UNDERGROUND STORAGE TANK DECOMMISSIONING AND ASSESSMENT REPORT

LONGVIEW ALUMINUM, L.L.C.
4029 INDUSTRIAL WAY
LONGVIEW, WASHINGTON

June 18, 2004

Prepared by:

EVREN NORTHWEST, INC.
ENVIRONMENTAL AND NATURAL
RESOURCE CONSULTING
P.O. Box 80747
Portland, Oregon 97280-1747

Project Number: 314-04001-01

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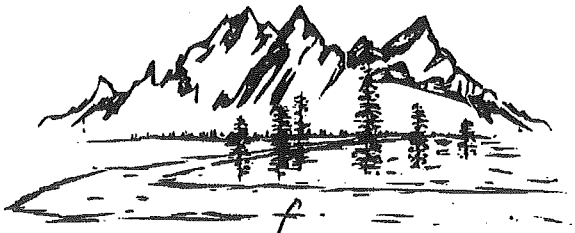

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Project Number: 314-04001-01

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TABLES AND FIGURES

ACRONYMS AND ABBREVIATIONS

BTEX	benzene, toluene, ethylbenzene and total xylenes
ECOLOGY	Washington Department of Ecology
EDB	1,2-dibromoethane
EDC	1,2-dichloroethane
EPA	United States Environmental Protection Agency
ESL	Environmental Services Laboratory, Inc.
LUST	leaking underground storage tank
µg/L	micrograms/Liter
mg/Kg	milligrams/Kilogram
MTBE	methyl-t-butyl ether
NA	not analyzed, not applicable
ND	Not detected at or above the method detection limit
NWTPH-Dx	Northwest analytical method for diesel-range extended petroleum impacts
NWTPH-Gx	Northwest analytical method for gasoline-range petroleum impacts
NWTPH-HCID	Northwest analytical method for hydrocarbon identification
OVM	organic vapor monitor
TPH	Total Petroleum Hydrocarbons
UST	underground storage tank

EXECUTIVE SUMMARY

At the request of Longview Aluminum, EVREN Northwest, Inc. decommissioned a 10,000-gallon capacity underground storage tank at the Longview Aluminum facility located at 4029 Industrial Way, Longview, Washington. The underground storage tank at the site historically was used to store gasoline product for onsite equipment refueling. The tank was located under concrete pavement approximately midway between the north and south plant areas, in the approximate center of the site. The refueling island is located approximately 25-feet north of the former tank location.

The decommissioning project was performed on May 4 and 5, 2004, using national standards of practice. The tank was inerted, pumped, and cleaned before being removed from the ground. Product lines and dispensers were also removed.

Sampling was performed to assess soil and ground water conditions, as required by the Washington Department of Ecology. Samples were collected under the ends and middle of the tank, midway along the product lines, and under two of the fuel dispensers. In addition, ground water recharged into the underground storage tank excavation; therefore soil/ground-water interface samples were collected at each end of the tank, and a sample of pit water recharge was collected for analysis.

No gasoline-range petroleum hydrocarbons were detected in soils associated with the decommissioned gasoline tank system. However, gasoline-range petroleum hydrocarbons at 50,000-micrograms per liter and several petroleum constituents (benzene, toluene, ethylbenzene, and xylenes) were detected in the reconnaissance pit water recharge sample, at concentrations exceeding Washington's Model Toxics Control Act Method A cleanup standards. After backfilling the tank excavation, ground water at the former tank location was resampled using a driven temporary well point for better quality control. No petroleum impacts exceeding MTCA Method A cleanup standards were present in this second reconnaissance ground water sample. Since a ground-water sample collected from a driven temporary well point is considered a more representative, higher quality sample than a water sample collected from a tank excavation where the tank has just been removed, the ground-water analytical data indicates that there are no GRO or gasoline constituent impacts to groundwater at the former tank location.

Diesel-range organics were detected in soil samples collected under the fuel dispensers at up to 76,000-mg/kg, exceeding Model Toxics Control Act Method A cleanup standards. Diesel-range organic impacts were present at two (2) feet depth below ground surface at that location and extend to the water table at nine (9) feet depth, indicating a possible shallow source for at least some of the release (probably the fuel dispenser or associated product lines). Reportedly one or more underground storage tanks were historically located in the immediate vicinity of the dispenser island.

A Phase II Investigation is recommended to characterize and delineate soil and ground water impacts and to evaluate remedial options for the site.

1.0 INTRODUCTION

At the request of Longview Aluminum, EVREN Northwest, Inc. (ENW), has prepared this Underground Storage Tank (UST) Decommissioning and Assessment Report for the Longview Aluminum facility located at 4029 Industrial Way, Longview, Washington (subject site).

1.1 Purpose

The purpose of the project was to decommission the 10,000-gallon UST and associated fuel lines and dispensers in accordance with State of Washington UST regulations, and to assess the soil and ground water adjacent to the tank system for environmental impacts.

1.2 Scope

The scope of work for the project was as follows:

- Obtain permits and submit appropriate notifications to regulatory agencies for UST decommissioning;
- Decommission the UST by removal;
- Collect soil and ground water samples to assess for petroleum impacts.
- Submit soil and reconnaissance groundwater samples to an independent laboratory for chemical analyses by selected analytical methods;
- Evaluate analytical results with respect to the Washington Model Toxics Control Act and Washington Department of Ecology (ECOLOGY) guidance documents.
- Prepare a report to ECOLOGY documenting findings and analytical data, and presenting conclusions and recommendations for the site.
- Restore the site to original conditions.

The field activities described in this report were performed in May, 2004.

2.0 SITE SETTING

2.1 Description and Location

The subject property is located in the riverfront area of Longview, Washington, at 4029 Industrial Way (Figures 1 and 2). The site is also accessed from 38th Avenue, which trends southwestward into the approximate center of the property. The property was historically operated as an aluminum smelting facility. Numerous buildings are present on the property, most of which are long, narrow buildings aligned northeast-southwest. The Columbia River borders the south side of the property, where a ship unloading facility can be found.

The gasoline tank decommissioned for this project was located within this intermediate area between the north and south plants, in the approximate center of the property.

2.2 Site History

All the smelter's production operations were shutdown in 2001, as a result of a filing for Chapter 11 bankruptcy protection and the facility is in the process of being sold.

Reportedly, historic USTs were located near the present refueling dispenser island, and were removed during an UST upgrade in the 1980's. The subject gasoline UST was present in the utility area between the north and south plants.

2.3 Topography

The US Geological Survey Kelso 7.5-minute topographic map shows that the site is located at an approximate elevation of 10 feet above mean sea level. The topography slopes very gently to the south and southwest, toward the Columbia River.

2.4 Geologic Setting

The site is located in the Columbia River Valley through the Coast Range of Oregon and Washington. The Coast Range is composed of primarily Tertiary sedimentary rocks originally deposited in a forearc environment, but also with local areas of volcanic seafloor accreted to the Pacific margin.

The Columbia River has carved a valley through the Coast Range and deposited sands and gravels in its river bed, in its flood plain, and in bars and islands. The Longview Aluminum plant is located on Quaternary alluvium consisting of medium sand with less than 5% fines adjacent to the river. Fill and dredge materials may have been locally placed as the plant was developed.

2.5 Hydrogeologic Setting

Ground water was encountered at approximately 8-feet depth under the pavement surface. Ground-water flows toward the Columbia River in this vicinity; however ground-water flow

direction in this area is also influenced by both the stage of the river and diurnal tidal fluctuations. Therefore the indicated flow direction may have temporary reversals.

The site is supplied water by the City of Longview Water Department, which obtains water from the Cowlitz River. However, there are several water wells within the vicinity of the subject site sited on the alluvium adjacent to the river. All of the water wells draw water from substantial depths (over 200-feet depth). Representative well logs are included in Appendix A.

3.0 SITE INVESTIGATION

All information generated for this project was developed with the following specific objectives:

- To conduct an adequate and cost-effective tank decommissioning and to provide assessment information that can be used by the Client in future planning for the site.
- To perform the investigation in a safe manner for technical personnel on-site, resulting in minimal, if any, impacts to the property.
- To document information and data generated under this statement of work that is valid for the intended use.

The following sections describe the various fieldwork activities.

3.1 Utility Locate

The public utility locate service marked all public and utility-owned subsurface features of interest, in order to prevent inadvertent breakage/disruption of services and to protect technical workers involved in the decommissioning project.

3.2 Regulatory Agencies

Notice of UST decommissioning was provided to ECOLOGY, with all necessary forms. The 30-day notice requirement was waived for this project.

After completion of the decommissioning and review of the analytical data, a report of a release at the site was submitted to ECOLOGY's Tanks Section within the mandatory 24-hour requirement. All permits and notices are included in Appendix B of this document.

3.3 Soil Borings

Soil borings were drilled with a stainless steel hand auger (or push probe) to collect assessment samples. The drilling tools were decontaminated before and after drilling each boring with a sequential wash of trisodium phosphate solution, tap water, and final distilled water rinse.

The hand auger was advanced in approximate six (6) inch advances before retrieving the recovered soil from the three (3) inch diameter sample barrel.

The push probe had a sample barrel that accommodated one-inch-diameter CAB (cellulose acetyl butylate) sampling sleeves. The push-probe was driven with impacts from a slide hammer to advance the sampler in sequences of two-foot penetrations. A clean CAB sleeve was used for each two-foot sampling drive.

Soil cores were logged by a staff geologist (Appendix C).

3.3.1 Soil Screening and Sampling

Samples of soil were visually and olfactorily inspected for the presence of petroleum impacts. Selected samples were placed in a Ziploc plastic bag, broken up, and the headspace qualitatively monitored with an organic vapor monitor (OVM) or with a sheen test.

Samples collected for laboratory analysis from the hand auger were transferred with fresh latex gloves into sample containers provided by Environmental Services Laboratory, Inc. (ESL), of Longview, Washington. The containers were filled to minimize headspace before sealing.

Soil cores collected with manually driven GeoProbe® sampling were cut cross-wise to isolate the selected soil interval for analysis with minimal headspace. The ends of the sleeves were then lined with Teflon tape and capped with vinyl end caps.

All samples were assigned distinctive designations that indicated their origin location and depth. The samples were immediately placed in cooled storage until they were delivered to the laboratory (Environmental Services Laboratory or Friedman & Bruya, Inc.) under chain-of-custody protocols. All laboratory reports are included in Appendix D.

3.3.2 Reconnaissance Ground Water Sampling

Reconnaissance ground water samples were collected with temporary well-points. The well point was subjected to the triple rinse procedure, described above, before and after collecting each sample.

The excavation water sample was collected by inserting polyethylene tubing into the temporary well point placed in the bottom of the excavation. The tubing was then connected to a peristaltic pump. The temporary well point was purged of at least one well volume prior to collecting the water sample.

A second reconnaissance water sample was collected at the same location by driving a temporary well point assembly made by Geoprobe® to below the top of the water table, and then pulling back the casing to expose the well screen opposite the top of the water table. The temporary well point was purged of at least one well volume before collecting the water sample.

The water samples collected for volatile petroleum hydrocarbons were collected in VOA-vials preserved with aliquots of hydrochloric acid, prepared by the laboratory. The sample containers were filled completely and immediately sealed so as to eliminate headspace. An additional water sample was collected for analysis of dissolved lead. The dissolved lead water sample was field-filtered through a 0.45-micron filter appropriate for the purpose prior to collection in a Nalgene bottle prepared by ESL with an aliquot of nitric acid. All samples were immediately placed in cooled storage until delivered to the laboratory. Chain-of-custody protocols were implemented.

3.4 Waste Management and Disposal

No petroleum-impacted soil was removed from the property. The tank was taken to Metro Metals in Portland, Oregon for recycling. Tank fluids and rinsate were pumped by Oil Re-

Refining Company (ORRCO) for off-site recycling. All waste receipts are included in Appendix E.

The excavations were backfilled with clean fill and the pavement was prepped for future restoration at the end of the project.

3.5 Analytical Methods

All soil samples were analyzed by Northwest analytical method NWTPH-HCID (for hydrocarbon identification). If petroleum impacts were detected, the sample was quantified by analytical method NWTPH-Gx to quantify gasoline-range petroleum impacts or NWTPH-Dx to quantify diesel and oil range petroleum impacts. Additional analyses were requested for petroleum constituents to further characterize the releases identified by the assessment. Analytical methods are described in the table below and the laboratory analytical reports are attached as Appendix D.

Table 3-1. Analytical Methods

Analytical Method	Constituents	Soil	Ground Water
NWTPH-HCID	Total Petroleum Hydrocarbons – hydrocarbon identification	All assessment soil samples	Yes
NWTPH-Gx	Total Petroleum Hydrocarbons (TPH)– Gasoline-range quantification	If indicated by results of NWTPH-HCID	If indicated by results of NWTPH-HCID
NWTPH-Dx	Total Petroleum Hydrocarbons (TPH)– Diesel-range extended quantification	If indicated by results of NWTPH-HCID	If indicated by results of NWTPH-HCID
EPA 5032\8260B1	Volatile organic compounds	Not analyzed	Reconnaissance ground water samples
8270 SIM	Naphthalenes and methylnaphthalenes	Not analyzed	Reconnaissance ground water samples
Lead (EPA 6010B/200.7)	Lead	Not analyzed	Selected reconnaissance ground water sample

3.6 Model Toxics Control Act Regulation

The State of Washington Model Toxics Control Act (MTCA) Regulations (Chapter 173-340 WAC) sets numeric cleanup levels for "routine cleanup actions". "Routine cleanup actions" are defined as those sites where: 1) cleanup standards for each hazardous substance are obvious and undisputed, allowing for an adequate margin of safety for protection of human health and the environment; 2) does not require preparation of an environmental impact statement, and 3) qualifies for an exclusion from conducting a terrestrial ecological evaluation. Cleanup levels are defined as the concentration of a hazardous substance in soil, water, air, or sediment that is determined to be protective of human health and the environment under specified exposure conditions.

MTCA Method A Soil Cleanup Levels listed below were established for routine cleanup actions in areas of unrestricted land use. Unrestricted land use includes residential use, and therefore the concentrations are the most stringent cleanup levels for sites undergoing routine cleanup actions.

Table 3-2. MTCA Method A Cleanup Level for Soils in Areas of Unrestricted Land Use

Petroleum Hydrocarbons Range	MTCA Method A Cleanup Level for Unrestricted Land Use
Gasoline-range	100-mg/Kg for gasoline mixtures without benzene and the total of ethylbenzene, toluene, and xylene are less than 1% of the gasoline mixture. 30 mg/Kg for all other gasoline mixtures
Diesel-range	2,000-mg/Kg
Heavy Oil-range	2,000-mg/Kg

4.0 DECOMMISSIONING

Decommissioning of the UST system was carried out under the supervision of an ECOLOGY-licensed UST Decommissioning Supervisor (Lynn Green), and based on the procedures referenced in the following documents:

1. American Petroleum Institute Recommended Practice 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks";
2. American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks";

The concrete over the tank was thick (over 8-inches), requiring jack-hammering as well as ripping with the excavator's bucket. The product lines were disconnected and drained using suction from the Oil Re-Recovery (ORRCO) truck. The tank was then pumped by ORRCO. ORRCO also pressure washed the interior of the tank and removed the rinsate.

Approximately 200-pounds of dry ice were then placed in the tank. An organic vapor monitor-explosivity meter was used to verify non-explosive conditions within the tank. Once verified safe, the soils overlying the tank were excavated. The tank was equipped with deadman straps, to control buoyancy. The straps were cut to free the tank for lifting.

Because of the size of the UST, a crane was brought to the site to lift the tank from the excavation. After removing the tank from the excavation, the tank was placed on the trailer, stabilized against further movement, and marked "Inerted" and "Not for Reuse."

Two (2) of the dispensers were also dismantled and removed from the site. All metal parts were taken with the tank to Metro Metals for recycling. A photo log is presented in Appendix F.

5.0 ASSESSMENT

After completing the tank removal, assessment activities were performed under the supervision of a Washington-licensed Site Assessor (Lynn Green).

5.1 Soil Assessment

5.1.1 Analytical Data for Soils

Soil samples were taken from the ends and center of the bottom of the tank excavation. Soil samples were also collected along the product lines, and from under each dispenser. In addition, since groundwater recharged into the excavation after being pumped out, soil-groundwater interface samples were collected at the ends of the tank, as indicated in the Table 5-1, below. Locations are indicated on Figure 3.

Table 5-1. Soil Assessment Analytical Results

Location	Depth (feet)	Date	Sample Location	NWTPH-Gx (mg/Kg) GRO	NWTPH-Dx (mg/Kg) DRO	NWTPH-Dx (mg/Kg) RRO	NWTPH-Dx (mg/Kg) DRO	NWTPH-Dx (mg/Kg) RRO	NWTPH-Gx (mg/Kg) GRO
MTCA Method A Cleanup Standards (unrestricted land use)[1]				**100**	**2,000**	**2,000**	**2,000**	**2,000**	**100**
B3-2(D1)	2	5/5/2004	Under end dispenser	NP	P	P	64	140	—
B2-2(D2)	2	5/5/2004	Under middle dispenser	NP	P	NP	76,000	ND	—
B1-4	4	5/5/2004	Midway along product lines	NP	NP	NP	—	—	—
EX3-S-11	11	5/5/2004	South end of UST excavation	NP	NP	NP	—	—	—
EX2-MID-11	11	5/5/2004	Center of UST excavation	NP	NP	NP	—	—	—
EX1-N-11	11	5/5/2004	North end of UST excavation	NP	NP	NP	—	—	—
IF-N-8	8	5/5/2004	North end of UST excavation, at apparent water/soil interface	NP	NP	NP	—	—	—
IF-S-1-8	8	5/5/2004	South end of UST excavation, at apparent water/soil interface	NP	NP	P	—	—	—
Further Assessment (26-MY-04)									
B4-D2-2(5)	5	5/26/2004	Under middle dispenser	—	—	—	70	—	—
B4-D2-8(9)	9	5/26/2004	Under middle dispenser	—	—	—	5,500	—	—

Notes

[1] The Washington MTCA Method A cleanup standards for gasoline-range petroleum hydrocarbons is 100-mg/Kg, except when hazardous petroleum constituents are present, then it is 30-mg/Kg

GRO: gasoline-range organics
DRO: diesel-range organics
RRO: residual-range organics
mg/Kg: milligram per kilogram
ND: not detected at or above the method reporting limit
P: present
NP: not present
—: not analyzed

The analytical data shows that no gasoline-range organics (GRO) were detected in soil adjacent to the tank, fuel lines, or dispensers. However, diesel-range organics (DRO) were detected under the middle dispenser, at concentrations exceeding the Washington MTCA Method A cleanup standards. Reportedly, historic USTs were located in the vicinity of the fuel dispensers, adjacent to the nearby structure, but were removed during site upgrades.

5.1.2 Discussion of Analytical Data for Soil

The analytical data for soil show that DRO impacts are present at the former dispenser island location, at up to 76,000-mg/kg DRO at two (2) feet below grade. Since diesel impacts are present at a shallow depth, the source of the shallow diesel impacts is probably the fuel

dispensers or associated shallow product lines. The DRO impacts extend to 9-feet depth, at the apparent water table.

The lateral extent of the DRO impacts has not been determined. MTCA requires that petroleum impacts to soil exceeding Method A standards must be addressed by removal, implementation of other remedial technologies, or left in place if it can be demonstrated that the impacts do not present a potential hazard to potential human receptors or impact the environment. To evaluate potential hazards to human receptors and the environment, additional characterization and delineation of impacts would be required.

5.1.2.1 Forensic Analysis

Friedman & Bruya, Inc., was requested to perform forensic analysis on the chromatogram generated for the analysis of Sample B4-D2-8(9). The analysis indicated that the sample was impacted with diesel fuel #2 or heating oil. The chromatogram indicated little or no biological degradation. Based on the site conditions described to them, Friedman & Bruya, Inc., estimated that the DRO detected in the sample is consistent with releases that occurred within the last ten (10) years. The Friedman & Bruya, Inc., report and chromatograms used for the analysis are included in Appendix D.

5.2 Groundwater Assessment

5.2.1 Analytical Data for Ground Water

As required by MTCA, groundwater recharge into the UST excavation was sampled for petroleum hydrocarbons and associated constituent compounds. Sample PW-1 was collected from the groundwater recharge into the excavation. Sample PW-2 was collected from the same location, after backfill had been placed in the excavation, and using a driven temporary well point. PW-2, along with soil samples B4-D2-2(5) and B4-D2-8(9), were collected on May 26, 2004, and analyzed by Friedman & Bruya, Inc. of Seattle, Washington. Table 5-2 summarizes the analytical results for the two samples.

Table 5-2. Analytical Data for Reconnaissance Groundwater Samples

Contaminant of Potential Concern	PW-1 (µg/L)	PW-2 (µg/L)	MRL (µg/L)	MTCA Method A (µg/L)
GRO	**5.00E+04**	ND	2.50E+03	800
DRO	—	ND	—	500
RRO	—	ND	5.00E+02	
Benzene	**4.80E+03**	2.00E+00	5.00E+02	5.00E+00
Toluene	**7.50E+03**	ND	5.00E+02	1.00E+03
Ethylbenzene	**9.00E+02**	ND	5.00E+02	7.00E+02
Xylenes	**4.60E+03**	ND	1.00E+02	1.00E+03
1,2-Dichloroethane (EDC)	ND	ND	5.00E+02	5.00E+00
1,2-Dibromoethane (EDB)	ND	ND	5.00E+02	1.00E-02
Methyl-tert-butyl ether	ND	—	1.00E+02	2.00E+01
Naphthalene	7.30E+01	ND	1.00E-01	1.60E+02
1-Methylnaphthalene	1.30E+01	—	1.00E-01	1.60E+02
2-Methylnaphthalene	2.10E+01	—	1.00E-01	1.60E+02
Lead	—	ND	1.00E+00	1.50E+01

MRL = Laboratory Reporting Limit

ND = Not detected above analytical method detection limits

GRO were detected at 5 x 10^4-µg/L (50,000-micrograms per liter, equivalent to 50-milligrams per liter) in the first water sample collected from recharge into the tank excavation (PW-1), exceeding the MTCA Method A standard. In addition to GRO, benzene, toluene, ethylbenzene, and xylenes (BTEX compounds) were all detected above their respective MTCA Method A cleanup standards. Lead, EDB, EDC, and MTBE were not detected above the analytical method detection limit. Naphthalene and the methylnaphthalenes were detected but were below MTCA Method A standards.

No GRO was detected in the second sample of pit water collected from the former UST location (PW-2 sample). Benzene was present at 2-µg/L, below the MTCA Method A standard. No other petroleum constituents were detected above the analytical method detection limit in Sample PW-2.

5.2.2 Discussion of Ground Water Findings

The ground-water samples collected for this assessment were not collected from permanent, developed monitoring wells, and are considered reconnaissance ground-water samples. It is important to note that reconnaissance water samples may contain particulates on which petroleum constituents can be adsorbed. Therefore the analytical data for reconnaissance samples reflect both dissolved and adsorbed constituents, and may exceed actual dissolved ground water concentrations. The reconnaissance water samples should therefore be considered qualitative and not reflective of actual ground-water quality, and are used only as a conservative indication of potential impacts.

Sample PW-1, collected from recharge into the tank excavation, contained petroleum impacts above MTCA Method A cleanup standards. However, when resampled using the push probe temporary well point, all ground-water impacts were below the Method A cleanup standards.

Since a ground-water sample collected from a driven temporary well point is considered a more representative, higher quality sample than a water sample collected from a tank excavation where the tank has just been removed, the ground-water analytical data indicates that there are no GRO or gasoline constituent impacts to groundwater at the former tank location.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The 10,000-gallon capacity gasoline UST was decommissioned by removal according to national standards of practice. Assessment soil samples collected adjacent to the tank, product lines, and dispenser islands did not contain GRO impacts above analytical method detection limits. A reconnaissance ground-water sample collected from recharge into the tank excavation contained GRO and BTEX impacts exceeding MTCA Method A cleanup standards. However, resampling of groundwater at the former tank location with a driven temporary well point demonstrated that no GRO or gasoline constituent impacts were present above MTCA Method A cleanup standards.

DRO impacts were detected at the former fuel dispenser location at concentrations exceeding MTCA Method A cleanup standards. The DRO impacts are present as shallow as two (2) feet below ground surface and may extend to the ground water table at that location.

Additional characterization and delineation will be required to determine an effective approach to addressing the diesel-range petroleum release at the site.

6.2 Recommendations

ENW recommends that a Phase II Investigation should be performed at the site to further characterize and delineate the petroleum impacts.

7.0 LIMITATIONS

The scope of this report is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

The focus of the site closure does not extend to the presence of the following conditions unless they were the express concerns of contacted personnel, report and literature authors or the work scope.

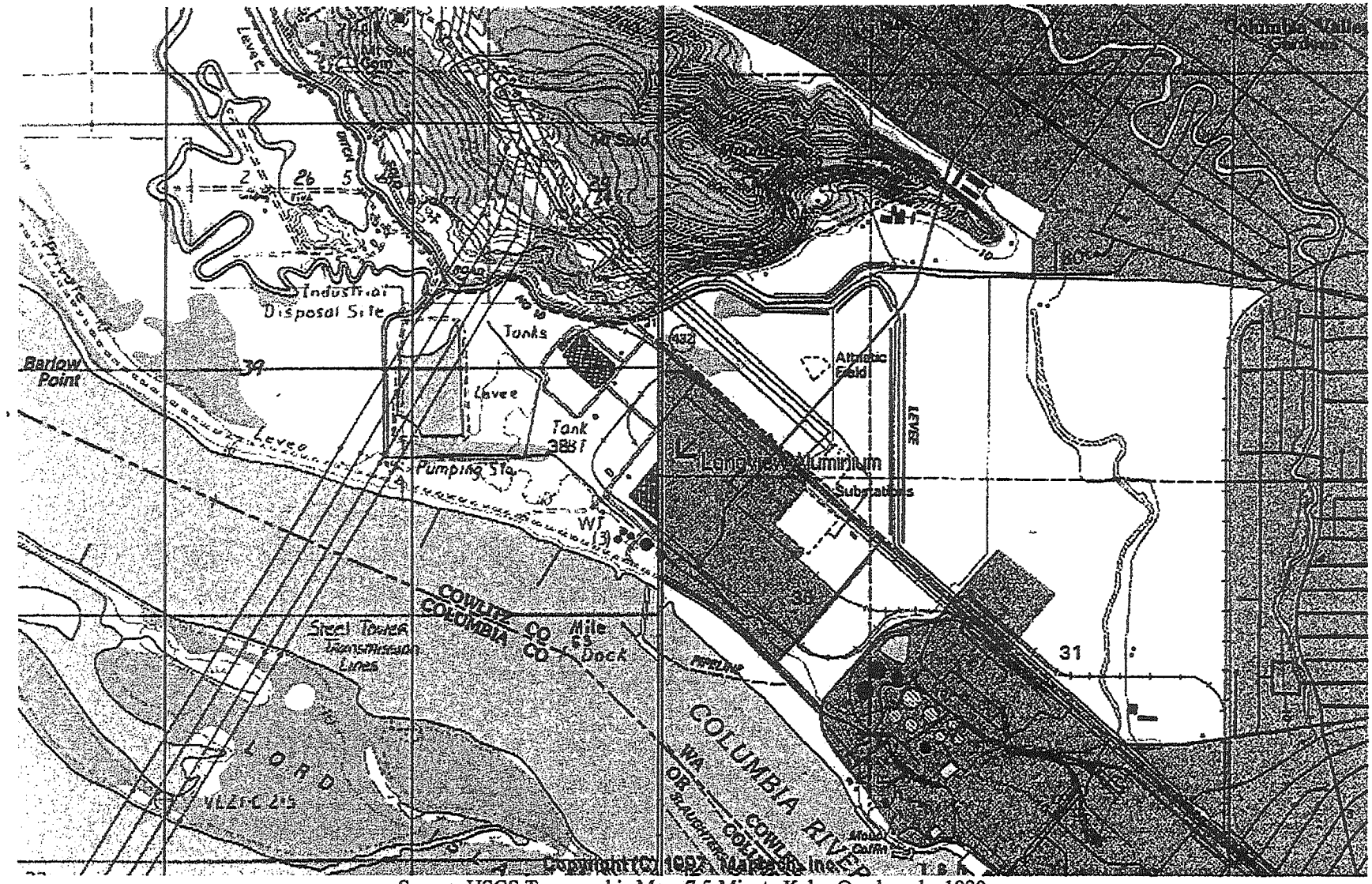
1. Naturally occurring toxic or hazardous substances in the subsurface soils, geology and water,
2. Toxicity of substances common in current habitable environments, such as stored chemicals, products, building materials and consumables,
3. Contaminants or contaminant concentrations that are not a concern now but may be under future regulatory standards,
4. Unpredictable events that may occur after our site visit, such as illegal dumping or accidental spillage.

There is no practice that is thorough enough to absolutely identify the presence of all hazardous substances that may be present at a given site. ENW's investigation has been focused only on the potential for contamination that was specifically identified in the scope of work. Therefore, if contamination other than that specifically mentioned is present and not identified as part of a limited scope of work, ENW's environmental investigation shall not be construed as a guaranteed absence of such materials. ENW has endeavored to collect representative analytical samples for the locations and depths indicated in this report. However, no sampling program can thoroughly identify all variations in contaminant distribution.

We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client.

ENW performed this study under a limited scope of services per our agreement. It is possible, despite the use of reasonable care and interpretation, that ENW may have failed to identify regulation violations related to the presence of hazardous substances other than those specifically mentioned at the closure site. ENW assumes no responsibility for conditions that we did not specifically evaluate or conditions that were not generally recognized as environmentally unacceptable at the time this report was prepared.

FIGURES



Source: USGS Topographic Map, 7.5-Minute Kelso Quadrangle, 1990

EVREN NORTHWEST, INC. ENVIRONMENTAL AND NATURAL RESOURCE CONSULTING	Date Drawn: 6/21/2004 CAD File Name: 290-04005-01 Drawn By: LDG Approved By: NMW	**Longview Aluminium** **4029 Industrial Way** **Longview, Washington**	**Site Vicinity Map**	Project No. 314-04001-01 Figure No. **1**

EVREN Northwest, Inc.

DRILL LOG

PROJECT: Longview Aluminum		PROJECT NO.: 314-04001-01	BORING NO.: B4-D2
SITE: Longview Aluminum Gasoline UST area	BEGUN: 5/26/04	COMPLETED: 5/26/04	HOLE SIZE: 1.5
COORDINATES	DEPTH GROUND WATER / DATE SL	STATIC LEVEL	FIRST WATER: 9
DRILLER: EVREN Northwest	CORE RECOVERY (%)	# SAMPLES	# CORE BOXES
DRILL MAKE AND MODEL	LOGGED BY: Bournay		

GROUND ELEVATION: ≅10 ft MSL

ANGLE FROM HORIZ.:

DEPTH TOP OF ROCK:

DEPTH BOTTOM OF HOLE: 9

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA: SAMPLE NO.	SAMPLE TYPE	CORE RECOVERY	MW Const./ Completion	PID/OVM	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
0			Open air below dispenser						
2.5			Sand with silt, SP-SM, greenish cast, damp, petroleum odor.						Increasing discoloration and odor with depth
5				B4-D2-3(5)	push				Petroleum odor
7.5			Sand with silt, wet, petroleum odor, green	B4-D2-8(9)	push				
10			Bottom of Boring 9 feet						
12.5									
15									
17.5									

APPENDIX D LABORATORY DATA

D-1 SOIL DATA

Environmental Services Laboratory, Inc.

E S L

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May 21, 2004

Lynn Green
EVREN Northwest
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8985 SW Washington St
Portland, OR 97280-1747

TEL: (503) 849-5895
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RE: 314-04001/Longview

Order No.: 0405057

Dear Lynn Green:

Environmental Services Laboratory received 12 samples on 5/6/04 for the analyses presented in the following report.

There were no analytical problems encountered and all analytical data met requirements established under NELAC protocol or laboratory specifications except where noted in a Case Narrative. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety, without the written approval of the laboratory. The following checked data sections are included in this report.

✓Base Sample Report ✓Method Blank Report ✓Sample Duplicate Report ✓Matrix Spike/Matrix Spike Duplicate Report ✓Laboratory Control Spike/Spike Duplicate Report ✓Continuing Calibration Verification Report __Initial Calibration Verification Report

If you have any questions regarding these tests results, please feel free to call.

Project Manager

Keith Hunter
Technical Review

Environmental Services Laboratory

Date: *21-May-04*

CLIENT:	EVREN Northwest	**Client Sample ID:**	IF-S-1-8
Lab Order:	0405057	**Tag Number:**	
Project:	314-04001/Longview	**Collection Date:**	5/5/04
Lab ID:	0405057-01A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
HCID SOIL		**EPA 8015**		**(3550B)**		Analyst: **bvd**
Diesel	ND	53		mg/Kg-dry	1	5/10/04
Gasoline	ND	21		mg/Kg-dry	1	5/10/04
Hydraulic Oil	ND	110		mg/Kg-dry	1	5/10/04
Jet Fuel	ND	53		mg/Kg-dry	1	5/10/04
Kerosene	ND	53		mg/Kg-dry	1	5/10/04
Lube Oil	ND	110		mg/Kg-dry	1	5/10/04
Mineral Spirits/Stoddard Solvent	ND	21		mg/Kg-dry	1	5/10/04
Motor Oil	ND	110		mg/Kg-dry	1	5/10/04
Naptha	ND	21		mg/Kg-dry	1	5/10/04
Oil	ND	110		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Diesel range)	ND	53		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Gas range)	ND	21		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Oil range	ND	110		mg/Kg-dry	1	5/10/04
Surr: O-Terphenyl	103	66.8-129		%REC	1	5/10/04
PERCENT MOISTURE		**SM 2540**				Analyst: **bvd**
% Moisture	6.0	0		wt%	1	5/10/04

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Environmental Services Laboratory

Date: *21-May-04*

CLIENT:	EVREN Northwest	**Client Sample ID:**	IF-N-8
Lab Order:	0405057	**Tag Number:**	
Project:	314-04001/Longview	**Collection Date:**	5/5/04
Lab ID:	0405057-03A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
HCID SOIL		**EPA 8015**		**(3550B)**		Analyst: **bvd**
Diesel	ND	54		mg/Kg-dry	1	5/10/04
Gasoline	ND	22		mg/Kg-dry	1	5/10/04
Hydraulic Oil	ND	110		mg/Kg-dry	1	5/10/04
Jet Fuel	ND	54		mg/Kg-dry	1	5/10/04
Kerosene	ND	54		mg/Kg-dry	1	5/10/04
Lube Oil	ND	110		mg/Kg-dry	1	5/10/04
Mineral Spirits/Stoddard Solvent	ND	22		mg/Kg-dry	1	5/10/04
Motor Oil	ND	110		mg/Kg-dry	1	5/10/04
Naptha	ND	22		mg/Kg-dry	1	5/10/04
Oil	ND	110		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Diesel range)	ND	54		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Gas range)	ND	22		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Oil range	ND	110		mg/Kg-dry	1	5/10/04
Surr: O-Terphenyl	86.0	66.8-129		%REC	1	5/10/04
PERCENT MOISTURE		**SM 2540**				Analyst: **bvd**
% Moisture	7.0	0		wt%	1	5/10/04

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

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S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Environmental Services Laboratory

Date: *21-May-04*

CLIENT:	EVREN Northwest	**Client Sample ID:**	EX1-N-11
Lab Order:	0405057	**Tag Number:**	
Project:	314-04001/Longview	**Collection Date:**	5/5/04
Lab ID:	0405057-04A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
HCID SOIL		**EPA 8015**		**(3550B)**		Analyst: **bvd**
Diesel	ND	66		mg/Kg-dry	1	5/10/04
Gasoline	ND	26		mg/Kg-dry	1	5/10/04
Hydraulic Oil	ND	130		mg/Kg-dry	1	5/10/04
Jet Fuel	ND	66		mg/Kg-dry	1	5/10/04
Kerosene	ND	66		mg/Kg-dry	1	5/10/04
Lube Oil	ND	130		mg/Kg-dry	1	5/10/04
Mineral Spirits/Stoddard Solvent	ND	26		mg/Kg-dry	1	5/10/04
Motor Oil	ND	130		mg/Kg-dry	1	5/10/04
Naptha	ND	26		mg/Kg-dry	1	5/10/04
Oil	ND	130		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Diesel range)	ND	66		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Gas range)	ND	26		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Oil range	ND	130		mg/Kg-dry	1	5/10/04
Surr: O-Terphenyl	108	66.8-129		%REC	1	5/10/04
PERCENT MOISTURE		**SM 2540**				Analyst: **bvd**
% Moisture	24	0		wt%	1	5/10/04

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

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S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Environmental Services Laboratory

Date: *21-May-04*

CLIENT:	EVREN Northwest	**Client Sample ID:**	EX2-MID-11
Lab Order:	0405057	**Tag Number:**	
Project:	314-04001/Longview	**Collection Date:**	5/5/04
Lab ID:	0405057-06A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
HCID SOIL		**EPA 8015**		**(3550B)**		Analyst: **bvd**
Diesel	ND	64		mg/Kg-dry	1	5/10/04
Gasoline	ND	26		mg/Kg-dry	1	5/10/04
Hydraulic Oil	ND	130		mg/Kg-dry	1	5/10/04
Jet Fuel	ND	64		mg/Kg-dry	1	5/10/04
Kerosene	ND	64		mg/Kg-dry	1	5/10/04
Lube Oil	ND	130		mg/Kg-dry	1	5/10/04
Mineral Spirits/Stoddard Solvent	ND	26		mg/Kg-dry	1	5/10/04
Motor Oil	ND	130		mg/Kg-dry	1	5/10/04
Naptha	ND	26		mg/Kg-dry	1	5/10/04
Oil	ND	130		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Diesel range)	ND	64		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Gas range)	ND	26		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Oil range	ND	130		mg/Kg-dry	1	5/10/04
Surr: O-Terphenyl	88.0	66.8-129		%REC	1	5/10/04
PERCENT MOISTURE		**SM 2540**				Analyst: **bvd**
% Moisture	22	0		wt%	1	5/10/04

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

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S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Environmental Services Laboratory

Date: *21-May-04*

CLIENT:	EVREN Northwest	**Client Sample ID:**	EX3-S-11
Lab Order:	0405057	**Tag Number:**	
Project:	314-04001/Longview	**Collection Date:**	5/5/04
Lab ID:	0405057-08A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
HCID SOIL		**EPA 8015**		**(3550B)**		Analyst: **bvd**
Diesel	ND	64		mg/Kg-dry	1	5/10/04
Gasoline	ND	26		mg/Kg-dry	1	5/10/04
Hydraulic Oil	ND	130		mg/Kg-dry	1	5/10/04
Jet Fuel	ND	64		mg/Kg-dry	1	5/10/04
Kerosene	ND	64		mg/Kg-dry	1	5/10/04
Lube Oil	ND	130		mg/Kg-dry	1	5/10/04
Mineral Spirits/Stoddard Solvent	ND	26		mg/Kg-dry	1	5/10/04
Motor Oil	ND	130		mg/Kg-dry	1	5/10/04
Naptha	ND	26		mg/Kg-dry	1	5/10/04
Oil	ND	130		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Diesel range)	ND	64		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Gas range)	ND	26		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Oil range	ND	130		mg/Kg-dry	1	5/10/04
Surr: O-Terphenyl	94.0	66.8-129		%REC	1	5/10/04
PERCENT MOISTURE		**SM 2540**				Analyst: **bvd**
% Moisture	22	0		wt%	1	5/10/04

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Environmental Services Laboratory

Date: *21-May-04*

CLIENT:	EVREN Northwest	**Client Sample ID:**	B1-4(Fuel Line)
Lab Order:	0405057	**Tag Number:**	
Project:	314-04001/Longview	**Collection Date:**	5/5/04
Lab ID:	0405057-10A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
HCID SOIL		**EPA 8015**		**(3550B)**		Analyst: **bvd**
Diesel	ND	66		mg/Kg-dry	1	5/10/04
Gasoline	ND	26		mg/Kg-dry	1	5/10/04
Hydraulic Oil	ND	130		mg/Kg-dry	1	5/10/04
Jet Fuel	ND	66		mg/Kg-dry	1	5/10/04
Kerosene	ND	66		mg/Kg-dry	1	5/10/04
Lube Oil	ND	130		mg/Kg-dry	1	5/10/04
Mineral Spirits/Stoddard Solvent	ND	26		mg/Kg-dry	1	5/10/04
Motor Oil	ND	130		mg/Kg-dry	1	5/10/04
Naptha	ND	26		mg/Kg-dry	1	5/10/04
Oil	ND	130		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Diesel range)	ND	66		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Gas range)	ND	26		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Oil range)	ND	130		mg/Kg-dry	1	5/10/04
Surr: O-Terphenyl	106	66.8-129		%REC	1	5/10/04
PERCENT MOISTURE		**SM 2540**				Analyst: **bvd**
% Moisture	24	0		wt%	1	5/10/04

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Environmental Services Laboratory

Date: *21-May-04*

CLIENT:	EVREN Northwest	**Client Sample ID:**	B2-2(D 2)
Lab Order:	0405057	**Tag Number:**	
Project:	314-04001/Longview	**Collection Date:**	5/5/04
Lab ID:	0405057-11A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
HCID SOIL		**EPA 8015 (3550B)**				Analyst: **bvd**
Diesel	DETECT	6000		mg/Kg-dry	100	5/10/04
Gasoline	ND	2400		mg/Kg-dry	100	5/10/04
Hydraulic Oil	ND	12000		mg/Kg-dry	100	5/10/04
Jet Fuel	ND	6000		mg/Kg-dry	100	5/10/04
Kerosene	ND	6000		mg/Kg-dry	100	5/10/04
Lube Oil	ND	12000		mg/Kg-dry	100	5/10/04
Mineral Spirits/Stoddard Solvent	ND	2400		mg/Kg-dry	100	5/10/04
Motor Oil	ND	12000		mg/Kg-dry	100	5/10/04
Naptha	ND	2400		mg/Kg-dry	100	5/10/04
Oil	ND	12000		mg/Kg-dry	100	5/10/04
Unidentified Hydrocarbon (Diesel range)	ND	6000		mg/Kg-dry	100	5/10/04
Unidentified Hydrocarbon (Gas range)	ND	2400		mg/Kg-dry	100	5/10/04
Unidentified Hydrocarbon (Oil range	ND	12000		mg/Kg-dry	100	5/10/04
Surr: O-Terphenyl	0	66.8-129	S, X	%REC	100	5/10/04
NWTPH-DX SOIL		**EPA 8015 (3550B)**				Analyst: **bvd**
Diesel	76000	12000		mg/Kg-dry	500	5/11/04
Oil	ND	30000		mg/Kg-dry	500	5/11/04
Surr: O-Terphenyl	0	50-150	S, X	%REC	500	5/11/04
PERCENT MOISTURE		**SM 2540**				Analyst: **bvd**
% Moisture	16	0		wt%	1	5/10/04

Qualifiers:

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J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Environmental Services Laboratory

Date: *21-May-04*

CLIENT:	EVREN Northwest	**Client Sample ID:**	B3-2(D 1)
Lab Order:	0405057	**Tag Number:**	
Project:	314-04001/Longview	**Collection Date:**	5/5/04
Lab ID:	0405057-12A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
HCID SOIL		**EPA 8015**		**(3550B)**		Analyst: **bvd**
Diesel	DETECT	53		mg/Kg-dry	1	5/10/04
Gasoline	ND	21		mg/Kg-dry	1	5/10/04
Hydraulic Oil	ND	110		mg/Kg-dry	1	5/10/04
Jet Fuel	ND	53		mg/Kg-dry	1	5/10/04
Kerosene	ND	53		mg/Kg-dry	1	5/10/04
Lube Oil	ND	110		mg/Kg-dry	1	5/10/04
Mineral Spirits/Stoddard Solvent	ND	21		mg/Kg-dry	1	5/10/04
Motor Oil	ND	110		mg/Kg-dry	1	5/10/04
Naptha	ND	21		mg/Kg-dry	1	5/10/04
Oil	DETECT	110		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Diesel range)	ND	53		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Gas range)	ND	21		mg/Kg-dry	1	5/10/04
Unidentified Hydrocarbon (Oil range	ND	110		mg/Kg-dry	1	5/10/04
Surr: O-Terphenyl	103	66.8-129		%REC	1	5/10/04
NWTPH-DX SOIL		**EPA 8015**		**(3550B)**		Analyst: **bvd**
Diesel	64	21		mg/Kg-dry	1	5/11/04
Oil	140	53		mg/Kg-dry	1	5/11/04
Surr: O-Terphenyl	110	50-150		%REC	1	5/11/04
PERCENT MOISTURE		**SM 2540**				Analyst: **bvd**
% Moisture	5.0	0		wt%	1	5/10/04

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R - RPD outside accepted recovery limits

E - Value above quantitation range

Environmental Services Laboratory

Date: *21-May-04*

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 03 HCID A

Sample ID: MB-7097	SampType: MBLK	TestCode: 03 HCID A	Units: mg/L	Prep Date: 5/10/04	Run ID: ANGUS_040510B
Client ID: ZZZZZ	Batch ID: 7097	TestNo: EPA 8015	(3510C)	Analysis Date: 5/10/04	SeqNo: 205805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heavy Oil	ND	0.50									
Naptha	ND	0.25									
Oil	ND	0.50									
Gasoline	ND	0.25									
Diesel	ND	0.50									
Kerosene	ND	0.50									
Mineral Spirits/Stodard Solvent	ND	0.25									
Jet Fuel	ND	0.25									
Hydraulic Oil	ND	0.50									
Lube Oil	ND	0.63									
Motor Oil	ND	0.50									
Unidentified Hydrocarbon (Gas range)	ND	0.25									
Unidentified Hydrocarbon (Diesel range	ND	0.50									
Unidentified Hydrocarbon (Oil range)	ND	0.50									
Surr: O-Terphenyl	0.48	0	0.5	0	96	52.1	110	0	0		

Sample ID: 0405057-02A DUP	SampType: DUP	TestCode: 03 HCID A	Units: mg/L	Prep Date: 5/10/04	Run ID: ANGUS_040510B
Client ID: PW-1	Batch ID: 7097	TestNo: EPA 8015	(3510C)	Analysis Date: 5/10/04	SeqNo: 205807

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heavy Oil	ND	0.50	0	0	0	0	0	0	0	20	
Naptha	ND	0.25	0	0	0	0	0	0	0	20	
Oil	ND	0.50	0	0	0	0	0	0	0	20	
Gasoline	DETECT	0.25	0	0	0	0	0	0	0	20	
Diesel	ND	0.50	0	0	0	0	0	0	0	20	
Kerosene	ND	0.50	0	0	0	0	0	0	0	20	
Mineral Spirits/Stodard Solvent	ND	0.25	0	0	0	0	0	0	0	20	
Jet Fuel	ND	0.25	0	0	0	0	0	0	0	20	
Hydraulic Oil	ND	0.50	0	0	0	0	0	0	0	20	
Lube Oil	ND	0.63	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 03 HCID A

Sample ID: **0405057-02A DUP** SampType: **DUP** TestCode: **03 HCID A** Units: **mg/L** Prep Date: **5/10/04** Run ID: **ANGUS_040510B**
Client ID: **PW-1** Batch ID: **7097** TestNo: **EPA 8015** **(3510C)** Analysis Date: **5/10/04** SeqNo: **205807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Motor Oil	ND	0.50	0	0	0	0	0	0	0	20	
Unidentified Hydrocarbon (Gas range)	ND	0.25	0	0	0	0	0	0	0	20	
Unidentified Hydrocarbon (Diesel range	ND	0.50	0	0	0	0	0	0	0	20	
Unidentified Hydrocarbon (Oil range)	ND	0.50	0	0	0	0	0	0	0	20	
Surr: O-Terphenyl	0.335	0	0.5	0	67	59.2	110	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 03 HCID S

Sample ID: MB-7096	SampType: MBLK	TestCode: 03 HCID S	Units: mg/Kg	Prep Date: 5/10/04	Run ID: ANGUS_040510A
Client ID: ZZZZZ	Batch ID: 7096	TestNo: EPA 8015	(3550B)	Analysis Date: 5/10/04	SeqNo: 205794

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naptha	ND	20									
Oil	ND	100									
Gasoline	ND	20									
Diesel	ND	50									
Kerosene	ND	50									
Mineral Spirits/Stoddard Solvent	ND	20									
Jet Fuel	ND	50									
Hydraulic Oil	ND	100									
Lube Oil	ND	100									
Motor Oil	ND	100									
Unidentified Hydrocarbon (Gas range)	ND	20									
Unidentified Hydrocarbon (Diesel range	ND	50									
Unidentified Hydrocarbon (Oil range)	ND	100									
Surr: O-Terphenyl	86	0	100	0	86	60.5	134	0	0		

Sample ID: 0405057-01A DUP	SampType: DUP	TestCode: 03 HCID S	Units: mg/Kg-dry	Prep Date: 5/10/04	Run ID: ANGUS_040510A
Client ID: IF-S-1-8	Batch ID: 7096	TestNo: EPA 8015	(3550B)	Analysis Date: 5/10/04	SeqNo: 205796

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naptha	ND	21	0	0	0	0	0	0	0	20	
Oil	ND	110	0	0	0	0	0	0	0	20	
Gasoline	ND	21	0	0	0	0	0	0	0	20	
Diesel	ND	53	0	0	0	0	0	0	0	20	
Kerosene	ND	53	0	0	0	0	0	0	0	20	
Mineral Spirits/Stoddard Solvent	ND	21	0	0	0	0	0	0	0	20	
Jet Fuel	ND	53	0	0	0	0	0	0	0	20	
Hydraulic Oil	ND	110	0	0	0	0	0	0	0	20	
Lube Oil	ND	110	0	0	0	0	0	0	0	20	
Motor Oil	ND	110	0	0	0	0	0	0	0	20	
Unidentified Hydrocarbon (Gas range)	ND	21	0	0	0	0	0	0	0	20	
Unidentified Hydrocarbon (Diesel range	ND	53	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 03 HCID S

Sample ID: 0405057-01A DUP	SampType: DUP	TestCode: 03 HCID S	Units: mg/Kg-dry	Prep Date: 5/10/04	Run ID: ANGUS_040510A
Client ID: IF-S-1-8	Batch ID: 7096	TestNo: EPA 8015	(3550B)	Analysis Date: 5/10/04	SeqNo: 205796

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Unidentified Hydrocarbon (Oil range)	ND	110	0	0	0	0	0	0	0	20	
Surr: O-Terphenyl	110	0	106	0	103	59.7	129	0	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 03 TPH-DX S

Sample ID: MB-7105	SampType: MBLK	TestCode: 03 TPH-DX S	Units: mg/Kg	Prep Date: 5/11/04	Run ID: ATLAS_040511A
Client ID: ZZZZZ	Batch ID: 7105	TestNo: EPA 8015	(3550B)	Analysis Date: 5/11/04	SeqNo: 205938

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	20									
Oil	ND	50									
Surr: O-Terphenyl	49	0	50	0	98	50	150	0	0		

Sample ID: LCS-7105	SampType: LCS	TestCode: 03 TPH-DX S	Units: mg/Kg	Prep Date: 5/11/04	Run ID: ATLAS_040511A
Client ID: ZZZZZ	Batch ID: 7105	TestNo: EPA 8015	(3550B)	Analysis Date: 5/11/04	SeqNo: 205939

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	51	20	50	0	102	65.3	118	0	0		
Surr: O-Terphenyl	50.5	0	50	0	101	50	150	0	0		

Sample ID: LCSD-7105	SampType: LCSD	TestCode: 03 TPH-DX S	Units: mg/Kg	Prep Date: 5/11/04	Run ID: ATLAS_040511A
Client ID: ZZZZZ	Batch ID: 7105	TestNo: EPA 8015	(3550B)	Analysis Date: 5/11/04	SeqNo: 205940

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	50	20	50	0	100	65.3	118	51	1.98	20	
Surr: O-Terphenyl	49	0	50	0	98	50	150	0	0	20	

Sample ID: 0405098-01A MS	SampType: MS	TestCode: 03 TPH-DX S	Units: mg/Kg-dry	Prep Date: 5/11/04	Run ID: ATLAS_040511A
Client ID: ZZZZZ	Batch ID: 7105	TestNo: EPA 8015	(3550B)	Analysis Date: 5/11/04	SeqNo: 205944

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	69.1	26	65.8	0	105	58.8	136	0	0		
Surr: O-Terphenyl	67.8	0	65.8	0	103	50	150	0	0		

Sample ID: 0405082-08A DUP	SampType: DUP	TestCode: 03 TPH-DX S	Units: mg/Kg-dry	Prep Date: 5/11/04	Run ID: ANGUS_040511A
Client ID: ZZZZZ	Batch ID: 7105	TestNo: EPA 8015	(3550B)	Analysis Date: 5/11/04	SeqNo: 205975

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	24	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 03 TPH-DX S

Sample ID: **0405082-08A DUP** SampType: **DUP** TestCode: **03 TPH-DX S** Units: **mg/Kg-dry** Prep Date: **5/11/04** Run ID: **ANGUS_040511A**
Client ID: **ZZZZZ** Batch ID: **7105** TestNo: **EPA 8015 (3550B)** Analysis Date: **5/11/04** SeqNo: **205975**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil	ND	59	0	0	0	0	0	0	0	20	
Surr: O-Terphenyl	61.2	0	58.8	0	104	50	150	0	0	20	

Sample ID: **CCV** SampType: **CCV** TestCode: **03 TPH-DX S** Units: **mg/L** Prep Date: Run ID: **ATLAS_040511A**
Client ID: **ZZZZZ** Batch ID: **R16867** TestNo: **EPA 8015** Analysis Date: **5/11/04** SeqNo: **205934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	438	20	400	0	110	85	115	0	0		
Oil	430	50	400	0	108	85	115	0	0		

Sample ID: **CCV** SampType: **CCV** TestCode: **03 TPH-DX S** Units: **mg/L** Prep Date: Run ID: **ANGUS_040511A**
Client ID: **ZZZZZ** Batch ID: **R16868** TestNo: **EPA 8015** Analysis Date: **5/11/04** SeqNo: **205963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	358	20	400	0	89.5	85	115	0	0		
Oil	392	50	400	0	98	85	115	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 04 BG A

Sample ID: MBLK	SampType: MBLK	TestCode: 04 BG A	Units: µg/L	Prep Date:	Run ID: CRICK_040512A
Client ID: ZZZZZ	Batch ID: R16885	TestNo: 8015/8021		Analysis Date: 5/12/04	SeqNo: 206154

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Ethylbenzene	ND	0.50									
Toluene	ND	0.50									
Xylenes, Total	ND	1.5									
Gasoline	ND	100									
Surr: Trifluorotoluene	108	0	100	0	108	70	130	0	0		

Sample ID: LCS	SampType: LCS	TestCode: 04 BG A	Units: µg/L	Prep Date:	Run ID: CRICK_040512A
Client ID: ZZZZZ	Batch ID: R16885	TestNo: 8015/8021		Analysis Date: 5/12/04	SeqNo: 206155

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.2	0.50	20	0	101	85	115	0	0		
Ethylbenzene	20.5	0.50	20	0	103	85	115	0	0		
Toluene	20.4	0.50	20	0	102	85	115	0	0		
Xylenes, Total	62.3	1.5	60	0	104	85	115	0	0		
Gasoline	1000	100	1000	0	100	80	120	0	0		
Surr: Trifluorotoluene	105	0	100	0	105	70	130	0	0		

Sample ID: 0405100-01A MS	SampType: MS	TestCode: 04 BG A	Units: µg/L	Prep Date:	Run ID: CRICK_040512A
Client ID: ZZZZZ	Batch ID: R16885	TestNo: 8015/8021		Analysis Date: 5/12/04	SeqNo: 206161

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	30.7	0.50	30	0	102	85	115	0	0		
Ethylbenzene	30.7	0.50	30	0	102	85	115	0	0		
Toluene	31.4	0.50	30	0.826	102	85	115	0	0		
Xylenes, Total	94.4	1.5	90	0	105	85	115	0	0		
Surr: Trifluorotoluene	103	0	100	0	103	70	130	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Client ID: ZZZZZ Batch ID: R16885 TestNo: 8015/8021 Units: µg/L Prep Date: Run ID: CRICK_040512A
Analysis Date: 5/12/04 SeqNo: 206158

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	48200	2500	0	0	0	0	0	50200	4.06	20	
Surr: Trifluorotoluene	1940	0	2500	0	77.5	50	150	0	0	20	

Sample ID: **0405100-01A DUP** SampType: **DUP** TestCode: **04 BG A** Units: **µg/L** Prep Date: Run ID: **CRICK_040512A**
Client ID: **ZZZZZ** Batch ID: **R16885** TestNo: **8015/8021** Analysis Date: **5/12/04** SeqNo: **206160**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50	0	0	0	0	0	0	0	20	
Ethylbenzene	ND	0.50	0	0	0	0	0	0	0	20	
Toluene	0.569	0.50	0	0	0	0	0	0.826	36.8	20	R, T
Xylenes, Total	ND	1.5	0	0	0	0	0	0	0	20	
Surr: Trifluorotoluene	106	0	100	0	106	50	150	0	0	20	

Sample ID: **CCV** SampType: **CCV** TestCode: **04 BG A** Units: **µg/L** Prep Date: Run ID: **CRICK_040512A**
Client ID: **ZZZZZ** Batch ID: **R16885** TestNo: **8015/8021** Analysis Date: **5/12/04** SeqNo: **206156**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	9.88	0.50	10	0	98.8	85	115	0	0		
Ethylbenzene	10.2	0.50	10	0	102	85	115	0	0		
Toluene	10.1	0.50	10	0	101	85	115	0	0		
Xylenes, Total	30.8	1.5	30	0	103	85	115	0	0		
Gasoline	523	100	500	0	105	80	120	0	0		
Surr: Trifluorotoluene	106	0	100	0	106	70	130	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 05 8260 A

Sample ID: MBLK	SampType: MBLK	TestCode: 05 8260 A	Units: µg/L	Prep Date:	Run ID: HORATIO_040512A
Client ID: ZZZZZ	Batch ID: R16881	TestNo: EPA 8260B		Analysis Date: 5/12/04	SeqNo: 206089

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.5									
1,1-Dichloroethene	ND	1.0									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.8									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.9									
2-Butanone	ND	20									
2-Chloroethyl vinyl ether	ND	5.0									
2-Chlorotoluene	ND	1.0									
2-Hexanone	ND	20									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	1.0									
Acetone	ND	20									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 05 8260 A

Sample ID: MBLK	SampType: MBLK	TestCode: 05 8260 A	Units: µg/L	Prep Date:	Run ID: HORATIO_040512A
Client ID: ZZZZZ	Batch ID: R16881	TestNo: EPA 8260B		Analysis Date: 5/12/04	SeqNo: 206089

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	5.0									
Carbon disulfide	ND	2.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroethane	ND	5.0									
Chloroform	ND	1.0									
Chloromethane	ND	2.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	2.0									
Ethylbenzene	ND	1.0									
Hexachlorobutadiene	ND	2.0									
Iodomethane	ND	5.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	2.0									
Methyl tert-butyl ether	ND	2.0									
Methylene chloride	ND	20									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	2.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
tert-Butylbenzene	ND	1.0									
Tetrachloroethene	ND	1.0									
Toluene	ND	1.0									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 05 8260 A

Sample ID: MBLK	SampType: MBLK	TestCode: 05 8260 A	Units: µg/L	Prep Date:	Run ID: HORATIO_040512A
Client ID: ZZZZZ	Batch ID: R16881	TestNo: EPA 8260B		Analysis Date: 5/12/04	SeqNo: 206089

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	2.0									
Vinyl acetate	ND	1.0									
Vinyl chloride	ND	1.2									
Surr: 4-Bromofluorobenzene	43.9	0	50	0	87.8	72.3	133	0	0		
Surr: Dibromofluoromethane	53.7	0	50	0	107	88.9	119	0	0		
Surr: Toluene-d8	43.4	0	50	0	86.8	82	124	0	0		

Sample ID: 0405061-13A MS	SampType: MS	TestCode: 05 8260 A	Units: µg/L	Prep Date:	Run ID: HORATIO_040512A
Client ID: ZZZZZ	Batch ID: R16881	TestNo: EPA 8260B		Analysis Date: 5/12/04	SeqNo: 206093

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	8.89	1.0	10	0	88.9	1	234	0	0		
Benzene	9.99	1.0	10	0	99.9	37	151	0	0		
Chlorobenzene	8.77	1.0	10	0	87.7	37	160	0	0		
Toluene	9.08	1.0	10	0	90.8	47	150	0	0		
Trichloroethene	9.44	1.0	10	0	94.4	71	157	0	0		
Surr: 4-Bromofluorobenzene	43.2	0	50	0	86.4	70.1	127	0	0		
Surr: Dibromofluoromethane	51.4	0	50	0	103	86	118	0	0		
Surr: Toluene-d8	46.1	0	50	0	92.2	87.1	114	0	0		

Sample ID: 0405061-13A DUP	SampType: DUP	TestCode: 05 8260 A	Units: µg/L	Prep Date:	Run ID: HORATIO_040512A
Client ID: ZZZZZ	Batch ID: R16881	TestNo: EPA 8260B		Analysis Date: 5/12/04	SeqNo: 206092

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0	0	0	0	0	0	0	0	20	
1,1,1-Trichloroethane	ND	1.0	0	0	0	0	0	0	0	20	
1,1,2,2-Tetrachloroethane	ND	1.0	0	0	0	0	0	0	0	20	
1,1,2-Trichloroethane	ND	1.0	0	0	0	0	0	0	0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 05 8260 A

Sample ID: 0405061-13A DUP | SampType: DUP | TestCode: 05 8260 A | Units: µg/L | Prep Date: | Run ID: HORATIO_040512A
Client ID: ZZZZZ | Batch ID: R16881 | TestNo: EPA 8260B | Analysis Date: 5/12/04 | SeqNo: 206092

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	ND	1.5	0	0	0	0	0	0	0	20	
1,1-Dichloroethene	ND	1.0	0	0	0	0	0	0	0	20	
1,1-Dichloropropene	ND	1.0	0	0	0	0	0	0	0	20	
1,2,3-Trichlorobenzene	ND	1.8	0	0	0	0	0	0	0	20	
1,2,3-Trichloropropane	ND	1.0	0	0	0	0	0	0	0	20	
1,2,4-Trichlorobenzene	ND	1.0	0	0	0	0	0	0	0	20	
1,2,4-Trimethylbenzene	ND	1.0	0	0	0	0	0	0	0	20	
1,2-Dibromo-3-chloropropane	ND	2.0	0	0	0	0	0	0	0	20	
1,2-Dibromoethane	ND	1.0	0	0	0	0	0	0	0	20	
1,2-Dichlorobenzene	ND	1.0	0	0	0	0	0	0	0	20	
1,2-Dichloroethane	ND	1.0	0	0	0	0	0	0	0	20	
1,2-Dichloropropane	ND	1.0	0	0	0	0	0	0	0	20	
1,3,5-Trimethylbenzene	ND	1.0	0	0	0	0	0	0	0	20	
1,3-Dichlorobenzene	ND	1.0	0	0	0	0	0	0	0	20	
1,3-Dichloropropane	ND	1.0	0	0	0	0	0	0	0	20	
1,4-Dichlorobenzene	ND	1.0	0	0	0	0	0	0	0	20	
2,2-Dichloropropane	ND	1.9	0	0	0	0	0	0	0	20	
2-Butanone	ND	20	0	0	0	0	0	0	0	20	
2-Chloroethyl vinyl ether	ND	5.0	0	0	0	0	0	0	0	20	
2-Chlorotoluene	ND	1.0	0	0	0	0	0	0	0	20	
2-Hexanone	ND	20	0	0	0	0	0	0	0	20	
4-Chlorotoluene	ND	1.0	0	0	0	0	0	0	0	20	
4-Isopropyltoluene	ND	1.0	0	0	0	0	0	0	0	20	
4-Methyl-2-pentanone	ND	1.0	0	0	0	0	0	0	0	20	
Acetone	ND	20	0	0	0	0	0	0	0	20	
Benzene	ND	1.0	0	0	0	0	0	0	0	20	
Bromobenzene	ND	1.0	0	0	0	0	0	0	0	20	
Bromochloromethane	ND	1.0	0	0	0	0	0	0	0	20	
Bromodichloromethane	ND	1.0	0	0	0	0	0	0	0	20	
Bromoform	ND	1.0	0	0	0	0	0	0	0	20	
Bromomethane	ND	5.0	0	0	0	0	0	0	0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 05 8260 A

Sample ID: 0405061-13A DUP	SampType: DUP	TestCode: 05 8260 A	Units: µg/L	Prep Date:	Run ID: HORATIO_040512A
Client ID: ZZZZZ	Batch ID: R16881	TestNo: EPA 8260B		Analysis Date: 5/12/04	SeqNo: 206092

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	ND	2.0	0	0	0	0	0	0	0	20	
Carbon tetrachloride	ND	1.0	0	0	0	0	0	0	0	20	
Chlorobenzene	ND	1.0	0	0	0	0	0	0	0	20	
Chloroethane	ND	5.0	0	0	0	0	0	0	0	20	
Chloroform	ND	1.0	0	0	0	0	0	0	0	20	
Chloromethane	ND	2.0	0	0	0	0	0	0	0	20	
cis-1,2-Dichloroethene	ND	1.0	0	0	0	0	0	0	0	20	
cis-1,3-Dichloropropene	ND	1.0	0	0	0	0	0	0	0	20	
Dibromochloromethane	ND	1.0	0	0	0	0	0	0	0	20	
Dibromomethane	ND	1.0	0	0	0	0	0	0	0	20	
Dichlorodifluoromethane	ND	2.0	0	0	0	0	0	0	0	20	
Ethylbenzene	ND	1.0	0	0	0	0	0	0	0	20	
Hexachlorobutadiene	ND	2.0	0	0	0	0	0	0	0	20	
Iodomethane	ND	5.0	0	0	0	0	0	0	0	20	
Isopropylbenzene	ND	1.0	0	0	0	0	0	0	0	20	
m,p-Xylene	ND	2.0	0	0	0	0	0	0	0	20	
Methyl tert-butyl ether	4	2.0	0	0	0	0	0	3.43	15.3	20	
Methylene chloride	ND	20	0	0	0	0	0	0	0	20	
n-Butylbenzene	ND	1.0	0	0	0	0	0	0	0	20	
n-Propylbenzene	ND	1.0	0	0	0	0	0	0	0	20	
Naphthalene	ND	2.0	0	0	0	0	0	0	0	20	
o-Xylene	ND	1.0	0	0	0	0	0	0	0	20	
sec-Butylbenzene	ND	1.0	0	0	0	0	0	0	0	20	
Styrene	ND	1.0	0	0	0	0	0	0	0	20	
tert-Butylbenzene	ND	1.0	0	0	0	0	0	0	0	20	
Tetrachloroethene	ND	1.0	0	0	0	0	0	0	0	20	
Toluene	ND	1.0	0	0	0	0	0	0	0	20	
trans-1,2-Dichloroethene	ND	1.0	0	0	0	0	0	0	0	20	
trans-1,3-Dichloropropene	ND	1.0	0	0	0	0	0	0	0	20	
Trichloroethene	ND	1.0	0	0	0	0	0	0	0	20	
Trichlorofluoromethane	ND	2.0	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 05 8260 A

Sample ID: **0405061-13A DUP** SampType: **DUP** TestCode: **05 8260 A** Units: **µg/L** Prep Date: Run ID: **HORATIO_040512A**
Client ID: **ZZZZZ** Batch ID: **R16881** TestNo: **EPA 8260B** Analysis Date: **5/12/04** SeqNo: **206092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl acetate	ND	1.0	0	0	0	0	0	0	0	20	
Vinyl chloride	ND	1.2	0	0	0	0	0	0	0	20	
Surr: 4-Bromofluorobenzene	44.9	0	50	0	89.8	81	114	0	0	0	
Surr: Dibromofluoromethane	52.1	0	50	0	104	86	120	0	0	0	
Surr: Toluene-d8	43.9	0	50	0	87.8	85	119	0	0	0	

Sample ID: **CCV** SampType: **CCV** TestCode: **05 8260 A** Units: **µg/L** Prep Date: Run ID: **HORATIO_040512A**
Client ID: **ZZZZZ** Batch ID: **R16881** TestNo: **EPA 8260B** Analysis Date: **5/12/04** SeqNo: **206090**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21.2	1.0	20	0	106	80	120	0	0		
1,2-Dichloropropane	19.5	1.0	20	0	97.5	80	120	0	0		
Chloroform	21.5	1.0	20	0	108	80	120	0	0		
Ethylbenzene	18.9	1.0	20	0	94.5	80	120	0	0		
Toluene	18.7	1.0	20	0	93.5	80	120	0	0		
Vinyl chloride	23.3	1.2	20	0	116	80	120	0	0		
Surr: 4-Bromofluorobenzene	44.2	0	50	0	88.4	86	115	0	0		
Surr: Dibromofluoromethane	50.1	0	50	0	100	86	118	0	0		
Surr: Toluene-d8	46.9	0	50	0	93.8	88	110	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 06 PAH A

Sample ID: MB-7103	SampType: MBLK	TestCode: 06 PAH A	Units: µg/L	Prep Date: 5/12/04	Run ID: MANFREDD_040512B
Client ID: ZZZZZ	Batch ID: 7103	TestNo: 8270-SIM	(3510C)	Analysis Date: 5/12/04	SeqNo: 206150

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.10									
2-Methylnaphthalene	ND	0.10									
Naphthalene	ND	0.10									
Surr: 2-Fluorobiphenyl	0.73	0	1	0	73	43	116	0	0		
Surr: 4-Terphenyl-d14	0.78	0	1	0	78	33	141	0	0		
Surr: Nitrobenzene-d5	0.53	0	1	0	53	35	114	0	0		

Sample ID: LCS-7103	SampType: LCS	TestCode: 06 PAH A	Units: µg/L	Prep Date: 5/12/04	Run ID: MANFREDD_040512B
Client ID: ZZZZZ	Batch ID: 7103	TestNo: 8270-SIM	(3510C)	Analysis Date: 5/12/04	SeqNo: 206151

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	0.82	0.10	1	0	82	21	133	0	0		
2-Methylnaphthalene	0.58	0.10	1	0	58	21	133	0	0		
Naphthalene	0.69	0.10	1	0	69	21	133	0	0		
Surr: 2-Fluorobiphenyl	0.64	0	1	0	64	43	116	0	0		
Surr: 4-Terphenyl-d14	0.82	0	1	0	82	33	141	0	0		
Surr: Nitrobenzene-d5	0.53	0	1	0	53	35	114	0	0		

Sample ID: LCSD-7103	SampType: LCSD	TestCode: 06 PAH A	Units: µg/L	Prep Date: 5/12/04	Run ID: MANFREDD_040512B
Client ID: ZZZZZ	Batch ID: 7103	TestNo: 8270-SIM	(3510C)	Analysis Date: 5/12/04	SeqNo: 206152

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	0.8	0.10	1	0	80	21	133	0.823	2.83	30	
2-Methylnaphthalene	0.58	0.10	1	0	58	21	133	0.58	0	30	
Naphthalene	0.71	0.10	1	0	71	21	133	0.69	2.86	30	
Surr: 2-Fluorobiphenyl	0.62	0	1	0	62	43	116	0	0	30	
Surr: 4-Terphenyl-d14	0.75	0	1	0	75	33	141	0	0	30	
Surr: Nitrobenzene-d5	0.57	0	1	0	57	35	114	0	0	30	

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: 06 PAH A

Sample ID: CCV	SampType: CCV	TestCode: 06 PAH A	Units: µg/L	Prep Date:	Run ID: MANFREDD_040512B
Client ID: ZZZZZ	Batch ID: R16884	TestNo: 8270-SIM		Analysis Date: 5/12/04	SeqNo: 206149

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.78	0.10	2.5	0	111	80	120	0	0		
2-Methylnaphthalene	2.37	0.10	2.5	0	94.8	80	120	0	0		
Naphthalene	2.43	0.10	2.5	0	97.2	80	120	0	0		
Surr: 2-Fluorobiphenyl	2.41	0	2.5	0	96.4	43	116	0	0		
Surr: 4-Terphenyl-d14	2.41	0	2.5	0	96.4	33	141	0	0		
Surr: Nitrobenzene-d5	2.12	0	2.5	0	84.8	35	114	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: EVREN Northwest
Work Order: 0405057
Project: 314-04001/Longview

ANALYTICAL QC SUMMARY REPORT

TestCode: PMOIST

Sample ID: 0405057-01A DUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	Run ID: NO INST_040510A
Client ID: IF-S-1-8	Batch ID: R16856	TestNo: SM 2540		Analysis Date: 5/10/04	SeqNo: 205764

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
% Moisture	6	0	0	0	0	0	0	6	0	20	

Sample ID: 0405057-12A DUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	Run ID: NO INST_040510A
Client ID: B3-2(D 1)	Batch ID: R16856	TestNo: SM 2540		Analysis Date: 5/10/04	SeqNo: 205772

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
% Moisture	6	0	0	0	0	0	0	5	18.2	20	

Sample ID: 0405059-05A DUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	Run ID: NO INST_040510A
Client ID: ZZZZZ	Batch ID: R16856	TestNo: SM 2540		Analysis Date: 5/10/04	SeqNo: 205774

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
% Moisture	6	0	0	0	0	0	0	6	0	20	

Sample ID: 0405059-30A DUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	Run ID: NO INST_040510A
Client ID: ZZZZZ	Batch ID: R16856	TestNo: SM 2540		Analysis Date: 5/10/04	SeqNo: 205781

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
% Moisture	8	0	0	0	0	0	0	8	0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

ENVIRONMENTAL SERVICES LABORATORY – GLOSSARY OF FLAGS

QUALIFIER	DESCRIPTION
AA	This sample was analyzed after the holding time had expired.
AB	The hydrocarbon pattern in this sample is not typical of gasoline.
AC	The hydrocarbon pattern in this sample is not typical of diesel.
AD	The hydrocarbon pattern in this sample is not typical of oil.
AE	The hydrocarbon pattern in this sample extends into the gasoline range.
AF	The hydrocarbon pattern in this sample extends into the diesel range.
AG	The hydrocarbon pattern in this sample extends into the oil range.
A	This analysis was performed on a VOA sample containing headspace.
B	Analyte detected in the Method Blank above the reporting level.
C	The Relative Percent Difference (RPD) for the primary result and confirmation result was greater than 40%. The higher result was reported.
D	The sample was supplied in an inappropriate container according to method criteria.
E	This value is above the quantitation limit. It is considered an estimate.
H	The Matrix Spike/Matrix Spike Duplicate (MS/MSD) result was outside control limits. The Laboratory Control Standard/Duplicate (LCS/LCSD) result was in control validating the batch.
J	The result is above the Method Detection Limit (MDL) and below the Reporting level (RL). It is considered an estimate.
M	The MS/MSD recoveries are not calculable due to a high amount of analyte in sample.
MI	This indicates a high level of matrix interference affecting the spike or surrogate recovery.
N	See case narrative.
O	Detection Limits are elevated due to sample dilution. See case narrative.
Q	Further inspection of the sample confirms a non-homogenous sample matrix affecting RPD result.
R	The RPD result is outside method control limits. See other qualifiers or case narrative.
S	The spike recovery is outside method control limits. See other qualifiers or case narrative.
T	The RPD between the sample result and duplicate result was greater than 20%. The original result was less than three times the reporting level, therefore the RPD is not applicable.
X	Unable to quantitate surrogate recovery due to sample dilution.

Environmental Services Laboratory, Inc

CHAIN OF CUSTODY

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 670-8520 • FAX (503) 670-9243

Company: EVREN Northwest, Inc. Project Manager: Lynn Green

LABORATORY # 0405057

Address: PO Box 80747

Phone: (503) 452-5761 Fax: (503) 452-7669

SAMPLE DISPOSAL INSTRUCTIONS

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	NWTPH-HCID	NWTPH-GX	NWTPH-DX	8020M - BETX only	8270 SIMS PAHs	Halogenated VOCs/GCMS	Aromatic VOCs/GCMS	8260 GCMS Volatiles	8270 GCMS Semivolatiles	8081 GC Pesticides/PCBs	8081m PCBs only	RCRA Metals (8)	Priority Pollutant Metals (13)	Metals:	TCLP Metals (8)	TCLP Volatiles 8260 ZH-EXT	TCLP Semivolatiles 8270	Hold	# OF CONTAINERS
IF-S-1-8'	5/5/04	1526	Soil	01	X				5/11			5/11											1
DUP-1		1520	Water	02	X			X	X			X											3
IF-N-8'		1532	Soil	03	X																		1
EX1-N-11'		1330	Soil	04	X																		1
EX1-N-12'		1332		05																		X	1
EX2-MID-11'		1335		06	X																		1
EX2-MID-12'		1338		07																		X	1
EX3-S-11'		1345		08	X																		1
EX3-S-12'		1349		09																		X	1
B1-11' (Fuel Line)		1220		10	X																		1
B2-2' (Diesel)		1430		11	X		X	X	5/11														4
B3-2' (Diesel)		1445		12	X		X																2

PROJECT INFORMATION

PROJECT NUMBER: 314.0400

PROJECT NAME: Longview Aluminum

PURCHASE ORDER NUMBER: 314.0400

ONGOING PROJECT? YES ☒ NO ☐

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS

COC SEALS INTACT? Y / N / NA

RECEIVED INTACT? Y / N

RECEIVED COLD? Y / N

PRIOR AUTHORIZATION REQUIRED FOR RUSH PROJECTS

TAT (NORMAL) 2 WKS (RUSH) ☐ 24 HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK

GREATER THAN 24 HR. NOTICE? YES ☐ NO ☐ (LAB USE ONLY)

SPECIAL INSTRUCTIONS:

Sampled by: LG/MS

Received via:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
SIGNATURE:	SIGNATURE:	SIGNATURE:
Time: 1730	Time: 1:30	Time:
Printed Name: Michael Boggs	Printed Name: Lynn	Printed Name:
Date: 5/5/04	Date: 6-MT 04	Date:
Company: EVN	Company: EVN	Company:
RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature:	Signature:	Signature:
Time: 1730	Time: 1:30	Time:
Printed Name: Lynn Green	Printed Name: Steven T Hawley	Printed Name:
Date: 5/5/04	Date: 5/6/04	Date:
Company: EVN	Company: ESL	ESL Inc.:

DISTRIBUTION: White, Canary - ESL, Pink - Originator

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
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June 2, 2004

Lynn Green, Project Manager
Evern Northwest
PO Box 80747
Portland, OR 97280

Dear Mr. Green

Included are the results from the testing of material submitted on May 27, 2004 from the 314-04001-02, Longview Aluminum, F&BI 405255 project. There are 9 pages included in this report. Sample PW2 was sent to North Creek Analytical for total lead analysis. Review of the enclosed report indicates that all quality assurance was acceptable.

Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Morrow

Charlene Morrow
Chemist

Enclosures
NAA0602R.DOC

Date of Report: 06/02/04
Date Received: 05/27/04
Project: 314-04001-02, Longview Aluminum, F&BI 405255
Date Extracted: 05/27/04
Date Analyzed: 05/27/04

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD NWTPH-Dx
Extended to Include Motor Oil Range Compounds
Results Reported on a Dry Weight Basis
Results Reported as µg/g (ppm)

Sample ID Laboratory ID	Diesel Extended (C_{10}-C_{36})	Surrogate (% Recovery) (Limit 57-136)
B4-D2-2(5) 405255-02	70	103
B4-D2-8(9) 405255-03	5,500	129
Method Blank	<50	105

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	Method Blank	Client:	Evern Northwest
Date Received:	Not Applicable	Project:	314-04001-02, F&BI 405255
Date Extracted:	06/01/04	Lab ID:	mb 04-565
Date Analyzed:	06/01/04	Data File:	060118.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	95	50	150
1,2-Dichloroethane-d4	94	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	Tetrachloroethene	<1
Chloromethane	<1	Dibromochloromethane	<1
Vinyl chloride	<0.2 j	1,2-Dibromoethane (EDB)	<1
Bromomethane	<1	Chlorobenzene	<1
Chloroethane	<1	Ethylbenzene	<1
Trichlorofluoromethane	<1	1,1,1,2-Tetrachloroethane	<1
Acetone	<10	m,p-Xylene	<2
1,1-Dichloroethene	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	<1	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon Tetrachloride	<1	tert-Butylbenzene	<1
Benzene	<1	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<2
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1
1,3-Dichloropropane	<1	Pentane	<10 L
Butane	<10 L	Isooctane	<10 L

L - The reported concentration was generated from a library search.
j - The result is below normal reporting limits. The value reported is an estimate.

Date of Report: 06/02/04
Date Received: 05/27/04
Project: 314-04001-02, Longview Aluminum, F&BI 405255

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 405255-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Gasoline	µg/L (ppb)	<50	<50	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	µg/L (ppb)	1,000	92	90	62-120	2

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/02/04
Date Received: 05/27/04
Project: 314-04001-02, Longview Aluminum, F&BI 405255

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 405254-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	µg/g (ppm)	500	<50	100	94	55-138	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	95	56-138

Date of Report: 06/02/04
Date Received: 05/27/04
Project: 314-04001-02, Longview Aluminum, F&BI 405255

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 405255-01 (Matrix Spike)

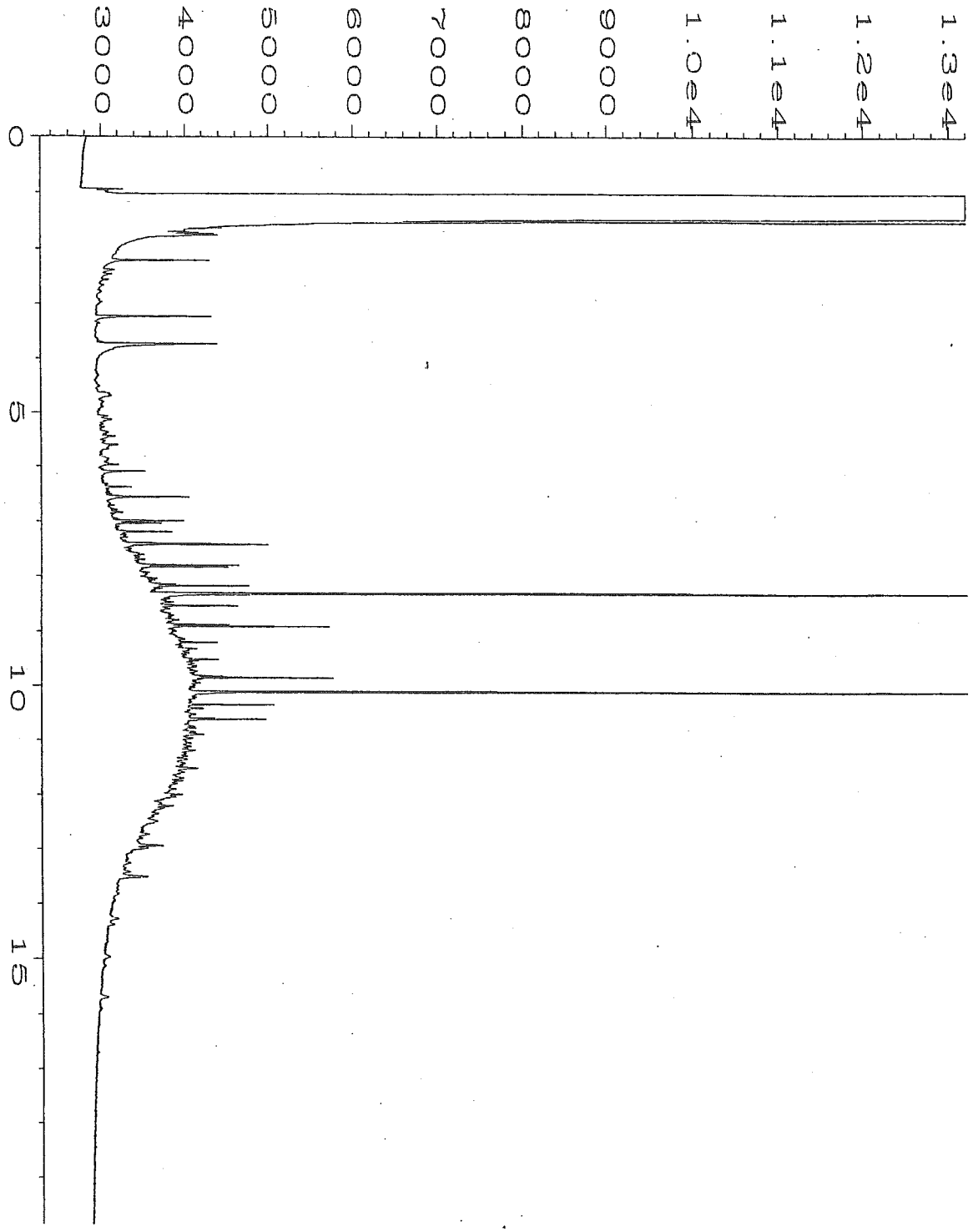
Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
1,1-Dichloroethene	µg/L (ppb)	50	<1	133	50-150
1,2-Dichloroethane (EDC)	µg/L (ppb)	50	<1	109	50-150
1,1-Dichloropropene	µg/L (ppb)	50	<1	130	50-150
Benzene	µg/L (ppb)	100	2	113	50-150
Trichloroethene	µg/L (ppb)	100	<1	118	50-150
1,2-Dichloropropane	µg/L (ppb)	50	<2	112	50-150
cis-1,3-Dichloropropene	µg/L (ppb)	50	<1	114	50-150
Toluene	µg/L (ppb)	100	<1	119	50-150
trans-1,3-Dichloropropene	µg/L (ppb)	50	<1	113	50-150
1,1,2-Trichloroethane	µg/L (ppb)	50	<1	109	50-150
1,3-Dichloropropane	µg/L (ppb)	50	<1	109	50-150
1,2-Dibromoethane (EDB)	µg/L (ppb)	50	<1	107	50-150
Chlorobenzene	µg/L (ppb)	50	<1	112	50-150
Ethylbenzene	µg/L (ppb)	50	<1	121	50-150
1,1,1,2-Tetrachloroethane	µg/L (ppb)	50	<1	113	50-150
m,p-Xylene	µg/L (ppb)	50	<1	117	50-150
Styrene	µg/L (ppb)	50	<1	116	50-150
Bromobenzene	µg/L (ppb)	50	<1	112	50-150
1,3,5-Trimethylbenzene	µg/L (ppb)	50	<1	126	50-150
1,1,2,2-Tetrachloroethane	µg/L (ppb)	50	<1	109	50-150
1,2,3-Trichloropropane	µg/L (ppb)	50	<1	112	50-150
1,2,4-Trimethylbenzene	µg/L (ppb)	50	<1	121	50-150
p-Isopropyltoluene	µg/L (ppb)	50	<1	129	50-150
1,2-Dibromo-3-chloropropane	µg/L (ppb)	50	<1	113	50-150
1,2,4-Trichlorobenzene	µg/L (ppb)	50	<1	118	50-150
Hexachlorobutadiene	µg/L (ppb)	50	<1	141	50-150
Naphthalene	µg/L (ppb)	50	<1	117	50-150
1,2,3-Trichlorobenzene	µg/L (ppb)	50	<1	115	50-150

Date of Report: 06/02/04
Date Received: 05/27/04
Project: 314-04001-02, Longview Aluminum, F&BI 405255

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260B

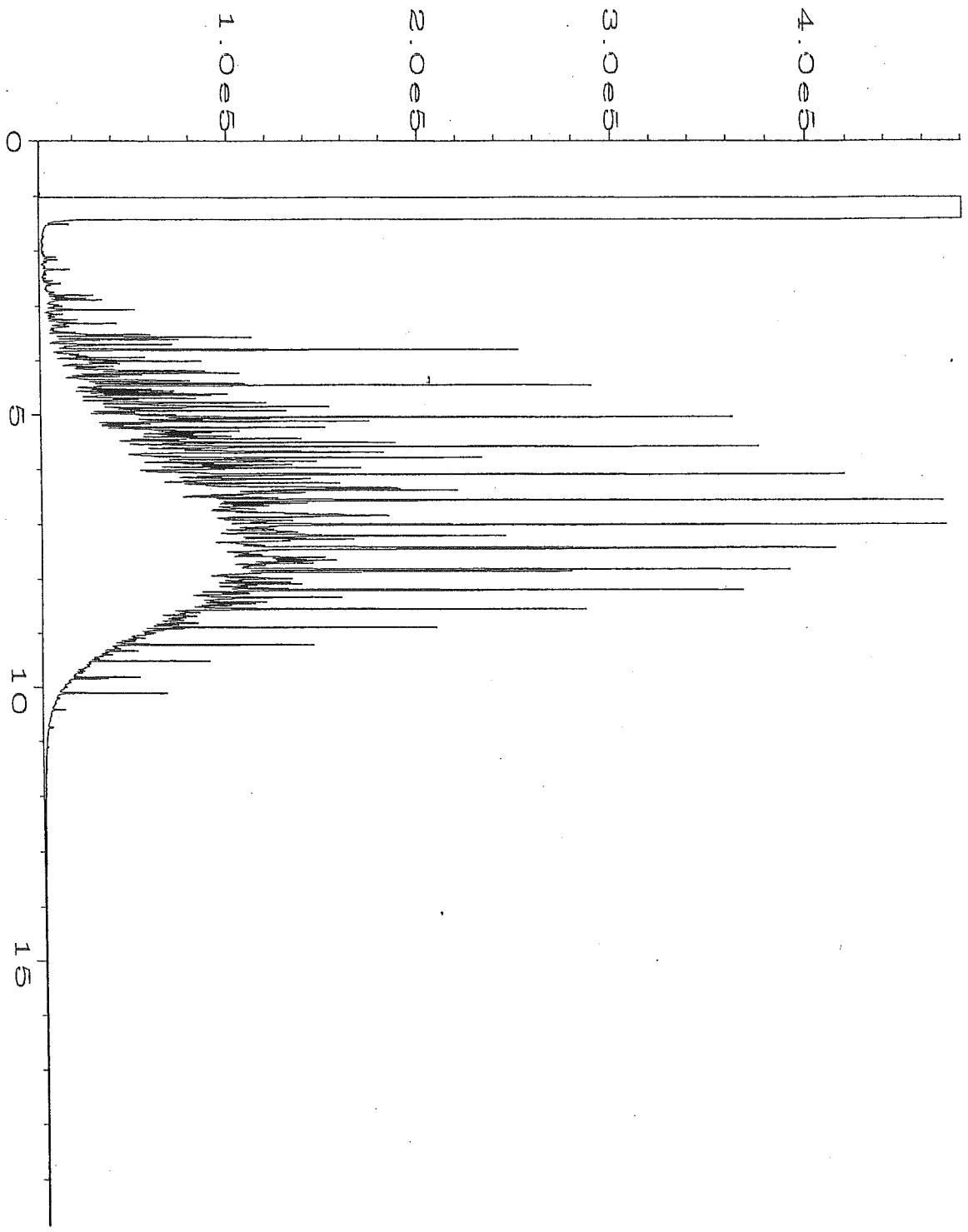
Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,1-Dichloroethene	µg/L (ppb)	50	89	98	70-130	10
1,2-Dichloroethane (EDC)	µg/L (ppb)	50	98	101	70-130	3
1,1-Dichloropropene	µg/L (ppb)	50	89	98	70-130	10
Benzene	µg/L (ppb)	100	88	93	70-130	5
Trichloroethene	µg/L (ppb)	100	89	95	70-130	7
1,2-Dichloropropane	µg/L (ppb)	50	96	99	70-130	3
cis-1,3-Dichloropropene	µg/L (ppb)	50	101	104	70-130	3
Toluene	µg/L (ppb)	100	94	99	70-130	5
trans-1,3-Dichloropropene	µg/L (ppb)	50	102	106	70-130	3
1,1,2-Trichloroethane	µg/L (ppb)	50	102	105	70-130	2
1,3-Dichloropropane	µg/L (ppb)	50	101	103	70-130	2
1,2-Dibromoethane (EDB)	µg/L (ppb)	50	103	105	70-130	2
Chlorobenzene	µg/L (ppb)	50	46	48	70-130	4
Ethylbenzene	µg/L (ppb)	50	93	99	70-130	6
1,1,1,2-Tetrachloroethane	µg/L (ppb)	50	96	99	70-130	4
m,p-Xylene	µg/L (ppb)	50	91	97	70-130	7
Styrene	µg/L (ppb)	50	97	102	70-130	5
Bromobenzene	µg/L (ppb)	50	98	103	70-130	5
1,3,5-Trimethylbenzene	µg/L (ppb)	50	97	106	70-130	9
1,1,2,2-Tetrachloroethane	µg/L (ppb)	50	104	108	70-130	5
1,2,3-Trichloropropane	µg/L (ppb)	50	107	111	70-130	4
1,2,4-Trimethylbenzene	µg/L (ppb)	50	96	104	70-130	7
p-Isopropyltoluene	µg/L (ppb)	50	95	106	70-130	11
1,2-Dibromo-3-chloropropane	µg/L (ppb)	50	107	115	70-130	7
1,2,4-Trichlorobenzene	µg/L (ppb)	50	101	109	70-130	8
Hexachlorobutadiene	µg/L (ppb)	50	99	116	70-130	16
Naphthalene	µg/L (ppb)	50	110	116	70-130	5
1,2,3-Trichlorobenzene	µg/L (ppb)	50	102	109	70-130	7



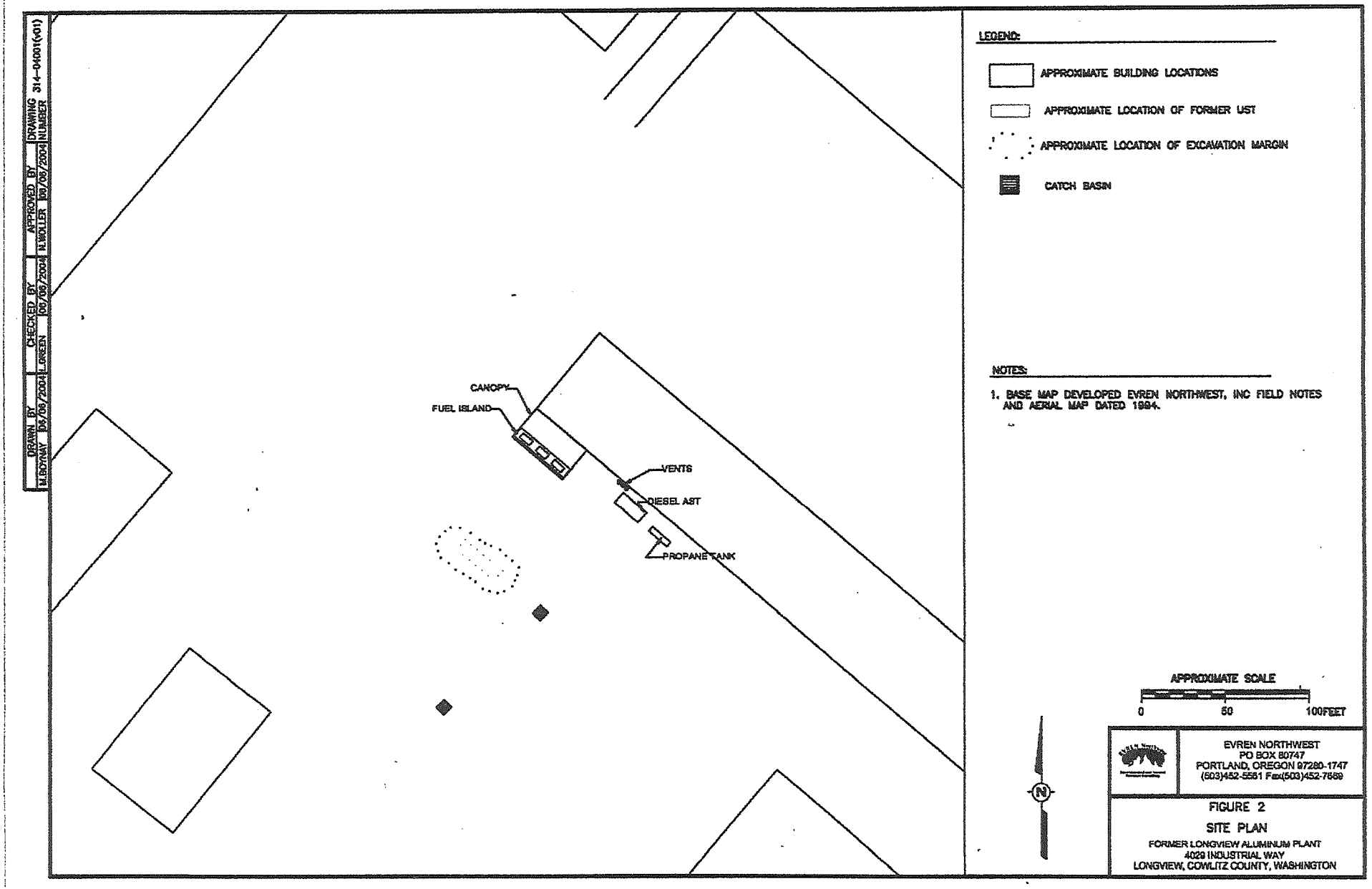
Data File Name : D:\GC6\05-27-04\032F0801.D
Operator : SO
Instrument : GC #6
Sample Name : 405255-02
Run Time Bar Code:
Acquired on : 27 May 04 10:28 PM
Report Created on: 02 Jun 04 07:50 AM

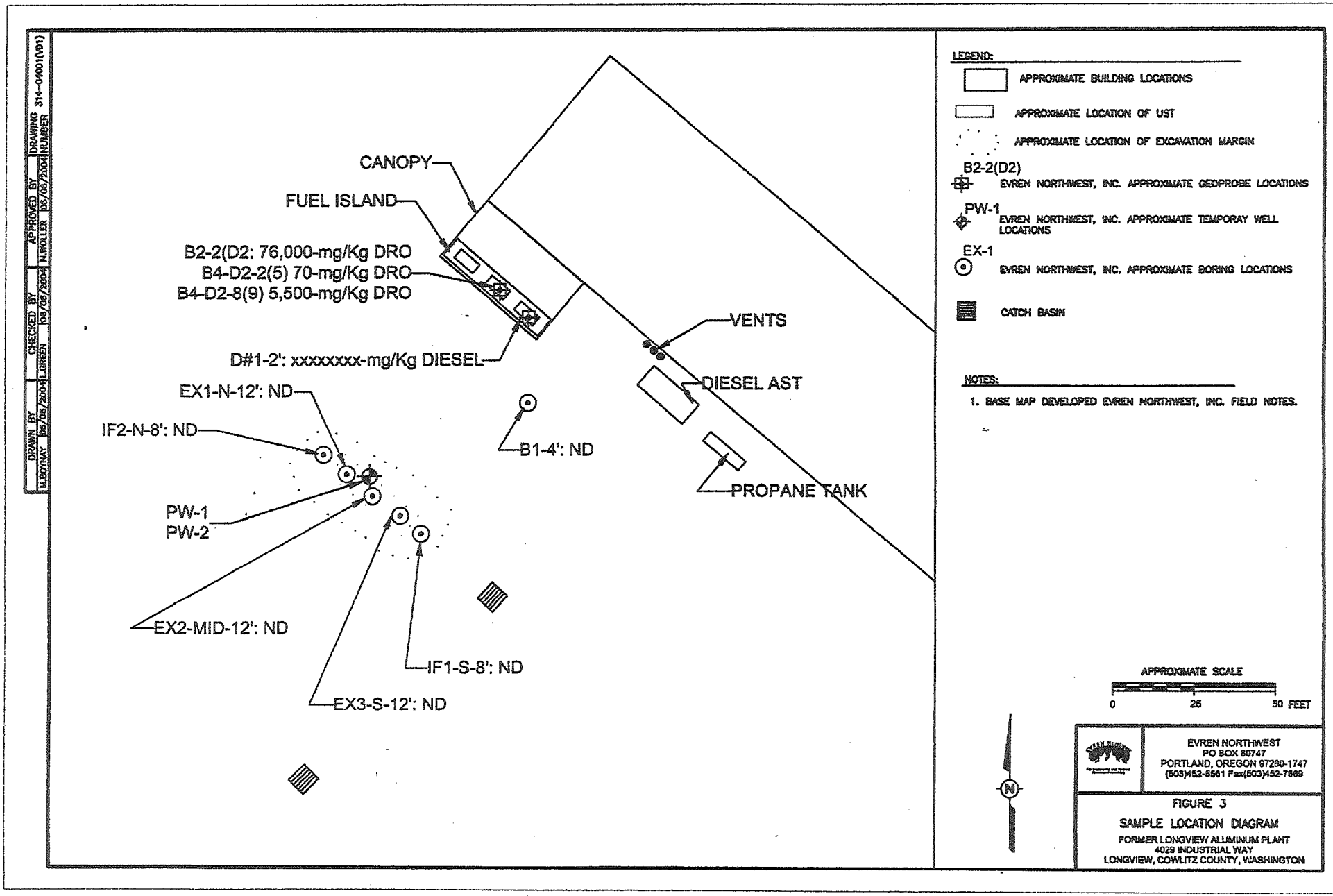
Page Number : 1
Vial Number : 32
Injection Number : 1
Sequence Line : 8
Instrument Method: TPHD.MTH
Analysis Method : DEFAULT.MTH



Data File Name : D:\GC6\05-27-04\031F0801.D
Operator : SO
Instrument : GC #6
Sample Name : 405255-03
Run Time Bar Code:
Acquired on : 27 May 04 10:03 PM
Report Created on: 02 Jun 04 07:50 AM

Page Number : 1
Vial Number : 31
Injection Number : 1
Sequence Line : 8
Instrument Method: TPHD.MTH
Analysis Method : DEFAULT.MTH


DRAWN BY
M.BOYMAY 05/06/2004
CHECKED BY
L.GREEN 06/06/2004
APPROVED BY
N.WOLLER 06/06/2004
DRAWING NUMBER
314-04001(v01)
CANOPY
FUEL ISLAND
VENTS
DIESEL AST
PROPANE TANK
LEGEND:
APPROXIMATE BUILDING LOCATIONS
APPROXIMATE LOCATION OF FORMER UST
APPROXIMATE LOCATION OF EXCAVATION MARGIN
CATCH BASIN
NOTES:
1. BASE MAP DEVELOPED EVREN NORTHWEST, INC FIELD NOTES AND AERIAL MAP DATED 1994.
APPROXIMATE SCALE
0
50
100FEET
N
EVREN NORTHWEST
PO BOX 80747
PORTLAND, OREGON 97280-1747
(503)452-5561 Fax(503)452-7589
FIGURE 2
SITE PLAN
FORMER LONGVIEW ALUMINUM PLANT
4029 INDUSTRIAL WAY
LONGVIEW, COWLITZ COUNTY, WASHINGTON


CANOPY
FUEL ISLAND
B2-2(D2: 76,000-mg/Kg DRO
B4-D2-2(5) 70-mg/Kg DRO
B4-D2-8(9) 5,500-mg/Kg DRO
D#1-2': xxxxxxxx-mg/Kg DIESEL
VENTS
DIESEL AST
PROPANE TANK
EX1-N-12': ND
IF2-N-8': ND
B1-4': ND
PW-1
PW-2
EX2-MID-12': ND
IF1-S-8': ND
EX3-S-12': ND
DRAWN BY M.BOYNAY 06/06/2004
CHECKED BY L.GREEN 06/06/2004
APPROVED BY N.WOLLER 06/06/2004
DRAWING NUMBER 314-04001(V01)
LEGEND:
APPROXIMATE BUILDING LOCATIONS
APPROXIMATE LOCATION OF UST
APPROXIMATE LOCATION OF EXCAVATION MARGIN
B2-2(D2)
EVREN NORTHWEST, INC. APPROXIMATE GEOPROBE LOCATIONS
PW-1
EVREN NORTHWEST, INC. APPROXIMATE TEMPORAY WELL LOCATIONS
EX-1
EVREN NORTHWEST, INC. APPROXIMATE BORING LOCATIONS
CATCH BASIN
NOTES:
1. BASE MAP DEVELOPED EVREN NORTHWEST, INC. FIELD NOTES.
APPROXIMATE SCALE
0
25
50 FEET
N
EVREN NORTHWEST
PO BOX 80747
PORTLAND, OREGON 97280-1747
(503)452-5561 Fax(503)452-7669
FIGURE 3
SAMPLE LOCATION DIAGRAM
FORMER LONGVIEW ALUMINUM PLANT
4029 INDUSTRIAL WAY
LONGVIEW, COWLITZ COUNTY, WASHINGTON

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT
STATE OF WASHINGTON

Application No. G2-21657
Permit No. G2-21657

(1) OWNER: Name Weyerhaeuser Company Address Tacoma, Washington 98401

(2) LOCATION OF WELL: County Cowlitz NW ¼ SW ¼ Sec. 31 T. 8 N., R. 2W W.M.

Bearing and distance from section or subdivision corner 1060'S. & 70'E. of the W¼ Cor. Sec. 31

(3) PROPOSED USE: Domestic ☐ Industrial ☒ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (If more than one) ....
New well ☒ Method: Dug ☐ Bored ☐ Cable ☒ Driven ☐ Deepened ☐ Rotary ☐ Jetted ☐ Reconditioned ☐

(5) DIMENSIONS: Diameter of well 8 inches. Drilled 202 ft. Depth of completed well 202 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 8 " Diam. from 0 ft. to 172 ft.
Threaded ☐ " Diam. from ft. to ft.
Welded ☒ " Diam. from ft. to ft.

Perforations: Yes ☐ No ☒
Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: Yes ☒ No ☐ UOP Johnson
Manufacturer's Name Model No. 177
Type Stainless Slot size 40 from 172 ft. to 182 ft.
Diam. 8 Slot size 50 from 182 ft. to 192 ft.
Diam. Slot size 70 from 192 ft. to 197 ft.
80 197 202

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 20 ft.
Material used in seal
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name H.P.
Type:

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level 20 ft. below top of well Date 3/8/74
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☒ No ☐ If yes, by whom? Driller
Yield: 510 gal./min. with 1.3 ft. drawdown after 4 hrs.
" 650 " 2.3 " " 4½ "
" " " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test 3/8/74
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Fill, silty sandy clay	0	16
Silty sandy clay	16	36
Light brown sandy clay	36	65
Sandy clay, sticky	65	110
Blue sandy clay, silty	110	176
Sand & gravel	176	202
Hardpan	202	

RECEIVED
JUL 3 1974
DEPARTMENT OF ECOLOGY
SOUTHWEST REGIONAL OFFICE

Work started 2/13/ 19 74 Completed 3/8/ 19 74

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Richardson Well Drilling Company (Person, firm, or corporation) (Type or print)
Address P.O. Box 44408, Tacoma, Wa. 98444
[Signed] (Well Driller)
License No. 223-02-6500 Date 19

OK/WTHD 7-8-74

USE ADDITIONAL SHEETS IF NECESSARY)

S. F. No. 7356—OS—(Rev. 4-71).

WATER WELL REPORT

ECOLOGY Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller

Construction/Decommission (x in circle)
- (X) Construction
- ( ) Decommission *ORIGINAL CONSTRUCTION Notice of Intent Number* 114063

CURRENT Notice of Intent No UI137608

Unique Ecology Well ID Tag No AGP 500

Water Right Permit No G2-29933

Property Owner Name MIRANT CORP.

Well Street Address 1200 PRUDENTIAL BLVD.

City LONGVIEW County COWLITZ

Location NW 1/4 - 1/4 NW 1/4 Sec 31 Twn 8N R 2 EWM (circle one) WWM

Lat/Long (s,t,r still REQUIRED) Lat Deg 46.1402 Lat Min/Sec ____ Long Deg 122.9855 Long Min/Sec ____

Tax Parcel No ____

PROPOSED USE ☐ Domestic ☒ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other ____

TYPE OF WORK Owner's number of well (if more than one) WELL 2

☒ New Well ☐ Reconditioned *Method* ☐ Dug ☐ Bored ☐ Driven ☐ Deepened ☒ Cable ☐ Rotary ☐ Jetted

DIMENSIONS Diameter of well 12 inches drilled 352 ft. Depth of completed well 345 ft.

CONSTRUCTION DETAILS

Casing Installed: ☒ Welded 12" Diam from +2.5 ft to 244 ft

☐ Liner installed ____" Diam from ____ ft to ____ ft

☐ Threaded ____" Diam from ____ ft to ____ ft

Perforations ☐ Yes ☒ No

Type of perforator used ____

SIZE of perfs ____ in by ____ in and no of perfs ____ from ____ ft to ____ ft

Screens ☒ Yes ☐ No ☐ K-Pac Location ____

Manufacturer's Name ____

Type CONT. SLOT Model No ____

Diam 8" Slot Size 040 from 236 ft to 338 ft

Diam ____ Slot Size ____ from ____ ft to ____ ft

Gravel/Filter packed ☒ Yes ☐ No ☐ Size of gravel/sand 8 x 12

Materials placed from 190 ft to 345 ft

Surface Seal ☒ Yes ☐ No To what depth? 53 ft.

Materials used in seal BENTONITE

Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? ____ Depth of strata ____

Method of sealing strata off ____

PUMP Manufacturer's Name ____

Type ____ H P ____

WATER LEVELS Land-surface elevation above mean sea level 10 ft

Static level 2 ft below top of well Date 4/24/02

Artesian pressure ____ lbs per square inch Date ____

Artesian water is controlled by ____ (cap valve etc)

WELL TESTS Drawdown is amount water level is lowered below static level

Was a pump test made? ☒ Yes ☐ No If yes by whom? ROBINSON & NUSCE

Yield 123.5 gal/min with 4 ft drawdown after 24 hrs

Yield ____ gal/min with ____ ft drawdown after ____ hrs

Yield ____ gal/min with ____ ft drawdown after ____ hrs

Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
INSTANTANEOUS					

Date of test ____

Bailer test ____ gal /min with ____ ft drawdown after ____ hrs

Artest ____ gal./min with stem set at ____ ft for ____ hrs

Artesian flow ____ g p m Date ____

Temperature of water 53 Was a chemical analysis made? ☒ Yes ☐ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information Indicate all water encountered (USE ADDITIONAL SHEETS IF NECESSARY)

MATERIAL	FROM	TO
FILL (QUARRY SPALLS)	0	3
GRAY SANDY SILT W/PEAT	3	42
GRAY SANDY SILT W/WOOD	42	108
GRAY SAND W/SILT,	108	
WATER-BEARING		122
DK GRAY SANDY SILT	122	150
GRAY SAND W/SILT	150	
WATER-BEARING		172
DK GRAY SILTY SAND	172	194
GRAY SAND W/SILT,	194	
WATER-BEARING		207
GRAY SILTY SAND (FINE)	207	212
GRAY SAND W/SILT,	212	
WATER-BEARING		224
GRAY SAND & GRAVEL	224	
W/SILT, WATER-BEARING		236
GRAVEL & COBBLES W/	236	
GRAY SAND, WATER-		
BEARING, W/OCC SILT-		
BOUND LAYERS		352

RECEIVED
MAY 15 2002
Washington State
Department of Ecology

Start Date 3/28/02 Completed Date 4/25/02

WELL CONSTRUCTION CERTIFICATION I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards Materials used and the information reported above are true to my best knowledge and belief

☒ Driller ☐ Engineer ☐ Trainee Name (Print) Randy Holt

Driller/Engineer/Trainee Signature Mike Polly

Driller or Trainee License No 1099

Drilling Company Holt Drilling Inc

Address PO Box 1890

City, State, Zip Mt Hood Wa 98354

Contractor's Registration No HOLTDI*136OG Date 5/10/02

If trainee, licensed driller's Signature and License no ____

Ecology is an Equal Opportunity Employer ECY 050 1 20 (Rev 4/01)

File Original with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy 106350

WATER WELL REPORT
STATE OF WASHINGTON

Notice of Intent W129454
UNIQUE WELL I D # AFT 932
Water Right Permit No NA

(1) OWNER. Name Mint Farm Generation LLC Address Third Ave, Suite 3000 Seattle, WA, 98104

(2) LOCATION OF WELL: County COWLITZ NW 1/4 NW 1/4 Sec 31 T 8 (N)R 2 (W)M

(2a) STREET ADDRESS OF WELL: (or nearest address) Lot 16 Mint Farm Industrial Park Longview WA
TAX PARCEL NO. NA

(3) PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☒ Test Well ☐ Other ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one)
☒ New Well Method ☐ Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☐ Jetted ☐ Decommission

(5) DIMENSIONS: Diameter of well 12 inches
Drilled 350 feet Depth of completed well 350 ft

(6) CONSTRUCTION DETAILS
Casing Installed:
☒ Welded 12 " Diam from +2 ft to 235 ft
☒ Liner installed 8" " Diam from 220 ft to 235 ft
☐ Threaded Blank 8 " Diam from 339 ft to 349 ft

Perforations: ☐ Yes ☒ No
Type of perforator used
SIZE of perforations in by in
perforations from ft to ft

Screens: ☒ Yes ☐ No ☐ K-Pac Location
Manufacturer's Name Johnson
Type V-Wire Pipe Stainless Model No 8" PS
Diam 8" Slot Size 0.020 from 235 ft to 299 ft
Diam 8" Slot Size 0.020 from 215 ft to 220 ft

Gravel/Filter packed. ☒ Yes ☐ No ☒ Size of gravel/sand 16-30 CSSI
Material placed from 215' ft to 350' ft

Surface seal: ☒ Yes ☐ No To what depth? 60 ft
Material used in seal Cement
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name None Installed
Type H P

(8) WATER LEVELS: Land-surface elevation above mean sea level NA ft
Static level 45 ft below top of well Date 11/26/01
Artesian pressure lbs per square inch Date
Artesian water is controlled by
(Cap, valve, etc)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield gal /min with ft drawdown after hrs
Yield gal /min with ft drawdown after hrs
Yield gal /min with ft drawdown after hrs
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal /min with ft drawdown after hrs
Airtest 400 gal /min with 0-1 ft drawdown after 8 hrs
Artesian flow g p m Date
Temperature of water 60° Was a chemical analysis made? ☐ Yes ☒ No

(10) WELL LOG or DECOMMISSIONING PROCEDURE DESCRIPTION
Formation Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information Indicate all water encountered

MATERIAL	FROM	TO
Gravel fill & Top Soil	0	1
Silt Soft Gray	1	40
Sandy Silt Soft Gray	40	211
Sand Fine Soft	211	225
Large gravel with fine Sand	236	350

RECEIVED
DEC 10 2001
DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

Work Started 10/15 01 Completed 11/26 01

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name Robert Stadel License No 1789
(Licensed Driller/Engineer)

Trainee Name License No
Drilling Company Geo-Tech Explorations
(Signed) License No 1789
(Licensed Driller/Engineer)
Address 19700 SW Teton Tualatin OR 97062
Contractor's Registration No GEOTEEI110CZ Date 11/27 01

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer For special accommodation needs, contact the Water Resources Program at (360) 407-6600 The TDD number is (360) 407-6006

ECY 050-1-20 (11/98)

File Original with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

Amended

WATER WELL REPORT

STATE OF WASHINGTON

Notice of Intent W1294554
UNIQUE WELL I D # AFT932
Water Right Permit No N/A

(1) OWNER: Name Mint Farm Generation LLC Address Third Ave, Suite 3000 Seattle WA 98164

(2) LOCATION OF WELL: County Cowlitz NW 1/4 NW 1/4 Sec 31 T 8 (N) R 2 (W)M

(2a) STREET ADDRESS OF WELL: (or nearest address) Lot 6 Mint Farm Industrial Park Longview WA

TAX PARCEL NO. N/A

(3) PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☒ Test Well ☐ Other ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one)
☒ New Well Method
☐ Deepened ☐ Dug ☐ Bored
☐ Reconditioned ☐ Cable ☐ Driven
☐ Decommission ☐ Rotary ☐ Jetted

(5) DIMENSIONS: Diameter of well 12 inches
Drilled 350 feet Depth of completed well 350 ft

(6) CONSTRUCTION DETAILS
Casing Installed:
☒ Welded 12 " Diam from +2 ft to 235 ft
☒ Liner installed 8 " Diam from 220 ft to 335 ft
☐ Threaded 8 " Diam from 339 ft to 349 ft

Perforations: ☐ Yes ☒ No
Type of perforator used
SIZE of perforations in by in
perforations from ft to ft

Screens: ☒ Yes ☐ No ☐ K-Pac Location
Manufacturer's Name Johnson
Type V-Wire Pipe Stainless Model No 8" PS
Diam 8" Slot Size .020 from 235 ft to 339 ft
Diam 8" Slot Size .020 from 215 ft to 220 ft

Gravel/Filter packed: ☒ Yes ☐ No Size of gravel/sand 16-30 CSS
Material placed from 215' ft to 350' ft

Surface seal: ☒ Yes ☐ No To what depth? 60 ft
Material used in seal Cement
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name None installed
Type H P

(8) WATER LEVELS: Land-surface elevation above mean sea level ft
Static level 5' ft below top of well Date 11/26/01
Artesian pressure lbs per square inch Date
Artesian water is controlled by (Cap, valve, etc)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield gal /min with ft drawdown after hrs
Yield gal /min with ft drawdown after hrs
Yield gal /min with ft drawdown after hrs
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal /min with ft drawdown after hrs
Airtest 400 gal /min with 0-1 ft drawdown after hrs
Artesian flow g p m Date
Temperature of water 60° Was a chemical analysis made? ☐ Yes ☒ No

(10) WELL LOG or DECOMMISSIONING PROCEDURE DESCRIPTION
Formation Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information Indicate all water encountered

MATERIAL	FROM	TO
Gravel Fill & Topsoil	0	1
Silt Soft Gray	1	40
Sandy Silt Soft Gray	40	211
Sand Fine Soft	211	225
Large Gravels w/ Fine Sd	225	350

RECEIVED
FEB 19 2002
DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

Work Started 10/5/01 Completed 11/26/01

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Robert Stindell License No 1789
(Licensed Driller/Engineer)

Trainee Name License No
Drilling Company Geo-Tech Explorations
(Signed) License No 1789
(Licensed Driller/Engineer)
Address 19700 SW Teton Tualatin OR 97062

Contractor's Registration No GEOTEEI110CZ Date 02/15/02

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer For special accommodation needs, contact the Water Resources Program at (360) 407-6600 The TDD number is (360) 407-6006

ECY 050-1-20 (11/98)

WELL LOG.—Continued

No...../.....

CORRELATION	MATERIAL	From (feet)	To (feet)
	Depth forward		
	Temp. 54°		

S. F. No. 7449—OS—12-65.

Appli - 9127
Permit - 8956

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
DIVISION OF WATER RESOURCES

WELL LOG

Record by Driller
Source Driller's Record

Location: State of WASHINGTON
County Cowlitz
Area
Map

SE ¼ SW ¼ sec 25 T 8 N., R 3 E. W.

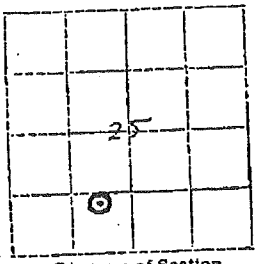


Diagram of Section

Drilling Co. R. J. Strasser Drilling Co.
Address 8110 S. E. Sunset Lane, Portland, Ore.
Method of Drilling Cable Date June, 1968
Owner Reynolds Metals Co.
Address P. O. Box 240, Longview, Wash.
Land surface, datum ft. above / below
SWL: 2.5 Date June 26, 1968 Dims 20"x16"x395'

Correlation	Material	From (feet)	To (feet)
	Industrial		
	Fill	0	7
	Silt, grey	7	20
	Sand, packed	20	120
	Silt, brown	120	160
	Sand, grey packed	160	185
	Silt, brown	185	197
	Sand, grey packed	197	327
	Silt and gravel	327	333
	Sand and gravel, water bearing	333	393
	Clay and gravel, brown	393	395
	Casing: 20" from 0'-335'		
	16" from 320' to 395'		
	Perforated from 340' to 390'		
	Surface sealed with cement to 41'		
	Yield: 3000gpm w/12' DD after 24 hours		

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

Turn up over

Sheet ..... of ..... sheets

File number 8/3W/25P

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 24398

UNIQUE WELL I.D. #

Water Right Permit No.

(1) OWNER: Name Bonneville Power Administration Address 905 NE 11th Ave. Portland OR 97232

(2) LOCATION OF WELL: County Cowlitz NE¼ NE¼ 1/4 Sec 36 T. 8N N. R 3W W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) 3600 Industrial Way Longview WA

(3) PROPOSED USE: ☒ Domestic ☐ Industrial ☐ Municipal ☐ ☐ Irrigation ☐ Test Well ☐ Other ☐ ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one)

Abandoned ☒ New well ☐ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 10" inches. Drilled 245 feet. Depth of completed well 245 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 10" Diam. from 0 ft. to 235 ft.
Welded ☐ " Diam. from ft. to ft.
Liner installed ☐ Threaded ☐ " Diam. from ft. to ft.

Perforations: Yes ☒ No ☐
Type of perforator used Mills Knife
SIZE of perforations 4 in. by 3" in.
4 perforations from 2' ft. to 235 ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel
Gravel placed from ft. to ft.

Surface seal: Yes ☐ No ☒ To what depth? ft.
Material used in seal
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name NA
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level + 9.00 ft.
Static level 2.36 ft. below top of well Date 7-15-97
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Airtest gal./min. with stem set at ft. for hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
Silt	0	61
Sandy clay	61	171
Fine sand	171	221
Sand & gravel	221	243
Bedrock	243	245
Perforated From 2'-235'		
Abandoned with Bentonite slurry		

RECEIVED
AUG 14 1997
WATER RIGHTS

Work Started 7-15-97 19. Completed 7-16-97 19

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Environmental West Exploration, Inc. (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address P.O. Box 11095, Spokane, WA 99211

(Signed) (WELL DRILLER) License No. 2040

Contractor's Registration No. ENVIRWE101PP Date 7-23-97 19

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resources Program at (206) 407-6600. The TDD number is (206) 407-6006.

ECY 050-1-20 (9/93) * * I

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT
STATE OF WASHINGTON

Application No. _____
Permit No. _____

(1) OWNER: Name REYNOLDS ALUMINUM CO. Address LONGVIEW, WA

(2) LOCATION OF WELL: County COWLITZ ¼ SW ¼ Sec. 25 T. 8N N., R. 3W W.M.
Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☒

(4) TYPE OF WORK: Owner's number of well (if more than one) .... RL-3 Shallow
New well ☒ Method: Dug ☐ Bored ☒
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 2 inches,
Drilled 17.5 ft. Depth of completed well 17.5 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 2 " Diam. from 15 ft. to 0 ft.
Threaded ☐ _____ " Diam. from _____ ft. to _____ ft.
Welded ☐ _____ " Diam. from _____ ft. to _____ ft.

Perforations: Yes ☐ No ☒
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☒ No ☐
Manufacturer's Name Hydroseptics
Type PVC Model No. _____
Diam. 2 Slot size 0.010 from 7.5 ft. to 15.5 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☒ No ☐ Size of gravel: COARSE SAND
Gravel placed from 5.5 ft. to 17.5 ft.

Surface seal: Yes ☒ No ☐ To what depth? 5.5 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level .... _____ ft.
Static level 5 ft. below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Silty - Sand	2.5	9
Sand	13.5	17.5
Clayey Silt	17.5	
RL-3 (Shallow)		

RECEIVED
AUG 18 1983
DEPARTMENT OF ECOLOGY
SOUTHWEST REGIONAL OFFICE

Work started 6/30 19 83 Completed 6/30 19 83

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Sweet, Edmonds & Assoc. Inc.
(Person, firm, or corporation) (Type or print)
Address P.O. Box 328, Kelso, Wa.
[Signed] James J. Maul (Well Driller)
License No. 1268 Date 7/10 19 83

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No. .....

Permit No. .....

(1) OWNER: Name REYNOLDS ALUMINUM CO. Address LONGVIEW, WA.

(2) LOCATION OF WELL: County COWLITZ ¼ SW ¼ Sec. 25 T. 8 N., R. 3 W W.M.

Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☒ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) .... RC-3 DEEP
New well ☒ Method: Dug ☐ Bored ☒
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 2 inches.
Drilled 37.5 ft. Depth of completed well 37.5 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 2 " Diam. from 0 ft. to 27.5 ft.
Threaded ☒ " Diam. from ft. to ft.
Welded ☐ " Diam. from ft. to ft.

Perforations: Yes ☐ No ☒
Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: Yes ☒ No ☐
Manufacturer's Name HYDROPHYLIC
Type PVC Model No
Diam. 2 Slot size .010 from 27.5 ft. to 37.5 ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 23.5 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level .... ft.
Static level 5 ft. below top of well Date 6/30/83
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Silty-Sand	7.5	9
Sand	13.5	15
Clayey Silt	17.5	25
Clayey Silt	28.5	34
Sand	34.5	36
Clayey Silt	37.5	38
RC-3 (DEEP SAND)		

RECEIVED
AUG 18 1983
DEPARTMENT OF ECOLOGY
SOUTHWEST REGIONAL OFFICE

Work started 6/30, 19 83 Completed 6/30, 19 83

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME SWEET EDWARDS & ASSOC.
(Person, firm, or corporation) (Type or print)

Address P.O. Box 328, KELSO WA.

[Signed] James J. Mark
(Well Driller)

License No. Date 7/10, 19 83

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

APPENDIX B REGULATORY AGENCY PERMITS, FORMS, AND NOTIFICATIONS

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UNDERGROUND STORAGE TANK
30 DAY NOTICE

See back of form for instructions

Please ✓ the appropriate box: ☐ Intent to Install ☒ Intent to Close ☐ Both

FOR OFFICE USE ONLY
Site ID #:
Owner ID #:

Waived 30-day notice requirement.
Brett Manning
(360) 407-6268
Brett Manning

Site Information

Site ID Number 11040 (Available from Ecology if the tanks are registered)
Site/Business Name ____ Street
Site Address ____
City/State ____
Zip Code ____ Telephone (___) ____

Owner Information
(This form will be returned to this address)

UST Owner/Operator Longview Aluminum LLC
Mailing Address Po Box 2484 Street
P.O. Box
City/State Longview, WA
Zip Code 98632 Telephone 360 684-8244

Tank Installation Company (if known). Fill out this section ONLY if tanks are being installed.

Service Company ____ Contact Name ____
Address ____ Street P.O. Box
City State Zip Code Telephone (___) ____

Tank Permanent Closure Company (if known). Fill out this section ONLY if tanks are being closed.

Service Company Evren Northwest Contact Name Lynn Green
Address Po Box 80747 Street P.O. Box
City Portland State OR Zip Code 97280 Telephone (503) 452-5561

Tank Closure Information
Fill out this section ONLY if tanks are being closed.

Tank ID	Projected Closure Date	Tank Capacity	Substance Stored	Date Tank Last Used	Is There Product in the Tank (Yes/No)	If No, Date Tank Was Pumped
1		10,000	UNL GAS			

Tank Installation Information
Fill out this section ONLY if tanks are being installed.

Tank ID	Approx. Install Date

To receive this document in an alternative format, contact the TOXICS CLEANUP PROGRAM at 1-800-826-7716 (VOICE) OR (360) 407-6006 (TDD).
ECY 020-95 (Rev. 3-01)

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UNDERGROUND STORAGE TANK
Closure and Site Assessment Notice

See back of form for instructions

FOR OFFICE USE ONLY
Site ID #: _____
Owner ID #: _____

Please ✓ the appropriate box(es)
☐ Temporary Tank Closure ☐ Change-In-Service ☒ Permanent Tank Closure ☒ Site Check/Site Assessment

Site Information

Site ID Number 11040
(Available from Ecology if the tanks are registered)
Site/Business Name LONGVIEW ALUMINUM LLC
Street
Site Address 4029 INDUSTRIAL WY
City/State LONGVIEW WA
Zip Code 98632 Telephone (___) _____

Owner Information

UST Owner/Operator _____
Mailing Address _____
Street
_____
P.O. Box
City/State _____
Zip Code _____ Telephone (___) _____

Owners Signature _____

Tank Closure/Change-In-Service Company

Service Company EVREN NORTHWEST
Certified Supervisor LYNN GREEN Decommissioning Certification No. 1035137-26
Supervisor's Signature _____ Date 29-MAR 04
Address P.O. Box 80747
Street P.O. Box
PORTLAND OR 97280 Telephone (503) 452 5561
City State Zip Code

Site Check/Site Assessor

Certified Site Assessor LYNN GREEN - EVREN NORTHWEST
Address P.O. Box 80747
Street P.O. Box
PORTLAND OR 97280 Telephone (503) 452 5561
City State Zip Code

Tank Information

Tank ID	Closure Date	Closure Method	Tank Capacity	Substance Stored
1	4-8-04	Removal	10,000	UNLD GAS

Contamination Present at the Time of Closure

☐ Yes ☐ No ☒ Unknown
Check unknown if no obvious contamination was observed and sample results have not yet been received from analytical lab.

☐ Yes ☐ No
If contamination is present, has the release been reported to the appropriate regional office?

To receive this document in an alternative format, contact the TOXICS CLEANUP PROGRAM at 1-800-833-6388 (VOICE) OR 711 (TTY).

ECY 020-94 (Rev. 6-99)

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UNDERGROUND STORAGE TANK
Site Check/Site Assessment Checklist

FOR OFFICE USE ONLY
Site #: _____
Owner #: _____

INSTRUCTIONS

When a release has not been confirmed and reported, this Site Check/Site Assessment Checklist must be completed and signed by a person certified by IFCI or a Washington registered professional engineer who is competent, by means of examination, experience, or education, to perform site assessments. **The results of the site check or site assessment must be included with this checklist.** This form must be submitted to Ecology at the address shown below within 30 days after completion of the site check/site assessment.

SITE INFORMATION: Include the Ecology site ID number if the tanks are registered with Ecology. This number may be found on the tank owner's invoice or tank permit.

TANK INFORMATION: Please list all tanks for which the site check or site assessment is being conducted. Use the owner's tank ID numbers if available, and indicate tank capacity and substance stored.

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT: Please check the appropriate item.

CHECKLIST: Please initial each item in the appropriate box.

SITE ASSESSOR INFORMATION: This information must be signed by the registered site assessor who is responsible for conducting the site check/site assessment.

Underground Storage Tank Section
Department of Ecology
PO Box 47655
Olympia WA 98504-7655

SITE INFORMATION

Site ID Number (Available from Ecology if the tanks are registered): 29
Site/Business Name: LONGVIEW ALUMINUM LLC
Site Address: 4029 INDUSTRIAL WAY (Street) Telephone: (___)_____
LONGVIEW (City) WA (State) 98632 (Zip Code)

TANK INFORMATION

Tank ID No.	Tank Capacity	Substance Stored
1	10,000-GALLONS	GASOLINE

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT

Check one:

_____ Investigate suspected release due to on-site environmental contamination.
_____ Investigate suspected release due to off-site environmental contamination.
_____ Extend temporary closure of UST system for more than 12 months.
_____ UST system undergoing change-in-service.
__✓__ UST system permanently closed with tank removed.
_____ Abandoned tank containing product.
_____ Required by Ecology or delegated agency for UST system closed before 12/22/88.
_____ Other (describe): _____

CHECKLIST

Each item of the following checklist shall be initialed by the person registered with the Department of Ecology whose signature appears below.	YES	NO
1. The location of the UST site is shown on a vicinity map.	✓	
2. A brief summary of information obtained during the site inspection is provided. (see Section 3.2 in site assessment guidance)	✓	
3. A summary of UST system data is provided. (see Section 3.1.)	✓	
4. The soils characteristics at the UST site are described. (see Section 5.2)	✓	
5. Is there any apparent groundwater in the tank excavation?	✓	
6. A brief description of the surrounding land use is provided. (see Section 3.1)	✓	
7. Information has been provided indicating the number and types of samples collected, methods used to collect and analyze the samples, and the name and address of the laboratory used to perform the analyses.	✓	
8. A sketch or sketches showing the following items is provided:	✓	
- location and ID number for all field samples collected	✓	
- groundwater samples distinguished from soil samples (if applicable)	✓	
- samples collected from stockpiled excavated soil		
- tank and piping locations and limits of excavation pit	✓	
- adjacent structures and streets	✓	
- approximate locations of any on-site and nearby utilities	✓	
9. If sampling procedures different from those specified in the guidance were used, has justification for using these alternative sampling procedures been provided? (see Section 3.4)		
10. A table is provided showing laboratory results for each sample collected including; sample ID number, constituents analyzed for and corresponding concentration, analytical method and detection limit for that method.	✓	
11. Any factors that may have compromised the quality of the data or validity of the results are described.	✓	

12. The results of this site check/site assessment indicate that a confirmed release of a regulated substance has occurred.	✓	

SITE ASSESSOR INFORMATION

LYNN GREEN
Person registered with Ecology

EVREN NORTHWEST INC
Firm Affiliated with

Business Address: PO BOX 80747
Street

Telephone: (503) 452-5561

PORTLAND
City

OR
State

97080-1747
Zip Code

I hereby certify that I have been in responsible charge of performing the site check/site assessment described above. Persons submitting false information are subject to penalties under Chapter 173.360 WAC.

6/18/04
Date

LOL
Signature of Person Registered with Ecology

Facility/Site Detail

Facility/Site Name: Longview Aluminum LLC **Ecology Identifier:** 29

Facility/Site Location

Geographic Location

Street Address or Location

4029 INDUSTRIAL WAY

City: LONGVIEW
ZIP Code: 98632
County: COWLITZ

Congressional District: 3
Legislative District: 19

Latitude/Longitude

Latitude: Deg: 46 Min: 8 Sec: 29.00
Longitude: Deg: 122 Min: 59 Sec: 46.00

Decimal Equivalents

Latitude: 46.1415 **Longitude:** 122.9964

Accuracy Level: +/- 10 feet (3 meter)

Display the location of this site and all other sites of interest to the Department of Ecology that are approximately within a one half mile radius. Display the location of this site only, but do it via a controllable version of the map.

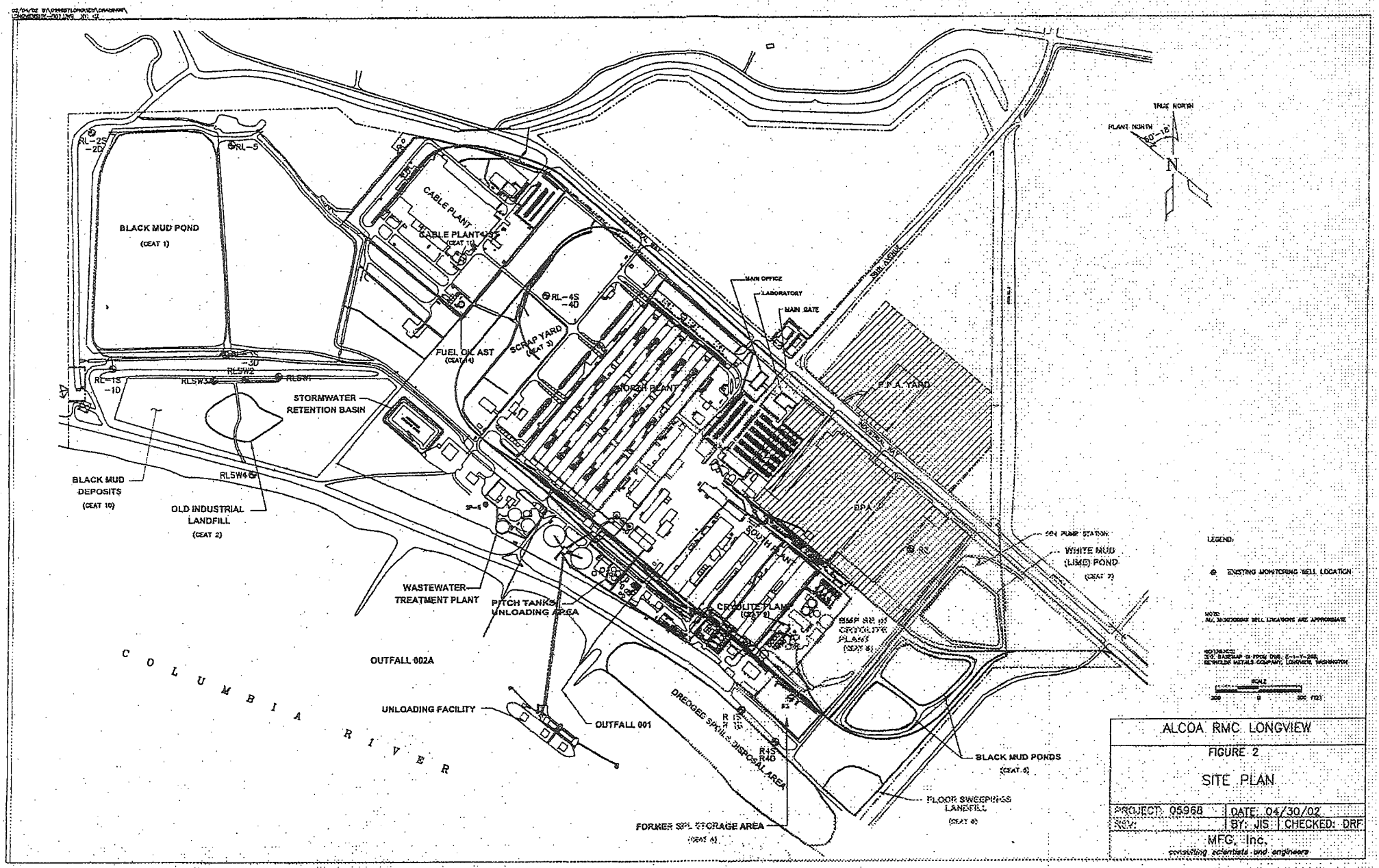
Reason for Interaction with the Department of Ecology

Interaction Description	Responsible Organization	Ecology Contact Phone #	Status
Air Qual Oper Permit Source	AIRQUAL	(360) 407-6806	Active
Hazardous Waste Generator	HAZWASTE (3	60) 407-7555	Active
Underground Storage Tank	TOXICS	(360) 407-7206	Active
Toxics Release Inventory	HAZWASTE (3	60) 407-6727	Active
MAJOR INDUSTRIAL	WATQUAL		Active
State Cleanup Site	TOXICS	(360) 407-7224	Inactive
Industrial Sites	SWFAP		Active

Industrial Classification

SIC Code	SIC Code Description
2819	INDUSTRIAL INORGANIC CHEMICALS, NEC
3334	PRIMARY ALUMINUM
3624	CARBON AND GRAPHITE PRODUCTS

Mailing Address of



ALCOA RMC LONGVIEW

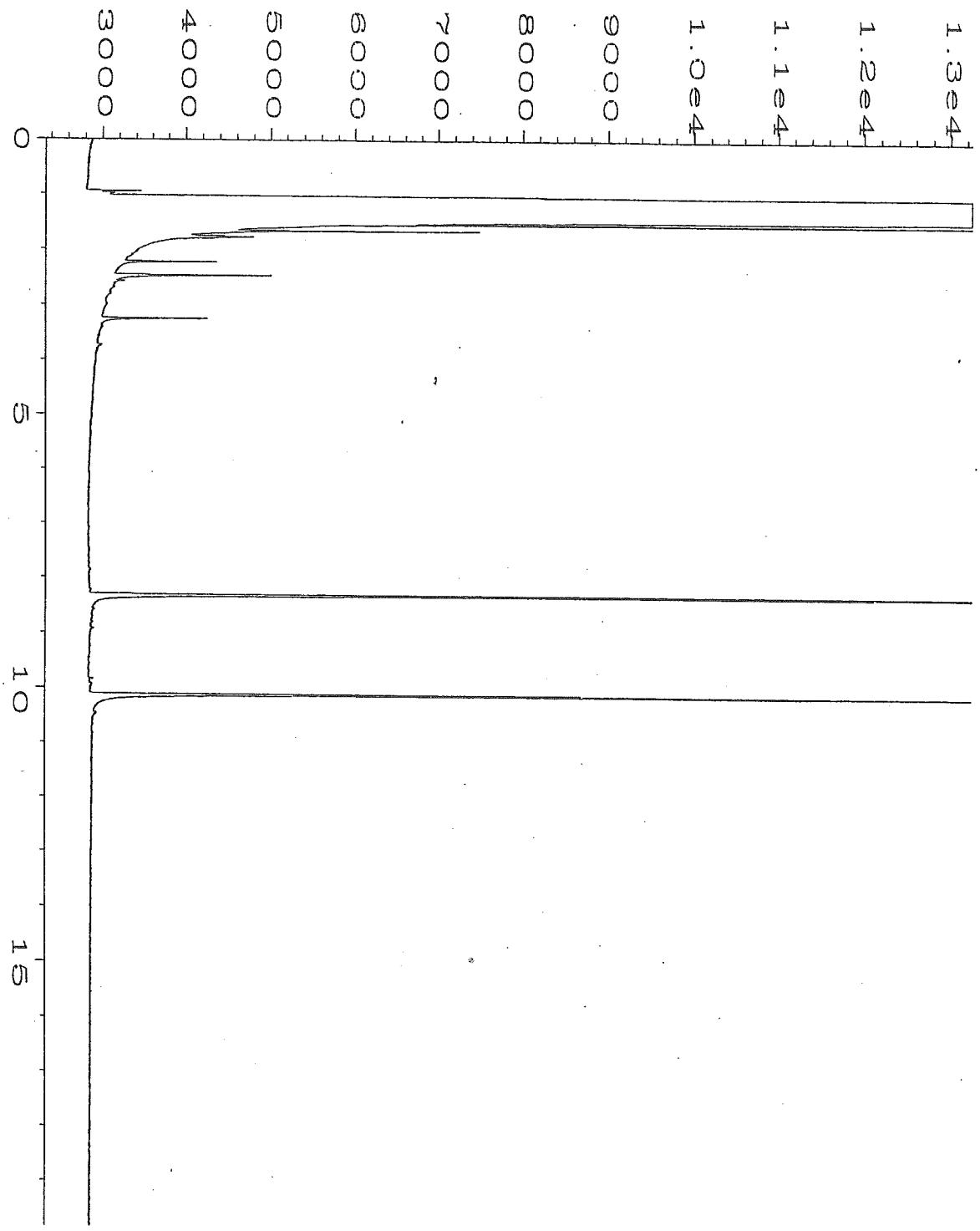
FIGURE 2

SITE PLAN

PROJECT: 05968	DATE: 04/30/02
REV:	BY: JIS CHECKED: DRF

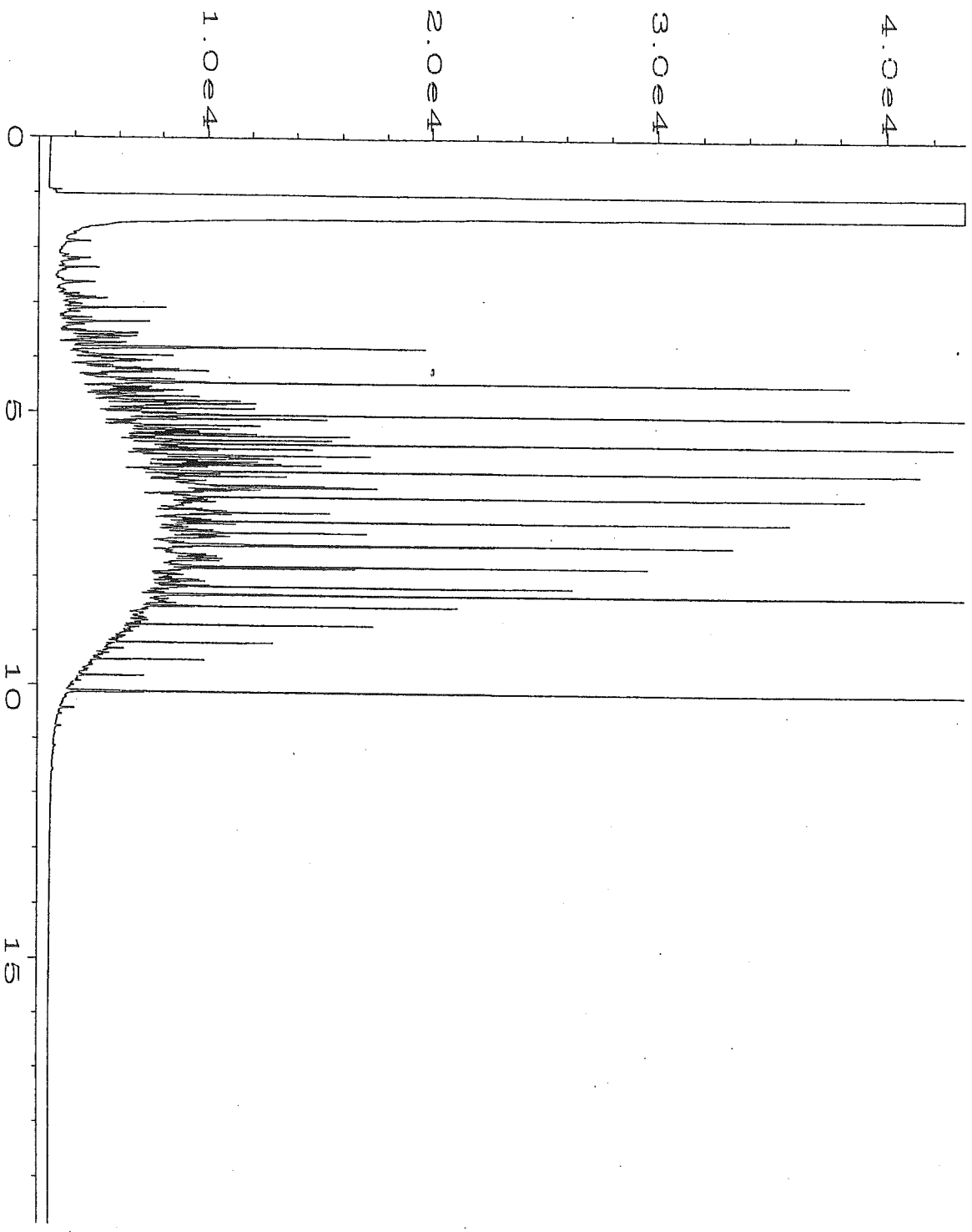
MFG, Inc.
consulting scientists and engineers

APPENDIX C BORING LOG



Data File Name : D:\GC6\05-27-04\005F0301.D
Operator : SO
Instrument : GC #6
Sample Name : 04-550 mb
Run Time Bar Code:
Acquired on : 27 May 04 09:44 AM
Report Created on: 02 Jun 04 07:50 AM

Page Number : 1
Vial Number : 5
Injection Number : 1
Sequence Line : 3
Instrument Method: TPHD.MTH
Analysis Method : DEFAULT.MTH



Data File Name : D:\GC6\05-27-04\002F0201.D
Operator : SO
Instrument : GC #6
Sample Name : 500 WADF 17-43
Run Time Bar Code:
Acquired on : 27 May 04 08:24 AM
Report Created on: 02 Jun 04 07:49 AM

Page Number : 1
Vial Number : 2
Injection Number : 1
Sequence Line : 2
Instrument Method: TPHD.MTH
Analysis Method : DEFAULT.MTH

125255

Environmental Services Laboratory, Inc

CHAIN OF CUSTODY

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 670-8520 • FAX (503) 670-9243

Company: ENW | Project Manager: LYNN GREEN | LABORATORY #

Address: P.O. BOX 80747, PTLD, OR 97280

Phone: 503 452-5561 | Fax: 503 452 7669

SAMPLE DISPOSAL INSTRUCTIONS

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	NWTPH-HCID	NWTPH-GX	NWTPH-DX	8020M - BETX only	8270 SIMS PAHs	Halogenated VOCs/GCMS	Aromatic VOCs/GCMS	8260 GCMS Volatiles	8270 GCMS Semivolatiles	8081 GC Pesticides/PCBs	8081m PCBs only	RCRA Metals (8)	Priority Pollutant Metals (13)	Metals: Pb	TCLP Metals (8)	TCLP Volatiles 8260 ZH-EXT	TCLP Semivolatiles 8270	NTCA VOC	TPH AGE ANALYSIS	# OF CONTAINERS
PW2	26 MY	1010	WATER	01 A-K	X	X												X				X	X	
B4-D2-2(5)	↓	1050	Soil	02			X																	
B4-D2-8(9)	↓	1155	Soil	03			X																X	

Lab ID (margin): 01 A-K; 02; 03 — NP 5/27

PROJECT INFORMATION

PROJECT NUMBER: 314-04001-02

PROJECT NAME: LONGVIEW ALUMINUM

PURCHASE ORDER NUMBER: 314-04001

ONGOING PROJECT? YES ☒ NO ☐

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS

COC SEALS INTACT? Y / N / NA

RECEIVED INTACT? Y / N

RECEIVED COLD? Y / N

PRIOR AUTHORIZATION REQUIRED FOR RUSH PROJECTS

TAT (NORMAL) 2 WKS (RUSH) ☐ 24 HR ☒ 48 HRS ☐ 72 HRS ☐ 1 WK

GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)

SPECIAL INSTRUCTIONS: Phone w/ Dx results for more analysis requirements. TAT PER CONV. W/ THOMAS NADERMAN

Sampled by: LG / MB

Received via:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
SIGNATURE: [signature] Time: 1440	SIGNATURE: Time	SIGNATURE: Time
Printed Name: LYNN GREEN Date: 26 MY 04	Printed Name: Date	Printed Name: Date
Company: ENW	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: [signature] Time: 10:00	Signature: Time	Signature: Time
Printed Name: Nhan Phan Date: 5/27/04	Printed Name: Date	Printed Name: Date
Company: Friedman & Bruya	Company:	ESL Inc.:

DISTRIBUTION: White, Canary - ESL, Pink - Originator

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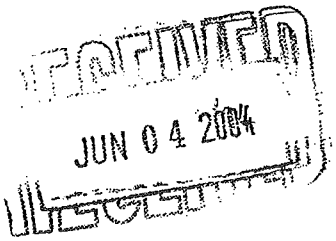
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588
Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119
907.563.9200 fax 907.563.9210

02 June 2004

Charlene Morrow
Friedman & Bruya
3012 16th Ave W
Seattle, WA/USA 98119-2029
ATTN: Charlene Morrow



Enclosed are the results of analyses for samples received by the laboratory on 05/27/04 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeanne Garthwaite

Jeanne Garthwaite
Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

www.ncalabs.com

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907.563.9200 fax 907.563.9210

Friedman & Bruya	Project: Charlene Morrow	
3012 16th Ave W	Project Number: 405255	**Reported:**
Seattle, WA/USA 98119-2029	Project Manager: Charlene Morrow	06/02/04 13:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PW2	B4E0769-01	Water	05/26/04 10:10	05/27/04 16:00

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeanne Garthwaite

Jeanne Garthwaite, Project Manager

www.ncalabs.com

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Friedman & Bruya	Project: Charlene Morrow	
3012 16th Ave W	Project Number: 405255	**Reported:**
Seattle, WA/USA 98119-2029	Project Manager: Charlene Morrow	06/02/04 13:29

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PW2 (B4E0769-01) Water Sampled: 05/26/04 10:10 Received: 05/27/04 16:00									
Lead	ND	0.00100	mg/l	1	4F01038	06/01/04	06/02/04	EPA 6020	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeanne Garthwaite

Jeanne Garthwaite, Project Manager

www.ncalabs.com

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907.563.9200 fax 907.563.9210

Friedman & Bruya	Project: Charlene Morrow	
3012 16th Ave W	Project Number: 405255	**Reported:**
Seattle, WA/USA 98119-2029	Project Manager: Charlene Morrow	06/02/04 13:29

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4F01038: Prepared 06/01/04 Using EPA 3020A										
Blank (4F01038-BLK1)										
Lead	ND	0.00100	mg/l							
LCS (4F01038-BS1)										
Lead	0.0785	0.00100	mg/l	0.0800		98.1	80-120			
LCS Dup (4F01038-BSD1)										
Lead	0.0785	0.00100	mg/l	0.0800		98.1	80-120	0.00	20	
Matrix Spike (4F01038-MS1)					**Source: B4E0778-04**					
Lead	0.0808	0.00100	mg/l	0.0800	0.00173	98.8	75-125			
Matrix Spike Dup (4F01038-MSD1)					**Source: B4E0778-04**					
Lead	0.0818	0.00100	mg/l	0.0800	0.00173	100	75-125	1.23	20	
Post Spike (4F01038-PS1)					**Source: B4E0778-04**					
Lead	0.101		ug/ml	0.100	0.00173	99.3	75-125			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeanne Garthwaite

Jeanne Garthwaite, Project Manager

www.ncalabs.com

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907.563.9200 fax 907.563.9210

Friedman & Bruya	Project: Charlene Morrow	
3012 16th Ave W	Project Number: 405255	**Reported:**
Seattle, WA/USA 98119-2029	Project Manager: Charlene Morrow	06/02/04 13:29

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeanne Garthwaite

Jeanne Garthwaite, Project Manager

SAMPLE CHAIN OF CUSTODY

Send Report To: Charlene Morrow
Company: F&BI
Address: see below
City, State, ZIP:
Phone #: Fax #:

SAMPLERS *(signature)*

PROJECT NAME/NO.: 405255
PO #: F-495

REMARKS: Please fax by end of day Wed 5-2

Page # ____ of ____

TURNAROUND TIME
☐ Standard (2 Weeks)
~~☒~~ RUSH 3 day
Rush charges authorized by: CM

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: O&G by 1664 no silica	Total Hg by 7470/7471	Total ~~As, Cd,~~ (Pb) ~~Zn~~ by 6020	TCLP Hg by 7470 (sample is TCLP extract)	Total RCRA Metals by 6020/7470					Notes
PW2		5-26-04	1010	water				X							B4E0769-01

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Charlene Morrow	Charlene Morrow	F&BI	5-27-04	1200
Received by:	PRAM TONY	NEA	5/27/04	1600
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COC.DOC

8-9° w/o

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

June 9, 2004

Lynn Green, Project Manager
Evern Northwest
P.O. Box 80747
Portland, OR 97280

Dear Ms. Green:

Included are the results from the testing of material submitted on May 27, 2004 from the 314-04001-02, Longview Aluminum, F&BI 405255 project. The water and soil samples submitted for forensic evaluation arrived in good condition. Upon arrival, the samples PW2, B4-D2-2(5), and B4-D2-8(9) were placed in a refrigerator maintained at 4°C until removed for sample processing.

The sample B4-D2-8(9) was extracted and analyzed using a gas chromatograph with a flame ionization detector (GC/FID) and an electron capture detector (ECD). The data generated yielded information on the boiling range and general chemical composition of the material present. The GC/FID and GC/ECD traces are enclosed. A GC/FID trace of a standard consisting of normal alkanes is also provided for reference purposes.

Based on the GC/FID analysis, the sample B4-D2-8(9) contains a middle distillate such as diesel fuel #2 or heating oil. The general composition of this fuel indicates that it has undergone little to no biological degradation. Under the site conditions provided, we estimate that the extent of degradation in this fuel is consistent with releases that occurred within the last 10 years.

Please contact us if additional consultation is needed by our firm in the interpretation of the analytical results provided. We appreciate this opportunity to be of service to you and hope you will call if you should have any questions. We will hold your samples for 30 days before disposal unless directed otherwise.

Sincerely,

FRIEDMAN & BRUYA, INC.

Bradley T. Benson
Chemist

Enclosures
NAA0609R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/09/04
Date Received: 05/27/04
Project: 314-04001-02, Longview Aluminum, F&BI 405255
Date Extracted: 06/04/04
Date Analyzed: 06/04/04

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLE FOR FORENSIC EVALUATION BY CAPILLARY GAS CHROMATOGRAPHY USING A FLAME IONIZATION DETECTOR (FID) AND ELECTRON CAPTURE DETECTOR (ECD)

Sample ID	GC Characterization
B4-D2-8(9)	The GC trace using the flame ionization detector (FID) showed the presence of medium boiling compounds. The patterns displayed by these peaks are indicative of a middle distillate such as diesel fuel #2 or heating oil. The medium boiling compounds appear as a regular pattern of peaks on top of a broad hump or unresolved complex mixture (UCM). This material elutes from n-C_9 to n-C_{24} showing a maximum near n-C_{15}. This correlates with a temperature range of approximately 150°C to 390°C with a maximum near 270°C. Within this range, the dominant peaks present are indicative of normal alkanes. Secondary peaks are also present which are indicative of the isoprenoids including norpristane, pristane, and phytane. The relative abundance of the normal alkanes and isoprenoids indicates that little to no biological degradation has occurred to the fuel. The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second surrogate present that is seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.

405255

CM 05/21/04

Environmental Services Laboratory, Inc

CHAIN OF CUSTO[DY]

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 670-8520 • FAX (503) 670-9243

Project Manager: LYNN GREEN

LABORATORY #

Company: ENW

Address: P.O. Box 80747, PTLD, OR 97280

Phone: 503 452-5561 Fax: 503 452 7669

SAMPLE DISPOSAL INSTRUCTIONS

ANALYSIS REQUEST

Lab ID (margin)	SAMPLE ID	DATE	TIME	MATRIX	LAB ID	NWTPH-HCID	NWTPH-GX	NWTPH-DX	8020M - BETX only	8270 SIMS PAHs	Halogenated VOCs/GCMS	Aromatic VOCs/GCMS	8260 GCMS Volatiles	8270 GCMS Semivolatiles	8081 GC Pesticides/PCBs	8081m PCBs only	RCRA Metals (8)	Priority Pollutant Metals (13)	Metals: Pb	TCLP Metals (8)	TCLP Volatiles 8260 ZH-EXT	TCLP Semivolatiles 8270	MTCA VOC	TPH AGE ANALYSIS	# OF CONTAINERS
01 A-K	PW2	26MY	1000	WATER	01 A-K	X	X												X				X	X	
02	B4-D2-2(5)	↓	1050	Soil	02			X																X	
03	B4-D2-8(9)	↓	1155	Soil	03			X																	

NP 5/27 Lab ID

PROJECT INFORMATION

PROJECT NUMBER: 314-04001-02

PROJECT NAME: LONGVIEW ALUMINUM

PURCHASE ORDER NUMBER: 314-0400

ONGOING PROJECT? YES ☒ NO ☐

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS

COC SEALS INTACT? Y / N / NA

RECEIVED INTACT? Y / N

RECEIVED COLD? Y / N

PRIOR AUTHORIZATION REQUIRED FOR RUSH PROJECTS

TAT (NORMAL) 2 WKS (RUSH) ☐ 24 HR ☒ 48 HRS ☐ 72 HRS ☐ 1 WK

GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)

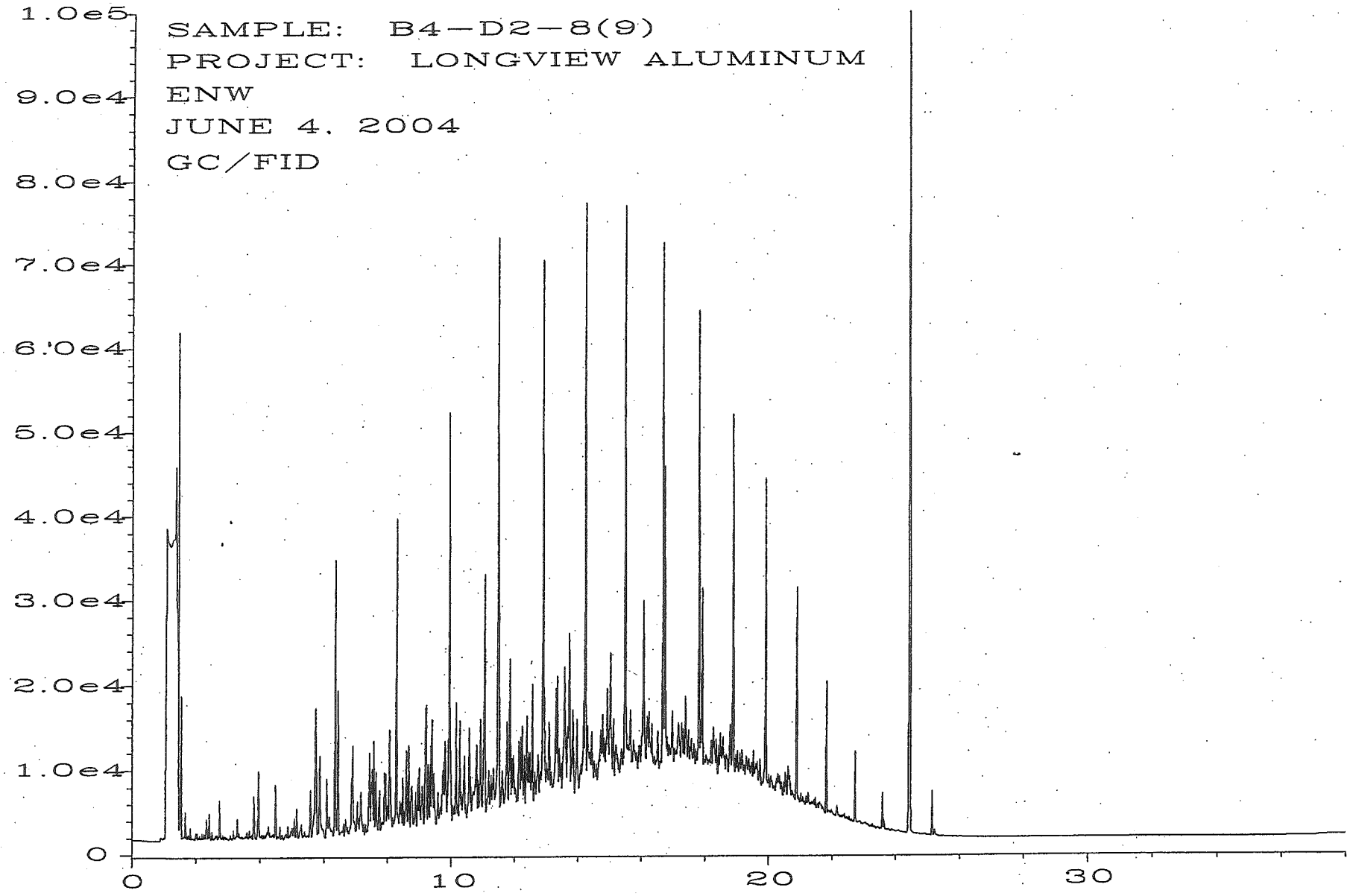
SPECIAL INSTRUCTIONS: Phone w/ Dx results for more analysis requirements. TAT PER CONV W/ THOMAS NADLEMAN

Sampled by: LG/MB

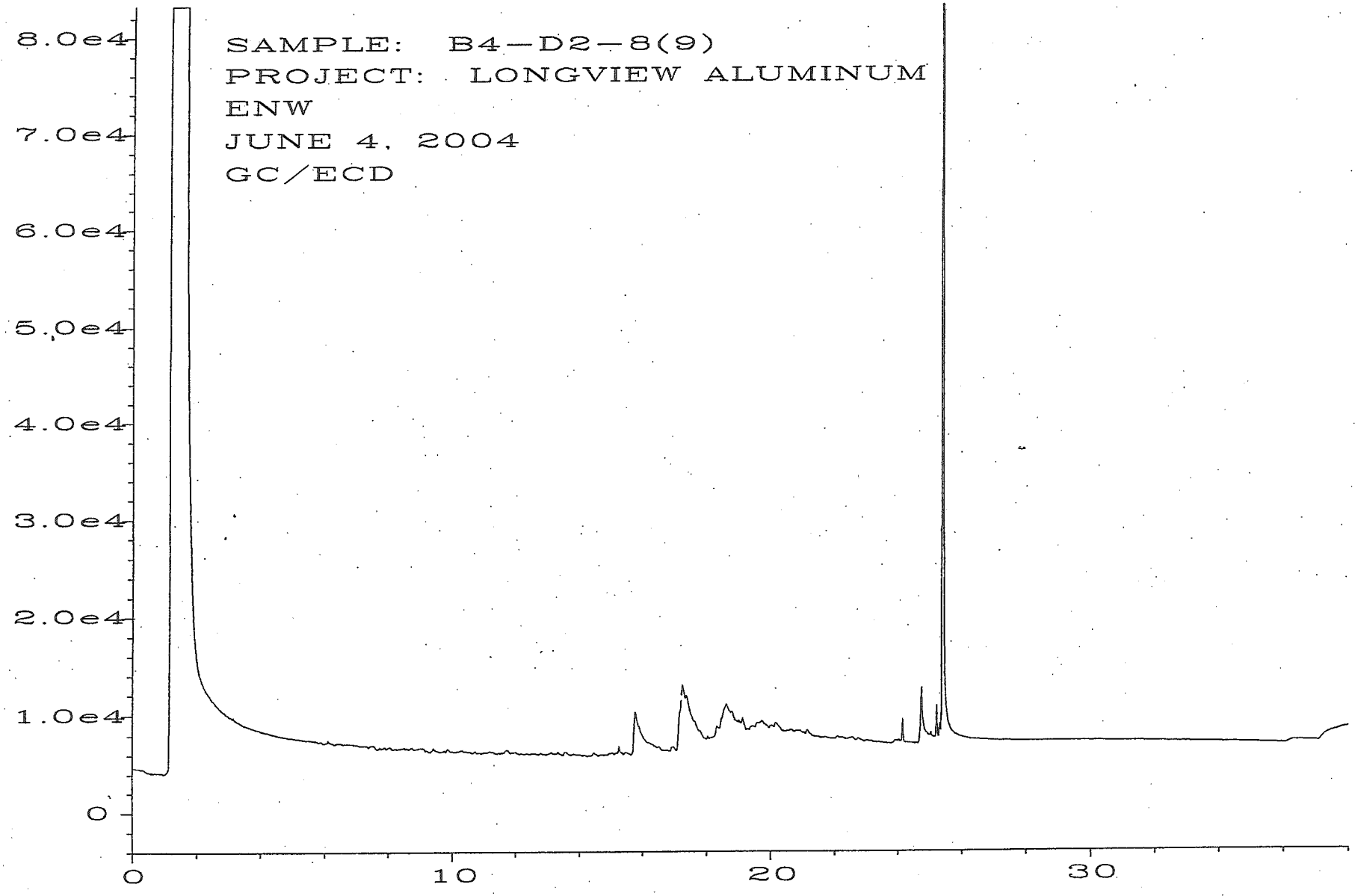
Received via:

DISTRIBUTION: White, Canary - ESL, Pink - Originator

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
SIGNATURE: [signature] Time 1440	SIGNATURE: Time	SIGNATURE: Time
Printed Name: LYNN GREEN Date 26MY04	Printed Name: Date	Printed Name: Date
Company: ENW	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: [signature] Time 10:00	Signature: Time	Signature: Time
Printed Name: Nhan Phan Date 5/27/04	Printed Name: Date	Printed Name: Date
Company: Friedman & Bruya	Company:	ESL Inc.:



Sig. 1 in C:\HPCHEM\1\DATA\06-04-04\019F0201.D



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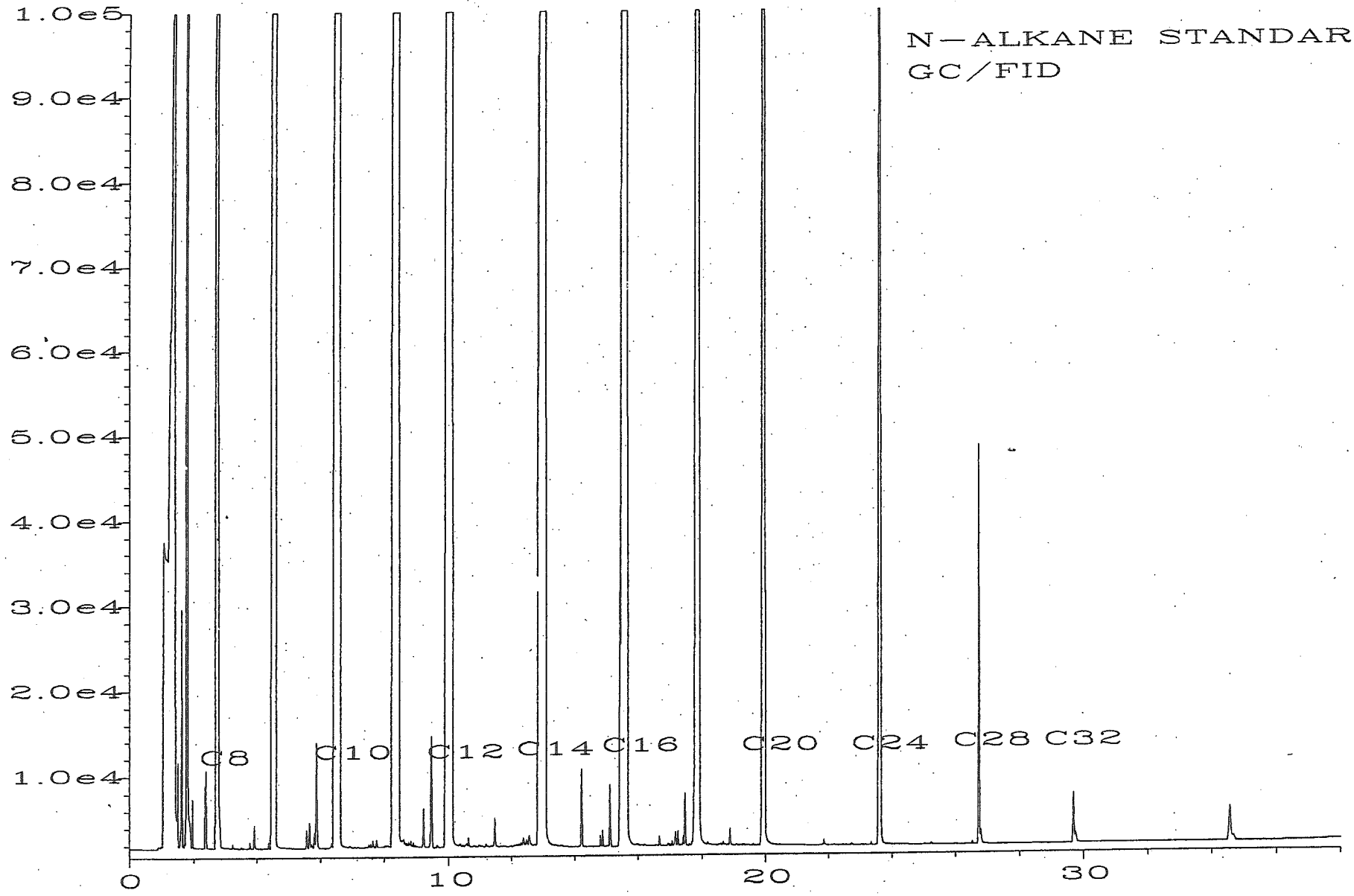

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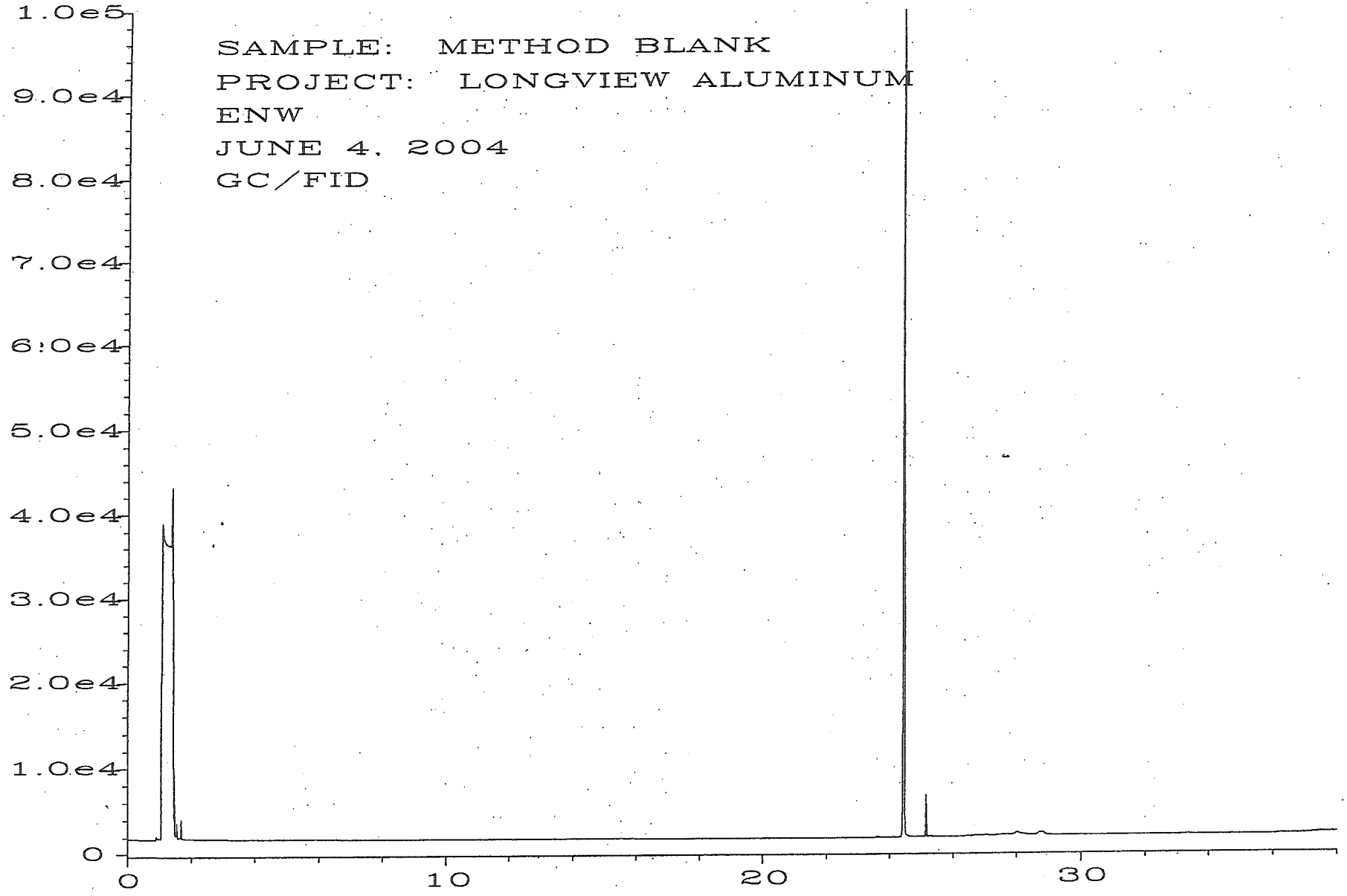

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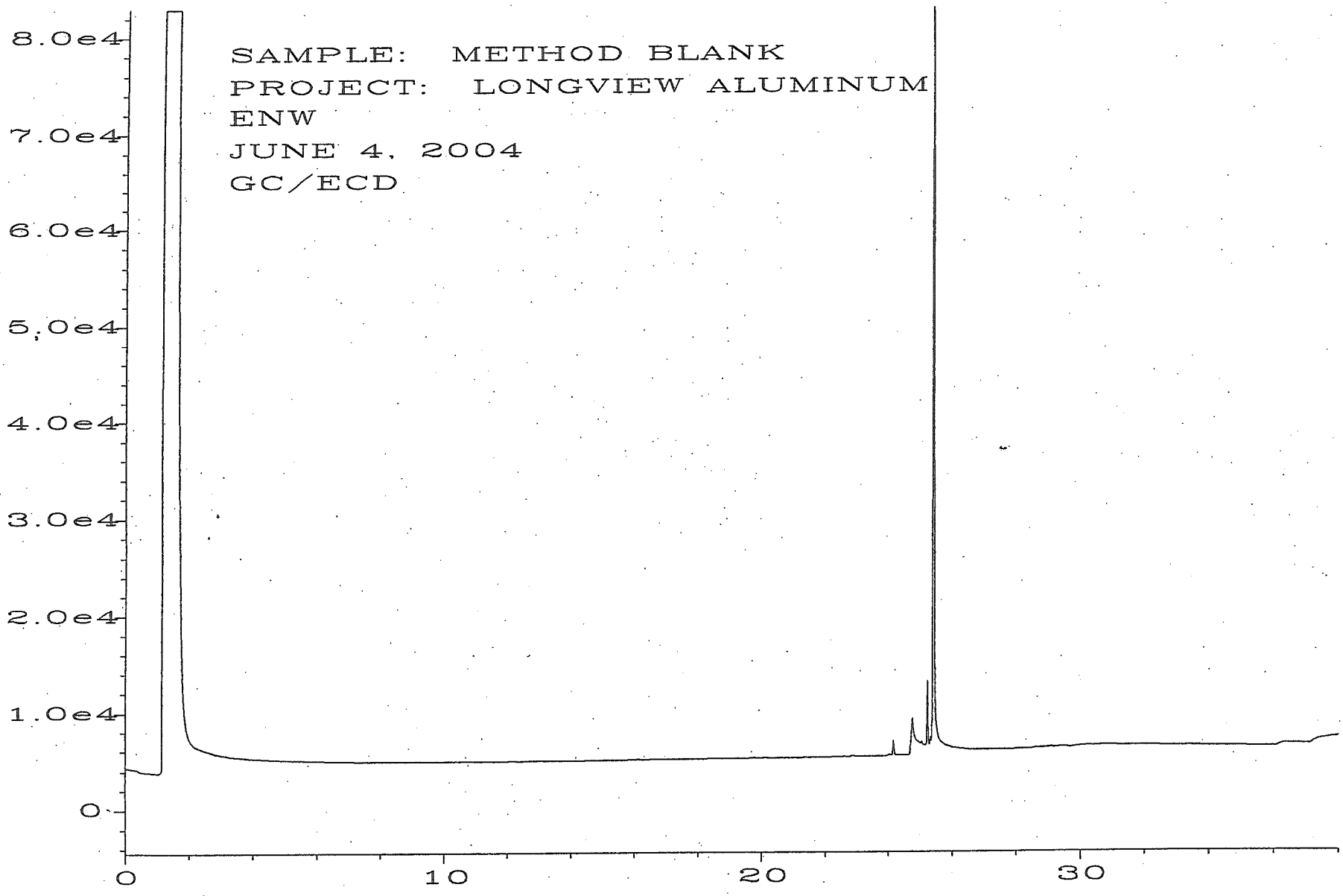


Sig. 2 in C:\HPCHEM\1\DATA\06-04-04\003R0201.D

D-2 GROUND WATER DATA

Environmental Services Laboratory

Date: *21-May-04*

CLIENT:	EVREN Northwest	**Client Sample ID:**	PW-1
Lab Order:	0405057	**Tag Number:**	
Project:	314-04001/Longview	**Collection Date:**	5/5/04
Lab ID:	0405057-02A	**Matrix:**	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
HCID WATER		**EPA 8015**		**(3510C)**		Analyst: **bvd**
Diesel	ND	0.50		mg/L	1	5/10/04
Gasoline	DETECT	0.25		mg/L	1	5/10/04
Heavy Oil	ND	0.50		mg/L	1	5/10/04
Hydraulic Oil	ND	0.50		mg/L	1	5/10/04
Jet Fuel	ND	0.25		mg/L	1	5/10/04
Kerosene	ND	0.50		mg/L	1	5/10/04
Lube Oil	ND	0.63		mg/L	1	5/10/04
Mineral Spirits/Stodard Solvent	ND	0.25		mg/L	1	5/10/04
Motor Oil	ND	0.50		mg/L	1	5/10/04
Naptha	ND	0.25		mg/L	1	5/10/04
Oil	ND	0.50		mg/L	1	5/10/04
Unidentified Hydrocarbon (Diesel range)	ND	0.50		mg/L	1	5/10/04
Unidentified Hydrocarbon (Gas range)	ND	0.25		mg/L	1	5/10/04
Unidentified Hydrocarbon (Oil range	ND	0.50		mg/L	1	5/10/04
Surr: O-Terphenyl	83.0	59.2-110		%REC	1	5/10/04
GAS/BTEX, AQUEOUS		**8015/8021**				Analyst: **tln**
Gasoline	50000	2500		µg/L	25	5/12/04
Surr: Trifluorotoluene	81.5	70-130		%REC	25	5/12/04
PAH BY SIM, AQUEOUS		**8270-SIM**		**(3510C)**		Analyst: **rlr**
1-Methylnaphthalene	13	0.10		µg/L	1	5/12/04
2-Methylnaphthalene	21	0.10		µg/L	1	5/12/04
Naphthalene	73	0.10		µg/L	1	5/12/04
Surr: 2-Fluorobiphenyl	82.0	43-116		%REC	1	5/12/04
Surr: 4-Terphenyl-d14	68.0	33-141		%REC	1	5/12/04
Surr: Nitrobenzene-d5	61.0	35-114		%REC	1	5/12/04
VOLATILES BY GC/MS		**EPA 8260B**				Analyst: **keh**
1,2-Dibromoethane	ND	50		µg/L	50	5/12/04
1,2-Dichloroethane	ND	50		µg/L	50	5/12/04
Benzene	4800	50		µg/L	50	5/12/04
Ethylbenzene	900	50		µg/L	50	5/12/04
m,p-Xylene	3200	100		µg/L	50	5/12/04
Methyl tert-butyl ether	ND	100		µg/L	50	5/12/04
o-Xylene	1400	50		µg/L	50	5/12/04
Toluene	7500	50		µg/L	50	5/12/04
Surr: 4-Bromofluorobenzene	102	81-116		%REC	50	5/12/04
Surr: Dibromofluoromethane	100	87-117		%REC	50	5/12/04
Surr: Toluene-d8	93.2	75.4-105		%REC	50	5/12/04

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/02/04
Date Received: 05/27/04
Project: 314-04001-02, Longview Aluminum, F&BI 405255
Date Extracted: 06/01/04
Date Analyzed: 06/01/04

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as µg/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 61-136)
PW2 405255-01	<50	92
Method Blank	<50	84

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/02/04
Date Received: 05/27/04
Project: 314-04001-02, Longview Aluminum, F&BI 405255
Date Extracted: 05/27/04
Date Analyzed: 05/28/04

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

Sample ID Laboratory ID	Gasoline	Diesel	Heavy Oil	Surrogate (% Recovery)
PW2 405255-01	ND	ND	ND	170 vo
Method Blank	ND	ND	ND	100

ND - Material not detected at or above 0.2 mg/L gas, 0.3 mg/L diesel and 0.5 mg/L heavy oil.

vo - The value reported fell outside the control limits established for this analyte.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	PW2	Client:	Evern Northwest
Date Received:	05/27/04	Project:	314-04001-02, F&BI 405255
Date Extracted:	06/01/04	Lab ID:	405255-01
Date Analyzed:	06/02/04	Data File:	060119.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	95	50	150
1,2-Dichloroethane-d4	93	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	Tetrachloroethene	<1
Chloromethane	<1	Dibromochloromethane	<1
Vinyl chloride	<0.2 j	1,2-Dibromoethane (EDB)	<1
Bromomethane	<1	Chlorobenzene	<1
Chloroethane	<1	Ethylbenzene	<1
Trichlorofluoromethane	<1	1,1,1,2-Tetrachloroethane	<1
Acetone	<10	m,p-Xylene	<2
1,1-Dichloroethene	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	<1	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon Tetrachloride	<1	tert-Butylbenzene	<1
Benzene	2	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<2
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1
1,3-Dichloropropane	<1	Pentane	<10 L
Butane	<10 L	Isooctane	<10 L

L - The reported concentration was generated from a library search.
j - The result is below normal reporting limits. The value reported is an estimate.

APPENDIX E WASTE RECEIPTS

METRO METALS NORTHWEST, INC.: FERROUS

Vendor: 35265 TNCC, Inc.

Paid To: TNCC, Inc.

Notes:

Date: 05/06/2004

Weigher: Jason Kime

Total Wt: 17,060

148353

Ticket#: 267770

148353

Descrip:

Tot.Paid: $213.25

Commodity	Gross	Tare	Tare2	Contam	Net	Price	UM	Total
#2 HMS Unprepared Tank	56,360	39,300			17,060	25.000	N	213.25

50 N. Suttle Road
rtland, Oregon 97217
701 Bozarth Sreet
oodland, Washington

ORRCO Oil Re-Refining Company

24 Hour Emergency
Service 503.286.8352
Toll Free 800.367.8894
EPA #WAD980986012

No. 133011
Date: 5-5-04
Cust ID# 9902

Generator
Name: Longview Aluminum
Address: 4029 Industrial Way City: Longview State: Wa. Zip: County: Contact Person: Phone:
Consigned To: Fuel Processors Inc.
Destination: 4150 N. Suttle Rd. Portland, OR. 97217
Via Carrier: Oil Re-Refining company
Driver: Steve P Truck # 6487 Miles Run:

Billing Address
Everen Northwest
P.O. Box 80747
Portland, OR 98280
Check# PO#
Profile Date: ~~All oil~~ 5-4-04
Load Ticket # 3028670

Gal./Brl.	Description	Sniffer P / F	CDT / HCDT	pH	Flash Point	Rate per Gal./Brl.	Rate per Hour	Charge
875	Emulsified oil & water	F	Open	7	>200°F	.40	350.00	
	Clor-D-tect					N/C		N/C
5.5	Truck time				75.00		412.50	

Above material being transported for Recycling | EPA# WAD 057068561 | LQG | Total: 762.50

Customer warrants that the waste petroleum products being transferred by the above collector do not contain any contaminants including, without limitation, pesticides, chlorinated solvents at concentrations greater than 1000 PPM, PCBs at concentrations greater than 2 PPM (or 50 PPM with Analytical), or any other material classified as hazardous waste by 40 CFR part 261, Subparts C and D (implementing the federal Resource Conservation and Recovery Act), or by any equivalent state hazardous substance classification program. Should Laboratory tests find this waste not in compliance with 40 CFR Part 261, Customer (generator) agrees to pay for all disposal costs incurred.

SIGNED X [signature] DATE: 5/5/04

1150 N. Suttle Road
Portland, Oregon 97217
701 Bozarth Sreet
Woodland, Washington

ORRCO Oil Re-Refining Company

24 Hour Emergency
Service 503.286.8352
Toll Free 800.367.8894
EPA #WAD980986012

No. 132992
Date: 5-4-04
Cust ID# 8377

Generator
Name: Longview Aluminum — Contact Person: — Phone: 503-849-5855
Address: 4029 Industrial Way — City: Longview — State: Wa — Zip: — County:

Transportation
Consigned To: Fuel Processors EPA #ORD980975682
Destination: 4150 N Suttle Rd Portland Or 97217
Via Carrier: Oil Re-Refining company
Driver: Rick — Truck # 6487 — Miles Run: — Load Ticket # 2054023

Billing Address
Evern Inc
P.O Box 80242
Portland Or
Check# — PO#
Profile Date: Attached

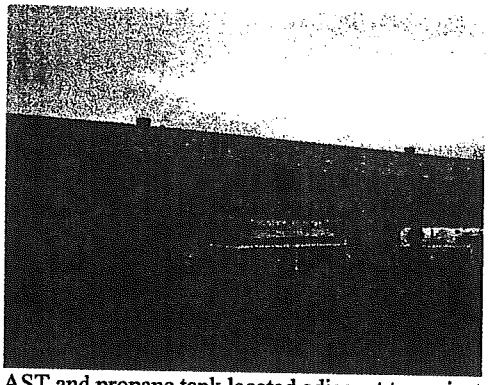
Gal./Brl.	Description	Sniffer P / F	CDT/ HCDT	pH	Flash Point	Rate per Gal./Brl.	Rate per Hour	Charge
55	Emulsified fuel & water	F	0	7		50		2750
6hr	Vac Trk Time for Triple Rinse Price as per Terry Walker					75.00	450.00	

Above material being transported for Recycling | EPA# WAD057068561 | Total: 477.50

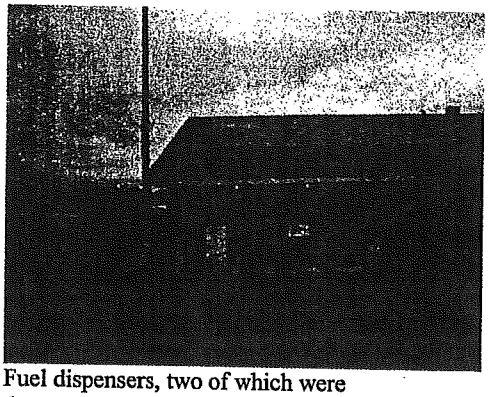
Customer warrants that the waste petroleum products being transferred by the above collector do not contain any contaminants including, without limitation, pesticides, chlorinated solvents at concentrations greater than 1000 PPM, PCBs at concentrations greater than 2 PPM (or 50 PPM with Analytical), or any other material classified as hazardous waste by 40 CFR part 261, Subparts C and D (implementing the federal Resource Conservation and Recovery Act), or by any equivalent state hazardous substance classification program. Should Laboratory tests find this waste not in compliance with 40 CFR Part 261, customer (generator) agrees to pay for all disposal costs incurred.

SIGNED X [signature] DATE: 5/4/04

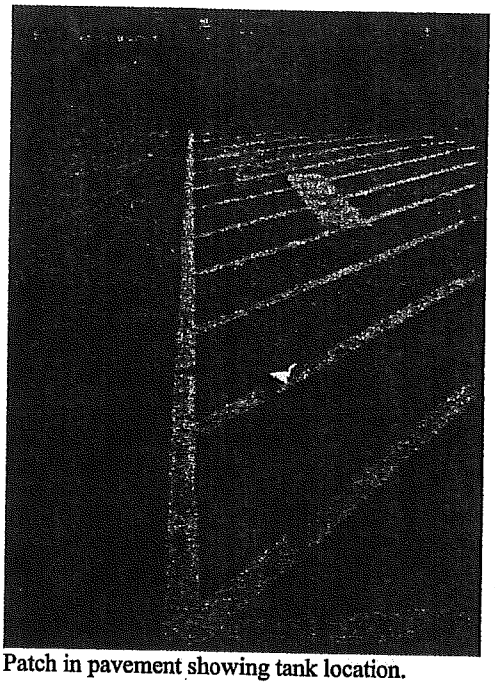
APPENDIX F SITE PHOTOGRAPHS



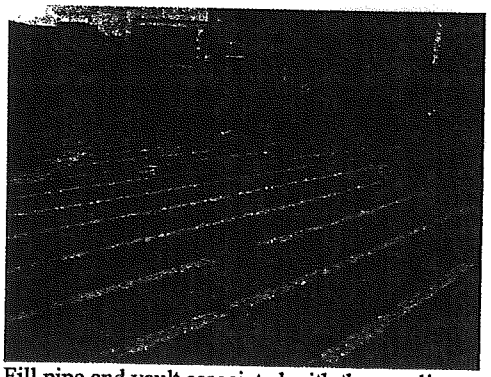
AST and propane tank located adjacent to project area.



Fuel dispensers, two of which were decommissioned during the project, were located adjacent to the nearby building. Historic USTs were reported near this location.

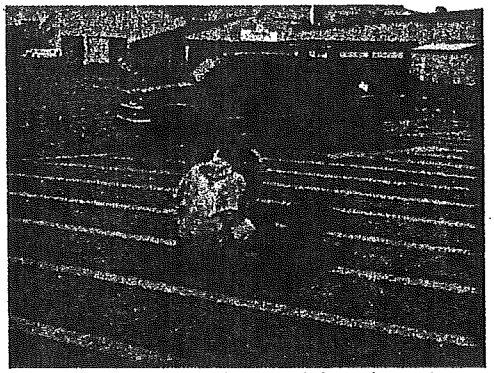


Patch in pavement showing tank location.

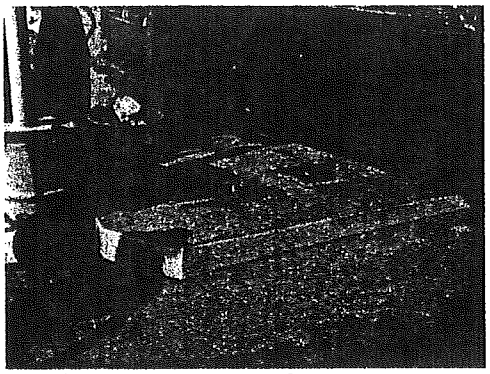


Fill pipe and vault associated with the gasoline tank.

KVRIEN NORTHWEST, INC. ENVIRONMENTAL AND NATURAL RESOURCES CONSULTING	Date Drawn: 6/21/2004 CAD File Name: 314-04001-01 Drawn By: LDG Approved By: NMW	Longview Aluminum 4029 Industrial Way Longview, Washington	**Site Photographs**	Project No. 314-04001-01 Appendix F

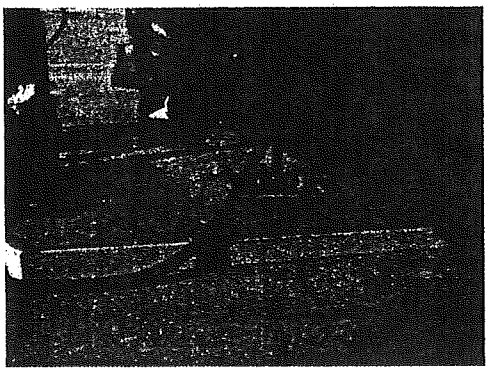


Draining the product lines back into the tank.

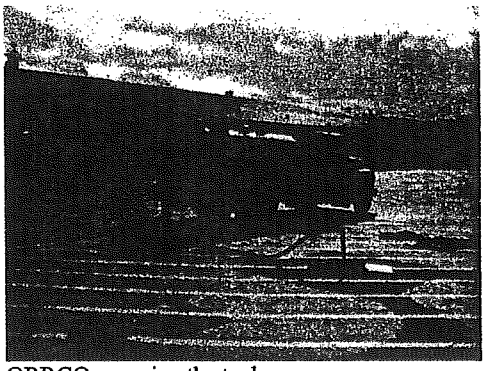


The dispensers were removed.

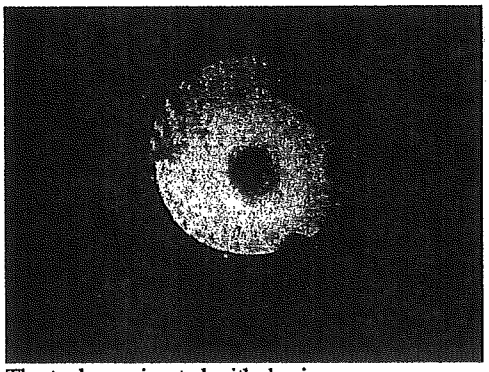
Beginning to dissemble the dispensers.



Applying suction to fuel lines.

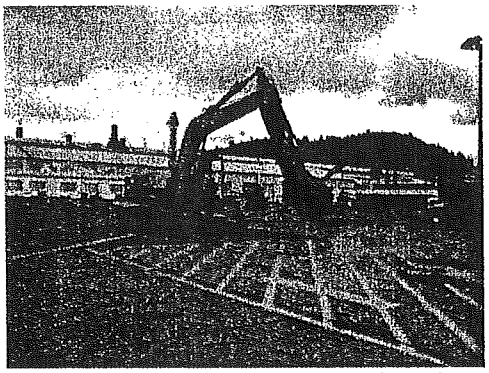


ORRCO pumping the tank.

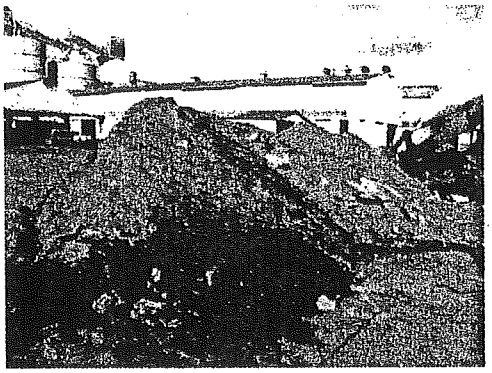


The tank was inerted with dry ice.

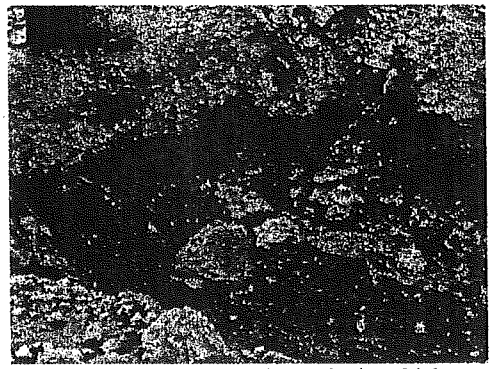
EVREN NORTHWEST, INC. ENVIRONMENTAL AND NATURAL RESOURCE CONSULTING	Date Drawn: 6/21/2004 CAD File Name: 314-04001-01 Drawn By: LDG Approved By: NMW	Longview Aluminum 4029 Industrial Way Longview, Washington	**Site Photographs**	Project No. 314-04001-01 Appendix **F**



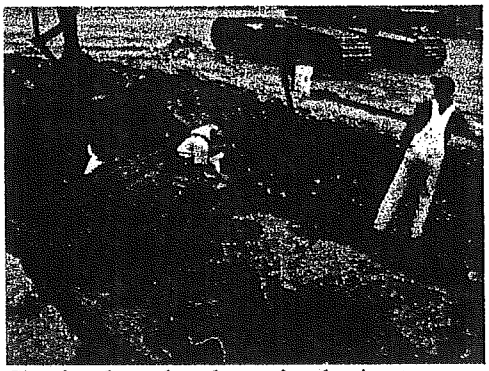
Beginning to break the concrete over the tank.



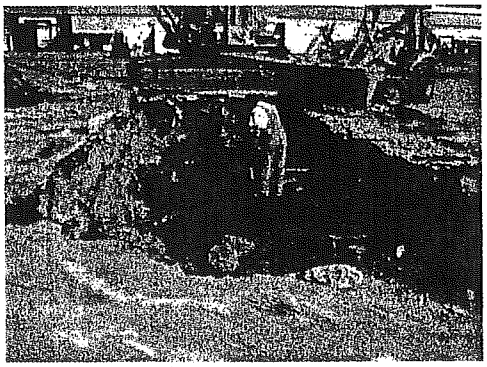
Sidecast clean soil.



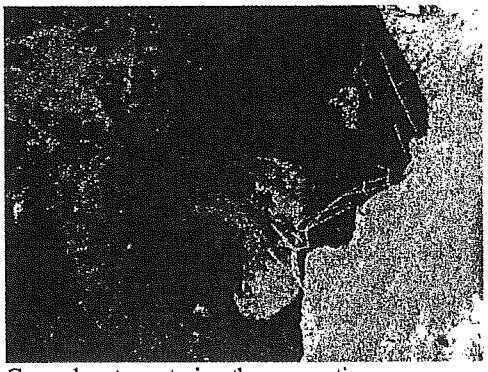
The concrete was greater than 8-inches thick over the tank.



Cleaning the tank and pumping the rinsate.

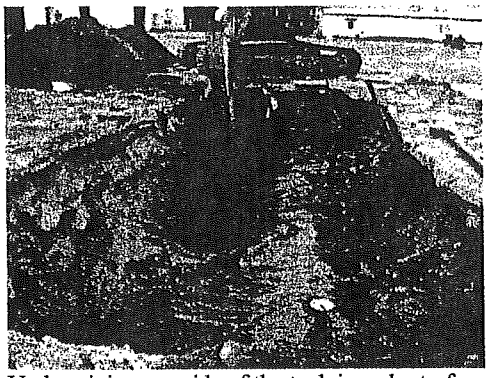


Exposing the tank.

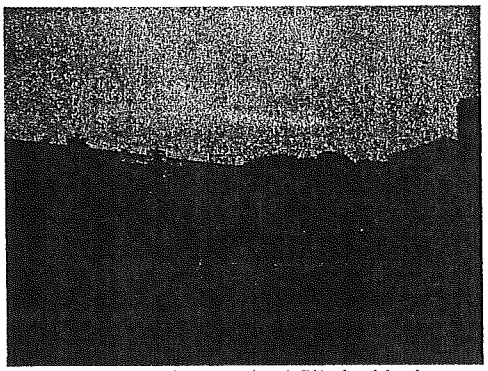


Ground water entering the excavation.

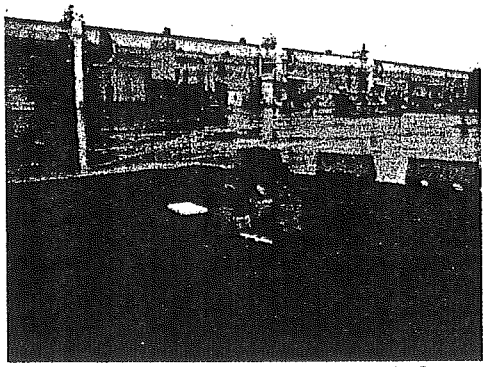
EVREN NORTHWEST, INC. ENVIRONMENTAL AND NATURAL RESOURCE CONSULTING	Date Drawn: 6/21/2004 CAD File Name: 314-04001-01 Drawn By: LDG Approved By: NMW	Longview Aluminum 4029 Industrial Way Longview, Washington	**Site Photographs**	Project No. 314-04001-01 Appendix **F**



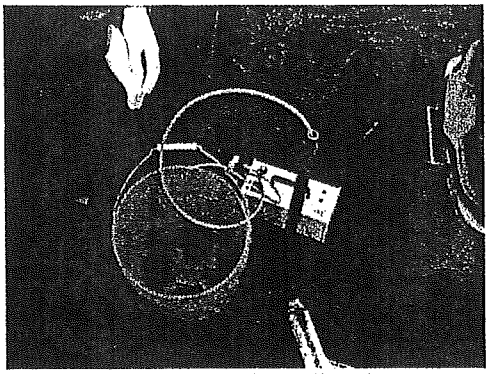
Undermining one side of the tank in order to free the tank.



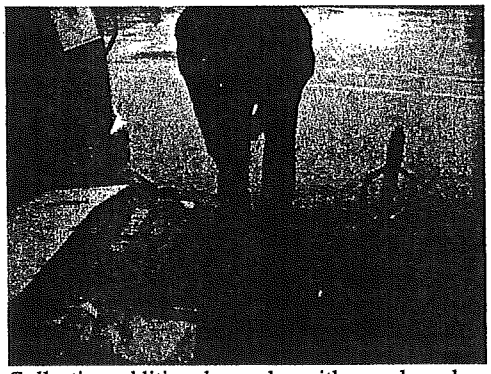
The tank excavation was backfilled with clean fill and compacted, in preparation for replacing the concrete pavement.



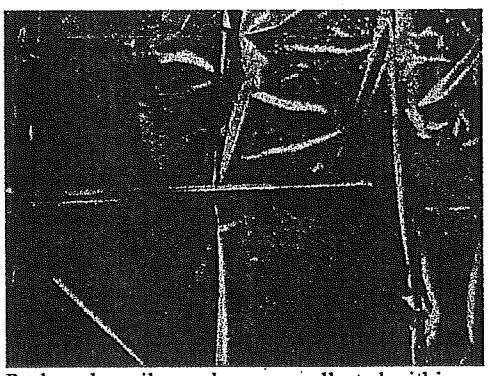
Collecting a reconnaissance water sample from temporary well point.



Peristaltic pump was used to collect the water sample.

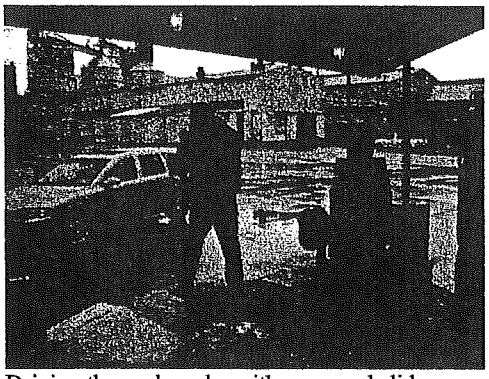


Collecting additional samples with a push probe at the dispenser location.



Push probe soil samples were collected within a CAB sleeve.

EVREN NORTHWEST, INC. Environmental and Natural Resource Consulting	Date Drawn: 6/21/2004 CAD File Name: 314-04001-01 Drawn By: LDG Approved By: NMW	Longview Aluminum 4029 Industrial Way Longview, Washington	**Site Photographs**	Project No. 314-04001-01 Appendix **F**



Driving the push probe with a manual slide hammer at dispenser D2 location (boring B4).

EVREN NORTHWEST, INC. ENVIRONMENTAL AND NATURAL RESOURCE CONSULTING	Date Drawn: 6/21/2004 CAD File Name: 314-04001-01 Drawn By: LDG Approved By: NMW	Longview Aluminum 4029 Industrial Way Longview, Washington	**Site Photographs**	Project No. 314-04001-01 Appendix F