extraction and metals - Ag, As, Ba, Cd, Cr, Pb, Se, Hg) * IF TCLP FAILS RUN EP-TOX *		

Sample Number	Series to Be Evaluated	Submitter's Designation		
95826	A	TP-92-20,S-1	9/02 0910	09/03/92
95827	A	TP-92-21,S-1	9/02 1000	09/03/92
95828	A	TP-92-22,S-1	9/02 1030	09/03/92
95829	A	TP-92-23,S-1	9/02 1100	09/03/92
95832	A	TP-92-26-S-1	9/2 1245	09/03/92
95833	A	TP-92-27-S-1	9/2 1300	09/03/92
95834	A	TP-92-28-S-1	9/2 1315	09/03/92
95835	A	TP-92-29-S-1	9/2 1325	09/03/92
95836	A	TP-92-30-S-1	9/2 1343	09/03/92

0.016

0.061

0.0453

Reference: 9609			Record Book:
Results Approved:	Date:	Signature Applies To Attached Pages:	Page Numbers: To:

Printed on: 09/03/92 at 14:49:57

0050

Chain of Custody / Laboratory Analysis Request

EMCON Northwest, Inc.

DATE 2 Dec 92 PAGE 1 OF 1

PROJECT Everett Phase II, 0141037.26
CLIENT INFO. CONTACT John North
ADDRESS EMCON Bothell
TELEPHONE #
SAMPLERS NAME Jeffrey Swanson PHONE # 485-5000
SAMPLERS SIGNATURE

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K						NUMBER OF CONTAINERS
1. GRAB-1-1292	2 DEC 92	1416		Soil									X										1
2. GRAB-2-1292	"	1420		"									X										1
3. GRAB-3-1292	"	1430		"									X										1
4. GRAB-4-1292	"	1435		"									X										1
5. GRAB-5-1292	"	1440		"									X										1
6. GRAB-6-1292	"	1445		"									X										1
7.																							
8.																							

ANALYSIS REQUESTED — GENERAL CHEMISTRY (Specify) — OTHER (Specify)

Relinquished By EMCON Northwest, Inc.	Relinquished By	Relinquished By	PROJECT INFORMATION	SAMPLE RECEIPT
Signature: John North	Signature:	Signature:	Shipping I.D. No.:	Total No. of Containers:
Printed Name: John North	Printed Name:	Printed Name:	VIA:	Chain of Custody Seals:
Firm: EMCON	Firm:	Firm:	Project:	Received in good condition:
Date/Time: 12/3/92 0900	Date/Time:	Date/Time:		LAB NO.

Received By	Received By	Received By	SPECIAL INSTRUCTIONS/COMMENTS
Signature:	Signature:	Signature: Bobbie Foster	Metals: As, Ba, Cd, Cr, Pb, Ag, Hg, Se
Printed Name:	Printed Name:	Printed Name: Bobbie Foster	"Sand blast Shed"
Firm:	Firm:	Firm: Weyco	
Date/Time:	Date/Time:	Date/Time: 12-3-92 1330	

DISTRIBUTION: WHITE - return to originator; YELLOW: - lab; PINK - retained by originator.

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

SDG Number: MEK613
Service Request: 09441
Contract Number: 68-D2-0045

Samples from this service request were received on 08/17/92, 08/18/92 and 08/19/92. This case was comprised of soils for metals analysis. The requested analyses were as follows:

Sample ID	Matrix	Analysis Requested
MEK613 (SS-1,2,3)	SOIL	METALS
MEK614 (SS-4,5,6)	SOIL	METALS
MEK834 (SB SURF-1)	SOIL	METALS
MEK866 (TP-100)	SOIL	METALS
MEK867 (TP-101)	SOIL	METALS
MEK868 (TP-102)	SOIL	METALS
MEK869 (TP-103)	SOIL	METALS
MEK870 (TP-105)	SOIL	METALS
MEK871 (TP-104)	SOIL	METALS
MEK872 (SB SURF-2)	SOIL	METALS

EPA CLP Statement of Work ILMO2.0 was followed for the analysis of these samples. All data qualifiers and flags are as described in the SOW. Pb is reported by both ICP and GFAAS because some sample concentrations are greater than 5X the IDL which is ICP reportable and the remaining samples are analyzed by GFAAS. There are no other anomilies in this data package.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Karj H. Doxsee, Manager
Analytical Chemistry Laboratories

10-21-92
Date

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

SOW No.: ILM02.0

EPA Sample No.	Lab Sample ID.
MEK613	94613
MEK613D	94613D
MEK613S	94613S
MEK614	94614
MEK834	94834
MEK866	94866
MEK867	94867
MEK868	94868
MEK869	94869
MEK870	94870
MEK871	94871
MEK872	94872

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

DILUTIONS FOR AS AND PB ANALYSIS BY GFAAS DETERMINED FROM ICP DATA.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Kari Doxsee Name: Kari Doxsee

Date: 10-21-92 Title: Lab Mgr

U.S. EPA - CLP

EPA SAMPLE NO.

1A

INORGANIC ANALYSIS DATA SHEET

MEK613

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94613

Level (low/med): LOW Date Received: 08/17/92

% Solids: 91.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	14.8		N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	25.8		*	P
7440-48-4	Cobalt				NR
7440-50-8	Copper	60.2		N*	P
7439-89-6	Iron				NR
7439-92-1	Lead	60.5			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.08	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1b

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEK613

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94613

Level (low/med): LOW Date Received: 08/17/92

% Solids: 91.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				
7440-48-4	Cobalt				NR
7440-50-8	Copper				
7439-89-6	Iron				NR
7439-92-1	Lead	93.6		*	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts:

Comments:
THE ICP RESULT FOR PB IS HIGH ENOUGH TO BE REPORTABLE. THE RESULT FOR PB BY GFAAS ANALYSIS IS FOR QC PURPOSES ONLY.

U.S. EPA - CLP

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEK614

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94614

Level (low/med): LOW Date Received: 08/18/92

% Solids: 89.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	12.6		N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	28.7		*	P
7440-48-4	Cobalt				NR
7440-50-8	Copper	104		N*	P
7439-89-6	Iron				NR
7439-92-1	Lead	80.8			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1D

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEK834

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94834

Level (low/med): LOW Date Received: 08/19/92

% Solids: 99.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	4.7		N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	2930		*	P
7440-48-4	Cobalt				NR
7440-50-8	Copper	63.6		N*	P
7439-89-6	Iron				NR
7439-92-1	Lead	285			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.09			CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO.

1E

INORGANIC ANALYSIS DATA SHEET

MEK866

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94866

Level (low/med): LOW Date Received: 08/19/92

% Solids: 75.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	13.7		NS	F
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	37.4		*	P
7440-48-4	Cobalt				NR
7440-50-8	Copper	86.6		N*	P
7439-89-6	Iron				NR
7439-92-1	Lead	78.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO.

1F

INORGANIC ANALYSIS DATA SHEET

MEK867

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94867

Level (low/med): LOW Date Received: 08/19/92

% Solids: 87.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	9.4		N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	34.1		*	P
7440-48-4	Cobalt				NR
7440-50-8	Copper	26.9		N*	P
7439-89-6	Iron				NR
7439-92-1	Lead	25.8			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.08	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO.

1C

INORGANIC ANALYSIS DATA SHEET

MEK868

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94868

Level (low/med): LOW Date Received: 08/19/92

% Solids: 96.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	17.8		N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	21.3		*	P
7440-48-4	Cobalt				NR
7440-50-8	Copper	12.8		N*	P
7439-89-6	Iron				NR
7439-92-1	Lead	3.1		*	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.08	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: GREY Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO.

1H

INORGANIC ANALYSIS DATA SHEET

MEK869

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94869

Level (low/med): LOW Date Received: 08/19/92

% Solids: 71.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	21.0		N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	87.9		*	P
7440-48-4	Cobalt				NR
7440-50-8	Copper	29.1		N*	P
7439-89-6	Iron				NR
7439-92-1	Lead	39.0			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1I

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEK870

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94870

Level (low/med): LOW Date Received: 08/19/92

% Solids: 87.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	2.6	B	N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	28.2		*	P
7440-48-4	Cobalt				NR
7440-50-8	Copper	12.1		N*	P
7439-89-6	Iron				NR
7439-92-1	Lead	2.6		*	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEK871

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94871

Level (low/med): LOW Date Received: 08/19/92

% Solids: 91.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	2.3	B	N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	25.7		*	P
7440-48-4	Cobalt				NR
7440-50-8	Copper	11.6		N*	P
7439-89-6	Iron				NR
7439-92-1	Lead	2.0		*	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEK872

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Lab Sample ID: 94872

Level (low/med): LOW Date Received: 08/19/92

% Solids: 98.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	2.9		N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium	11.1		*	P
7440-48-4	Cobalt				NR
7440-50-8	Copper	53.4		N*	P
7439-89-6	Iron				NR
7439-92-1	Lead	67.0			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: WHITE Clarity Before: Texture: FINE

Color After: WHITE Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Initial Calibration Source: SPEX

Continuing Calibration Source: BAKER/IN.VEN

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic	50.0	51.70	103.4	35.0	35.80	102.3	35.60	101.7	F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium	400.0	413.56	103.4	500.0	512.20	102.4	515.05	103.0	P
Cobalt									NR
Copper	400.0	415.72	103.9	500.0	517.41	103.5	499.92	100.0	P
Iron									NR
Lead	1000.0	1061.17	106.1	5000.0	5210.00	104.2	5259.15	105.2	P
Magnesium									NR
Manganese									NR
Mercury	5.0	4.54	90.8	2.0	2.06	103.0	2.04	102.0	CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A(1)

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Initial Calibration Source:

Continuing Calibration Source: BAKER/IN.VEN

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				35.0	34.90	99.7	36.20	103.4	F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium				500.0	506.47	101.3	524.26	104.9	P
Cobalt									NR
Copper				500.0	483.86	96.8	495.56	99.1	P
Iron									NR
Lead				5000.0	5203.02	104.1	5297.03	105.9	P
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Initial Calibration Source: SPEX

Continuing Calibration Source: BAKER/IN.VEN

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic	50.0	53.70	107.4	35.0	37.30	106.6	37.90	108.3	F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									
Cobalt									NR
Copper									
Iron									NR
Lead	50.0	52.80	105.6	35.0	35.90	102.6	36.80	105.1	F
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A D

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Initial Calibration Source: SPEX

Continuing Calibration Source: BAKER/IN.VEN

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									
Cobalt									NR
Copper									
Iron									NR
Lead	50.0	53.80	107.6	35.0	36.10	103.1			F
Magnesium									NR
Manganese									NR
Mercury									
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2B A

CRDL STANDARD FOR AA AND ICP

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

AA CRDL Standard Source: BAKER

ICP CRDL Standard Source: BAKER

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic	10.0	10.10	101.0					
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium				20.0	24.27	121.4	23.26	116.3
Cobalt								
Copper				50.0	56.86	113.7	53.94	107.9
Iron								
Lead	3.0	2.90	96.7	40.0	62.34	155.8	40.87	102.2
Magnesium								
Manganese								
Mercury	0.2	0.21	105.0					
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

U.S. EPA - CLP

2B

CRDL STANDARD FOR AA AND ICP

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

AA CRDL Standard Source: BAKER

ICP CRDL Standard Source:

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic	10.0	10.70	107.0					
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	3.0	3.50	116.7					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

3A
BLANKS

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	1.5	U	1.5	U	1.5	U	1.5	U	0.150	U	F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium	4.0	U	4.0	U	4.0	U	4.0	U	0.400	U	P
Cobalt											NR
Copper	3.9	U	3.9	U	3.9	U	3.9	U	0.438	B	P
Iron											NR
Lead	27.7	U	27.7	U	27.7	U	27.7	U	2.770	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U			0.100	U	CV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

3B
BLANKS

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			1.5	U							F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium			4.0	U							P
Cobalt											NR
Copper			3.9	U							P
Iron											NR
Lead			27.7	U							P
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

3C
BLANKS

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	1.5	U	1.5	U	1.5	B					F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											
Cobalt											NR
Copper											
Iron											NR
Lead	0.5	U	0.5	U	0.5	U			0.070	B	F
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

3D
BLANKS

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prep-aration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											
Cobalt											NR
Copper											
Iron											NR
Lead	0.5	U	0.5	U							F
Magnesium											NR
Manganese											NR
Mercury											
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: ICAP61 ICS Source: EPA-LV

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium	21	529	6	477.4	90.2	15	480.2	90.8
Cobalt								
Copper		543	15	532.2	98.0	18	507.3	93.4
Iron								
Lead		4724	-7	4629.1	98.0	22	4694.0	99.4
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEK613S

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 91.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic	75-125	21.7534		14.8109		3.81	182.2	N	F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium	75-125	42.9623		25.7579		19.74	87.2		P
Cobalt									NR
Copper	75-125	91.1599		60.2381		24.67	125.3	N	P
Iron									NR
Lead	75-125	104.7990		60.4848		49.34	89.8		P
Magnesium									NR
Manganese									NR
Mercury	75-125	0.5228		0.0811	U	0.50	104.6		CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

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5A(6)

SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEK613S

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 91.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead		64.7650		93.5901		1.90	-1517.1		F
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

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5B

EPA SAMPLE NO.

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

U.S. EPA - CLP

6A
DUPLICATES

EPA SAMPLE NO.

MEK613D

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 91.3 % Solids for Duplicate: 90.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic		14.8109		16.2233		9.1		F
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium		25.7579		33.2795		25.5	*	P
Cobalt								NR
Copper		60.2381		83.8960		32.8	*	P
Iron								NR
Lead		60.4848		63.8315		5.4		P
Magnesium								NR
Manganese								NR
Mercury	0.1	0.0811	U	0.0913	U			CV
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								NR

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6b
DUPLICATES

EPA SAMPLE NO.

MEK613D

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 91.3 % Solids for Duplicate: 90.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								
Cobalt								NR
Copper								
Iron								NR
Lead		93.5901		66.1512		34.4	*	F
Magnesium								NR
Manganese								NR
Mercury								
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								NR

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7A

LABORATORY CONTROL SAMPLE

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Solid LCS Source: EPA-LV

Aqueous LCS Source:

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic				917.0	1048.0		635.0	1199.0	114.3
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium				99.6	89.0		79.2	120.0	89.4
Cobalt									
Copper				6910.0	6463.7		6006.0	7820.0	93.5
Iron									
Lead				236.0	216.4		188.0	285.0	91.7
Magnesium									
Manganese									
Mercury				12.7	11.9		8.5	17.0	93.7
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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7b

LABORATORY CONTROL SAMPLE

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Solid LCS Source: EPA-LV

Aqueous LCS Source:

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				236.0	258.0		188.0	285.0	109.3
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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8

STANDARD ADDITION RESULTS

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Concentration Units: ug/L

EPA Sample No.	An	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q
MEK866	AS	0.128	10.00	0.195	20.00	0.273	30.00	0.329	19.0	0.9982	

9

ICP SERIAL DILUTIONS

EPA SAMPLE NO.

MEK613L

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum							NR
Antimony							NR
Arsenic							F
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium	289.26		312.67		8.1		P
Cobalt							NR
Copper	676.47		739.70		9.3		P
Iron							NR
Lead	679.24		789.35		16.2		P
Magnesium							NR
Manganese							NR
Mercury							CV
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR

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10A

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: ICAP61 Date: 07/15/92

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium	267.72		10.0	4.0	P
Cobalt			50.0		
Copper	324.75		25.0	3.9	P
Iron			100.0		
Lead	220.35		3.0	27.7	P
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

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10B

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: Date: 07/15/92

Flame AA ID Number:

Furnace AA ID Number: PE5100

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.31	BZ	3.0	0.5	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

U.S. EPA - CLP

10C

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: Date: 07/15/92

Flame AA ID Number: PE5000

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			3.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury	253.70		0.2	0.2	CV
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

U.S. EPA - CLP

10D

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: Date: 07/15/92

Flame AA ID Number:

Furnace AA ID Number: PE3030

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic	193.76	BZ	10.0	1.1	F
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			3.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

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10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: Date: 07/15/92

Flame AA ID Number:

Furnace AA ID Number: PE5100B

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic	193.76	BZ	10.0	1.5	F
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			3.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

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11A

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: ICAP61 Date: 07/15/92

Analyte	Wave-length (nm)	Interelement Correction Factors for: Al	Ca	Fe	Mg	MN
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt						
Copper	324.75	0.0000000	0.0000000	-0.0001300	0.0000000	0.0000000
Iron						
Lead	220.35	0.0007460	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

Comments:

U.S. EPA - CLP

11B(A).

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: ICAP61 Date: 07/15/92

Analyte	Wave-length (nm)	Interelement Correction Factors for: V	CR	NI	CU	AS
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium	267.72	-0.0099000	0.0000000	-0.0009900	0.0000000	0.0000000
Cobalt						
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron						
Lead	220.35	0.0000000	-0.0009900	0.0000000	0.0000000	0.0000000
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

Comments:

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11B6

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: ICAP61 Date: 07/15/92

Analyte	Wave-length (nm)	Interelement Correction Factors for: ZN	NA	TI	CO	SI
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt						
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron						
Lead	220.35	0.0000000	0.0000000	0.0000000	-0.0257000	0.0000000
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

Comments:

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11B0

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: ICAP61 Date: 07/15/92

Analyte	Wavelength (nm)	Interelement Correction Factors for: SE	SN			
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium	267.72	0.0000000	0.0000000			
Cobalt						
Copper	324.75	0.0000000	0.0000000			
Iron						
Lead	220.35	0.0000000	0.0000000			
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

Comments:

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12

ICP LINEAR RANGES (QUARTERLY)

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

ICP ID Number: ICAP61 Date: 07/15/92

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum			NR
Antimony			NR
Arsenic			NR
Barium			NR
Beryllium			NR
Cadmium			NR
Calcium			NR
Chromium	5.00	100000.0	
Cobalt			NR
Copper	5.00	100000.0	
Iron			NR
Lead	5.00	300000.0	
Magnesium			NR
Manganese			NR
Mercury			NR
Nickel			NR
Potassium			NR
Selenium			NR
Silver			NR
Sodium			NR
Thallium			NR
Vanadium			NR
Zinc			NR

Comments:

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13A

PREPARATION LOG

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Method: CV

EPA Sample No.	Preparation Date	Weight (gram)	Volume (ml)
LCSS1	09/08/92	0.02	100
MEK613	09/08/92	0.27	100
MEK613D	09/08/92	0.24	100
MEK613S	09/08/92	0.22	100
MEK614	09/08/92	0.26	100
MEK834	09/08/92	0.23	100
MEK866	09/08/92	0.23	100
MEK867	09/08/92	0.29	100
MEK868	09/08/92	0.25	100
MEK869	09/08/92	0.30	100
MEK870	09/08/92	0.25	100
MEK871	09/08/92	0.22	100
MEK872	09/08/92	0.21	100
PBS1	09/08/92	0.20	100

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13B

PREPARATION LOG

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Method: F

EPA Sample No.	Preparation Date	Weight (gram)	Volume (ml)
LCSS1	10/02/92	0.50	100
LCSS2	10/02/92	0.50	100
MEK613	10/02/92	1.34	100
MEK613D	10/02/92	1.01	100
MEK613S	10/02/92	1.15	100
MEK614	10/02/92	1.34	100
MEK834	10/02/92	1.00	100
MEK866	10/02/92	1.46	100
MEK867	10/02/92	1.30	100
MEK868	10/02/92	1.34	100
MEK869	10/02/92	1.18	100
MEK870	10/02/92	1.47	100
MEK871	10/02/92	1.35	100
MEK872	10/02/92	1.22	100
PBS1	10/02/92	1.00	100
PBS2	10/02/92	1.00	100

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13C

PREPARATION LOG

Lab Name: WEYERHAEUSER COMPANY Contract: 68-D2-0045

Lab Code: WEYER Case No.: SAS No.: SDG No.: MEK613

Method: P

EPA Sample No.	Preparation Date	Weight (gram)	Volume (ml)
LCSS1	10/02/92	0.50	100
MEK613	10/02/92	1.23	100
MEK613D	10/02/92	1.18	100
MEK613S	10/02/92	1.11	100
MEK614	10/02/92	1.16	100
MEK834	10/02/92	1.48	100
MEK866	10/02/92	1.16	100
MEK867	10/02/92	1.38	100
MEK868	10/02/92	1.13	100
MEK869	10/02/92	1.26	100
MEK870	10/02/92	1.40	100
MEK871	10/02/92	1.48	100
MEK872	10/02/92	1.19	100
PBS1	10/02/92	1.00	100

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14A

ANALYSIS RUN LOG

Lab Name: WEYERHAEUSER COMPANY
Lab Code: WEYER Case No.:
Instrument ID Number: ICAP61
Start Date: 10/05/92

Contract: 68-D2-0045
SAS No.: SDG No.: MEK613
Method: P
End Date: 10/05/92

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1349									X		X		X											
S	1.00	1353													X											
S	1.00	1356																								
S	1.00	1400									X		X													
S	1.00	1403																								
ICV1	1.00	1407									X		X		X											
ICB1	1.00	1411									X		X		X											
CCV1	1.00	1414									X		X		X											
CCB1	1.00	1418									X		X		X											
ICSAI	1.00	1422									X		X		X											
ICSABI	1.00	1425									X		X		X											
[illegible]RII	1.00	1431									X		X		X											
[illegible]BS1	1.00	1435									X		X		X											
LCSS1	1.00	1438									X		X		X											
MEK613	1.00	1445									X		X		X											
MEK613D	1.00	1448									X		X		X											
MEK613S	1.00	1452									X		X		X											
MEK613L	5.00	1457									X		X		X											
CCV2	1.00	1500									X		X		X											
CCB2	1.00	1504									X		X		X											
MEK614	1.00	1507									X		X		X											
MEK834	1.00	1511																								
MEK866	1.00	1514									X		X		X											
MEK867	1.00	1520									X		X		X											
MEK868	1.00	1523									X		X													
MEK869	1.00	1527									X		X		X											
MEK870	1.00	1531									X		X													
MEK871	1.00	1534									X		X													
MEK872	1.00	1538									X		X		X											
MEK834	10.00	1541									X		X		X											
CCV3	1.00	1545									X		X		X											
CCB3	1.00	1548									X		X		X											

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ANALYSIS RUN LOG

Lab Name: WEYERHAEUSER COMPANY
Lab Code: WEYER Case No.:
Instrument ID Number: ICAP61
Start Date: 10/05/92

Contract: 68-D2-0045
SAS No.: SDG No.: MEK613
Method: P
End Date: 10/05/92

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ICSAF	1.00	1552									X		X		X												
ICSABF	1.00	1556									X		X		X												
CRIF	1.00	1602									X		X		X												
CCV4	1.00	1606									X		X		X												
CCB4	1.00	1610									X		X		X												

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14C

ANALYSIS RUN LOG

Lab Name: WEYERHAEUSER COMPANY
Lab Code: WEYER Case No.:
Instrument ID Number: PE5100B
Start Date: 10/08/92

Contract: 68-D2-0045
SAS No.: SDG No.: MEK613
Method: F
End Date: 10/09/92

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	2307				X																					
S10	1.00	2312				X																					
S35	1.00	2316				X																					
S75	1.00	2321				X																					
ICV1	1.00	2326				X																					
ICB1	1.00	2331				X																					
CRA1	1.00	2335				X																					
PBS1	1.00	2340				X																					
PBS1A	1.00	2345	108.0			X																					
LCSS1	200.00	2350				X																					
LCSSA	200.00	2354	106.5			X																					
MEK613	4.00	2359				X																					
MEK613A	4.00	0004	105.0			X																					
MEK613D	4.00	0008				X																					
MEK613DA	4.00	0013	105.0			X																					
MEK613S	4.00	0018				X																					
CCV1	1.00	0022				X																					
CCB1	1.00	0027				X																					
MEK614	4.00	0031				X																					
MEK614A	4.00	0036	110.0			X																					
MEK834	4.00	0040				X																					
MEK834A	4.00	0045	106.5			X																					
MEK866	4.00	0050																									
MEK866A	4.00	0054	75.0																								
MEK867	4.00	0059				X																					
MEK867A	4.00	0103	113.0			X																					
CCV2	1.00	0108				X																					
CCB2	1.00	0112				X																					
MEK868	4.00	0117																									
MEK868A	4.00	0121	111.5																								
MEK869	4.00	0126				X																					
MEK869A	4.00	0130	106.5			X																					

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14D

ANALYSIS RUN LOG

Lab Name: WEYERHAEUSER COMPANY
Lab Code: WEYER Case No.:
Instrument ID Number: PE5100B
Start Date: 10/08/92

Contract: 68-D2-0045
SAS No.: SDG No.: MEK613
Method: F
End Date: 10/09/92

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
MEK870	1.00	0135																												
MEK870A	1.00	0139	0.0																											
CCV3	1.00	0144				X																								
CCB3	1.00	0149				X																								
MEK871	1.00	0153																												
MEK871A	1.00	0158	0.0																											
MEK872	1.00	0202				X																								
MEK872A	1.00	0207	88.5			X																								
CCV4	1.00	0212				X																								
CCB4	1.00	0216				X																								

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14E

ANALYSIS RUN LOG

Lab Name: WEYERHAEUSER COMPANY
Lab Code: WEYER Case No.:
Instrument ID Number: PE3030
Start Date: 10/09/92

Contract: 68-D2-0045
SAS No.: SDG No.: MEK613
Method: F
End Date: 10/09/92

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	0928				X																					
S10	1.00	0933				X																					
S35	1.00	0938				X																					
S75	1.00	0943				X																					
ICV2	1.00	0948				X																					
ICB2	1.00	0953				X																					
CRA2	1.00	0958				X																					
MEK868	10.00	1003				X																					
MEK868A	10.00	1008	86.5			X																					
MEK870	10.00	1013				X																					
MEK870A	10.00	1018	97.0			X																					
MEK871	10.00	1023				X																					
MEK871A	10.00	1028	93.0			X																					
CCV5	1.00	1033				X																					
CCB5	1.00	1038				X																					
MEK8660	8.00	1043				X																					
MEK8661	8.00	1048				X																					
MEK8662	8.00	1053				X																					
MEK8663	8.00	1058				X																					
CCV6	1.00	1103				X																					
CCB6	1.00	1108				X																					

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14F

ANALYSIS RUN LOG

Lab Name: WEYERHAEUSER COMPANY
Lab Code: WEYER Case No.:
Instrument ID Number: PE5100
Start Date: 10/06/92

Contract: 68-D2-0045
SAS No.: SDG No.: MEK613
Method: F
End Date: 10/06/92

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1315													X											
S3	1.00	1319													X											
S35	1.00	1323													X											
S75	1.00	1327													X											
ICV2	1.00	1331													X											
ICB2	1.00	1335													X											
CRA1	1.00	1340													X											
PBS2	1.00	1344													X											
PBS2A	1.00	1348	103.0												X											
LCSS2	50.00	1352													X											
LCSSA	50.00	1356	103.0												X											
MEK613	20.00	1400																								
MEK613A	20.00	1404	91.5																							
MEK613D	20.00	1408													X											
MEK613DA	20.00	1413	101.0												X											
MEK613S	20.00	1416													X											
CCV5	1.00	1421													X											
CCB5	1.00	1424													X											
MEK868	2.00	1428													X											
MEK868A	2.00	1433	106.0												X											
MEK870	2.00	1437													X											
MEK870A	2.00	1441	107.0												X											
MEK871	2.00	1445													X											
MEK871A	2.00	1449	108.0												X											
CCV6	1.00	1453													X											
CCB6	1.00	1457													X											

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ANALYSIS RUN LOG

Lab Name: WEYERHAEUSER COMPANY
Lab Code: WEYER Case No.:
Instrument ID Number: PE5100
Start Date: 10/08/92

Contract: 68-D2-0045
SAS No.: SDG No.: MEK613
Method: F
End Date: 10/08/92

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	2017													X												
S3	1.00	2021													X												
S35	1.00	2025													X												
S75	1.00	2030													X												
ICV3	1.00	2034													X												
ICB3	1.00	2038													X												
CRA2	1.00	2042													X												
MEK613	50.00	2046													X												
MEK613A	50.00	2050	100.0												X												
CCV7	1.00	2054													X												
CCB7	1.00	2058													X												

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ANALYSIS RUN LOG

Lab Name: WEYERHAEUSER COMPANY
Lab Code: WEYER Case No.:
Instrument ID Number: PE5000
Start Date: 09/09/92

Contract: 68-D2-0045
SAS No.: SDG No.: MEK613
Method: CV
End Date: 09/10/92

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	2355																X									
S0.20	1.00	2356																X									
S1.00	1.00	2358																X									
S2.00	1.00	0000																X									
S3.00	1.00	0002																X									
S5.00	1.00	0004																X									
ICV1	2.00	0006																X									
ICB1	1.00	0008																X									
CRA1	1.00	0010																X									
PBS1	1.00	0011																X									
LCSS1	1.00	0013																X									
MEK613	1.00	0015																X									
MEK613D	1.00	0017																X									
MEK613S	1.00	0019																X									
MEK614	1.00	0020																X									
MEK834	1.00	0022																X									
MEK866	1.00	0024																X									
MEK867	1.00	0026																X									
CCV1	1.00	0028																X									
CCB1	1.00	0029																X									
MEK868	1.00	0031																X									
MEK869	1.00	0033																X									
MEK870	1.00	0034																X									
MEK871	1.00	0036																X									
MEK872	1.00	0038																X									
ZZZZZZ	1.00	0040																									
ZZZZZZ	1.00	0042																									
ZZZZZZ	1.00	0044																									
ZZZZZZ	1.00	0045																									
ZZZZZZ	1.00	0047																									
CCV2	1.00	0049																X									
CCB2	1.00	0051																X									

ADDED // SMALL FLOW MODEL

ANALYTICAL LABORATORY SERVICES REQUEST

Weyerhaeuser Research and Development – Analysis and Testing

Request Number: 09441

Title: EVERETT EMCON / PHASE II SOILS #120-2974670		
Number of Samples: 35	Project Number: 046-5632	Groups: 1,3,4,6
Date Received: 08/19/92	Date Desired: 09/16/92	Estimated Completion Date: 09/16/92
Submitted By: NORTH, JOHN	Location: EMCON, NW	Telephone: 485-5000
Reviewed By: DOXSEE Kari	Location: 2F 25	Telephone: 924-6148
Project Title: WPC-EVERTT PULP	Project Leader: MIHOK	
Copy To:		

Sample Description and History:

***CLP DELIVERABLES ** CLP DELIVERABLES *** EXTRACT & HOLD ON PCB & PENTA ON DESIGNATED (**) SAMPLES

Group	Series	Test Code	Test Description		
			Report Range	Report Basis	Lower Limit of Sensitivity
1	A	WTPH-D	TPH-DIESEL		
1	B	PCB-S	PCBs on solids by GC/EC		
1	C	PENTA-S	Pentachlorophenol (PCP) on solids by GC/ECD		
1	D	PCB-S	PCBs on solids by GC/EC **EXTRACT AND HOLD**		
1	E	PENTA-S	Pentachlorophenol (PCP) on solids by GC/ECD **EXTRACT AND HOLD**		
✓3	F	NOCODE/1	COMPOSITE SAMPLES **SEE MBL BEFORE COMPOSITING**		
✓3	G	GF-2	Graphite Furnace AAS Elements - 2 **AS, PB**		
✓3	H	ICP-1-2	ICP Elements - 1 or 2 **CR, CU**		
✓3	I	HG	Mercury Analysis		
✓4	J	PH-S	pH of soils		

Sample Number	Series to Be Evaluated	Submitter's Designation					
94607	F	SS-1	08/14	1200	SOIL	COMPOSITE WITH 94608 & 94609	08/17/92
94608	F	SS-2	08/14	1200	SOIL	COMPOSITE WITH 94607 & 94609	08/17/92

Reference: 9428			Record Book:
Results Approved:	Date:	Signature Applies To Attached Pages:	Page Numbers: To:

Printed on: 08/20/92 at 12:24:38

0055

ANALYTICAL LABORATORY SERVICES REQUEST

Weyerhaeuser Research and Development - Analysis and Testing

Request Number: 09441

Title: EVERETT EMCON / PHASE II SOILS #120-2974670

Sample Number	Series to Be Evaluated	Submitter's Designation	
94609	F	SS-3 08/14 1200 SOIL COMPOSITE WITH 94607 & 94608	08/17/92
94610	F	SS-4 08/14 1225 SOIL COMPOSITE WITH 94611 & 94612	08/18/92
94611	F	SS-5 08/14 1225 SOIL COMPOSITE WITH 94610 & 94612	08/18/92
94612	F	SS-6 08/14 1225 SOIL COMPOSITE WITH 94610 & 94611	08/18/92
94613	A GHI	COMPOSITE OF SS-1, SS-2 & SS-3	
94614	A GHI	COMPOSITE OF SS-4, SS-5 & SS-6	
94615	ABC	TP-97, S-1 08/14 1320 SOIL	08/17/92
94616	ABC	TP-97B S-1 08/17 0740 SOIL	08/17/92
94617	A DE	TP-97B S-2 08/17 0755 SOIL **	08/17/92
94618	ABC	TP-98 S-1 08/17 0822 SOIL	08/17/92
94619	A DE	TP-98 S-2 08/17 0840 SOIL **	08/18/92
94829	ABC	TP-99 S-1 08/18 0745 SOIL	08/19/92
94830	A DE	TP-99 S-2 08/18 0807 SOIL **	08/19/92
94831	F	TP-100 S-1 08/18 0838 SOIL COMPOSITE W/ 94832 & 94833	08/19/92
94832	F	TP-100 S-2 08/18 0852 SOIL COMPOSITE W/ 94831 & 94833	08/19/92
94833	F	TP-100 S-3 08/18 0854 SOIL COMPOSITE W/ 94831 & 94832	08/19/92
94834	A GHI	SB SURF-1 08/18 0905 SOIL	08/19/92
94835	F	TP-101 S-1 08/18 0923 SOIL COMPOSITE W/ 94858	08/19/92
94858	F	TP-101 S-2 08/18 0934 SOIL COMPOSITE W/ 94835	08/19/92
94859	F	TP-102 S-1 08/18 1035 SOIL COMPOSITE W/ 94860	08/19/92
94860	F	TP-102 S-2 08/18 1043 SOIL COMPOSITE W/ 94859	08/19/92
94861	F	TP-103 S-1 08/18 1115 SOIL COMPOSITE W/ 94862 & 94863	08/19/92
94862	F	TP-103 S-2 08/18 1125 SOIL COMPOSITE W/ 94861 & 94863	08/19/92
94863	F	TP-103 S-3 08/18 1130 SOIL COMPOSITE W/ 94861 & 94862	08/19/92
94864	F	TP-105 S-1 08/18 1255 SOIL COMPOSITE W/ 94865	08/19/92
94865	F	TP-105 S-2 08/18 1308 SOIL COMPOSITE W/ 94864	08/19/92
94866	A GHI	COMPOSITE OF TP-100 S-1, S-2, S-3	08/19/92
94867	A GHI	COMPOSITE OF TP-101 S-1, S-2	08/19/92
94868	A GHI	COMPOSITE OF TP-102 S-1, S-2	08/19/92
94869	A GHI	COMPOSITE OF TP-103 S-1, S-2, S-3	08/19/92
94870	A GHI	COMPOSITE OF TP-105 S-1, S-2	08/19/92
94871	A GHI	TP-104 S-1 08/18 1158 SOIL	08/19/92
94872	A GHI	SB SURF-2 08/18 1246 SOIL	08/19/92

EMCON Northwest, Inc.

Chain of Custody / Laboratory Analysis Request

DATE 8-18-92 PAGE 1 OF ~~1~~

PROJECT Weyco- Evt, ~~Sand Blast~~ ~~Frost Hwy~~ Phase II # 541-37.25

CLIENT INFO. CONTACT John North

ADDRESS EMCON NW

TELEPHONE # 485-5000

SAMPLERS NAME Brian S. Carl PHONE # 485-5000

SAMPLERS SIGNATURE Brian S Carl

ANALYSIS REQUESTED — GENERAL CHEMISTRY (Specify) — OTHER (Specify)

NO TCLP per J North 8/20 BC

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/(TCLP METALS) (Circle One)	(METALS (TOTAL)) (See Special Inst.)	TCLP ORGANICS	pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K	WTPH-D	PCB's	Pentachlorophenol	NUMBER OF CONTAINERS
1. TP-99, S-1	8-18	0745		Soil														X	X	X	1
① 2. TP-99, S-2	8-18	0807		↓														X			1
3. TP-100, S-1	8-18	0838	composite	↓								X	X					X			1
4. TP-100, S-2	8-18	0852	composite	↓								X	X					X			1
5. TP-100, S-3	8-18	0854	composite	↓								X	X					X			1
6. SBSurf-1	8-18	0905		↓								X	X					X			1
7. TP-101, S-1	8-18	0923	composite	↓								X	X					X			1
8. TP-101, S-2	8-18	0934	composite	↓								X	X					X			1

Relinquished By EMCON Northwest, Inc.
Signature: Brian S Carl
Printed Name: Brian S. Carl
Firm: EMCON NW
Date/Time: 8-18-92 1600

Relinquished By
Signature
Printed Name
Firm
Date/Time

Relinquished By
Signature
Printed Name
Firm
Date/Time

PROJECT INFORMATION
Shipping I.D. No.
VIA
Project

SAMPLE RECEIPT
Total No. of Containers
Chain of Custody Seals
Received in good condition
LAB NO.

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature
Printed Name
Firm
Date/Time

Received By
Signature: Bonnie Chappel
Printed Name: BONNIE CHAPPEL
Firm: Weyco
Date/Time: 8/18/92 1600

SPECIAL INSTRUCTIONS/COMMENTS
Prepare extracts for PCB's, pentachlorophenol but do not analyze (hold for possible later analysis

Weyco P.O. # 120-2974670

EMCON Northwest, Inc.

Chain of Custody / Laboratory Analysis Request

Phase II

DATE 8-18-92 PAGE 1 OF ~~X~~

PROJECT Weyco-Ext, ~~Sandblast~~ # 541-37.25

CLIENT INFO. CONTACT John North

ADDRESS EMCON NW

TELEPHONE # 485-5000

SAMPLERS NAME Brian S. Carl PHONE # 485-5000

SAMPLERS SIGNATURE Brian S Carl

ANALYSIS REQUESTED

GENERAL CHEMISTRY (Specify)

OTHER (Specify)

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One) No TCLP per Norb 8/20	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	pH. COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K	WTPH-D	PCB's	Pentachlorophenol	—			NUMBER OF CONTAINERS
1. TP-102, S-1	8-18	1035	composite	soil								X	X					X						1
(*) 2. TP-102, S-2	8-18	1043										X	X					X						1
3. TP-103, S-1	8-18	1115										X	X					X						1
4. TP-103, S-2	8-18	1125	composite									X	X					X						1
5. TP-103, S-3	8-18	1130										X	X					X						1
6. TP-104, S-1	8-18	1158										X	X					X						1
7. TP-105, S-1	8-18	1255	composite									X	X					X						1
8. TP-105, S-2	8-18	1308										X	X					X						1

Relinquished By EMCON Northwest, Inc.	Relinquished By	Relinquished By	PROJECT INFORMATION	SAMPLE RECEIPT
Signature: Brian S Carl	Signature:	Signature:	Shipping I.D. No.:	Total No. of Containers:
Printed Name: Brian S. Carl	Printed Name:	Printed Name:	VIA:	Chain of Custody Seals:
Firm: EMCON NW	Firm:	Firm:	Project:	Received in good condition:
Date/Time: 8-18-92 1600	Date/Time:	Date/Time:		LAB NO.:

Received By	Received By	Received By	SPECIAL INSTRUCTIONS/COMMENTS
Signature:	Signature:	Signature: Bonnie Chappel	(*) Sample rec'd is labelled TP-102, S-1 ~~8/18~~ @ 1045 on jar TP-102, S-2 on lid
Printed Name:	Printed Name:	Printed Name: BONNIE CHAPPEL	go with info on lid & COC
Firm:	Firm:	Firm: Weyco	per North, 8/20
Date/Time:	Date/Time:	Date/Time: 8/19/92 1600	

DISTRIBUTION: WHITE - return to originator; YELLOW: - lab; PINK - retained by originator.

EMCON Northwest, Inc.

Chain of Custody / Laboratory Analysis Request

DATE 8-18-92 PAGE 3 OF 3

PROJECT Weyco-Eut, ~~Sandblast~~, 541-37.025 (Phase II)
CLIENT INFO. CONTACT John North
ADDRESS EMCON NW
TELEPHONE # 485-5000
SAMPLERS NAME Brian S. Carl PHONE 485-5000
SAMPLERS SIGNATURE Brian S Carl

NO TCLP per J North 8/20

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEU/ACID ORGAN. GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	pH, COND ALK	NO_3/NO_2, Cl SO_4	Ca, Mg, Na, K	WTPH-D	NUMBER OF CONTAINERS
1. SBSurf-2	8-18	1246		soil?								X	X		X			X	1
2.																			
3.																			
4.																			
5.																			
6.																			
7.																			
8.																			

ANALYSIS REQUESTED — GENERAL CHEMISTRY (Specify) — OTHER (Specify)

Relinquished By EMCON Northwest, Inc.
Signature: Brian S Carl
Printed Name: Brian S. Carl
Firm: EMCON NW
Date/Time: 8-19-92 1600

Relinquished By
Signature
Printed Name
Firm
Date/Time

Relinquished By
Signature
Printed Name
Firm
Date/Time

PROJECT INFORMATION
Shipping I.D. No.
VIA
Project

SAMPLE RECEIPT
Total No. of Containers
Chain of Custody Seals
Received in good condition
LAB NO.

Received By
Signature
Printed Name
Firm

Received By
Signature
Printed Name
Firm

Received By
Signature: Bonnie Chappel
Printed Name: BONNIE CHAPPEL
Firm: Weyco
Date/Time: 8/19/92 1600

SPECIAL INSTRUCTIONS/COMMENTS

0059

MEK613

ASE

ASE # EMWH

Weyerhaeuser Company

Analytical Laboratories
Tacoma, Washington

Form 1

Request # 9441

EPA Samp. No.	Matrix	Level	% Solids	Date Rec'd	Color Before	Color After	Clarity Before	Clarity After	Texture
MEK613	S	L	91.26	~~8/17~~ 8/17	Brown	Brown			Medium
MEK614	↓	↓	89.43	8/18	↓	↓			↓
MEK834			99.51	8/19	grey	grey			
MEK8616			75.84		Brown	Brown			
MEK8617			87.07		↓	↓			
MEK8618			96.74		grey	grey			
MEK8619			71.66		Brown	Brown			
MEK870			87.28		↓	↓			
MEK871			91.89		↓	↓			↓
MEK872	↓	↓	98.84	↓	White.	White			fine.

10-02-92

Notes/Comments: (Include sample# and artifacts present.)

MATRIX - Water (W), Soil (S)
LEVEL - Low (L), Medium (M)
COLOR - Red, blue, yellow, green, orange, violet, white, colorless, brown, grey, black
CLARITY - Clear, cloudy, opaque
TEXTURE - Fine (powdery), medium (sand), coarse (large crystals or rocks)
ARTIFACTS - Any man-made materials present

0060

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

SDG# MEK613

SAMPLE NUMBER(S)	SERVICE REQUEST NUMBER
	9441
ANALYSIS FOR	METHOD NUMBER
	Compositing

DATA

New Composite #	Sample # A	Amount Sample A	Sample # B	Amount Sample B	Sample # C	Amount Sample C
94613	94610	100g	94611	100g	94612	100g
94614	94607	100g	94608	100g	94609	100g
94666	94831	100g	94832	100g	94833	100g
94867	94835	150g	94858	150g		
94868	94859	150g	94860	150g		
94869	94861	100g	94862	100g	94863	100g
94870	94864	150g	94865	150g		

Comments: Composited equal portions from the homogeneous sample into 800 ml beakers R.C.

ANALYST	DATE	NB NUMBER
Ryan Capps	8/28	
WITNESS	DATE	PAGE NUMBER
MBL	10-30-97	0061

VG 11/0611

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Client/Case # MEK613 | Service Req. Number / SDG# 94411
Analysis for: GFAAS METALS | Method Number: CLP SOIL DIGEST 3050

DATA

Sample Number	Client Sample Number	Aliquot (g, as rec'd)	Final Dilution (ml)	Matrix	Comments
PBS	PBS	———	100ml	2% HNO3	
LCSS	LCSS	0.503 g			
94613	MEK613	1.340 g			
94613 D	MEK613D	1.008 g			
94613 S	MEK613S	1.147 g			
94614	MEK614	1.345 g			
94834	MEK834	1.005 g			
948616	MEK8616	1.458 g			
94867	MEK867	1.298 g			
94868	MEK868	1.342 g			
94869	MEK869	1.175 g			
94870	MEK870	1.473 g			
94871	MEK871	1.347 g			
94872	MEK872	1.219 g			
		10-02-92			

Comments: LCSS=(0287) ICF

Analyst Sherry Lee Date 10-02-92
Witness MPK Date 10-20-92
NB Number Time: 12:00
Page Number 0062

ANALYTICAL WORKSHEET

Weyerhaeuser Company
Analytical Laboratories
Tacoma, Washington

Client/Case # MEK613	Service Req. Number / SDG# 9441
Analysis for: ICP METALS	Method Number: CLP SOIL DIGEST 3050

DATA

Sample Number	Client Sample Number	Aliquot (g, as rec'd)	Final Dilution (ml)	Matrix	Comments
PBS	PBS	—	100 ml	5% HNO3, 2.5% HCl	
LCSS	LCSS	0.501 g			
94613	MEK613	1.227 g			
94613D	MEK613D	1.182 g			
94613S	MEK613S	1.113 g			
94614	MEK614	1.159 g			
94834	MEK834	1.485 g			
94866	MEK866	1.162 g			
94867	MEK867	1.377 g			
94868	MEK868	1.131 g			
94869	MEK869	1.251 g			
94870	MEK870	1.3960 g			
94871	MEK871	1.482 g			
94872	MEK872	1.193 g			

10-02-92 SW

Comments: LCSS= (0287) ICF

Analyst Sherry Wen Date 10-02-92 NB Number Time: 12:00

Witness MBL Date 10-20-92 Page Number 0063

ATTACHMENT E

WORK PLAN FOR
EVERETT WEST SITE - PHASE 1 ASSESSMENT
MAY 21, 1993

WORK PLAN

FOR EVERETT WEST SITE
PHASE 1 ASSESSMENT

Prepared for

Weyerhaeuser Company

May 21, 1993

Prepared by

EMCON Northwest, Inc.
18912 North Creek Parkway, Suite 110
Bothell, Washington 98011-8016

Project 0141-037.63

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1 INTRODUCTION

1.1 Purpose

This work plan describes activities that will be conducted as part of an independent remedial action under the Model Toxics Control Act (MTCA), Chapter WAC 173-340, at the Weyerhaeuser Everett West site. EMCON Northwest, Inc. (EMCON), is conducting this work on behalf of the Weyerhaeuser Company. The objective is to determine the extent of soil and groundwater contamination at the areas of concern identified by the state of Washington Department of Ecology (Ecology), by reviews of records, and by interviews of former and current employees.

The purposes of this work plan are to (1) define the scope of work, (2) provide guidance for field sampling activities, (3) identify quality assurance (QA) procedures that will be implemented during sampling activities and laboratory analyses, and (4) fulfill the MTCA requirements (WAC 173-340-820) that pertain to documentation of sampling and analysis, QA/QC, and health and safety procedures.

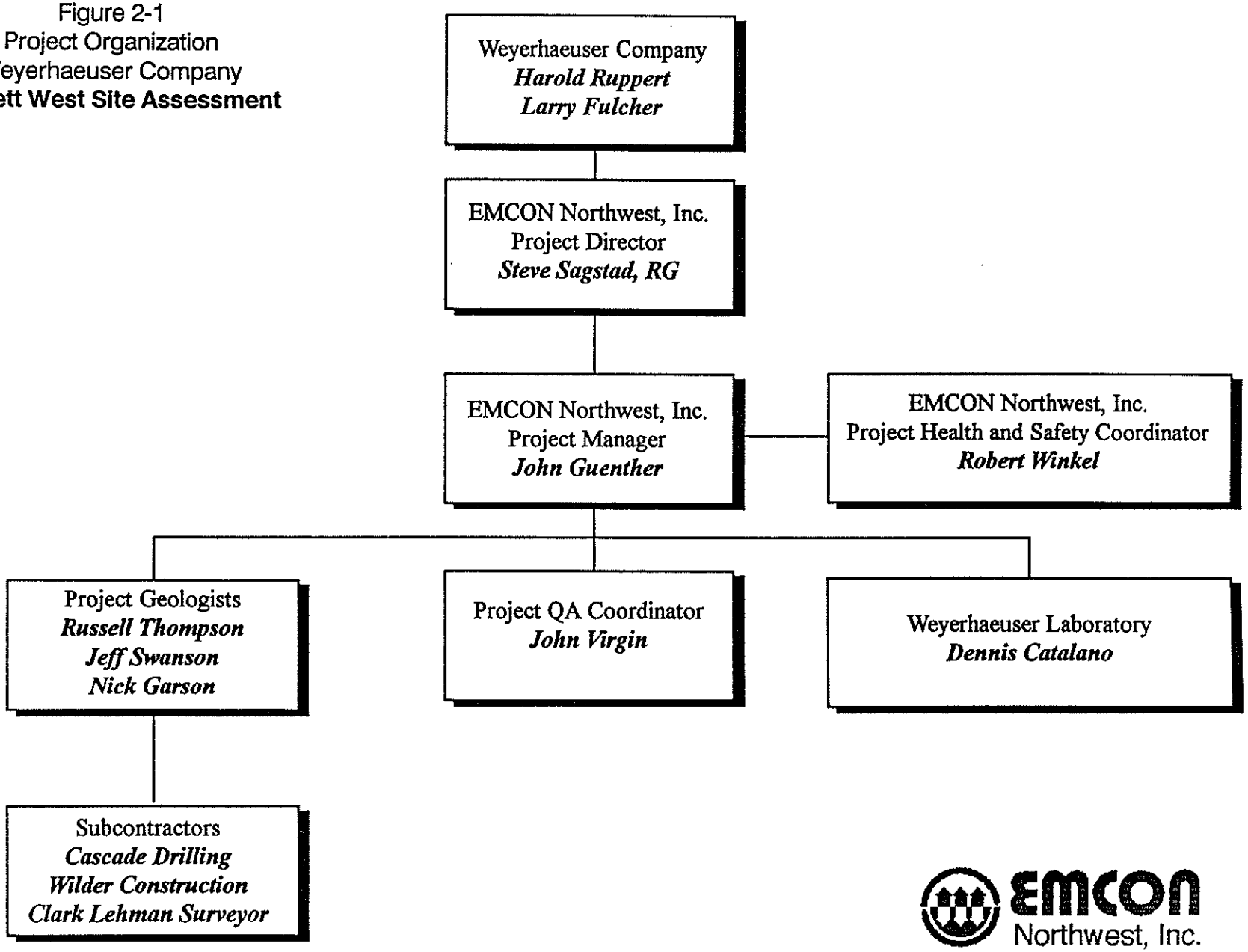
1.2 Work Plan Organization

- Section 1 discusses the purpose of the project and the work plan.
- Section 2 describes the project organizational structure and defines the roles and responsibilities of key individuals.
- Section 3 identifies approximate sampling locations, numbers of samples to be collected, and laboratory methods for each sample matrix. This section also describes investigative procedures and equipment for soil and groundwater sampling activities at the site.
- Section 4 presents an overall project schedule and describes the types of reports to be generated.
- Section 5 describes the Quality Assurance/Quality Control program to be used for this project, including data quality objectives and laboratory detection limits.
- Appendix A contains the site-specific Health and Safety Plan.

2 PROJECT ORGANIZATION

The project organization, identifies the individuals responsible for ensuring the quality of the field operations and of data collected (Figure 2-1). The responsibilities of key personnel are summarized in Table 2-1.

Figure 2-1
Project Organization
Weyerhaeuser Company
Everett West Site Assessment



EMCON Northwest, Inc.

Table 2-1

Personnel Responsibilities

Personnel	Responsibilities
Weyerhaeuser Manager (H. Ruppert)	Provide oversight of all program activities. Review project scope of work, final project QA objectives, needs, problems, and requests. Approve QA corrective actions as needed.
EMCON Project Director (S. Sagstad)	Provide overall project oversight and senior review.
EMCON Project Manager (J. Guenther)	Oversee project performance and provide technical expertise to accomplish project objectives. Ensure that project tasks are completed successfully within the project time periods. Coordinate with Weyerhaeuser.
EMCON Project Health and Safety Coordinator (D. Berndt)	Provide technical assistance as required to resolve on-site health and safety issues requiring corrective action. Review and approve EMCON Site Safety Plan.
EMCON Project QA Coordinator (J. Virgin)	Provide technical QA assistance on site to accomplish project objectives. Provide contracts and approval for methods and laboratory procedures. Ensure compliance with USEPA and MTCA QA/QC policies. Provide coordination for field operations and laboratory services.
EMCON Field Team Leader (R. Thompson)	Oversee field activities. Ensure that sampling and field activities meet procedures and guidance for this plan. Conduct field sampling operations in accordance with approved sampling and analysis plan. Ensure that all QA protocols (including chain-of-custody documentation, sample collection and labeling, sample storage and shipping, and instrument calibration) are followed as required. Recognize and implement necessary corrective actions. Document field operations. Ensure that health and safety guidelines are followed. Document any health and safety issues affecting sample collection.
Weyerhaeuser Analytical Laboratory	Provide laboratory support. Perform all required QC sample analyses including laboratory duplicates, blanks, matrix spikes, and performance materials. Perform preliminary review of data for completeness and for transcription or laboratory error. Follow good laboratory practices and USEPA guidelines.

3 SITE ASSESSMENT ACTIVITIES

3.1 Overview

The field investigation program will consist of collecting 50 soil samples from 26 soil borings and 24 test pits; installing seven groundwater monitoring wells and 16 wellpoints; and collecting one round of groundwater samples from eight monitoring wells, 16 wellpoints, and 4 piezometers. The detailed procedures used in the site assessment are presented in the following sections.

3.2 Sample Locations, Frequency, and Analyses

3.2.1 Soil

Soil samples will be collected and analyzed to provide a preliminary assessment of the horizontal distribution of contaminants at the areas of concern. Sampling locations are shown on Map 1, and sampling rationale, depths, frequency, and laboratory parameters are summarized in Tables 3-1, 3-2, and 3-3. Soil samples generally will be composited from the base of the grade fill to the water table observed during drilling or excavation. Three surface soil samples will also be collected in Area 11. Analytes for each sample were selected based on historical site activities.

3.2.2 Groundwater

To assess the groundwater flow characteristics and the extent of shallow groundwater contamination (if present) at the Everett West site, EMCON will install seven shallow (10- to 15-foot) monitoring wells at the site. The proposed locations for these wells are shown on Map 1, and the rationale for each is presented in Table 3-1. As required by MTCA, EMCON will subcontract a licensed surveyor to locate the wells.

Following installation and development of the new wells, EMCON will measure one round of water levels in all on-site wells and piezometers once. One round of samples will be collected from the monitoring wells and from select piezometers. Groundwater samples will also be collected from the wellpoints immediately after installation. Groundwater samples will be collected using a peristaltic pump, a submersible pump, or another minimal disturbance sampling device, and a PVC or Teflon® bailer. Field

Table 3-1

Everett West Sampling Rationale

Type	Number	Location	Unit Sampled	Rationale
Area 11				
Wellpoint water sample	1	North side of sandblast fill area	GW at top of shallow aquifer	Sample GW DG of fill area
Soil boring with wellpoint water sample	1	North side of former transformer pad	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil and water adjacent to transformer pad
Soil borings	3	Sandblast fill area	Surface soil	Sample surface soil adjacent to SB SURF-1
Test pits	2	South side of former transformer pad	Vertical composite of unsaturated fill or native soil	Sample shallow soil in areas of equipment maintenance and adjacent to former transformer
Area 12				
Shallow monitoring well	2	North of former Mills C and D	Vertical composite of unsaturated fill, native soil, and/or GW at top of shallow aquifer	Sample soil within footprint of former mills, and/or sample GW DG of mills
Shallow monitoring well	1	North of former sorting shed	GW at top of shallow aquifer	Sample GW DG of Mill C/Kraft Mill
Soil boring with wellpoint water sample	2	One each within footprint of Mill C and sorting shed	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil within footprint of former sorting shed and mills; sample water DG of same
Soil boring	3	North of causticizing area	Vertical composite of unsaturated fill or native soil	Sample soil adjacent to causticizing area
Test pits	12	Spread throughout and around former Mills C and D	Vertical composite of unsaturated fill or native soil	Sample soil within and adjacent to footprint of former mills

Table 3-1

Everett West Sampling Rationale

Type	Number	Location	Unit Sampled	Rationale
Area 13				
Shallow monitoring well	1	North of lime pile and causticizing area	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil adjacent to holding pond; sample GW DG of causticizing area and stack base
Shallow monitoring well	1	North of power house	GW at top of shallow aquifer	Sample GW DG of power house
Soil boring with wellpoint water sample	3	Two north of causticizing area, One north of power house	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil and ground water in areas most likely to be contaminated by former Kraft Mill activities
Soil boring	3	Two west of sandblast shed, One southwest of stack base	Vertical composite of unsaturated fill or native soil	Sample soil in areas most likely to be contaminated by former mill activities
Test pits	2	North of power house	Vertical composite of unsaturated fill or native soil	Sample soil within black liquor spill area
Area 14				
Soil boring with wellpoint water sample	3	Spread throughout area	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil and GW throughout filled area
Test pit	4	Spread throughout area	Vertical composite of unsaturated fill or native soil	Sample soil throughout filled area
Area 15				
Shallow monitoring well	1	North side of area, outside of berm	GW at top of shallow aquifer	Sample GW DG of fuel tanks
Area 16				
Existing shallow monitoring well	1	South of offices and maintenance building	GW at top of shallow aquifer	Sample GW UG of Kraft Mill
Wellpoint water sample	1	North of warehouse	GW at top of shallow aquifer	Sample GW DG of warehouse, machine room, and maintenance building

Table 3-1

Everett West Sampling Rationale

Type	Number	Location	Unit Sampled	Rationale
Soil boring with wellpoint water sample	4	North of lube/oil shack, north of caustic tanks, north of maintenance building	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil and GW in areas most likely to be contaminated by former mill activities
Soil boring	2	One near lube/oil shack, One north of pulp mill	Vertical composite of unsaturated fill or native soil	Sample soil in areas most likely to be contaminated by former mill activities
Area 17				
Shallow monitoring well	1	Southwest of sandblast shed, west of former MW-1	GW at top of shallow aquifer	Sample GW UG of Mill C, warehouse, and filter plant
Existing shallow piezometers	2	East side of filter plant	GW at top of shallow aquifer	Sample GW DG of area
Wellpoint water sample	2	North side of area	GW at top of shallow aquifer	Sample GW DG of fill area
Soil boring	2	Around transformer pad	Vertical and horizontal composite of unsaturated fill or native soil	Sample soil adjacent to transformer pad
Test pits	3	Two adjacent to gasoline UST, One east of former drum storage pad	Vertical composite of unsaturated fill or native soil	Sample soil before removal of UST and in area adjacent to former drum storage area
Area 18				
Existing shallow piezometers	2	South and north sides of area, respectively	GW at top of shallow aquifer	Sample GW UG and DG of area
Test pit	1	Between former caustic storage tank	Vertical composite of unsaturated fill or native soil	Sample soil beneath former tank

NOTE: GW = GW
DG = downgradient
UG = upgradient

Table 3-2

Summary of Soil Analyses

Sample Location	BTEX	TPH	VOCs	TPH	PAHs	PCP	PCBs	Total Metals	pH
	Method 8020	Method WTPH-G	Method 8240	Method WTPH-D extended	Method 8270	Method 8270	Method 8080	6,000/7,000 Series Methods	Method 9045
	Sample Container: One 4-oz Jar			Sample Container: One 8-oz Jar					
SB-1101				1			1		
SB-1102							1	1 (As, Cr, Pb, Hg)	
SB-1103							1	1 (As, Cr, Pb, Hg)	
SB-1104							1	1 (As, Cr, Pb, Hg)	
TP-1101				1			1		
TP-1102				1			1		
MW-1201				1					
SB-1201				1					
SB-1202			1	1				1 (As, Cr)	
SB-1203				1					1
SB-1204									1
SB-1205									1
TP-1201				1					
TP-1202			1	1	1	1	1	1 (As, Cr, Pb, Hg)	1
TP-1203				1					
TP-1204			1	1	1	1	1	1 (As, Cr, Pb, Hg)	1
TP-1205				1					
TP-1206				1					
TP-1207			1	1	1	1	1	1 (As, Cr, Pb, Hg)	1

Table 3-2

Summary of Soil Analyses

Sample Location	BTEX	TPH	VOCs	TPH	PAHs	PCP	PCBs	Total Metals	pH
	Method 8020	Method WTPH-G	Method 8240	Method WTPH-D extended	Method 8270	Method 8270	Method 8080	6,000/7,000 Series Methods	Method 9045
	Sample Container: One 4-oz Jar			Sample Container: One 8-oz Jar					
TP-1208				1					
TP-1209				1					1
TP-1210				1					1
TP-1211				1					1
TP-1212				1					1
MW-1301									1
SB-1301									1
SB-1302				1					1
SB-1303				1	1				
SB-1304				1				1 (As, Cr, Pb, Hg)	1
SB-1305				1			1	1 (As, Cr, Pb, Hg)	1
SB-1306									1
TP-1301				1					1
TP-1302				1					1
SB-1401				1					1
SB-1402				1					1
TP-1401				1			1	1 (As, Cr, Pb, Hg)	
TP-1402				1			1	1 (As, Cr, Pb, Hg)	1

Table 3-2

Summary of Soil Analyses

Sample Location	BTEX	TPH	VOCs	TPH	PAHs	PCP	PCBs	Total Metals	pH
	Method 8020	Method WTPH-G	Method 8240	Method WTPH-D extended	Method 8270	Method 8270	Method 8080	6,000/7,000 Series Methods	Method 9045
	Sample Container: One 4-oz Jar			Sample Container: One 8-oz Jar					
TP-1403				1					1
TP-1404				1			1	1 (As, Cr, Pb, Hg)	1
SB-1601				1					
SB-1602				1					
SB-1603				1					1
SB-1605				1					1
SB-1606			1	1					
SB-1701				1			1		
SB-1702				1			1		
TP-1701	1	1						1 (Pb)	
TP-1702	1	1						1 (Pb)	
TP-1703				1			1		
TP-1801				1					1
Totals (not including field QC)	2	2	5	40	4	3	16	14	18

NOTE: Field QC samples (not included in totals above) will consist of four duplicate samples, one trip blank, and two rinseate blanks.

Table 3-3

Summary of GW Analyses

Sample Location	BTEX Method 602	TPH Method WTPH-G	VOCs Method 8240	TPH Method WTPH-D extended	PAHs Method 8270	PCP Method 8270	PCBs Method 8080	Total Metals 200 Series Methods	Dissolved Metals 200 Series Methods	Sp. Cond., Temp., pH, Turbidity 100 Series Methods
Sample Containers:	Two 40-ml VOA with HCl			1-L Amber with HCL	1-L Amber	500-ml poly	1-L Amber	1-L poly with HNO3	1-L poly with HNO_3	
SB-1101				1			1			1
WP-1101				1			1		1 (As, Cr, Pb, Hg)	1
MW-1201			1	1	1	1	1	1 (As, Cr, Pb, Hg)	1 (As, Cr, Pb, Hg)	1
MW-1202			1	1	1	1	1		1 (As, Cr, Pb, Hg)	1
MW-1203				1					1 (As, Cr)	1
SB-1201			1	1	1	1	1		1 (As, Cr, Pb, Hg)	1
SB-1202				1						1
MW-1301			1	1	1		1	1 (As, Cr)	1 (As, Cr)	1
MW-1302				1			1		1 (As, Cr)	1
SB-1301				1						1
SB-1302				1						1
SB-1306				1			1			1
SB-1401				1					1 (As, Cr, Pb, Hg)	1
SB-1402				1					1 (As, Cr, Pb, Hg)	1
SB-1403				1					1 (As, Cr, Pb, Hg)	1
MW-1501				1	1					1
MW-4			1	1	1	1	1		1 (As, Cr, Pb, Hg)	1
SB-1601			1	1						1

Table 3-3

Summary of Groundwater Analyses

Sample Location	BTEX Method 602	TPH Method WTPH-G	VOCs Method 8240	TPH Method WTPH-D extended	PAHs Method 8270	PCP Method 8270	PCBs Method 8080	Total Metals 200 Series Methods	Dissolved Metals 200 Series Methods	Sp. Cond., Temp., pH, Turbidity 100 Series Methods
Sample Containers:	Two 40-ml VOA with HCl			1-L Amber with HCL	1-L Amber	500-ml poly	1-L Amber	1-L poly with HNO3	1-L poly with HNO_3	
SB-1603									1 (As, Cr, Pb, Hg)	
SB-1604				1						1
SB-1606			1	1					1 (As, Cr)	1
WP-1601			1	1					1 (As, Cr)	1
MW-1701		1	1	1	1	1	1		1 (As, Cr, Pb, Hg)	1
P-2	1	1		1			1		1 (As, Cr, Pb, Hg)	1
P-3				1			1	1 (As, Cr, Pb, Hg)	1 (As, Cr, Pb, Hg)	1
WP-1701			1	1					1 (As, Cr)	1
WP-1702	1	1		1			1	1 (As, Cr, Pb, Hg)	1 (As, Cr, Pb, Hg)	1
P-4				1					1 (As, Cr)	1
P-5				1					1 (As, Cr)	1
Total (not including field QC)	2	3	10	28	7	5	13	4	21	28

NOTE: Field QC samples (not included in totals above) will consist of three duplicate samples, one trip blank, and one rinseate blank.

measurements will include temperature, pH, conductivity, and turbidity. EMCON will submit samples to the Weyerhaeuser Analytical Laboratory for analysis of the parameters listed in Table 3-3.

EMCON will use the data generated from this program for preliminary assessment of the groundwater flow regime and groundwater quality at the site to determine whether groundwater remediation or long-term monitoring is required.

3.2.3 Field Quality Assurance

Field quality assurance (QA) will be maintained through compliance with the sampling plan, collection of field QA samples, and documentation of sampling plan alterations.

Duplicate soil samples will be collected at a frequency of 5 percent of the total number of samples. Duplicate samples will be labeled similar to the other samples and submitted blind to the laboratory. The duplicate sample collection locations will be determined in the field. Trip blanks will be collected at a frequency of at least 5 percent of the number of samples analyzed for VOCs. Two rinsate blanks (also known as field or equipment blanks) will be collected during soil sampling, and one rinsate blank will be collected during groundwater sampling.

If problems arise during field sampling (e.g., proposed boring locations or sampling depths must be altered due to subsurface obstructions), a Sampling Alteration Checklist (Figure 3-1) will be completed by the field team leader.

3.2.4 Sample Designation

Samples will be identified by collection method, location number, depth (if a soil sample), and date (if a water sample). The prefixes SB-, MW-, WP-, and TP- will precede soil boring, monitoring well, wellpoint, and test pit numbers, respectively, to indicate the collection method. The location number will follow the prefix and will identify the area and sample location. For example, SB-1201-2 would denote a soil boring sample collected from area 12, location 1, from a depth of 2 feet, and MW-1201-593 would represent the groundwater sample collected from MW-1201 in May 1993.

QA samples will be submitted blind (i.e., not identified as QA samples) to the laboratory. The QA samples will be given a fictitious sample name (e.g., for a non-existent sampling location).

Figure 3-1

SAMPLING ALTERATION CHECKLIST

Sample program identification: _____

Material to be sampled: _____

Measurement variable: _____

Standard procedure for analysis: _____

_____

Reference: _____

_____

_____

Variation from standard procedure: _____

_____

_____

_____

_____

_____

Reason for variation: _____

_____

_____

_____

Resultant change in field sample procedure: _____

_____

_____

_____

Special equipment, material, or personnel required: _____

_____

_____

Author's name: _____ Date: _____

Approval: _____ Title: _____

Date: _____

3.3 Excavation, Drilling, and Sampling Procedures

3.3.1 Soil Sampling

Soil samples will be collected in the locations described in Section 3.2. A clean shovel, backhoe bucket, or split-spoon sampler will be used to collect soil samples. Table 3-4 includes a list of the equipment to be used for soil sampling activities. Following is a summary of the soil sampling procedures:

1. All sampling equipment and reusable materials that contact the sample will be decontaminated on site in accordance with procedures identified in Section 3.6.

2. The sample container labels will be filled out and attached to the appropriate containers as described in Section 3.4. The sample from the entire interval will be scraped into sample containers.

3. Soil samples will be transferred from the collection device into sampler containers by using a stainless-steel spoon or trowel. A stainless-steel bowl may be used to mix the sample, if desired. A portion of the sample may be placed in a separate glass jar and analyzed with a photoionization detector (PID).

4. The sample will be logged into a field book or recorded on a Boring Log Form (see Figure 3-2) and a Field Sampling Data Sheet (see Figure 3-3), using the classifications described in Figure 3-4.

5. After being filled, the sample container(s) will be placed on ice in a cooler and handled as described in Section 3.4. The sample coolers will be shipped to the laboratory within 48 hours of sampling.

3.3.2 Test Pit Excavation

Test pits will be excavated using either a tire-mounted or track-mounted backhoe or an excavator. Soil will be logged as the test pit is being excavated. Composite soil samples will be collected by using the backhoe bucket when the test pit is complete.

3.3.3 Drilling

All drilling will be performed in accordance with WAC 173-160, *Minimum Standards for Construction and Maintenance of Wells.* The site manager will check all drilling locations for the presence of underground utilities.

Table 3-4

Field Equipment and Supplies

Forms/Documentation
• Field logbooks • Log of exploratory boring • Field sampling data sheet • Chain-of-custody/laboratory analysis report form • Custody seal • Project photo log • Well testing record • Drum labels • Field sampling plan
Tools
• Fiberglass tape with stainless steel weight • Tape measure calibrated to 0.1 inch • Decon brushes • Extension cord • Flashlight • Padlocks with matching keys • Tool kit • Small sledge hammer • Shovel • Pick
Groundwater Investigation and Sampling
• pH/conductivity meter • Water-level probe • Disposable PVC bailers • Teflon® bottom-value bailers • Bailer drain valve • Rope (nylon or polypropylene) • Monofilament line • Large and small capacity peristaltic pump • Thermometers (°C) • Disposable plastic beakers • pH paper • Tygon® tubing • Silicon tubing for peristaltic pump • Sample jars and labels • Distilled water

Table 3-4
Field Equipment and Supplies

Forms/Documentation
Soil Investigation and Sampling
• Stainless steel scoops/spoons
• Large stainless steel bowls
• Sample jars and labels
Health and Safety Equipment
• Fire extinguisher
• Half-face respirators
• First aid kits
• Safety glasses
• Eyewash
• Ear plugs
• Tyvek®
• Gloves — vinyl, nitrile, and neoprene
• Duct tape
Miscellaneous Equipment
• Spray paint, pencils, pens, labels, waterproof markers
• Paint pens for drums
• Water jugs and sprayers
• Bubble wrap and tape for shipping
• Cameras and film
• Resealable plastic bags
• Paper towels
• Plastic sheeting
• Buckets
• Squirt bottle (wash)
• Plastic funnel
• Stainless-steel funnel
• Cotton gloves
• Nalgene™ wash bottles
• Reagent bottles
• Coolers (sample shipping)
• Scrub brushes
• Plastic tubs
• 2.0-mm screen
• Ice, in leak-proof bags
• Drinking water
• Large-scale site map

150969

EMCON Northwest, Inc.

LOG OF EXPLORATORY BORING

CLIENT/PROJECT NAME _____

PROJECT# _____

GEOLOGIST/ENGINEER _____

DRILLING CONTRACTOR _____

DRILLING METHOD _____

HOLE DIA. _____

BORING NO. _____

DATE BEGAN _____

DATE COMPLETED _____

TOTAL DEPTH _____

SHEET ___ OF ___

FIELD LOCATION OF BORING:

GROUND ELEVATION _____

DATUM _____

OTHER*	WELL OR PIEZOMETER DETAILS	SAMPLING DATA: SAMPLING METHOD	SAMPLE NUMBER	BLOWS/FT	DEPTH SAMPLED	DEPTH IN FEET	SOIL GROUP SYMBOL (USCS)	LITHOLOGIC DESCRIPTION

WATER LEVEL DATA

DEPTH				
TIME				
DATE				
BORING DEPTH				

REMARKS:

*NOTE Specify data recorded in undesignated column (e.g. conductance, pH, tip reading, pocket torvane, etc.)

SE/E 300-03

EMCON Northwest, Inc.

DATE 5/93
DWN. _____
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REVIS. _____
PROJECT NO. 0141-037.29

Figure 3-2
WEYERHAEUSER COMPANY
EVERETT WEST SITE ASSESSMENT

BORING LOG FORM

150969

EMCON
Northwest, Inc.
18912 North Creek Parkway, Suite 210 • Bothell, WA 98011
Office (206) 485-5000 • FAX (206) 486-9766

Field Sampling Data

LOCATION/ADDRESS _____ Well or Surface Site Number _____
PROJECT NAME _____ # _____ Sample Designation _____
CLIENT/CONTACT _____ Date, Time _____
Weather _____

HYDROLOGY MEASUREMENTS:

(Nearest .01 ft.)	Elevation	Date, Time	Method Used (M-Scope Number or Other)

WELL EVACUATION:

Gallons	Pore Volumes	Method Used	Rinse Method	Date, Time

Surface Water Flow Speed _____ Measurement Method _____ Date, Time _____

SAMPLING:

Sample	Date, Time	Method	Volume (ml)	Container Type	Depth Taken (feet)	Field Filtered (yes,no)	Preservative	Iced (yes,no)	Sample Cleaning Method
									Non-Phosphatic detergent wash H2O rinse MeOH rinse Distilled H2O rinse

FIELD WATER QUALITY TESTS:

Pore Vol Number	pH	Conductivity	Temp	Eh				

NOTES

Total # of Bottles _____ Signature _____

SEA-400-01

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Figure 3-3
WEYERHAEUSER COMPANY
EVERETT WEST SITE ASSESSMENT
FIELD SAMPLING DATA SHEET

SOIL DESCRIPTION CHECKLIST - FIELD LOG

Guide for Written Soil Description

1. Depth of sample or unit, in feet below ground surface
2. Classification (description and symbol)
3. Color
4. Grain size distribution beginning with most abundant to least abundant constituents (i.e., percentage of fines including plasticity; percentage and size of sand, gravel, cobbles, and boulders)
5. Relative density or consistency (condition)
6. Moisture conditions
7. Other relevant information (e.g., structure, laminations, occurrences of organic material)
8. Geologic interpretation (e.g., fill, alluvium)
9. Length of sample recovery/length driven

Example: 5 to 6.5 feet: SILTY SAND (SM), dark gray, 80% fine to medium sand, 15 to 20% non-plastic silt, <5% subrounded fine gravel, very dense, wet. Some leaves, twigs on bedding planes. Sulfur odor. (ALLUVIUM) (14"/18")

Basic Classification

GRAVEL: Gravel Size Fine = #4 sieve to 3/4"
Medium = 3/4 to 1-1/2"
Coarse = 1-1/2 to 3"

a. GW, well-graded gravel (0 to 5% fines)
b. GW-GM or GW-GC, well-graded gravel with silt or clay (5 to 15% fines)
c. GM or GC, well-graded silty or clayey gravel (> 15% fines)
d. GP, poorly-graded gravel (0 to 5% fines)
e. GP-GM or GP-GC, poorly-graded gravel with silt or clay (5 to 15% fines)
f. GM or GC, poorly-graded silty or clayey gravel (> 15% fines)

SAND: Sand size Fine = #200 (75 μm) to #40 (425 μm) sieve
Medium = #40 (425 μm) to #10 (2 mm) sieve
Coarse = #10 (2 mm) to #4 (4.75 mm) sieve

a. SW, well-graded sand (0 to 5% fines)
b. SW-SM or SW-SC, well-graded sand with silt or clay (5 to 15% fines)
c. SM or SC, well-graded silty or clayey sand (> 15% fines)
d. SP, poorly-graded sand (0 to 5% fines)
e. SP-SM or SP-SC, poorly-graded sand with silt or clay (5 to 15% fines)
f. SM or SC, poorly-graded silty or clayey sand (> 15% fines)

FINES: Minus #200 Sieve (less than 75 μm)

a. ML, inorganic silts, fine sands, clayey silts or sands of low plasticity, or non-plastic
b. CL, inorganic clays, sandy or silty clays of medium plasticity
c. OL, inorganic silts or clays of low plasticity
d. MH, organic silts, micaceous or diatomaceous fine sand or silty soils, elastic silts
e. CH, organic clays or silts of high plasticity, fat clays
f. OH, organic clays or silts of low to medium plasticity
g. PT, peat and other highly organic soils

COBBLES: 3 to 12" diameter, estimate size(s) and percentage

BOULDERS: Greater than 12" diameter, note size(s) and estimate percentage

MINOR ORGANIC CONTENTS: Describe type and occurrence

a. Wood debris = roots, branches, logs
b. Organic debris = decaying vegetation

MISCELLANEOUS DESCRIPTIVE TERMS (use with discretion, estimate percentages if possible)

Trace	- particles are present but < 5%
Few	- 5 to 15%
Little	- 15 to 25%
Some	- 25 to 45%

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Figure 3-4
WEYERHAEUSER COMPANY
EVERETT WEST SITE ASSESSMENT

SOIL DESCRIPTIONS

Procedure for Estimating Plasticity

1. Remove particles larger than the No. 40 sieve size (greater than fine sand). Select a specimen the size of a 1/2" cube. Mold the specimen to the consistency of putty. If too dry, add water and if sticky, spread it out in a thin layer and allow it to lose some moisture by evaporation. Roll the specimen by hand on a smooth surface, or between the palms, into a thread about 1/8" in diameter. Fold the thread and reroll repeatedly. This procedure gradually reduces the moisture content and the specimen will stiffen, eventually losing its plasticity. It will crumble at a diameter of 1/8" when near the plastic limit.
2. After the thread crumbles, combine the pieces and knead slightly. Continue kneading until the lump crumbles.
3. If the specimen forms a tough thread near the plastic limit and if the lump is stiff when it crumbles, the colloidal clay fraction in the soil is high. Weakness of the thread at the plastic limit and quick loss of coherence of the lump below the plastic limit indicate either inorganic clay or low plasticity.
4. Highly organic clays feel very weak and spongy at the plastic limit.

Criteria for Describing Plasticity

Non-plastic	A 1/8" thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	The specimen can be rolled and kneaded to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

Condition

1. Relative density for sand or gravel

   a. Using Standard Penetration Test, blows per foot

Blows/ft (N)	Relative Density
0 - 4	very loose
5 - 10	loose
11 - 30	medium
31 - 50	dense
> 50	very dense

   b. Estimated (no testing)

   Loose - sand and/or gravel can be excavated with a shovel
   Compact - sand and/or gravel requiring use of a pick for removal

2. Consistency for fines (note whether blow counts or tactile tests were used)

Blows/ft (N)	Relative Consistency	Tactile Test
< 2	very soft	sample sags or slumps
2 - 4	soft	sample can be pinched in two
5 - 8	firm	sample easily imprinted to 1" by thumb
9 - 15	stiff	sample readily indented by thumb with pressure
16 - 30	very stiff	sample readily indented by thumbnail
> 30	hard	sample cannot be imprinted w/thumb, can pierce w/pencil

Moisture

1 Dry: contains no water (rarely occurs in nature)
2. Damp: less water than moist
3 Moist: "optimum" water content: a sample squeezes tight and maintains its shape, but you cannot squeeze out excess water
4 Wet: more water than moist

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Figure 3-4(cont.)
WEYERHAEUSER COMPANY
EVERETT WEST SITE ASSESSMENT

SOIL DESCRIPTIONS

All monitoring wells will be drilled using an auger drilling rig equipped with hollow-stem-auger flights. The monitoring wells will be advanced with 6¼-inch inside-diameter (I.D.) hollow-stem-auger flights. Monitoring wells will be completed as described in Section 3.3.4. All downhole drilling equipment will be decontaminated before use and between drilling locations as described in Section 3.6. If water is added to the borings to control heaving conditions, only potable water will be used. All residual soil and water collected during drilling and sampling will be handled and disposed of following the procedures described in Section 3.7.

Soil samples will be collected continuously to the water table, then every 2.5 feet of drilling thereafter. Subsurface soil samples will be taken at the prescribed locations in advance of the drill bit using an 18-inch-long, 2-inch outside-diameter (O.D.), split-spoon or an 18-inch-long, 3-inch O.D., split-barrel sampler. Soil samples from intervals to be analyzed will be placed in sample containers for compositing by the laboratory.

3.3.4 Monitoring Well and Wellpoint Installation and Development

Monitoring wells will be installed per the requirements of WAC 173-160, Part 3, "Resource Protection Well Guidelines." Each monitoring well will be completed in a separate boring. Monitoring wells will be constructed of 2-inch I.D., flush-threaded, Schedule 40 PVC, including a threaded end plug (see Figures 3-5 and 3-6). Each shallow monitoring well will be constructed using screen up to 5 feet long with machined 0.010-inch slots. Shallow monitoring well screens will be placed in the coarser portion of the shallow aquifer, approximately 5 to 10 feet below ground surface (bgs). The field geologist will determine the location of the screened intervals in consultation with the EMCON project manager. Wells will be screened across the water table to monitor for potential floating hydrocarbons.

The annular space around the screen zone of each monitoring well will be backfilled with clean Colorado 20-40 silica sand, or its equivalent. This sandpack will extend up to 1 foot below the lowest slot, and 1 to 2 feet above the uppermost slot. Monitoring well completions may require less than 2 feet of sandpack above the uppermost slot to allow for a surface seal. The decision to shorten the sandpack interval above the screen to a minimum of 1 foot will be made by the EMCON project manager. The annular space above the sandpack will be sealed with bentonite chips. The bentonite seal will extend to the base of the surface security casing, about 2 feet above the sandpack.

All materials will be placed concurrent with auger withdrawal. Bentonite placed above the water table will be hydrated with potable water. The total depth of each boring and the placement depths of the filter sandpack, the bentonite seal, and the surface completion will be measured to the nearest 0.1 foot by using a weighted fiberglass tape. As-built construction details, including the volumes of materials used to construct each well, will be recorded in the field logbook. Well logs, including as-built construction details, will be prepared after well completion.

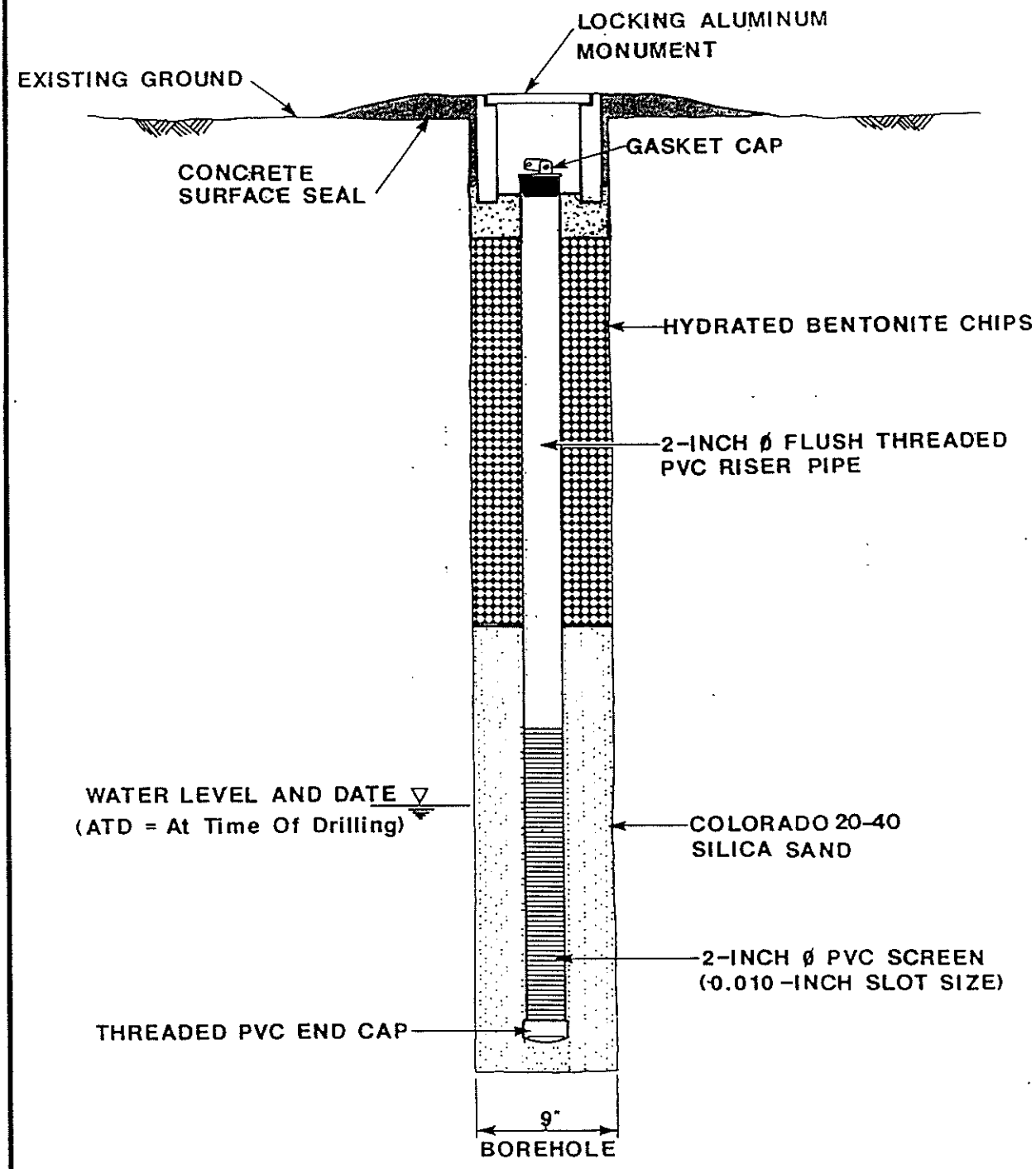

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Figure 3-5
WEYERHAEUSER COMPANY
EVERETT WEST SITE ASSESSMENT
TYPICAL MONITORING WELL - FLUSH MOUNT COMPLETION

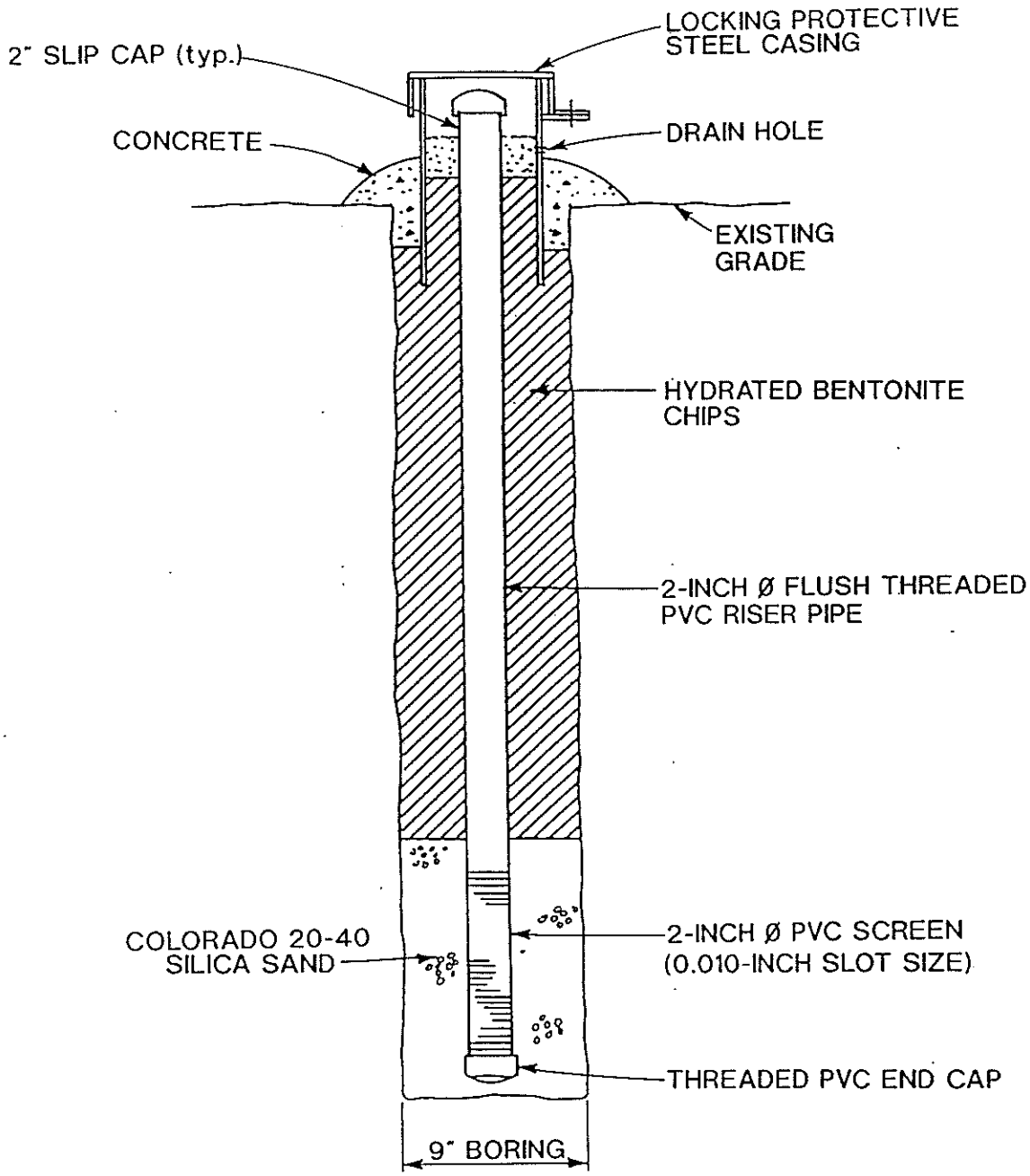

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Figure 3-6
WEYERHAEUSER COMPANY
EVERETT WEST SITE ASSESSMENT
TYPICAL MONITORING WELL - ABOVEGROUND COMPLETION

The top of each monitoring well will be secured with a flush mount or an aboveground lockable security casing. The security casing will be cemented in place, with the surface of the cement sloping away from the security casing. To allow any surface water entering the security casing to drain, a drain hole will be drilled above the level of concrete on the outside of the security casing. The inside of the security casing above the drain hole will be filled with silica sand.

All newly installed monitoring wells will be developed by pumping, surging, or bailing. The water level in the well will be measured to the nearest 0.01 foot (from a surveyed notch in the well casing) by using an electric well probe subsequent to development. Water depths will be recorded on a Field Sampling Data Sheet (see Figure 3-3) and will include date, time, and developer's initials. The total depth of each well will be measured and recorded before and after development. The pore (casing) volume of the installation will be determined by using the measured water level and the as-built installation depth.

Groundwater pH, specific conductance, temperature, and turbidity will be measured repeatedly during development. A monitoring well will be considered developed when (1) at least ten times the pore volume of water has been removed from the well, (2) the color of the discharge water does not change with additional development, and (3) field measurements of groundwater pH, specific conductance, temperature, and turbidity have stabilized to within ± 10 percent for three consecutive measurements collected at one-pore-volume intervals. If after one hour of development the discharge water does not clear or the field parameter measurements have not stabilized, then no further development will be attempted, and the EMCON project manager will evaluate the suitability of sampling groundwater from the installation.

All development details, including discharge volume, pH, specific conductance, temperature, turbidity, and appearance, will be recorded on a Field Sampling Data Sheet. All development water will be handled as described in Section 3.7.

Temporary wellpoints will be installed across the water table and will consist of a 3-foot-long stainless steel screen attached to a stainless steel or black non-riser pipe. The wellpoints will be installed through the auger and temporarily completed, developed, and sampled as described for the monitoring wells.

3.3.5 Groundwater Sampling

One round of groundwater samples will be collected from on-site monitoring wells (see Table 3-1) using the following procedures:

1. Depth to water will be measured before sampling. The water level will be measured to the nearest 0.01 foot from a surveyed notch in the well casing

by using an electric well probe. Water depths will be recorded on a Field Sampling Data Sheet (see Figure 3-3) and will include date, time, and sampler's initials. If floating product is present, the thickness will be measured by using an oil-water interface probe. Wells with floating product will not be sampled for groundwater.

2. The monitoring wells will be purged by using a peristaltic pump fitted with silicon and PVC or polyethylene tubing.

3. Temperature, pH, specific conductance, and turbidity will be measured with a thermometer and a pH/conductivity meter, respectively, and recorded after the removal of each well casing volume during purging. The parameters will be required to stabilize to within a ± 10 percent difference between consecutive pore volume removals before obtaining a sample. Measurements will be recorded to the following standards: temperature to ± 0.5°C, pH to ± 0.01 units, specific conductance to ± 1 μS/cm (measured specific conductance ≤ 999 μS), to ± 10 μS/cm (999 μS/cm $<$ specific conductance $< 10{,}000$ μS/cm), or to ± 100 μS/cm (measured specific conductance $> 10{,}000$ μS/cm), and turbidity to 0.1 NTU. The pH/conductivity meter and the turbidity meter (two separate meters) will be calibrated before measurements are taken and approximately every 4 hours thereafter.

4. A minimum of three casing volumes will be purged before collecting groundwater samples for chemical testing. After at least three pore volumes have been purged, and field parameters have stabilized, temperature, pH, specific conductance, and turbidity measurements will be obtained and recorded. Residual management is discussed in Section 3.7.

5. After measuring field parameters, groundwater samples will be collected in the following order to be analyzed for the following parameters (as required):

   - Total metals
   - Petroleum hydrocarbons
   - Dissolved and total metals
   - Volatile organic compounds
   - Semivolatile organic compounds

6. Groundwater samples for total metals and organic compounds will not be filtered in the field or laboratory. Groundwater samples collected for

dissolved metals testing will be filtered at the time of sample collection by using a disposable 0.45-micron, in-line filter. The disposable filters will attach directly to the peristaltic pump discharge tube. Each in-line filter will be used for only one sample.

7. Groundwater samples for total metals, and dissolved metals will be collected from the discharge line of the peristaltic pump before removal of the discharge line, but after purging the well. Groundwater samples for organic compounds will be collected by using a Teflon™ or disposable PVC bailer. Samples will be collected directly from the bailer or pump discharge line and field-transferred from the sampling equipment into a container prepared by the laboratory for the given parameters.

8. Samples will be labeled, handled, and shipped using the procedures described in Section 3.4. Sample custody will be maintained until delivery to the laboratory. All sampling activity and data will be recorded on a Field Sampling Data Sheet.

9. The sampler(s) will wear clean Neoprene gloves or new vinyl gloves at each sampling location. New bailer cord (monofilament nylon) and new tubing will be used at each sampling location.

10. All downhole sampling equipment will be decontaminated by using the procedures described in Section 3.6.

Any deviations from the general sampling procedure will be brought to the attention of the EMCON project manager and a Sample Alteration Checklist (see Section 3.2.4) will be completed.

3.4 Sample Labeling, Shipping, and Chain-of-Custody

3.4.1 Sample Labeling

Sample container labels will be completed immediately before or immediately following sample collection. Container labels will include the following information:

- Project name
- Sample number
- Initial of collector
- Date and time of collection

- Analysis requested

3.4.2 Sample Shipping

Soil and water samples will be shipped to Weyerhaeuser Analytical and Testing Services using the following procedures:

- Sample containers will be transported in a sealed, iced cooler or other suitable shipping container.
- In each shipping container, glass bottles will be separated by a shock-absorbing or absorbent material to prevent breakage and leakage.
- Ice sealed in separate plastic bags, or "blue ice," will be placed into each shipping container with the samples.
- All sample shipments will be accompanied by a Chain-of-Custody/Laboratory Analysis Request Sheet (see Figure 3-7). The completed form will be sealed in a plastic bag.
- Signed and dated chain-of-custody seals will be placed on all shipping containers.
- The name and address of the laboratory, plus EMCON's name and office (return) address, will be placed on each shipping container before shipping.

3.4.3 Chain-of-Custody

Once a sample is collected, it will remain in the custody of the sampler or other EMCON personnel until samples are dropped off at the Weyerhaeuser office for shipment to the laboratory. Before transfer of samples to the office for shipping, a Chain-of-Custody/Analysis Request Form (see Figure 3-7) will be signed by the EMCON personnel performing the sampling. A signed and dated chain-of-custody seal will be placed on each shipping container before shipping. Upon receipt of samples at the laboratory, the shipping container seal will be broken, the Chain-of-Custody/Analysis Form signed, and the condition of the samples will be recorded by the receiver. Chain-of-custody records will be included in the laboratory report prepared by the laboratory.

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EMCON Northwest, Inc.

Chain of Custody / Laboratory Analysis Request

DATE _____ PAGE _____ OF _____

PROJECT _____ #_____

CLIENT INFO
CONTACT _____

ADDRESS _____

TELEPHONE # _____

SAMPLERS NAME _____ PHONE # _____

SAMPLERS SIGNATURE _____

SAMPLE I.D.	DATE	TIME	LAB I.D	TYPE	BASE/NEU/ACID ORGAN GC/MS/625/8270	VOLATILE ORGANICS GC/MS/624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415.9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	GENERAL CHEMISTRY (Specify) pH, COND ALK	GENERAL CHEMISTRY (Specify) NO_3-NO_2, Cl SO_4	GENERAL CHEMISTRY (Specify) Ca, Mg, Na, K	OTHER (Specify)					NUMBER OF CONTAINERS
1.																							
2.																							
3.																							
4.																							
5.																							
6.																							
7.																							
8.																							

Relinquished By EMCON Northwest, Inc.	Relinquished By	Relinquished By	PROJECT INFORMATION	SAMPLE RECEIPT
Signature	Signature	Signature	Shipping I.D. No.	Total No. of Containers
Printed Name	Printed Name	Printed Name	VIA	Chain of Custody Seals
Firm	Firm	Firm	Project	Received in good condition
Date/Time	Date/Time	Date/Time		LAB NO.

Received By	Received By	Received By	SPECIAL INSTRUCTIONS/COMMENTS
Signature	Signature	Signature	
Printed Name	Printed Name	Printed Name	
Firm	Firm	Firm	
Date/Time	Date/Time	Date/Time	

DISTRIBUTION: WHITE - return to originator; YELLOW: - lab; PINK - retained by originator.

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Figure 3-7
WEYERHAEUSER COMPANY
EVERETT WEST SITE ASSESSMENT

CHAIN-OF-CUSTODY / LABORATORY ANALYSIS REQUEST FORM

3.5 Surveying

The monitoring well locations will be surveyed by a registered surveyor. Each location will be surveyed for ground surface elevation (nearest 0.1 foot), horizontal position (nearest 1.0 foot), and well casing rim (nearest 0.01 foot). A notch will be filed into the well casing rim indicating the surveyed point. The horizontal and vertical datums will be the same ones used in previous site investigations.

3.6 Decontamination

A decontamination area will be established for cleaning the backhoe, drilling rig, and well materials. All downhole excavation and drilling equipment will be steam-cleaned or hot water pressure-washed before beginning excavation drilling and between each subsurface exploration location.

Split-spoon samplers, spoons, bowls, bailers, and other sampling equipment that will contact samples will be decontaminated before initial use, between sampling locations, and between different sampling depths at the same location. The following decontamination procedure will be used for soil and groundwater sampling equipment:

- Tap water rinse if Hexane used
- Hexane rinse if visibly oily
- Tap water rinse
- Nonphosphatic detergent (e.g., Liquinox™) and tap water wash
- Tap water rinse
- Dilute nitric acid rinse (pH <2) (use for soil equipment if it is visibly rusty; use for all reusable groundwater equipment)
- Distilled water rinse
- Methanol solution rinse (1:1 solution of methanol and distilled water; reusable groundwater equipment only)
- Distilled water rinse (reusable groundwater equipment only)

The electric well probe will be rinsed with distilled water between uses in different monitoring wells. New monofilament bailer cord and pump tubing will be used at each well and discarded after sampling is complete. All well casing, screens, and centralizers will be steam-cleaned or hot water pressure-washed before installation. All labels and

binding tape will be removed from well materials before steam cleaning or washing.

Decontamination of personnel involved in sampling activities will be accomplished as described in the Health and Safety Plan.

3.7 Sampling Residuals

All residual soil from drilling, water purged during groundwater sampling, and used decontamination solutions will be handled appropriately. Personal protective clothing will be worn during waste transfers because of potential skin contact and splash hazards. The following procedures will be used for the sampling residuals:

- Unused soil excavated from the soil borings, test pits, and wellpoint borings will be replaced in the hole from which it was removed immediately after sampling.
- Unused soil generated from the monitoring wells will be placed in 55-gallon drums.
- Water generated from drilling, sampling, and decontamination will be kept separate, to the extent possible, from residual soil. Water will be placed in 55-gallon drums or tanks. Methanol and hexane rinsate will be collected separately during decontamination and allowed to evaporate on site.
- Drums and tanks will be labeled with the date filled, the sampling location from which the contents were collected, and a description of the contents (including approximate quantity).
- Drums will be sealed daily. Weyerhaeuser will identify an on-site staging area for drums and tanks. Drums and tanks will be stored in the designated temporary holding area until characterized for disposal.
- A record of all generated residuals, as stored in drums and tanks, will be maintained to expedite characterization and disposal upon completion of field activities.
- Disposable clothing and equipment will be placed in plastic bags and disposed of as solid waste in an appropriate solid waste facility.
- Weyerhaeuser will be responsible for the proper disposal of all wastes.

3.8 Data Evaluation

All laboratory data generated from the site assessment program will be entered into spreadsheets. Tables and maps summarizing these data will also be prepared.

4 REPORTING AND SCHEDULE

4.1 Reporting

The results of the site assessment will be compiled into a report for Weyerhaeuser. The report will include a description of all field activities performed, a description of the site geology and hydrogeology, a discussion of potential contamination at each area of concern, and additional information as required. Boring logs, well completion details, and laboratory data sheets will be included in the report as appendices.

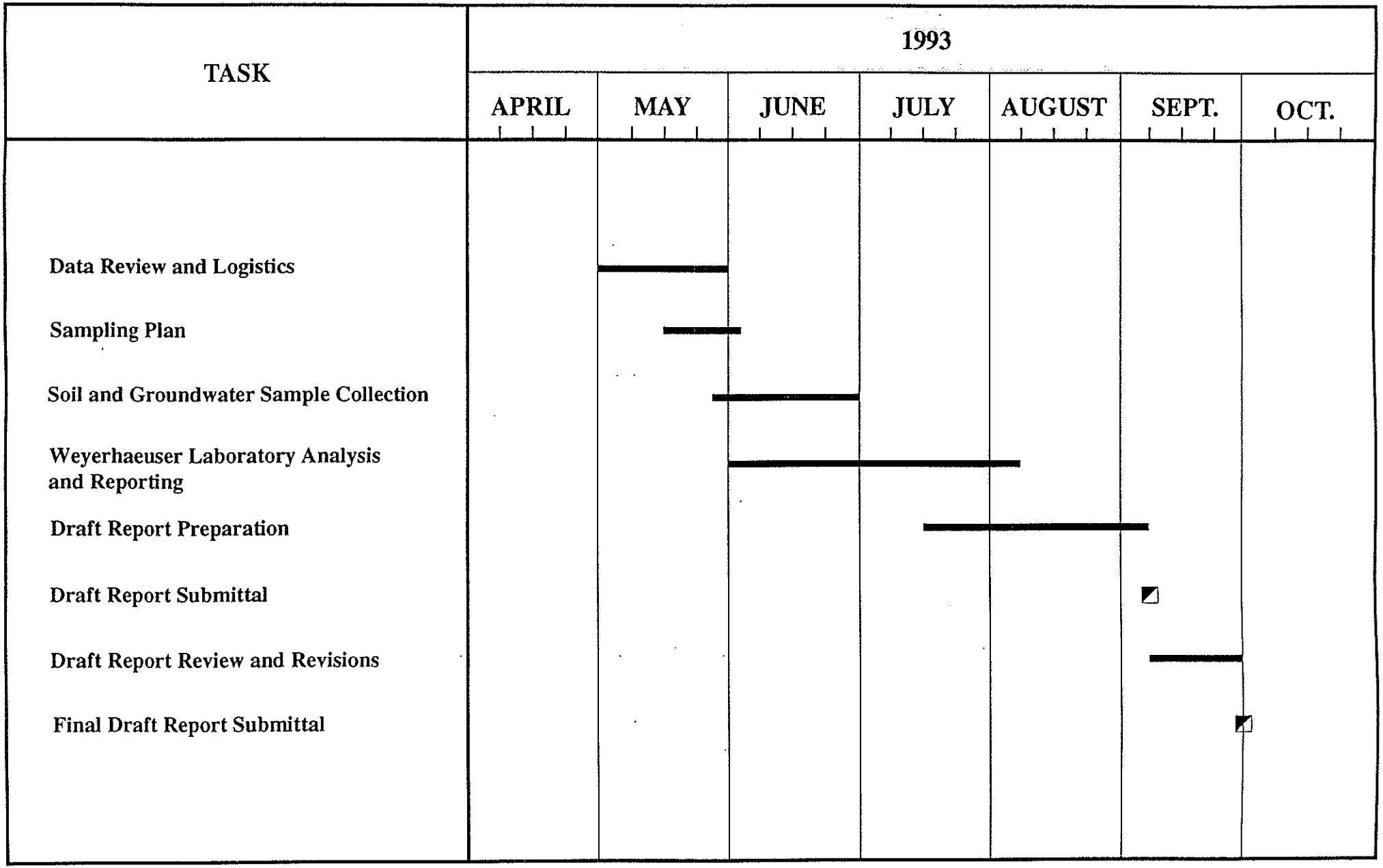
EMCON will prepare the report as a draft for review and comment by Weyerhaeuser. Following receipt of comments, EMCON will make revisions as required and issue a final draft report to Weyerhaeuser.

4.2 Schedule

The schedule for performing the site assessment is shown in Figure 4-1. Assessment field work will take about 5 weeks, including surveying the locations of former Mills C and D. Laboratory analysis and data evaluation will take another 6 to 8 weeks. Total time expected for submittal of the draft site assessment report is about 3½ months after the beginning of field work. This time frame assumes that no work other than that specified in the work plan is required.

Figure 4-1

Weyerhaeuser West Site Assessment Schedule



5 QUALITY ASSURANCE/QUALITY CONTROL

5.1 Quality Assurance Objectives

The overall quality assurance (QA) objective for measurement data is to ensure providing data of known and acceptable quality. All measurements will be made to yield accurate and precise results representative of the media and conditions measured. Chemical analyses will be performed in accordance with the requirements of WAC 173-340-830. All sample results will be calculated and reported in units presented in Tables 5-1 and 5-2 to allow comparison of the sample data with regulatory criteria and federal, state, and local databases. QA objectives for precision, accuracy, and completeness have been established for each measurement variable, where possible, and are presented in Tables 5-1 and 5-2.

5.2 Chemical/Physical Analysis

5.2.1 Laboratory Procedures

Methods and references for most analyses are summarized in Table 5-1. The laboratory will use USEPA and Washington State Department of Ecology (Ecology) methods. Data reporting requirements for all analyses are presented in Section 5.3.

Routine analysis of environmental samples will be performed using procedures based on the following methods:

- WTPH-D (extended): diesel, fuel oil (i.e., C_{12}-C_{34}) petroleum hydrocarbons by gas chromatography/flame ionization detection (GC/FID) (Ecology 1992)
- WTPH-G: gasoline and volatile fraction petroleum hydrocarbons by purge and trap with GC/FID (Ecology 1992)
- USEPA Method 8080: polychlorinated biphenyls (PCBs) by gas chromatography/electron capture detection (GC/ECD) (USEPA 1986)
- USEPA Method 8240: volatile organic compounds (VOCs) by gas

Table 5-1

Objectives for Measurement Data—Chemical Analyses

Variable	Units	Lower Limit of Detection[a]	Accuracy[b]	Precision[b]	Completeness	Method No.[c]	Bottle/Preservative	Maximum Holding Time[d]
Soil								
Petroleum hydrocarbons	mg/kg	Diesel-25[e] Oil-100[e]	±25%	±35%	95%	WTPH-D	8-oz glass bottle; PTFE lined lid/keep on ice (4°C)	14 days/ 30 days
Petroleum hydrocarbons	mg/kg	Gasoline-5[e]	±25%	±35%	95%	WTPH-G	4-oz glass jar; PTFE lined lid/keep on ice (4°C); fill completely with no headspace	14 days/ 21 days
BTEX	µg/kg	10-20[e]	±25%	±35%	95%	8020	4-oz glass jar; PTFE lined lid/keep on ice (4°C); fill completely with no headspace	14 days
VOCs	µg/kg	10[e]	±25%	±35%	95%	8240	4-oz glass jar; PTFE lined lid/keep on ice (4°C); fill completely with no headspace	14 days
PAHs/PCP	µg/kg	330/800[e]	±25%	±35%	95%	8270	8-oz glass jar; PTFE lined lid/keep on ice (4°C)	14 days/ 40 days
PCBs	µg/kg	33-67[e]	±25%	±35%	95%	8080	8-oz glass jar; PTFE lined lid/keep on ice (4°C)	14 days/ 40 days
Arsenic	mg/kg	1[e]	±25%	±35%	95%	3050/7060	8-oz glass jar; PTFE lined lid/keep on ice (4°C)	6 months
Mercury	mg/kg	0.2[e]	±25%	±35%	95%	7471	8-oz glass bottle/keep on ice (4°C)	28 days
Chromium	mg/kg	20[e]	±25%	±35%	95%	3050/6010	8-oz glass bottle/keep on ice (4°C)	6 months
Lead	mg/kg	1[e]	±25%	±35%	95%	3050/7421	8-oz glass bottle/keep on ice (4°C)	6 months
pH	--	0.1	±25%	±25%	95%	9045	8-oz glass jar; PTFE lined lid/keep on ice (4°C)	28 days
Water								
Petroleum hydrocarbons	mg/L	Diesel-0.250 Oil-0.750	±25%	±30%	95%	WTPH-D	One 1L amber glass; PTFE lined lid/keep on ice (4°C)	7 days 30 days

Table 5-1

Objectives for Measurement Data—Chemical Analyses

Variable	Units	Lower Limit of Detection[a]	Accuracy[b]	Precision[b]	Completeness	Method No.[c]	Bottle/Preservative	Maximum Holding Time[d]
Petroleum hydrocarbons	mg/L	Gasoline-0.250	±25%	±25%	95%	WTPH-G	Two 40-ml vials; PTFE-lined silicon septum cap/HCl to pH <2; fill completely with no headspace/keep on ice (4°C)	14 days
BTEX	µg/L	0.5-1	±25%	±25%	95%	8020	Two 40-ml vials; PTFE-lined silicon septum cap/HCl to pH<2; fill completely with no headspace/keep on ice (4°C)	14 days
VOCs	µg/L	10	±25%	±25%	95%	8240	Two 40-ml vials; PTFE-lined silicon septum cap/HCl to pH<2; fill completely with no headspace/keep on ice (4°C)	14 days
PAHs/PCP	µg/L	10-50	±25%	±25%	95%	8270	One 1L amber glass; PTFE-lined cap/keep on ice (4°C)	7 days 40 days
PCBs	µg/L	1-2	±25%	±25%	95%	8080	One 1L amber glass; PTFE-lined cap/keep on ice (4°C)	7 days 40 days
Arsenic	µg/L	1	±25%	±25%	95%	206.2	One 1L HDPE/HNO_3 to pH<2	6 months
Chromium	µg/L	10	±25%	±25%	95%	200.7	One 1L HDPE/HNO_3 to pH<2	6 months
Lead	µg/L	1	±25%	±25%	95%	239.2	One 1L HDPE/HNO_3 to pH<2	6 months
Mercury	µg/L	0.2	±25%	±25%	95%	245.1	One 1L HDPE/HNO_3 to pH<2	28 days

[a] Actual limits will depend on matrix interferences.
[b] Accuracy and precision results may deviate from these criteria as identified by the laboratory method reference on a substance-specific basis.
[c] Method numbers and laboratory methods are from USEPA, 1986 (6010, 7421, 7471, 7060, 8080, 8240, 8270, 9045); USEPA, 1983 (200.7, 206.2, 239.2, 245.1); Ecology, 1992 (WTPH-HCID, WTPH-D, WTPH-G).
[d] Where two times are given, the first refers to the maximum time from sample collection to extraction, the second to the maximum time before extract analysis.
[e] Dry-weight basis. Actual limits will be higher when corrected for percent moisture.

chromatography/mass spectrometry (GC/MS)(USEPA, 1986)

- USEPA Method 8240: aromatic VOCs (benzene, toluene, ethylbenzene, and xylenes [BTEX]) by gas chromatography/mass spectrometry (GC/MS)(USEPA, 1986)

- USEPA Method 8270: semivolatile organic compounds (polycyclic aromatic hydrocarbons [PAH] and pentachlorophenol [PCP]) by GC/MS (USEPA, 1986)

- USEPA Method 7471, 7060, 7421, 6010, and 200 series: metals by cold vapor atomic absorption spectroscopy (CVAA), inductively coupled plasma (ICP) atomic emission spectroscopy (USEPA 1983, 1986), and graphite furnace atomic absorption spectroscopy (GFAA)

Additional laboratory analysis of environmental samples will be performed using procedures based on the following USEPA and ASTM methods:

- Method 9045: Soil pH by electrode (USEPA 1986)

Field measurements of pH (Method 150.1), conductivity (Method 120.1), temperature (Method 170.1), and turbidity (Method 180.1) will be performed according to USEPA (1983) methods, where applicable, and instrument manufacturer's instructions (see Table 5-2).

5.3 Data Reduction, Validation, and Reporting

The laboratory performing sample analyses will be required to submit summary data and QA information to permit independent and conclusive determination of data quality.

5.3.1 Organic Compound Analyses

Laboratory deliverable requirements for VOCs, PAHs, BTEX, PCBs, and petroleum hydrocarbon (WTPH-D and WTPH-G) analyses will include the information outlined below and in Table 5-3.

- A cover letter for each sample batch will include a summary of any quality control, sample, shipment, or laboratory problems and will document all internal decisions. Problems will be outlined, and final solutions will be documented. A copy of the signed chain-of-custody form for each batch of samples will be included in the narrative packet.

- Sample concentrations will be reported on standard data sheets in proper units and to the appropriate number of significant figures. For undetected values, the

Table 5-2

Objectives for Measurement Data - Field Analyses

Variable	Units	Lower Limit of Detection	Accuracy[a]	Precision[a]	Completeness	Method	Method No.[b]	Bottle	Maximum Holding Time
Water									
pH	--	.01	±10%	±10%	95%	Probe	150.1	500-ml beaker	Immediate
Conductivity	µS/cm	5	±10%	±10%	95%	Probe	120.1	500-ml beaker	Immediate
Temperature	°C	0.5	±10%	±10%	95%	Mercury thermometer	170.1	500-ml beaker	Immediate
Turbidity	NTU	.01	±10%	±10%	95%	Turbidimeter	180.1	500-ml beaker	48 hours

[a] Accuracy and precision results may deviate from these criteria as identified by the laboratory method reference.
[b] Methods 120.1, 150.1, 170.1, 180.1, from USEPA (1983).

Table 5-3

Laboratory Deliverables

The following items will be delivered:

- A transmittal letter and case narrative which includes information about receipt of the samples, the laboratory results, and any significant problems in any aspect of sample analysis (e.g., deviation from methodologies or quality control parameters)
- Sample laboratory results:
  - Water results in mg/L or μg/L
  - Soil/sediment results in mg/kg or ug/kg dry-weight
  - Method detection limit for undetected values reported for each analyte on a sample-by-sample basis
  - Date of sample preparation/extraction
  - Date of sample analysis
- Method blank results, including the samples associated with each blank
- Surrogate recovery results for organic analyses, reported as percent recoveries, including actual spike levels
- Duplicate results for inorganic analyses, WTPH-G, and WTPH-D analyses
- Matrix spike/matrix spike duplicate (MS/MSD) results for organic analyses and matrix spike results for metals, WTPH-G, and WTPH-D analyses, reported as percent recoveries, including actual spike levels
- Copies of signed chain-of-custody forms

lower limit of detection for each compound will be reported separately for each sample. Dates of sample extraction or preparation and analysis must be included.

- A method blank summary.
- Surrogate percent recovery.
- Matrix spike/matrix spike duplicate (MS/MSD) percent recoveries, spike level, and relative percent difference.
- A list of the detection limits calculated for laboratory instruments for all compounds.

5.3.2 Inorganic Compound Analyses

Laboratory deliverable requirements for inorganic analyses will include the following:

- A cover letter for each sample batch will include a summary of any quality control, sample, shipment, or laboratory problems for the sample batch and will document all internal decisions. Problems will be outlined, and final solutions will be documented. A copy of the signed chain-of-custody form for each batch of samples will be included.
- Sample concentrations will be reported on standard data sheets in proper units and to the appropriate number of significant figures. For undetected values, the lower limit of detection of each element will be reported separately for each sample. Date of sample analysis must be included.
- Matrix spike results.
- Duplicate sample analysis results.
- A method blank summary.
- Laboratory control sample results.
- A list of the detection limits calculated for laboratory instruments.

5.4 Data Assessment Procedures

Accuracy, precision, completeness, representativeness, and comparability are terms used to assess the quality of laboratory data. Routine procedures for measuring precision and accuracy include use of replicate analyses, standard reference materials (SRMs), matrix spikes, and procedural blanks. Replicate matrix spikes and method blanks will be

analyzed by the selected laboratories. Additional spikes and replicate analyses may be implemented. The minimum frequencies are as follows:

- Replicate analysis.

  Organics — 5 percent of samples will be analyzed as matrix spike duplicates.

  Metals, WTPH-G, and WTPH-D — one sample per batch or one sample per matrix per batch, whichever is more frequent, will be analyzed as a laboratory duplicate.

- Matrix spike.

  Organics — one sample per batch will be spiked with selected target analytes and analyzed in duplicate. If fewer than 20 samples are analyzed per batch or matrix within a batch, at least one sample per matrix or batch will be spiked and analyzed in duplicate.

  Metals, WTPH-D, and WTPH-G — one sample per batch per matrix will be spiked and analyzed.

- Procedural blank.

  VOCs, WTPH-G, BTEX — one method blank will be analyzed for each 12-hour shift.

  Organics — one method blank will be analyzed for each sample batch extracted.

  Metals — one preparation blank per matrix will be analyzed for each sample batch.

  All other organic and inorganic analyses — one method blank will be analyzed for each sample batch per method specifications.

- Laboratory control sample (LCS) or standard reference material (SRM).

  Metals — one LCS or SRM will be analyzed per sample batch.

The mean, C, of a series of replicate measurements of concentration, C_i, for a given surrogate compound or analyte will be calculated as:

where:

n = Number of replicate measurements

$$\bar{C} = \frac{1}{n} \sum_{i=1}^{n} C_i$$

The estimate of precision of a series of replicate measurements can be expressed as the relative standard deviation, RSD:

$$RSD = \frac{SD}{\bar{C}} \times 100\%$$

where:

SD = Standard deviation:

$$SD = \sqrt{\frac{\sum_{i=1}^{n} (C_i - \bar{C})^2}{(n - 1)}}$$

Alternatively, for data sets with a small number of points (e.g., duplicate measurements), the estimate of precision will be expressed as a relative percent difference (RPD):

$$RPD = \frac{C_1 - C_2}{\bar{c}} \times 100$$

where:

C_1 = First concentration value or recovery value measured for a variable

C_2 = Second concentration value or recovery value measured for a variable

Accuracy as measured by matrix spike or laboratory control sample results will be calculated as:

$$Recovery = \frac{\Delta C}{C_s} \times 100$$

where:

ΔC = The measured concentration increase due to spiking (relative to the unspiked portion)

C_s = The known concentration increase in the spike

Accuracy can also be measured by analysis of standard reference material (SRM) or regional reference material and will be determined by comparing the measured value with the 95 percent confidence interval established for each analyte.

Completeness of each set of data is calculated by dividing the number of valid measurements actually obtained by the number of valid measurements that were planned.

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ATTACHMENT F

DRAFT REPORT, PHASE 1 ASSESSMENT FOR AREAS 11 THROUGH 18, WEYERHAEUSER EVERETT WEST SITE SEPTEMBER 1993 (Revised May 1994)

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SUMMARY

EMCON Northwest, Inc. (EMCON), conducted preliminary environmental site assessment activities at the Weyerhaeuser Everett West Property (Areas 11 through 18) located at 101 East Marine View Drive in Everett, Washington. Assessment activities included the following:

- The acquisition of logistical information pertaining to former structures and past practices
- A review of the environmental setting surrounding the site
- Excavating and collecting soil samples from 24 test pits
- Drilling and collecting soil samples from 24 soil borings
- Installing seven shallow monitoring wells
- Collecting groundwater samples from 8 monitoring wells, 16 temporarily installed wellpoints, and 4 piezometers
- Chemical analysis of soil and groundwater samples
- Review of the laboratory results
- Reporting the findings.

Soil and groundwater samples were submitted to the Weyerhaeuser Analytical Testing Services, located in Federal Way, Washington, for chemical analyses.

Soil Investigation

Soil samples were collected from 24 test pits and 26 soil borings. Based on review of soil sample laboratory results, conclusions pertaining to soil quality at the site are as follows:

- Forty soil samples were analyzed for total petroleum hydrocarbons as diesel (TPH-D), and two soil samples collected near the existing underground storage

tank in Area 17 were analyzed for total petroleum hydrocarbons as gasoline (TPH-G). TPH-D was detected in the following four areas at the site: Area 11 near a former transformer pad and the existing sandblast fill area, Area 12 adjacent to the east side of former Mill C, Area 14 in the vicinity of the former pulp mill, and Area 16 near the west end of the warehouse and chip silos near an existing oil products storage shed. TPH-G was not detected in any of the soil samples.

- Five soil samples were analyzed for volatile organic compounds (VOCs). Three VOC compounds (acetone, carbon disulfide, and 2-butanone) were detected, possibly as laboratory contaminants. Two soil samples collected near the existing underground storage tank were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). No BTEX compounds were detected in any of the soil samples.

- Four soil samples were analyzed for semivolatile organic compounds (semi-VOCs) including pentachlorophenol (PCP). No semi-VOCs or PCP were detected in any of the soil samples.

- Fifteen soil samples were analyzed for PCB compounds. Aroclor 1254 was detected in five samples ranging from 0.068 mg/kg in sample TP-1101 to 25.0 mg/kg in sample SB-1103. Aroclor 1260 was detected in three samples ranging from 0.014 mg/kg in sample SB-1305 to 0.17 mg/kg in sample TP-1102. No other PCB compounds were detected

- Fifteen soil samples were analyzed for total metals (arsenic, chromium, lead, and mercury). Arsenic concentrations ranged from 2.8 mg/kg in sample TP-1404 to 70.2 mg/kg in sample SB-1102; chromium concentrations ranged from 17 mg/kg in sample TP-1402 to 1,630 mg/kg in sample SB-1103; lead concentrations ranged from 2.8 mg/kg in sample SB-1305 to 659 mg/kg in sample SB-1101; mercury was not detected in any samples.

- Eighteen soil samples were analyzed for pH. Soil pH ranged from 4.4 in sample TP-1207 to 12.5 in sample TP-1402.

Groundwater Investigation

Groundwater samples were collected from 16 temporarily installed wellpoints, 8 monitoring wells, and 4 piezometers. Based on review of groundwater sample laboratory results, conclusions pertaining to groundwater quality at the site are as follows:

- Three groundwater samples were analyzed for TPH-G. TPH-G was not detected in any of the groundwater samples.

- Twenty-eight groundwater samples were analyzed for TPH-D (extended). TPH-D was detected above 1 mg/L in six samples, ranging from 1.0 mg/L in sample SB-1401 to 2.0 mg/L in sample SB-1201. TPH-H was detected above 1 mg/L in two samples, ranging from 1.3 mg/L in sample SB-1401 to 2.4 mg/L in sample SB-1201.

- Ten groundwater samples were analyzed for VOC compounds, and three groundwater samples were analyzed for BTEX. VOC compounds were detected in four samples; six VOC compounds were detected in sample SB-1601, ranging from 4 to 36 μg/L, and MEK was detected in three additional samples at 1 μg/L. No BTEX compounds were detected in any of the groundwater samples.

- Seven groundwater samples were analyzed for semi-VOCs, including pentachlorophenol. Semi-VOC compounds detected in four samples ranged from 1 to 13 μg/L. Naphthalene was detected in sample MW-1202 at 13 μg/L. Pentachlorophenol was not detected in any of the groundwater samples.

- Thirteen groundwater samples were analyzed for PCB compounds. PCB compounds were not detected in any of the groundwater samples.

- Twenty-one groundwater samples were analyzed for dissolved metals (arsenic, chromium, lead, and mercury). Arsenic concentrations ranged from not detected (ND) to 100 μg/L in sample MW-1301; chromium concentrations ranged from ND to 36 μg/L in sample SB-1603; lead concentrations ranged from ND to 6 μg/L in sample SB-1403; mercury concentrations ranged from ND to 0.2 μg/L in sample SB-1603.

- Five groundwater samples were analyzed for total metals (arsenic, chromium, lead, and mercury). Arsenic concentrations ranged from ND to 96 μg/L in sample MW-1301; chromium concentrations ranged from ND to 57 μg/L in sample WP-1101; lead concentrations ranged from ND to 52 μg/L in sample WP-1101; mercury concentrations ranged from ND to 0.2 μg/L in sample WP-1101.

- Twenty-one groundwater samples were analyzed for pH. Groundwater pH values ranged from 5.4 in sample SB-1601 to 9.9 in samples SB-1302 and MW-1203.

Geology

The site is situated on relatively level fill adjacent to the Snohomish River. Over time, it was filled as required for construction and operation of the mills and associated operations during the 1900s. In general, the sediment underlying the site consists of

man-made and dredge fill overlying natural estuarine and fluvial sediment. The fill and natural sediments underlying the site have been subdivided into the following silt and sand units:

- The Grade Fill and Mixed Fill unit was encountered in four soil borings ranging in thickness from approximately 1 to 2 feet.
- The Upper Sand unit (dredge fill) was encountered site-wide within the borings and test pits, ranging in thickness from approximately 2 to 10 feet.
- The Upper Silt unit (estuarine) was encountered in two soil borings. The thickness of the Upper Silt unit was not determined.

Hydrogeology

Groundwater was encountered beneath the site during drilling activities. A shallow perched water table aquifer was encountered from near the ground surface to the base of the Upper Sand unit in all of the soil borings.

Based on depth to water measurements taken from the monitoring wells during groundwater sampling activities and from the associated monitoring well survey data, the inferred hydraulic gradient of the shallow aquifer beneath the west site is northward towards the Snohomish River.

1 INTRODUCTION

This report describes the findings of preliminary site assessment activities performed on the Weyerhaeuser West Site (Areas 11 through 18) located in Everett, Washington. The general vicinity of the site is shown on Figure 1-1. The assessment was conducted as an independent voluntary action on behalf of The Weyerhaeuser Company. The preliminary Phase 1 site assessment activities were performed by EMCON Northwest, Inc., from May through July 1993. The scope of work consisted of excavating and soil sampling 24 test pits, drilling and soil sampling 26 borings, installing and sampling 7 groundwater monitoring wells, temporary installation and sampling of 16 wellpoints, laboratory analysis of soil and groundwater samples, and reviewing and reporting the findings.

The preliminary site assessment activities were limited to Weyerhaeuser West Site areas designated 11 through 18. The numeric area designations were used for previous investigations and had been established based on former structures and past practices. To maintain continuity, EMCON has continued using the numeric area designations where applicable. Area descriptions, including existing and former structures and past practices, were reported in the EMCON Northwest, Inc., *Overall Site Assessment Report,* dated August 4, 1992. The following are brief summaries of Areas 11 through 18:

- **Area 11 — Sandblast Fill Area.** Area 11 consists of a cement foundation that was used to support a former transformer and an abandoned clarifier associated with former Mill C. The west boundary of Area 11 is adjacent to Area 12. Soil and groundwater samples were collected around the former transformer foundation, an abandoned clarifier, and a former sampling location SB-SURF-1 which was part of a previous investigation consisting of test pits and surface sampling. Based on the results of previous investigations, TPH and metals contamination were suspected near the former transformer foundation.

- **Area 12 — Former Mill C.** No buildings currently exist in this area. The area contains abundant fill (including woodwaste), buried creosote support piles, subdrains, a lime kiln/causticizing area, and a lime pile in Area 13 adjacent to Area 12 along the west boundary.

- **Area 13 — Powerhouse, Recovery, and Causticizing Area.** Area 13 was used for power generation and recovery, causticizing, and sandblasting. Soil and groundwater samples were collected from areas associated with the kiln

trunions, the power room, the portable compressor area, the main stack base, the caustic lime pile, the lime kiln, and Willins pond. Previous soil sampling indicated TPH contamination near the kiln trunions. Contaminants of concern consisted of TPH, PCBs, metals, and semi-VOCs.

- **Area 14 — Northern Fill Area.** Area 14 is a former tidal flat area that has been filled. This included filling and covering two sunken wood barges. Soil and groundwater samples were collected area-wide. No previous site characterization has been performed in Area 14. Based on past practices associated with operation of the former pulp mill, contaminants of concern consisted of TPH, PCBs, metals, and lime (pH).

- **Area 15 — Fuel Tank Area.** Area 15 consists of a bermed yard containing an aboveground Bunker C tank. One groundwater monitoring well was installed hydraulically downgradient, and outside the bermed area to the north. Weyerhaeuser excavated petroleum impacted soil from within the bermed area in 1992. Laboratory results associated with soil samples collected from inside the bermed area following excavation indicated the presence of petroleum impacted soil.

- **Area 16 — Pulp Mill Facilities.** Area 16 consists of the pulp mill, warehouse, machine room, offices, maintenance building, chip silos, aboveground storage tanks, and bleach plant. Soil and groundwater samples were collected from boring locations area-wide.

- **Area 17 — Warehouse and Filter Plant.** Area 17 contains a warehouse, filter plant, a bank of transformers, one underground storage tank (UST), and a sand blast shed. Soil and groundwater samples were collected to delineate previously identified contaminants. Suspected contaminants consist of BTEX, TPH, VOCs, PCBs, and metals.

- **Area 18 — Former White Liquor Storage Area.** No buildings or tanks currently exist in this area. Soil and groundwater samples were collected in the vicinity of the former white liquor storage tanks. Two piezometers and one monitoring well were installed during the demolition landfill investigation. The former demolition landfill was located off site and southwest of Area 18. Suspected contaminants in Area 18 include TPH and pH.

1.1 Approach

EMCON's August 4, 1992, *Overall Site Assessment Report* findings were used to prepare a work plan for the Weyerhaeuser West Site. Preliminary assessment activities consisted of acquiring logistical information pertaining to former structures and past practices, soil and groundwater sampling, chemical analysis of samples to determine the extent of

known and suspected soil contamination, and obtaining information related to the hydrogeology and groundwater quality at the site.

1.2 Site Background

Weyerhaeuser began Everett, Washington, operations in 1902. The Everett West Site consists of former Mill C, Mill D, and the Pulp Mill. Former Mill C began operations in 1926 and closed in 1976. The Pulp Mill began operations in 1953 and was closed in 1992. Both Mill C and Mill D have been demolished. The former Mill D operations reportedly began in 1963 and closed in 1971 when it was demolished. Background information pertaining to the west site was obtained from past assessment reports and interviews with former and current Weyerhaeuser employees.

The following is a summary of known historical land uses near the site:

- According to an enforcement order issued to America Smelting and Refining Company (ASARCO) (No. DE 92TC-N147), a lead smelter and ore refinery operated from approximately 1893 to 1914 on property near what is now the intersection of East Marine View Drive and State Route 529. The Puget Sound Reduction Company began operating the smelter to refine ore for lead, copper, gold, and silver. ASARCO bought the smelter in 1903. The lead smelter operated until 1907. An arsenic processing plant also operated at the smelter site from approximately 1898 until 1913. The smelter and processing plant were dismantled in 1914.

- Weyerhaeuser operated saw mills south of State Route 529 from 1916 to around 1980. Wood waste landfills, aeration lagoons, and log sorting operations are located northeast of the site on Smith Island.

- Burlington Northern Railroad (BNRR) currently operates and maintains a railroad right-of-way immediately south and east of the Weyerhaeuser west site.

- A residential area is located west of the site, and south of Marine View Drive, at an elevation about 75 feet above the Weyerhaeuser facility.

Previous Weyerhaeuser West Site assessment activities and findings are as follows:

- **Area 15 Bunker C Tank** - On August 27, 1992, nineteen soil samples were collected near the Bunker C fuel tank located in Area 15. The samples were analyzed for TPH-D. Laboratory results indicated concentrations of TPH-D in soil in this area. TPH-D laboratory results for 16 samples ranged from 200 to 12,000 mg/kg.

- **Area 11 Sandblast Fill** - On August 18, 1992, eight soil samples were

collected from the sandblast fill area and analyzed for arsenic, chromium, copper, lead, mercury, and TPH-D. Laboratory results for arsenic ranged from 2.3 to 21.0 mg/kg; chromium ranged from 11.1 to 2,930 mg/kg; copper ranged from 11.6 to 86.6; lead ranged from 2.0 to 285; and mercury was detected in one sample at 0.09 mg/kg. TPH-D was detected in one sample at 710 mg/kg, and TPH-O was detected at 1,000 mg/kg in the same sample.

- **Area 17 Sandblast Shed** – On September 2, 1992, five soil samples were collected from near the sandblast shed and analyzed for TCLP metals. Arsenic was detected in one sample at 0.1 mg/kg, and barium was detected in all five samples ranging from 0.5 to 0.8 mg/kg. No other TCLP metals were detected.

- **Area 13 Kiln Trunion** – On August 24, 1992, eight soil samples were collected from beneath the kiln trunion and analyzed for TPH-D. TPH-D was detected in three samples ranging from 210 to 1,800 mg/kg.

- **Area 13 Portable Compressor** – On August 25, 1992, four soil and four water samples were collected from near the portable compressor spill area and analyzed for TPH-D. TPH-D was detected above 200 mg/kg in only one soil sample. TPH-D was not detected in the water samples.

Further assessment of the above-referenced areas was not included as part of the scope of work associated with this report.

1.3 Environmental Setting

The site consists of approximately 35 acres located on the western portion of the Weyerhaeuser Everett property (Map 1). The site is relatively flat and is bordered on the north by the Snohomish River, and by Burlington Northern Railroad (BNRR) tracks on the east, west, and south.

The Everett area climate is predominantly marine temperate, with prevailing westerly winds (Newcomb, 1952). The average annual rainfall is approximately 33 inches, with maximum precipitation in the winter months and a dry period in the summer. The mean annual temperature for Everett is 51 degrees Fahrenheit (°F).

The Snohomish River to the north of the site is tidally influenced, with salt wedge intrusion to approximately 5 miles south of the site, beyond the Interstate 5 bridge. The mean tide range of the Snohomish River at Everett is approximately 7 feet (Newcomb, 1952). The tides at Everett (with mean lower low water [MLLW] as 0 feet) range from 11.1 feet mean higher high water (MHHW), 10.2 feet mean high water (MHW), 2.8 feet mean low water (MLW), and -4.5 feet extreme low water (ELW) (NOAA, 1991).

1.4 Geology

Site-specific geologic information has been obtained from this assessment and from previous investigations. Geologic investigations consisted of excavating and sampling test pits and drilling and sampling soil borings.

The site is located on relatively level dredge fill adjacent to the Snohomish River approximately 0.75 miles upstream from the river mouth at Port Gardner in Puget Sound. The river has become channelized into a main stream with several shallow sloughs separated by marshy islands. The main stream of the river flows adjacent to the site and is approximately 600 feet wide. The site is within the low-lying floodplain of the river, which is bounded on the south by moderately steep sloped ridges and hills reaching to 500 feet above mean sea level.

The site may be accessed by a trestle bridge over the BNRR leading from East Marine View Drive. The BNRR forms the southern property boundary. Approximately 5 percent of the site is covered by vegetation consisting primarily of grasses, weeds, small shrubs, and trees.

The site was formerly an estuarine tide flat adjacent to the Snohomish River. It was filled in the early 1900s, using sand dredged from the river bottom. The bank of the Snohomish River has been stabilized along the length of the site with a bulkhead of timber and steel sheet pilings.

The sediment underlying the site consists of man-made fill and dredge fill overlying natural estuarine and fluvial sediment. For the purposes of this report, the natural sediment has been subdivided into silt and sand units, although there is some interbedding within each unit. Analyses of each material are presented below.

Fill materials and native fluvial and estuarine sediment encountered during the preliminary assessment are divided into the following geologic units which are listed from youngest to oldest:

- Grade Fill and Mixed Fill unit
- Upper Sand unit (dredge fill)
- Upper Silt unit (estuarine)

1.4.1 Grade Fill and Mixed Fill

Grade fill or mixed fill was encountered at the surface at most of the test pit and soil boring locations. Grade fill material typically consists of crushed rock, sand, or both. Mixed fill is composed of sandy gravel, asphalt, angular pebbles, cobbles, wood debris,

and bark. Where asphalt is absent, the top few inches of the mixed fill contain abundant organic and wood debris and are vegetated. The grade and mixed fill ranges from 1 to 4 feet thick.

1.4.2 Upper Sand

The upper sand unit is composed of gray-brown to black, fine to medium sand with trace coarse sand. The thickness of the upper sand unit encountered on the west site ranges from 3 to 10 feet. The sand is typically uniform in texture and composition. Thin lenses, less than 2 inches, of coarser or finer sand are encountered in most borings. Historical records indicate that sand dredged from the Snohomish River was deposited on estuarine tidal flats of the Snohomish River across most of the site. Faint horizontal bedding was seen in most samples, confirming an hydraulic emplacement of the dredge fill. Dredge sands were encountered below fill units in all test pits and soil borings. The groundwater table is found in the upper sand at an average depth of 4 feet below the surface.

1.4.3 Upper Silt

The upper silt unit was encountered in two borings penetrating the base of the upper sand at the site. The silt unit is composed of soft to firm, low plasticity to medium-plastic, gray-brown to dark-brown silt with abundant organic matter (wood fragments and rootlets) in the upper layers of the unit. Lenses of fine sand, sandy silt, and silty sand, 0.1 to 0.2 feet thick, were encountered in a few borings and found at all depths in the unit. The thickness of the upper silt unit was not determined.

1.5 Hydrogeology

Three hydrostratigraphic units were identified during site assessment activities. These are, in order of increasing depth, grade fill and mixed fill, upper sand, and upper silt.

1.5.1 Grade Fill and Mixed Fill

As described in Section 4.1, the entire site appears to be covered or underlain by fill material composed primarily of sandy gravel with or without wood debris. The grade fill is not considered a barrier to vertical infiltration. Some of the mixed fill has been compacted, and ponded water was observed on the surface at some locations. Following significant rainfall events, surface water was ponded over compacted gravel and silt. The grade and mixed fill units were unsaturated in most areas during the assessment, but may be part of the capillary fringe during maximum water table elevations.

1.5.2 Upper Sand Aquifer

The upper sand hydrostratigraphic unit underlies the grade and mixed fill below the entire site. The unit is predominantly composed of fine to medium sand. The upper sand aquifer is unconfined.

The water table is at a depth of about 4 feet below grade in most areas. A capillary fringe is estimated to extend a few inches above the water table. The water table apparently fluctuates between seasonal maximum and minimum elevations. The upper sand aquifer is monitored by nine on-site monitoring wells screened from the base of the unit to above the water table.

1.5.3 Upper Silt Aquitard

The upper silt unit was encountered in two borings penetrating the base of the upper sand at the site. The silt unit may act as an aquitard beneath the shallow perched aquifer. No hydraulic testing of the shallow aquifer or geologic units beneath the site has been conducted at this time.

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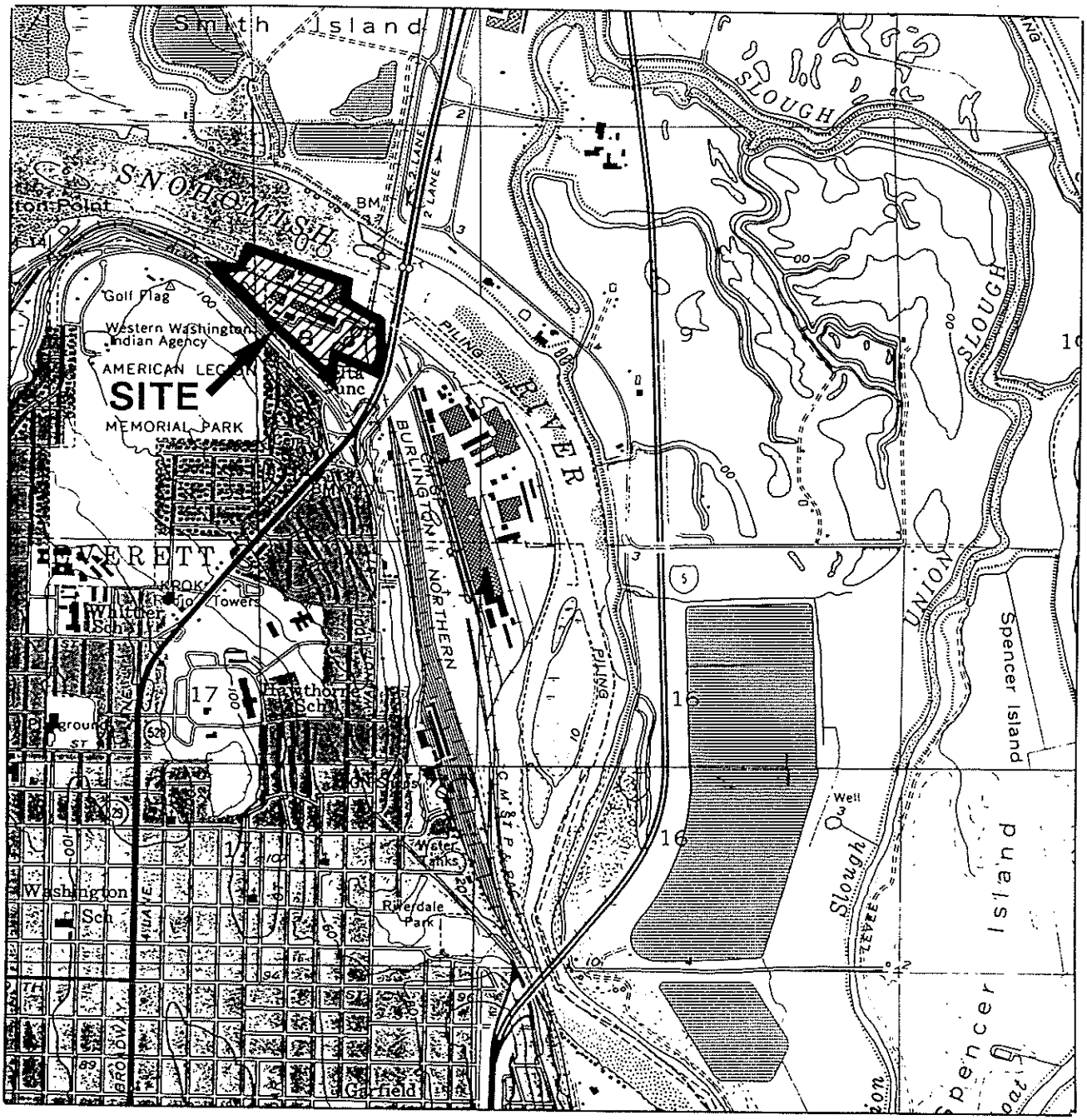

emcon Northwest, Inc.

DATE 6/92
DWN. JA
APPR.
REVIS.
PROJECT NO. 0141-037.29

Figure 1-1
WEYERHAEUSER COMPANY
WEST SITE
EVERETT, WASHINGTON

SITE LOCATION MAP

2 SOIL INVESTIGATION

2.1 Introduction

Test pit and soil boring sample locations were identified in EMCON's *Work Plan for Everett West Site Assessment*, May 21, 1993. Test pit and soil boring locations were selected to delineate the lateral and vertical extent of known and suspected impacted soils. Soil sampling location rationale, including the sample collection depth, is described in Table 2-1. A summary of laboratory parameters associated with specific soil sample locations by area is presented in Table 2-2.

2.2 Soil Sampling Methods and Procedures

Soil samples were collected from 24 test pit excavations and 26 soil borings as shown on Map 1. The test pits were excavated using an excavator owned and operated by Wilder Construction Company of Everett, Washington. Soil borings were advanced using hollow-stem auger drilling equipment owned and operated by Geoboring and Development, Inc., of Puyallup, Washington.

Soil samples were collected from the test pits and soil borings by using sampling methods and procedures as outlined in the EMCON Work Plan. Test pit soil samples were collected by using decontaminated stainless steel bowls and spoons. In general, each test pit soil sample represented a vertical composite profile of the test pit soil from near the ground surface to a depth immediately above the shallow groundwater table. Soil boring soil samples were collected using 2-inch-diameter, split-spoon samplers. All soil samples taken from soil borings were collected above the water table. Exploratory test pit and soil boring logs were completed describing subsurface soil conditions at each sampling location. The test pit and soil boring logs are attached in Appendix F-A.

The excavation, drilling, and sampling equipment was decontaminated by hot pressure washing between sampling events to reduce the possibility of cross-contamination. The soil samples were placed into laboratory prepared containers, preserved in iced coolers, and delivered to the Weyerhaeuser laboratory located in Federal Way, Washington under standard Chain-of-Custody procedures for chemical analyses.

2.3 Soil Sample Designation and Laboratory Parameters

Sample designations were used to associate each sample with the sample location within a specific area. For example, sample TP-1201 was collected from a test pit (TP) located in Area 12 (12) at sample location one (01). The locations of all test pits and soil borings are shown on Map 1.

2.4 Soil Sample Analyses Results

Data validation of the laboratory results was conducted during April 1994. Laboratory results with an associated flag qualifier other than "U" were reported as detections. Flag qualifiers and definitions used in the Weyerhaeuser laboratory reports are identified below:

- U — Indicates the compound was analyzed for but not detected. The sample quantitation limit is reported corrected for dilution and percent moisture.

- J — Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds or when data indicate the presence of a compound, but the result is lower than the sample quantitation limit and higher than zero.

- P — This flag is used for a pesticide/Aroclor target analyte when there is greater than a 25 percent difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

- B — This flag is used when the analyte is detected in the associated blank as well as in the sample.

- E — This flag is used for compounds whose concentrations exceed the calibration range of the instrument.

- D — This flag identifies all compounds identified at a secondary dilution in an analysis. This flag alerts the data user that any discrepancies between the concentrations reported in the two runs may be due to dilution errors.

The soil sample laboratory reports are attached in Appendix F-1.

Specific results of soil sample analyses are summarized in the following subsections:

2.4.1 Petroleum Hydrocarbons

Forty soil samples were analyzed for TPH in the diesel and heavy oil range, and two soil samples collected near the existing underground storage tank in Area 17 were analyzed for TPH-G. The following four areas at the site were identified as having TPH impacted soil:

- Area 11, near the former transformer pad and the sandblast fill area
- TPH concentrations ranged up to 250 mg/kg in sample SB-1101
- Area 12, adjacent to the east side of former Mill C; TPH-H (heavy oil range) concentrations ranged from 280 mg/kg in SB-1201 to 22,000 mg/kg in sample TP-1204
- Area 14, in the vicinity of the former pulp mill; TPH-H (heavy oil range) concentrations ranged from 210 mg/kg in sample SB-1402 to 1,100 mg/kg in sample SB-1401
- Area 16, near the west end of the warehouse, and chip silos, near a petroleum products storage building; TPH-H (heavy oil range) concentrations ranged from 250 mg/kg in sample SB-1603 to 1,400 mg/kg in sample SB-1602.

TPH-G was not detected in any of the soil samples. A summary of petroleum hydrocarbons in soil is shown in Table 2-3.

2.4.2 Volatile Organic Compounds

Five soil samples were analyzed for VOCs; three VOC compounds (acetone, carbon disulfide, and 2-butanone) were detected. Acetone was detected at less than 0.1 mg/kg in samples TP-1202, TP-1204, and TP-1207. Carbon disulfide was detected at an estimated concentration of 0.02 mg/kg in sample TP-1207. 2-butanone was detected at 14 mg/kg in sample TP-1204 and at 0.09 mg/kg in sample TP-1207. Two soil samples collected near the existing underground storage tank were analyzed for BTEX. No BTEX was detected in any soil samples. A summary of volatile organic compounds in soil is shown in Table 2-4.

2.4.3 Semivolatile Organic Compounds

Four soil samples were analyzed for semivolatile organic compounds (semi-VOCs) including pentachlorophenol (PCP). No semi-VOCs or PCP were detected in any soil samples. A summary of semi-volatile organics in soil is shown in Table 2-5.

2.4.4 PCBs

Fifteen soil samples were analyzed for PCB compounds. Aroclor 1254 was detected in five samples ranging from 0.068 mg/kg in sample TP-1101 to 25.0 mg/kg in sample SB-1103. Aroclor 1260 was detected in three samples, ranging from 0.014 mg/kg in sample SB-1305 to 0.17 mg/kg in sample TP-1102. These results indicate the presence of PCB compounds in soil near the former transformer located in Area 11 and the former sandblast shed in Area 13. A summary of PCB compounds in soil is shown in Table 2-6.

2.4.5 Total Metals (As, Cr, Pb, and Hg)

Fifteen soil samples were analyzed for total metals (arsenic, chromium, lead, and mercury). Arsenic concentrations ranged from 2.7 mg/kg in sample TP-1204 to 70.2 mg/kg in sample SB-1102; chromium concentrations ranged from 17 mg/kg in sample TP-1402 to 1,630 mg/kg in sample SB-1103; lead concentrations ranged from 2.8 mg/kg in sample SB-1305 to 659 mg/kg in sample SB-1101; and mercury was not detected in any sample. A summary of metals in soil is shown in Table 2-7.

2.4.6 pH

Eighteen soil samples were analyzed for pH. Soil pH ranged from 4.4 in sample TP-1207 to 12.5 in sample TP-1402. A summary of soil pH is shown in Table 2-8.

Table 2-1

Everett West Sampling Rationale

Sample Type	Number of Samples Collected	Location of Samples Collected	Sample Description	Rationale
Area 11				
Wellpoint water sample	1	North side of sandblast fill area	GW at top of shallow aquifer	Sample GW DG of fill area
Soil boring with wellpoint water sample	1	North side of former transformer pad	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil and water adjacent to transformer pad
Soil borings	3	Sandblast fill area	Surface soil	Sample surface soil adjacent to SB SURF-1
Test pits	2	South side of former transformer pad	Vertical composite of unsaturated fill or native soil	Sample shallow soil in areas of equipment maintenance and adjacent to former transformer
Area 12				
Shallow monitoring well	2	North of former Mills C and D	Vertical composite of unsaturated fill, native soil, and/or GW at top of shallow aquifer	Sample soil within footprint of former mills, and/or sample GW DG of mills
Shallow monitoring well	1	North of former sorting shed	GW at top of shallow aquifer	Sample GW DG of Mill C/ Kraft Mill; sample wellpoint to allow comparison with monitoring well sample
Soil boring with wellpoint water sample	2	One each within footprint of Mill C and sorting shed	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil within footprint of former sorting shed and mills; sample GW DG of same
Soil boring	3	North of causticizing area	Vertical composite of unsaturated fill or native soil	Sample soil adjacent to causticizing area
Test pits	12	Spread throughout and around former Mills C and D	Vertical composite of unsaturated fill or native soil	Sample soil within and adjacent to footprint of former mills

NOTE: GW = groundwater
DG = downgradient
UG = upgradient

Table 2-1

Everett West Sampling Rationale

Sample Type	Number of Samples Collected	Location of Samples Collected	Sample Description	Rationale
Area 13				
Shallow monitoring well	1	North of lime pile and causticizing area	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil adjacent to holding pond; sample GW DG of causticizing area and stack base
Shallow monitoring well	1	North of power house	GW at top of shallow aquifer	Sample GW DG of power house
Soil boring with wellpoint water sample	3	Two north of causticizing area, one north of power house	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil and GW in areas most likely to be contaminated by former Kraft Mill activities
Soil boring	3	Two west of sandblast shed, one southwest of stack base	Vertical composite of unsaturated fill or native soil	Sample soil in areas most likely to be contaminated by former mill activities
Test pits	2	North of power house	Vertical composite of unsaturated fill or native soil	Sample soil within black liquor spill area
Area 14				
Soil boring with wellpoint water sample	3	Spread throughout area	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil and GW throughout filled area
Test pit	4	Spread throughout area	Vertical composite of unsaturated fill or native soil	Sample soil throughout filled area
Area 15				
Shallow monitoring well	1	North side of area, outside of berm	GW at top of shallow aquifer	Sample GW DG of fuel tanks

NOTE: GW = groundwater
DG = downgradient
UG = upgradient

Table 2-1

Everett West Sampling Rationale

Sample Type	Number of Samples Collected	Location of Samples Collected	Sample Description	Rationale
Area 16				
Existing shallow monitoring well	1	South of offices and maintenance building	GW at top of shallow aquifer	Sample GW UG of Kraft Mill
Wellpoint water sample	1	North of warehouse	GW at top of shallow aquifer	Sample GW DG of warehouse, machine room, and maintenance building
Soil boring with well point water sample	4	North of lube/oil shack, north of caustic tanks, north of maintenance building	Vertical composite of unsaturated fill or native soil; GW at top of shallow aquifer	Sample soil and GW in areas most likely to be contaminated by former mill activities
Soil boring	2	One near lube/oil shack, one north of pulp mill	Vertical composite of unsaturated fill or native soil	Sample soil in areas most likely to be contaminated by former mill activities
Area 17				
Shallow monitoring well	1	Southwest of sandblast shed, west of former MW-1	GW at top of shallow aquifer	Sample GW UG of Mill C, warehouse, and filter plant
Existing shallow piezometers	2	East side of filter plant	GW at top of shallow aquifer	Sample GW DG of area
Wellpoint water sample	2	North side of area	GW at top of shallow aquifer	Sample GW DG of fill area
Soil boring	2	Around transformer pad	Vertical and horizontal composite of unsaturated fill or native soil	Sample soil adjacent to transformer pad
Test pits	3	Two adjacent to gasoline UST, one east of former drum storage pad	Vertical composite of unsaturated fill or native soil	Sample soil before removal of UST and in area adjacent to former drum storage area
Area 18				
Existing shallow piezometers	2	South and north sides of area, respectively	GW at top of shallow aquifer	Sample groundwater UG and DG of area
Soil boring	1	Beneath former caustic storage tank	Vertical composite of unsaturated fill or native soil	Sample soil beneath former tank

NOTE: GW = groundwater
DG = downgradient
UG = upgradient

Table 2-2

Summary of Soil Analyses

Sample Identification	Analytical Parameter								
	BTEX Method 8020	TPH-G Method WTPH-G	VOCs Method 8240	TPH-D Method WTPH-D extended	PAHs Method 8270	PCP Method 8270	PCBs Method 8080	Total Metals 6000/7000 Series Methods	pH Method 9045
SB-1101				1			1	1 (As, Cr, Pb, Hg)	
SB-1102							1	1 (As, Cr, Pb, Hg)	
SB-1103							1	1 (As, Cr, Pb, Hg)	
SB-1104							1	1 (As, Cr, Pb, Hg)	
TP-1101				1			1		
TP-1102				1			1		
MW-1201				1					
SB-1201				1					
SB-1202			1	1				1 (As, Cr)	
SB-1203				1					1
SB-1204									1
SB-1205									1
TP-1201				1					
TP-1202			1	1	1	1	1	1 (As, Cr, Pb, Hg)	1
TP-1203				1					
TP-1204			1	1	1	1	1	1 (As, Cr, Pb, Hg)	1
TP-1205				1					
TP-1206				1					
TP-1207			1	1	1	1	1	1 (As, Cr, Pb, Hg)	1
TP-1208				1					

Table 2-2

Summary of Soil Analyses

Sample Identification	Analytical Parameter								
	BTEX Method 8020	TPH-G Method WTPH-G	VOCs Method 8240	TPH-D Method WTPH-D extended	PAHs Method 8270	PCP Method 8270	PCBs Method 8080	Total Metals 6000/7000 Series Methods	pH Method 9045
TP-1209				1					
TP-1210				1					
TP-1211				1					
TP-1212				1					
MW-1301									1
SB-1301									1
SB-1302				1					1
SB-1303				1	1				
SB-1304				1				1 (As, Cr, Pb, Hg)	1
SB-1305				1			1	1 (As, Cr, Pb, Hg)	1
SB-1306									1
TP-1301				1					
TP-1302				1					
SB-1401				1					
SB-1402				1					
TP-1401				1			1	1 (As, Cr, Pb, Hg)	
TP-1402				1			1	1 (As, Cr, Pb, Hg)	1

Table 2-2

Summary of Soil Analyses

Sample Identification	Analytical Parameter								
	BTEX Method 8020	TPH-G Method WTPH-G	VOCs Method 8240	TPH-D Method WTPH-D extended	PAHs Method 8270	PCP Method 8270	PCBs Method 8080	Total Metals 6000/7000 Series Methods	pH Method 9045
TP-1403				1					1
TP-1404				1			1	1 (As, Cr, Pb, Hg)	1
SB-1601			1	1					
SB-1602			1	1					
SB-1603				1					1
SB-1605				1					1
SB-1606			1	1					
SB-1701				1			1		
SB-1702				1			1		
TP-1701	1	1						1 (Pb)	
TP-1702	1	1						1 (Pb)	
TP-1703				1			1		
TP-1801				1					1
Totals (not including field QC)	2	2	5	40	4	3	16	15	18

Table 2-3

Petroleum Hydrocarbons in Soil
Weyerhaeuser — Everett
West Site

Sample Identification	Date Collected	Sample Depth (feet below grade)	Diesel Fuel Range mg/kg	Heavy Oil Range mg/kg	Gasoline mg/kg
SB-1101	06/11/93	3.0 - 4.5	50	250	NA
TP-1101	05/26/93	3.0 - 6.0	29U	130	NA
TP-1102	05/26/93	0.5 - 5.5	24U	49	NA
MW-1201	06/14/93	5.5 - 7.0	2.1	4.4	NA
SB-1201	06/15/93	5.0 - 6.5	93	280	NA
SB-1202	06/11/93	1.5 - 3.0	1.7U	3.4U	NA
SB-1203	06/08/93	3.0 - 4.5	1.7U	3.5U	NA
TP-1201	05/27/93	3.5 - 11.5	18	37	NA
TP-1202	05/27/93	2.0 - 10.0	0.9U	1.8U	NA
TP-1203	05/27/93	1.5 - 10.0	5,800	12,000	NA
TP-1204	05/27/93	6.5 - 9.5	7,600	22,000	NA
TP-1205	05/27/93	0.5 - 6.0	30	110	NA
TP-1206	05/27/93	5.0 - 6.5	130	640	NA
TP-1207	05/27/93	6.0 - 10.5	8.0	4.1U	NA
TP1208	05/27/93	2.5 - 5.5	1.9U	5.4	NA
TP-1209	05/27/93	2.0 - 5.0	7	35	NA
TP-1210	05/27/93	0.5 - 6.0	18U	67	NA
TP-1211	05/27/93	0.5 - 6.0	1.9U	3.7U	NA
TP-1212	05/27/93	2.0 - 5.0	12	40	NA
SB-1302	06/11/93	3.0 - 4.5	1.7U	7	NA
SB-1303	06/08/93	1.5 - 3.0	1.8U	3.6U	NA
SB-1304	06/08/93	3.0 - 4.5	1.8U	3.5U	NA
SB-1305	06/08/93	3.0 - 4.5	1.8U	3.6U	NA
TP-1301	05/28/93	0.5 - 6.5	1.8U	7	NA
TP-1302	05/28/93	0.5 - 6.5	1.8U	3.6U	NA
SB-1401	06/15/93	7.5 - 9.0	220	1,100	NA
SB-1402	06/15/93	9.0 - 10.5	39	210	NA
TP-1401	05/26/93	3.5 - 8.0	150	980	NA
TP-1402	05/26/93	7.0 - 9.5	21U	170	NA

Table 2-3

Petroleum Hydrocarbons in Soil
Weyerhaeuser — Everett
West Site

Sample Identification	Date Collected	Sample Depth (feet below grade)	Diesel Fuel Range mg/kg	Heavy Oil Range mg/kg	Gasoline mg/kg
TP-1403	05/26/93	5.0 - 9.0	76	43	NA
TP-1404	05/26/93	6.0 - 10.0	5.7	31	NA
SB-1601	06/14/93	1.0 - 2.0	30	100	NA
SB-1602	06/08/93	1.5 - 3.0	200U	1,400	NA
SB-1603	06/08/93	1.5 - 3.0	19	250	NA
SB-1605	06/08/93	1.5 - 3.0	19	350	NA
SB-1606	06/15/93	1.5 - 3.0	1.9U	3.8U	NA
SB-1701	06/08/93	1.5 - 3.0	150	170	0.5U
SB-1702	06/08/93	1.5 - 3.0	26	99	0.5U
TP-1703	05/26/93	0.5 - 4.5	59	27	NA
TP-1801	05/26/93	0.5 - 3.0	5.1	38	NA

NOTE: SB = Soil boring sample.
TP = Test pit sample.
U = Undetected at given detection limit.
NA = Not analyzed.

Table 2-4
Volatile Organic Compounds in Soil
Weyerhaeuser — Everett
West Site

Sample Identification	SB-1202	TP-1202	TP-1204	TP-1207	SB-1606	TP-1701	TP-1703
Date Collected	06/11/93 mg/kg	05/27/93 mg/kg	05/27/93 mg/kg	05/27/93 mg/kg	06/15/93 mg/kg	05/26/93 mg/kg	05/26/93 mg/kg
Sample Depth (feet below grade)	1.5 - 3.0	2.0 - 10.0	6.5 - 9.5	6.0 - 10.5	1.5 - 3.0	1.5 - 3.0	0.5 - 4.5
Chloromethane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Bromomethane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Vinyl Chloride	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Chlorethane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Methylene Chloride	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Acetone	0.010U	0.024	0.064	0.036	0.012U	NA	NA
Carbon Disulfide	0.010U	0.011U	12U	0.02J	0.012U	NA	NA
1,1-Dichloroethene	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
1,1-Dichloroethane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
1,2-Dichloroethene (total)	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Chloroform	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
1,2-Dichloroethane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
2-Butanone	0.010U	0.011U	14	0.09J	0.012U	NA	NA
1,1,1-Trichloroethane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Carbon Tetrachloride	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Bromodichloromethane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
1,3-Dichloropropane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
cis-1,3-Dichloropropene	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Trichloroethene	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Dibromochloromethane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
1,1,2-Trichloroethane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Benzene	0.010U	0.011U	12U	0.012U	0.012U	0.011U	0.011U
Trans-1,3-Dichloropropene	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Bromoform	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
4-Methyl-2-Pentanone	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
2-Hexanone	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Tetrachloroethene	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
1,1,2,2-Tetrachloroethane	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Toluene	0.010U	0.011U	12U	0.012U	0.012U	0.002J	0.011U
Chlorobenzene	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Ethylbenzene	0.010U	0.011U	12U	0.012U	0.012U	0.011U	0.011U
Styrene	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
Total Xylenes	0.010U	0.011U	12U	0.012U	0.012U	0.011U	0.011U
1,3-Dichlorobenzene	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
1,4-Dichlorobenzene	0.010U	0.011U	12U	0.012U	0.012U	NA	NA
1,2-Dichlorobenzene	0.010U	0.011U	12U	0.012U	0.012U	NA	NA

NOTE: U = Undetected at given detection limit.
J = Estimated value less than the quantitation limit.
NA = Not analyzed.
SB = Soil boring sample.
TP = Test pit sample

Table 2-5
Semivolatile Organics in Soil
Weyerhaeuser — Everett
West Site

Sample Identification	TP-1202	TP-1204	TP-1207	SB-1303
Date Collected	05/27/93 mg/kg	05/27/93 mg/kg	05/27/93 mg/kg	06/08/93 mg/kg
Phenol	0.330U	3.9U	0.410U	0.360U
bis (2-Chloroethyl) Ether	0.330U	3.9U	0.410U	0.360U
2-Chlorophenol	0.330U	3.9U	0.410U	0.360U
1,3-Dichlorobenzene	0.330U	3.9U	0.410U	0.360U
1,4-Dichlorobenzene	0.330U	3.9U	0.410U	0.360U
1,2-Dichlorobenzene	0.330U	3.9U	0.410U	0.360U
2-Methylphenol	0.330U	3.9U	0.410U	0.360U
2,2-oxybis (1-Chloropropane)	0.330U	3.9U	0.410U	0.360U
4-Methylphenol	0.330U	3.9U	0.410U	0.360U
N-Nitroso-Di-n-Propylamine	0.330U	3.9U	0.410U	0.360U
Hexachloroethane	0.330U	3.9U	0.410U	0.360U
Nitrobenzene	0.330U	3.9U	0.410U	0.360U
Isophorone	0.330U	3.9U	0.410U	0.360U
2-Nitrophenol	0.330U	3.9U	0.410U	0.360U
2,4-Dimethylphenol	0.330U	3.9U	0.410U	0.360U
bis (2-Chloroethoxy) Methane	0.330U	3.9U	0.410U	0.360U
2,4-Dichlorophenol	0.330U	3.9U	0.410U	0.360U
1,2,4-Trichlorobenzene	0.330U	3.9U	0.410U	0.360U
Naphthalene	0.330U	3.9U	0.410U	0.360U
4-Chloroaniline	0.330U	3.9U	0.410U	0.360U
Hexachlorobutadiene	0.330U	3.9U	0.410U	0.360U
4-Chloro-3-Methylphenol	0.330U	3.9U	0.410U	0.360U
2-Methylnaphthalene	0.330U	3.9U	0.410U	0.360U
Hexachlorocyclopentadiene	0.330U	3.9U	0.410U	0.360U
2,4,6-Trichlorophenol	0.330U	3.9U	0.410U	0.360U
2,4,5-Trichlorophenol	0.800U	9.4U	0.990U	0.870U
2-Chloronaphthalene	0.330U	3.9U	0.410U	0.360U
2-Nitroaniline	0.800U	9.4U	0.990U	0.870U
Dimethyl Phthalate	0.330U	3.9U	0.410U	0.360U
Acenaphthylene	0.330U	3.9U	0.410U	0.360U
2,6-Dinitrotoluene	0.330U	3.9U	0.410U	0.360U
3-Nitroaniline	0.800U	9.4U	0.990U	0.870U
Acenaphthene	0.330U	3.9U	0.410U	0.360U

Table 2-5
Semivolatile Organics in Soil
Weyerhaeuser — Everett
West Site

Sample Identification	TP-1202	TP-1204	TP-1207	SB-1303
Date Collected	05/27/93 mg/kg	05/27/93 mg/kg	05/27/93 mg/kg	06/08/93 mg/kg
2,4-Dinitrophenol	0.800U	9.4U	0.990U	0.870U
4-Nitrophenol	0.800U	9.4U	0.990U	0.870U
Dibenzofuran	0.330U	3.9U	0.410U	0.360U
2,4-Dinitrotoluene	0.330U	3.9U	0.410U	0.360U
Diethylphthalate	0.330U	3.9U	0.410U	0.360U
4-Chlorophenyl-phenylether	0.330U	3.9U	0.410U	0.360U
Fluorene	0.330U	3.9U	0.410U	0.360U
4-Nitroaniline	0.800U	9.4U	0.990U	0.870U
4,6-Dinitro-2-Methylphenol	0.800U	9.4U	0.990U	0.870U
N-Nitrosodiphenylamine (1)	0.330U	3.9U	0.410U	0.360U
4-Bromophenyl-phenylether	0.330U	3.9U	0.410U	0.360U
Hexachlorobenzene	0.330U	3.9U	0.410U	0.360U
Pentachlorophenol	0.800U	9.4U	0.990U	0.870U
Phenanthrene	0.330U	3.9U	0.410U	0.360U
Anthracene	0.330U	3.9U	0.410U	0.360U
Carbazole	0.330U	3.9U	0.410U	0.360U
Di-n-Butylphthalate	0.330U	3.9U	0.410U	0.360U
Fluoranthene	0.330U	3.9U	0.410U	0.360U
Pyrene	0.330U	3.9U	0.410U	0.360U
Butylbenzylphthalate	0.330U	3.9U	0.410U	0.360U
3,3'-Dichlorobenzidine	0.330U	3.9U	0.410U	0.360U
Benzo(a)Anthracene	0.330U	3.9U	0.410U	0.360U
Chrysene	0.330U	3.9U	0.410U	0.360U
bis(2-Ethylhexyl)phthalate	0.048 BJ	3.9U	0.047 BJ	0.360U
Di-n-Octyl Phthalate	0.330U	3.9U	0.410U	0.360U
Benzo(b)Fluoranthene	0.330U	3.9U	0.410U	0.360U
Benzo(k)Fluoranthene	0.330U	3.9U	0.410U	0.360U
Benzo(a)Pyrene	0.330U	3.9U	0.410U	0.360U
Indeno(1,2,3-cd)Pyrene	0.330U	3.9U	0.410U	0.360U
Dibenz(a,h)Anthracene	0.330U	3.9U	0.410U	0.360U
Benzo(g,h,i)Perylene	0.330U	3.9U	0.410U	0.360U

NOTE:
U = Undetected.
J = Estimated value less than the quantitation limit.
B = Detected in laboratory blank.
SB = Soil boring sample.
TP = Test pit sample

Table 2-6

PCBs in Soil
Weyerhaeuser — Everett
West Site

Sample Identification	Date Collected	Sample Depth (feet below grade)	Aroclor Compound						
			1016 mg/kg	1221 mg/kg	1232 mg/kg	1242 mg/kg	1248 mg/kg	1254 mg/kg	1260 mg/kg
SB-1101	06/11/93	3.0 - 4.5	0.044U	0.090U	0.044U	0.044U	0.044U	0.075P	0.044U
SB-1102	06/23/93	0.5 - 1.0	0.340U	0.680U	0.340U	0.340U	0.340U	4.2	0.340U
SB-1103	06/23/93	0.5 - 1.0	0.350U	0.700U	0.350U	0.350U	0.350U	25.0	0.350U
TP-1101	05/26/93	3.0 - 6.0	0.057U	0.0120U	0.057U	0.057U	0.057U	0.068	0.050
TP-1102	05/26/93	0.5 - 5.5	0.048U	0.098U	0.048U	0.048U	0.048U	0.290	0.170P
TP-1202	05/27/93	2.0 - 10.0	0.035U	0.071U	0.035U	0.035U	0.035U	0.035U	0.035U
TP-1204	05/27/93	6.5 - 9.5	0.039U	0.080U	0.039U	0.039U	0.039U	0.039U	0.039U
TP-1207	05/27/93	6.0 - 10.5	0.041U	0.083U	0.041U	0.041U	0.041U	0.041U	0.041U
SB-1305	06/08/93	3.0 - 4.5	0.036U	0.073U	0.036U	0.036U	0.036U	0.036U	0.014
TP-1401	05/26/93	3.5 - 8.0	0.041U	0.083U	0.041U	0.041U	0.041U	0.041U	0.041U
TP-1402	05/26/93	7.0 - 9.5	0.041U	0.083U	0.041U	0.041U	0.041U	0.041U	0.041U
TP-1404	05/26/93	6.0 - 10.0	0.035U	0.070U	0.035U	0.035U	0.035U	0.035U	0.035U
SB-1701	06/08/93	1.5 - 3.0	0.036U	0.073U	0.036U	0.036U	0.036U	0.036U	0.036U
SB-1702	06/08/93	1.5 - 3.0	0.036U	0.072U	0.036U	0.036U	0.036U	0.036U	0.036U
TP-1703	05/26/93	0.5 - 4.5	0.035U	0.072U	0.035U	0.035U	0.035U	0.035U	0.035U

NOTE: U = Undetected at given detection limit.
J = Estimated value less than the quantitation limit.
SB = Soil boring sample.
TB = Test pit sample

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Table 2-7

Metals in Soil
Weyerhaeuser — Everett
West Site

Sample Identification	Date Collected	Sample Depth (feet below grade)	As[a] mg/kg	Cr[b] mg/kg	Pb[a] mg/kg	Hg[c] mg/kg
SB-1101	06-11-93	3.0 - 4.5	37.9	416	659	0.1U
SB-1102	06-23-93	0.5 - 1.0	70.2	329	479	0.1U
SB-1103	06-23-93	0.5 - 1.0	17.4	1,630	130	0.1U
SB-1104	06-23-93	0.5 - 1.0	9.5	949	96	0.1U
SB-1202	06-11-93	1.5 - 3.0	6.3	21	NA	NA
SB-1304	06-08-93	3.0 - 4.5	25.3	24	6.0	0.1U
SB-1305	06-08-93	3.0 - 4.5	6.4	25	2.8	0.1U
TP-1202	05-27-93	2.0 - 10.0	4.0	24	9.0	0.1U
TP-1204	05-27-93	6.5 - 9.5	2.7	21	7.0	0.1U
TP-1207	05-27-93	6.0 - 10.5	3.9	44	10	0.1U
TP-1401	05-26-93	3.5 - 8.0	3.5	18	32	0.1U
TP-1402	05-26-93	7.0 - 9.5	3.0	17	72	0.1U
TP-1404	05-26-93	6.0 - 10.0	2.8	25	16	0.1U
TP-1701	05-26-93	1.0 - 6.5	NA	NA	5.5	NA
TP-1702	05-26-93	0.5 - 4.5	NA	NA	4.3	NA

NOTE: SB = soil boring location.
TP = test pit location.
U = undetected at the given detection limit.
NA = not analyzed.

a Metals analysis by SW-846 Methods 3050/200.9.
b Metals analysis by SW-846 Methods 3050/6010.
c Metals analysis by SW-846 Method 7471.

Table 2-8

pH of Soil
Weyerhaeuser — Everett
West Site

Sample Identification	Date Collected	Sample Depth (feet below grade)	pH[a]
TP-1202	05-27-93	2.0 - 10.0	8.1
TP-1204	05-27-93	6.5 - 9.5	7.1
TP-1207	05-27-93	6.0 - 10.5	4.4
TP-1402	05-26-93	7.0 - 9.5	12.5
TP-1403	05-26-93	5.0 - 9.0	8.1
TP-1404	05-26-93	6.0 - 10.0	11.8
TP-1801	05-26-93	0.5 - 3.0	10.1
SB-1203	06-08-93	3.0 - 4.5	9.4
SB-1204	06-08-93	6.5 - 9.5	9.7
SB-1205	06-08-93	1.5 - 3.0	9.5
SB-1301	06-11-93	3.0 - 5.4	10.2
SB-1302	06-11-93	3.0 - 5.4	9.8
SB-1304	06-08-93	3.0 - 5.4	8.3
SB-1305	06-08-93	3.0 - 5.4	8.2
SB-1306	06-11-93	3.0 - 5.4	8.2
SB-1603	06-08-93	1.5 - 3.0	7.7
SB-1605	06-08-93	1.5 - 3.0	9.1
MW-1301	06-09-93	3.0 - 4.5	8.0

NOTE: TP = test pit location.
SB = soil boring location.
MW = monitoring well location.

[a] pH determination by SW-846 Method 9045.

3 GROUNDWATER INVESTIGATION

3.1 Approach

Seven shallow groundwater monitoring wells were installed on the west site during preliminary site assessment activities. Groundwater samples were also collected from 15 temporary wellpoints installed within select soil borings. Groundwater monitoring well, wellpoint, and soil boring locations are shown on Map 1.

3.2 Monitoring Well Construction and Development

Groundwater monitoring wells were constructed using 2-inch I.D. Schedule 40 PVC well materials, 0.010-inch slotted well screen, and 10-20 washed silica sand pack. A summary of monitoring well completion details is presented in Table 3-1. The exploratory soil boring logs, including monitoring well construction details, are attached as Appendix F-A.

Each of the wells were developed by an EMCON geologist using pumping and surging techniques subsequent to well completion. Purge water was stored in secured and labeled 55-gallon drums and left on site.

3.3 Groundwater Sampling Methods and Procedures

Groundwater samples were collected from 8 monitoring wells, 16 wellpoints, and 4 piezometers on June 22 and 23, 1993, as outlined in the EMCON Work Plan. Groundwater samples were collected with disposable Teflon bailers by using standard EMCON sampling methods and procedures. The sampling equipment was decontaminated between sampling events to prevent the potential for cross-contamination. The groundwater samples were placed into laboratory prepared containers, preserved in iced coolers, and delivered to the Weyerhaeuser Analytical Laboratory, located in Federal Way, Washington under standard Chain-of-Custody procedures for analyses. Groundwater sampling data sheets including depth to water and field parameter measurements of pH, conductivity, and temperature were completed at the time of sampling.

3.4 Groundwater Sample Designations and Laboratory Parameters

A summary of groundwater sample location rationale is included in Table 2-1. All groundwater sample locations are shown on Map 1. A summary of laboratory parameters associated with specific groundwater sample locations by area is presented in Table 3-2. A summary of groundwater laboratory results is included in the discussion of groundwater sampling activities in Attachment I.

Sample designations were used to associate each groundwater sample with a specific sample location. For example, sample MW-1201 was collected from a monitoring well (MW) located in Area 12 (12) at sample location one (01), and WP-1302 was collected from a wellpoint (WP) located in Area 13 (13) at sample location two (02).

3.5 Groundwater Sample Analyses Results

Data validation of the groundwater laboratory results was conducted during April 1994. Laboratory results with an associated flag qualifier other than "U" were reported as detections. Flag qualifiers used in the Weyerhaeuser laboratory reports are identified below:

- U — Indicates the compound was analyzed for but not detected. The sample quantitation limit reported corrected for dilution and percent moisture.
- J — Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds or when data indicate the presence of a compound, but the result is lower than the sample quantitation limit but higher than zero.
- P — This flag is used for a pesticide/Aroclor target analyte when there is greater than a 25 percent difference for the detected concentrations between the two GC columns. The lower of the two results is reported.
- B — This flag is used when the analyte is detected in the associated blank as well as in the sample.
- E — This flag is used for compounds whose concentrations exceed the calibration range of the instrument.
- D — This flag identifies all compounds identified at a secondary dilution in an analysis. This flag alerts the data user that any discrepancies between the concentrations reported in the two runs may be due to dilution errors.

The laboratory groundwater sampling results have been summarized in Attachment I. Groundwater laboratory reports are attached as Attachment I-1.

Parameter-specific results of groundwater sample analyses are summarized in the following sub-sections:

3.5.1 Petroleum Hydrocarbons

Three groundwater samples were analyzed for TPH-G. TPH-G was not detected in any of the groundwater samples.

Twenty-eight groundwater samples were analyzed for TPH-D (extended). TPH-D (diesel) was detected in six samples ranging from 1.0 mg/L in sample SB-1401 to 2.0 mg/L in sample SB-1201.

TPH-O (oil range) was detected in two samples ranging from 0.43 mg/L in sample MW-1302 to 2.4 mg/L in sample SB-1201. A summary of petroleum hydrocarbons in groundwater is shown in Table 3-3.

3.5.2 Volatile Organic Compounds

Ten groundwater samples were analyzed for VOC compounds, and three groundwater samples were analyzed for BTEX. Six VOC compounds were detected in sample SB-1601 ranging from 2 to 36 μg/L. MEK was detected in three additional samples at 1 μg/L. No BTEX or other VOC compounds were detected in the ten groundwater samples. A summary of VOCs in groundwater is shown in Table 3-4.

3.5.3 Semivolatile Organic Compounds

Seven groundwater samples were analyzed for semi-VOCs including pentachlorophenol. Four semi-VOC compounds were detected in four samples. 4-methylphenol was detected in sample SB-1201 at 9 μg/L; naphthalene was detected in sample MW-1202 at 13 μg/L; acenaphthene was detected in samples MW-1201 and MW-1202 at 2 and 1 μg/L, respectively; and bis (2-ethylhexyl) phthalate was detected in samples MW-1202, SE-1201, MW-1301, and MW-4 at 6, 7, and 1 μg/L, respectively. Pentachlorophenol was not detected in any of the groundwater samples. A summary of semivolatile organic compounds in groundwater is shown on Table 3-5.

3.5.4 PCBs

Thirteen groundwater samples were analyzed for PCB compounds. PCB compounds were not detected in any of the groundwater samples. A summary of PCB compounds in groundwater is shown on Table 3-6.

3.5.5 Dissolved Metals (As, Cr, Pb, and Hg)

Twenty-one groundwater samples were analyzed for dissolved metals (arsenic, chromium, lead, and mercury). Arsenic concentrations ranged from not detected (ND) to 100 μg/L in sample MW-1301; chromium concentrations ranged from ND to 36 μg/L in sample SB-1603; lead concentrations ranged from ND to 6 μg/L in sample SB-1403; and mercury concentrations ranged from ND to 0.2 μg/L in sample SB-1603. A summary of dissolved metals in groundwater is shown on Table 3-7.

3.5.6 Total Metals (As, Cr, Pb, and Hg)

Five groundwater samples were analyzed for total metals (arsenic, chromium, lead, and mercury). Arsenic concentrations ranged from ND to 96 μg/L in sample MW-1301; chromium concentrations ranged from ND to 57 μg/L in sample WP-1101; lead concentrations ranged from ND to 52 μg/L in sample WP-1101; and mercury concentrations ranged from ND to 0.2 μg/L in sample WP-1101. A summary of total metals in groundwater is shown on Table 3-8.

3.5.7 pH, Specific Conductance, and Turbidity

Twenty-one groundwater samples were analyzed for pH. Groundwater pH values ranged from 5.4 in sample SB-1601 to 9.9 in samples SB-1302 and MW-1203. A summary of groundwater pH, specific conductance, and turbidity is shown on Table 3-9.

Table 3-1

Summary of Monitoring Well Details

Well Designation	Date Drilled	Elevation at Top of PVC Casing ft msl	Total Depth ft bgs	Well Screen Interval ft bgs	Filter-Pack Interval ft bgs
MW-1201	06/09/93	14.93	15	5-15	4-15.5
MW-1202	06/10/93	12.46	15	3-15	2-15.5
MW-1203	06/09/93	10.48	10	3-10	2-10.5
MW-1301	06/09/93	11.30	10	3-10	2-10.5
MW-1302	06/09/93	12.03	10	3-10	2-10.5
MW-1501	06/10/93	9.94	10	3-10	2-10.5
MW-1701	06/09/93	11.71	8	2-8	1.5-9

NOTE: ft msl = feet mean sea level.
ft bgs = feet below ground surface.
NA = not available.

Wells

Table 3-2
Summary of Groundwater Analyses

Sample Identification	Analytical Parameter									
	BTEX Method 602	TPH-G Method WTPH-G	VOCs Method 8240	TPH-D Method WTPH-D (extended)	PAHs Method 8270	PCP Method 8270	PCBs Method 8080	Total Metals 200 Series Methods	Dissolved Metals 200 Series Methods	Sp. Cond., Temp., pH, Turbidity 100 Series Methods
SB-1101				1			1			1
WP-1101				1			1	1 (As, Cr, Pb, Hg)	1 (As, Cr, Pb, Hg)	1
MW-1201			1	1	1	1	1	1 (As, Cr, Pb, Hg)	1 (As, Cr, Pb, Hg)	1
MW-1202			1	1	1	1	1		1 (As, Cr, Pb, Hg)	1
MW-1203				1					1 (As, Cr)	1
SB-1201			1	1	1	1	1		1 (As, Cr, Pb, Hg)	1
SB-1202				1						1
MW-1301			1	1	1		1	1 (As, Cr)	1 (As, Cr)	1
MW-1302				1			1		1 (As, Cr)	1
SB-1301				1						1
SB-1302				1						1
SB-1306				1			1			1
SB-1401				1					1 (As, Cr, Pb, Hg)	1
SB-1402				1					1 (As, Cr, Pb, Hg)	1
SB-1403				1					1 (As, Cr, Pb, Hg)	1
MW-1501				1	1					1
MW-4			1	1	1	1	1		1 (As, Cr, Pb, Hg)	1
SB-1603									1 (As, Cr, Pb, Hg)	

Table 3-2

Summary of Groundwater Analyses

Sample Identification	Analytical Parameter									
	BTEX Method 602	TPH-G Method WTPH-G	VOCs Method 8240	TPH-D Method WTPH-D (extended)	PAHs Method 8270	PCP Method 8270	PCBs Method 8080	Total Metals 200 Series Methods	Dissolved Metals 200 Series Methods	Sp. Cond., Temp., pH, Turbidity 100 Series Methods
SB-1601			1	1						1
SB-1604				1						1
SB-1606			1	1					1 (As, Cr)	1
WP-1601			1	1					1 (As, Cr)	1
MW-1701		1	1	1	1	1	1		1 (As, Cr, Pb, Hg)	1
P-2	1	1		1			1		1 (As, Cr, Pb, Hg)	1
P-3				1			1	1 (As, Cr, Pb, Hg)	1 (As, Cr, Pb, Hg)	1
WP-1701			1	1					1 (As, Cr)	1
WP-1702	1	1		1			1	1 (As, Cr, Pb, Hg)	1 (As, Cr, Pb, Hg)	1
P-4				1					1 (As, Cr)	1
P-5				1					1 (As, Cr)	1
Total (not including field QC)	2	3	10	28	7	5	13	5	21	28

Table 3-3

Petroleum Hydrocarbons in Groundwater
Weyerhaeuser — Everett
West Site

Sample Identification	Date Collected	Diesel Fuel Range mg/L	Heavy Oil Range mg/L	Gasoline mg/L
SB-1101	06/11/93	1.4	0.73	NA
WP-1101	06/14/93	0.54	0.25U	NA
MW-1201	06/22/93	0.25	0.50U	NA
MW-1202	06/22/93	0.13U	0.50U	NA
MW-1203	06/22/93	0.13U	0.50U	NA
SB-1201	06/15/93	2.0	2.4	NA
SB-1202	06/11/93	0.13U	0.25U	NA
MW-1301	06/22/93	0.13U	0.50U	NA
MW-1302	06/22/93	1.2	0.43	NA
SB-1301	06/11/92	0.13U	0.25U	NA
SB-1302	06/11/93	0.28	0.85	NA
SB-1306	06/11/93	0.13U	0.25U	NA
SB-1401	06/15/93	1.0	1.3	NA
SB-1402	06/15/93	0.49	0.30	NA
SB-1403	06/14/93	1.2	0.77	NA
MW-1501	06/22/93	0.13U	0.50U	NA
MW-4	06/23/93	0.13U	0.50U	NA
SB-1601	06/14/93	1.3U	2.5U	NA
SB-1604	06/11/93	1.7	0.60	NA
SB-1606	06/15/93	0.13U	0.25U	NA
WP-1601	06/10/93	0.13U	0.25U	NA
MW-1701	06/22/93	0.13U	0.50U	0.05U
PZ-2	06/23/93	0.13U	0.50U	0.05U
PZ-3	06/23/93	0.13U	0.50U	NA
WP-1701	06/10/93	0.13U	0.25U	NA
WP-1702	06/10/93	0.13U	0.25U	0.05U
PZ-4	06/23/93	0.13U	0.50U	NA
PZ-5	06/23/93	0.13U	0.50U	NA

NOTE: U = Undetected at given detection limit.
NA = Not analyzed.
SB = Groundwater sample collected using wellpoint from soil boring location.
WP = Groundwater sample collected from wellpoint sample location.
MW = Groundwater sample collected from monitoring well.
PZ = Groundwater sample collected from piezometer.

Table 3-4

Volatile Organic Compounds in Groundwater
Weyerhaeuser — Everett
West Site

Sample Identification	MW-1201	MW-1202	SB-1201	MW-1301	MW-4	SB-1601	SB-1606	WP-1601	MW-1701	WP-1701	PZ-2	WP-17
Date Collected	06/22/93 µg/l	06/22/93 µg/l	06/15/93 µg/l	06/23/93 µg/l	06/23/93 µg/l	06/14/93 µg/l	06/15/93 µg/l	06/10/93 µg/l	06/22/93 µg/l	06/10/93 µg/l	06/23/93 µg/l	06/10/ µg/l
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Vinyl Chloride	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Chlorethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Methylene Chloride	10U	10U	1J	10U	10U	9J	1J	1J	10U	10U	NA	NA
Acetone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Carbon Disulfide	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
1,2-Dichloroethene (total)	10U	10U	10U	10U	10U	2 J	10U	10U	10U	10U	NA	NA
Chloroform	10U	10U	10U	10U	10U	18	10U	10U	10U	10U	NA	NA
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Carbon Tetrachloride	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Bromodichloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
1,3-Dichloropropane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
cis-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Trichloroethene	10U	10U	10U	10U	10U	4J	10U	10U	10U	10U	NA	NA
Dibromochloromethane	10U	10U	10U	10U	10U	21	10U	10U	10U	10U	NA	NA
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Benzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Trans-1,3-Dichloropropene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
4-Methyl-2-Pentanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Tetrachloroethene	10U	10U	10U	10U	10U	36	10U	10U	10U	10U	NA	NA
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Toluene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Ethylbenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Styrene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
Total Xylenes	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,3-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
1,4-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA
1,2-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NA	NA

NOTE: J = Estimated value less than the quantitation limit.
U = Undetected at given detection limit.
NA = Not Analyzed.
SB = Groundwater sample collected using wellpoint from soil boring location.
WP = Groundwater sample collected from wellpoint sample location.
MW = Groundwater sample collected from monitoring well.
PZ = Groundwater sample collected from piezometer.

Table 3-5

Semivolatile Organic Compounds in Groundwater
Weyerhaeuser — Everett
West Site

Sample Identification	MW-1201	MW-1202	SB-1201	MW-1301	MW-1501	MW-4	MW-1701
Date Collected	06/22/93 µg/l	06/22/93 µg/l	06/15/93 µg/l	06/22/93 µg/l	06/22/93 µg/l	06/23/93 µg/l	06/22/93 µg/l
Phenol	10U	10U	36U	10U	10U	10U	10U
bis (2-Chloroethyl) Ether	10U	10U	36U	10U	10U	10U	10U
2-Chlorophenol	10U	10U	36U	10U	10U	10U	10U
1,3-Dichlorobenzene	10U	10U	36U	10U	10U	10U	10U
1,4-Dichlorobenzene	10U	10U	36U	10U	10U	10U	10U
1,2-Dichlorobenzene	10U	10U	36U	10U	10U	10U	10U
2-Methylphenol	10U	10U	36U	10U	10U	10U	10U
2,2-oxybis (1-Chloropropane)	10U	10U	36U	10U	10U	10U	10U
4-Methylphenol	10U	10U	9J	10U	10U	10U	10U
N-Nitroso-Di-n-Propylamine	10U	10U	36U	10U	10U	10U	10U
Hexachloroethane	10U	10U	36U	10U	10U	10U	10U
Nitrobenzene	10U	10U	36U	10U	10U	10U	10U
Isophorone	10U	10U	36U	10U	10U	10U	10U
2-Nitrophenol	10U	10U	36U	10U	10U	10U	10U
2,4-Dimethylphenol	10U	10U	36U	10U	10U	10U	10U
bis (2-Chloroethoxy) Methane	10U	10U	36U	10U	10U	10U	10U
2,4-Dichlorophenol	10U	10U	36U	10U	10U	10U	10U
1,2,4-Trichlorobenzene	10U	10U	36U	10U	10U	10U	10U
Naphthalene	10U	13	36U	10U	10U	10U	10U
4-Chloroaniline	10U	10U	36U	10U	10U	10U	10U
Hexachlorobutadiene	10U	10U	36U	10U	10U	10U	10U
4-Chloro-3-Methylphenol	10U	10U	36U	10U	10U	10U	10U
2-Methylnaphthalene	10U	10U	36U	10U	10U	10U	10U
Hexachlorocyclopentadiene	10U	10U	36U	10U	10U	10U	10U
2,4,6-Trichlorophenol	10U	10U	36U	10U	10U	10U	10U
2,4,5-Trichlorophenol	25U	25U	89U	25U	25U	25U	25U
2-Chloronaphthalene	10U	10U	36U	10U	10U	10U	10U
2-Nitroaniline	25U	25U	89U	25U	25U	25U	25U
Dimethyl Phthalate	10U	10U	36U	10U	10U	10U	10U
Acenaphthylene	10U	10U	36U	10U	10U	10U	10U
2,6-Dinitrotoluene	10U	10U	36U	10U	10U	10U	10U
3-Nitroaniline	25U	25U	89U	25U	25U	25U	25U
Acenaphthene	2J	1J	36U	10U	10U	10U	10U

Table 3-5

Semivolatile Organics in Groundwater
Weyerhaeuser — Everett
West Site

Sample Identification	MW-1201	MW-1202	SB-1201	MW-1301	MW-1501	MW-4	MW-1701
Date Collected	06/22/93 µg/l	06/22/93 µg/l	06/15/93 µg/l	06/22/93 µg/l	06/22/93 µg/l	06/23/93 µg/l	06/22/93 µg/l
2,4-Dinitrophenol	25U	25U	89U	25U	25U	25U	25U
4-Nitrophenol	25U	25U	89U	25U	25U	25U	25U
Dibenzofuran	10U	10U	36U	10U	10U	10U	10U
2,4-Dinitrotoluene	10U	10U	36U	10U	10U	10U	10U
Diethylphthalate	10U	10U	36U	10U	10U	10U	10U
4-Chlorophenyl-phenylether	10U	10U	36U	10U	10U	10U	10U
Fluorene	10U	10U	36U	10U	10U	10U	10U
4-Nitroaniline	25U	25U	89U	25U	25U	25U	25U
4,6-Dinitro-2-Methylphenol	25U	25U	89U	25U	25U	25U	25U
N-Nitrosodiphenylamine (1)	10U	10U	36U	10U	10U	10U	10U
4-Bromophenyl-phenylether	10U	10U	36U	10U	10U	10U	10U
Hexachlorobenzene	10U	10U	36U	10U	10U	10U	10U
Pentachlorophenol	25U	25U	89U	25U	25U	25U	25U
Phenanthrene	10U	10U	36U	10U	10U	10U	10U
Anthracene	10U	10U	36U	10U	10U	10U	10U
Carbazole	10U	10U	36U	10U	10U	10U	10U
Di-n-Butylphthalate	10U	10U	36U	10U	10U	10U	10U
Fluoranthene	10U	10U	36U	10U	10U	10U	10U
Pyrene	10U	10U	36U	10U	10U	10U	10U
Butylbenzylphthalate	10U	10U	36U	10U	10U	10U	10U
3,3'-Dichlorobenzidine	10U	10U	36U	10U	10U	10U	10U
Benzo(a)Anthracene	10U	10U	36U	10U	10U	10U	10U
Chrysene	10U	10U	36U	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate	10U	6J	7J	10U	10U	1J	10U
Di-n-Octyl Phthalate	10U	10U	36U	10U	10U	10U	10U
Benzo(b)Fluoranthene	10U	10U	36U	10U	10U	10U	10U
Benzo(k)Fluoranthene	10U	10U	36U	10U	10U	10U	10U
Benzo(a)Pyrene	10U	10U	36U	10U	10U	10U	10U
Indeno(1,2,3-cd)Pyrene	10U	10U	36U	10U	10U	10U	10U
Dibenz(a,h)Anthracene	10U	10U	36U	10U	10U	10U	10U
Benzo(g,h,i)Perylene	10U	10U	36U	10U	10U	10U	10U

NOTE: J = Estimated value less than the quantitation limit.
U = Undetected at given detection limit.
NA = Not Analyzed.
SB = Groundwater sample collected using wellpoint from soil boring location.
WP = Groundwater sample collected from wellpoint sample location.
MW = Groundwater sample collected from monitoring well.
PZ = Groundwater sample collected from piezometer.

Table 3-6

PCBs in Groundwater
Weyerhaeuser — Everett
West Site

Sample Identification	Date Collected	Aroclor Compound						
		1016 µg/L	1221 µg/L	1232 µg/L	1242 µg/L	1248 µg/L	1254 µg/L	1260 µg/L
SB-1101	06/11/93	1.0U	2.0U	1.0U	1.0U	1.0U	10U	1.0U
WP-1101	06/14/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U
MW-1201	06/22/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U
MW-1202	06/22/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U
SB-1201	06/15/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U
MW-1301	06/22/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U
MW-1302	06/22/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U
SB-1306	06/11/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U
MW-4	06/23/93	1.1U	2.2U	1.1U	1.1U	1.1U	1.1U	1.1U
MW-1701	06/22/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U
PZ-2	06/23/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U
PZ-3	06/23/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U
WP-1702	06/10/93	1.0U	2.0U	1.0U	1.0U	1.0U	1.0U	1.0U

NOTE: U = Undetected at given detection limit.
SB = Groundwater sample collected using wellpoint from soil boring location.
WP = Groundwater sample collected from wellpoint sample location.
MW = Groundwater sample collected from monitoring well.
PZ = Groundwater sample collected from piezometer.

GW

Table 3-7

Metals in Groundwater (Dissolved)
Weyerhaeuser — Everett
West Site

Sample Identification	Date Collected	As[a] µg/L	Cr[b] µg/L	Hg[c] µg/L	Pb[a] µg/L
SB-1201	06-15-93	36	10U	0.2U	3U
SB-1401	06-15-93	17	10U	0.2U	3U
SB-1402	06-15-93	14	10U	0.2U	3U
SB-1403	06-14-93	13	12	0.2U	6
SB-1603D	06-14-93	82	36	0.2	4
SB-1606	06-15-93	25	10U	NA	NA
WP-1101D	06-14-93	16	10U	0.2U	3U
WP-1601D	06-14-93	39	10U	NA	NA
WP-1701D	06-14-93	52	10U	NA	NA
WP-1702D	06-14-93	11	10U	0.2U	3U
MW-4	06-23-93	6	10U	0.2U	3U
MW-1201	06-22-93	5	10U	0.2U	3U
MW-1202	06-22-93	20	10U	0.2U	3U
MW-1203	06-22-93	58	10U	NA	NA
MW-1301	06-22-93	100	10U	NA	NA
MW-1302	06-22-93	19	10U	NA	NA
MW-1701	06-22-93	4	10U	0.2U	3U
PZ-2	06-23-93	10	10U	0.2U	3U
PZ-3	06-23-93	3U	10U	0.2U	3U
PZ-4	06-23-93	36	16	NA	NA
PZ-5	06-23-93	3U	10U	NA	NA

NOTES:
SB = soil boring location.
WP = wellpoint location.
MW = monitoring well location.
PZ = piezometer location.
U = undetected at the given detection limit.
NA = not analyzed.

a Dissolved metals analysis by USEPA Method 200.9.
b Dissolved metals analysis by USEPA Method 200.7.
c Dissolved metals analysis by USEPA Method 245.1.

G.W

Table 3-8

Metals in Groundwater (Total)
Weyerhaeuser — Everett
West Site

Sample Identification	Date Collected	As[a] µg/L	Cr[b] µg/L	Hg[c] µg/L	Pb[a] µg/L
WP-1101	06-14-93	16	57	0.2	52
WP-1702	06-10-93	9	10U	0.2U	4
MW-1201	06-22-93	7	10U	0.2U	3U
MW-1301	06-22-93	96	10U	NA	NA
PZ-3	06-23-93	3U	10U	0.2U	3U

NOTE: WP = wellpoint location.
MW = monitoring well location.
PZ = piezometer location.
U = undetected at the given detection limit.
NA = not analyzed.

[a] Total metals analysis by USEPA Method 200.9.
[b] Total metals analysis by USEPA Method 200.7.
[c] Total metals analysis by USEPA Method 245.1.

Table 3-9

pH, Specific Conductance, and Turbidity of Groundwater
Weyerhaeuser — Everett
West Site

Sample Identification	Date Collected	pH[a]	Specific Conductance[b] µs/cm	Turbidity[c] NTU
SB-1101	06-11-93	6.2 ; 6.2	640	6,000
SB-1201	06-15-93	8.4	1,500	730
SB-1202	06-11-93	9.6	1,700	440
SB-1301	06-11-93	9.6	2,200	760
SB-1302	06-11-93	9.9	3,200	1,520
SB-1306	06-11-93	7.2	1,800	44
SB-1401	06-15-93	7.8	3,800	62
SB-1402	06-15-93	6.6	1,400	360
SB-1403	06-14-93	6.4 ; 6.4	9,100	1,150
SB-1601	06-14-93	5.4	130	1,800 ; 1,800
SB-1604	06-11-93	9.1	1,100	1,410
SB-1606	06-15-93	6.7	340	190
WP-1101	06-14-93	7.6	5,100	88
WP-1601	06-10-93	6.1 ; 6.1	250 ; 250	66 ; 62
WP-1701	06-10-93	6.3	150	930
WP-1702	06-10-93	6.0	150	88
MW-4	06-23-93	6.7	250	11 ; 11
MW-1201	06-22-93	6.5 ; 6.6	840 ; 840	26 ; 27
MW-1202	06-22-93	7.1	1,700	6
MW-1203	06-22-93	9.9	2,700	5
MW-1301	06-22-93	7.6	890	4
MW-1302	06-22-93	7.4	2,100	65
MW-1501	06-22-93	6.9	620	32
MW-1701	06-22-93	6.6	270	4
PZ-2	06-23-93	6.2	170	4
PZ-3	06-23-93	6.2	130	16
PZ-4	06-23-93	6.7	1,400	44
PZ-5	06-23-93	6.9	290	5

NOTE: SB = soil boring location.
WP = wellpoint location.
MW = monitoring well location.
PZ = piezometer location.

[a] pH analysis by USEPA Method 150.1.
[b] Specific conductance analysis by SM 2510B.
[c] Turbidity analysis by USEPA Method 180.1.

APPENDIX F-A

TEST PIT AND SOIL BORING LOGS

EXPLANATION OF SYMBOLS ON EXPLORATORY BORING LOGS

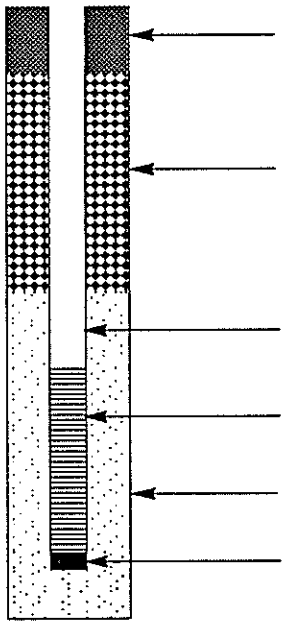
EMCON
Northwest

SAMPLE COLUMN

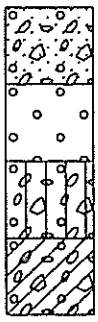
SAMPLE OBTAINED

SAMPLER DRIVEN, NO SAMPLE OBTAINED

WELL DETAILS COLUMN



LITHOLOGIC COLUMN

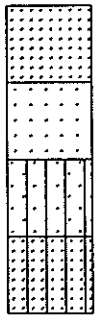


GW

GP

GM

GC

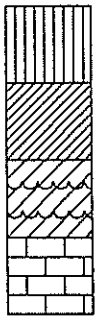


SW

SP

SM

SW-SM



ML

CL

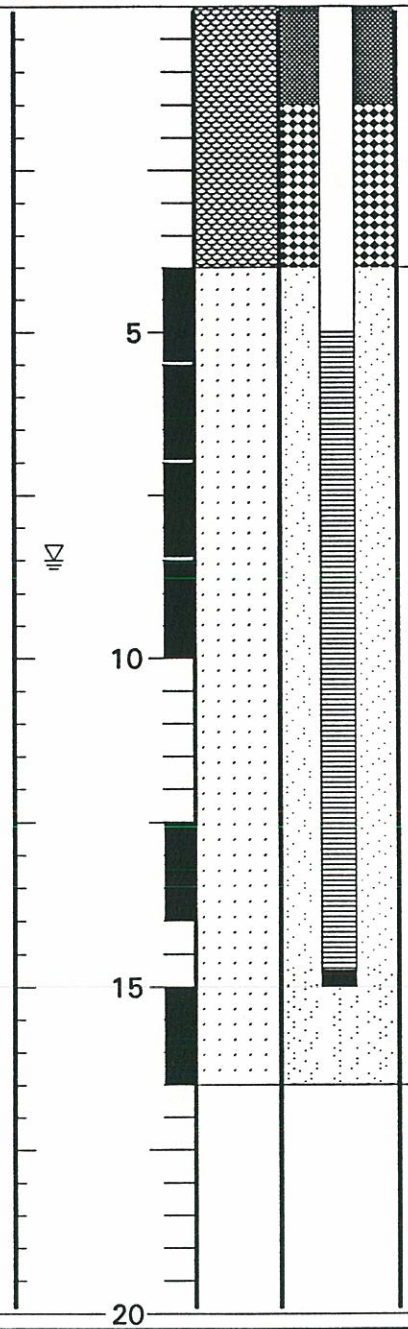
OH

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	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
								0 to 9.0 feet: WOOD CHIPS
SS/S-1		5-4-6	▽	5				
		10-9-9		10				**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		15				Boring terminated at 15.0 feet, sampled to 16.5 feet.
				20				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 = photolonization 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**	BORING NO.	**MW-1203**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	REFERENCE ELEV.	**10.48'**
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	7-9-14	▽	5				**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.
SS/S-1	0	5-7-8						**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.
SS/S-2	0	3-4-4						@ 5.0 feet: SAND (SP), gray, 95 to 100 percent fine to medium sand, less than 5 percent fine gravel, loose, wet, uncharacteristic odor.
SS/S-3		3-4-4						
SS/S-4		3-3-4		10				Boring terminated at 10.0 feet, sampled to 11.5.
				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 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.
				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-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
								0 to 0.3 foot: ASPHALT
								0.3 to 0.5 foot: CRUSHED ROCK
SS/S-1	0	10-8-9						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				

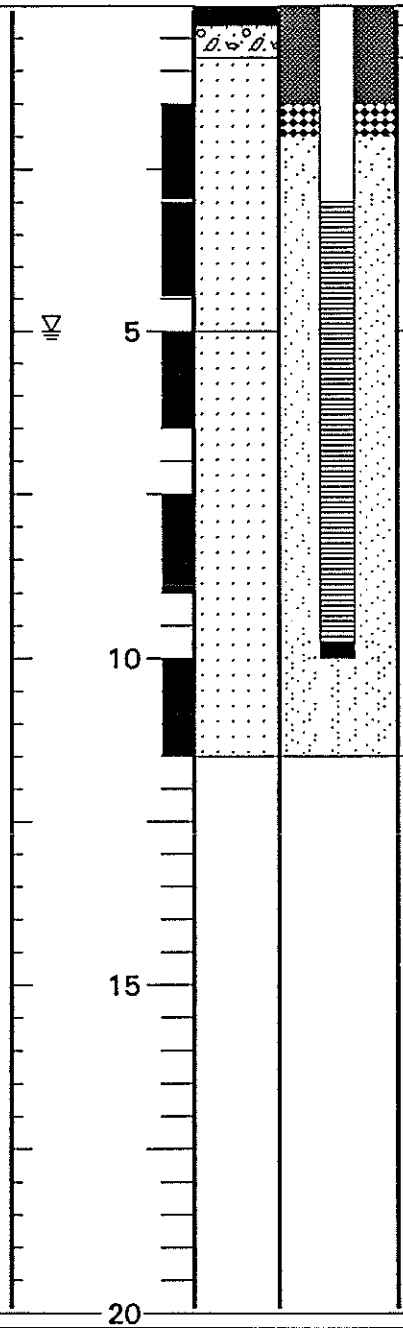
REMARKS

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	SAMPLES
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	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
								0 to 0.2 foot: ASPHALT
SS/S-1	0	19-12-12						**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.
SS/S-2	0	14-19-11	▽					**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.
SS/S-3		6-11-31		5				**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.
SS/S-4		7-4-3						**5.5 to 7.5 feet: SHALE,** black, intermixed with 25 to 30 percent fine to medium sand, dense, wet, no noticeable odor.
SS/S-5		0-1-3		10				**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.
				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 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.
				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-1701
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DRILLED BY	Geo-Boring	REFERENCE ELEV.	11.71'
DRILL METHOD	Hollow Stem Auger (6" ID)	TOTAL DEPTH	9.00'
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	5-8-8	▽	5				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.
SS/S-2	0	2-4-3						
SS/S-3		2-3-4						5.5 to 6.0 feet: SILT (ML), gray, 80 percent silt, 20 percent fine sand, loose, wet, no noticeable odors, wood chips present.
SS/S-4		3-3-3		10				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.
				15				
				20				

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.

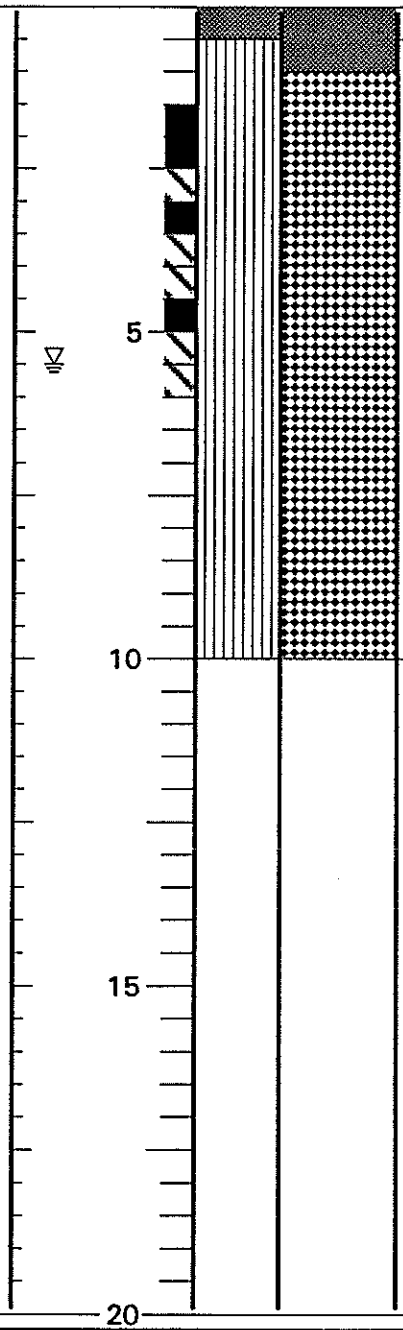
REMARKS

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 = 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.	**SB-1101**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**10.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/11/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	LITHOLOGIC DESCRIPTION
			0 to 0.5 foot: CRUSHED ROCK
			0.5 to 10.0 feet: SANDY SILT (ML), 60 percent silt, 20 percent fine to medium sand, 20 percent fine gravel, loose, damp, no noticeable odor.
SS/S-1	0	3-3-4	
SS/*S-2	0	2-1-1	
SS/S-3		3-3-4	
			@ 5.5 feet: becomes wet.
			Boring terminated at 10.0 feet.
			Well point set from 6.5 to 9.5 feet.
			BORING DETAILS:
			0 to 1.0 foot: Concrete.
			1.0 to 10.0 feet: Bentonite chips hydrated with potable water.



REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	West Site Phase 1	BORING NO.	SB-1201
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DRILLED BY	Geo-Boring	GROUND ELEV.	N/A
DRILL METHOD	Hollow Stem Auger (6" ID)	TOTAL DEPTH	5.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	06/15/93

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
								0 to 3.5 feet: WOOD CHIPS
SS/*S-1		2-3-3	▽	5				**3.5 to 6.5 feet: SAND (SP), gray-black, 5 percent fines, 90 percent fine to coarse sand, 5 percent fine gravel, loose, wet, uncharacteristic odor, sheen on water.**
								Boring terminated at 5.0 feet. Sampled to 6.5 feet. Well point installed from 3.5 to 6.5 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 6.5 feet: Bentonite chips hydrated with potable water.
				10				
				15				
				20				

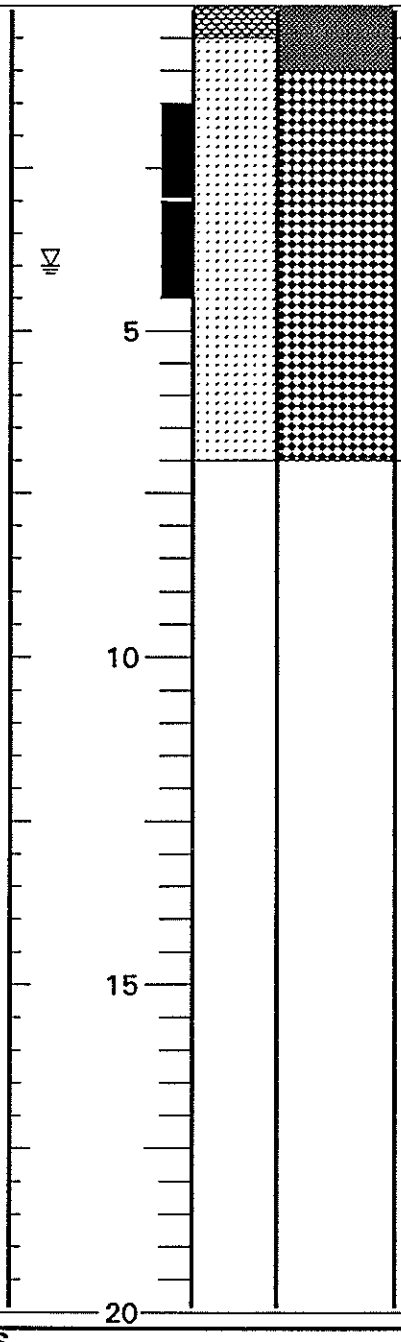
REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**SB-1202**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**7.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/11/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	LITHOLOGIC DESCRIPTION
			0 to 0.5 foot: WOOD CHIPS
			0.5 to 7.0 feet: SAND (SW), tan, 85 percent fine to coarse sand, 15 percent fine to medium gravel, loose, damp, no noticeable odors.
SS/*S-1	0	3-4-3	
SS/S-2		3-3-4	
			@ 4.0 feet: becomes wet.
			Boring terminated at 7.0 feet.
			Well point installed from 3.5 to 6.5 feet.
			BORING DETAILS:
			0 to 1.0 foot: Concrete.
			1.0 to 7.0 feet: Bentonite chips hydrated with potable water.



REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase I**	BORING NO.	**SB-1203**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**6.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/08/93**

SAMPLE 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	5-6-7						**0 to 0.3 foot: ASPHALT** **0.3 to 6.0 feet: SAND (SP)**, tan, 95 percent fine to coarse sand, 5 percent fine gravel, medium dense, damp, no noticeable odor.
SS/*S-2	0	3-5-5						
SS/S-3		2-3-3	▽	5				@ 6.0 feet: black sand with an uncharacteristic odor, becomes loose.
				10				Total depth drilled = 6.0 feet. Total depth sampled = 4.5 feet. **SOIL BORING DETAILS** 0 to 1.0 foot: Concrete. 1.0 to 6.0 feet: Bentonite chips hydrated with potable water.
				15				
				20				

REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase I**	BORING NO.	**SB-1204**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**6.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/08/93**

SAMPLE 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	8-9-8						**0 to 0.3 foot: ASPHALT**
SS/*S-2	0	4-7-7						**0.3 to 6.0 feet: SAND (SP)**, tan, 5 percent fines, 90 percent fine to coarse sand, 5 percent fine gravel, medium dense, damp, no noticeable odor.
SS/S-3		3-5-5	▽	5				@ 3.0 feet: damp to moist at bottom of spoon.
				10				Total depth drilled = 6.0 feet. Total depth sampled = 4.5 feet.
				15				**SOIL BORING DETAILS** 0 to 1.0 foot: Concrete. 1.0 to 6.0 feet: Bentonite chips hydrated with potable water.
				20				

REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase I**	BORING NO.	**SB-1205**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**4.50'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/08/93**

SAMPLE 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	9-10-8	▽	5				**0 to 0.3 foot: ASPHALT** **0.3 to 4.5 feet: SAND (SP)**, reddish to tan, 95 percent fine to coarse sand, medium dense, damp, no noticeable odor.
SS/S-2	0	4-5-5		10				Total depth drilled = 4.5 feet. Total depth sampled = 3.0 feet. **SOIL BORING DETAILS** 0 to 1.0 foot: Concrete. 1.0 to 4.5 feet: Bentonite chips hydrated with potable water.
				15				
				20				

REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**SB-1301**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**7.50'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/11/93**

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	10-15-14						**0 to 3.0 feet: SAND (SW)**, tan, 85 to 90 percent fine to coarse sand, 10 to 15 percent fine to medium gravel, dense, damp, no noticeable odors.
SS/*S-2	0	6-6-7						**3.0 to 7.5 feet: SAND (SP)**, tan, 90 to 95 percent fine to coarse sand, 5 to 10 percent fine to medium gravel, dense, damp, no noticeable odor.
SS/S-3		3-8-12	▽	5				@ 5.0 feet: becomes wet. @ 5.5 feet: sand turns black.
				10				Boring terminated at 7.5 feet. Well point installed from 4.0 to 7.0 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 7.5 feet: Bentonite chips hydrated with potable water.
				15				
				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. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**SB-1302**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**7.50'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/11/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
								0 to 0.3 foot: ASPHALT
SS/S-1	0	5-7-8						**0.3 to 7.5 feet: SAND (SW)**, tan-brown, 90 percent fine to coarse sand, 10 percent fine gravel, medium dense, damp, no noticeable odor.
SS/*S-2	0	5-3-2	▽	5				@ 4.5 feet: becomes black and wet.
				10				Boring terminated at 7.5 feet. Well point set from 4.0 to 7.0 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 7.5 feet: Bentonite chips hydrated with potable water.
				15				
				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. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase I**	BORING NO.	**SB-1303**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**4.50'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/08/93**

SAMPLE METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
								0 to 0.3 foot: ASPHALT
SS/*S-1	0	6-7-7						0.3 to 4.0 feet: SAND (SP), tan, o to 5 percent fines, 95 percent fine to coarse sand, medium dense, damp, no noticeable odors.
SS/S-2	0	3-5-11	▽					@ 4.0 feet: 5 percent fine gravel, uncharacteristic odor. Tip of split spoon contained black sandy material.
				5				Total depth drilled = 4.5 feet.
								Total depth sampled = 4.5 feet.
								SOIL BORING DETAILS
								0 to 1.0 foot: Concrete.
								1.0 to 6.0 feet: Bentonite chips hydrated with potable water.
				10				
				15				
				20				

REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase I**	BORING NO.	**SB-1304**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**6.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/08/93**

SAMPLE METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
								0 to 0.3 foot: ASPHALT
SS/S-1	0	9-9-10						**0.3 to 6.0 feet: SAND (SP)**, tan, 5 percent fines, 90 percent fine to coarse sand, 5 percent fine gravel, medium dense, damp, no noticeable odors.
SS/*S-2	0	3-5-6						
SS/S-3		3-3-3	▽	5				
				10				Total depth drilled = 6.0 feet. Total depth sampled = 4.5 feet. **SOIL BORING DETAILS** 0 to 1.0 foot: Concrete. 1.0 to 6.0 feet: Bentonite chips hydrated with potable water.
				15				
				20				

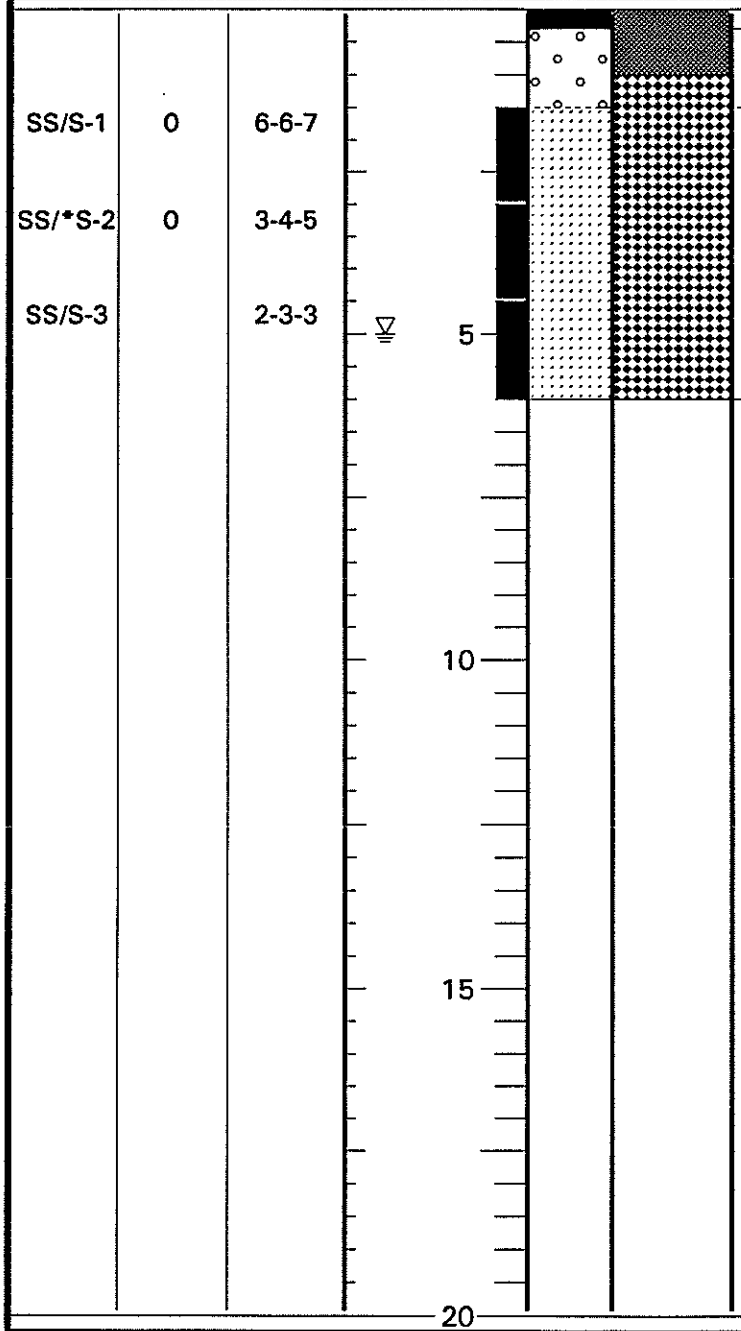
REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase I**	BORING NO.	**SB-1305**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**6.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/08/93**

SAMPLE METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6-INCHES	LITHOLOGIC DESCRIPTION
			0 to 0.3 foot: ASPHALT
			0.3 to 1.5 feet: CRUSHED ROCK
SS/S-1	0	6-6-7	**1.5 to 6.0 feet: SAND (SP)**, tan, 95 percent fine to coarse sand, 5 percent fine gravel, medium dense, damp, no noticeable odors.
SS/*S-2	0	3-4-5	
SS/S-3		2-3-3	Sand at bottom of spoon was darker and had an uncharacteristic odor.
			Total depth drilled = 6.0 feet.
			Total depth sampled = 4.5 feet.
			SOIL BORING DETAILS
			0 to 1.0 foot: Concrete.
			1.0 to 6.0 feet: Bentonite chips hydrated with potable water.



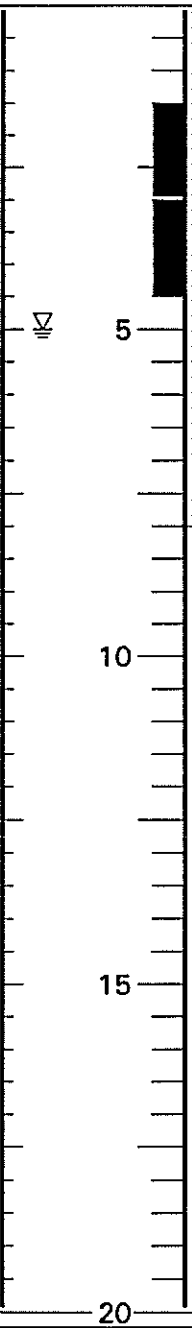
REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**SB-1306**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**8.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/11/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	LITHOLOGIC DESCRIPTION
SS/S-1	0	2-2-1	0 to 8.0 feet: SAND (SP), tan, 95 percent fine to medium sand, 5 percent fine gravel, loose, damp, no noticeable odor.
SS/*S-2	0	2-1-2	
			@ 5.0 feet: wet.
			Boring terminated at 8.0 feet. Set well point from 4.0 to 7.0 feet.
			BORING DETAILS: 0 to 1.0 foot: Concrete. 1.0 to 8.0 feet: Bentonite chips hydrated with potable water.



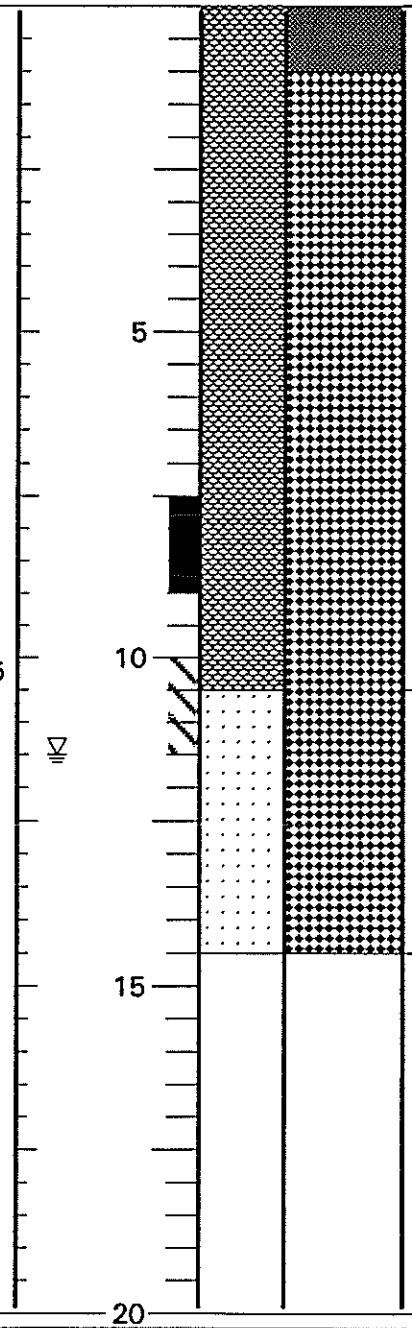
REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**SB-1401**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**15.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/15/93**

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	LITHOLOGIC DESCRIPTION
			0 to 10.5 feet: WOOD CHIPS
SS/*S-1	0	3-7-6	@ 8.0 feet: wood chips with 10 to 15 percent fine to medium sand mixed in.
SS/S-2	0	7-11-15	@ 10.0 feet: no recovery, sandstone-like material in split spoon. Split spoon was wet.
			10.5 to 14.5 feet: SAND (SP), gray, wet, no noticeable odors.
			Boring terminated at 10.5 feet. Well point installed from 11.5 to 14.5 feet.
			BORING DETAILS: 0 to 1.0 foot: Concrete. 1.0 to 14.5 feet: Bentonite chips hydrated with potable water.



REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	West Site Phase 1	BORING NO.	SB-1402
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DRILLED BY	Geo-Boring	GROUND ELEV.	N/A
DRILL METHOD	Hollow Stem Auger (6" ID)	TOTAL DEPTH	12.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	06/15/93

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
				5				**0 to 8.5 feet: WOOD CHIPS**
SS/S-1		18-9-7						@ 7.0 feet: driller felt change in drilling at 7.0 feet. No recovery, wood chips in auger preventing soil to enter split spoon.
SS/*S-2		27-22-24	▽	10				**8.5 to 12.0 feet: SAND (SP)**, gray, fine to medium, dense, moist to wet, no noticeable odors. @ 9.0 feet: no recovery, wood chips in auger preventing soil to enter split spoon.
				15				Boring terminated at 5.0 feet. Well point set from 9.0 to 12.0 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 12.0 feet: Bentonite chips hydrated with potable water.
				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. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**SB-1403**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**12.50'**
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
				5				**0 to 12.0 feet: WOOD CHIPS**
				10				
SS/S-1		3-4-6	▽					**12.0 to 14.0 feet: SAND (SP)**, gray, 100 percent fine to medium sand, loose, wet, no noticeable odors.
				15				Boring terminated at 12.5 feet, sampled to 14.0 feet. Well point installed from 11.0 to 14.0 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 14.0 feet: Bentonite chips hydrated with potable water.
				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. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**SB-1601**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**5.00'**
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
SS/*S-1	0		▽	5				**0 to 0.3 foot: ASPHALT** **0.3 to 5.0 feet: SAND (SW),** 5 percent fines, 85 percent fine to coarse sand, 10 percent fine gravel, loose, moist to wet, no noticeable odors. @ 2.5 feet: water. Boring terminated at 5.0 feet. Well point installed from 2.5 to 5.0 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 5.0 feet: Bentonite chips hydrated with potable water.
				10				
				15				
				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. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase I**	BORING NO.	**SB-1602**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**4.50'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/08/93**

SAMPLE 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	7-7-8						**0 to 0.3 foot: ASPHALT**
SS/S-2		3-3-2	▽					**0.3 to 4.5 feet: SAND (SW-SM)**, tan-black, 15 percent fines, 75 percent fine to coarse sand, 10 percent fine gravel, medium dense, damp to moist, no noticeable odor. @ 2.0 feet: black layer. @ 2.5 feet: thin (1-inch) silt zone. @ 3.5 feet: silt 5 to 10 percent, wet.
				5				Total depth drilled = 4.5 feet. Total depth sampled = 3.0 feet.
				10				**SOIL BORING DETAILS** 0 to 1.0 foot: Concrete. 1.0 to 4.5 feet: Bentonite chips hydrated with potable water.
				15				
				20				

REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase I**	BORING NO.	**SB-1603**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**3.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/08/93**

SAMPLE 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	7-9-10	▽	5, 10, 15, 20				**0 to 0.3 foot: ASPHALT** **0.3 to 3.0 feet: SAND (SW)**, grayish, 5 to 10 percent fines, 80 percent fine to coarse sand, 10 to 15 percent fine gravel, medium dense, damp to moist, no noticeable odor.

Total depth drilled = 3.0 feet.
Total depth sampled = 3.0 feet.

SOIL BORING DETAILS
0 to 1.0 foot: Concrete.
1.0 to 3.0 feet: Bentonite chips hydrated with potable water.

REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**SB-1604**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**6.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/11/93**

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		4-3-4	▽	5				**0 to 0.3 foot: ASPHALT** **0.3 to 6.0 feet: GRAVELLY SAND (SW)**, gray to black, 80 percent fine to coarse sand, 20 percent fine gravel, loose, moist to wet, no noticeable odor. @ 1.5 feet: becomes wet.
				10				Boring terminated at 6.0 feet. Well point set from 1.5 to 4.5 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 6.0 feet: Bentonite chips hydrated with potable water.
				15				
				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. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase I**	BORING NO.	**SB-1605**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**3.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/08/93**

SAMPLE 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		9-10-9	▽	5, 10, 15, 20				**0 to 0.3 foot: ASPHALT** **0.3 to 3.0 feet: SAND (SW-SM)**, black, 5 to 10 percent fines, 75 percent fine to coarse gravel, 15 to 20 percent fine gravel, medium dense, damp (moist), uncharacteristic odor. Total depth drilled = 3.0 feet. Total depth sampled = 3.0 feet. **SOIL BORING DETAILS** 0 to 1.0 foot: Concrete. 1.0 to 3.0 feet: Bentonite chips hydrated with potable water.

REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**SB-1606**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**3.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**06/15/93**

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	6-6-7	▽	5, 10, 15, 20				**0 to 0.3 foot: ASPHALT** **0.3 to 2.0 feet: GRAVELLY SAND (SW)**, tan, 0 to 5 percent fines, 70 percent fine to medium sand, 30 to 35 percent fine gravel, damp, no noticeable odor. **2.0 to 3.0 feet: SAND (SP)**, tan, 5 percent fines, 90 percent fine to coarse sand, 5 percent fine gravel, medium dense, wet, no noticeable odor. Boring terminated at 3.0 feet. Well point installed from 2.0 to 5.0 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 3.0 feet: Bentonite chips hydrated with potable water.

REMARKS

Drilled with a mobile CME-75 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30 inch stroke. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME **West Site Phase I**
LOCATION **Weyerhaeuser Everett West Site**
DRILLED BY **Geo-Boring**
DRILL METHOD **Hollow Stem Auger**
LOGGED BY **Russell Thompson**

BORING NO. **SB-1701**
PAGE **1 OF 1**
GROUND ELEV. **N/A**
TOTAL DEPTH **4.50'**
DATE COMPLETED **06/08/93**

SAMPLE 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	4-5-5						**0 to 0.3 foot: ASPHALT**
SS/S-2		3-4-4	▽					**0.3 to 4.5 feet: SAND (SP)**, gray, 100 percent fine to medium sand, loose, damp, no noticeable odors.
								@ 3.5 feet: 5 to 10 percent fine gravel and wet.
				5				Total depth drilled = 4.5 feet.
								Total depth sampled = 3.0 feet.
								SOIL BORING DETAILS
								0 to 1.0 foot: Concrete.
								1.0 to 4.5 feet: Bentonite chips hydrated with potable water.
				10				
				15				
				20				

REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	West Site Phase I	BORING NO.	SB-1702
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DRILLED BY	Geo-Boring	GROUND ELEV.	N/A
DRILL METHOD	Hollow Stem Auger	TOTAL DEPTH	4.50'
LOGGED BY	Russell Thompson	DATE COMPLETED	06/08/93

SAMPLE METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6-INCHES	LITHOLOGIC DESCRIPTION
SS/*S-1	0	2-3-2	0 to 4.0 feet: SAND (SP), tan, 5 percent silt, 90 percent fine to medium sand, 5 percent fine gravel, loose, damp, no noticeable odors.
SS/S-2		1-2-2	
			4.0 to 4.5 feet: SILT (OH), fine, 65 to 75 percent silt, 25 to 35 percent sand, soft, medium plasticity, peat. (WOOD CHIPS)
			Total depth drilled = 4.5 feet.
			Total depth sampled = 4.5 feet.

GROUND WATER LEVELS ▽

DEPTH IN FEET: 5, 10, 15, 20

SAMPLES

LITHOLOGIC COLUMN

WELL DETAILS

SOIL BORING DETAILS

0 to 1.0 foot: Concrete.

1.0 to 4.5 feet: Bentonite chips hydrated with potable water.

REMARKS

Drilled with a mobile B-61 6 1/4-inch I.D. hollow stem auger, 300 pound hammer with a 30-inch stroke. SS = split spoon sampler. PID = photoionization detector background reading less than 1 ppm. N/A = not surveyed. Soil borings were immediately abandoned following sample collection with bentonite and capped with concrete. * = Sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	West Site Phase 1	BORING NO.	WP-1101
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DRILLED BY	Geo-Boring	GROUND ELEV.	N/A
DRILL METHOD	Hollow Stem Auger (6" ID)	TOTAL DEPTH	7.50'
LOGGED BY	Russell Thompson	DATE COMPLETED	06/11/93

SAMPLING METHOD AND NUMBER	PID (in ppm)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
			▽	5				0 to 7.5 feet: GRAVELLY SILTY SAND (SM), tan, 40 percent silt, 40 percent fine to medium sand, 20 percent fine gravel, damp, no noticeable odor. @ 4.0 feet: becomes gray, 50 percent silt, 40 percent fine to medium sand, 10 percent fine gravel, moist, no noticeable odor. @ 6.0 feet: becomes wet.
				10				Boring terminated at 7.5 feet. Well point installed from 5.0 to 8.0 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 7.5 feet: Bentonite chips hydrated with potable water.
				15				
				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. SS = split spoon sampler. PID = photolonization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**WP-1601**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**7.50'**
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
			▽	5				**0 to 0.3 foot: ASPHALT** **0.3 to 1.0 feet: GRAVELLY SILTY SAND (SW-SM),** tan, 15 to 20 percent silt, 50 percent fine to medium sand, 35 to 40 percent fine to medium gravel, damp, no noticeable odors. **1.0 to 7.5 feet: SAND (SW),** tan, 90 percent fine to coarse sand, 10 percent fine gravel, damp, no noticeable odors. @ 3.0 feet: becomes wet and turns gray.
				10				Boring terminated at 7.5 feet. Well point installed from 2.5 to 5.5 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 7.5 feet: Bentonite chips hydrated with potable water.
				15				
				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. SS = split spoon sampler. PID = photolonization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**WP-1701**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**7.00'**
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
			▽	5				**0 to 0.3 foot: ASPHALT** **0.3 to 1.0 foot: GRAVELLY SILTY SAND (SW-SM),** brown tan, 15 to 20 percent silt, 50 percent fine to medium sand, 35 to 40 percent fine to medium gravel, damp, no noticeable odor. **1.0 to 7.0 feet: SAND (SP),** gray, 95 percent fine to medium sand, 5 percent gravel, damp, no noticeable odor. @ 5.0 feet: wet.
				10				Boring terminated at 7.0 feet. Well point installed from 4.0 to 7.0 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 7.0 feet: Bentonite chips hydrated with potable water.
				15				
				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. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

LOG OF EXPLORATORY BORING

PROJECT NAME	**West Site Phase 1**	BORING NO.	**WP-1702**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DRILLED BY	**Geo-Boring**	GROUND ELEV.	**N/A**
DRILL METHOD	**Hollow Stem Auger (6" ID)**	TOTAL DEPTH	**6.00'**
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
			▽	5				**0 to 0.3 foot: ASPHALT** **0.3 to 1.0 foot: GRAVELLY SILTY SAND (SW-SM),** tan, 15 to 20 percent silt, 50 percent fine to medium sand, 35 to 40 percent fine to medium gravel, damp, no noticeable odor. **1.0 to 6.0 feet: SAND (SP),** tan, 95 percent fine to medium sand, 5 percent fine gravel, damp, no noticeable odor. @ 4.0 feet: wet.
				10				Boring terminated at 6.0 feet. Well point set from 3.0 to 6.0 feet. **BORING DETAILS:** 0 to 1.0 foot: Concrete. 1.0 to 6.0 feet: Bentonite chips hydrated with potable water.
				15				
				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. SS = split spoon sampler. PID = photoionization detector. Background reading = less than 1 ppm. N/A = not surveyed. Stainless steel well point removed prior to abandoning. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1101**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**6.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/26/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0						**0 to 2.0 feet: GRAVELLY SAND (SW),** brown, 5 percent fines, 65 percent fine to coarse sand, 30 percent fine to medium gravel, damp, no noticeable odor. (FILL)
							2.0 to 3.0 feet: WOOD CHIPS
*Grab	0						**3.0 to 4.0 feet: SAND (SW),** black, 5 percent fines, 80 percent fine to medium sand, 15 percent fine gravel, damp, no noticeable odors, wood chips intermixed at interface.
			▽	5			**4.0 to 5.5 feet: BRICK AND WOOD DEBRIS,** with 5 to 10 percent fine to medium sand, 5 to 10 percent fine to medium sand, 5 to 10 percent fine to medium gravel, damp, very dense. Wood debris consisted of railroad ties and other creosote covered wood planks, creosote-like odor.
							5.5 to 6.0 feet: ORGANIC SILT (OH), black, 90 percent silt, 5 percent fine to medium sand, moist.
				10			@ 6.0 feet: water encountered, no visible sheen on water surface.
							Digging terminated at 6.0 feet.
							Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed. PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1102**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**5.50'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/26/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0		▽	5 10 15 20			**0 to 1.5 feet:** SAND (SP), tan, 5 percent fines, 90 percent fine to medium sand, 5 percent fine gravel, damp, no noticeable odor. **1.5 to 5.5 feet:** SAND (SP), brown, 5 percent fines, 90 percent fine to medium sand, 5 percent gravel, damp, no noticeable odors. @ 5.0 feet: moist. @ 5.5 feet: becomes wet, water is foamy, no visible sheen on water surface. Digging terminated at 5.5 feet. Test pit backfilled following sample collection.

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1201
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	11.50'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/27/93

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 3.0 feet: WOOD CHIPS (WOOD)
*Grab	0						**3.0 to 4.5 feet: GRAVELLY SAND (SW)**, tan, 80 percent fine to medium sand, 20 percent fine to medium gravel, damp, no noticeable odor.
				5			**4.5 to 6.0 feet: GRAVEL (GP)**, fine to medium, gravel, damp, no noticeable odor. (FILL)
							6.0 to 11.5 feet: SAND (SP), gray, 95 percent fine to medium sand, 5 percent fine to medium gravel, damp, no noticeable odor.
				10			@ 10.5 feet: becomes moist. @ 11.0 feet: wet, no noticeable sheen on water surface.
			▽				Digging terminated at 11.5 feet. Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1202**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**12.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/27/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 2.0 feet: WOOD CHIPS (WOOD)
*Grab	0						**2.0 to 2.5 feet: SAND (SW), olive green, 5 percent fines, 80 percent fine to medium sand, 10 to 15 percent fine to medium gravel, damp, no noticeable odor.**
				5			**2.5 to 12.0 feet: SAND (SW), gray, 5 percent fines, 80 percent fine to coarse sand, 15 percent fine to medium gravel, damp, creosote-like odor.**
							@ 3.0 feet: wood planking is covered with creosote.
	0			10			@ 10.0 feet: becomes moist.
			▽				@ 12.0 feet: wet, no noticeable sheen on water surface.
							Digging terminated at 12.0 feet. Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1203**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**10.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/27/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 0.3 foot: CRUSHED ROCK
*Grab	0						**0.3 to 5.0 feet: SAND (SP)**, tan, 5 percent fines, 90 percent fine to medium sand, 5 percent fine gravel, damp, creosote-like odor.
							@ 2.0 feet: wood piling is covered with creosote.
				5			**5.0 to 10.0 feet: SAND (SP)**, gray, 5 percent fines, 90 percent fine to medium sand, 5 percent fine gravel, damp, creosote-like odor.
	0						@ 9.0 feet: moist.
			▽	10			@ 10.0 feet: wet, no visible sheen on water surface.
							Digging terminated at 10.0 feet.
							Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photolonization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1204
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	10.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/27/94

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 4.0 feet: WOOD CHIPS AND WOOD DEBRIS
				5			**4.5 to 7.0 feet: OLD WOOD WATER PIPE**, water pipe was broken and leaked into excavation, water had a yellow color to it.
*Grab	0						**7.0 to 10.0 feet: SAND (SP)**, gray, 5 percent fines, 90 percent fine to medium sand, 5 percent fine gravel, damp. Soil contains uncharacteristic odor. @ 9.0 feet: moist. @ 10.0 feet: wet, no visible sheen on surface of water.
			▽	10			Digging terminated at 10.0 feet. Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1205**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**6.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/27/94**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0		▽	5 10 15 20			**0 to 1.5 feet: SAND (SP), tan, 95 percent fine to medium sand, 5 percent fine gravel, dry, contains wood debris, no noticeable odor.** @ 1.5 feet: damp. @ 5.0 feet: moist. @ 6.0 feet: wet, no noticeable sheen on water surface. Digging terminated at 6.0 feet. Test pit backfilled following sample collection.

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1206
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	7.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/27/93

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	SAMPLES	LITHOLOGIC DESCRIPTION
				0 to 2.0 feet: WOOD CHIPS
				2.0 to 5.0 feet: WOOD DEBRIS, tearing through the wood debris was similar to tearing through a floor. Wood was covered with creosote, creosote-like odor.
*Grab	0			5.0 to 7.0 feet: SAND (SP), gray and black, 95 percent fine to coarse sand, 5 percent fine gravel, moist, sand is laminated black gray, black gray sheen on water, creosote-like odor. @ 6.0 feet: moist. @ 7.0 feet: wet, sheen on water.
				Digging terminated at 7.0 feet. Test pit backfilled following sample collection.

GROUND WATER LEVELS

DEPTH IN FEET: 5, 10, 15, 20

LITHOLOGIC COLUMN

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1207**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**11.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/27/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 3.0 feet: WOOD CHIPS
				5			**3.0 to 6.5 feet: WOOD DEBRIS,** wood debris with some sort of bulkhead where water was pouring into the excavation at approximately 20 to 30 gpm. Water contained a sheen at bottom of excavation. Wood debris was covered with creosote, creosote-like odor.
*Grab	0						**6.5 to 11.0 feet: SAND (SW),** gray to black, 90 percent fine to coarse sand, 10 percent fine gravel, damp, uncharacteristic odor, sheen on water surface.
				10			@ 10.0 feet: moist. @ 11.0 feet: wet, sheen on water.
			▽				Digging terminated at 11.0 feet. Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1208
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	6.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/27/93

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 2.0 feet: WOOD CHIPS
*Grab	0		▽	5			2.0 to 6.0 feet: SAND (SP), tan, 90 to 95 percent fine to coarse and, 5 to 10 percent fine gravel, damp, no noticeable odor. @ 5.0 feet: moist. @ 6.0 feet: wet.
				10			Digging terminated at 6.0 feet. Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1209**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**5.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/27/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0		▽	5			**0 to 1.5 feet: WOOD CHIPS/WOOD DEBRIS,** wood debris consisted of large beams, smaller planking, plastic straps 10 to 12 feet long. Wood beams are covered with creosote, creosote-like odor. **1.5 to 5.0 feet: SAND (SP),** black to tan, 95 percent fine to coarse sand, 5 percent fine gravel, damp. Wood debris mixed in. Wood debris in sand are mixed from 1.5 to 2.5 before becoming sand. @ 3.0 feet: wood debris disappears. @ 4.0 feet: moist. @ 5.0 feet: wet, no visible sheen on water surface. Digging terminated at 5.0 feet. Test pit backfilled following sample collection.
				10			
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1210**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**6.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/27/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0			5			**0 to 3.0 feet: GRAVELLY SAND (SW)**, tan to brown, 5 percent fines, 80 percent fine to coarse sand, 15 percent fine to medium gravel, damp, no noticeable odors.
							3.0 to 6.0 feet: SAND (SP), gray-tan, 95 percent fine to medium sand, 5 percent fine to medium gravel, damp, no noticeable odor. @ 5.0 feet: moist. @ 6.0 feet: wet.
				10			Digging terminated at 6.0 feet. Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1211
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	6.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/27/93

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 0.5 foot: ASPHALT
*Grab	0						0.5 to 1.0 foot: SAND (SP), tan, 90 to 95 percent fine to medium sand, 5 to 10 percent fine to medium gravel, damp, no noticeable odor.
							1.0 to 6.0 feet: SAND (SW), gray, 90 to 95 percent fine to coarse sand, 5 to 10 percent fine gravel, damp, no noticeable odor.
				5			@ 5.0 feet: moist.
			▽				@ 6.0 feet: wet, no visible sheen on water surface.
							Digging terminated at 6.0 feet.
							Test pit backfilled following sample collection.
				10			
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1212
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	5.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/27/93

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0						**0 to 1.0 foot: SAND (SP)**, tan, 5 percent fines, 90 percent fine to medium sand, 5 percent fine to medium gravel, dry, no noticeable odors.
							1.0 to 2.0 feet: WOOD CHIPS, wood chip layer is decaying.
*Grab	0						**2.0 to 3.0 feet: GRAVELLY SAND (SW)**, gray, 5 percent fines, 75 percent fine to coarse sand, 20 percent fine to medium gravel, damp, no noticeable odors.
			▽	5			**3.0 to 5.0 feet: SAND (SP)**, light gray to black, 95 percent fine to coarse sand, 5 percent fine gravel, damp, no noticeable odor.
							@ 5.0 feet: wet, no visible sheen on water surface.
							Digging terminated at 5.0 feet.
							Test pit backfilled following sample collection.
				10			
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photolonization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1301**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**7.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/28/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0						**0 to 1.5 feet: GRAVELLY SAND (SW)**, tan to brown, 5 percent fines, 80 percent fine to medium sand, 15 percent fine to medium gravel, damp, no noticeable odor.
	0		▽	5			**1.5 to 7.0 feet: SAND (SP)**, tan, 95 percent fine to medium sand, 5 percent fine to coarse gravel, damp, no noticeable odors. @ 4.5 to 5.5 feet: 10- to 12-inch steel pipe. Pipe was on south side of excavation bending to the south. @ 6.0 feet: moist. @ 6.5 feet: wet, no visible sheen on water surface.
				10			Digging terminated at 7.0 feet. Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1302
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	7.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/28/93

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0						**0 to 2.0 feet: GRAVELLY SAND (SW)**, tan, 5 to 10 percent fines, 65 to 75 percent fine to coarse sand, 20 to 25 percent fine to medium gravel, damp, no noticeable odor.
							2.0 to 5.0 feet: SAND (SP), brown to tan, less than or equal to 5 percent fines, 90 percent fine to coarse sand, 5 percent fine gravel, damp, uncharacteristic odor.
	0		▽	5			**5.0 to 7.0 feet: SAND (SP)**, black, less than or equal to 5 percent fines, 90 percent fine to coarse sand, 5 percent fine gravel, damp, uncharacteristic odor. @ 6.0 feet: moist, the first 3- to 5-inches of black sand is a black concentrated zone. @ 7.0 feet: wet, visible sheen on water surface.
				10			Digging terminated at 7.0 feet. Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1401**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**9.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/26/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 3.0 feet: WOOD CHIPS
*Grab	0						**3.0 to 4.0 feet: LIME**, white, dense, cemented together, no noticeable odors.
				5			**4.0 to 9.0 feet: SAND (SP)**, reddish-black, less than or equal to 5 percent fines, 90 percent fine to medium sand, 5 percent fine gravel, damp, no noticeable odors, concrete rubble, cable, and brick debris present. Debris encountered consisted of large 3 x 3 foot size concrete, bricks, and cables.
	0		▽				@ 8.0 feet: moist. @ 9.0 feet: wet, no visible sheen on water surface.
				10			Digging terminated at 9.0 feet. Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1402**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**12.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/26/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 6.5 feet: WOOD CHIPS
*Grab	0			5			**6.5 to 9.0 feet: LIME**, white, dense, cemented together.
				10			**9.0 to 10.5 feet: DECAYING WOOD CHIPS**
			▽				**10.5 to 12.0 feet: SAND (SP)**, olive green, less than or equal to 5 percent fines, 95 percent fine to medium sand, damp, no noticeable odor. @ 11.0 feet: moist. @ 11.5 feet: wet, no visible sheen on water surface.
				15			Digging terminated at 12.0 feet. Test pit backfilled following sample collection.
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1403
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	9.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/26/93

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 7.0 feet: WOOD CHIPS
							@ 4.0 to 7.0 feet: wood chip stringers in the sand.
*Grab	0			5			**7.0 to 9.0 feet: SAND (SP)**, gray to olive, less than or equal to 5 percent fines, 90 percent fine to medium sand, 5 percent fine gravel, damp, sulfur-like odor.
			▽				@ 8.0 feet: moist.
							@ 9.0 feet: wet.
				10			Digging terminated at 9.0 feet.
							Test pit backfilled following sample collection.
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1404**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**11.00'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/26/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
							0 to 6.0 feet: WOOD CHIPS
*Grab	0		▽	5 10 15 20			**6.0 to 11.0 feet: SAND (SP)**, olive gray, 5 percent fines, 90 percent fine to medium sand, 5 percent fine gravel, dense, damp, no noticeable odor. @ 9.5 feet: moist. @ 11.0 feet: wet. Digging terminated at 11.0 feet. Test pit backfilled following sample collection.

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1701
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	6.50'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/26/93

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0		▽	5			0 to 1.5-inches: ASPHALT 1.5 to 1.0 foot: CRUSHED ROCK (FILL) 1.0 to 2.0 feet: SAND (SW), tan, less than or equal to 5 percent fines, 85 percent fine to medium gravel, 10 to 15 percent fine to medium gravel, damp, no noticeable odor. 2.0 to 6.5 feet: SAND (SP), tan, less than or equal to 5 percent fines, 90 percent fine to medium sand, 5 percent fine gravel damp, creosote-like odor, wood debris consisting of 2 x 4 size wood, covered with creosote. @ 5.5 feet: moist. @ 6.5 feet: wet, no visible sheen on water surface. Digging terminated at 6.5 feet. Test pit backfilled following sample collection.
				10			
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1702
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	4.50'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/26/93

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0		▽	5			0 to 1.5-inches: ASPHALT 1.5-inches to 4.5 feet: SAND (SP), tan, less than or equal to 5 percent fines, 90 percent fine to medium sand, 5 percent fine to medium, no noticeable odor, damp. @ 4.0 feet: moist. @ 4.5 feet: no visible sheen on water surface. Digging terminated at 4.5 feet. Test pit backfilled following sample collection.

10

15

20

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	**West Site Phase I**	TEST PIT NO.	**TP-1703**
LOCATION	**Weyerhaeuser Everett West Site**	PAGE	**1 OF 1**
DUG BY	**Wilder Construction**	GROUND ELEV.	**N/A**
METHOD	**Track Hoe**	TOTAL DEPTH	**4.50'**
LOGGED BY	**Russell Thompson**	DATE COMPLETED	**05/26/93**

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0		▽	5			**0 to 4.5 feet: SAND (SW)**, tan, less than or equal to 5 percent fines, 85 percent fine to medium gravel, 5 to 10 percent fine to medium gravel, damp, no noticeable odor, trace wood debris. @ 4.0 feet: moist. @ 4.5 feet: wet, no visible sheen on water surface. Digging terminated at 4.5 feet. Test pit backfilled following sample collection.
				10			
				15			
				20			

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

EXPLORATORY TEST PIT LOG

PROJECT NAME	West Site Phase I	TEST PIT NO.	TP-1801
LOCATION	Weyerhaeuser Everett West Site	PAGE	1 OF 1
DUG BY	Wilder Construction	GROUND ELEV.	N/A
METHOD	Track Hoe	TOTAL DEPTH	3.00'
LOGGED BY	Russell Thompson	DATE COMPLETED	05/26/93

SAMPLING METHOD	PID (in ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
*Grab	0		▽	5 10 15 20			**0 to 2.0 feet: GRAVELLY SAND (SW)**, brown, 15 percent silt, 65 percent fine to medium sand, 20 percent fine to medium gravel, damp, no noticeable odor. Large concrete footings around tank pads. @ 1.5 feet: encountered an 8-inch steel pipe along north of wall of test pit. **2.0 to 3.0 feet: SAND (SP)**, black to brown, less than or equal to 5 percent fines, 90 percent fine to medium sand, 5 percent fine gravel, damp, no noticeable odors, moist. Digging terminated at 3.0 feet. Test pit backfilled following sample collection.

REMARKS

All test pits were dug using a track hoe and backfilled immediately after sample collection. N/A = not surveyed.
PID = photoionization detector. Background reading = less than 1 ppm. * = sample submitted for laboratory analysis.

ATTACHMENT F-1

WEST SITE PHASE 1 LABORATORY REPORTS

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

July 22, 1993

John Guenther
Emcon Northwest
18912 North Creek Parkway
Suite 100
Bothell, WA 98011

Dear John:

Attached are the results for the samples you wanted analyzed for PCBs, WTPH-D, WTPH-G, BNAs, Metals, pH, Conductivity, Turbidity, BTEX, and VOAs. These are from service request 12116. Several other service requests from the west side Everett job site will be mailed this week as well.

If you have any questions concerning the report, please do not hesitate to call me at (206) 924-6242. Thank you for using our laboratory for this analysis and we look forward to working with you on future projects.

Sincerely,

Dennis Catalano, Project Manager
Weyerhaeuser Analytical and Testing Services

Attachments

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Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

SR Number: 12092
Project Number: West Side #0141-037.29
Project: Everett Emcon Soil Samples

Samples from this request (12092) were received on 6/12/93 and 6/16/93. This request was composed of soil samples for VOAs. The requested analyses were as follows:

SAMPLE ID	MATRIX	ANALYSIS REQUESTED
SB-1202	Soil	VOA
SB-1606	Soil	VOA
SB-1202MS	Soil	VOA
SB-1202MSD	Soil	VOA

Several anomalies existed with this sample set that are listed below. The anomalies are broken up into categories for ease of explanation.

1. VOA

   a) All samples and blanks contain a peak at approximately scan #150 that is >10% of the nearest internal standard. This peak is carbon dioxide and is not searched in any of the samples. A spectrum of this peak is on file at the laboratory for review.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Randy Eatherton 7/15/98

Randy Eatherton
VOA/Dioxin Team Leader

Date

Please feel free to contact me with any questions concerning this data report. I can be reached at (206) 924-6431.

Sincerely,

Randy Eatherton

Randy Eatherton
Weyerhaeuser Analytical & Testing Services

Flag Qualifiers For Organic Analysis Reports

U Indicates that the compound was analyzed for but not detected. The sample quantitation limit corrected for dilution and percent moisture is reported.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds or when the data indicates the presence of a compound but the result is less than the sample quantitation limit but greater than zero.

N Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.

P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

C This flag is used for pesticide results that have been confirmed by GC/MS

B This flag is used when the analyte is detected in the associated blank as well as the sample.

E This flag is used for compounds whose concentrations exceed the calibration range of the instrument.

D This flag identifies all compounds identified in an analysis at a secondary dilution. This flag alerts the data user that any discrepancies between the concentrations reported in the two runs may be due to dilution errors.

A This flag is used for tentatively identified compounds that suspected to be aldol-condensation products.

X This flag is assigned by the computer when the program has been manually adjusted by the operator. It has no significance to the number itself.

000005

PERCENT MOISTURE NOTEBOOK

Weyerhaeuser Company

NAME S. Music 6/22/93
T Sutherland, H. Purket

SR# 12092

DATE 6/18/93 6/22/93

SAMPLE#	PAN #	PAN WT.	pan + wet wt TARE WT.	pan + dry wt FINAL WT.	% MOISTURE	pH			
10473		1.597	10.663	9.952	7.84	6.86			
10477		1.581	10.854	9.935	9.91	5.36			
10478		1.573	10.812	9.943	9.41	6.21			
10664		1.593	10.125	7.813	27.10	6.39			
10471		1.601	10.755	9.902	9.32	7.47			
10468		1.568	12.806	12.143	5.90				
10472		1.577	11.245	10.576	6.92				
10474		1.581	10.215	8.629	18.37				
10475		1.569	11.838	10.401	13.99				
10476		1.572	11.229	10.718	8.57				
10665		1.583	10.777	10.445	3.61				
10667		1.569	11.165	10.755	4.27				
10781		1.585	10.882	9.743	12.25				
10782		1.560	10.786	10.046	7.80				
10783		1.571	11.126	10.679	4.68				
10848		1.577	12.672	10.027	23.84				
10849		1.578	11.080	9.429	17.38				
10850		1.586	11.377	8.719	27.15				
10851		1.574	10.536	9.275	14.07				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-1202

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: 10665

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4877

Level: (low/med) LOW Date Received: 06/12/93

% Moisture: not dec. 4 Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-1202

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: 10665

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4877

Level: (low/med) LOW Date Received: 06/12/93

% Moisture: not dec. 4 Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SB-1202

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: 10665

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4877

Level: (low/med) LOW Date Received: 06/12/93

% Moisture: not dec. 4 Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-1606

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: 10851

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4878

Level: (low/med) LOW Date Received: 06/16/93

% Moisture: not dec. 14 Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	Trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Total Xylenes	12	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-1606

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: 10851

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4878

Level: (low/med) LOW Date Received: 06/16/93

% Moisture: not dec. 14 Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SB-1606

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: 10851

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4878

Level: (low/med) LOW Date Received: 06/16/93

% Moisture: not dec. 14 Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKS1

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4874

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKS1

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4874

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKS1

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4874

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-1202MS

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: 10665MS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4879

Level: (low/med) LOW Date Received: 06/12/93

% Moisture: not dec. 4 Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	48	
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	50	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	50	
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	52	
108-90-7	Chlorobenzene	54	
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-1202MS

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: 10665MS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4879

Level: (low/med) LOW Date Received: 06/12/93

% Moisture: not dec. 4 Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-1202MSD

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: 10665MSD

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4880

Level: (low/med) LOW Date Received: 06/12/93

% Moisture: not dec. 4 Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	49	
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	51	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	52	
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	54	
108-90-7	Chlorobenzene	57	
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-1202MSD

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix: (soil/water) SOIL Lab Sample ID: 10665MSD

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4880

Level: (low/med) LOW Date Received: 06/12/93

% Moisture: not dec. 4 Date Analyzed: 06/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	SB-1202	99	84	107	0	0
02	SB-1606	103	81	110	0	0
03	SB-1202MS	104	82	111	0	0
04	SB-1202MSD	104	80	111	0	0
05	VBLKS1	102	83	106	0	0

	QC LIMITS
SMC1 (TOL) = Toluene-d8	(84-138)
SMC2 (BFB) = Bromofluorobenzene	(59-113)
SMC3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Matrix Spike - EPA Sample No.: SB-1202 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	52.10	0	48.02	92	59-172
Trichloroethene	52.10	0	50.00	96	62-137
Benzene	52.10	0	49.69	95	66-142
Toluene	52.10	0	51.67	99	59-139
Chlorobenzene	52.10	0	54.17	104	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	52.10	49.06	94	2	22	59-172
Trichloroethene	52.10	51.46	99	3	24	62-137
Benzene	52.10	52.19	100	5	21	66-142
Toluene	52.10	54.27	104	5	21	59-139
Chlorobenzene	52.10	56.67	109	5	21	60-133

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKS1

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Lab File ID: A4874 Lab Sample ID: VBLKS1

Date Analyzed: 06/17/93 Time Analyzed: 1036

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) Y

Instrument ID: VOA1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	SB-1202	10665	A4877	1331
02	SB-1606	10851	A4878	1413
03	SB-1202MS	10665MS	A4879	1454
04	SB-1202MSD	10665MSD	A4880	1536

COMMENTS:

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Lab File ID: A4491 BFB Injection Date: 05/20/93

Instrument ID: VOA1 BFB Injection Time: 1000

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	25.8
75	30.0 - 66.0% of mass 95	53.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	59.5
175	4.0 - 9.0% of mass 174	4.1 (6.9)1
176	93.0 - 101.0% of mass 174	56.8 (95.5)1
177	5.0 - 9.0% of mass 176	4.0 (7.0)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD050	A4494	05/20/93	1309
02	VSTD200	VSTD200	A4495	05/20/93	1400
03	VSTD100	VSTD100	A4496	05/20/93	1446
04	VSTD020	VSTD020	A4497	05/20/93	1530
05	VSTD010	VSTD010	A4498	05/20/93	1613

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Lab File ID: A4872 BFB Injection Date: 06/17/93

Instrument ID: VOA1 BFB Injection Time: 0925

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	24.6
75	30.0 - 66.0% of mass 95	54.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	56.8
175	4.0 - 9.0% of mass 174	4.2 (7.4)1
176	93.0 - 101.0% of mass 174	57.0 (100.3)1
177	5.0 - 9.0% of mass 176	3.9 (6.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD050	A4873	06/17/93	0954
02	VBLKS1	VBLKS1	A4874	06/17/93	1036
03	SB-1202	10665	A4877	06/17/93	1331
04	SB-1606	10851	A4878	06/17/93	1413
05	SB-1202MS	10665MS	A4879	06/17/93	1454
06	SB-1202MSD	10665MSD	A4880	06/17/93	1536

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Instrument ID: VOA1 Calibration Date(s): 05/20/93 05/20/93

Heated Purge: (Y/N): Y Calibration Times: 1309 1613

GC Column: CAP ID: 0.530(mm)

LAB FILE ID: RRF10 = A4498 RRF20 = A4497
RRF50= A4494 RRF100= A4496 RRF200= A4495

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	$\overline{RRF}$	% RSD
Chloromethane	0.791	0.689	0.744	0.648	0.656	0.706	8.6
Bromomethane *	1.583	1.401	1.406	1.330	1.295	1.403	7.9*
Vinyl Chloride *	0.928	0.835	0.860	0.818	0.787	0.846	6.3*
Chloroethane	0.739	0.654	0.686	0.601	0.588	0.654	9.5
Methylene Chloride	1.573	1.497	1.443	1.423	1.474	1.482	3.9
Acetone	0.781	0.729	0.683	0.635	0.627	0.691	9.4
Carbon Disulfide	2.646	2.609	3.140	3.062	3.332	2.958	10.7
1,1-Dichloroethene *	1.333	1.210	1.273	1.242	1.287	1.269	3.7*
1,1-Dichloroethane *	2.528	2.311	2.366	2.370	2.442	2.403	3.5*
1,2-Dichloroethene (total)	1.379	1.290	1.342	1.322	1.393	1.345	3.1
Chloroform *	2.779	2.570	2.674	2.628	2.734	2.677	3.1*
1,2-Dichloroethane *	1.576	1.478	1.539	1.469	1.511	1.515	2.9*
2-Butanone	1.253	1.192	1.120	1.067	1.059	1.138	7.3
1,1,1-Trichloroethane *	0.515	0.498	0.549	0.538	0.555	0.531	4.5*
Carbon Tetrachloride *	0.474	0.459	0.525	0.509	0.527	0.499	6.2*
Bromodichloromethane *	0.805	0.811	0.945	0.922	0.979	0.892	8.9*
1,2-Dichloropropane	0.470	0.438	0.438	0.441	0.444	0.446	3.0
cis-1,3-Dichloropropene *	0.451	0.469	0.546	0.574	0.613	0.531	13.0*
Trichloroethene *	0.450	0.405	0.430	0.421	0.433	0.428	3.9*
Dibromochloromethane *	0.672	0.721	0.834	0.827	0.885	0.788	11.2*
1,1,2-Trichloroethane *	0.450	0.434	0.452	0.442	0.454	0.446	1.9*
Benzene *	1.043	0.958	0.983	0.975	0.983	0.988	3.3*
Trans-1,3-Dichloropropene *	0.314	0.346	0.414	0.446	0.481	0.400	17.3*
Bromoform *	0.506	0.570	0.689	0.690	0.749	0.641	15.5*
4-Methyl-2-Pentanone	0.882	0.913	0.900	0.891	0.910	0.899	1.4
2-Hexanone	0.548	0.569	0.538	0.561	0.556	0.554	2.2
Tetrachloroethene *	0.477	0.430	0.445	0.429	0.438	0.444	4.4*
1,1,2,2-Tetrachloroethane *	1.431	1.403	1.464	1.422	1.450	1.434	1.7*
Toluene *	0.780	0.721	0.742	0.725	0.730	0.740	3.2*
Chlorobenzene *	1.012	0.932	0.953	0.929	0.941	0.953	3.6*
Ethylbenzene *	0.414	0.396	0.398	0.394	0.390	0.398	2.3*
Styrene *	0.884	0.835	0.878	0.876	0.902	0.875	2.8*
Total Xylenes *	0.525	0.499	0.507	0.491	0.500	0.504	2.5*
1,3-Dichlorobenzene	0.908	0.876	0.874	0.869	0.883	0.882	1.7
1,4-Dichlorobenzene	0.911	0.843	0.861	0.857	0.869	0.868	3.0
1,2-Dichlorobenzene	0.915	0.851	0.869	0.852	0.867	0.871	3.0
Toluene-d8	1.275	1.209	1.107	1.140	1.130	1.172	5.9
Bromofluorobenzene *	1.205	1.160	1.076	1.090	1.076	1.121	5.2*
1,2-Dichloroethane-d4	1.486	1.374	1.281	1.257	1.259	1.331	7.4

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Instrument ID: VOA1 Calibration date: 06/17/93 Time: 0954

Lab File ID: A4873 Init. Calib. Date(s): 05/20/93 05/20/93

Heated Purge: (Y/N) Y Init. Calib. Times: 1309 1613

GC Column: CAP ID: 0.530(mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.706	0.446		36.8	
Bromomethane	1.403	1.190	0.100	15.2	25.0
Vinyl Chloride	0.846	0.672	0.100	20.6	25.0
Chloroethane	0.654	0.620		5.2	
Methylene Chloride	1.482	1.515		-2.2	
Acetone	0.691	0.862		-24.8	
Carbon Disulfide	2.958	2.822		4.6	
1,1-Dichloroethene	1.269	1.252	0.100	1.3	25.0
1,1-Dichloroethane	2.403	2.563	0.200	-6.7	25.0
1,2-Dichloroethene (total)	1.345	1.386		-3.0	
Chloroform	2.677	2.777	0.200	-3.7	25.0
1,2-Dichloroethane	1.515	1.620	0.100	-6.9	25.0
2-Butanone	1.138	1.409		-23.8	
1,1,1-Trichloroethane	0.531	0.550	0.100	-3.6	25.0
Carbon Tetrachloride	0.499	0.507	0.100	-1.6	25.0
Bromodichloromethane	0.892	0.921	0.200	-3.3	25.0
1,2-Dichloropropane	0.446	0.460		-3.1	
cis-1,3-Dichloropropene	0.531	0.552	0.200	-4.0	25.0
Trichloroethene	0.428	0.401	0.300	6.3	25.0
Dibromochloromethane	0.788	0.741	0.100	6.0	25.0
1,1,2-Trichloroethane	0.446	0.435	0.100	2.5	25.0
Benzene	0.988	1.043	0.500	-5.6	25.0
Trans-1,3-Dichloropropene	0.400	0.419	0.100	-4.8	25.0
Bromoform	0.641	0.595	0.100	7.2	25.0
4-Methyl-2-Pentanone	0.899	1.012		-12.6	
2-Hexanone	0.554	0.653		-17.9	
Tetrachloroethene	0.444	0.402	0.200	9.5	25.0
1,1,2,2-Tetrachloroethane	1.434	1.452	0.500	-1.3	25.0
Toluene	0.740	0.737		0.4	25.0
Chlorobenzene	0.953	0.886	0.500	7.0	25.0
Ethylbenzene	0.398	0.382	0.100	4.0	25.0
Styrene	0.875	0.847	0.300	3.2	25.0
Total Xylenes	0.504	0.474	0.300	6.0	25.0
1,3-Dichlorobenzene	0.882	0.792		10.2	
1,4-Dichlorobenzene	0.868	0.820		5.5	
1,2-Dichlorobenzene	0.871	0.816		6.3	
Toluene-d8	1.172	1.131		3.5	
Bromofluorobenzene	1.121	1.075	0.200	4.1	25.0
1,2-Dichloroethane-d4	1.331	1.401		-5.3	

All other compounds must meet a minimum RRF of 0.010.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB-120

Lab File ID (Standard): A4873 Date Analyzed: 06/17/93

Instrument ID: VOA1 Time Analyzed: 0954

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	98212	11.69	335939	14.40	267620	23.18
	UPPER LIMIT	196424	12.19	671878	14.90	535240	23.68
	LOWER LIMIT	49106	11.19	167970	13.90	133810	22.68
	EPA SAMPLE NO.						
01	SB-1202	86115	11.77	295469	14.47	240720	23.25
02	SB-1606	70360	11.69	248248	14.39	191422	23.19
03	SB-1202MS	82679	11.73	297407	14.43	226582	23.23
04	SB-1202MSD	91249	11.76	327425	14.47	249832	23.25
05	VBLKS1	99056	11.71	345161	14.41	268966	23.20

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

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

Weyerhaeuser

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CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

Case Number: 12092
SDG Number: SB-1203
Contract Number: West Side #0141-037.29

Samples from this case (12092) were received on 6/9/93, 6/10/93, 6/12/93 and 6/15/93. This case was composed of soil samples for various tests. Only results for BNAs, PCBs and WTPH-D are included with this narrative. The requested analyses were as follows:

SAMPLE ID	MATRIX	ANALYSIS REQUESTED
SB-1203	SOIL	WTPH-D
SB-1203Dup	SOIL	WTPH-D
SB-1303	SOIL	BNA; WTPH-D
SB-1303MS	SOIL	BNA
SB-1303MSD	SOIL	BNA
SB-1304	SOIL	WTPH-D
SB-1305	SOIL	PCB; WTPH-D
SB-1602	SOIL	WTPH-D
SB-1603	SOIL	WTPH-D
SB-1605	SOIL	WTPH-D
SB-1701	SOIL	PCB; WTPH-D
SB-1702	SOIL	PCB; WTPH-D
SB-1101	SOIL	PCB; WTPH-D
SB-1202	SOIL	WTPH-D
SB-1302	SOIL	WTPH-D
SB-1601	SOIL	WTPH-D
MW-1201	SOIL	WTPH-D
MW-1204	SOIL	WTPH-D
SB-1201	SOIL	WTPH-D
SB-1401	SOIL	WTPH-D
SB-1402	SOIL	WTPH-D
SB-1606	SOIL	WTPH-D
SB-1606	SOIL	WTPH-D

Several anomalies existed with this sample set that are listed below. The anomalies are broken up into categories for ease of explanation.

1. BNA

   a) The recoveries for many of the surrogates and matrix spike compounds were outside of QC limits for the matrix spike sample SB-1303MS. The surrogate recoveries for sample SB-1303 were also low but were not outside QC limits.

2) PCB

   a) The recoveries of one or both surrogates are outside of QC limits for the following samples: PBLK1; SB-1101; SB-1701.

   b) The % difference in the concentration of Aroclor 1254 detected on the two GC columns for sample SB-1101 was 25%. The QC limit is 25%.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard G Bogar 7/12/93

Richard G. Bogar Date
Chromatography Team Leader

Please feel free to contact me with any questions concerning this data report. I can be reached at (206) 924-6521.

Sincerely,

Richard G. Bogar

Richard G. Bogar, Chromatography Team Leader
Organic Laboratory
Weyerhaeuser Analysis & Testing Services

Flag Qualifiers For Organic Analysis Reports

U Indicates that the compound was analyzed for but not detected. The sample quantitation limit corrected for dilution and percent moisture is reported.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds or when the data indicates the presence of a compound but the result is less than the sample quantitation limit but greater than zero.

N Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.

P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

C This flag is used for pesticide results that have been confirmed by GC/MS

B This flag is used when the analyte is detected in the associated blank as well as the sample.

E This flag is used for compounds whose concentrations exceed the calibration range of the instrument.

D This flag identifies all compounds identified in an analysis at a secondary dilution. This flag alerts the data user that any discrepancies between the concentrations reported in the two runs may be due to dilution errors.

A This flag is used for tentatively identified compounds that suspected to be aldol-condensation products.

X This flag is assigned by the computer when the program has been manually adjusted by the operator. It has no significance to the number itself.

ATTACHMENT F-1

WEST SITE PHASE 1 LABORATORY REPORTS

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1303

Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix: (soil/water) SOIL Lab Sample ID: 10471

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2BN30624B

Level: (low/med) LOW Date Received: 06/09/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 06/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/24/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2-oxybis(1-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-Di-n-Propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)Methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	870	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	870	U
131-11-3	Dimethyl Phthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	870	U
83-32-9	Acenaphthene	360	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1303

Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix: (soil/water) SOIL Lab Sample ID: 10471

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2BN30624B

Level: (low/med) LOW Date Received: 06/09/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 06/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/24/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	870	U
100-02-7	4-Nitrophenol	870	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	360	U
100-01-6	4-Nitroaniline	870	U
534-52-1	4,6-Dinitro-2-Methylphenol	870	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	870	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
86-74-8	Carbazole	360	U
84-74-2	Di-n-Butylphthalate	360	U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)Anthracene	360	U
218-01-9	Chrysene	360	U
117-81-7	bis(2-Ethylhexyl)phthalate	360	U
117-84-0	Di-n-Octyl Phthalate	360	U
205-99-2	Benzo(b)Fluoranthene	360	U
207-08-9	Benzo(k)Fluoranthene	360	U
50-32-8	Benzo(a)Pyrene	360	U
193-39-5	Indeno(1,2,3-cd)Pyrene	360	U
53-70-3	Dibenz(a,h)Anthracene	360	U
191-24-2	Benzo(g,h,i)Perylene	360	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SB1303

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix: (soil/water) SOIL Lab Sample ID: 10471

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2BN30624B

Level: (low/med) LOW Date Received: 06/09/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 06/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/24/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	141-79-7	3-PENTEN-2-ONE, 4-METHYL-	3.53	69	BJNA
2.	123-42-2	2-PENTANONE, 4-HYDROXY-4-MET	4.27	5100	BJNA
3.		UNKNOWN	26.94	55	J
4.		UNKNOWN	28.02	65	J
5.		UNKNOWN	29.07	60	J
6.		UNKNOWN	30.11	62	J
7.		UNKNOWN	31.11	82	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKT1

Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix: (soil/water) SOIL Lab Sample ID: SBLKT1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2BN30624D

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/24/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKT1

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix: (soil/water) SOIL Lab Sample ID: SBLKT1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2BN30624D

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/24/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	800	U
100-02-7	4-Nitrophenol	800	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	800	U
534-52-1	4,6-Dinitro-2-Methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLKT1

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix: (soil/water) SOIL Lab Sample ID: SBLKT1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2BN30624D

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/24/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	141-79-7	3-PENTEN-2-ONE, 4-METHYL-	3.53	120	JNA
2.	123-42-2	2-PENTANONE, 4-HYDROXY-4-MET	4.30	9300	JNA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1303MS

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix: (soil/water) SOIL Lab Sample ID: 10471MS

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2BN30624E

Level: (low/med) LOW Date Received: 06/09/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 06/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/24/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2-oxybis(1-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-Di-n-Propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)Methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	870	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	870	U
131-11-3	Dimethyl Phthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	870	U
83-32-9	Acenaphthene	360	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1303MS

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix: (soil/water) SOIL Lab Sample ID: 10471MS

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2BN30624E

Level: (low/med) LOW Date Received: 06/09/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 06/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/24/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	870	U
100-02-7	4-Nitrophenol	870	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	360	U
100-01-6	4-Nitroaniline	870	U
534-52-1	4,6-Dinitro-2-Methylphenol	870	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	870	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
86-74-8	Carbazole	360	U
84-74-2	Di-n-Butylphthalate	360	U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)Anthracene	360	U
218-01-9	Chrysene	360	U
117-81-7	bis(2-Ethylhexyl)phthalate	62	J *
117-84-0	Di-n-Octyl Phthalate	360	U
205-99-2	Benzo(b)Fluoranthene	360	U
207-08-9	Benzo(k)Fluoranthene	360	U
50-32-8	Benzo(a)Pyrene	360	U
193-39-5	Indeno(1,2,3-cd)Pyrene	360	U
53-70-3	Dibenz(a,h)Anthracene	360	U
191-24-2	Benzo(g,h,i)Perylene	360	U

✓ JMS 7/2/93

(1) - Cannot be separated from Diphenylamine

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1303MSD

Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix: (soil/water) SOIL Lab Sample ID: 10471MSD

Sample wt/vol: 30.8 (g/mL) G Lab File ID: 2BN30624F

Level: (low/med) LOW Date Received: 06/09/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 06/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/24/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)Ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-Di-n-Propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)Methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-Methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	860	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	860	U
131-11-3	Dimethyl Phthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	860	U
83-32-9	Acenaphthene	350	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1303MSD

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix: (soil/water) SOIL Lab Sample ID: 10471MSD

Sample wt/vol: 30.8 (g/mL) G Lab File ID: 2BN30624F

Level: (low/med) LOW Date Received: 06/09/93

% Moisture: 9 decanted: (Y/N) N Date Extracted: 06/18/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/24/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	860	U
100-02-7	4-Nitrophenol	860	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	860	U
534-52-1	4,6-Dinitro-2-Methylphenol	860	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	860	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-Butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo(a)Anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)phthalate	49	J
117-84-0	Di-n-Octyl Phthalate	350	U
205-99-2	Benzo(b)Fluoranthene	350	U
207-08-9	Benzo(k)Fluoranthene	350	U
50-32-8	Benzo(a)Pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
191-24-2	Benzo(g,h,i)Perylene	350	U

(1) - Cannot be separated from Diphenylamine

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	SB1303	35	34	55	34	30	38	32	33	0
02	SB1303MS	20 *	19 *	62	18 *	15 *	36	17 *	17 *	6
03	SB1303MSD	70	61	70	63	58	67	61	61	0
04	SLCST1	49	51	74	50	42	59	46	40	0
05	SBLKT1	78	72	84	73	62	65	69	72	0

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (PHL)	= Phenol-d5	(24-113)	
S5 (2FP)	= 2-Fluorophenol	(25-121)	
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)	
S7 (2CP)	= 2-Chlorophenol-d4	(20-130)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

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

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 8270

Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix Spike - EPA Sample No.: SB1303 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	2720	0	442.4	16 *	26- 90
2-Chlorophenol	2720	0	442.4	16 *	25-102
1,4-Dichlorobenzene	1810	0	326.7	18 *	28-104
N-Nitroso-di-n-prop.(1)	1810	0	380.8	21 *	41-126
1,2,4-Trichlorobenzene	1810	0	314.8	17 *	38-107
4-Chloro-3-methylphenol	2720	0	641.9	24 *	26-103
Acenaphthene	1810	0	424.3	23 *	31-137
4-Nitrophenol	2720	0	1509	55	11-114
2,4-Dinitrotoluene	1810	0	707.1	39	28- 89
Pentachlorophenol	2720	0	1374	51	17-109
Pyrene	1810	0	1258	70	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	2680	1568	59	115 *	35	26- 90
2-Chlorophenol	2680	1650	62	118 *	50	25-102
1,4-Dichlorobenzene	1790	1104	62	110 *	27	28-104
N-Nitroso-di-n-prop.(1)	1790	1289	72	110 *	38	41-126
1,2,4-Trichlorobenzene	1790	1082	60	112 *	23	38-107
4-Chloro-3-methylphenol	2680	1818	68	96 *	33	26-103
Acenaphthene	1790	1150	64	94 *	19	31-137
4-Nitrophenol	2680	2314	86	44	50	11-114
2,4-Dinitrotoluene	1790	1254	70	57 *	47	28- 89
Pentachlorophenol	2680	1986	74	37	47	17-109
Pyrene	1790	1396	78	11	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 8 out of 11 outside limits
Spike Recovery: 7 out of 22 outside limits

COMMENTS: 10471 SB-1303
40(1)320@8(2.5) INST=FINN2

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1203

Matrix Spike - EPA Sample No.: SBLKT1 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	2500	0	1106	44	26- 90
2-Chlorophenol	2500	0	1136	45	25-102
1,4-Dichlorobenzene	1660	0	662.7	40	28-104
N-Nitroso-di-n-prop.(1)	1660	0	935.7	56	41-126
1,2,4-Trichlorobenzene	1660	0	739.3	45	38-107
4-Chloro-3-methylphenol	2500	0	1405	56	26-103
Acenaphthene	1660	0	949.0	57	31-137
4-Nitrophenol	2500	0	1698	68	11-114
2,4-Dinitrotoluene	1660	0	1069	64	28- 89
Pentachlorophenol	2500	0	1795	72	17-109
Pyrene	1660	0	1409	85	35-142

(1) N-Nitroso-di-n-propylamine

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 11 outside limits

COMMENTS: SBLKT1 6/18
40(1)320@8(2.5) INST=FINN2

Weyerhaeuser Analytical and Testing Services

Service Request 12092

Everett - EMCON Soil Samples
(West Side #0141-037.29) #120-2975670

Method WTPH-D
Diesel Range and Heavier Compounds

Samples were prepared per method WTPH-D and analyzed by Gas Chromatography with FID detection for diesel and motor oil range compounds. Identification and quantitation was accomplished by comparing sample chromatograms to chromatograms of known concentrations of diesel and motor oil. Results are expressed in ug/g (ppm).

Approved Clay Thom Date 6 July 93

Service Request	12092
Date	7/6/93
Analyst	C. Thomson

Sample ID	Analyte (s)	Concentration ug/g	Surrogate Recovery (%)
10468	Diesel Fuel Range	< 1.7	111
SB-1203 6/8/93 1000	Heavy Oil Range	< 3.5	
10471	Diesel Fuel Range	< 1.8	114
SB-1303 6/8/93 0940	Heavy Oil Range	< 3.6	
10472	Diesel Fuel Range	< 1.8	108
SB-1304 6/8/93 0835	Heavy Oil Range	< 3.5	
10473	Diesel Fuel Range	< 1.8	107
SB-1305 6/8/93 0910	Heavy Oil Range	< 3.6	
10474	Diesel Fuel Range	< 200	100
SB-1602 6/8/93 1245	Heavy Oil Range	1400	
10475	Diesel Fuel Range	19	121
SB-1603 6/8/93 1200	Heavy Oil Range	250	
10476	Diesel Fuel Range	19	133
SB-1605 6/8/93 1135	Heavy Oil Range	350	
10477	Diesel Fuel Range	150	108
SB-1701 6/8/93 1315	Heavy Oil Range	170	
10478	Diesel Fuel Range	26	111
SB-1702 6/8/93 1330	Heavy Oil Range	99	
10664	Diesel Fuel Range	50	107
SB-1101 6/11/93 1430	Heavy Oil Range	250	
10665	Diesel Fuel Range	< 1.7	115
SB-1202 6/11/93 1230	Heavy Oil Range	< 3.4	
10667	Diesel Fuel Range	< 1.7	114
SB-1302 6/11/93 1050	Heavy Oil Range	7	
10781	Diesel Fuel Range	30	116
SB-1601 6/14/93 0900	Heavy Oil Range	100	
10782	Diesel Fuel Range	2.1	110
MW-1201 6/14/93 1200	Heavy Oil Range	4.4	

Sample ID	Analyte(s)	Concentration ug/g	Surrogate Recovery (%)
10783	Diesel Fuel Range	2.2	110
MW-1204 6/14/93 1220	Heavy Oil Range	6.4	
10848	Diesel Fuel Range	93	119
SB-1201 6/15/93 1212	Heavy Oil Range	280	
10849	Diesel Fuel Range	220	138
SB-1401 6/15/93 0835	Heavy Oil Range	1100	
10850	Diesel Fuel Range	39	122
SB-1402 6/15/93 1050	Heavy Oil Range	210	
10851	Diesel Fuel Range	< 1.9	100
SB-1606 6/15/93 1125	Heavy Oil Range	< 3.8	

Quality Control Data

Sample ID	Analyte(s)	Concentration ug/g	Surrogate Recovery (%)
Method Blank	Diesel Fuel Range	< 1.7	109
	Heavy Oil Range	< 3.3	
LCS Percent Recovery	Diesel Fuel Range	103	117
10468 Duplicate	Diesel Fuel Range	< 1.7	108
	Heavy Oil Range	< 3.5	
10851 Duplicate	Diesel Fuel Range	< 1.9	100
	Heavy Oil Range	< 3.8	

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1101

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1204

Matrix: (soil/water) SOIL Lab Sample ID: 10664

Sample wt/vol: 30.5 (g/mL) G Lab File ID:

% Moisture: 27 decanted: (Y/N) N Date Received: 06/16/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/18/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.4 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	44	U
11104-28-2	Aroclor-1221	90	U
11141-16-5	Aroclor-1232	44	U
53469-21-9	Aroclor-1242	44	U
12672-29-6	Aroclor-1248	44	U
11097-69-1	Aroclor-1254	75	P
11096-82-5	Aroclor-1260	44	U

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1305

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1204

Matrix: (soil/water) SOIL Lab Sample ID: 10473

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 8 decanted: (Y/N) N Date Received: 06/16/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/18/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.9 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	73	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	140	

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1701

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1204

Matrix: (soil/water) SOIL Lab Sample ID: 10477

Sample wt/vol: 30.6 (g/mL) G Lab File ID:

% Moisture: 10 decanted: (Y/N) N Date Received: 06/16/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/18/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 5.4 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	36	U J
11104-28-2	Aroclor-1221	73	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

qv 4/6/94

FORM I PEST 3/90

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1702

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1204

Matrix: (soil/water) SOIL Lab Sample ID: 10478

Sample wt/vol: 30.5 (g/mL) G Lab File ID:

% Moisture: 9 decanted: (Y/N) N Date Received: 06/16/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/18/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.2 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	72	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK1

Lab Name: WEYERHAEUSER Contract:

Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1204

Matrix: (soil/water) SOIL Lab Sample ID: PBLK1_S0618

Sample wt/vol: 30.0 (g/mL) G Lab File ID:

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

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/18/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

2F

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1204

GC Column(1): DB1701 ID: 0.53(mm) GC Column(2): DB608 ID: 0.53(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK1	56*	57*	67	69			2
02	SB1101	56*	60	79	77			1
03	SB1305	69	72	81	81			0
04	SB1701	43*	43*	55*	55*			4
05	SB1702	83	86	98	101			0

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-160)

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

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK1

Lab Name: WEYERHAEUSER Contract:

Code: WEYER Case No.: 12092 SAS No.: SDG No.: SB1204

Lab Sample ID: PBLK1_S0618 Lab File ID:

Matrix:(soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC

Acid Cleanup: (Y/N) Y Date Extracted: 06/18/93

Date Analyzed (1): 07/09/93 Date Analyzed (2): 07/09/93

Time Analyzed (1): 0157 Time Analyzed (2): 0157

Instrument ID (1): HARPO Instrument ID (2): HARPO-

GC Column (1): DB1701 ID: 0.53 (mm) GC Column (2): DB608 ID: 0.53 (mm)

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	SB1101	10664	07/09/93	07/09/93
02	SB1305	10473	07/09/93	07/09/93
03	SB1701	10477	07/09/93	07/09/93
04	SB1702	10478	07/09/93	07/09/93

COMMENTS:

WEYERHAEUSER COMPANY
ANALYTICAL LABORATORIES
ATOMIC SPECTROSCOPY
Tacoma, WA

Everett - Emcon Soil Samples (West Side)
SR 12092
Total Metals Analysis

Element	10472 SB-1304	10472D Duplicate	10473 SB-1305	10665 SB-1202	Quantitation Limit	SW-846 Method
			(mg/kg, as Received basis)			
Cr	24	23	25	21	1	3050/6010
As	25.3	26.0	6.4	6.3	0.3	3050/200.9
Pb	6.0	4.6	2.8	-	0.3	3050/200.9
Hg	< 0.1	< 0.1	< 0.1	-	0.1	7471

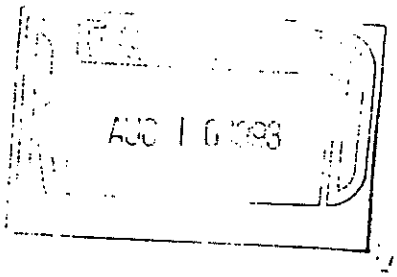
pH Determination
SW-846 Method 9045

LAB CODE	Sample ID	pH (1:1 slurry)
10468	SB-1203	9.4
10469	SB-1204	9.7
10470	SB-1205	9.5
10472	SB-1304	8.3
10473	SB-1305	8.2
10475	SB-1603	7.7
10476	SB-1605	9.1
10540	MW-1301	8.0
10666	SB-1301	10.2
10667	SB-1302	9.8
10668	SB-1306	8.2

Approved Mary Beth James 7/22/93 Notebook 000055

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654



August 9, 1993

John Guenther
Emcon Northwest
18912 North Creek Parkway
Suite 100
Bothell, WA 98011

Dear John:

Attached are the results for the samples you wanted analyzed for PCBs and Metals. These are from service request 12241.

If you have any questions concerning the report, please do not hesitate to call me at (206) 924-6242. Thank you for using our laboratory for this analysis and we look forward to working with you on future projects.

Sincerely,

Dennis Catalano, Project Manager
Weyerhaeuser Analytical and Testing Services

Attachments

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

Case Number: 12241
SDG Number: SB-1100
Contract Number: West Side #0141-037.29

Samples from this case (12241) were received on 6/25/93. This case was composed of soil samples for various tests. Only results for PCBs are included with this narrative. The requested analyses were as follows:

SAMPLE ID	MATRIX	ANALYSIS REQUESTED
SB1100	SOIL	PCB
SB1100DL	SOIL	PCB
SB1102	SOIL	PCB
SB-1102DL	SOIL	PCB
SB-1103	SOIL	PCB
SB-1103DL	SOIL	PCB
SB-1104	SOIL	PCB
SB-1104DL	SOIL	PCB
PLCS1	SOIL	PCB

Several anomalies existed with this sample set that are listed below. The anomalies are broken up into categories for ease of explanation.

1. PCB

   a) The recoveries of one surrogate compound was outside of QC limits on one GC column for sample SB-1103 due to matrix interferences.

   b) The samples were all diluted and re analyzed due to the levels of PCBs, and/or matrix interferences in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard G Bogar 7/20/93

Richard G. Bogar Date
Chromatography Team Leader

Please feel free to contact me with any questions concerning this data report. I can be reached at (206) 924-6521.

Sincerely,

Richard G Bogar

Richard G. Bogar, Chromatography Team Leader
Organic Laboratory
Weyerhaeuser Analysis & Testing Services

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1100

Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12241 SAS No.: SDG No.: SB1100

Matrix: (soil/water) SOIL Lab Sample ID: 11340Z

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 5 decanted: (Y/N) N Date Received: 06/25/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/25/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	350	U
11104-28-2	Aroclor-1221	700	U
11141-16-5	Aroclor-1232	350	U
53469-21-9	Aroclor-1242	350	U
12672-29-6	Aroclor-1248	350	U
11097-69-1	Aroclor-1254	1500	
11096-82-5	Aroclor-1260	350	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1100DL

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12215 41 SAS No.: SDG No.: SB1100

Matrix: (soil/water) SOIL R66 7/20/93 Lab Sample ID: 11340Y

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 5 decanted: (Y/N) N Date Received: 06/25/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/25/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 100

GPC Cleanup: (Y/N) N pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	3500	U
11104-28-2	Aroclor-1221	7000	U
11141-16-5	Aroclor-1232	3500	U
53469-21-9	Aroclor-1242	3500	U
12672-29-6	Aroclor-1248	3500	U
11097-69-1	Aroclor-1254	1400	DJP
11096-82-5	Aroclor-1260	3500	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1102

a ame: WEYERHAEUSER Contract:

ab Code: WEYER Case No.: 12215 41 SAS No.: SDG No.: SB1100

atrix: (soil/water) SOIL pw 7/20/93 Lab Sample ID: 11341Z

ample wt/vol: 31.4 (g/mL) G Lab File ID:

Moisture: 6 decanted: (Y/N) N Date Received: 06/25/93

xtraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/25/93

oncentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

njection Volume: 1.00 (uL) Dilution Factor: 10.0

PC Cleanup: (Y/N) N pH: 7.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	340	U
11104-28-2	Aroclor-1221	680	U
11141-16-5	Aroclor-1232	340	U
53469-21-9	Aroclor-1242	340	U
12672-29-6	Aroclor-1248	340	U
11097-69-1	Aroclor-1254	4200	
11096-82-5	Aroclor-1260	340	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1102DL

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12215 AI SAS No.: SDG No.: SB1100

KGS 7/20/93

Matrix: (soil/water) SOIL Lab Sample ID: 11341Y

Sample wt/vol: 31.4 (g/mL) G Lab File ID:

% Moisture: 6 decanted: (Y/N) N Date Received: 06/25/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/25/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 100

GPC Cleanup: (Y/N) N pH: 7.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	3400	U
11104-28-2	Aroclor-1221	6800	U
11141-16-5	Aroclor-1232	3400	U
53469-21-9	Aroclor-1242	3400	U
12672-29-6	Aroclor-1248	3400	U
11097-69-1	Aroclor-1254	4600	D
11096-82-5	Aroclor-1260	3400	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1103

Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12215 (41 ~~42~~ RGB 7/20/93) SAS No.: SDG No.: SB1100

Matrix: (soil/water) SOIL Lab Sample ID: 11342Z

Sample wt/vol: 32.2 (g/mL) G Lab File ID:

% Moisture: 11 decanted: (Y/N) N Date Received: 06/25/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/25/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 8.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	350	U
11104-28-2	Aroclor-1221	700	U
11141-16-5	Aroclor-1232	350	U
53469-21-9	Aroclor-1242	350	U
12672-29-6	Aroclor-1248	350	U
11097-69-1	Aroclor-1254	25000	
11096-82-5	Aroclor-1260	350	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1103DL

Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12215 41 SAS No.: SDG No.: SB1100

Matrix: (soil/water) SOIL Lab Sample ID: 11342X

Sample wt/vol: 32.2 (g/mL) G Lab File ID:

% Moisture: 11 decanted: (Y/N) N Date Received: 06/25/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/25/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1000

GPC Cleanup: (Y/N) N pH: 8.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	35000	U
11104-28-2	Aroclor-1221	70000	U
11141-16-5	Aroclor-1232	35000	U
53469-21-9	Aroclor-1242	35000	U
12672-29-6	Aroclor-1248	35000	U
11097-69-1	Aroclor-1254	30000	DJ
11096-82-5	Aroclor-1260	35000	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1104

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12215 41 SAS No.: SDG No.: SB1100

Matrix: (soil/water) SOIL RGB 7/20/93 Lab Sample ID: 11343Z

Sample wt/vol: 31.4 (g/mL) G Lab File ID:

% Moisture: 8 decanted: (Y/N) N Date Received: 06/25/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/25/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	340	U
11104-28-2	Aroclor-1221	700	U
11141-16-5	Aroclor-1232	340	U
53469-21-9	Aroclor-1242	340	U
12672-29-6	Aroclor-1248	340	U
11097-69-1	Aroclor-1254	3700	
11096-82-5	Aroclor-1260	340	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB1104DL

Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12215 41 SAS No.: SDG No.: SB1100

Matrix: (soil/water) SOIL pab 7/20/93 Lab Sample ID: 11343Y

Sample wt/vol: 31.4 (g/mL) G Lab File ID:

% Moisture: 8 decanted: (Y/N) N Date Received: 06/25/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/25/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 100

GPC Cleanup: (Y/N) N pH: 7.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	3400	U
11104-28-2	Aroclor-1221	7000	U
11141-16-5	Aroclor-1232	3400	U
53469-21-9	Aroclor-1242	3400	U
12672-29-6	Aroclor-1248	3400	U
11097-69-1	Aroclor-1254	4000	D
11096-82-5	Aroclor-1260	3400	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK1

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12215 4H SAS No.: SDG No.: SB1100

RGB 7/20/93

Matrix: (soil/water) SOIL Lab Sample ID: PBLK1_S0625

Sample wt/vol: 30.0 (g/mL) G Lab File ID:

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

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/25/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

2F

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12215 41 RGB 7/20/93 SAS No.: SDG No.: SB1100

GC Column(1): DB1701 ID: 0.53(mm) GC Column(2): DB608 ID: 0.53(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK1	71	76	88	90			0
02	PLCS1	78	78	91	95			0
03	SB1100	71	66	76	62			0
04	SB1100DL	0D	0D	0D	0D			0
05	SB1102	71	66	78	77			0
06	SB1102DL	0D	0D	0D	0D			0
07	SB1103	262*	75	84	81			1
08	SB1103DL	0D	0D	0D	0D			0
09	SB1104	71	64	78	79			0
10	SB1104DL	0D	0D	0D	0D			0

ADVISORY QC LIMITS

TCX = Tetrachloro-m-xylene (60-150)
DCB = Decachlorobiphenyl (60-160)

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

3LC

SOIL PESTICIDE LAB CONTROL SAMPLE RECOVERY

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12241 SAS No.: SDG No.: SB1100

Lab Sample ID: LCS1_S0625

LCS Aliguot: 1000 (ul) Date Extracted: 06/25/93

Concentrated Extract Volume:10000 (ul) Date Analyzed: 07/09/93

Injection Volume: 1.00 (ul) Dilution Factor: 1.00

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

Instrument ID (1): HARPO GC Column(1): DB1701 ID: 0.53(mm)

COMPOUND	SPIKE ADDED (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Aroclor-1260	100	110	110	60-120

Instrument ID (1): HARPO Instrument ID (2): HARPO-

GC Column(1): DB1701 ID: 0.53(mm) GC Column(2): DB608 ID: 0.53(mm)

COMPOUND	SPIKE ADDED (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Aroclor-1260	100	100	100	60-120

COMMENTS: There is not enough data from LCS to establish control limits -

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK1

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 12215 41 SAS No.: SDG No.: SB1100

Lab Sample ID: PBLK1_S0625 RGB 7/20/93 Lab File ID:

Matrix:(soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) N Date Extracted: 06/25/93

Date Analyzed (1): 07/09/93 Date Analyzed (2): 07/09/93

Time Analyzed (1): 0529 Time Analyzed (2): 0529

Instrument ID (1): HARPO Instrument ID (2): HARPO-

GC Column (1): DB1701 ID: 0.53 (mm) GC Column (2): DB608 ID: 0.53 (mm)

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
02	PLCS1	LCS1_S0625	07/09/93	07/09/93
03	SB1100	11340Z	07/09/93	07/09/93
04	SB1100DL	11340Y	07/09/93	07/09/93
05	SB1102	11341Z	07/09/93	07/09/93
06	SB1102DL	11341Y	07/09/93	07/09/93
07	SB1103	11342Z	07/09/93	07/09/93
08	SB1103DL	11342X	07/09/93	07/09/93
09	SB1104	11343Z	07/09/93	07/09/93
10	SB1104DL	11343Y	07/09/93	07/09/93

COMMENTS:

WEYERHAEUSER COMPANY
ANALYTICAL LABORATORIES
ATOMIC SPECTROSCOPY
Tacoma, WA

Everett - Emcon Soil Samples
SR 12241
Total Metals Analysis

Element	11340 SB-1100	11340D Duplicate	11341 SB-1102	11342 SB-1103	11343 SB-1104	Quantitation Limit	SW846 Method
	(mg/kg, as received basis)						
As	37.9	44.4	70.2	17.4	9.5	0.3	3050/200.9
Cr	416	440	329	1630	949	1	3050/6010
Hg	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	0.1	7471 4/6/94
Pb	659	714	479	130	96	5	3050/6010

Note: Hg was analyzed 12 days out of holding time.

Approved Julie Reimer 8/9/93 Notebook_____

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

Case Number: 12000
SDG Number: TP-1209
Contract Number: (West Side #0141-037.29)

Samples from this case (12000) were received on 5/29/93. This case was comprised of water samples for WTPH-D extended to included heavy oil range compounds. The requested analyses were as follows:

SAMPLE ID	MATRIX	ANALYSIS REQUESTED
TP-1209	WATER	WTPH-D
TP-1210	WATER	WTPH-D
TP-1211	WATER	WTPH-D
TP-1212	WATER	WTPH-D
TP-1301	WATER	WTPH-D
TP-1302	WATER	WTPH-D
TP-1302Dup	WATER	WTPH-D
LCS	WATER	WTPH-D

The only anomaly detected with this sample set was a high surrogate recovery for the Laboratory Control sample (LCS). It appears that the surrogate was double spiked for the LCS.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard D Bogar 6/30/93

Richard G. Bogar Date
Chromatography Team Leader

Please feel free to contact me with any questions concerning this data report. I can be reached at (206) 924-6521.

Sincerely,

Richard D Bogar

Richard G. Bogar, Chromatography Team Leader
Organic Laboratory
Weyerhaeuser Analysis & Testing Services

Weyerhaeuser Analytical and Testing Services

Service Request 12000

Everett - EMCON Soil Samples
(West Side #0141-037.29) #120-2975670

Method WTPH-D
Diesel Range and Heavier Compounds

Samples were prepared per method WTPH-D and analyzed by Gas Chromatography with FID detection for diesel range and motor oil range compounds. Results are expressed in ug/g (ppm). The Laboratory Control Spike (LCS) appears to have had double the amount of surrogate added.

Approved Clay Thoss **Date** 23 June 93

Service Request	12000
Date	6/23/93
Analyst	C. Thomson

Sample ID	Analyte (s)	Concentration ug/g	Surrogate Recovery (%)
9901	Diesel Fuel Range	7	114
TP-1209 5/27/93 1125	Heavy Oil Range	35	
9902	Diesel Fuel Range	< 18	117
TP-1210 5/27/93 1145	Heavy Oil Range	67	
9903	Diesel Fuel Range	< 1.9	103
TP-1211 5/27/93 1035	Heavy Oil Range	< 3.7	
9904	Diesel Fuel Range	12	109
TP-1212 5/27/93 1015	Heavy Oil Range	40	
9905	Diesel Fuel Range	< 1.8	111
TP-1301 5/28/93 0830	Heavy Oil Range	7	
9906	Diesel Fuel Range	< 1.8	112
TP-1302 5/28/93 0805	Heavy Oil Range	< 3.6	

Quality Control Data

Sample ID	Analyte(s)	Concentration ug/g	Surrogate Recovery (%)
Method Blank	Diesel Fuel Range	< 1.7	82
	Heavy Oil Range	< 3.3	
LCS Percent Recovery	Diesel Fuel Range	100	236
9906 Duplicate	Diesel Fuel Range	< 1.8	110
	Heavy Oil Range	< 3.6	

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

July 20, 1993

John Guenther
Emcon Northwest
18912 North Creek Parkway
Suite 100
Bothell, WA 98011

Dear John:

Attached are the results for the samples you wanted analyzed for PCBs, WTPH-D, WTPH-G, BNAs, Metals, pH, VOAs, and BTEX. These are from service request 11978. Several other service requests from the west side Everett job site will be mailed this week as well.

If you have any questions concerning the report, please do not hesitate to call me at (206) 924-6242. Thank you for using our laboratory for this analysis and we look forward to working with you on future projects.

Sincerely,

Dennis Catalano, Project Manager
Weyerhaeuser Analytical and Testing Services

Attachments

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

SR Number: 11978
Project Number: West Side #0141-037.29
Project: Everett Emcon Soil Samples

Samples from this request (11978) were received on 5/27/93 and 5/29/93. This request was composed of soil samples for VOAs. The requested analyses were as follows:

SAMPLE ID	MATRIX	ANALYSIS REQUESTED
TP-1201	Soil	VOA
TP-1204	Soil	VOA
TP-1204RE	Soil	VOA
TP-1204DL	Soil	VOA
TP-1207	Soil	VOA
TP-1701	Soil	BTEX
TP-1702	Soil	BTEX
TP-1202MS	Soil Spike	VOA
TP-1202MSD	Soil Spike Dup.	VOA

Several anomalies existed with this sample set that are listed below. The anomalies are broken up into categories for ease of explanation.

1. VOA

   a) All samples and blanks contain a peak at approximately scan #150 that is >10% of the nearest internal standard. This peak is carbon dioxide and is not searched in any of the samples. A spectrum of this peak is on file at the laboratory for review.

   b) Some samples contained a cyclotetrasiloxane compound which was likely a column bleed contaminant.

c) Sample TP-1204 experienced poor internal standard and surrogate recovery. This apparent matrix effect was confirmed on reanalysis. The sample was also reanalysed at the 1 gm level. This dilution produced acceptable recoveries. All results are reported herein.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Randy Eatherton — 4/15/98
Randy Eatherton
VOA/Dioxin Team Leader
Date

Please feel free to contact me with any questions concerning this data report. I can be reached at (206) 924-6431.

Sincerely,

Randy Eatherton

Randy Eatherton
Weyerhaeuser Analytical & Testing Services

Flag Qualifiers For Organic Analysis Reports

U Indicates that the compound was analyzed for but not detected. The sample quantitation limit corrected for dilution and percent moisture is reported.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds or when the data indicates the presence of a compound but the result is less than the sample quantitation limit but greater than zero.

N Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.

P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

C This flag is used for pesticide results that have been confirmed by GC/MS

B This flag is used when the analyte is detected in the associated blank as well as the sample.

E This flag is used for compounds whose concentrations exceed the calibration range of the instrument.

D This flag identifies all compounds identified in an analysis at a secondary dilution. This flag alerts the data user that any discrepancies between the concentrations reported in the two runs may be due to dilution errors.

A This flag is used for tentatively identified compounds that suspected to be aldol-condensation products.

X This flag is assigned by the computer when the program has been manually adjusted by the operator. It has no significance to the number itself.

000005 7/20/93

PERCENT MOISTURE NOTEBOOK

Weyerhaeuser Company

NAME S. Mellor

SR# 11978

DATE 6/2/93

SAMPLE#	PAN #	PAN WT.	TARE WT.	FINAL WT.	% MOISTURE	pH
9899		2.300	13.217	11.059	19.77	6.39
9896		2.315	12.876	11.050	17.29	7.02
9894		2.276	12.536	11.792	7.25	7.32

000006

PERCENT MOISTURE NOTEBOOK

Weyerhaeuser Company

NAME Matt Lutrel

SR# 11978

DATE 6/11/93

SAMPLE#	PAN #	PAN WT.	TARE WT.	FINAL WT.	% MOISTURE	pH			
9804	1	1.581	10.340	6.545	43.33				
9805	2	1.579	10.544	7.805	30.94				
9806	3	1.596	12.042	9.987	19.67				
9807	4	1.597	10.405	8.635	20.10				
9808	5	1.559	10.818	8.957	20.16				
9809	6	1.587	12.843	11.061	15.83				
9810	7	1.577	12.024	10.936	10.41				
9811	8	1.569	11.414	10.468	9.61				
9812	9	1.589	11.864	11.278	5.70				
9813	10	1.579	12.884	12.127	6.70				
9814	11	1.568	12.870	10.829	18.06				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1202

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9894

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4737

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 7 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	24	
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	Trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Total Xylenes	11	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1202

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9894

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4737

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 7 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TP-1202

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9894

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4737

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 7 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1204

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9896

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4725

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 17 Date Analyzed: 06/03/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	64	
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	14	
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	Trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Total Xylenes	3	JX

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1204

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9896

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4725

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 17 Date Analyzed: 06/03/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TP-1204

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9896

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4725

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 17 Date Analyzed: 06/03/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	108872	Cyclohexane, methyl-	14.92	6	JN
2.	4926787	Cyclohexane, 1-ethyl-4-methy	24.12	12	JN
3.	5911046	Nonane, 3-methyl-	24.45	7	JN
4.	112721	1-Tetradecanol	24.83	14	JN
5.	0	1,1,2,3-TETRAMETHYLCYCLOHEXA	26.46	40	JN
6.	6069983	Cyclohexane, 1-methyl-4-(1-m	27.12	49	JN
7.	4110445	Octane, 3,3-dimethyl-	28.29	8	JN
8.	0	1-ETHYL-2,2,6-TRIMETHYLCYCLO	30.34	8	JN

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1204RE

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9896RE

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4751

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 17 Date Analyzed: 06/07/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	75	
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	Trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	6	J
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Total Xylenes	4	JX

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1204RE

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9896RE

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4751

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 17 Date Analyzed: 06/07/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TP-1204RE

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9896RE

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4751

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 17 Date Analyzed: 06/07/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	2040962	Cyclopentane, propyl-	20.55	8	JN
2.	4923777	Cyclohexane, 1-ethyl-2-methy	24.09	10	JN
3.	5911046	Nonane, 3-methyl-	24.44	6	JN
4.	0	1,1,2,3-TETRAMETHYLCYCLOHEXA	26.46	33	JN
5.	6069983	Cyclohexane, 1-methyl-4-(1-m	27.11	41	JN
6.	0	1-ETHYL-2,2,6-TRIMETHYLCYCLO	30.31	6	JN
7.	493027	Naphthalene, decahydro-, tra	31.48	8	JN

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1204DL

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9896DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: A4739

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 17 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	60	U
74-83-9	Bromomethane	60	U
75-01-4	Vinyl Chloride	60	U
75-00-3	Chloroethane	60	U
75-09-2	Methylene Chloride	60	U
67-64-1	Acetone	130	D
75-15-0	Carbon Disulfide	60	U
75-35-4	1,1-Dichloroethene	60	U
75-34-3	1,1-Dichloroethane	60	U
540-59-0	1,2-Dichloroethene (total)	60	U
67-66-3	Chloroform	60	U
107-06-2	1,2-Dichloroethane	60	U
78-93-3	2-Butanone	60	U
71-55-6	1,1,1-Trichloroethane	60	U
56-23-5	Carbon Tetrachloride	60	U
75-27-4	Bromodichloromethane	60	U
78-87-5	1,2-Dichloropropane	60	U
10061-01-5	cis-1,3-Dichloropropene	60	U
79-01-6	Trichloroethene	60	U
124-48-1	Dibromochloromethane	60	U
79-00-5	1,1,2-Trichloroethane	60	U
71-43-2	Benzene	60	U
10061-02-6	Trans-1,3-Dichloropropene	60	U
75-25-2	Bromoform	60	U
108-10-1	4-Methyl-2-Pentanone	60	U
591-78-6	2-Hexanone	60	U
127-18-4	Tetrachloroethene	60	U
79-34-5	1,1,2,2-Tetrachloroethane	60	U
108-88-3	Toluene	60	U
108-90-7	Chlorobenzene	60	U
100-41-4	Ethylbenzene	60	U
100-42-5	Styrene	60	U
1330-20-7	Total Xylenes	60	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1204DL

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9896DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: A4739

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 17 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	60	U
106-46-7	1,4-Dichlorobenzene	60	U
95-50-1	1,2-Dichlorobenzene	60	U

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TP-1204DL

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9896DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: A4739

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 17 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 0	1,1,2,3-TETRAMETHYLCYCLOHEXA	26.44	60	JN
2. 6069983	Cyclohexane, 1-methyl-4-(1-m	27.11	100	JN

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1207

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9899

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4726

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 20 Date Analyzed: 06/03/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	36	
75-15-0	Carbon Disulfide	2	J
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	9	J
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	Trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Total Xylenes	12	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1207

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9899

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4726

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 20 Date Analyzed: 06/03/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TP-1207

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9899

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4726

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 20 Date Analyzed: 06/03/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1701

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9811

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4736

Level: (low/med) LOW Date Received: 05/27/93

% Moisture: not dec. 10 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	11	U
108-88-3	Toluene	2	J
100-41-4	Ethylbenzene	11	U
1330-20-7	Total Xylenes	11	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1702

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9812

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4723

Level: (low/med) LOW Date Received: 05/27/93

% Moisture: not dec. 6 Date Analyzed: 06/03/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	11	U
108-88-3	Toluene	11	U
100-41-4	Ethylbenzene	11	U
1330-20-7	Total Xylenes	11	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKS1

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4721

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/03/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKS1

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4721

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/03/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKS1

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4721

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/03/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKS2

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS2

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4733

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKS2

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS2

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4733

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKS2

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS2

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4733

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKS3

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS3

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4750

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/07/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKS3

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS3

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4750

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/07/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKS3

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS3

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4750

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/07/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1202MS

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9894MS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4740

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 7 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	25	
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	53	
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	53	
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	54	
10061-02-6	Trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	56	
108-90-7	Chlorobenzene	57	
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Total Xylenes	11	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1202MS

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9894MS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4740

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 7 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1202MSD

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9894MSD

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4741

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 7 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	20	
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	54	
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	54	
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	55	
10061-02-6	Trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	57	
108-90-7	Chlorobenzene	58	
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Total Xylenes	11	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1202MSD

Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix: (soil/water) SOIL Lab Sample ID: 9894MSD

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4741

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: not dec. 7 Date Analyzed: 06/04/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: WEYERHAEUSER Contract: 046-5632

Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Level:(low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	TP-1202	104	84	110	0	0
02	TP-1204	127	54 *	106	0	1
03	TP-1204RE	130	52 *	106	0	1
04	TP-1204DL	110	72	112	0	0
05	TP-1207	104	80	109	0	0
06	TP-1701	116	73	110	0	0
07	TP-1702	103	76	106	0	0
08	TP-1202MS	107	82	110	0	0
09	TP-1202MSD	105	81	112	0	0
10	VBLKS1	101	82	106	0	0
11	VBLKS2	102	84	106	0	0
12	VBLKS3	100	83	106	0	0

	QC LIMITS
SMC1 (TOL) = Toluene-d8	(84-138)
SMC2 (BFB) = Bromofluorobenzene	(59-113)
SMC3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 046-5632

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP-110

Matrix Spike - EPA Sample No.: TP-1202 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	53.80	0	53.12	99	59-172
Trichloroethene	53.80	0	52.90	98	62-137
Benzene	53.80	0	53.98	100	66-142
Toluene	53.80	0	56.24	104	59-139
Chlorobenzene	53.80	0	57.31	106	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	53.80	53.87	100	1	22	59-172
Trichloroethene	53.80	53.87	100	2	24	62-137
Benzene	53.80	55.49	103	3	21	66-142
Toluene	53.80	57.10	106	2	21	59-139
Chlorobenzene	53.80	57.96	108	2	21	60-133

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

Case Number: 11978
SDG Number: TP-1101
Contract Number: West Side #0141-037.29

Samples from this case (11978) were received on 5/27/93 and 5/29/93. This case was composed of soil samples for various tests. Only results for BNAs, PCBs WTPH-G and WTPH-D are included with this narrative. The requested analyses were as follows:

SAMPLE ID	MATRIX	ANALYSIS REQUESTED
TP1101	SOIL	PCB; WTPH-D
TP1101Dup	SOIL	WTPH-D
TP1102	SOIL	PCB; WTPH-D
TP1400	SOIL	PCB; WTPH-D
TP1400DL	SOIL	PCB
TP1401	SOIL	PCB; WTPH-D
TP1401DL	SOIL	PCB
TP1402	SOIL	PCB; WTPH-D
TP1402DL	SOIL	PCB
TP-1403	SOIL	WTPH-D
TP-1404	SOIL	PCB; WTPH-D
TP1404DL	SOIL	PCB
TP1701	SOIL	WTPH-G
TP1702	SOIL	WTPH-G
TP1702Dup	SOIL	WTPH-G
TP1703	SOIL	PCB; WTPH-D
TP1801	SOIL	WTPH-D
TP1200	SOIL	WTPH-D
TP1200Dup	SOIL	WTPH-D
TP1201	SOIL	WTPH-D
TP1202	SOIL	BNA; PCB; WTPH-D
TP1202MS	SOIL	PCB
TP1202MSD	SOIL	PCB
TP1203	SOIL	WTPH-D

TP1204	SOIL	BNA; PCB; WTPH-D
TP1205	SOIL	WTPH-D
TP1206	SOIL	WTPH-D
TP1207	SOIL	BNA; PCB; WTPH-D
TP1207MS	SOIL	BNA
TP1207MSD	SOIL	BNA
TP1207DL	SOIL	PCB
TP1208	SOIL	WTPH-D
PLCS1	SOIL	PCB
PLCS2	SOIL	PCB
LCS 6/8	SOIL	WTPH-D
LCS 7/2	SOIL	WTPH-D
SLCST1	SOIL	BNA
LCS	SOIL	WTPH-G

Several anomalies existed with this sample set that are listed below. The anomalies are broken up into categories for ease of explanation.

1. PCB

a) The recoveries of the surrogates were below QC limits for many of the samples due in part to matrix effects. The following samples were accidentally spiked with less surrogate than normal prior to extraction which contributed to the low recovery: TP1101; TP1102; TP1400; TP1401; TP1402; TP1404; TP1703.

b) The following samples for PCB analysis were extracted outside of required holding times: TP1101; TP1102; TP1400; TP1400DL; TP1401; TP1401DL; TP1402; TP1402DL; TP1404; TP1404DL; TP1703.

c) The %RPD of Aroclor 1260 was outside of QC limits for the MS/MSD pair, TP1202MS/MSD.

d) The recovery of Aroclor 1260 was outside of QC limits for laboratory control sample SCS1_S0702.

e) Several of the samples were diluted and re analyzed due to the high level of matrix interferences. The results have been reported for both analyses, however the quantitation limits reported for the initial undiluted analysis are questionable due to the high level of matrix interference. The quantitation limits for the diluted samples should probably be used.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard G. Bogar 7/19/93

Richard G. Bogar
Chromatography Team Leader

Date

Please feel free to contact me with any questions concerning this data report. I can be reached at (206) 924-6521.

Sincerely,

Richard G. Bogar

Richard G. Bogar, Chromatography Team Leader
Organic Laboratory
Weyerhaeuser Analysis & Testing Services

Flag Qualifiers For Organic Analysis Reports

U Indicates that the compound was analyzed for but not detected. The sample quantitation limit corrected for dilution and percent moisture is reported.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds or when the data indicates the presence of a compound but the result is less than the sample quantitation limit but greater than zero.

N Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.

P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

C This flag is used for pesticide results that have been confirmed by GC/MS

B This flag is used when the analyte is detected in the associated blank as well as the sample.

E This flag is used for compounds whose concentrations exceed the calibration range of the instrument.

D This flag identifies all compounds identified in an analysis at a secondary dilution. This flag alerts the data user that any discrepancies between the concentrations reported in the two runs may be due to dilution errors.

A This flag is used for tentatively identified compounds that suspected to be aldol-condensation products.

X This flag is assigned by the computer when the program has been manually adjusted by the operator. It has no significance to the number itself.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1202

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9894

Sample wt/vol: 32.3 (g/mL) G Lab File ID: 2BN30611D

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 7 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1202

Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9894

Sample wt/vol: 32.3 (g/mL) G Lab File ID: 2BN30611D

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 7 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
51-28-5	2,4-Dinitrophenol	800	U	
100-02-7	4-Nitrophenol	800	U	
132-64-9	Dibenzofuran	330	U	
121-14-2	2,4-Dinitrotoluene	330	U	
84-66-2	Diethylphthalate	330	U	
7005-72-3	4-Chlorophenyl-phenylether	330	U	
86-73-7	Fluorene	330	U	
100-01-6	4-Nitroaniline	800	U	
534-52-1	4,6-Dinitro-2-Methylphenol	800	U	
86-30-6	N-Nitrosodiphenylamine (1)	330	U	
101-55-3	4-Bromophenyl-phenylether	330	U	
118-74-1	Hexachlorobenzene	330	U	
87-86-5	Pentachlorophenol	800	U	
85-01-8	Phenanthrene	330	U	
120-12-7	Anthracene	330	U	
86-74-8	Carbazole	330	U	
84-74-2	Di-n-Butylphthalate	330	U	
206-44-0	Fluoranthene	330	U	
129-00-0	Pyrene	330	U	
85-68-7	Butylbenzylphthalate	330	U	
91-94-1	3,3'-Dichlorobenzidine	330	U	
56-55-3	Benzo(a)Anthracene	330	U	
218-01-9	Chrysene	330	U	
117-81-7	bis(2-Ethylhexyl)phthalate	48	BJ ✓	JMS 6/24
117-84-0	Di-n-Octyl Phthalate	330	U	
205-99-2	Benzo(b)Fluoranthene	330	U	
207-08-9	Benzo(k)Fluoranthene	330	U	
50-32-8	Benzo(a)Pyrene	330	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U	
53-70-3	Dibenz(a,h)Anthracene	330	U	
191-24-2	Benzo(g,h,i)Perylene	330	U	

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TP1202

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9894

Sample wt/vol: 32.3 (g/mL) G Lab File ID: 2BN30611D

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 7 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

Number TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-PENTANONE, 4-HYDROXY-4-MET	3.43	15000	BJNA
2.	24035-50-5	1-PHENANTHRENECARBOXALDEHYDE	22.35	100	JN
3.		UNKNOWN	23.29	140	J
4.		UNKNOWN	24.37	1600	J
5.	7396-38-5	PHENANTHRENE, 2,4,5,7-TETRAM	24.65	220	JN
6.	80-07-9	BENZENE, 1,1'-SULFONYLBIS[4-	24.94	100	JN
7.	2605-67-6	ACETIC ACID, (TRIPHENYLPHOSP	27.92	620	JN
8.		UNKNOWN	30.84	120	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1204

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9896

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 2BN30611E

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 17 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3900	U
111-44-4	bis(2-Chloroethyl)Ether	3900	U
95-57-8	2-Chlorophenol	3900	U
541-73-1	1,3-Dichlorobenzene	3900	U
106-46-7	1,4-Dichlorobenzene	3900	U
95-50-1	1,2-Dichlorobenzene	3900	U
95-48-7	2-Methylphenol	3900	U
108-60-1	2,2-oxybis(1-Chloropropane)	3900	U
106-44-5	4-Methylphenol	3900	U
621-64-7	N-Nitroso-Di-n-Propylamine	3900	U
67-72-1	Hexachloroethane	3900	U
98-95-3	Nitrobenzene	3900	U
78-59-1	Isophorone	3900	U
88-75-5	2-Nitrophenol	3900	U
105-67-9	2,4-Dimethylphenol	3900	U
111-91-1	bis(2-Chloroethoxy)Methane	3900	U
120-83-2	2,4-Dichlorophenol	3900	U
120-82-1	1,2,4-Trichlorobenzene	3900	U
91-20-3	Naphthalene	3900	U
106-47-8	4-Chloroaniline	3900	U
87-68-3	Hexachlorobutadiene	3900	U
59-50-7	4-Chloro-3-Methylphenol	3900	U
91-57-6	2-Methylnaphthalene	3900	U
77-47-4	Hexachlorocyclopentadiene	3900	U
88-06-2	2,4,6-Trichlorophenol	3900	U
95-95-4	2,4,5-Trichlorophenol	9400	U
91-58-7	2-Chloronaphthalene	3900	U
88-74-4	2-Nitroaniline	9400	U
131-11-3	Dimethyl Phthalate	3900	U
208-96-8	Acenaphthylene	3900	U
606-20-2	2,6-Dinitrotoluene	3900	U
99-09-2	3-Nitroaniline	9400	U
83-32-9	Acenaphthene	3900	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1204

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9896

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 2BN30611E

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 17 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	9400	U
100-02-7	4-Nitrophenol	9400	U
132-64-9	Dibenzofuran	3900	U
121-14-2	2,4-Dinitrotoluene	3900	U
84-66-2	Diethylphthalate	3900	U
7005-72-3	4-Chlorophenyl-phenylether	3900	U
86-73-7	Fluorene	3900	U
100-01-6	4-Nitroaniline	9400	U
534-52-1	4,6-Dinitro-2-Methylphenol	9400	U
86-30-6	N-Nitrosodiphenylamine (1)	3900	U
101-55-3	4-Bromophenyl-phenylether	3900	U
118-74-1	Hexachlorobenzene	3900	U
87-86-5	Pentachlorophenol	9400	U
85-01-8	Phenanthrene	3900	U
120-12-7	Anthracene	3900	U
86-74-8	Carbazole	3900	U
84-74-2	Di-n-Butylphthalate	3900	U
206-44-0	Fluoranthene	3900	U
129-00-0	Pyrene	3900	U
85-68-7	Butylbenzylphthalate	3900	U
91-94-1	3,3'-Dichlorobenzidine	3900	U
56-55-3	Benzo(a)Anthracene	3900	U
218-01-9	Chrysene	3900	U
117-81-7	bis(2-Ethylhexyl)phthalate	3900	U
117-84-0	Di-n-Octyl Phthalate	3900	U
205-99-2	Benzo(b)Fluoranthene	3900	U
207-08-9	Benzo(k)Fluoranthene	3900	U
50-32-8	Benzo(a)Pyrene	3900	U
193-39-5	Indeno(1,2,3-cd)Pyrene	3900	U
53-70-3	Dibenz(a,h)Anthracene	3900	U
191-24-2	Benzo(g,h,i)Perylene	3900	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TP1204

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9896

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 2BN30611E

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 17 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	23.54	32000	J
2.		UNKNOWN	25.09	30000	J
3.		UNKNOWN	26.97	11000	J
4.		UNKNOWN	28.07	8000	J
5.		UNKNOWN	28.66	13000	J
6.		UNKNOWN	28.71	14000	J
7.		UNKNOWN	29.71	48000	J
8.		UNKNOWN	30.02	16000	J
9.		UNKNOWN	30.61	70000	J
10.		UNKNOWN	30.89	38000	J
11.	54482-31-4	D-HOMOANDROSTANE, (5.ALPHA.,	31.31	70000	JN
12.		UNKNOWN	31.39	34000	J
13.		UNKNOWN	31.67	46000	J
14.		UNKNOWN	32.27	25000	J
15.		UNKNOWN	32.41	49000	J
16.		UNKNOWN	33.06	25000	J
17.		UNKNOWN	33.16	17000	J
18.		UNKNOWN	33.47	48000	J
19.		UNKNOWN	33.67	25000	J
20.		UNKNOWN	34.21	22000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1207

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9899

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 2BN30611F

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-Di-n-Propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)Methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	990	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	990	U
131-11-3	Dimethyl Phthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	990	U
83-32-9	Acenaphthene	410	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1207

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9899

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 2BN30611F

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	990	U
100-02-7	4-Nitrophenol	990	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	410	U
100-01-6	4-Nitroaniline	990	U
534-52-1	4,6-Dinitro-2-Methylphenol	990	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	990	U
85-01-8	Phenanthrene	410	U
120-12-7	Anthracene	410	U
86-74-8	Carbazole	410	U
84-74-2	Di-n-Butylphthalate	410	U
206-44-0	Fluoranthene	410	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	410	U
56-55-3	Benzo(a)Anthracene	410	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)phthalate	47	BJ
117-84-0	Di-n-Octyl Phthalate	410	U
205-99-2	Benzo(b)Fluoranthene	410	U
207-08-9	Benzo(k)Fluoranthene	410	U
50-32-8	Benzo(a)Pyrene	410	U
193-39-5	Indeno(1,2,3-cd)Pyrene	410	U
53-70-3	Dibenz(a,h)Anthracene	410	U
191-24-2	Benzo(g,h,i)Perylene	410	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TP1207

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9899

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 2BN30611F

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-PENTANONE, 4-HYDROXY-4-MET	3.43	21000	BJNA
2.		UNKNOWN	16.15	1800	J
3.	10544-50-0	SULFUR, MOL. (S8)	23.02	12000	JN
4.		UNKNOWN	33.62	120	J
5.		UNKNOWN	34.62	100	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKT1

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: SBLKT1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2BN30608I

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKT1

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: SBLKT1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2BN30608I

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	800	U
100-02-7	4-Nitrophenol	800	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	800	U
534-52-1	4,6-Dinitro-2-Methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	93	J
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SBLKT1

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: SBLKT1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2BN30608I

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-PENTANONE, 4-HYDROXY-4-MET	3.58	15000	JNA

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCST1

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: SLCST1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2BN30608H

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCST1

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: SLCST1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2BN30608H

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/08/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	800	U
100-02-7	4-Nitrophenol	800	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	800	U
534-52-1	4,6-Dinitro-2-Methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	800	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1207MS

Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9899MS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2BN30611G

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-Di-n-Propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)Methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethyl Phthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	410	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1207MS

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9899MS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2BN30611G

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	410	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-Methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	410	U
120-12-7	Anthracene	410	U
86-74-8	Carbazole	410	U
84-74-2	Di-n-Butylphthalate	410	U
206-44-0	Fluoranthene	410	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	410	U
56-55-3	Benzo(a)Anthracene	410	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)phthalate	49	BJ
117-84-0	Di-n-Octyl Phthalate	410	U
205-99-2	Benzo(b)Fluoranthene	410	U
207-08-9	Benzo(k)Fluoranthene	410	U
50-32-8	Benzo(a)Pyrene	410	U
193-39-5	Indeno(1,2,3-cd)Pyrene	410	U
53-70-3	Dibenz(a,h)Anthracene	410	U
191-24-2	Benzo(g,h,i)Perylene	410	U

(1) - Cannot be separated from Diphenylamine

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1207MSD

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9899MSD

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2BN30611H

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-Di-n-Propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)Methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	990	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	990	U
131-11-3	Dimethyl Phthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	990	U
83-32-9	Acenaphthene	410	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1207MSD

Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 9899MSD

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2BN30611H

Level: (low/med) LOW Date Received: 05/29/93

% Moisture: 20 decanted: (Y/N) N Date Extracted: 06/02/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 06/11/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	990	U
100-02-7	4-Nitrophenol	990	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	410	U
100-01-6	4-Nitroaniline	990	U
534-52-1	4,6-Dinitro-2-Methylphenol	990	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	990	U
85-01-8	Phenanthrene	410	U
120-12-7	Anthracene	410	U
86-74-8	Carbazole	410	U
84-74-2	Di-n-Butylphthalate	410	U
206-44-0	Fluoranthene	410	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	410	U
56-55-3	Benzo(a)Anthracene	410	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)phthalate	410	U
117-84-0	Di-n-Octyl Phthalate	410	U
205-99-2	Benzo(b)Fluoranthene	410	U
207-08-9	Benzo(k)Fluoranthene	410	U
50-32-8	Benzo(a)Pyrene	410	U
193-39-5	Indeno(1,2,3-cd)Pyrene	410	U
53-70-3	Dibenz(a,h)Anthracene	410	U
191-24-2	Benzo(g,h,i)Perylene	410	U

(1) - Cannot be separated from Diphenylamine

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	TP1202	80	72	76	69	72	68	69	70	0
02	TP1204	47	89	95	46	29	68	38	35	0
03	TP1207	74	75	79	76	81	99	76	79	0
04	SLCST1	67	66	84	65	61	72	64	60	0
05	TP1207MS	68	69	80	72	74	90	70	73	0
06	TP1207MSD	68	70	77	70	70	81	69	68	0
07	SBLKT1	73	67	86	62	61	71	64	63	0

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (PHL)	= Phenol-d5	(24-113)	
S5 (2FP)	= 2-Fluorophenol	(25-121)	
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)	
S7 (2CP)	= 2-Chlorophenol-d4	(20-130)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

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

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix Spike - EPA Sample No.: SBLKT1 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	2500	0	1585	63	26- 90
2-Chlorophenol	2500	0	1522	61	25-102
1,4-Dichlorobenzene	1660	0	949.0	57	28-104
N-Nitroso-di-n-prop.(1)	1660	0	999.0	60	41-126
1,2,4-Trichlorobenzene	1660	0	1046	63	38-107
4-Chloro-3-methylphenol	2500	0	1755	70	26-103
Acenaphthene	1660	0	1116	67	31-137
4-Nitrophenol	2500	0	1495	60	11-114
2,4-Dinitrotoluene	1660	0	1235	74	28- 89
Pentachlorophenol	2500	0	1578	63	17-109
Pyrene	1660	0	1469	88	35-142

(1) N-Nitroso-di-n-propylamine

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 11 outside limits

COMMENTS: SBLKT1 6/2
40(1.5)320@8(.5) INST=FINN2

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 8270

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix Spike - EPA Sample No.: TP1207 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	3120	0	2131	68	26- 90
2-Chlorophenol	3120	0	2044	66	25-102
1,4-Dichlorobenzene	2080	0	1407	68	28-104
N-Nitroso-di-n-prop.(1)	2080	0	1361	65	41-126
1,2,4-Trichlorobenzene	2080	0	1419	68	38-107
4-Chloro-3-methylphenol	3120	0	2264	73	26-103
Acenaphthene	2080	0	1557	75	31-137
4-Nitrophenol	3120	0	1944	62	11-114
2,4-Dinitrotoluene	2080	0	1832	88	28- 89
Pentachlorophenol	3120	0	3093	99	17-109
Pyrene	2080	0	1981	95	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	3090	1906	62	9	35	26- 90
2-Chlorophenol	3090	1947	63	5	50	25-102
1,4-Dichlorobenzene	2060	1291	63	8	27	28-104
N-Nitroso-di-n-prop.(1)	2060	1233	60	8	38	41-126
1,2,4-Trichlorobenzene	2060	1324	64	6	23	38-107
4-Chloro-3-methylphenol	3090	2170	70	4	33	26-103
Acenaphthene	2060	1436	70	7	19	31-137
4-Nitrophenol	3090	1720	56	10	50	11-114
2,4-Dinitrotoluene	2060	1642	80	10	47	28- 89
Pentachlorophenol	3090	2863	93	6	47	17-109
Pyrene	2060	1951	95	0	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS: 9899 TP1207
40(1.5)-320@8(1) INST=FINN2

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1101

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09804

Sample wt/vol: 30.3 (g/mL) G Lab File ID:

% Moisture: 43 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.8 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	57	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	57	U
53469-21-9	Aroclor-1242	57	U
12672-29-6	Aroclor-1248	57	U
11097-69-1	Aroclor-1254	68	
11096-82-5	Aroclor-1260	50	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1102

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09805

Sample wt/vol: 29.8 (g/mL) G Lab File ID:

% Moisture: 31 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.4 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	48	U
11104-28-2	Aroclor-1221	98	U
11141-16-5	Aroclor-1232	48	U
53469-21-9	Aroclor-1242	48	U
12672-29-6	Aroclor-1248	48	U
11097-69-1	Aroclor-1254	290	
11096-82-5	Aroclor-1260	170	P

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1400

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09806

Sample wt/vol: 30.5 (g/mL) G Lab File ID:

% Moisture: 20 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 13.2 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	82	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	31	JP
11096-82-5	Aroclor-1260	41	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1400DL

Lab Name: WEYERHAEUSER Contract:

Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09806Z

Sample wt/vol: 30.5 (g/mL) G Lab File ID:

% Moisture: 20 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/12/93

Injection Volume: 1.00 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 13.2 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	410	U
11104-28-2	Aroclor-1221	820	U
11141-16-5	Aroclor-1232	410	U
53469-21-9	Aroclor-1242	410	U
12672-29-6	Aroclor-1248	410	U
11097-69-1	Aroclor-1254	410	U
11096-82-5	Aroclor-1260	410	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1401

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09807

Sample wt/vol: 30.4 (g/mL) G Lab File ID:

% Moisture: 20 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 13.1 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	83	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1401DL

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09807Z

Sample wt/vol: 30.4 (g/mL) G Lab File ID:

% Moisture: 20 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/12/93

Injection Volume: 1.00 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 13.1 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	410	U
11104-28-2	Aroclor-1221	830	U
11141-16-5	Aroclor-1232	410	U
53469-21-9	Aroclor-1242	410	U
12672-29-6	Aroclor-1248	410	U
11097-69-1	Aroclor-1254	410	U
11096-82-5	Aroclor-1260	410	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1402

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09808

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 20 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 13.1 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	83	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1402DL

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09808Z

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 20 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/12/93

Injection Volume: 1.00 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 13.1 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	410	U
11104-28-2	Aroclor-1221	830	U
11141-16-5	Aroclor-1232	410	U
53469-21-9	Aroclor-1242	410	U
12672-29-6	Aroclor-1248	410	U
11097-69-1	Aroclor-1254	410	U
11096-82-5	Aroclor-1260	410	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1404

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09810

Sample wt/vol: 31.8 (g/mL) G Lab File ID:

% Moisture: 10 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/10/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 11.0 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1404DL

Lab Name: WEYERHAEUSER Contract:

Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09810Z

Sample wt/vol: 31.8 (g/mL) G Lab File ID:

% Moisture: 10 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/12/93

Injection Volume: 1.00 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 11.0 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	350	U
11104-28-2	Aroclor-1221	700	U
11141-16-5	Aroclor-1232	350	U
53469-21-9	Aroclor-1242	350	U
12672-29-6	Aroclor-1248	350	U
11097-69-1	Aroclor-1254	350	U
11096-82-5	Aroclor-1260	350	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP1703

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09813

Sample wt/vol: 30.0 (g/mL) G Lab File ID:

% Moisture: 7 decanted: (Y/N) N Date Received: 05/27/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/10/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 8.8 Acid Cleanup: (Y//N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	72	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1202

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09894

Sample wt/vol: 30.4 (g/mL) G Lab File ID:

% Moisture: 7 decanted: (Y/N) Y Date Received: 05/29/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/08/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/17/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.3 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	71	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1204

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09896

Sample wt/vol: 30.4 (g/mL) G Lab File ID:

% Moisture: 17 decanted: (Y/N) Y Date Received: 05/29/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/08/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/17/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1207

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09899

Sample wt/vol: 30.2 (g/mL) G Lab File ID:

% Moisture: 20 decanted: (Y/N) N Date Received: 05/29/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/08/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/17/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	83	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1207DL

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09899Z

Sample wt/vol: 30.2 (g/mL) G Lab File ID:

% Moisture: 20 decanted: (Y/N) N Date Received: 05/29/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/08/93

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 06/18/93

Injection Volume: 1.00 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	410	U
11104-28-2	Aroclor-1221	830	U
11141-16-5	Aroclor-1232	410	U
53469-21-9	Aroclor-1242	410	U
12672-29-6	Aroclor-1248	410	U
11097-69-1	Aroclor-1254	410	U
11096-82-5	Aroclor-1260	410	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK1

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: PBLK1_S0608

Sample wt/vol: 30.0 (g/mL) G Lab File ID:

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

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/08/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/16/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK2

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: PBLK1_S0702

Sample wt/vol: 30.0 (g/mL) G Lab File ID:

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

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/09/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1202MS

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09894MS

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

% Moisture: 7 decanted: (Y/N) Y Date Received: 05/29/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/08/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/17/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.3 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	72	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	79	

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TP-1202MSD

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix: (soil/water) SOIL Lab Sample ID: 09894MSD

Sample wt/vol: 30.8 (g/mL) G Lab File ID:

% Moisture: 7 decanted: (Y/N) Y Date Received: 05/29/93

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/08/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/17/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.3 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	120	

2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.:

GC Column(1): DB1701 ID: 0.53(mm) GC Column(2): DB608 ID: 0.53(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK1	64	66	83	88			0
02	PBLK2	166*	61	98	70			1
02	PLCS1_S0608	61	63	82	87			0
03	PLCS1_S0702	100	54*	82	88			1
04	TP-1202	59*	64	68	70			1
05	TP-1202MS	56*	58*	61	64			2
06	TP-1202MSD	79	82	86	93			0
07	TP-1204	47*	31*	34*	34*			4
08	TP-1207	228*	58*	69	72			2
09	TP-1207DL	130	63	67	82			0
10	TP1101	52*	36*	0*	85			3
11	TP1102	75	47*	0*	152			2
12	TP1400	159*	48*	0*	119			3
13	TP1400DL	0D	0D	0D	0D			0
14	TP1401	0*	62	0*	0*			3
15	TP1401DL	0D	0D	0*	0*			2
16	TP1402	0*	48*	0*	0*			4
17	TP1402DL	0D	0D	0D	0D			0
18	TP1404	0*	54*	0*	0*			4
19	TP1404DL	0D	0D	0D	0D			0
20	TP1703	113	49*	0*	0*			3

R&B 7/19/93

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-160)

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

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Matrix Spike - EPA Sample No.: TP-1202

COMPOUND	SPIKE ADDED (ug/KG)	SAMPLE CONCENTRATION (ug/KG)	MS CONCENTRATION (ug/KG)	MS % REC #	QC LIMITS REC.
Aroclor-1260	100	0	79	79	60-120

COMPOUND	SPIKE ADDED (ug/KG)	MSD CONCENTRATION (ug/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor-1260	100	120	120	41 *	30	60-120

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

* Values outside of QC limits

RPD: 1 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

COMMENTS:

3LC

SOIL PESTICIDE LAB CONTROL SAMPLE RECOVERY

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Lab Sample ID: LCS1_S0608

LCS Aliguot: 1000 (ul) Date Extracted: 06/08/93

Concentrated Extract Volume:10000 (ul) Date Analyzed: 06/16/93

Injection Volume: 1.00 (ul) Dilution Factor: 1.00

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

Instrument ID (1): HARPO GC Column(1): DB1701 ID: 0.53(mm)

COMPOUND	SPIKE ADDED (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Aroclor-1260	88.0	88	77	60-120

Instrument ID (1): HARPO Instrument ID (2): HARPO-

GC Column(1): DB1701 ID: 0.53(mm) GC Column(2): DB608 ID: 0.53(mm)

COMPOUND	SPIKE ADDED (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Aroclor-1260	97	97	100	60-120

COMMENTS: There is not enough data from LCS to establish control limits -

3LC

SOIL PESTICIDE LAB CONTROL SAMPLE RECOVERY

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Lab Sample ID: LCS1_S0702

LCS Aliguot: 1000 (ul) Date Extracted: 07/02/93

Concentrated Extract Volume:10000 (ul) Date Analyzed: 07/09/93

Injection Volume: 1.00 (ul) Dilution Factor: 1.00

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

Instrument ID (1): HARPO GC Column(1): DB1701 ID: 0.53(mm)

COMPOUND	SPIKE ADDED (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Aroclor-1260	100	150	150*	60-120

Instrument ID (1): HARPO Instrument ID (2): HARPO-

GC Column(1): DB1701 ID: 0.53(mm) GC Column(2): DB608 ID: 0.53(mm)

COMPOUND	SPIKE ADDED (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Aroclor-1260	100	150	150*	60-120

COMMENTS: There is not enough data from LCS to establish control limits -

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK1

Lab Name: WEYERHAEUSER Contract:

Lab Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Lab Sample ID: PBLK1_S0608 Lab File ID:

Matrix:(soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC

Acid Cleanup: (Y/N) Y Date Extracted: 06/08/93

Date Analyzed (1): 06/16/93 Date Analyzed (2): 06/16/93

Time Analyzed (1): 2006 Time Analyzed (2): 2006

Instrument ID (1): HARPO Instrument ID (2): HARPO-

GC Column (1): DB1701 ID: 0.53 (mm) GC Column (2): DB608 ID: 0.53 (mm)

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	PLCS1	LCS1_S0608	06/16/93	06/16/93
02	TP-1202	09894	06/17/93	06/17/93
03	TP-1204	09896	06/17/93	06/17/93
04	TP-1207	09899	06/17/93	06/17/93
05	TP-1207DL	09899Z	06/18/93	06/18/93
06	TP-1202MS	09894MS	06/17/93	06/17/93
07	TP-1202MSD	09894MSD	06/17/93	06/17/93

COMMENTS:

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK2

Lab Name: WEYERHAEUSER Contract:

Code: WEYER Case No.: 11978 SAS No.: SDG No.: TP1101

Lab Sample ID: PBLK1_S0702 Lab File ID:

Matrix:(soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) N Date Extracted: 07/02/93

Date Analyzed (1): 07/09/93 Date Analyzed (2): 07/09/93

Time Analyzed (1): 2013 Time Analyzed (2): 2013

Instrument ID (1): HARPO Instrument ID (2): HARPO-

GC Column (1): DB1701 ID: 0.53 (mm) GC Column (2): DB608 ID: 0.53 (mm)

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	PLCS1	LCS1_S0702	07/09/93	07/09/93
02	TP1101	09804	07/09/93	07/09/93
03	TP1102	09805	07/09/93	07/09/93
04	TP1400	09806	07/09/93	07/09/93
05	TP1400DL	09806Z	07/12/93	07/12/93
06	TP1401	09807	07/09/93	07/09/93
07	TP1401DL	09807Z	07/12/93	07/12/93
08	TP1402	09808	07/09/93	07/09/93
09	TP1402DL	09808Z	07/12/93	07/12/93
10	TP1404	09810	07/10/93	07/10/93
11	TP1404DL	09810Z	07/12/93	07/12/93
12	TP1703	09813	07/10/93	07/10/93

COMMENTS:

Weyerhaeuser Analytical and Testing Services

Service Request 11978

Everett - EMCON Soil Samples
West Side #0141-037.29

Method WTPH-G
Gasoline Range Compounds

Samples were extracted with methylene chloride and prepared according to method WTPH-G. The samples were analyzed by Purge and Trap and Gas Chromatography with FID detection for gasoline range compounds. Identification and quantitation was accomplished by comparing sample chromatograms to chromatograms of known gasoline concentrations. Results are expressed in ug/g (ppm).

Approved Clay Thom Date 14 June 93

WTPH-G

Service Request	11978
Date	6/12/93
Analyst	C. Thomson

Sample ID	Analyte	Surrogate Recovery % TFT	Surrogate Recovery % BFB	Concentration (ug/g)
9811 TP-1701 5/26/93 1145	Gasoline Range	80	100	< 0.5
9812 TP-1702 5/26/93 1035	Gasoline Range	79	90	< 0.5

Quality Control Data

Sample ID	Analyte	Surrogate Recovery % TFT	Surrogate Recovery % BFB	Concentration (ug/g)
Method Blank	Gasoline Range	93	96	< 0.5
LCS Percent Recovery	Gasoline Range	84	86	102%
9812 Duplicate	Gasoline Range	85	95	< 0.5

Weyerhaeuser Analytical and Testing Services

Service Request 11978

Everett - EMCON Soil Samples
(West Side #0141-037.29) #120-2975670

Method WTPH-D
Diesel Range and Heavier Compounds

Samples were prepared per method WTPH-D and analyzed by Gas Chromatography with FID detection for diesel and motor oil range compounds. Results are expressed in ug/g (ppm). The Laboratory Control Spike on 6/9/93 appears to have had twice the amount of surrogate added.

Approved Clay Thomas Date 30 June 93

Service Request	11978
Date	6/28/93
Analyst	C. Thomson

Sample ID	Analyte (s)	Concentration ug/g	Surrogate Recovery (%)
9804	Diesel Fuel Range	< 29	112
TP-1101 5/26/93 0945	Heavy Oil Range	130	
9805	Diesel Fuel Range	< 24	95
TP-1102 5/26/93 0915	Heavy Oil Range	49	
9806	Diesel Fuel Range	140	117
TP-1400 5/26/93 1330	Heavy Oil Range	550	
9807	Diesel Fuel Range	150	118
TP-1401 5/26/93 1350	Heavy Oil Range	980	
9808	Diesel Fuel Range	< 21	100
TP-1402 5/26/93 1402	Heavy Oil Range	170	
9809	Diesel Fuel Range	76	0 D
TP-1403 5/26/93 1430	Heavy Oil Range	43	
9810	Diesel Fuel Range	5.7	112
TP-1404 5/26/93 1540	Heavy Oil Range	31	
9813	Diesel Fuel Range	59	106
TP-1703 5/26/93 1110	Heavy Oil Range	27	
9814	Diesel Fuel Range	5.1	106
TP-1801 5/26/93 1230	Heavy Oil Range	38	
9892	Diesel Fuel Range	5400	0 D
TP-1200 5/27/93 0850	Heavy Oil Range	12000	
9893	Diesel Fuel Range	18	103
TP-1201 5/27/93 0750	Heavy Oil Range	37	
9894	Diesel Fuel Range	< 0.9	100
TP-1202 5/27/93 0825	Heavy Oil Range	< 1.8	
9895	Diesel Fuel Range	5800	0 D
TP-1203 5/27/93 0900	Heavy Oil Range	12000	

Sample ID	Analyte (s)	Concentration ug/g	Surrogate Recovery (%)
9896	Diesel Fuel Range	7600	0 D
TP-1204 5/27/93 0930	Heavy Oil Range	22000	
9897	Diesel Fuel Range	30	107
TP-1205 5/27/93 0950	Heavy Oil Range	110	
9898	Diesel Fuel Range	130	108
TP-1206 5/27/93 1310	Heavy Oil Range	640	
9899	Diesel Fuel Range	8.0	930
TP-1207 5/27/93 1255	Heavy Oil Range	< 4.1	
9900	Diesel Fuel Range	< 1.9	104
TP-1208 5/27/93 1100	Heavy Oil Range	5.4	

Quality Control Data

Sample ID	Analyte(s)	Concentration ug/g	Surrogate Recovery (%)
Method Blank 6/5	Diesel Fuel Range	< 1.7	106
	Heavy Oil Range	< 3.3	
Method Blank 6/9	Diesel Fuel Range	< 1.7	82
	Heavy Oil Range	< 3.3	
LCS Percent Recovery 6/5	Diesel Fuel Range	95	102
LCS Percent Recovery 6/9	Diesel Fuel Range	100	236
9804 Duplicate	Diesel Fuel Range	< 29	107
	Heavy Oil Range	130	
9892 Duplicate	Diesel Fuel Range	5200	0 D
	Heavy Oil Range	11000	

0 D - Surrogate was diluted out of sample

WEYERHAEUSER COMPANY
ANALYTICAL LABORATORIES
ATOMIC SPECTROSCOPY
Tacoma, WA

Everett - Emcon Soil Samples (West Side)
SR 11978
Total Metals Analysis

Lab ID Number	Sample ID	Cr	As	Pb	Hg
		(mg/kg, as Received basis)			
09806	TP-1400	20	4.5	45	< 0.1
09806D	Duplicate	18	4.5	39	< 0.1
09807	TP-1401	18	3.5	32	< 0.1
09808	TP-1402	17	3.0	72	< 0.1
09810	TP-1404	25	2.8	16	< 0.1
09811	TP-1701	-	-	5.5	-
09812	TP-1702	-	-	4.3	-
09894	TP-1202	24	4.0	9	< 0.1
09896	TP-1204	21	2.7	7	< 0.1
09899	TP-1207	44	3.9	10	< 0.1
Reporting Limit		1	0.3	5	0.1
SW-846 Method		3050/6010	3050/7060	3050/6010	7471

Note: Samples 09811 (TP-1701) and 09812 (TP-1702) were analyzed for Pb only by Method 3050/7421 with a reporting limit of 0.3 mg/kg, as received basis.

Approved Mary Beth Lamb 7/13/93 Notebook 000094

WEYERHAEUSER COMPANY
ANALYTICAL LABORATORIES
ATOMIC SPECTROSCOPY
Tacoma, WA

Everett - Emcon Soil Samples (West Side)
SR 11978

Lab ID Number	Sample ID	pH Determination EPA Method 9045
09808	TP-1402	12.5
09809	TP-1403	8.1
09810	TP-1404	11.8
09814	TP-1801	10.1
09894	TP-1202	8.1
09896	TP-1204	7.1
09899	TP-1207	4.4

Approved Mary Beth Lang 7/13/93 Notebook 000095

ATTACHMENT G

DRAFT WORK PLAN FOR
EVERETT WEST SITE PHASE 2 ASSESSMENT
FEBRUARY 11, 1994
and
AREA 14 PHASE 2 ASSESSMENT PROPOSAL
February 9, 1994

Draft Work Plan

For Everett West Site
Phase 2 Assessment

D R A F T

Prepared for
The Weyerhaeuser Company
February 11, 1994

Prepared by
EMCON Northwest, Inc.
18912 North Creek Parkway, Suite 110
Bothell, Washington 98011-8016

Project 0141-037.63

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1 INTRODUCTION

1.1 Purpose

This work plan describes activities that will be conducted as part of an ongoing independent action in accordance with the Washington State Department of Ecology (Ecology), Model Toxics Control Act (MTCA), Chapter 173-340 WAC, at the Weyerhaeuser Everett West Site. EMCON Northwest, Inc. (EMCON), is conducting this work on behalf of the Weyerhaeuser Company. The objective is to delineate areas of soil contamination that were identified during previous site assessment activities.

This work plan was developed based on the results of Phase 1 assessment and priority site sampling activities including the sandblast fill area, the Bunker C tank, the kiln trunion, and the compressor spill area.

The purposes of this work plan are to (1) define the scope of work, (2) provide guidance for field sampling activities, (3) identify quality assurance procedures that will be implemented during sampling activities and laboratory analyses, and (4) fulfill the MTCA requirements (WAC 173-340-820) that pertain to documentation of sampling and analysis, QA/QC, and health and safety procedures.

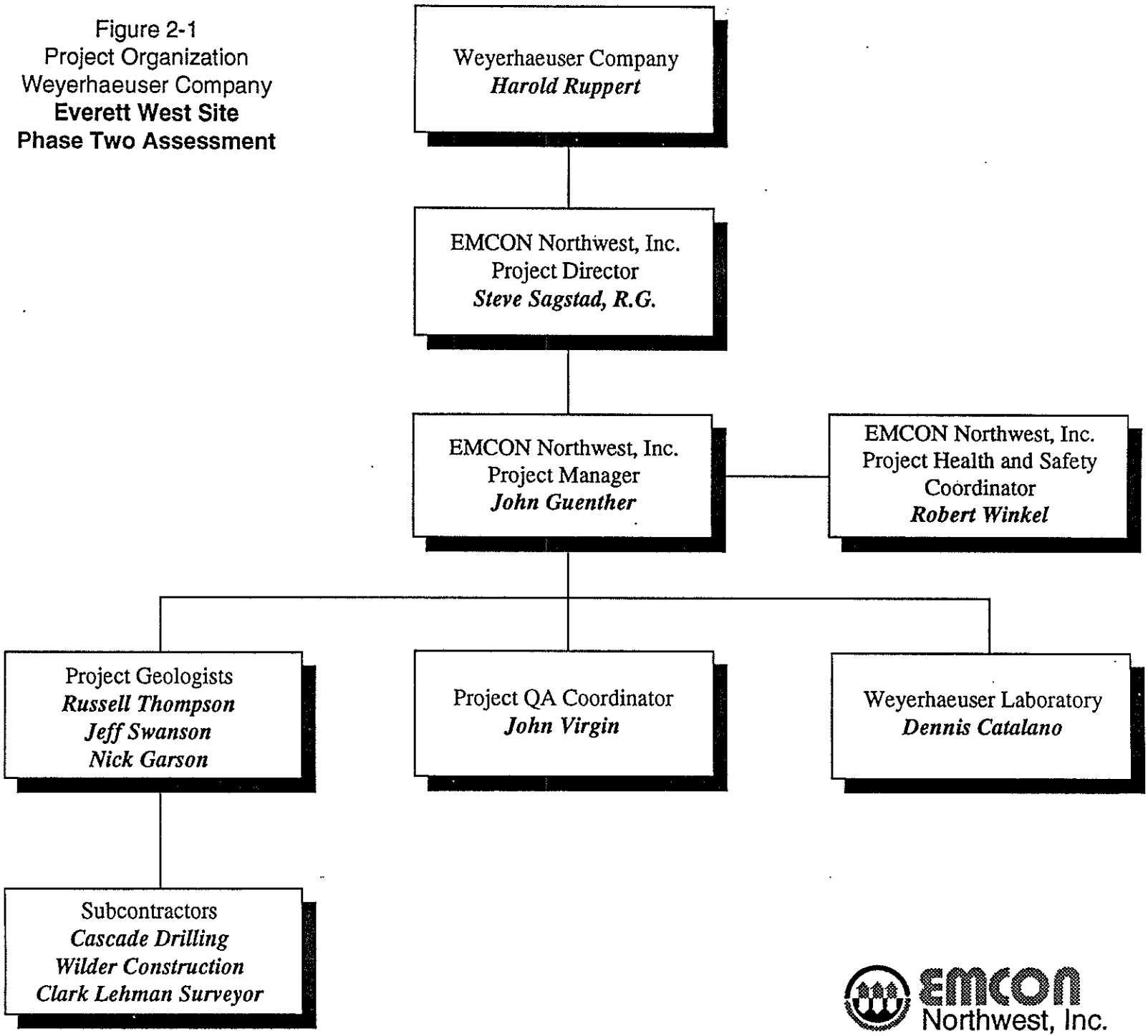
1.2 Work Plan Organization

- Section 1 discusses the purpose of the project and the work plan.
- Section 2 describes the project organizational structure and defines the roles and responsibilities of key individuals.
- Section 3 identifies approximate sampling locations, numbers of samples to be collected, and laboratory parameters for each sample. This section also describes investigative procedures and equipment for soil sampling activities at the site.
- Section 4 presents an overall project schedule and describes the types of reports to be generated.
- Section 5 describes the Quality Assurance/Quality Control program to be used for this project, including data quality objectives and laboratory detection limits.

2 PROJECT ORGANIZATION

The project organization identifies the individuals responsible for ensuring the quality of the field operations and data collected (Figure 2-1). The responsibilities of key personnel are summarized in Table 2-1.

Figure 2-1
Project Organization
Weyerhaeuser Company
Everett West Site
Phase Two Assessment



EMCON Northwest, Inc.

Table 2-1

Personnel Responsibilities

Personnel	Responsibilities
Weyerhaeuser Manager (H. Ruppert)	Provide oversight of all program activities. Review project scope of work, final project QA objectives, needs, problems, and requests. Approve QA corrective actions as needed.
EMCON Project Director (S. Sagstad)	Provide overall project oversight and senior review.
EMCON Project Manager (J. Guenther)	Oversee project performance and provide technical expertise to accomplish project objectives. Ensure that project tasks are completed successfully within the project time periods. Coordinate with Weyerhaeuser.
EMCON Project Health and Safety Coordinator (R. Winkel)	Provide technical assistance as required to resolve on-site health and safety issues requiring corrective action. Review and approve EMCON Site Safety Plan.
EMCON Project QA Coordinator (J. Virgin)	Provide technical QA assistance on site to accomplish project objectives. Provide contracts and approval for methods and laboratory procedures. Ensure compliance with USEPA and MTCA QA/QC policies. Provide coordination for field operations and laboratory services.
EMCON Field Team Leader (R. Thompson)	Oversee field activities. Ensure that sampling and field activities meet procedures and guidance for this plan. Conduct field sampling operations in accordance with approved sampling and analysis plan. Ensure that all QA protocols (including chain-of-custody documentation, sample collection and labeling, sample storage and shipping, and instrument calibration) are followed as required. Recognize and implement necessary corrective actions. Document field operations. Ensure that health and safety guidelines are followed. Document any health and safety issues affecting sample collection.
Weyerhaeuser Analytical Laboratory	Provide laboratory support. Perform all required QC sample analyses including laboratory duplicates, blanks, matrix spikes, and performance materials. Perform preliminary review of data for completeness and for transcription or laboratory error. Follow good laboratory practices and USEPA guidelines.

3 SITE ASSESSMENT ACTIVITIES

3.1 Overview

The field investigation program will consist of collecting approximately 30 soil samples from an estimated 11 test pits and 19 soil borings. The detailed procedures used in the site assessment are presented in the following sections.

3.2 Sample Locations, Frequency, and Analyses

3.2.1 Soil

Soil samples will be collected and analyzed to delineate the horizontal distribution of contaminants identified during the priority site sampling and Phase 1 assessment activities. Sampling locations are shown on Map 1, and sampling rationale and laboratory parameters are summarized in Tables 3-1 and 3-2. Soil samples will generally be composited from the base of the grade fill to the water table observed during test pit excavation or drilling. Laboratory parameters were selected based on historical site activities and Phase 1 assessment laboratory results.

3.2.2 Field Quality Assurance

Field quality assurance (QA) will be maintained through compliance with the sampling plan, collection of field QA samples, and documentation of sampling plan alterations.

Duplicate soil samples will be collected at a frequency of 5 percent of the total number of samples. Duplicate samples will be labeled similar to the other samples and submitted blind to the laboratory. The duplicate sample collection locations will be determined in the field.

If problems arise during field sampling (e.g., proposed locations or sampling depths must be altered due to obstructions), a Sampling Alteration Checklist (Figure 3-1) will be completed by the field team leader.

Table 3-1

Everett West Sampling Rationale

Type	Number	Location	Rationale (unit sampled)
Area 11	0	Sandblast fill area	Area 11 will be delineated during remediation.
Area 12	4	East area boundary *	Delineate metals, TPH, and PCBs detected to the east in Area 11.
Test Pits Soil Boring	1	Former Mill C *	
Test Pits	5	Former Mill C *	Delineate TPH in the vicinity of Mill C and confirmation of VOCs.
Area 13 Soil Borings	5	Kiln trunions *	Delineate TPH around kiln trunions.
Soil Borings	3	Portable compressor *	Delineate TPH around portable compressors.
Area 14	0	Wood chip storage	Separate phase of work.
Area 15 Soil Borings	2	Bunker tank *	Background TPH around perimeter of berm.
Test Pits	2	*	
Area 16 Soil Borings	2	Chip silos *	Delineate TPH around former SB-1605.
Soil Borings	6	Oil shed *	Delineate TPH and VOCs around oil shed.
Area 17	0	Warehouse *	No areas of concern identified during Phase One assessment.
Area 18	0	White liquor storage	No areas of concern identified during Phase One assessment.

*Discrete sample of unsaturated fill or native soil.

Table 3-2

Summary of Soil Analyses

Sample Location	VOCs Method 8240	TPH Method WTPH-D Extended	PCBs Method 8080	Total Metals 6,000/7,000 Series Methods
TP-1220		✓		✓
TP-1221			✓	✓
TP-1222		✓		✓
TP-1223			✓	✓
TP-1224	✓	✓		
TP-1225		✓		
TP-1226	✓	✓		
TP-1227		✓		
TP-1228	✓	✓		
SB-1220		✓		
SB-1320		✓		
SB-1321		✓		
SB-1322		✓		
SB-1323		✓		
SB-1324		✓		
SB-1325		✓		
SB-1326		✓		
SB-1327		✓		
TP-1520		✓		
TP-1521		✓		
SB-1520		✓		
SB-1521		✓		
SB-1620		✓		
SB-1621		✓		
SB-1622	✓	✓		
SB-1623	✓	✓		
SB-1624	✓	✓		
SB-1625	✓	✓		
SB-1626	✓	✓		
SB-1627	✓	✓		

Figure 3-1

SAMPLING ALTERATION CHECKLIST

Sample program identification: _____

Material to be sampled: _____

Measurement variable: _____

Standard procedure for analysis: _____

_____

Reference: _____

_____

_____

Variation from standard procedure: _____

_____

_____

_____

_____

_____

Reason for variation: _____

_____

_____

_____

Resultant change in field sample procedure: _____

_____

_____

_____

Special equipment, material, or personnel required: _____

_____

_____

Author's name: _____ Date: _____

Approval: _____ Title: _____

Date: _____

B/WEY/COAD-MD/ATTACH-G.TBL-94/lha:1
0141-037.59

3.2.3 Sample Designation

Samples will be identified by collection method, location number, and depth. The prefixes SB- and TP- will precede soil boring and test pit numbers, respectively, to indicate the collection method. The location number will follow the prefix and will identify the area and sample location. For example, TP-1224 would denote a test pit soil sample collected from area 12, location 24.

QA samples will be submitted blind (i.e., not identified as QA samples) to the laboratory. The QA samples will be given a fictitious sample name (e.g., for a non-existent sampling location).

3.3 Excavation and Sampling Procedures

3.3.1 Soil Sampling

Soil samples will be collected in the locations described in Section 3.2. A clean shovel, backhoe bucket, or split-spoon sampler will be used to collect soil samples. Table 3-3 includes a list of equipment that will be used for soil sampling activities. Following is a summary of the soil sampling procedures:

1. All sampling equipment and reusable materials that contact the sample will be decontaminated on site in accordance with procedures identified in Section 3.6.

2. The sample container labels will be filled out and attached to the appropriate containers as described in Section 3.4. The sample from the entire interval sampled will be scraped into sample containers.

3. Soil samples will be transferred from the collection device into sampler containers by using a stainless steel spoon or trowel. A stainless steel bowl may be used to mix the sample, if desired. A portion of the sample may be placed in a separate glass jar and analyzed with a photoionization detector (PID).

4. The sample will be logged in a field book or on a Test Pit Log or Boring Log Form (see Figure 3-2), using the classifications described in Figure 3-3.

5. After being filled, the sample container(s) will be placed on ice in a cooler and handled as described in Section 3.4. The sample coolers will be shipped to the laboratory within 48 hours of sampling.

Table 3-3

Field Equipment and Supplies

Forms/Documentation
• Field logbooks • Log of exploratory boring • Field sampling data sheet • Chain-of-custody/laboratory analysis report form • Custody seal • Project photo log • Well testing record • Drum labels • Field sampling plan
Tools
• Fiberglass tape with stainless steel weight • Tape measure calibrated to 0.1 inch • Decon brushes • Extension cord • Flashlight • Padlocks with matching keys • Tool kit • Small sledge hammer • Shovel • Pick
Soil Investigation and Sampling
• Stainless steel scoops/spoons • Large stainless steel bowls • Sample jars and labels
Health and Safety Equipment
• Fire extinguisher • Half-face respirators • First aid kits • Safety glasses • Eyewash • Ear plugs • Tyvek® • Gloves — vinyl, nitrile, and neoprene • Duct tape

Table 3-3

Field Equipment and Supplies

Miscellaneous Equipment
• Spray paint, pencils, pens, labels, waterproof markers • Paint pens for drums • Water jugs and sprayers • Bubble wrap and tape for shipping • Cameras and film • Resealable plastic bags • Paper towels • Plastic sheeting • Buckets • Squirt bottle (wash) • Plastic funnel • Stainless steel funnel • Cotton gloves • Nalgene™ wash bottles • Reagent bottles • Coolers (sample shipping) • Scrub brushes • Plastic tubs • 2.0-mm screen • Ice, in leak-proof bags • Drinking water • Large-scale site map

150969

EMCON Northwest, Inc.

LOG OF EXPLORATORY BORING

CLIENT/PROJECT NAME _____ PROJECT# _____

GEOLOGIST/ENGINEER _____

DRILLING CONTRACTOR _____

DRILLING METHOD _____ HOLE DIA. _____

BORING NO. _____

DATE BEGAN _____

DATE COMPLETED _____

TOTAL DEPTH _____

SHEET ___ OF ___

FIELD LOCATION OF BORING:

GROUND ELEVATION _____

DATUM _____

WATER LEVEL DATA

DEPTH				
TIME				
DATE				
BORING DEPTH				

OTHER*	WELL OR PIEZOMETER DETAILS	SAMPLING DATA: SAMPLING METHOD	SAMPLE NUMBER	BLOWS/FT	DEPTH SAMPLED	DEPTH IN FEET	SOIL GROUP SYMBOL (USCS)	LITHOLOGIC DESCRIPTION

REMARKS:

* NOTE. Specify data recorded in undesignated column (e.g. conductance, pH, tip reading, pocket torvane, etc.)

SE/E 300-03

EMCON Northwest, Inc.

DATE 5/93
DWN. _____
APPR. _____
REVIS. _____
PROJECT NO. 0141-037.29

Figure 3-2
WEYERHAEUSER COMPANY
EVERETT WEST SITE ASSESSMENT

BORING LOG FORM

SOIL DESCRIPTION CHECKLIST - FIELD LOG

Guide for Written Soil Description

1. Depth of sample or unit, in feet below ground surface
2. Classification (description and symbol)
3. Color
4. Grain size distribution beginning with most abundant to least abundant constituents (i.e., percentage of fines including plasticity; percentage and size of sand, gravel, cobbles, and boulders)
5. Relative density or consistency (condition)
6. Moisture conditions
7. Other relevant information (e.g., structure, laminations, occurrences of organic material)
8. Geologic interpretation (e.g., fill, alluvium)
9. Length of sample recovery/length driven

Example: 5 to 6.5 feet: SILTY SAND (SM), dark gray, 80% fine to medium sand, 15 to 20% non-plastic silt, <5% subrounded fine gravel, very dense, wet. Some leaves, twigs on bedding planes. Sulfur odor. (ALLUVIUM) (14"/18")

Basic Classification

GRAVEL: Gravel Size Fine = #4 sieve to 3/4"
Medium = 3/4 to 1-1/2"
Coarse = 1-1/2 to 3"

a. GW, well-graded gravel (0 to 5% fines)
b. GW-GM or GW-GC, well-graded gravel with silt or clay (5 to 15% fines)
c. GM or GC, well-graded silty or clayey gravel (> 15% fines)
d. GP, poorly-graded gravel (0 to 5% fines)
e. GP-GM or GP-GC, poorly-graded gravel with silt or clay (5 to 15% fines)
f. GM or GC, poorly-graded silty or clayey gravel (> 15% fines)

SAND: Sand size Fine = #200 (75 μm) to #40 (425 μm) sieve
Medium = #40 (425 μm) to #10 (2 mm) sieve
Coarse = #10 (2 mm) to #4 (4.75 mm) sieve

a. SW, well-graded sand (0 to 5% fines)
b. SW-SM or SW-SC, well-graded sand with silt or clay (5 to 15% fines)
c. SM or SC, well-graded silty or clayey sand (> 15% fines)
d. SP, poorly-graded sand (0 to 5% fines)
e. SP-SM or SP-SC, poorly-graded sand with silt or clay (5 to 15% fines)
f. SM or SC, poorly-graded silty or clayey sand (> 15% fines)

FINES: Minus #200 Sieve (less than 75 μm)

a. ML, inorganic silts, fine sands, clayey silts or sands of low plasticity, or non-plastic
b. CL, inorganic clays, sandy or silty clays of medium plasticity
c. OL, inorganic silts or clays of low plasticity
d. MH, organic silts, micaceous or diatomaceous fine sand or silty soils, elastic silts
e. CH, organic clays or silts of high plasticity, fat clays
f. OH, organic clays or silts of low to medium plasticity
g. PT, peat and other highly organic soils

COBBLES: 3 to 12" diameter, estimate size(s) and percentage

BOULDERS: Greater than 12" diameter, note size(s) and estimate percentage

MINOR ORGANIC CONTENTS: Describe type and occurrence

a. Wood debris = roots, branches, logs
b. Organic debris = decaying vegetation

MISCELLANEOUS DESCRIPTIVE TERMS (use with discretion, estimate percentages if possible):

Trace	- particles are present but <5%
Few	- 5 to 15%
Little	- 15 to 25%
Some	- 25 to 45%

emcon Northwest, Inc.

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PROJECT NO. 0141-037.29

Figure 3-3
WEYERHAEUSER COMPANY
EVERETT WEST SITE ASSESSMENT

SOIL DESCRIPTIONS

Procedure for Estimating Plasticity

1. Remove particles larger than the No. 40 sieve size (greater than fine sand). Select a specimen the size of a 1/2" cube. Mold the specimen to the consistency of putty. If too dry, add water and if sticky, spread it out in a thin layer and allow it to lose some moisture by evaporation. Roll the specimen by hand on a smooth surface, or between the palms, into a thread about 1/8" in diameter. Fold the thread and reroll repeatedly. This procedure gradually reduces the moisture content and the specimen will stiffen, eventually losing its plasticity. It will crumble at a diameter of 1/8" when near the plastic limit.
2. After the thread crumbles, combine the pieces and knead slightly. Continue kneading until the lump crumbles.
3. If the specimen forms a tough thread near the plastic limit and if the lump is stiff when it crumbles, the colloidal clay fraction in the soil is high. Weakness of the thread at the plastic limit and quick loss of coherence of the lump below the plastic limit indicate either inorganic clay or low plasticity.
4. Highly organic clays feel very weak and spongy at the plastic limit.

Criteria for Describing Plasticity

Non-plastic	A 1/8" thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	The specimen can be rolled and kneaded to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

Condition

1. Relative density for sand or gravel

   a. Using Standard Penetration Test, blows per foot

Blows/ft (N)	Relative Density
0 - 4	very loose
5 - 10	loose
11 - 30	medium
31 - 50	dense
> 50	very dense

   b. Estimated (no testing)

   Loose - sand and/or gravel can be excavated with a shovel
   Compact - sand and/or gravel requiring use of a pick for removal

2. Consistency for fines (note whether blow counts or tactile tests were used)

Blows/ft (N)	Relative Consistency	Tactile Test
< 2	very soft	sample sags or slumps
2 - 4	soft	sample can be pinched in two
5 - 8	firm	sample easily imprinted to 1" by thumb
9 - 15	stiff	sample readily indented by thumb with pressure
16 - 30	very stiff	sample readily indented by thumbnail
> 30	hard	sample cannot be imprinted w/thumb, can pierce w/pencil

Moisture

1. Dry: contains no water (rarely occurs in nature)
2. Damp: less water than moist
3. Moist: "optimum" water content: a sample squeezes tight and maintains its shape, but you cannot squeeze out excess water
4. Wet: more water than moist

3.3.2 Test Pit Excavation and Drilling

Test pits will be excavated with either a tire-mounted or a track-mounted backhoe or excavator. Drilling will be performed by using a hollow stem auger drilling rig. The soil description will be logged as the test pit is being excavated and the soil boring is being advanced. Composite soil samples will be collected with the backhoe bucket when the test pit is complete.

3.4 Sample Labeling, Shipping, and Chain-of-Custody

3.4.1 Sample Labeling

Sample container labels will be completed immediately before or immediately following sample collection. Container labels will include the following information:

- Project name
- Sample number
- Initial of collector
- Date and time of collection
- Analysis requested

3.4.2 Sample Shipping

Samples will be shipped to Weyerhaeuser Analytical and Testing Services using the following procedures:

- Sample containers will be transported in a sealed, iced cooler or other suitable shipping container.
- In each shipping container, glass bottles will be separated by a shock-absorbing or absorbent material to prevent breakage and leakage.
- Ice sealed in separate plastic bags, or "blue ice," will be placed into each shipping container with the samples.
- All sample shipments will be accompanied by a Chain-of-Custody/Laboratory

Analysis Request Sheet (see Figure 3-4). The completed form will be sealed in a plastic bag.

- Signed and dated chain-of-custody seals will be placed on all shipping containers.
- The name and address of the laboratory plus EMCON's name and office (return) address, will be placed on each shipping container before shipping.

3.4.3 Chain-of-Custody

Once a sample is collected, it will remain in the custody of the sampler or other EMCON personnel until samples are dropped off at the Weyerhaeuser office for shipment to the laboratory. Before transfer of samples to the office for shipping, a Chain-of-Custody/Analysis Request Form (see Figure 3-4) will be signed by the EMCON personnel performing the sampling. A signed and dated chain-of-custody seal will be placed on each shipping container before shipping. Upon receipt of samples at the laboratory, the shipping container seal will be broken, the Chain-of-Custody/Analysis Form signed, and the condition of the samples will be recorded by the receiver. Chain-of-custody records will be included in the report prepared by the laboratory.

3.5 Surveying

Test pit and soil boring locations may be surveyed by a registered surveyor. Each location will be surveyed for ground surface elevation and horizontal position. The horizontal and vertical datums will be tied into state plane coordinates.

3.6 Decontamination

A decontamination area will be established for cleaning the backhoe bucket and drilling augers. The backhoe bucket and drilling auger will be steam-cleaned or hot water pressure-washed before beginning excavation or drilling between each subsurface exploration location.

Sampling spoons, bowls, and other sampling equipment that will contact samples will be decontaminated before initial use, between sampling locations, and between different sampling depths at the same location. The following decontamination procedure will be used for soil sampling equipment:

- Tap water rinse if hexane is used

150969

EMCON Northwest, Inc.

Chain of Custody / Laboratory Analysis Request

DATE _____ PAGE _____ OF _____

PROJECT _____ #_____

CLIENT INFO.
CONTACT _____

ADDRESS _____

TELEPHONE # _____

SAMPLERS NAME _____ PHONE # _____

SAMPLERS SIGNATURE _____

SAMPLE I.D.	DATE	TIME	LAB I.D.	TYPE	BASE/NEUTRALS ORGANICS GC/MS 625/8270	VOLATILE ORGANICS GC/MS 624/8240	HALOGENATED VOLATILE ORGANICS 601/8010	PHENOLICS 604/8040	POLYNUCLEAR AROMATIC 610/8310	TOTAL ORGANIC CARBON (TOC) 415.1/9060	TOTAL ORGANIC HALIDE (TOX) 9020	EP TOX/TCLP METALS (Circle One)	METALS (TOTAL) (See Special Inst.)	TCLP ORGANICS	pH, COND ALK	NO_3/NO_2, Cl SO4	Ca, Mg, Na, K						NUMBER OF CONTAINERS
1.																							
2.																							
3.																							
4.																							
5.																							
6.																							
7.																							
8.																							

ANALYSIS REQUESTED — GENERAL CHEMISTRY (Specify) — OTHER (Specify)

Relinquished By EMCON Northwest, Inc.	Relinquished By	Relinquished By	PROJECT INFORMATION	SAMPLE RECEIPT
Signature	Signature	Signature	Shipping I.D. No.	Total No. of Containers
Printed Name	Printed Name	Printed Name	VIA	Chain of Custody Seals
Firm	Firm	Firm	Project	Received in good condition
Date/Time	Date/Time	Date/Time		LAB NO.
Received By	**Received By**	**Received By**	**SPECIAL INSTRUCTIONS/COMMENTS**	
Signature	Signature	Signature		
Printed Name	Printed Name	Printed Name		
Firm	Firm	Firm		
Date/Time	Date/Time	Date/Time		

DISTRIBUTION: WHITE - return to originator; YELLOW: - lab; PINK - retained by originator.

EMCON Northwest, Inc.

DATE 5/93
DWN. _____
APPR. _____
REVIS. _____
PROJECT NO. 0141-037.29

Figure 3-4
WEYERHAEUSER COMPANY
EVERETT EAST SITE ASSESSMENT

CHAIN-OF-CUSTODY / LABORATORY ANALYSIS REQUEST FORM

- Hexane rinse if visibly oily
- Tap water rinse
- Nonphosphatic detergent (e.g., Liquinox™) and tap water wash
- Tap water rinse
- Distilled water rinse

Decontamination of personnel involved in sampling activities will be accomplished as described in the Health and Safety Plan.

3.7 Sampling Residuals

All residual soil and used decontamination solutions will be handled appropriately. Personal protective clothing will be worn during waste transfers because of potential skin contact and splash hazards. The following procedures will be used for the sampling residuals:

- Unused soil excavated from the test pits and soil borings will be replaced in the hole from which it was removed immediately after sampling.
- Drummed decontamination liquids will be sealed daily. An on-site staging area for drums and tanks will be identified by Weyerhaeuser. Drums and tanks will be stored in the designated temporary holding area until characterized for disposal.
- A record of all generated residuals as stored in drums and tanks will be maintained to expedite characterization and disposal upon completion of field activities.
- Disposable clothing and equipment will be placed in plastic bags and disposed of as solid waste in an appropriate solid waste facility.
- Weyerhaeuser will be responsible for the proper disposal of all wastes.

3.8 Data Evaluation

All laboratory data generated from the site assessment program will be entered into spreadsheets. Tables and maps summarizing these data will also be prepared.

4 REPORTING AND SCHEDULE

4.1 Reporting

The results of the Phase 2 site assessment will be compiled into a draft report for Weyerhaeuser. The report will include a description of all field activities performed, a discussion of identified contamination at each area of concern, and additional information as required. Test pit logs and laboratory data sheets will be included in the report as appendices.

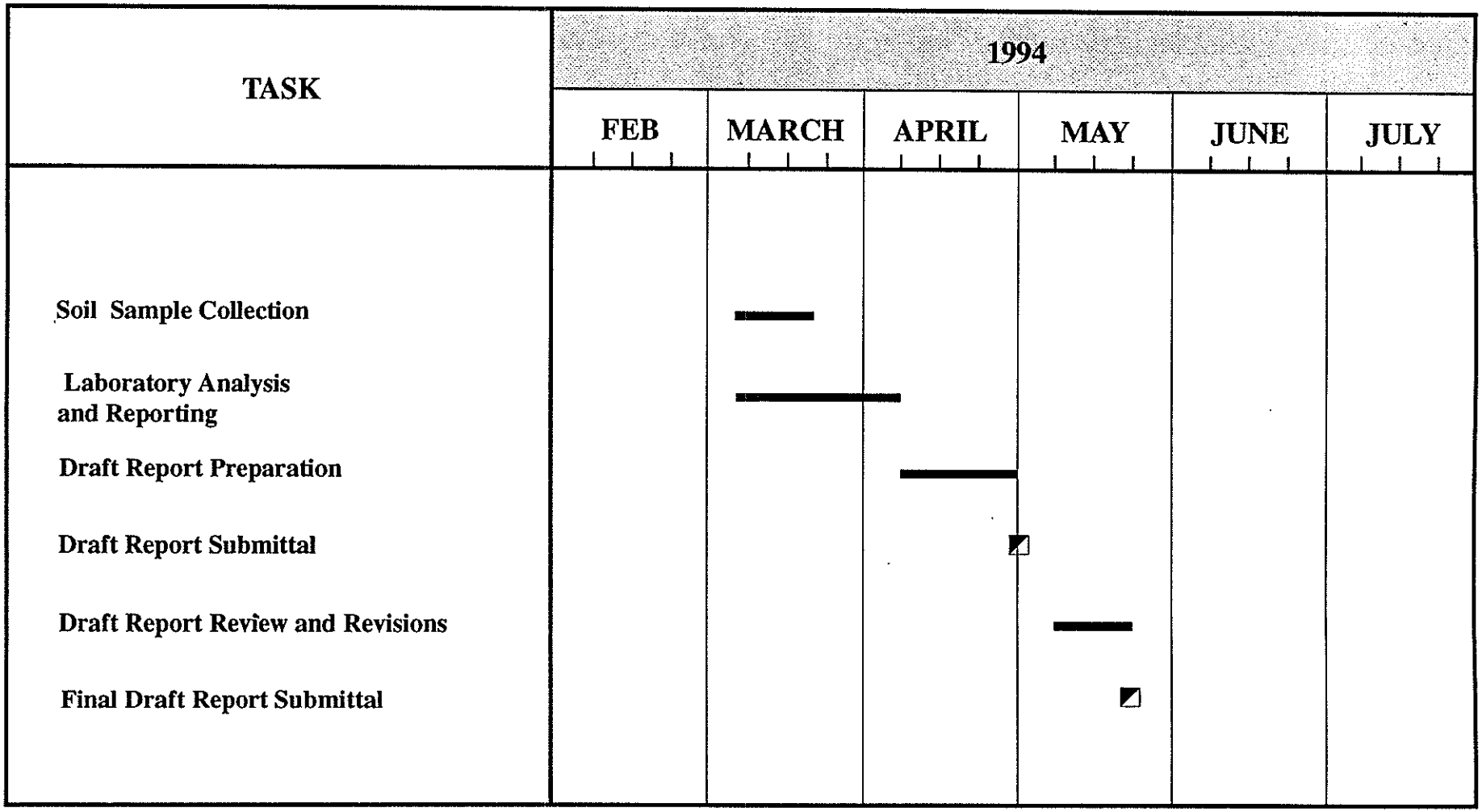
EMCON will prepare the report as a draft for review and comment by Weyerhaeuser. Following receipt of comments, EMCON will make revisions as required and issue a final draft report to Weyerhaeuser.

4.2 Schedule

The schedule for performing the site assessment is shown in Figure 4-1. Assessment field work will take approximately two weeks, including surveying the test pit locations. Laboratory analysis and data evaluation will take another six to eight weeks. Total time expected for submittal of the draft Phase 2 site assessment report is about 2½ months after the beginning of field work. This time frame assumes that no work other than that specified in the work plan is required.

Figure 4-1

Weyerhaeuser West Site Phase Two Assessment Schedule



5 QUALITY ASSURANCE/QUALITY CONTROL

5.1 Quality Assurance Objectives

The overall quality assurance (QA) objective for measurement data is to ensure that data of known and acceptable quality are obtained. All measurements will be made to yield accurate and precise results representative of the media and conditions measured. Chemical analyses will be performed in accordance with the requirements of WAC 173-340-830. All sample results will be calculated and reported in units presented in Table 5-1 to allow comparison of the sample data with regulatory criteria. QA objectives for precision, accuracy, and completeness have been established for each measurement variable, where possible, and are presented in Table 5-1.

5.2 Chemical/Physical Analysis

5.2.1 Laboratory Procedures

Methods and references for most analyses are summarized in Table 5-1. The laboratory will use USEPA and Ecology methods. Data reporting requirements for all analyses are presented in Section 5.3.

Routine analysis of environmental samples will be performed using procedures based on the following methods:

- WTPH-D (extended): diesel, fuel oil (i.e., C_{12}-C_{34}) petroleum hydrocarbons by gas chromatography/flame ionization detection (GC/FID) (Ecology 1992)
- USEPA Method 8080: polychlorinated biphenyls (PCBs) by gas chromatography/electron capture detection (GC/ECD) (USEPA 1986)
- USEPA Method 8240: volatile organic compounds (VOCs) by gas chromatography/mass spectrometry (GC/MS)(USEPA, 1986)
- USEPA Method 6010, 7060, and 7421 series: metals by inductively coupled plasma (ICP) atomic emission spectroscopy (USEPA 1986), and graphite furnace atomic absorption spectroscopy (GFAA)

Table 5-1

Objectives for Measurement Data-Chemical Analyses

Variable	Units	Lower Limit of Detection[a]	Accuracy[b]	Precision[b]	Completeness	Method No.[c]	Bottle/Preservative	Maximum Holding Time[d]
Soil								
Petroleum hydrocarbons	mg/kg	Diesel-25[e] Oil-100[e]	±25%	±35%	95%	WTPH-D	8-oz glass bottle; PTFE-lined lid/keep on ice (4°C)	14 days/ 30 days
VOCs	µg/kg	10[e]	±25%	±35%	95%	8240	4-oz glass jar; PTFE-lined lid/keep on ice (4°C); fill completely with no headspace	14 days
PCBs	µg/kg	33-67[e]	±25%	±35%	95%	8080	8-oz glass jar; PTFE-lined lid/keep on ice (4°C)	14 days/ 40 days
Arsenic	mg/kg	1[e]	±25%	±35%	95%	3050/7060	8-oz glass jar; PTFE-lined lid/keep on ice (4°C)	6 months
Chromium	mg/kg	20[e]	±25%	±35%	95%	3050/6010	8-oz glass bottle/keep on ice (4°C)	6 months
Lead	mg/kg	1[e]	±25%	±35%	95%	3050/7421	8-oz glass bottle/keep on ice (4°C)	6 months

[a] Actual limits will depend on matrix interferences.
[b] Accuracy and precision results may deviate from these criteria as identified by the laboratory method reference on a substance-specific basis.
[c] Method numbers and laboratory methods are from USEPA, 1986 (6010, 7421, 7060, 8080, 8240); Ecology, 1992 WTPH-D.
[d] Where two times are given, the first refers to the maximum time from sample collection to extraction, the second to the maximum time before extract analysis.
[e] Dry-weight basis. Actual limits will be higher when corrected for percent moisture.

5.3 Data Reduction, Validation, and Reporting

The laboratory performing sample analyses will be required to submit summary data and QA information to permit independent and conclusive determination of data quality.

5.3.1 Organic Compound Analyses

Laboratory deliverable requirements for VOCs, PCBs, and petroleum hydrocarbon (WTPH-D) analyses will include the information outlined below and in Table 5-2.

- A cover letter for each sample batch will include a summary of any quality control, sample, shipment, or laboratory problems, and will document all internal decisions. Problems will be outlined, and final solutions will be documented. A copy of the signed chain-of-custody form for each batch of samples will be included in the narrative packet.

- Sample concentrations will be reported on standard data sheets in proper units and to the appropriate number of significant figures. For undetected values, the lower limit of detection for each compound will be reported separately for each sample. Dates of sample extraction or preparation and analysis must be included.

- A method blank summary.

- Surrogate percent recovery.

- Matrix spike/matrix spike duplicate (MS/MSD) percent recoveries, spike level, and relative percent difference.

- A list of the detection limits calculated for laboratory instruments for all compounds.

5.3.2 Inorganic Compound Analyses

Laboratory deliverable requirements for inorganic analyses will include the following:

- A cover letter for each sample batch will summarize any quality control, sample, shipment, or laboratory problems for the sample batch and will document all internal decisions. Problems will be outlined, and final solutions will be documented. A copy of the signed chain-of-custody form for each batch of samples will be included.

Table 5-2

Laboratory Deliverables

The following items will be delivered:

- A transmittal letter and case narrative which includes information about receipt of the samples, the analytical results, and any significant problems in any aspect of sample analysis (e.g., deviation from methodologies or quality control parameters)
- Sample analytical results:
  - Soil/sediment results in mg/kg or µg/kg dry-weight
  - Method detection limit for undetected values reported for each analyte on a sample-by-sample basis
  - Date of sample preparation/extraction
  - Date of sample analysis
- Method blank results, including the samples associated with each blank
- Surrogate recovery results for organic analyses, reported as percent recoveries, including actual spike levels
- Duplicate results for inorganic analyses and WTPH-D analyses
- Matrix spike/matrix spike duplicate (MS/MSD) results for organic analyses and matrix spike results for metals and WTPH-D analyses, reported as percent recoveries, including actual spike levels
- Copies of signed chain-of-custody forms

- Sample concentrations will be reported on standard data sheets in proper units and to the appropriate number of significant figures. For undetected values, the lower limit of detection of each element will be reported separately for each sample. Date of sample analysis must be included.
- Matrix spike results.
- Duplicate sample analysis results.
- A method blank summary.
- Laboratory control sample results.
- A list of the detection limits calculated for laboratory instruments.

5.4 Data Assessment Procedures

Accuracy, precision, completeness, representativeness, and comparability are terms used to assess the quality of laboratory data. Routine procedures for measuring precision and accuracy include use of replicate analyses, standard reference materials (SRMs), matrix spikes, and procedural blanks. Replicate matrix spikes and method blanks will be analyzed by the selected laboratories. Additional spikes and replicate analyses may be implemented. The minimum frequencies are as follows:

- Replicate analysis.

  Organics — 5 percent of samples will be analyzed as matrix spike duplicates.

  Metals and WTPH-D — one sample per batch or one sample per matrix per batch, whichever is more frequent, will be analyzed as a laboratory duplicate.

- Matrix spike.

  Organics — one sample per batch will be spiked with selected target analytes and analyzed in duplicate. If fewer than 20 samples are analyzed per batch or matrix within a batch, at least one sample per matrix or batch will be spiked and analyzed in duplicate.

  Metals and WTPH-D — one sample per batch per matrix will be spiked and analyzed.

- Procedural blank.

VOCs — one method blank will be analyzed for each 12-hour shift.

Organics — one method blank will be analyzed for each sample batch extracted.

Metals — one preparation blank per matrix will be analyzed for each sample batch.

All other organic and inorganic analyses — one method blank will be analyzed for each sample batch per method specifications.

- Laboratory control sample (LCS) or standard reference material (SRM).

  Metals — one LCS or SRM will be analyzed per sample batch.

The mean, C, of a series of replicate measurements of concentration, C_i, for a given surrogate compound or analyte will be calculated as:

$$\overline{C} = \frac{1}{n} \sum_{i=1}^{n} C_i$$

where:

n = number of replicate measurements

The estimate of precision of a series of replicate measurements can be expressed as the relative standard deviation, RSD:

$$RSD = \frac{SD}{\overline{C}} \times 100\%$$

where:

SD = standard deviation:

Alternatively, for data sets with a small number of points (e.g., duplicate measurements), the estimate of precision will be expressed as a relative percent difference (RPD):

$$SD = \sqrt{\frac{\sum_{i=1}^{n}(C_i - \overline{C})^2}{(n-1)}}$$

$$RPD = \frac{c_1 - c_2}{\overline{c}} \times 100$$

where:

C_1 = first concentration value or recovery value measured for a variable

C_2 = second concentration value or recovery value measured for a variable

Accuracy as measured by matrix spike or laboratory control sample results will be calculated as:

$$Recovery = \frac{\Delta C}{C_s} \times 100$$

where:

ΔC = the measured concentration increase due to spiking (relative to the unspiked portion)

C_s = the known concentration increase in the spike

Accuracy can also be measured by analysis of standard reference material (SRM) or regional reference material and will be determined by comparing the measured value with the 95 percent confidence interval established for each analyte.

Completeness of each set of data is calculated by dividing the number of valid measurements actually obtained by the number of valid measurements that were planned.

REFERENCES

United States Environmental Protection Agency. 1983. *Methods for Chemical Analysis of Water and Wastes*. USEPA Environmental Monitoring and Support Laboratory, Office of Research and Development, Cincinnati, OH.

United States Environmental Protection Agency. November 1986. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. SW-846, Third Edition.

May 19, 1994
Project 0141-037.63

Mr. Harold Ruppert
Weyerhaeuser Company.
101 East Marine View Drive
Everett, Washington 98201

Re: Proposed Phase 2 Assessment of Area 14
Everett West Site

Dear Harold:

At your request, EMCON Northwest, Inc. (EMCON), is pleased to present this proposed scope of work for Phase 2 Assessment activities to be performed at Area 14 on the Weyerhaeuser Everett West Site (Figure 1).

BACKGROUND

EMCON submitted a report entitled, *Draft Interim Report - Preliminary Site Assessment for Areas 11 through 18 - Weyerhaeuser Everett West Site*, to Weyerhaeuser in September 1993. The report included the findings of preliminary assessment activities pertaining to Area 14.

Laboratory parameters associated with soil samples collected from Area 14 during preliminary West Site Assessment activities included total petroleum hydrocarbons (TPH), polychlorinated biphenyl (PCB), metals (As, Cr, Hg, and Pb), and pH. TPH as gasoline was not detected; TPH as diesel (TPH-D) and TPH as oil (TPH-O) were detected above 200 milligrams per kilogram (mg/kg) in samples collected from three locations; PCBs were not detected at elevated levels; chromium and lead were detected above 10 ppm in samples collected from three locations; and pH was 12.5 at one location.

SCOPE OF WORK

EMCON's scope of work was developed based on the findings of preliminary assessment activities pertaining to Area 14. The following tasks describe the proposed scope of work:

Task 1 — Excavation Oversight and Soil Sampling

As estimated, 18 test pits will be excavated using a track-mounted backhoe by Wilder Construction of Everett, Washington. It is our understanding that Weyerhaeuser will contract Wilder Construction directly.

Eight test pits will be located around the perimeter of Area 14, and ten test pits will be located to delineate areas where impacted soil has been previously identified. The proposed test pit locations are shown on Figure 1.

The vertical and horizontal limits of each test pit will be determined based on field screening methods and observations made at the time of excavating. Standard EMCON field methods associated with soil sampling activities will be followed. No soil samples will be collected below the depth where groundwater is encountered. A summary of the proposed sampling and analyses rationale is presented in Table 1.

Task 2 — Laboratory Testing of Soil Samples

Approximately 18 soil samples will be submitted to Weyerhaeuser Analytical and Testing Services, located in Federal Way, Washington, for chemical analyses. Each soil sample will be analyzed for TPH-D and TPH-O by Ecology Methods WTPH-D (extended). Select soil samples will be analyzed for metals (As, Cr, Hg, and Pb) and pH. EMCON will coordinate laboratory deliverables.

Task 3 — Reporting

Subsequent to the completion of field activities and review of the soil sample laboratory results, a draft letter report will be prepared and submitted to Weyerhaeuser. The letter report will describe and summarize field activities, observations, and results.

SCHEDULE

EMCON is prepared to proceed with this proposed scope of work immediately after receiving written authorization from Weyerhaeuser. If you approve of this proposal, please sign the attached contract supplement 94-19, return the original copy of the

contract letter, and keep the enclosed copy for your files. If you have any questions, please call us at (206) 485-5000.

Sincerely,

EMCON Northwest, Inc.

John H. Guenther
Project Manager

Steven R. Sagstad, R.G., C.P.G.
Director of Geology Services

Enclosures: Figure 1 - Area 14 Proposed Sample Locations
Table 1 - Summary of Sampling and Analyses Rationale

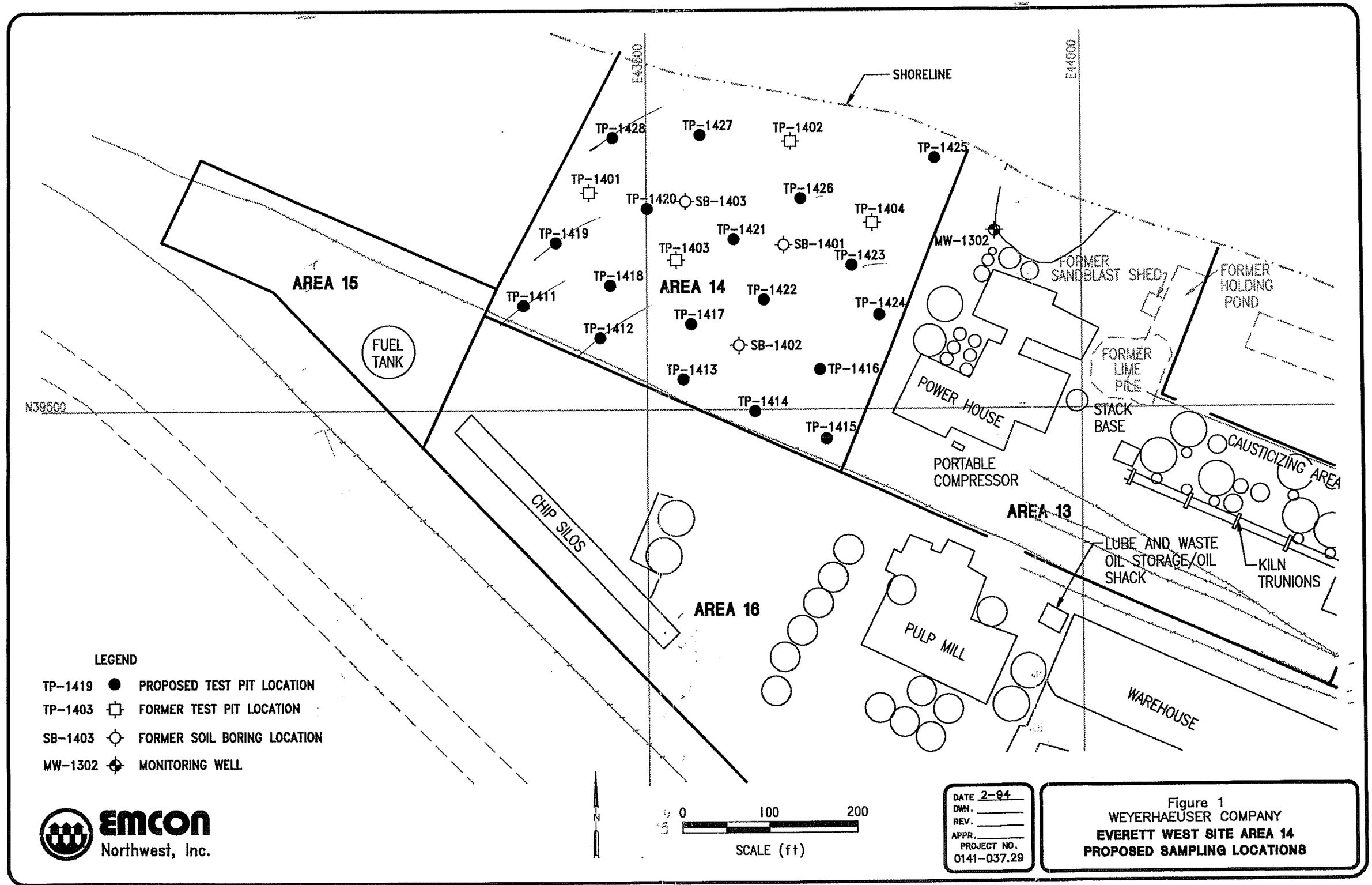
cc: Kathy McPherson, EMCON Northwest

B/WEY/AREA-L.518-94/jah:1

Table 1

Summary of Sampling and Analyses Rationale
Weyerhaeuser Everett West Site
Area 14

Sample Location	Rationale	Analyses
TP-1411	Background TPH	WTPH-D, WTPH-H
TP-1412	Background TPH	WTPH-D, WTPH-H
TP-1413	Delineation of SB-1402	WTPH-D, WTPH-H
TP-1414	Delineation of SB-1402	WTPH-D, WTPH-H
TP-1415	Background TPH	WTPH-D, WTPH-H
TP-1416	Delineation of SB-1402	WTPH-D, WTPH-H
TP-1417	Delineation of SB-1402	WTPH-D, WTPH-H
TP-1418	Background TPH	WTPH-D, WTPH-H
TP-1419	Delineation of TP-1401	WTPH-D, WTPH-H
TP-1420	Delineation of TP-1401	WTPH-D, WTPH-H
TP-1421	Delineation of SB-1401	WTPH-D, WTPH-H
TP-1422	Delineation of SB-1401 and SB-1402	WTPH-D, WTPH-H
TP-1423	Delineation of SB-1401	WTPH-D, WTPH-H, metals
TP-1424	Background TPH	WTPH-D, WTPH-H
TP-1425	Background TPH and Delineation of TP-1402	WTPH-D, WTPH-H, ph
TP-1426	Delineation of SB-1401	WTPH-D, WTPH-H, ph, metals
TP-1427	Background TPH and Delineation of TPH-1402	WTPH-D, WTPH-H
TP-1428	Delineation of TP-1401	WTPH-D, WTPH-H



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