



CLE ELUM 76 FORENSIC ANALYSES & EVALUATION PROJECT SUMMARY

(Former DeVere and Sons Distributing)
1000 First Street E
Cle Elum, Washington 98922
(Ecology VCP Site # CE0281/Cleanup Site ID 7159 & 7160)

Associated Environmental Group, LLC (AEG) completed an Interim Site Remediation & Probe Subsurface Investigations at the Cle Elum 76 facility (formerly known as Devere & Son Distributing), located at 1000 E 1st Street in Cle Elum, Kittitas County, Washington (the Site).

The Tasks completed were performed in five phases:

- 1) Emergency Response and Interim Site Remediation where petroleum contaminated soil (PCS) was excavated and disposed offsite at a regulated landfill occurred in July 2012. Existing monitoring wells on-site were monitored/sampled in August 2012 to assess potential impact;
- 2) 1st Phase Probe Subsurface Investigation to confirm and assess potential areas (on-site and outside of the fuel containment area) of adverse impact was conducted on July 31, 2012;
- 3) 2nd Phase Probe Subsurface Investigation involved further characterization of the impacted areas (on-site and outside of the fuel containment area) and was conducted on October 10, 2012;
- 4) 3rd Phase Probe Subsurface Investigation involved characterization of impacted soil within the bulk fuel containment area via a limited access rig (where the fuel spill occurred) and also at the northern and eastern areas of the Site. The field work was completed on November 6, 2012; and
- 5) Forensic analyses and evaluation to ascertain the presence of multiple releases of petroleum hydrocarbons and their characteristics as well as chemical degradation and tracers were completed by Friedman & Bruya Inc. (F&B) in December 2012 and January 2013. AEG provided selected soil and groundwater samples collected from within the bulk fuel containment area and areas adjacent/nearby for the forensic analysis and assessment.

The findings from F&B forensic analyses and evaluation are presented in this Project Summary. Analytical laboratory results are provided as an Attachment to this report. A concurrent review of AEG's *Interim Site Remediation & Probe Subsurface Investigations Report* (dated December 19, 2012) is recommended since the findings of multiple subsurface investigations that were conducted after the July 2012 gasoline fuel spill are presented in this Report.

The *Interim Site Remediation & Probe Subsurface Investigations Report* and *Forensic Analyses & Evaluation Project Summary* should be treated as integral components on the assessment and investigation of the July 2012 gasoline spill.

Forensic samples were selected on the basis of potential inconsistencies in the original laboratory data. Specifically, where some samples contained solely elevated concentrations of Diesel – Total Petroleum Hydrocarbons, it was evident that the source was a diesel release. However, in samples where potential co-mingling of gasoline and diesel constituents were present forensic analyses were performed to clarify the following:

- Presence of recent gasoline
- Presence of degraded gasoline
- Presence of varying aged diesel releases

The laboratory results for soil and ground water samples collected during the three subsurface investigation phases are provided in the *Interim Site Remediation & Subsurface Investigation Report (ISR/SIR)*. The tabulated data is presented in both the *ISR/SIR* and the current report (Tables 1 - 6).

Figures are provided showing the extent of petroleum contaminated soil excavation; locations of the probe subsurface investigations; and estimated extent of the July 2012 gasoline fuel spill impact (Figures 1 - 5).

Friedman & Bruya Inc. Forensic Analyses

Friedman & Bruya provided forensic analytical testing and interpretation of the data by conducting the following forensic analyses:

- Hydrocarbon fuel scan by capillary gas chromatography (GC) using a flame ionization detector (FID);
- Detailed gasoline composition by gas chromatography/mass spectroscopy (GC/MS) via EPA 8260B Extended; and
- Total organic lead and manganese by Inductively Coupled Plasma – Mass Spectrometry (ICP-MS).

The assessment of petroleum hydrocarbons degradation was completed by evaluation of the proportion of volatile and semivolatile constituents in the samples compared to that expected in a typical undegraded gasoline or diesel fuel. In addition, Friedman & Bruya evaluated specific compounds present in the samples compared to that expected in undegraded gasoline and evaluated the presence/absence of specific blending components or additives known to be used in gasoline manufacturing during various periods. This evaluation included assessing the types of degradation that has occurred to the gasoline and diesel present (i.e. water washing, evaporative degradation, biological degradation, chemical degradation).

Selected Soil Samples for Forensic Analyses

F&B analyzed the following soil samples by capillary gas chromatography using a flame ionization detector (FID):

- Boring B-5: B5-3-11
- Boring B-7: B7-3-11
- Boring B-8: B8-3-11
- Boring B-16: B16-S2-4
- Boring B-18: B18-S4-10
- Boring B-23: B23-S3-10

Selected Groundwater Samples for Forensic Evaluation

F&B analyzed the following groundwater samples by capillary gas chromatography using a flame ionization detector (FID):

- Boring B-16: B16-W
- Boring B-18: B18-W
- Boring B-23: B23-W

Results from Friedman & Bruya Forensic Evaluation

B5-3-11 (SOIL collected from 11 feet below ground surface - bgs): petroleum hydrocarbons present are from a **mixture of gasoline and diesel fuel** or heating oil. The abundance of *“volatile and semivolatile constituents present indicates that substantial degradation has occurred to the gasoline. ... Comparison of the data generated ... shows that the gasoline present in the samples B5-3-11 and B16-S3-7.5 is consistent with impact from the recent gasoline release”* (F&B, 2013). (Evidence of recent gasoline release).

B6-3-10 (SOIL collected from 10 feet bgs): petroleum hydrocarbons present are indicative of a **diesel fuel** or heating oil. (Little to no biological degradation - No evidence of recent gasoline release).

B7-3-11 (SOIL collected from 11 feet bgs): petroleum hydrocarbons present are indicative of a **diesel fuel** or heating oil. *“The abundance of isoprenoids in conjunction with the apparent absence of normal alkanes indicates that the fuel present has undergone substantial biological degradation. ... gasoline may also be present in this sample. ... Data shows that the gasoline present in the samples ... may or may not be consistent with impact from the recent gasoline release”* (F&B, 2013). (Possible evidence of recent gasoline release).

B8-3-11 (SOIL collected from 11 feet bgs): petroleum hydrocarbons present are indicative of a **diesel fuel** or heating oil. *“The abundance of isoprenoids in conjunction with the low level or apparent absence of normal alkanes indicates that the fuel present has undergone substantial biological degradation”* (F&B, 2013). (No evidence of recent gasoline release).

B13-W (GROUNDWATER collected from boring B-13): petroleum hydrocarbons were not detected. *“No measurable impact from recent gasoline fuel spill”* (F&B, 2013). (No evidence of recent gasoline release).

B16-S1-2 (SOIL collected from 2 feet bgs): petroleum hydrocarbons present are indicative of a **gasoline fuel**. Data indicate *“Evaporative degradation”* (F&B, 2013). (Positive evidence of recent gasoline release).

B16-S2-4 (SOIL collected from 4 feet bgs): petroleum hydrocarbons present are indicative of a **gasoline fuel**. *“The relative abundance of the volatile and semivolatile constituents present indicates that the fuel has not undergone substantial weathering”* (F&B, 2013). (Positive evidence of recent gasoline release).

B16-S3-7.5 (SOIL collected from 7.5 feet bgs): petroleum hydrocarbons present are indicative of a **mixture of gasoline and diesel fuel**. *“The relative abundance of the normal alkanes and isoprenoids indicates that a mixture of degraded and relatively undegraded fuel is likely present in the sample”* (F&B, 2013). (Positive evidence of recent gasoline release).

B16-W (GROUNDWATER collected from boring B-16): petroleum hydrocarbons present are indicative of a **mixture of gasoline and diesel fuel** or heating oil. *“Data shows that the gasoline present in the samples ... may or may not be consistent with impact from the recent gasoline release”* (F&B, 2013). (Possible evidence of recent gasoline release).

B18-S4-10 (SOIL collected from 10 feet bgs): petroleum hydrocarbons present are indicative of a **diesel fuel** or heating oil. *“The abundance of isoprenoids in conjunction with the apparent absence of normal alkanes indicates that the fuel present has undergone substantial biological degradation. ... gasoline may also be present in this sample”* (F&B, 2013). (No evidence of recent gasoline release).

B18-W (GROUNDWATER collected from boring B-18): petroleum hydrocarbons present are indicative of a **mixture of gasoline and diesel fuel** or heating oil. *“The low level or absence of these constituents (toluene, ethylbenzene, and the xylenes) indicates that the gasoline present has undergone extensive degradation”* (F&B, 2013). (No evidence of recent gasoline release).

B19-S1-2 (SOIL collected from 2 feet bgs): petroleum hydrocarbons present are indicative of a **mixture of gasoline and diesel fuel** or heating oil. *“Data shows that the gasoline present in the samples ... may or may not be consistent with impact from the recent gasoline release”* (F&B, 2013). (Possible evidence of recent gasoline release).

B23-S3-10 (SOIL collected from 10 feet bgs): petroleum hydrocarbons present are indicative of a **diesel fuel** or heating oil. *“The abundance of isoprenoids in conjunction*

with the apparent absence of normal alkanes indicates that the fuel present has undergone substantial biological degradation. ... gasoline may also be present in this sample ” (F&B, 2013). (Degraded hydrocarbons - No evidence of recent gasoline release).

B23-W (GROUNDWATER collected from boring B-23): petroleum hydrocarbons present are indicative of a **gasoline fuel**. *“The low level or absence of these constituents (toluene, ethylbenzene, and the xylenes) indicates that the gasoline present has undergone extensive degradation. Data .. shows that gasoline present in the sample B23-W is not consistent with impact from the recent gasoline release at the site”* (F&B, 2013). (Degraded hydrocarbons - No evidence of recent gasoline release).

Forensic Discussion

Friedman & Bruya forensic analysis reports indicated presence of gasoline fuel at B-5, B-7, B-18, B-19, and B-23 – albeit degraded. **The only location where gasoline TPH is considered as undegraded or minor degradation is at B-16 – shallow soil, surface soil to approximately 7.5 feet below ground surface (bgs).**

B-5 SOIL: impacted by a mixture of gas and diesel at depth of 11 ft bgs. Substantial degradation to TPH. *“Comparison of the data ... shows that the gasoline present in the samples B5-3-11 .. is consistent with impact from the recent gasoline release at the site”* (F&B, 2013).

B-7 SOIL: impacted by diesel fuel at depth of 11 ft bgs. Substantial biological degradation to TPH. According to F&B, the potential exists that the recent July 2012 gasoline spill may have impacted this location due to the detection of gasoline petroleum hydrocarbons in this sample and *“based on the apparent absence of isooctane and/or the low level of gasoline relative to the amount of diesel in the samples”* (F&B, 2013).

B-18 SOIL: soil results do show some gasoline fuel impact; however, diesel is the predominant fuel. The soil sample was collected from a “deeper depth soil” at 10 ft bgs. Degradation of petroleum hydrocarbons is apparent. This soil (location) does not appear to be associated with a fresh gasoline fuel spill.

B-18 GROUNDWATER: forensic data shows presence of a mixture of gas and diesel. The petroleum hydrocarbons are degraded. This groundwater (location) does not appear to be associated with a fresh gasoline fuel spill.

B-19 SOIL: impacted by diesel fuel at depth of 2 ft bgs. According to F&B, the potential exists that the recent July 2012 gasoline spill may have impacted this location *“based on the apparent absence of isooctane and/or the low level of gasoline relative to the amount of diesel in the samples”* (F&B, 2013).

B-23 SOIL: soil results do show impact from gasoline fuel; however, diesel is the primary fuel. The soil sample was collected from a “deeper depth” at 10 feet bgs. The petroleum hydrocarbons are degraded.

B-23 GROUNDWATER: forensic data shows impact from gas. Extensive degradation of gas TPH.

Collective Probe Subsurface Investigations & Forensic Evaluation Data Discussion

Shallow soil samples S1 and S2 were collected three days after the fuel spill - directly under the split tank aboveground storage tank (AST) where the fuel had spilled on July 23, 2012. Elevated concentrations of gasoline (50,500 mg/Kg) range total petroleum hydrocarbons (TPH) and benzene (314 mg/Kg) were identified in these samples – these concentrations are indicative of an undegraded gasoline fuel. Soil directly below the split tank was impacted, at least to approximately 3 ½ feet bgs (based on chromatograms and laboratory results for soil sample S2-3.5).

The lack of gasoline fuel associated volatile organic compounds (specifically benzene, toluene, ethylbenzene, and total xylenes) in numerous soil and groundwater samples collected adjacent to and within proximity of the gasoline fuel spill area (outside the fuel containment area) denotes the strong likelihood that the petroleum hydrocarbons exhibited in these samples are associated with releases that pre-dated the July 2012 RE Powell gasoline spill. Additionally, the lack of an indicator (i.e., marker) volatile organic compound (such as isooctane) also denotes the unlikely presence of gasoline range total petroleum hydrocarbons at those locales. A description of past incidents is provided in the ISR/SIR. Table 7 presents a summary of findings from the forensic analysis/evaluation for selected samples.

The pervasive presence of diesel range petroleum hydrocarbons at borings B-5 through B-8 (adjacent to bulk fuel containment area) and at B-16 through B-23 (within containment area and at locales not likely associated with downgradient area of the July 2012 gasoline fuel spill) confirm that the subsurface (soil and groundwater media) at the western area of the Site (south of the current fuel islands and area adjacent/near the bulk fuel area) has been adversely impacted by historical diesel fuel releases/spills. Figures 5 and 6 present estimated extent of the July 2012 gasoline spill impact and historical gasoline/diesel impact, respectively, at the Site.

The area immediately impacted as a result of the July 23, 2012 gasoline fuel spill included two areas:

- 1) a surficial (topographically) low area which was adjacent west and northwest of the bulk fuel containment area. The soil interim remedial action removed the bulk source of petroleum contaminated soil within this impacted area. It is likely that this remedial action was effective in the reduction of dissolved and adsorbed phases of gasoline range petroleum hydrocarbons in the subsurface at the western area of the Site (refer to Figure 5).

- 2) shallow soil, from surface to approximately 7 to 8 feet bgs, within the bulk fuel containment area. Laboratory analytical results of soil samples collected below the split tank and forensic analysis indicate that shallow soil within this area is impacted by an undegraded (fresh) gasoline fuel (refer to Figure 5).

Shallow soil remedial action via excavation will be necessary to further remove additional bulk source petroleum contaminated soil associated with the July 2012 gasoline fuel spill.

Data from the subsurface investigations and forensic analysis indicate commingled presence of recent and historical gasoline and diesel petroleum hydrocarbons within the bulk fuel area – in particular at depths below the water table (approximately at 7 to 8 feet bgs). However, the low concentrations of volatile organic compounds exhibited at locales of investigation outside of the bulk fuel containment area are indicative of degraded diesel petroleum hydrocarbons from various historical and/or recent spills/leakages (refer to Table 7 and Figure 6).

In our professional opinion, the forensic data also show that the type of fuel impact to the soil media at depths above the water table is notably different from the type of fuel impact to the water table and also to soil below the water table. For example, at the source area boring B-16 where undegraded “fresh” gasoline is shown as the type of fuel to impact soil at depths of 2, 4, and 7.5 feet bgs. However, forensic analysis show the impact to the groundwater at boring B-16 is associated with a mixture of gasoline and diesel fuel and the petroleum hydrocarbons have undergone “*substantial biological degradation*”. Data show that historical fuel spills/leaks have impacted the groundwater at boring B-16 and nearby area in comparison to the “fresh” nature of the gasoline fuel and its impact to soil at shallow depths at this locale.

Forensic data for boring B-18 represents another example of the subsurface fuel impact dissimilarity in soil/groundwater and the degree of petroleum hydrocarbons degradation in these media. Data show the groundwater at this locale is impacted by a mixture of gasoline and diesel fuel which has undergone extensive degradation. In comparison, data show that diesel is the fuel type which has impacted soil at a depth of 10 feet bgs (below

the water table). At boring B-23, degraded gasoline fuel is the petroleum hydrocarbons impacting the groundwater media at this locale. In comparison, degraded diesel is the fuel type impacting soil at 10 feet bgs (refer to Table 7).

As stated, a review of Ecology records and reports showed that the Site has had numerous historical gasoline and diesel fuel spills. The diesel fuel spill from the “pony tank” (less than 500-gallon capacity aboveground storage tank) in January 2012 appears to be a contributing factor to the diesel petroleum hydrocarbons encountered within the fuel containment area and at nearby/adjacent locales (refer to AEG’s ISR/SIR, dated December 19, 2012). The forensic data and evaluation provides confirmation those historical spills/leaks at the Site (in particular the central and western area of the facility) are the sources of the soil and ground water impacts both within and outside the containment area.

However, the forensic evaluation and review of soil and ground-water sampling results did indicate that impact to soil was present from the RE Powell July 2012 spill to a depth of approximately 7 feet bgs in the boring B-16 area and shallow soil beneath the split tank.

Recommendation

- AEG recommends shallow soil excavation and removal, to approximately 7 feet bgs, within the bulk fuel containment area. This additional remedial action is tailored specifically to the July 2012 gasoline fuel spill.

- The collective data reviewed indicate a complex history of both gasoline and diesel fuel spills/leakages at the Site. The western/southwestern area of the Site has been adversely impacted by these historical spills/leaks. Remedial action to cleanup the soil and groundwater media at areas outside of the bulk fuel containment area needs to be addressed by the current and previous property owners. Similarly, the impacted groundwater media within the bulk fuel containment will require collaboration between several entities due to the historical fuel spills/leaks and commingled impacts.

- Long-term groundwater monitoring and sampling activities will be necessary for area within the bulk fuel containment area and areas adjacent/nearby the bulk fuel area. The constituents of concern for the total network of monitoring wells (existing and additional wells to be installed on the western/southwestern area of the Site) should include both gasoline and diesel range TPH and associated volatile organic compounds. Laboratory analyses at selected monitoring wells should be submitted

for a complete suite of laboratory analyses as designated by Ecology MTCA Cleanup Regulation Table 830-1, *Required Testing for Petroleum Releases*.

- Submit the findings of the Interim Site Remediation & Probe Subsurface Investigations and Forensic Analysis/Evaluation to Ecology. Request a formal opinion letter from Ecology on the status of the Site.

ATTACHMENTS:

FIGURES

- Figure 1: Site & Vicinity Map
Figure 2: Petroleum Contaminated Soil – Excavation Map
Figure 3: Groundwater Potentiometric Map – August 2012
Figure 4: Site Plan & Probe Subsurface Investigation Map
Figure 5: Estimated Extent July 2012 Gasoline Spill Impact
Figure 6: Estimated Extent Historical Gasoline/Diesel Impact

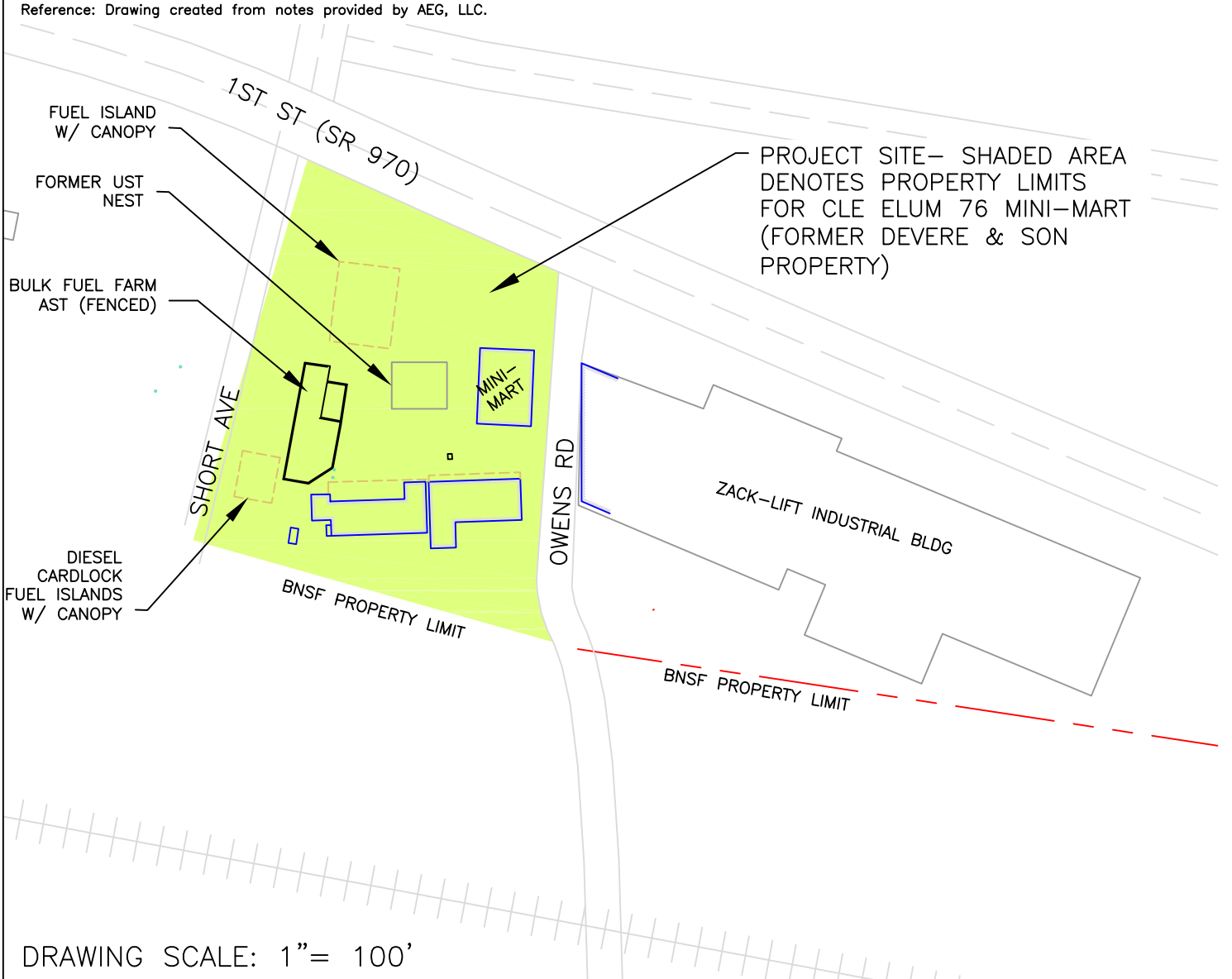
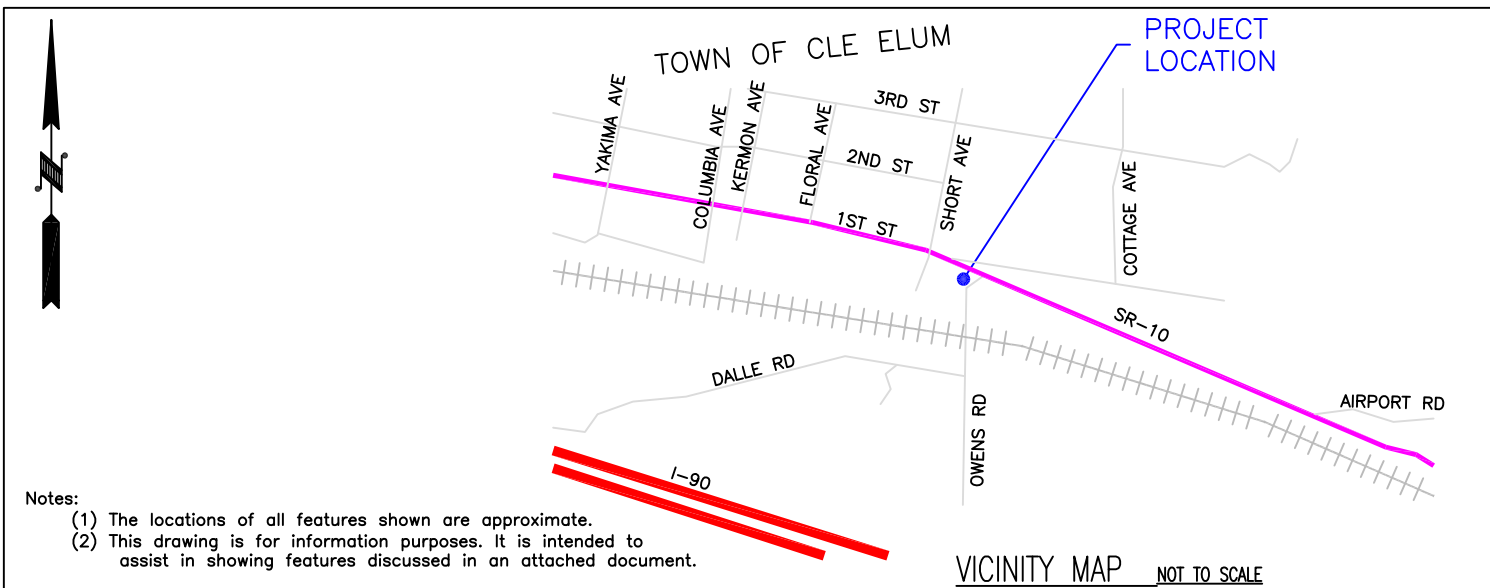
TABLES


- Table 1: Summary of Soil Analytical Results – PCS Excavation
Table 2: Summary of Groundwater Analytical Results – Existing Monitoring Wells
Table 3: Summary of Groundwater Elevations – Existing Monitoring Wells
Table 4: Summary of Water Quality Indicator Parameters – Existing Monitoring Wells
Table 5: Summary of Soil Analytical Results – Probe Subsurface Investigations
Table 6: Summary of Groundwater Analytical Results – Probe Subsurface Investigations
Table 7: Summary of Forensic Evaluation

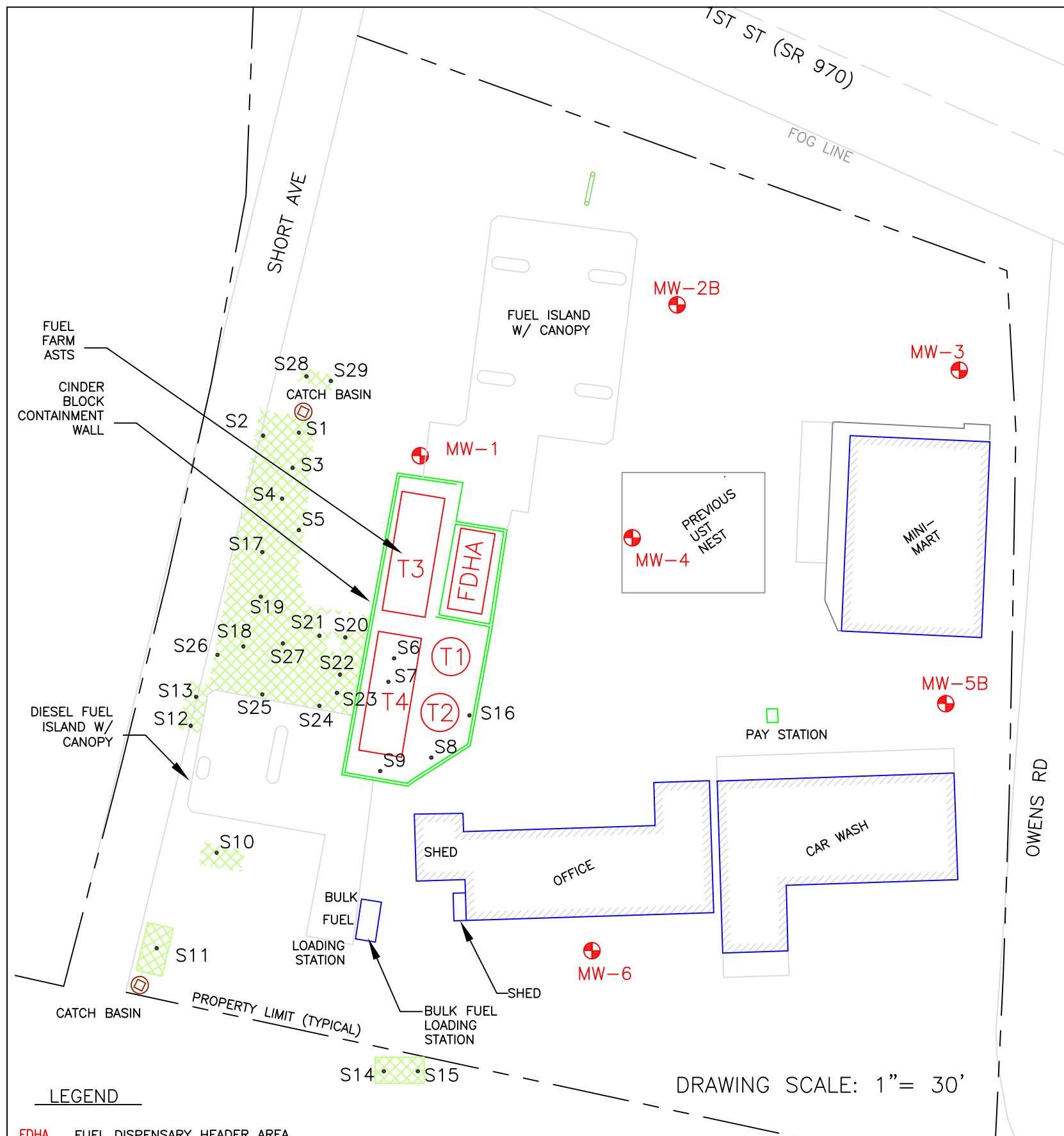
Attachment A:

Friedman & Bruya Inc. forensic data & analysis

FIGURES



 ASSOCIATED ENVIRONMENTAL GROUP, LLC 605 11th Avenue SE, Suite 201 Olympia, WA 98501-2336 (360) 352-9835 Fax (360) 352-8164	FIGURE 1 SITE & VICINITY MAP		CLE ELUM 76 (FORMER DEVERE) 1000 1ST STREET CLE ELUM, WA	
	Project# 12-164 File:			Date: 10/22/2012 Sheet 1 OF 5



LEGEND

- FDHA FUEL DISPENSARY HEADER AREA
- T-1 AST - RED DIESEL FUEL
- T-2 AST - REGULAR DIESEL
- T-3 AST - GASOLINE
- T-4 AST - SPLIT TANK
- HATCH DENOTES GRAVEL BACKFILLED AREAS
- ⊕ B-1 PROBE BORINGS ADVANCED AFTER FUEL SPILL
- ⊕ MW-1 EXISTING MONITORING WELLS

ASSOCIATED ENVIRONMENTAL GROUP, LLC
 605 11th Avenue SE, Suite 201
 Olympia, WA 98501-2336
 (360) 352-9835 Fax (360) 352-8164

Table 3 Summary of Soil Analytical Results - PCS Excavation
 Cle Elum 76 - July 2012 Fuel Spill
 Cle Elum, WA

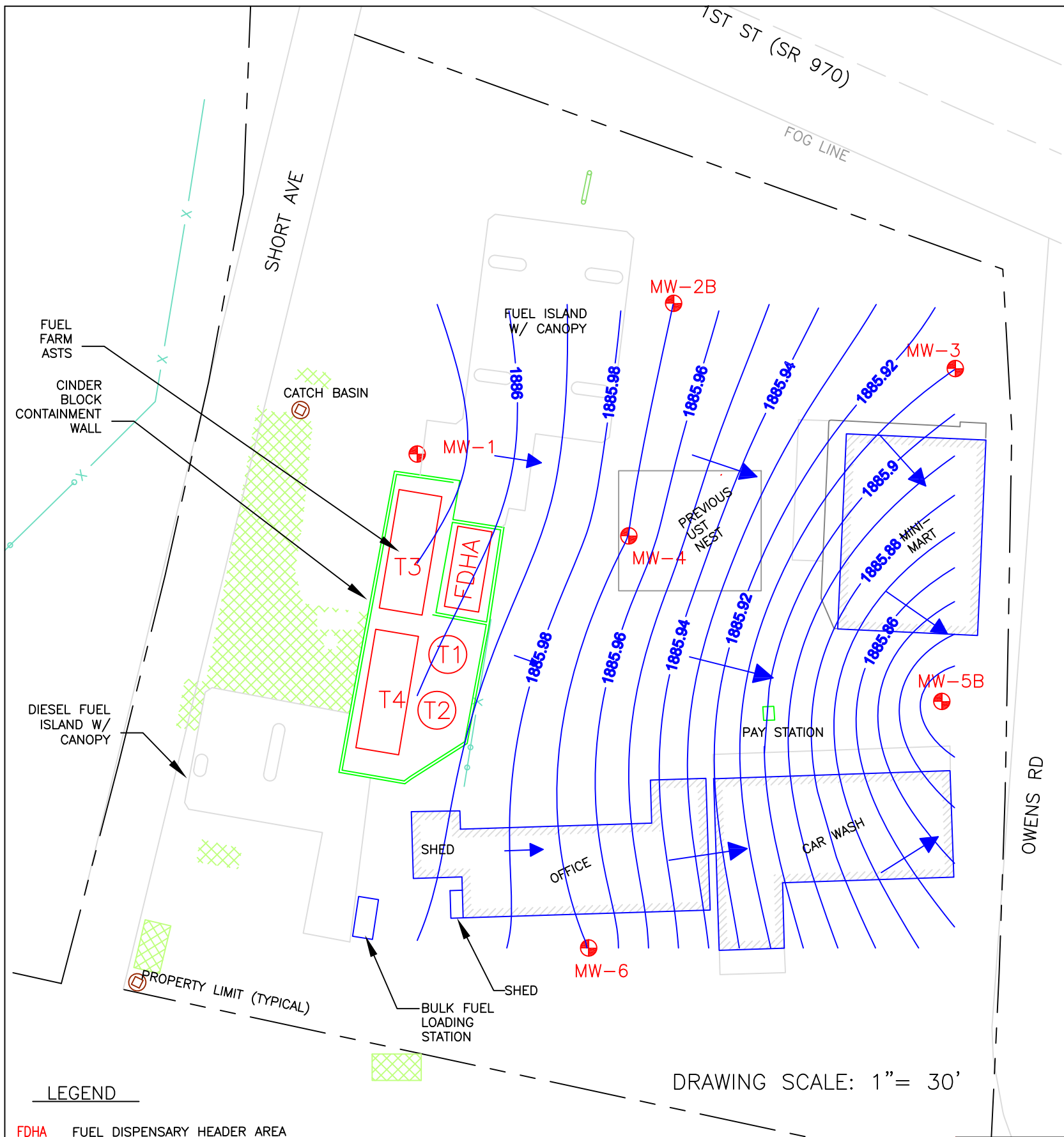
Sample #	Sample Description ¹	Sample Depth (feet)	Date Sampled	Gasoline TPH ² (mg/Kg)	Select Volatile Organic Compounds ³ (mg/Kg)				Diesel Extended TPH ⁴ (mg/Kg)	
					Benzene	Toluene	Ethylbenzene	Total Xylenes	Diesel	Heavy Oil
S1	TPS-SN-4.0	4.0	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--
S2	TPN-SW-4.0	4.0	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--
S3	IPN-B-6.2	6.2	7/26/2012	6,740	19.5	182	92	546	453	<100
S4	IPN-B-5.5	5.5	7/26/2012	277	1.54	6.38	1.63	12.8	--	--
S5	TPN-SE-3.5	3.5	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	65	<100
S6	S1-2.0	2.0	7/26/2012	50,500	314	214	792	3,840	<25	<100
S7	S2-3.5	3.5	7/26/2012	7,890	8.68	56.9	15.2	109	--	--
S8	S3-2.5	2.5	7/26/2012	112	0.62	3.15	1.31	6.52	145	<100
S9	S4-1.5	1.5	7/26/2012	21,700	324	360	335	1,550	15,510	<100
S10	TPS-B-6.5	6.5	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	<25	193
S11	TPSW-B-4.0	4.0	7/26/2012	12.7	<0.02	<0.10	<0.05	0.37	--	--
S12	TPW-B-6.5	6.5	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	<25	180
S13	TPW-B-7.0	7.0	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--
S14	TPS2-B-4.0	4.0	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--
S15	TPS2-B-7.0	7.0	7/26/2012	<10	0.25	0.4	0.05	0.29	280	<100
S16	S5-1.5	1.5	7/27/2012	<10	0.078	<0.10	<0.05	0.36	<100	<100
S17	TPN-B5-6.0	6.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	<100	<100
S18	TPN2-BSW-6.0	6.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	<100	<100
S19	TPN2-BNW-6.0	6.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	<100	<100
S20	IPN2-SE-NE-2.0	2.0	7/27/2012	4,210	97.8	502	113	688	<100	<100
S21	IPN2-SE-NE-4.0	4.0	7/27/2012	<10	0.12	0.21	0.11	1.28	269	<100
S22	IPN2-SE-SE-2.0	2.0	7/27/2012	27,800	637	2,800	710	3,330	<100	<100
S23	IPN2-SE-SE-4.0	4.0	7/27/2012	11	0.95	1.36	0.062	0.18	262	<100
S24	IPN2-SS-SE-4.0	4.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	<100	<100
S25	IPN2-SW-SW-2.0	2.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	<100	<100
S26	IPN2-SW-SW-4.0	4.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	<100	<100
S27	IPN2-BC-10.0	10.0	10/9/2012	<10	<0.02	<0.10	<0.05	<0.15	50	<100
S28	IPN3-B-3.5	3.5	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	<100	<100
S29	IPN3-B-5.5	5.5	7/27/2012	28	0.24	1.61	0.39	3.34	<100	<100
PQL				10	0.02	0.10	0.05	0.15	25 or 100	100
Ecology MTCA Method A Clean Up Levels				30 ⁵	0.03	7	6	9	2,000	2,000

- Notes:
- ¹ Approximate sample locations are shown in Field Map
 - ² Gasoline range total petroleum hydrocarbons (TPH). Analyzed by NWTPH-Gx
 - ³ Select Volatile Organic Compounds. Analyzed by EPA Method Method 8021B
 - ⁴ Diesel extended range TPH. Analyzed by Northwest Method NWTPH-Dx/Dx Extend
 - ⁵ Cleanup level with presence of benzene
 - mg/Kg = milligrams per kilograms
 - MTCA = Model Toxics Control Act
 - PQL=Practical Quantitation Limits
 - = not analyzed for this constituent
 - < = not detected above laboratory limits
 - * Ecology has not designated a MTCA Method A cleanup level for this constituent
 - Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

FIGURE 2
 PETROLEUM CONTAMINATED SOIL
 EXCAVATION MAP

CLE ELUM 76 (FORMER DEVERE)
 1000 1ST ST
 CLE ELUM, WA

Project# 12-164 Date: 10/30/2012
 File: FILE NAME Sheet 2 OF 5



DRAWING SCALE: 1" = 30'

LEGEND

- FDHA FUEL DISPENSARY HEADER AREA
- T-1 AST - RED DIESEL FUEL
- T-2 AST - REGULAR DIESEL
- T-3 AST - GASOLINE
- T-1 AST - SPLIT TANK
- HATCH DENOTES GRAVEL BACKFILLED AREA
- B-1 PROBE BORINGS ADVANCED AFTER FUEL SPILL
- MW-1 EXISTING MONITORING WELLS

ASSOCIATED ENVIRONMENTAL GROUP, LLC
 605 11th Avenue SE, Suite 201
 Olympia, WA 98501-2336
 (360) 352-9835 Fax (360) 352-8164

FIGURE 3 - GROUNDWATER
 POTENTIOMETRIC MAP
 AUGUST 2012

CLE ELUM 76 (FORMER DEVERE 1000 1ST ST CLE ELUM, WA	
Project# 12-164	Date: 10/22/2012
File: FILE NAME	Sheet 3 OF 5

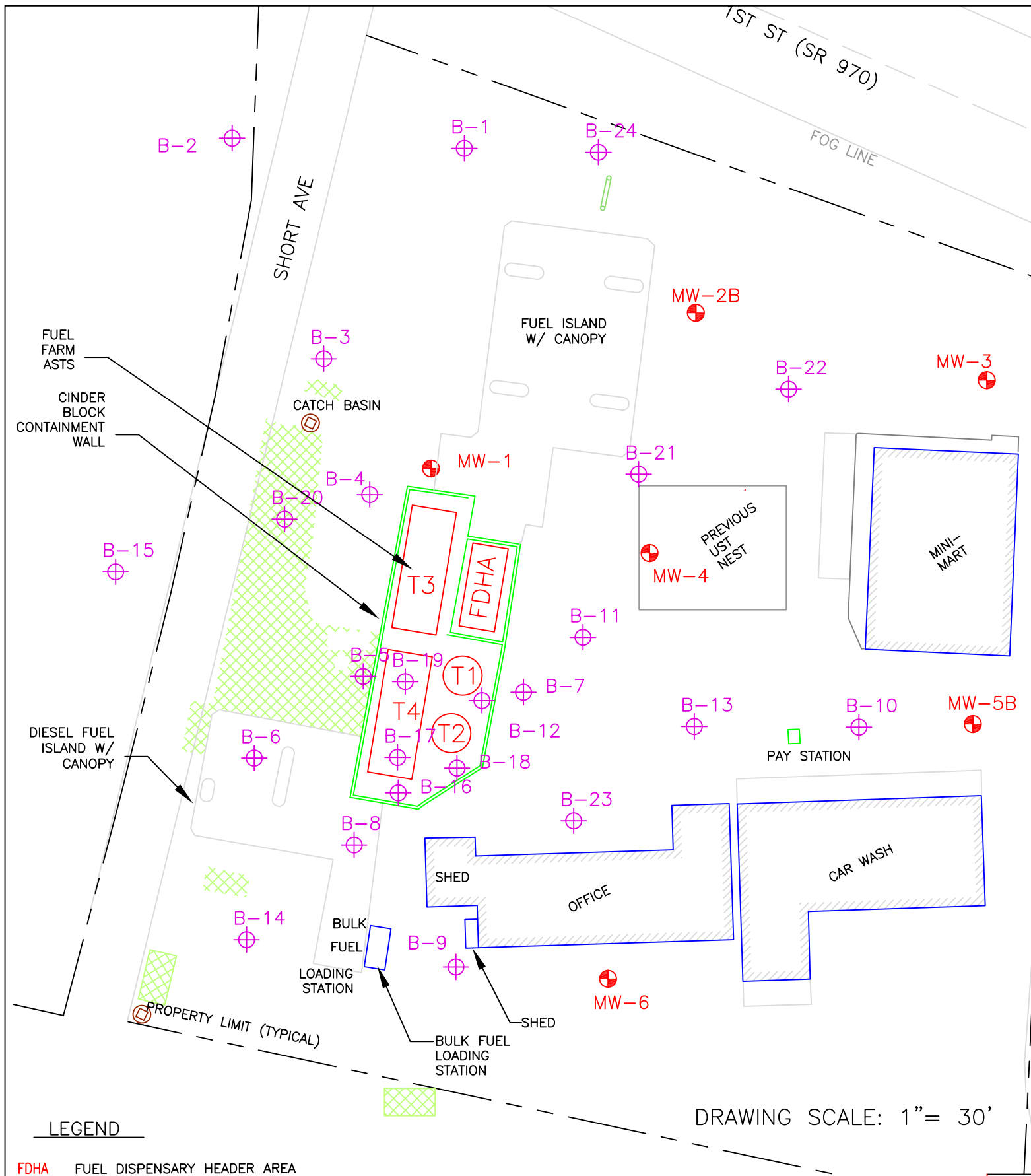


Table 6 Summary of Groundwater Analytical Results - Probe Subsurface Investigations
Cle Elum 76 - July 2012 Fuel Spill
Cle Elum, WA

Sample Number ¹	Date Sampled	Gasoline TPH ² (ug/L)	Table 830-1 GRO Volatile Organic Constituents ³ (ug/L)				Total Lead ⁵ (ug/L)	Diesel TPH Extended ⁴ (ug/L)	
			Benzene	Toluene	Ethylbenzene	Total Xylenes		Diesel	Heavy Oil
Poly Tank 1	7/27/2012	12,700	541	97	<1.0	1,170	--	<200	<400
B1-W	7/31/2012	19,000	1,000	1,100	68	440	38	590	<500
B2-W	7/31/2012	<100	<1.0	<1.0	<1.0	<3.0	--	<250	<500
B3-W	7/31/2012	130	<1.0	<1.0	<1.0	<3.0	--	<250	<500
B4-W	7/31/2012	120	70	23	1.7	9.0	<2	<250	<500
B5-W	7/31/2012	30,000	1,600	4,800	7,800	3,700	--	17,000	<500
B6-W	7/31/2012	160	2.5	11	1.7	12	--	570	<500
B7-W	7/31/2012	30,000	23	3.2	20	20	--	45,000	<500
B8-W	7/31/2012	44,000	31	26	18	84	--	57,000	<500
B9-W	7/31/2012	<100	<1.0	<1.0	<1.0	<3.0	--	<250	<500
B10-W	7/31/2012	370	<1.0	<1.0	<1.0	<3.0	--	<250	<500
B11-W	10/10/2012	830	1.0	<1.0	<1.0	<3.0	--	860	<500
B12-W	10/10/2012	200	<1.0	<1.0	2.5	4.0	--	<250	<500
B13-W	10/10/2012	<100	<1.0	<1.0	<1.0	<3.0	--	<250	<500
B14-W	10/10/2012	<100	<1.0	<1.0	<1.0	<3.0	--	<250	<500
B15-W	10/10/2012	<100	<1.0	<1.0	<1.0	<3.0	--	<250	<500
B16-W	11/6/2012	70,000	4,200 ve	8200 ve	1,100	5,500	14.7	61,000 ve	3,100 x
B17-W	11/6/2012	2,000	140	130	23	120	1.94	9,000	590 x
B18-W	11/6/2012	610	35	3.1	3.0	11	--	42,000	890 x
B20-W	11/6/2012	<100	<1	<1	<1	<3	--	710	<250
B21-W	11/6/2012	170	1.2	1.4	1.1	<3	--	25,000	380 x
B22-W	11/6/2012	<100	<1	<1	<1	<3	--	900	<250
B23-W	11/6/2012	250	6.5	1.1	1.1	3.8	--	15,000	<250
B24-W	11/6/2012	<100	<1 ca	<1	<1	<3	--	<50	<250

LEGEND

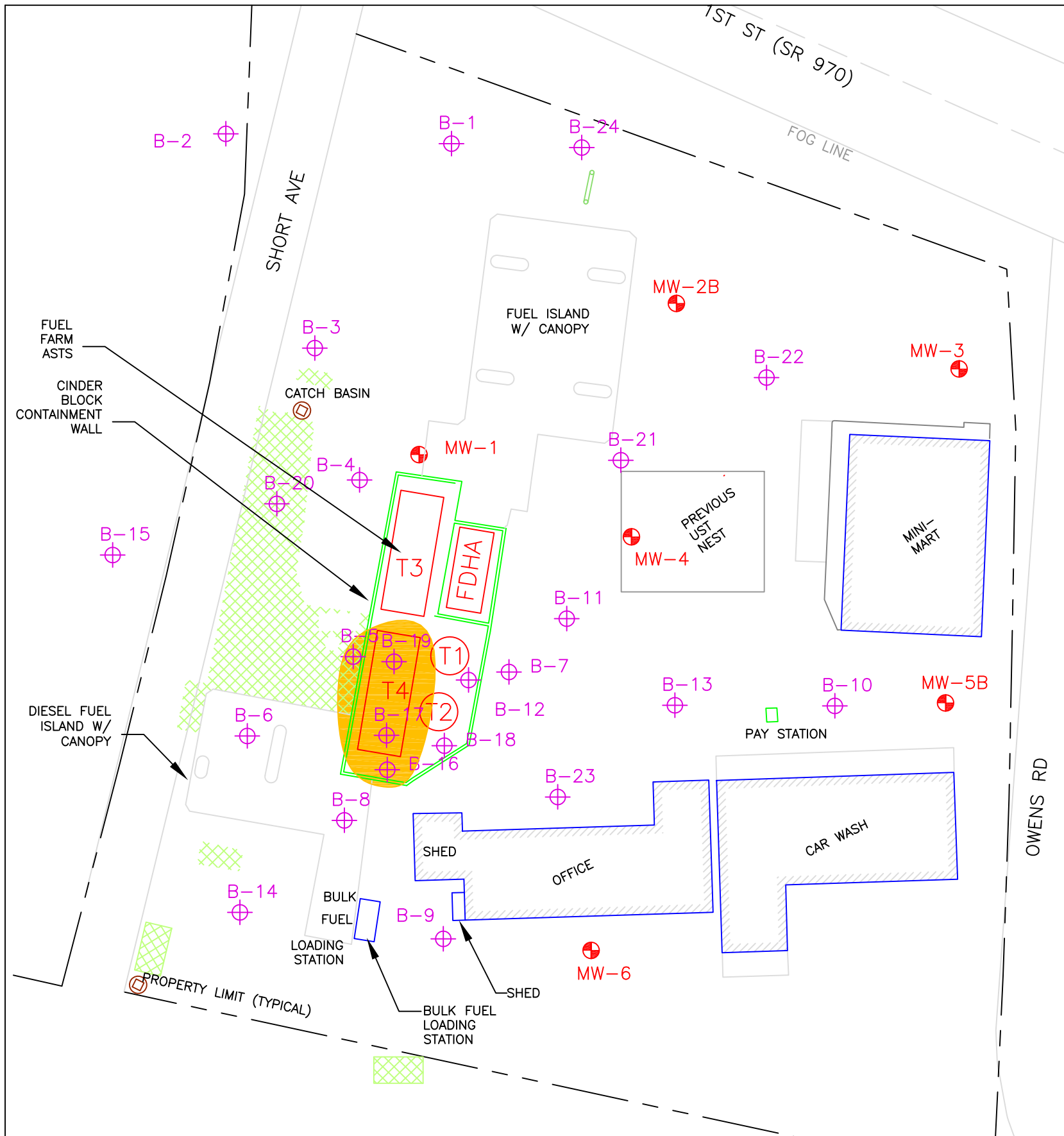
- FDHA FUEL DISPENSARY HEADER AREA
- T-1 AST - RED DIESEL FUEL
- T-2 AST - REGULAR DIESEL
- T-3 AST - GASOLINE
- T-1 AST - SPLIT TANK
- HATCH DENOTES GRAVEL BACKFILLED AREAS
- ⊕ B-1 PROBE BORINGS ADVANCED AFTER FUEL SPILL
- ⊕ MW-1 EXISTING MONITORING WELLS

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 Olympia, WA 98501-2336
 (360) 352-9835 Fax (360) 352-8164

FIGURE 4
 SITE PLAN & PROBE
 SUBSURFACE INVESTIGATION MAP

CLE ELUM 76 (FORMER DEVERE)
 1000 1ST ST
 CLE ELUM, WA

Project# 12-164 Date: 12/03/2012
 File: FILE NAME Sheet 4 OF 4



Notes:
 (1) The locations of all features shown are approximate.
 (2) This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document.

Reference: Drawing created from notes provided by AEG, LLC.

LEGEND

- FDHA FUEL DISPENSARY HEADER AREA
- T-1 AST - RED DIESEL FUEL
- T-2 AST - REGULAR DIESEL
- T-3 AST - GASOLINE
- T-1 AST - SPLIT TANK

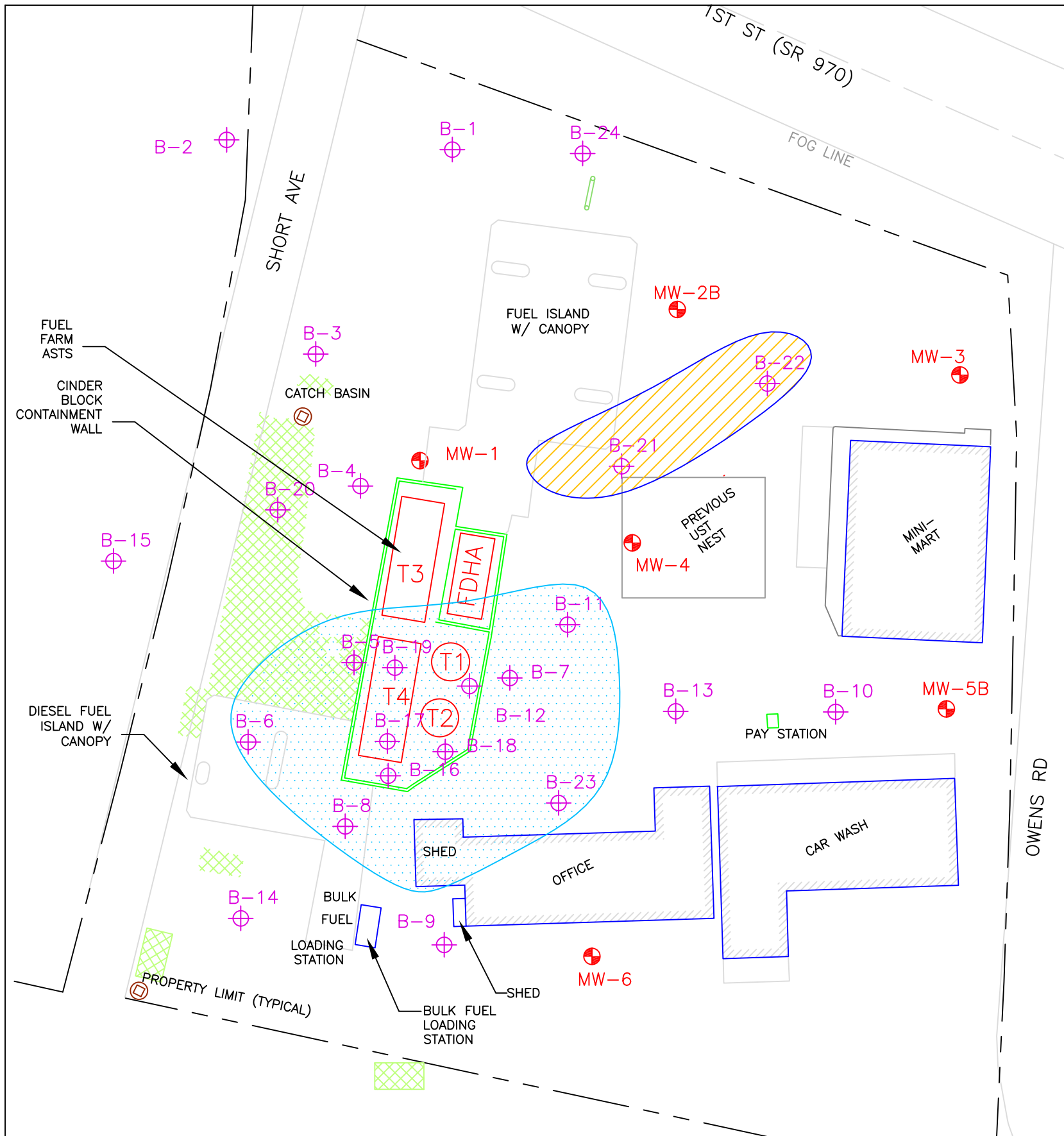
- ESTIMATED EXTENT JULY 2012 GAS SPILL IMPACT
- HATCH DENOTES GRAVEL BACKFILLED AREAS
- B-1 PROBE BORINGS ADVANCED AFTER GAS SPILL
- MW-1 EXISTING MONITORING WELLS

DRAWING SCALE: 1" = 30'

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FIGURE 5 - ESTIMATED EXTENT
 JULY 2012 GASOLINE
 SPILL IMPACT

CLE ELUM 76 (FORMER DEVERE)	
1000 1ST ST CLE ELUM, WA	
Project# 12-164	Date: 1/21/2013
File: FILE NAME	Sheet 5 OF 6



Notes:
 (1) The locations of all features shown are approximate.
 (2) This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document.

Reference: Drawing created from notes provided by AEG, LLC.

LEGEND

- FDHA FUEL DISPENSARY HEADER AREA
- T-1 AST - RED DIESEL FUEL
- T-2 AST - REGULAR DIESEL
- T-3 AST - GASOLINE
- T-1 AST - SPLIT TANK

- ESTIMATED HISTORICAL EXTENT GASOLINE & DIESEL SPILL/LEAK IMPACT
- ESTIMATED HISTORICAL EXTENT DIESEL IMPACT
- ESTIMATED EXTENT JULY 2012 GAS SPILL IMPACT
- HATCH DENOTES GRAVEL BACKFILLED AREAS
- B-1 PROBE BORINGS ADVANCED AFTER JULY 2012 GAS SPILL
- MW-1 EXISTING MONITORING WELLS

DRAWING SCALE: 1" = 30'

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 Olympia, WA 98501-2336
 (360) 352-9835 Fax (360) 352-8164

FIGURE 6 - ESTIMATED EXTENT HISTORICAL GASOLINE/DIESEL IMPACT

CLE ELUM 76 (FORMER DEVERE)	
1000 1ST ST CLE ELUM, WA	
Project# 12-164	Date: 1/21/2013
File: FILE NAME	Sheet 6 OF 6

TABLES

**Table 1 Summary of Soil Analytical Results - PCS Excavation
Cle Elum 76 - July 2012 Fuel Spill
Cle Elum, WA**

Sample Number ¹	Depth Sampled (feet)	Date Sampled	Gasoline TPH ² (mg/Kg)	Select Volatile Organic Compounds ³ (mg/Kg)								Diesel Extended TPH ⁴ (mg/Kg)		Total Lead ⁵ (mg/Kg)	Total cPAH ⁶ (mg/Kg)
				Benzene	Toluene	Ethylbenzene	Total Xylenes	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	Total Naphthalenes	MTBE	Diesel	Heavy Oil		
TPS-SN-4.0	4.0	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--	--
TPN-SW-4.0	4.0	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--	--
TPN-B-6.2	6.2	7/26/2012	6,740	19.5	182	92	546	<0.03	<0.005	370	<0.02	453	<100	<5.0	--
TPN-B-5.5	5.5	7/26/2012	277	1.54	6.38	1.63	12.8	--	--	--	--	--	--	--	--
TPN-SE-3.5	3.5	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	65	<100	--	--
S1-2.0	2.0	7/26/2012	50,500	314	214	792	3,840	--	--	--	--	<25	<100	--	--
S2-3.5	3.5	7/26/2012	7,890	8.68	56.9	15.2	109	--	--	--	--	--	--	--	--
S3-2.5	2.5	7/26/2012	112	0.62	3.15	1.31	6.52	--	--	--	--	145	<100	--	--
S4-1.5	1.5	7/26/2012	21,700	324	360	335	1,550	<0.03	<0.005	695	<0.02	15,510	<100	44	<0.02
TPS-B-6.5	6.5	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	<25	193	--	--
TPSW-B-4.0	4.0	7/26/2012	12.7	<0.02	<0.10	<0.05	0.37	--	--	--	--	--	--	--	--
TPW-B-6.5	6.5	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	<25	180	--	--
TPW-B-7.0	7.0	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--	--
TPS2-B-4.0	4.0	7/26/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	--	--	--	--
TPS2-B-7.0	7.0	7/26/2012	<10	0.25	0.4	0.05	0.29	--	--	--	--	280	<100	--	--
S5-1.5	1.5	7/27/2012	<10	0.078	<0.10	<0.05	0.36	--	--	--	--	<100	<100	<5.0	<0.02
TPN-B5-6.0	6.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	<100	<100	--	--
TPN2-BSW-6.0	6.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	<100	<100	--	--
TPN2-BNW-6.0	6.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	<100	<100	--	--
TPN2-SE-NE-2.0	2.0	7/27/2012	4,210	97.8	502	113	688	--	--	--	--	<100	<100	--	--
TPN2-SE-NE-4.0	4.0	7/27/2012	<10	0.12	0.21	0.11	1.28	--	--	--	--	269	<100	--	--
TPN2-SE-SE-2.0	2.0	7/27/2012	27,800	637	2,800	710	3,330	--	--	--	--	<100	<100	--	--
TPN2-SE-SE-4.0	4.0	7/27/2012	11	0.95	1.36	0.062	0.18	--	--	--	--	262	<100	--	--
TPN2-SS-SE-4.0	4.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	<100	<100	--	--
TPN2-SW-SW-2.0	2.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	<100	<100	--	--
TPN2-SW-SW-4.0	4.0	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	<100	<100	--	--
TPN2-BC-10.0	10.0	10/9/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	50	<100	--	--
TPN3-B-3.5	3.5	7/27/2012	<10	<0.02	<0.10	<0.05	<0.15	--	--	--	--	<100	<100	--	--
TPN3-B-5.5	5.5	7/27/2012	28	0.24	1.61	0.39	3.34	--	--	--	--	<100	<100	--	--
PQL			10	0.02	0.10	0.05	0.15	0.02	0.005	0.20	0.05	25 or 100	100	5	0.02
Ecology MTCA Method A Clean Up Levels			30 ⁷	0.03	7	6	9	--	0.005	5	0.1	2,000	2,000	250	0.1 ⁸

Notes:

¹Approximate sample locations are shown in Figure 2.

²Gasoline range total petroleum hydrocarbons (TPH). Analyzed by NWTPH-Gx

³Select Volatile Organic Compounds. Analyzed by EPA Method Method 8021B

⁴Diesel extended range TPH. Analyzed by Northwest Method NWTPH-Dx/Dx Extended

⁵Analyzed by EPA Method 7421

⁶Analyzed by EPA Method 8270

⁷Cleanup level with presence of benzene

⁸Total carcinogens of carcinogenic polynuclear aromatic hydrocarbons (cPAHs) are comprised of benzo(a)anthracene th

mg/Kg = milligrams per kilograms

MTCA = Model Toxics Control Act

PQL=Practical Quantitation Limits

-- = not analyzed for this constituent

< = not detected above laboratory limits

* Ecology has not designated a MTCA Method A cleanup level for this constituent

Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

**Table 2 Summary of Groundwater Analytical Results - Existing Monitoring Wells
cle Elum 76 (Former Devere & Son)
Cle Elum, WA**

Well Number ¹	Date Collected	BTEX ² (µg/L)				Gasoline TPH ³ (µg/L)	Table 830-1 Constituents ⁴ (µg/L)					Diesel Extended TPH ⁵ (ug/L)		
		Benzene	Toluene	Ethylbenzene	Xylenes		Total Lead	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	Total Naphthalenes	MTBE	Diesel	Heavy Oil	Mineral Oil
MW-1 ⁷	10/20/06	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<1.0	<0.01	<5.0	<5.0	1,660	<400	<400
	2/13/07	**	**	**	**	**	**	**	**	**	**	**	**	**
	5/15/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	8/14/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	6/23/08	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	11/11/09	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	1/5/10	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	4/12/10	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	7/13/10	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
8/3/12	<1.0	<2.0	<1.0	<3.0	<100	--	--	--	--	--	<200	<400	--	
8/29/12	1.7	<1.0	<1.0	<1.0	<100	--	--	--	--	--	--	--	--	
MW-2b ⁷	10/20/06	<1.0	1.3	<1.0	1.5	<100	<1.0	<1.0	<0.01	<5.0	<5.0	1,350	<400	<400
	2/13/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	5/15/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	8/14/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	11/11/09	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	1/5/10	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	4/12/10	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	7/13/10	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	8/3/12	<1.0	<2.0	<1.0	<3.0	<100	--	--	--	--	--	<200	<400	--
8/29/12	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	--	--	--	
MW-3	10/20/06	<1.0	2.1	<1.0	2.6	<100	<1.0	<1.0	<0.01	<5.0	<5.0	<200	<400	<400
	2/13/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	5/15/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	8/14/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	8/3/12	<1.0	<2.0	<1.0	<3.0	<100	--	--	--	--	--	<200	<400	--
	8/29/12	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	--	--	--
MW-4	10/20/06	11	3.0	2.8	4.8	<100	11	<1.0	<0.01	<5.0	<5.0	2,240	<400	<400
	2/13/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	5/15/07	50.3	6.7	9.2	9.6	897	--	--	--	--	--	<200	<400	<400
	8/14/07	86.2	22.0	11.4	10.3	822	--	--	--	--	--	<200	<400	<400
	11/25/07	39.3	13.9	1.1	16.6	1,640	--	--	--	--	--	<200	<400	<400
	6/23/08	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	9/29/08	1.4	<1.0	<1.0	<1.0	200	--	--	--	<1.0	--	--	--	--
	1/27/09	2.2	<1.0	1.0	3.3	232	--	--	--	--	--	--	--	--
	4/20/09	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	--	--	--
	8/3/12	7.1	<2.0	<1.0	<3.0	150	--	--	--	--	--	<200	<400	--
8/29/12	<1.0	<1.0	<1.0	<1.0	190	--	--	--	<1.0	--	--	--	--	
MW-5b	10/20/06	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<1.0	<0.01	<5.0	<5.0	1,730	<400	<400
	2/13/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	5/15/07	2.9	<1.0	<1.0	<1.0	154	--	--	--	--	--	<200	<400	<400
	8/14/07	1.3	<1.0	<1.0	<1.0	154	--	--	--	--	--	<200	<400	<400
	11/25/07	<1.0	<1.0	<1.0	<1.0	110	--	--	--	--	--	<200	<400	<400
	8/3/12	<1.0	<2.0	<1.0	<3.0	<100	--	--	--	--	--	<200	<400	--
	8/29/12	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	--	--	--
MW-6 ⁷	10/20/06	<1.0	<1.0	<1.0	<1.0	<100	6	<1.0	<0.01	<5.0	<5.0	1,310	<400	<400
	2/13/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	5/15/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	8/14/07	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	11/11/09	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	1/5/10	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	4/12/10	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	7/13/10	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	<200	<400	<400
	8/3/12	<1.0	<2.0	<1.0	<3.0	<100	--	--	--	--	--	<200	<400	--
	8/29/12	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--	--	--	--
PQL	1.0	1.0 or 2.0	1.0	1.0 or 3.0	100	1.0	1.0	0.01	5.0	5.0	200	400	400	
Ecology MTCA Method A Cleanup Levels	5	1,000	700	1,000	800 ⁶	15	5	0.01	160	20	500	500	500	

Notes:
¹Monitoring well locations are shown in Figure 3
²Analyzed by EPA Method 8021B
³Analyzed by Northwest Method NWTPH-Gx
⁴Analyzed by EPA Method 8260B
⁵Analyzed by Northwest Method NWTPH-Dx/Dx extended
⁶Cleanup level with presence of benzene
⁷Selected monitoring wells required by Ecology for additional sampling for 4 consecutive quarters

TPH = total petroleum hydrocarbons
µg/L = micrograms per Liter
-- = Indicates not tested for analyte
"<" not detected above laboratory detection limits.
PQL=Practical Quantitation Limit
Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level
** Not Sampled

**Table 3 Summary of Groundwater Elevations - Existing Monitoring Wells
Cle Elum 76 (Former Devere & Sons)
Cle Elum, Washington**

Well Number/ TOC Elevation (feet)	Date of Measurement	DTW (feet)	DT LPH (feet)	LPH (feet)	GW Elevation (feet)	Change in GW Elevation (feet)
MW-1 1892.66	10/18/06	8.93	--	--	1883.73	
	02/13/07	--	--	--	--	
	05/15/07	6.93	--	--	1885.73	--
	08/14/07	6.66	--	--	1886.00	0.27
	06/19/08	7.78	--	--	1884.88	-1.12
	11/11/09	8.39	--	--	1884.27	-0.61
	01/05/10	8.71	--	--	1883.95	-0.32
	04/12/10	8.08	--	--	1884.58	0.63
	07/13/10	7.16	--	--	1885.50	0.92
	08/03/12	6.40	--	--	1886.26	0.76
08/29/12	6.64			1886.02	-0.24	
MW-2b 1891.79	10/18/06	8.10	--	--	1883.69	
	02/13/07	6.33	--	--	1885.46	1.77
	05/15/07	6.14	--	--	1885.65	0.19
	08/14/07	5.87	--	--	1885.92	0.27
	11/25/07	7.73	--	--	1884.06	-1.86
	06/19/08	6.95	--	--	1884.84	0.78
	01/27/09	6.52	--	--	1885.27	0.43
	11/11/09	7.54	--	--	1884.25	-1.02
	01/05/10	7.51	--	--	1884.28	0.03
	04/12/10	7.21	--	--	1884.58	0.30
07/13/10	6.33	--	--	1885.46	0.88	
08/03/12	5.59	--	--	1886.20	0.74	
08/29/12	5.82			1885.97	-0.23	
MW-3 1892.19	10/18/06	8.57	--	--	1883.62	
	02/13/07	6.74	--	--	1885.45	1.83
	05/15/07	6.56	--	--	1885.63	0.18
	08/14/07	6.34	--	--	1885.85	0.22
	06/19/08	7.38	--	--	1884.81	-1.04
	11/11/09	7.99	--	--	1884.20	-0.61
	08/03/12	6.08	--	--	1886.11	1.91
	08/29/12	6.28			1885.91	-0.20
MW-4 1892.89	10/18/06	9.20	--	--	1883.69	
	02/13/07	7.49	--	--	1885.40	1.71
	05/15/07	7.23	--	--	1885.66	0.26
	08/14/07	6.98	--	--	1885.91	0.25
	11/25/07	8.84	--	--	1884.05	-1.86
	06/19/08	8.07	--	--	1884.82	0.77
	09/26/08	8.70	--	--	1884.19	-0.63
	01/27/09	6.52	--	--	1886.37	2.18
	04/20/09	7.59	--	--	1885.30	-1.07
	11/11/09	8.53	--	--	1884.36	-0.94
	08/03/12	6.72	--	--	1886.17	1.81
08/29/12	6.92			1885.97	-0.20	
MW-5b 1892.25	10/18/06	8.69	--	--	1883.56	
	02/13/07	6.93	--	--	1885.32	1.76
	05/15/07	6.74	--	--	1885.51	0.19
	08/14/07	6.50	--	--	1885.75	0.24
	11/25/07	8.34	--	--	1883.91	-1.84
	06/19/08	7.53	--	--	1884.72	0.81
	11/11/09	8.14	--	--	1884.11	-0.61
	08/03/12	6.20	--	--	1886.05	1.94
	08/29/12	6.43			1885.82	-0.23
MW-6 1892.61	10/18/06	9.00	--	--	1883.61	
	02/13/07	7.27	--	--	1885.34	1.73
	05/15/07	6.98	--	--	1885.63	0.29
	08/14/07	6.72	--	--	1885.89	0.26
	11/25/07	8.62	--	--	1883.99	-1.90
	06/19/08	7.83	--	--	1884.78	0.79
	11/11/09	8.44	--	--	1884.17	-0.61
	01/05/10	9.45	--	--	1883.16	-1.01
	04/12/10	8.14	--	--	1884.47	1.31
	07/13/10	7.17	--	--	1885.44	0.97
	08/03/12	6.38	--	--	1886.23	0.79
08/29/12	6.64			1885.97	-0.26	

TOC = Top of casing elevation relative to assigned benchmark.
DTW = Depth to water below top of casing.
DT LPH = Depth to liquid phase hydrocarbons (i.e., free product)
LPH = Liquid phase hydrocarbons thickness.
GW Elevation = Groundwater Elevation
-- = Not measured, not available, or not applicable

**Table 4 Summary of Water Quality Indicator Parameters - Existing Monitoring Wells
Cle Elum 76 (Former Devere & Sons)
Cle Elum, WA**

Well Number	Date Analyzed	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C)	Salinity (%)	TDS	ORP
MW-1	10/18/2006	6.41	0.275	10	--	14.50	0.01	--	
	2/13/2007	--	--	--	--	--	--	--	
	5/15/2007	6.45	0.335	35.00	0.85	11.00	0.01	--	
	8/14/2007	5.27	0.264	132.00	0.02	16.10	0.01	--	
	11/25/2007	--	--	--	--	--	--	--	
	6/19/2008	6.88	0.392	9.00	0.53	11.50	0.01	--	
	11/11/2009	6.00	0.339	--	0.17	13.39	0.16	0.220	30.1
	1/5/2010	8.38	0.495	--	0.90	9.80	0.24	0.321	41.1
	4/12/2010	6.52	0.321	--	0.77	8.75	0.15	0.209	-33.6
7/13/2010	6.34	0.424	--	0.49	12.76	0.20	0.275	-77.3	
8/29/2012	7.15	0.296	--	0.51	16.22	0.14	0.192	186.2	
MW-2b	10/18/2006	6.41	0.275	10	--	14.50	0.01	--	
	2/13/2007	5.82	0.680	82	--	7.10	0.02	--	
	5/15/2007	6.28	0.471	80	3.25	11.60	0.01	--	
	8/14/2007	5.32	0.290	216	-0.23	19.40	0.01	--	
	11/11/2009	6.11	0.536	--	0.21	14.02	0.26	0.350	35.1
	1/5/2010	9.67	0.302	--	6.8	3.63	0.14	0.196	76.3
	4/12/2010	6.08	1.224	--	0.34	8.91	0.61	0.795	9.9
	7/13/2010	6.34	0.692	--	0.48	14.22	0.34	0.450	-40.7
8/29/2012	6.84	0.363	--	1.08	17.99	0.17	0.236	228.1	
MW-3	10/18/2006	7.58	0.247	96	--	15.50	0.00	--	
	2/13/2007	6.50	0.345	30	--	8.00	0.01	--	
	5/15/2007	6.32	0.315	26	3.44	10.60	0.01	--	
	8/14/2007	5.47	0.289	147	-0.11	15.90	0.01	--	
	11/11/2009	6.66	0.336	--	2.19	14.09	0.16	0.218	70.3
8/29/2012	5.91	0.293	--	0.67	14.25	0.14	0.190	271.6	
MW-4	10/18/2006	6.85	0.304	628	--	14.60	0.00	--	
	2/13/2007	6.07	1.800	29	--	6.60	0.08	--	
	5/15/2007	6.57	0.367	108	1.14	11.60	0.01	--	
	8/14/2007	5.45	0.280	177	-0.02	16.70	0.01	--	
	11/25/2007	5.85	0.383	76	0.13	12.60	0.01	--	
	6/19/2008	6.74	0.434	12	0	12.30	0.01	--	
	9/26/2008	6.18	0.416	10	-1.43	15.70	0.00	--	
	1/27/2009	6.79	0.598	--	0.47	7.50	0.09	--	
	4/20/2009	--	--	--	--	--	--	--	
	11/11/2009	6.49	0.408	--	0.13	14.71	0.20	0.265	-92.1
8/29/2012	7.69	0.354	--	0.29	15.07	0.17	0.230	-7.2	
MW-5b	10/18/2006	9.93	0.278	10	--	16.70	0.01	--	
	2/13/2007	6.31	0.534	32	--	7.60	0.02	--	
	5/15/2007	6.57	0.358	18	0.76	11.80	0.01	--	
	8/14/2007	5.77	0.302	176	-0.29	17.60	0.01	--	
	11/25/2007	5.93	0.324	21	0.14	11.90	0.01	--	
	11/11/2009	6.56	0.351	--	0.11	13.84	0.17	0.228	-31.6
8/29/2012	7.11	0.322	--	0.36	16.22	0.15	0.209	103.1	
MW-6	10/18/2006	1.00	0.241	999	--	16.60	0.01	--	
	2/13/2007	6.68	0.347	7	--	7.50	0.01	--	
	5/15/2007	6.52	3.300	16	0.64	11.10	0.01	--	
	8/14/2007	5.66	0.247	142	-0.18	16.70	0.00	--	
	11/11/2009	6.11	0.327	--	0.38	14.53	0.16	0.213	131.1
	1/5/2010	8.39	0.348	--	2.24	10.04	0.17	0.226	51.9
	4/12/2010	6.58	0.339	--	1.49	8.88	0.16	0.220	28.9
	7/13/2010	6.62	0.370	--	1.57	13.45	0.18	0.241	57.6
8/29/2012	7.13	0.278	--	0.87	16.42	0.13	0.181	251.1	

Notes:

-- = Not measured, or not available

**Table 5 Summary of Soil Analytical Results - Probe Subsurface Investigations
Cle Elum 76 - July 2012 Fuel Spill
Cle Elum, WA**

Sample Number ¹	Depth Sampled (feet)	Date Sampled	Gasoline TPH ² (mg/Kg)	Select Volatile Organic Compounds ³ (mg/Kg)				Diesel Extended TPH ⁴ (mg/Kg)	
				Benzene	Toluene	Ethylbenzene	Total Xylenes	Diesel	Heavy Oil
B1-2-8	8.0	7/31/2012	52	<0.02	<0.05	<0.05	<0.15	380	480
B2-3-10	10.0	7/31/2012	<10	<0.02	<0.05	<0.05	<0.15	<50	<100
B3-3-9	9.0	7/31/2012	<10	<0.02	<0.05	<0.05	<0.15	<50	<100
B4-3-10	10.0	7/31/2012	<10	<0.02	<0.05	<0.05	<0.15	<50	190
B5-3-11	11.0	7/31/2012	2,900	15	77	30	141	440	<100
B6-3-10	10.0	7/31/2012	130	0.03	0.20	0.09	0.57	4,800	<100
B7-3-11	11.0	7/31/2012	2,200	0.06	0.09	0.31	0.41	3,100	<100
B8-3-11	11.0	7/31/2012	690	<0.02	0.08	0.13	0.40	1,100	<100
TPN2-BC-10.0	10.0	10/9/2012	<10	<0.02	<0.05	<0.05	<0.15	50	<100
B11-S3-9.5/10.0	9.5-10.0	10/10/2012	<10	<0.02	<0.05	<0.05	<0.15	2,000	<100
B12-S1-3.0/3.5	3.0-3.5	10/10/2012	<10	<0.02	<0.05	<0.05	<0.15	<50	<100
B12-S3-9.5/10.0	9.5-10.0	10/10/2012	<10	<0.02	<0.05	<0.05	<0.15	410	<100
B13-S3-10.5/11.0	10.5-11.0	10/10/2012	<10	0.02	<0.05	<0.05	<0.15	3,700	<100
B14-S3-11.0/11.5	11.0-11.5	10/10/2012	<10	<0.02	<0.05	<0.05	<0.15	<50	<100
B15-S3-11.5/12.0	11.5-12.0	10/10/2012	<10	<0.02	<0.05	<0.05	<0.15	<50	<100
B16-S1-2	2.0	11/7/2012	1,900	0.91	34	44	230	3,000 x	<250
B16-S2-4	4.0	11/7/2012	2,100	9.2	120	46	230	1,900	<250
B16-S3-7.5	7.5	11/7/2012	1,000	6.1	36	11	59	8,000	<250
B17-S1-2	2.0	11/7/2012	8.4	0.16	0.22	0.064	1.7	<50	<250
B17-S2-4	4.0	11/7/2012	<2	<0.02	<0.02	<0.02	<0.06	<50	<250
B17-S3-9	9.0	11/7/2012	13	0.12	0.25	0.078	1.6	11,000	<250
B18-S1-2	2.0	11/7/2012	3.7	0.029	0.18	0.081	0.52	77	<250
B18-S2-4	4.0	11/7/2012	<2	<0.02	<0.02	<0.02	<0.06	<50	<250
B18-S4-10	10.0	11/7/2012	370	0.12	0.44	3.5	8.9	3,500	<250
B19-S1-2	2.0	11/7/2012	8.1	0.039	0.16	<0.02	1.4	610 x	<250
B21-S3-11.5	11.5	11/7/2012	<2	<0.02	<0.02	<0.02	<0.06	<50	<250
B22-S3-10	10.0	11/7/2012	<2	<0.02	<0.02	<0.02	<0.06	<50	<250
B23-S3-10	10.0	11/7/2012	270	0.03 j	0.31	3.1	1.3	4,500	<250
PQL			2	0.02	0.02	0.02	0.06	50	250
Ecology MTCA Method A Clean Up Levels			30 ⁵	0.03	7	6	9	2,000	2,000

Notes:

¹ Approximate sample locations are shown in Figure 4

² Gasoline range total petroleum hydrocarbons (TPH). Analyzed by NWTPH-Gx

³ Select Volatile Organic Compounds. Analyzed by EPA Method Method 8021B

⁴ Diesel extended range TPH. Analyzed by Northwest Method NWTPH-Dx/Dx Extended

⁵ Cleanup level with presence of benzene

mg/Kg = milligrams per kilograms

MTCA = Model Toxics Control Act

PQL=Practical Quantitation Limits

-- = not analyzed for this constituent

< = not detected above laboratory limits

* Ecology has not designated a MTCA Method A cleanup level for this constituent

Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

Friedman & Bruya Inc. data qualifiers: 1) j - result is below normal reporting limits. Value reported is an estimate.

2) ve - estimated concentration calculated for an analyte response above the valid instrument calibration range. Dilution is required.

30 x - sample chromatographic pattern does not resemble the fuel standard used for quantitation.

**Table 6 Summary of Groundwater Analytical Results - Probe Subsurface Investigations
Cle Elum 76 - July 2012 Fuel Spill
Cle Elum, WA**

Sample Number ¹	Date Sampled	Gasoline TPH ² (ug/L)	Table 830-1 GRO Volatile Organic Constituents ³ (ug/L)								Total Lead ⁵ (ug/L)	Diesel TPH Extended ⁴ (ug/L)	
			Benzene	Toluene	Ethylbenzene	Total Xylenes	EDC	EDB	Total Naphthalenes	MTBE		Diesel	Heavy Oil
Poly Tank 1	7/27/2012	12,700	541	97	<1.0	1,170	--	--	--	--	--	<200	<400
B1-W	7/31/2012	19,000	1,000	1,100	68	440	<1.0	<0.01	4.3	<1.0	38	590	<500
B2-W	7/31/2012	<100	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	<250	<500
B3-W	7/31/2012	130	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	<250	<500
B4-W	7/31/2012	120	70	23	1.7	9.0	<1.0	<0.01	<1.0	<1.0	<2	<250	<500
B5-W	7/31/2012	30,000	1,600	4,800	7,800	3,700	--	--	--	--	--	17,000	<500
B6-W	7/31/2012	160	2.5	11	1.7	12	--	--	--	--	--	570	<500
B7-W	7/31/2012	30,000	23	3.2	20	20	--	--	--	--	--	45,000	<500
B8-W	7/31/2012	44,000	31	26	18	84	--	--	--	--	--	57,000	<500
B9-W	7/31/2012	<100	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	<250	<500
B10-W	7/31/2012	370	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	<250	<500
B11-W	10/10/2012	830	1.0	<1.0	<1.0	<3.0	--	--	--	--	--	860	<500
B12-W	10/10/2012	200	<1.0	<1.0	2.5	4.0	--	--	--	--	--	<250	<500
B13-W	10/10/2012	<100	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	<250	<500
B14-W	10/10/2012	<100	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	<250	<500
B15-W	10/10/2012	<100	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	<250	<500
B16-W	11/6/2012	70,000	4,200 ve	8200 ve	1,100	5,500	--	--	--	--	14.7	61,000 ve	3,100 x
B17-W	11/6/2012	2,000	140	130	23	120	--	--	--	--	1.94	9,000	590 x
B18-W	11/6/2012	610	35	3.1	3.0	11	--	--	--	--	--	42,000	890 x
B20-W	11/6/2012	<100	<1	<1	<1	<3	--	--	--	--	--	710	<250
B21-W	11/6/2012	170	1.2	1.4	1.1	<3	--	--	--	--	--	25,000	380 x
B22-W	11/6/2012	<100	<1	<1	<1	<3	--	--	--	--	--	900	<250
B23-W	11/6/2012	250	6.5	1.1	1.1	3.8	--	--	--	--	--	15,000	<250
B24-W	11/6/2012	<100	<1 ca	<1	<1	<3	--	--	--	--	--	<50	<250
PQL		100	1	1	1	3	1.0	0.01	1.0	1.0	2	50	250
Ecology MTCA Method A Clean Up Levels		800 ⁶	5	1,000	700	1,000	5	0.010	160	20	15	500	500

Notes:

¹ Approximate sample locations are shown in Figure 4

² Gasoline range total petroleum hydrocarbons (TPH). Analyzed by Northwest Method NWTPH-Gx.

³ Select Volatile Organic Compounds in gasoline range organics (GRO) per Table 830-1. Analyzed by EPA Method 8021B/or 8260B.

⁴ Analyzed by Northwest Method NWTPH-Dx/Dx Extended

⁵ Analyzed by EPA Method 7421

⁶ Cleanup level with presence of benzene

EDC = 1,2-Dichloroethane

EDB = 1,2-Dibromoethane

MTBE = methyl tertiary-butyl ether

PQL = Practical Quantification Limit

MTCA = Model Toxics Control Act

ug/L= micrograms per liter

-- = not analyzed for this constituent

< = not detected above laboratory limits

* Ecology has not designated a MTCA Method A cleanup level for this constituent

Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

Friedman & Bruya Inc. data qualifiers: 1) c - presence of analyte may be due to carryover from previous sample injections.

2) ve - estimated concentration calculated for an analyte response above the valid instrument calibration range. Dilution is required.

3) ca - calibration results for this range fell outside of acceptance criteria. Value reported is an estimate.

**Table 7 Summary of Forensic Evaluation
Cle Elum 76 - July 2012 Gasoline Fuel Spill
Cle Elum, WA**

Sample Number ¹	Sample Media	Soil Sample Depth (ft bgs)	Location of Soil Sample	Forensic Evaluation Findings					
				Type of Fuel	Degradation	Potential Presence of Gasoline	Evidence of Recent Gasoline	Presence of BTEX Constituents	Other Notes
B5-3-11	SOIL	11	Adjacent west bulk fuel containment	Mixture gasoline & diesel	Substantial degradation to gasoline	Yes	Yes	No	Gas at B-5 is same as gas spill at B-16 (source sample); isooctane present: gas fuel marker
B6-3-10	SOIL	10	West side of Diesel Cardlock	Diesel	Little to no biological degradation	No	No	No	
B7-3-11	SOIL	11	Adjacent east bulk fuel containment	Diesel	Substantial biological degradation	Yes	Possible	No	isooctane present: gas fuel marker
B8-3-11	SOIL	11	Adjacent south bulk fuel containment	Diesel	Substantial biological degradation	No	No	No	No isooctane: no gas
B13-W	GROUNDWATER	--	East of bulk fuel containment	No Detect	Not Applicable	Not Detected	No	No	No measurable impact from recent July 2012 gasoline spill
B16-S1-2	SOIL	2	Within Bulk Fuel Containment - adjacent south split tank fuel spill area	Gasoline	Evaporative degradation	Yes	Yes	Yes	Gasoline fuel spill representative source sample; isooctane present: gas fuel marker
B16-S2-4	SOIL	4	Within Bulk Fuel Containment - adjacent south split tank fuel spill area	Gasoline	Minor to none	Yes	Yes	Yes	Gasoline fuel spill representative source sample; isooctane present: gas fuel marker
B16-S3-7.5	SOIL	7.5	Within Bulk Fuel Containment - adjacent south split tank fuel spill area	Mixture gasoline & diesel	Mixture of degraded and undegraded fuel present	Yes	Yes	Yes	Gas is same as shallow soil gas fuel; isooctane present: gas fuel marker
B16-W	GROUNDWATER	--	Within Bulk Fuel Containment - southeast area	Mixture gasoline & diesel	Substantial biological degradation	Yes	Possible	No	isooctane present: gas fuel marker
B18-S4-10	SOIL	10	Within Bulk Fuel Containment - adjacent south split tank fuel spill area	Diesel	Substantial biological degradation	Yes	No	No	No isooctane: no gas
B18-W	GROUNDWATER	--	Within Bulk Fuel Containment - adjacent south split tank fuel spill area	Mixture gasoline & diesel	Extensive degradation	Yes	No	No	MTBE, MEK, acetone present; No isooctane: no gas
B19-S1-2	SOIL	2	Within Bulk Fuel Containment - below split tank fuel spill area	Mixture gasoline & diesel	Extensive degradation	Yes	Possible	Yes	No isooctane: no gas. Minor benzene.
B23-S3-10	SOIL	10	Southeast of Bulk Fuel Containment	Diesel	Substantial biological degradation	Yes	No	No	
B23-W	GROUNDWATER	--	Southeast of Bulk Fuel Containment	Gasoline	Extensive degradation	Yes	No	Yes	Gasoline identified at B23-W is not the same as gas spill source at B-16

Notes:

¹Approximate sample locations are shown in Figure ???

²Gasoline range total petroleum hydrocarbons (TPH). Analyzed by Northwest Method NWTPH-Gx.

BTEX = benzene, toluene, ethylbenzene, and total xylenes constituents

N.A. = not applicable

ATTACHMENT A

**Friedman & Bruya Inc.
Forensic Data & Analysis**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

January 2, 2013

Yen-Vy Van, Project Manager
AEG
605 11th Ave SE, Suite 201
Olympia, WA 98501

Dear Ms. Van:

Included are the results from the testing of material submitted on December 3, 2012 from the Cle Elum 76, F&BI 212037 project. The soil and water samples submitted for forensic evaluation arrived in good condition. Upon arrival, the samples were placed in a refrigerator maintained at 4°C until removed for sample processing.

The samples B5-3-11, B7-3-11, and B8-3-11 were extracted and analyzed using a gas chromatograph with a flame ionization detector (GC/FID). The data generated yielded information on the boiling range and general chemical composition of the material present. The GC/FID traces are enclosed. A GC/FID trace of a standard consisting of normal alkanes is also provided for reference purposes.

In addition, the samples B5-3-11, B7-3-11, B8-3-11, B13-W were analyzed for volatile organic compounds using a GC fitted with a mass spectrometer (MS). The sample B5-3-11 was also analyzed for organometallic compounds using an inductively coupled plasma mass spectrometer (ICP-MS). The results of this testing, including the associated quality assurance, are also enclosed.

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.



Kurt Johnson, Chemist

Enclosures

mcp/KJ

c: yvan@aegwa.com

NAA0102R.DOC

Date of Report: 01/02/13
Date Received: 12/03/12
Project: Cle Elum 76, F&BI 212037
Date Extracted: 12/07/12
Date Analyzed: 12/07/12

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

Sample ID

GC Characterization

B5-3-11

The GC trace using the flame ionization detector (FID) showed the presence of low to medium boiling compounds. The patterns displayed by these peaks are indicative of a mixture of gasoline and a middle distillate such as diesel fuel No. 2 or heating oil.

The low boiling compounds appear as a ragged pattern of peaks eluting from *n*-C₇ to *n*-C₁₃ showing a maximum near *n*-C₇. This correlates with a temperature range of approximately 100°C to 240°C with a maximum near 100°C. Within this range, the GC/FID trace showed the presence of peaks, at varying levels, that are indicative of the xylenes and C₃-benzenes. These compounds are characteristic of the constituents commonly found in gasoline. The relative abundance of the volatile and semivolatile constituents present indicates that substantial degradation has occurred to the gasoline.

The medium boiling compounds appear as an irregular pattern of peaks on top of a broad hump or unresolved complex mixture (UCM). This material elutes from *n*-C₈ to *n*-C₂₄ showing a maximum near *n*-C₁₃. This correlates with a temperature range of approximately 130°C to 390°C with a maximum near 240°C. Within this range, the dominant peaks present are indicative of isoprenoids including norpristane, pristane, and phytane. A discernible pattern of peaks characteristic of the normal alkanes was not present. The abundance of isoprenoids in conjunction with the apparent absence of normal alkanes indicates that the middle distillate present has undergone substantial biological degradation.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

Date of Report: 01/02/13
Date Received: 12/03/12
Project: Cle Elum 76, F&BI 212037
Date Extracted: 12/07/12
Date Analyzed: 12/07/12

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

Sample ID

GC Characterization

B7-3-11

The GC trace using the flame ionization detector (FID) showed the presence of low to medium boiling compounds. The majority of material present in this sample is indicative of a middle distillate such as diesel fuel No. 2 or heating oil.

The medium boiling compounds appear as an irregular pattern of peaks on top of a broad hump or unresolved complex mixture (UCM). This material elutes from *n*-C₇ to *n*-C₂₄ showing a maximum near *n*-C₁₅. This correlates with a temperature range of approximately 100°C to 390°C with a maximum near 270°C. Within this range, the dominant peaks present are indicative of isoprenoids including norpristane, pristane, and phytane. A discernible pattern of peaks characteristic of the normal alkanes was not present. The abundance of isoprenoids in conjunction with the apparent absence of normal alkanes indicates that the fuel present has undergone substantial biological degradation.

It should also be noted that a trace level of a lower boiling material such as gasoline may also be present in this sample.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

Date of Report: 01/02/13
Date Received: 12/03/12
Project: Cle Elum 76, F&BI 212037
Date Extracted: 12/07/12
Date Analyzed: 12/07/12

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

Sample ID

GC Characterization

B8-3-11

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 No. 2 or heating oil.

The medium boiling compounds appear as an irregular pattern of peaks on top of a broad hump or unresolved complex mixture (UCM). This material elutes from *n*-C₈ to *n*-C₂₄ showing a maximum near *n*-C₁₃. This correlates with a temperature range of approximately 130°C to 390°C with a maximum near 240°C. Within this range, the dominant peaks present are indicative of isoprenoids including norpristane, pristane, and phytane. A dominant pattern of peaks characteristic of the normal alkanes was not present. The abundance of isoprenoids in conjunction with the low level or apparent absence of normal alkanes indicates that the fuel present has undergone substantial biological degradation.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B5-3-11	Client:	AEG
Date Received:	12/03/12	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	12/17/12	Lab ID:	212037-05
Date Analyzed:	12/18/12	Data File:	121732.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	111	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	2.3
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	10
Methylene chloride	<0.5	o-Xylene	4.8
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	0.52
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	2.0
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	4.1
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	12 ve
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	0.43
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	0.30
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	0.16	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	1.3
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	2.6	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	6.3 L
1,1,2-Trichloroethane	<0.05	Isooctane	13 L

Note: The sample was extracted outside of holding time. Results should be considered estimates.

Note: The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B5-3-11	Client:	AEG
Date Received:	12/03/12	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	12/06/12	Lab ID:	212037-05 1/10
Date Analyzed:	12/07/12	Data File:	120631.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<500	2-Hexanone	<5
Dichlorodifluoromethane	<5	1,3-Dichloropropane	<0.5
Chloromethane	<5	Tetrachloroethene	<0.25
Vinyl chloride	<0.5	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.5
Chloroethane	<5	Chlorobenzene	<0.5
Trichlorofluoromethane	<5	Ethylbenzene	2.3
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.5
1,1-Dichloroethene	<0.5	m,p-Xylene	11
Methylene chloride	<5	o-Xylene	4.7
t-Butyl alcohol (TBA)	<25	Styrene	<0.5
Methyl t-butyl ether (MTBE)	<0.5	Isopropylbenzene	0.54
trans-1,2-Dichloroethene	<0.5	Bromoform	<0.5
Diisopropyl ether (DIPE)	<0.5	n-Propylbenzene	2.2
1,1-Dichloroethane	<0.5	Bromobenzene	<0.5
Ethyl t-butyl ether (ETBE)	<0.5	1,3,5-Trimethylbenzene	4.5
2,2-Dichloropropane	<0.5	1,1,2,2-Tetrachloroethane	<0.5
cis-1,2-Dichloroethene	<0.5	1,2,3-Trichloropropane	<0.5
Chloroform	<0.5	2-Chlorotoluene	<0.5
2-Butanone (MEK)	<5	4-Chlorotoluene	<0.5
t-Amyl methyl ether (TAME)	<0.5	tert-Butylbenzene	<0.5
1,2-Dichloroethane (EDC)	<0.5	1,2,4-Trimethylbenzene	13
1,1,1-Trichloroethane	<0.5	sec-Butylbenzene	<0.5
1,1-Dichloropropene	<0.5	p-Isopropyltoluene	<0.5
Carbon tetrachloride	<0.5	1,3-Dichlorobenzene	<0.5
Benzene	<0.3	1,4-Dichlorobenzene	<0.5
Trichloroethene	<0.3	1,2-Dichlorobenzene	<0.5
1,2-Dichloropropane	<0.5	1,2-Dibromo-3-chloropropane	<5
Bromodichloromethane	<0.5	1,2,4-Trichlorobenzene	<2.5
Dibromomethane	<0.5	Hexachlorobutadiene	<2.5
4-Methyl-2-pentanone	<5	Naphthalene	1.4
cis-1,3-Dichloropropene	<0.5	1,2,3-Trichlorobenzene	<2.5
Toluene	2.7	Butane	<5 L
trans-1,3-Dichloropropene	<0.5	Pentane	<5 L
1,1,2-Trichloroethane	<0.5	Isooctane	13 L

Note: The sample was extracted outside of holding time. Results should be considered estimates.

Note: The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B7-3-11	Client:	AEG
Date Received:	12/03/12	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	12/06/12	Lab ID:	212037-07
Date Analyzed:	12/07/12	Data File:	120632.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	<0.05
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	<0.05
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	0.075
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	<0.03	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	0.12
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	<0.05	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	3.7 L

Note: The sample was extracted outside of holding time. Results should be considered estimates.

Note: The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B8-3-11	Client:	AEG
Date Received:	12/03/12	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	12/06/12	Lab ID:	212037-08
Date Analyzed:	12/07/12	Data File:	120633.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	<0.05
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	<0.05
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	<0.05
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	<0.03	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	<0.05	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	<0.5 L

Note: The sample was extracted outside of holding time. Results should be considered estimates.

Note: The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	AEG
Date Received:	Not Applicable	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	12/06/12	Lab ID:	02-2241 mb
Date Analyzed:	12/06/12	Data File:	120628.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	<0.05
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	<0.05
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	<0.05
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	<0.03	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	<0.05	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	<0.5 L

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B13-W	Client:	AEG
Date Received:	12/03/12	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	12/07/12	Lab ID:	212037-10
Date Analyzed:	12/08/12	Data File:	120731.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Ethanol	<1,000	2-Hexanone	<10
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
t-Butyl alcohol (TBA)	<50	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
Diisopropyl ether (DIPE)	<1	n-Propylbenzene	<1
1,1-Dichloroethane	<1	Bromobenzene	<1
Ethyl t-butyl ether (ETBE)	<1	1,3,5-Trimethylbenzene	<1
2,2-Dichloropropane	<1	1,1,2,2-Tetrachloroethane	<1
cis-1,2-Dichloroethene	<1	1,2,3-Trichloropropane	<1
Chloroform	<1	2-Chlorotoluene	<1
2-Butanone (MEK)	<10	4-Chlorotoluene	<1
t-Amyl methyl ether (TAME)	<1	tert-Butylbenzene	<1
1,2-Dichloroethane (EDC)	<1	1,2,4-Trimethylbenzene	<1
1,1,1-Trichloroethane	<1	sec-Butylbenzene	<1
1,1-Dichloropropene	<1	p-Isopropyltoluene	<1
Carbon tetrachloride	<1	1,3-Dichlorobenzene	<1
Benzene	<0.35	1,4-Dichlorobenzene	<1
Trichloroethene	<1	1,2-Dichlorobenzene	<1
1,2-Dichloropropane	<1	1,2-Dibromo-3-chloropropane	<10
Bromodichloromethane	<1	1,2,4-Trichlorobenzene	<1
Dibromomethane	<1	Hexachlorobutadiene	<1
4-Methyl-2-pentanone	<10	Naphthalene	<1
cis-1,3-Dichloropropene	<1	1,2,3-Trichlorobenzene	<1
Toluene	<1	Butane	<10 L
trans-1,3-Dichloropropene	<1	Pentane	<10 L
1,1,2-Trichloroethane	<1	Isooctane	<10 L

Note: The sample was analyzed outside of recommended holding time. Results should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	AEG
Date Received:	Not Applicable	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	12/07/12	Lab ID:	02-2242 mb
Date Analyzed:	12/07/12	Data File:	120706.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Ethanol	<1,000	2-Hexanone	<10
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
t-Butyl alcohol (TBA)	<50	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
Diisopropyl ether (DIPE)	<1	n-Propylbenzene	<1
1,1-Dichloroethane	<1	Bromobenzene	<1
Ethyl t-butyl ether (ETBE)	<1	1,3,5-Trimethylbenzene	<1
2,2-Dichloropropane	<1	1,1,2,2-Tetrachloroethane	<1
cis-1,2-Dichloroethene	<1	1,2,3-Trichloropropane	<1
Chloroform	<1	2-Chlorotoluene	<1
2-Butanone (MEK)	<10	4-Chlorotoluene	<1
t-Amyl methyl ether (TAME)	<1	tert-Butylbenzene	<1
1,2-Dichloroethane (EDC)	<1	1,2,4-Trimethylbenzene	<1
1,1,1-Trichloroethane	<1	sec-Butylbenzene	<1
1,1-Dichloropropene	<1	p-Isopropyltoluene	<1
Carbon tetrachloride	<1	1,3-Dichlorobenzene	<1
Benzene	<0.35	1,4-Dichlorobenzene	<1
Trichloroethene	<1	1,2-Dichlorobenzene	<1
1,2-Dichloropropane	<1	1,2-Dibromo-3-chloropropane	<10
Bromodichloromethane	<1	1,2,4-Trichlorobenzene	<1
Dibromomethane	<1	Hexachlorobutadiene	<1
4-Methyl-2-pentanone	<10	Naphthalene	<1
cis-1,3-Dichloropropene	<1	1,2,3-Trichlorobenzene	<1
Toluene	<1	Butane	<10 L
trans-1,3-Dichloropropene	<1	Pentane	<10 L
1,1,2-Trichloroethane	<1	Isooctane	<10 L

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Organic Lead and Manganese By EPA Method 200.8

Client ID:	B5-3-11	Client:	AEG
Date Received:	12/03/12	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	12/11/12	Lab ID:	212037-05
Date Analyzed:	12/12/12	Data File:	212037-05.009
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Analyte:	Concentration mg/kg (ppm)
Organic Lead	<0.05
Organic Manganese	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Organic Lead and Manganese By EPA Method 200.8

Client ID:	Method Blank	Client:	AEG
Date Received:	Not Applicable	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	12/10/12	Lab ID:	I2-827 mb
Date Analyzed:	12/12/12	Data File:	I2-827 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Analyte:	Concentration mg/kg (ppm)
Organic Lead	<0.05
Organic Manganese	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 12/03/12

Project: Cle Elum 76, F&BI 212037

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 212068-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Ethanol	mg/kg (ppm)	125	<50	73	29-126
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	10	10-56
Chloromethane	mg/kg (ppm)	2.5	<0.5	36	10-90
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	39	10-91
Bromomethane	mg/kg (ppm)	2.5	<0.5	47	10-110
Chloroethane	mg/kg (ppm)	2.5	<0.5	48	10-101
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	39	10-95
Acetone	mg/kg (ppm)	12.5	<0.5	60	11-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	56	11-103
Methylene chloride	mg/kg (ppm)	2.5	<0.5	72	14-128
t-Butyl alcohol (TBA)	mg/kg (ppm)	125	<2.5	70	36-119
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	72	17-134
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	66	13-112
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	<0.05	70	35-107
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	69	23-115
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	<0.05	76	38-110
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	83	18-117
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	74	25-120
Chloroform	mg/kg (ppm)	2.5	<0.05	75	29-117
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	67	20-133
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	<0.05	77	41-111
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	73	22-124
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	72	27-112
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	69	26-107
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	71	24-112
Benzene	mg/kg (ppm)	2.5	<0.03	71	26-114
Trichloroethene	mg/kg (ppm)	2.5	<0.03	74	30-112
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	74	31-119
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	81	31-131
Dibromomethane	mg/kg (ppm)	2.5	<0.05	77	27-124
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	74	16-147
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	84	28-137
Toluene	mg/kg (ppm)	2.5	<0.05	76	34-112
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	86	30-136
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	77	32-126
2-Hexanone	mg/kg (ppm)	12.5	<0.5	73	17-147
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	77	29-125
Tetrachloroethene	mg/kg (ppm)	2.5	<0.03	76	32-107
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	85	32-143
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	80	32-126
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	79	37-113
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	78	39-111
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	85	35-126
m,p-Xylene	mg/kg (ppm)	5	<0.1	79	40-111
o-Xylene	mg/kg (ppm)	2.5	<0.05	79	40-113
Styrene	mg/kg (ppm)	2.5	<0.05	82	38-118
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	81	40-112
Bromoform	mg/kg (ppm)	2.5	<0.05	85	19-171
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	78	40-112
Bromobenzene	mg/kg (ppm)	2.5	<0.05	80	40-115
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	80	40-113
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	78	33-128
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	74	33-123
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	78	39-110
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	79	40-111
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	79	40-113
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	82	41-112
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	80	38-114
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	82	38-114
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	80	40-110
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	78	40-108
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	80	41-112
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	80	34-134
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	84	33-114
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	83	31-115
Naphthalene	mg/kg (ppm)	2.5	<0.05	85	39-118
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	86	38-114

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 12/03/12

Project: Cle Elum 76, F&BI 212037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	mg/kg (ppm)	125	115	111	55-138	4
Dichlorodifluoromethane	mg/kg (ppm)	2.5	37	36	10-76	3
Chloromethane	mg/kg (ppm)	2.5	70	68	34-98	3
Vinyl chloride	mg/kg (ppm)	2.5	80	78	42-107	3
Bromomethane	mg/kg (ppm)	2.5	72	72	49-113	0
Chloroethane	mg/kg (ppm)	2.5	74	74	50-115	0
Trichlorofluoromethane	mg/kg (ppm)	2.5	77	77	53-112	0
Acetone	mg/kg (ppm)	12.5	97	96	39-147	1
1,1-Dichloroethene	mg/kg (ppm)	2.5	91	90	65-110	1
Methylene chloride	mg/kg (ppm)	2.5	104	101	62-119	3
t-Butyl alcohol (TBA)	mg/kg (ppm)	125	110	108	73-123	2
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	95	96	75-115	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	96	97	71-113	1
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	95	94	81-106	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	98	97	76-109	1
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	101	100	75-114	1
2,2-Dichloropropane	mg/kg (ppm)	2.5	124	125	65-131	1
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	99	98	77-110	1
Chloroform	mg/kg (ppm)	2.5	100	99	78-108	1
2-Butanone (MEK)	mg/kg (ppm)	12.5	105	103	60-121	2
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	100	102	77-116	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	98	97	80-109	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	105	104	72-116	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	99	97	77-108	2
Carbon tetrachloride	mg/kg (ppm)	2.5	109	108	67-123	1
Benzene	mg/kg (ppm)	2.5	97	96	75-107	1
Trichloroethene	mg/kg (ppm)	2.5	98	98	72-107	0
1,2-Dichloropropane	mg/kg (ppm)	2.5	99	97	78-111	2
Bromodichloromethane	mg/kg (ppm)	2.5	109	108	75-126	1
Dibromomethane	mg/kg (ppm)	2.5	104	102	80-111	2
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	109	107	81-113	2
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	115	114	71-138	1
Toluene	mg/kg (ppm)	2.5	101	99	79-112	2
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	119	117	77-135	2
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	103	100	84-112	3
2-Hexanone	mg/kg (ppm)	12.5	110	106	71-129	4
1,3-Dichloropropane	mg/kg (ppm)	2.5	103	99	82-113	4
Tetrachloroethene	mg/kg (ppm)	2.5	104	100	77-110	4
Dibromochloromethane	mg/kg (ppm)	2.5	115	113	64-152	2
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	108	106	83-116	2
Chlorobenzene	mg/kg (ppm)	2.5	101	99	82-111	2
Ethylbenzene	mg/kg (ppm)	2.5	101	99	81-114	2
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	115	113	76-125	2
mp-Xylene	mg/kg (ppm)	5	103	101	82-115	2
o-Xylene	mg/kg (ppm)	2.5	102	100	81-116	2
Styrene	mg/kg (ppm)	2.5	105	103	81-118	2
Isopropylbenzene	mg/kg (ppm)	2.5	104	102	81-117	2
Bromoform	mg/kg (ppm)	2.5	112	112	50-174	0
n-Propylbenzene	mg/kg (ppm)	2.5	104	102	82-116	2
Bromobenzene	mg/kg (ppm)	2.5	104	103	83-112	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	105	105	82-117	0
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	110	108	82-121	2
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	105	104	79-116	1
2-Chlorotoluene	mg/kg (ppm)	2.5	102	101	80-114	1
4-Chlorotoluene	mg/kg (ppm)	2.5	103	102	82-114	1
tert-Butylbenzene	mg/kg (ppm)	2.5	105	103	82-116	2
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	105	105	82-116	0
sec-Butylbenzene	mg/kg (ppm)	2.5	104	104	82-117	0
p-Isopropyltoluene	mg/kg (ppm)	2.5	106	105	82-118	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	103	103	83-112	0
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	102	100	82-110	2
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	103	101	84-111	2
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	123	120	71-131	2
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	106	106	78-114	0
Hexachlorobutadiene	mg/kg (ppm)	2.5	110	110	77-118	0
Naphthalene	mg/kg (ppm)	2.5	110	109	84-120	1
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	108	107	85-117	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 12/03/12

Project: Cle Elum 76, F&BI 212037

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

Laboratory Code: 212092-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Ethanol	ug/L (ppb)	2,500	<1,000	92	18-177
Dichlorodifluoromethane	ug/L (ppb)	50	<10	103	10-172
Chloromethane	ug/L (ppb)	50	<10	96	25-166
Vinyl chloride	ug/L (ppb)	50	<0.2	103	36-166
Bromomethane	ug/L (ppb)	50	<1	90	47-169
Chloroethane	ug/L (ppb)	50	<1	96	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	98	44-165
Acetone	ug/L (ppb)	250	<10	98	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	93	60-136
Methylene chloride	ug/L (ppb)	50	<5	85	67-132
t-Butyl alcohol (TBA)	ug/L (ppb)	2,500	<50	103	35-165
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	94	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	93	72-129
Diisopropyl ether (DIPE)	ug/L (ppb)	50	<1	94	76-128
1,1-Dichloroethane	ug/L (ppb)	50	<1	95	70-128
Ethyl t-butyl ether (ETBE)	ug/L (ppb)	50	<1	95	71-132
2,2-Dichloropropane	ug/L (ppb)	50	<1	97	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	93	71-127
Chloroform	ug/L (ppb)	50	<1	94	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	95	10-129
t-Amyl methyl ether (TAME)	ug/L (ppb)	50	<1	94	71-132
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	95	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	96	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	95	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	113	56-152
Benzene	ug/L (ppb)	50	<0.35	94	76-125
Trichloroethene	ug/L (ppb)	50	<1	93	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	96	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	104	61-150
Dibromomethane	ug/L (ppb)	50	<1	96	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	95	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	101	72-132
Toluene	ug/L (ppb)	50	<1	95	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	103	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	95	68-131
2-Hexanone	ug/L (ppb)	250	<10	97	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	96	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	98	73-129
Dibromochloromethane	ug/L (ppb)	50	<1	113	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	98	69-134
Chlorobenzene	ug/L (ppb)	50	<1	95	77-122
Ethylbenzene	ug/L (ppb)	50	<1	95	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	110	73-137
mp-Xylene	ug/L (ppb)	100	<2	95	69-135
o-Xylene	ug/L (ppb)	50	<1	94	68-137
Styrene	ug/L (ppb)	50	<1	90	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	94	65-142
Bromoform	ug/L (ppb)	50	<1	113	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	95	58-144
Bromobenzene	ug/L (ppb)	50	<1	95	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	94	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	98	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	96	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	94	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	93	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	96	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	95	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	93	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	95	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	94	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	93	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	94	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	111	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	94	76-132
Hexachlorobutadiene	ug/L (ppb)	50	<1	82	60-143
Naphthalene	ug/L (ppb)	50	<1	100	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	98	69-148

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 12/03/12

Project: Cle Elum 76, F&BI 212037

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	ug/L (ppb)	2,500	91	93	28-187	2
Dichlorodifluoromethane	ug/L (ppb)	50	103	99	25-158	4
Chloromethane	ug/L (ppb)	50	103	97	45-156	6
Vinyl chloride	ug/L (ppb)	50	103	98	50-154	5
Bromomethane	ug/L (ppb)	50	90	87	55-143	3
Chloroethane	ug/L (ppb)	50	95	94	58-146	1
Trichlorofluoromethane	ug/L (ppb)	50	97	94	50-150	3
Acetone	ug/L (ppb)	250	94	90	60-155	4
1,1-Dichloroethene	ug/L (ppb)	50	94	91	67-136	3
Methylene chloride	ug/L (ppb)	50	85	79	39-148	7
t-Butyl alcohol (TBA)	ug/L (ppb)	2,500	106	97	46-163	9
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	95	85	64-147	11
trans-1,2-Dichloroethene	ug/L (ppb)	50	93	87	68-128	7
Diisopropyl ether (DIPE)	ug/L (ppb)	50	94	88	71-138	7
1,1-Dichloroethane	ug/L (ppb)	50	95	89	79-121	7
Ethyl t-butyl ether (ETBE)	ug/L (ppb)	50	95	89	67-149	7
2,2-Dichloropropane	ug/L (ppb)	50	104	94	55-143	10
cis-1,2-Dichloroethene	ug/L (ppb)	50	94	88	80-123	7
Chloroform	ug/L (ppb)	50	93	88	80-121	6
2-Butanone (MEK)	ug/L (ppb)	250	96	89	57-149	8
t-Amyl methyl ether (TAME)	ug/L (ppb)	50	95	88	64-147	8
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	94	89	73-132	5
1,1,1-Trichloroethane	ug/L (ppb)	50	97	91	83-130	6
1,1-Dichloropropene	ug/L (ppb)	50	95	89	77-129	7
Carbon tetrachloride	ug/L (ppb)	50	115	105	75-158	9
Benzene	ug/L (ppb)	50	93	88	69-134	6
Trichloroethene	ug/L (ppb)	50	92	88	80-120	4
1,2-Dichloropropane	ug/L (ppb)	50	95	88	77-123	8
Bromodichloromethane	ug/L (ppb)	50	103	96	81-133	7
Dibromomethane	ug/L (ppb)	50	96	91	82-125	5
4-Methyl-2-pentanone	ug/L (ppb)	250	96	89	70-140	8
cis-1,3-Dichloropropene	ug/L (ppb)	50	103	95	82-132	8
Toluene	ug/L (ppb)	50	95	89	72-122	7
trans-1,3-Dichloropropene	ug/L (ppb)	50	105	98	80-136	7
1,1,2-Trichloroethane	ug/L (ppb)	50	94	89	75-124	5
2-Hexanone	ug/L (ppb)	250	96	91	64-152	5
1,3-Dichloropropane	ug/L (ppb)	50	96	90	76-126	6
Tetrachloroethene	ug/L (ppb)	50	99	93	76-121	6
Dibromochloromethane	ug/L (ppb)	50	112	105	84-133	6
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	97	92	82-125	5
Chlorobenzene	ug/L (ppb)	50	95	90	83-114	5
Ethylbenzene	ug/L (ppb)	50	95	90	77-124	5
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	110	102	84-127	8
m,p-Xylene	ug/L (ppb)	100	95	90	83-125	5
o-Xylene	ug/L (ppb)	50	94	88	86-121	7
Styrene	ug/L (ppb)	50	95	91	85-127	4
Isopropylbenzene	ug/L (ppb)	50	94	88	87-122	7
Bromoform	ug/L (ppb)	50	112	104	74-136	7
n-Propylbenzene	ug/L (ppb)	50	97	91	74-126	6
Bromobenzene	ug/L (ppb)	50	96	90	80-121	6
1,3,5-Trimethylbenzene	ug/L (ppb)	50	97	90	80-126	7
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	98	90	66-126	9
1,2,3-Trichloropropane	ug/L (ppb)	50	95	91	67-124	4
2-Chlorotoluene	ug/L (ppb)	50	95	89	77-127	7
4-Chlorotoluene	ug/L (ppb)	50	95	89	78-128	7
tert-Butylbenzene	ug/L (ppb)	50	99	92	85-127	7
1,2,4-Trimethylbenzene	ug/L (ppb)	50	96	90	82-125	6
sec-Butylbenzene	ug/L (ppb)	50	97	91	80-125	6
p-Isopropyltoluene	ug/L (ppb)	50	99	92	82-127	7
1,3-Dichlorobenzene	ug/L (ppb)	50	96	90	85-116	6
1,4-Dichlorobenzene	ug/L (ppb)	50	95	90	84-121	5
1,2-Dichlorobenzene	ug/L (ppb)	50	95	89	85-116	7
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	109	101	57-141	8
1,2,4-Trichlorobenzene	ug/L (ppb)	50	97	92	72-130	5
Hexachlorobutadiene	ug/L (ppb)	50	97	90	53-141	7
Naphthalene	ug/L (ppb)	50	99	92	64-133	7
1,2,3-Trichlorobenzene	ug/L (ppb)	50	100	93	65-136	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 12/03/12

Project: Cle Elum 76, F&BI 212037

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES
FOR ORGANIC LEAD AND MANGANESE
USING EPA METHOD 200.8**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Organic Lead	mg/kg (ppm)	2.83	74	83	70-130	11
Organic Manganese	mg/kg (ppm)	0.5	97	93	70-130	4

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 - More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

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

pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.

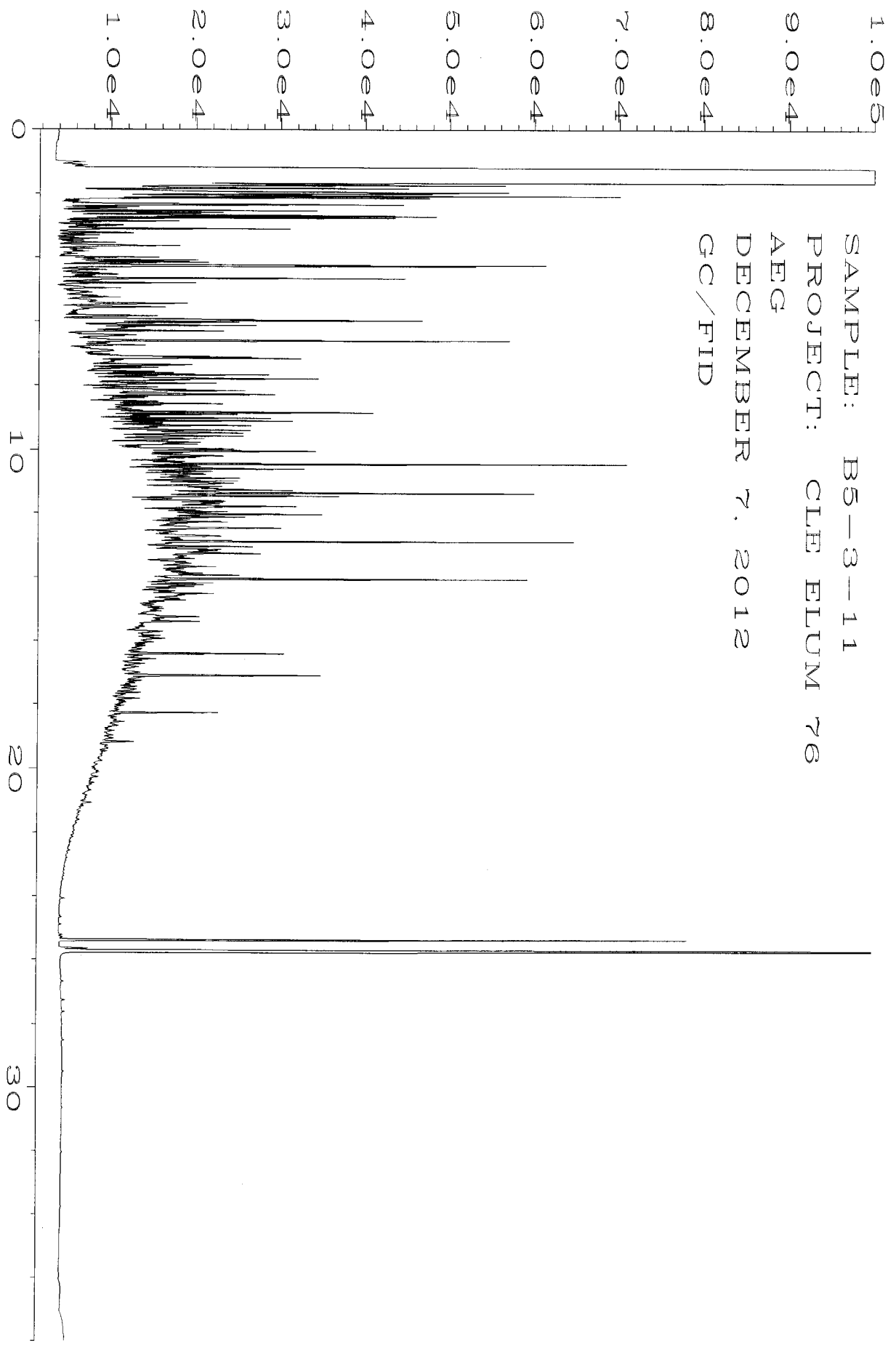
pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

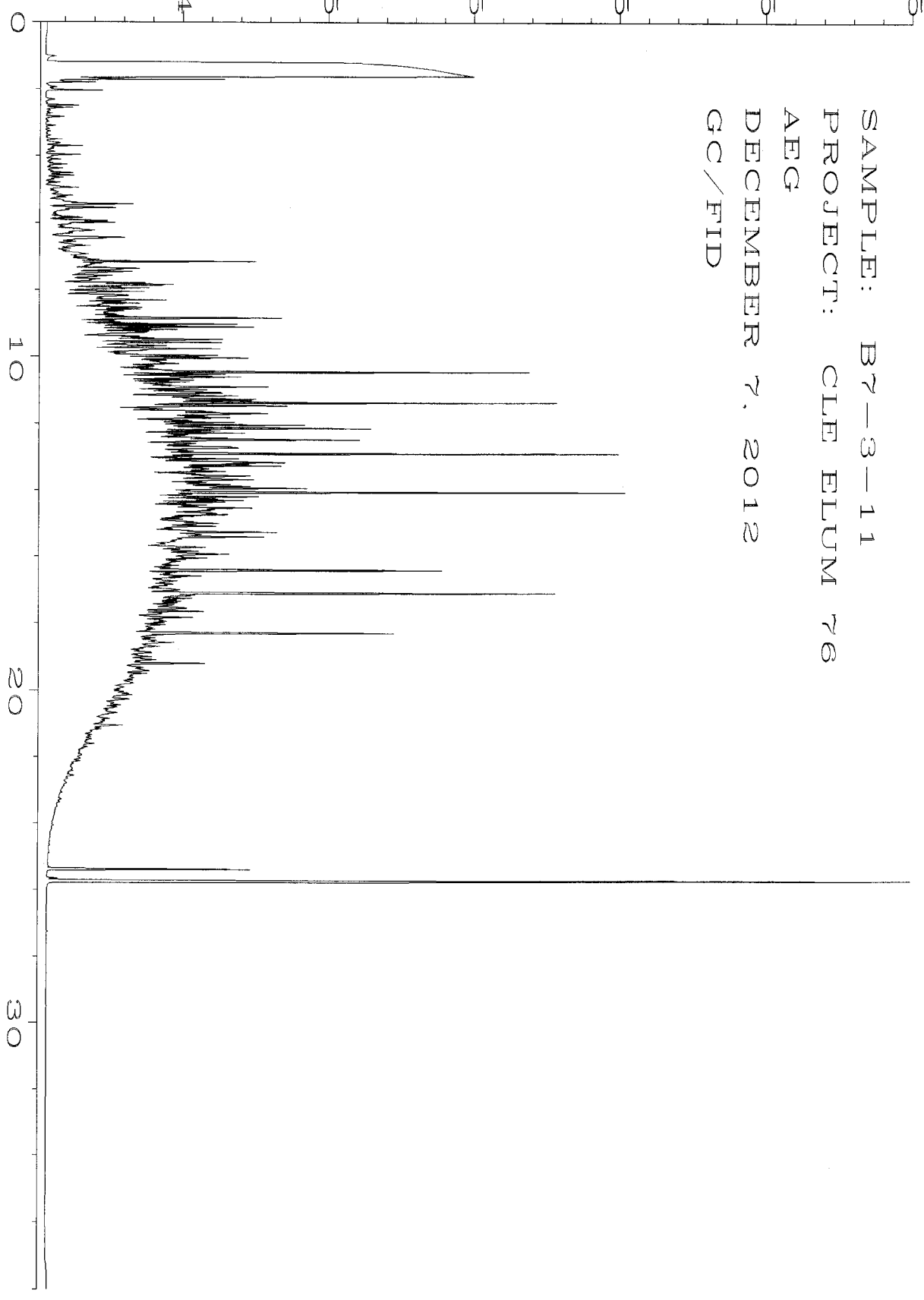
SAMPLE: B5-3-11
PROJECT: CLE FLUM 76
AEG
DECEMBER 7, 2012
GC/FID



Sig. 1 in C:\HPCHEM\5\DATA\12-07-12\004F0401.D

3.0e5
2.5e5
2.0e5
1.5e5
1.0e5
5.0e4
0

SAMPLE: B7-3-11
PROJECT: CLF FLUM 76
AEG
DECEMBER 7, 2012
GC/FID



Sig. 1 in C:\HPCHEM\5\DATA\12-07-12\005F0401.D

SAMPLE: B8-3-11
PROJECT: CLE FLUM 76
AEG
DECEMBER 7, 2012
GC/FID

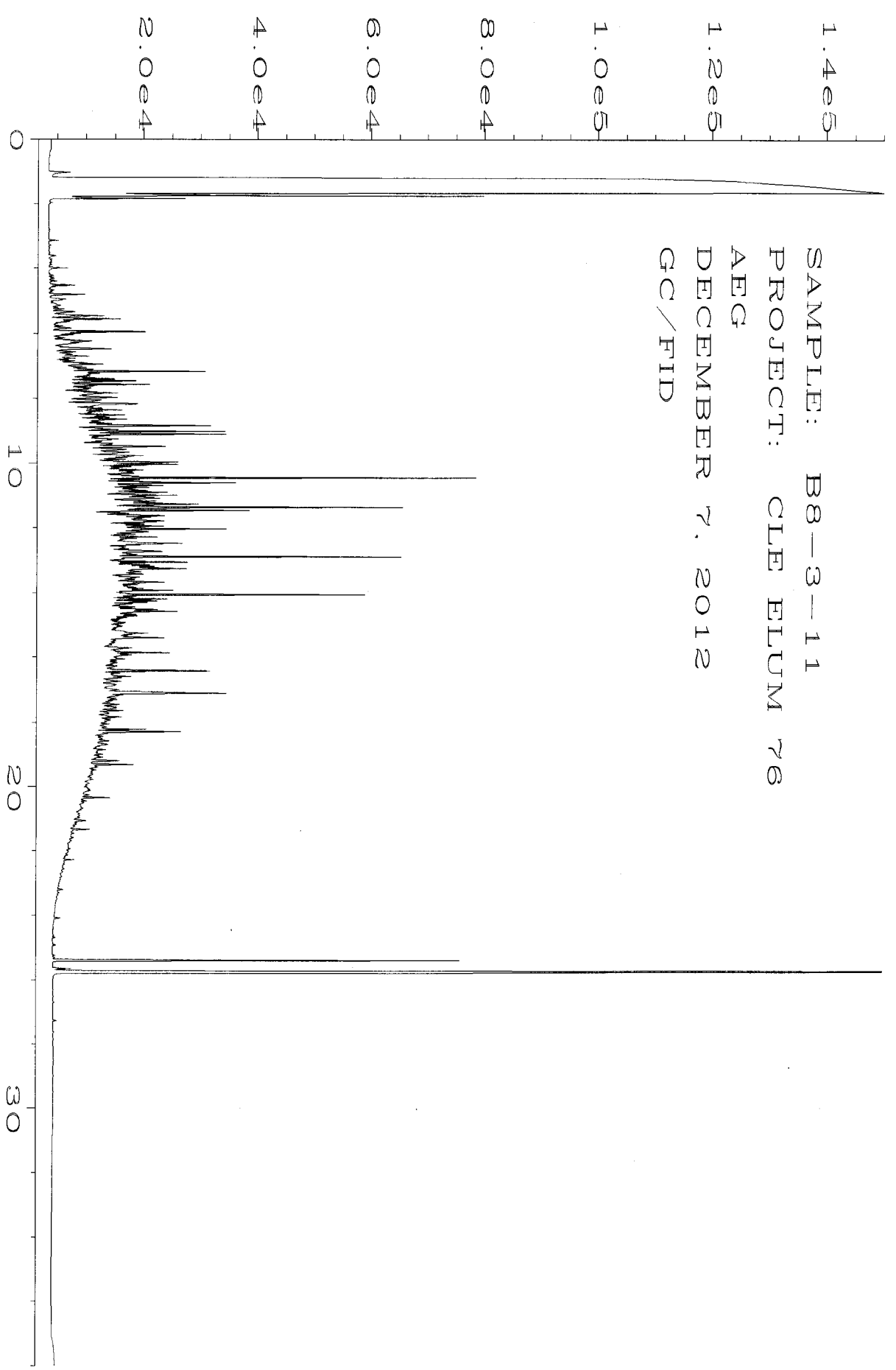
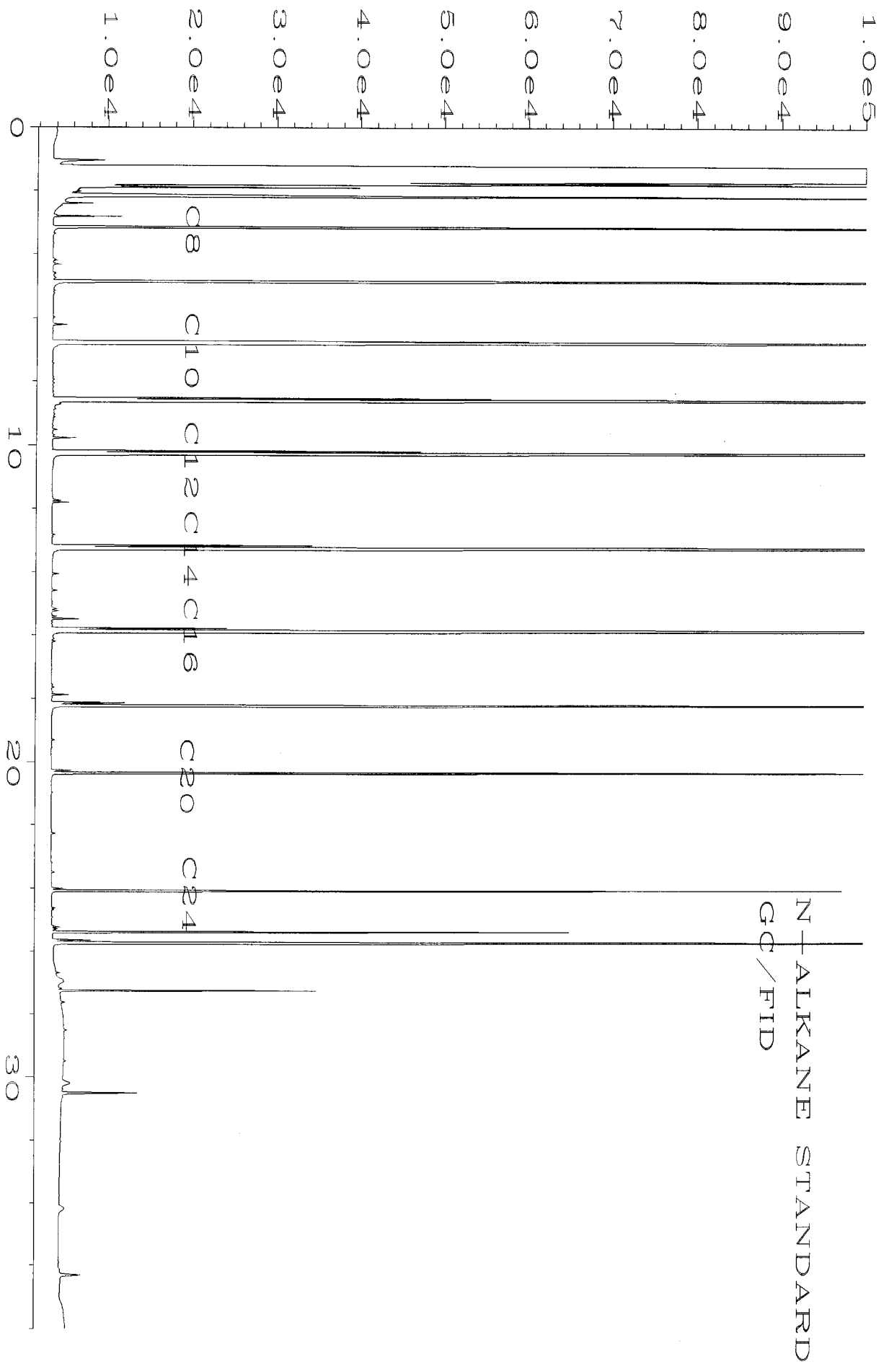
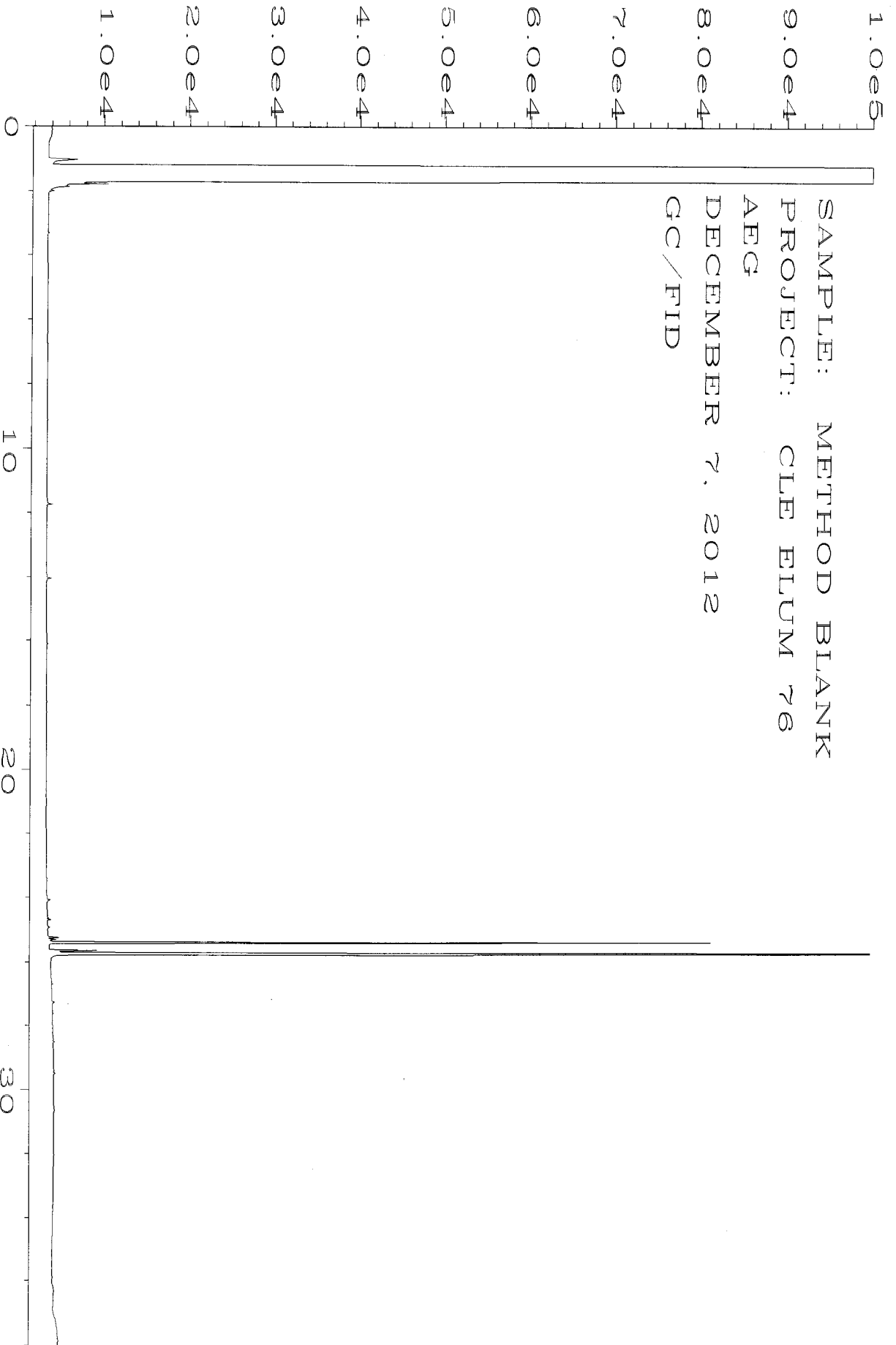


Fig. 1 in C:\HPCHEM\5\DATA\12-07-12\006F0401.D



Sig. 1 in C:\HPCHEM\5\DATA\12-07-12\100F0201.D



Sig. 1 in C:\HPCHEM\5\DATA\12-07-12\003F0401.D

212037

SAMPLE CHAIN OF CUSTODY

12/03/12 E03/11

Send Report To: Yen-Vy Van
 Company: AEG
 Address: 605 11th Ave. SE Suite 201
 City, State, ZIP: Olympia, WA 98501
 Phone #: (360) 352-9835 Fax #:

SAMPLERS (signature)
 PROJECT NAME/NO. Cle Elum 76 NO #
 REMARKS

Page #
 RETURNING TIME
 Standard (3 Weeks)
 RUSH
 Each charge authorized by:
 SAMPLE DISPOSAL
 Dispose after 90 days
 Return samples
 Wipe soil with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSIS					Notes	
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	Extended VOCs by 8260	SVOCs by 8270		HFS
X-added per Yen-Vy Van on 12/5/12												
V-added per Yen-Vy Van on 12/6/12												
B1-2-8	01	7/31/12	12:40	Soil	1							
B2-3-10	02	7/31/12	13:33	Soil	1							
B3-3-9'	03	7/31/12	14:20	Soil	1							
B4-3-10'	04	7/31/12	11:14	Soil	1							
B5-3-11'	05	7/31/12	10:10	Soil	1			X				
B6-3-10'	06	7/31/12	17:11	Soil	1			X				
B7-3-11	07	7/31/12	9:21	Soil	1			X	X			
B8-3-11	08	7/31/12	16:24	Soil	1			X	X			
B11-W		10/10	10:22	water	3							arrived broken
B12-W	09A-C	10/10	12:40	water	3							
B13-W	10A-C	10/10	14:06	water	3			X				

PRINT NAME: _____ DATE: _____ TIME: _____

Signature: Melvin Van Phan FEBT 12/3/12 1230

Samples received at 4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

January 2, 2013

Yen-Vy Van, Project Manager
AEG
605 11th Ave SE, Suite 201
Olympia, WA 98501

Dear Ms. Van:

Included are the results from the additional testing of material submitted on November 7, 2012 from the Cle Elum 76 - 3rd Probe 12-164, F&BI 211105 project.

The samples B16-S2-4, B18-S4-10, B23-S3-10, B16-W, B18-W, and B23-W were extracted and analyzed using a gas chromatograph with a flame ionization detector (GC/FID). The data generated yielded information on the boiling range and general chemical composition of the material present. The GC/FID traces are enclosed. A GC/FID trace of a standard consisting of normal alkanes is also provided for reference purposes.

In addition, the samples B19-S1-2', B16-W, and B18-W were analyzed for volatile organic compounds using a GC fitted with a mass spectrometer (MS). The sample B16-S2-4 was also analyzed for organometallic compounds using an inductively coupled plasma mass spectrometer (ICP-MS). The results of this testing, including the associated quality assurance, are also enclosed.

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.

Sincerely,

FRIEDMAN & BRUYA, INC.



Kurt Johnson, Chemist

Enclosures

mcp/KJ

c: yvan@aegwa.com

NAA0102R.DOC

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

Date Extracted: 12/07/12

Date Analyzed: 12/07/12

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

Sample ID

GC Characterization

B16-S2-4

The GC trace using the flame ionization detector (FID) showed the presence of low boiling compounds. The patterns displayed by these peaks are indicative of gasoline.

The low boiling compounds appear as a ragged pattern of peaks eluting from *n*-C₇ to *n*-C₁₅ showing a maximum near *n*-C₈. This correlates with a temperature range of approximately 100°C to 270°C with a maximum near 130°C.

Within this range, the GC/FID trace showed the presence of peaks, at varying levels, that are indicative of toluene, ethylbenzene, the xylenes, C₃-benzenes, and methylnaphthalenes. These compounds are characteristic of the constituents commonly found in gasoline. The relative abundance of the volatile and semivolatile constituents present indicates that the fuel has not undergone substantial weathering.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

Date Extracted: 12/07/12

Date Analyzed: 12/07/12

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

Sample ID

GC Characterization

B18-S4-10

The GC trace using the flame ionization detector (FID) showed the presence of low to medium boiling compounds. The majority of material present in this sample is indicative of a middle distillate such as diesel fuel No. 2 or heating oil.

The medium boiling compounds appear as an irregular pattern of peaks on top of a broad hump or unresolved complex mixture (UCM). This material elutes from *n*-C₈ to *n*-C₂₄ showing a maximum near *n*-C₁₅. This correlates with a temperature range of approximately 130°C to 390°C with a maximum near 270°C. Within this range, the dominant peaks present are indicative of isoprenoids including norpristane, pristane, and phytane. A discernible pattern of peaks characteristic of the normal alkanes was not present. The abundance of isoprenoids in conjunction with the apparent absence of normal alkanes indicates that the fuel present has undergone substantial biological degradation.

It should also be noted that a low level of a lower boiling material such as gasoline may also be present in this sample.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

Date Extracted: 12/07/12

Date Analyzed: 12/07/12

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

Sample ID

GC Characterization

B23-S3-10

The GC trace using the flame ionization detector (FID) showed the presence of low to medium boiling compounds. The majority of material present in this sample is indicative of a middle distillate such as diesel fuel No. 2 or heating oil.

The medium boiling compounds appear as an irregular pattern of peaks on top of a broad hump or unresolved complex mixture (UCM). This material elutes from *n*-C₈ to *n*-C₂₄ showing a maximum near *n*-C₁₄. This correlates with a temperature range of approximately 130°C to 390°C with a maximum near 250°C. Within this range, the dominant peaks present are indicative of isoprenoids including norpristane, pristane, and phytane. A discernible pattern of peaks characteristic of the normal alkanes was not present. The abundance of isoprenoids in conjunction with the apparent absence of normal alkanes indicates that the fuel present has undergone substantial biological degradation.

It should also be noted that a low level of a lower boiling material such as gasoline may also be present in this sample.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

Date Extracted: 12/07/12

Date Analyzed: 12/07/12

**RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE
FOR FORENSIC EVALUATION
BY CAPILLARY GAS CHROMATOGRAPHY
USING A FLAME IONIZATION DETECTOR (FID)**

Sample ID

GC Characterization

B16-W

The GC trace using the flame ionization detector (FID) showed the presence of low to medium boiling compounds. The patterns displayed by these peaks are indicative of impact from a mixture of gasoline and a middle distillate such as diesel fuel No. 2 or heating oil.

The low boiling compounds appear as a ragged pattern of peaks eluting from *n*-C₇ to *n*-C₁₃ showing a maximum near *n*-C₇. This correlates with a temperature range of approximately 100°C to 240°C with a maximum near 100°C. Within this range, the GC/FID trace showed the presence of peaks, at varying levels, that are indicative of toluene and the xylenes. These compounds are characteristic of the constituents commonly found in the water soluble fraction of gasoline.

The medium boiling compounds appear as an irregular pattern of peaks on top of a broad hump or unresolved complex mixture (UCM). This material elutes from *n*-C₈ to *n*-C₂₄ showing a maximum near *n*-C₁₄. This correlates with a temperature range of approximately 130°C to 390°C with a maximum near 250°C. Within this range, the dominant peaks present are indicative of isoprenoids including norpristane, pristane, and phytane. A discernible pattern of peaks characteristic of the normal alkanes was not present. The abundance of isoprenoids in conjunction with the apparent absence of normal alkanes indicates that the fuel present has undergone substantial biological degradation.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

Date Extracted: 12/07/12

Date Analyzed: 12/07/12

**RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE
FOR FORENSIC EVALUATION
BY CAPILLARY GAS CHROMATOGRAPHY
USING A FLAME IONIZATION DETECTOR (FID)**

Sample ID

GC Characterization

B18-W

The GC trace using the flame ionization detector (FID) showed the presence of low to medium boiling compounds. The patterns displayed by these peaks are indicative of a mixture of gasoline and a middle distillate such as diesel fuel No. 2 or heating oil.

The low boiling compounds appear as an irregular pattern of peaks on top of a small hump or unresolved complex mixture (UCM). This material elutes from *n*-C₇ to *n*-C₁₃ showing a maximum near *n*-C₁₃. This correlates with a temperature range of approximately 100°C to 240°C with a maximum near 240°C. Within this range, the GC/FID trace showed a low level or absence of peaks which are indicative of toluene, ethylbenzene, and the xylenes. The low level or absence of these constituents indicates that the gasoline present has undergone extensive degradation.

The medium boiling compounds appear as an irregular pattern of peaks on top of a broad hump or unresolved complex mixture (UCM). This material elutes from *n*-C₈ to *n*-C₂₄ showing a maximum near *n*-C₁₅. This correlates with a temperature range of approximately 130°C to 390°C with a maximum near 270°C. Within this range, the dominant peaks present are indicative of isoprenoids including norpristane, pristane, and phytane. A discernible pattern of peaks characteristic of the normal alkanes was not present. The abundance of isoprenoids in conjunction with the apparent absence of normal alkanes indicates that the fuel present has undergone substantial biological degradation.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

Date Extracted: 12/07/12

Date Analyzed: 12/07/12

**RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE
FOR FORENSIC EVALUATION
BY CAPILLARY GAS CHROMATOGRAPHY
USING A FLAME IONIZATION DETECTOR (FID)**

Sample ID

GC Characterization

B23-W

The GC trace using the flame ionization detector (FID) showed the presence of low to medium boiling compounds. The patterns displayed by these peaks are indicative of gasoline.

The low boiling compounds appear as an irregular pattern of peaks on top of a small hump or unresolved complex mixture (UCM). This material elutes from *n*-C₈ to *n*-C₂₀ showing a maximum near *n*-C₁₃. This correlates with a temperature range of approximately 130°C to 340°C with a maximum near 240°C. Within this range, the GC/FID trace showed a low level or absence of peaks which are indicative of toluene, ethylbenzene, and the xylenes. The low level or absence of these constituents indicates that the gasoline present has undergone extensive degradation.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B19-S1-2'	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	12/06/12	Lab ID:	211105-10
Date Analyzed:	12/07/12	Data File:	120630.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	0.79
Methylene chloride	<0.5	o-Xylene	0.68
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	0.32
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	1.1
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	<0.05
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	0.032	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	0.67
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	0.26	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	<0.5 L

Note: The sample was analyzed outside of recommended holding time. Results should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	AEG
Date Received:	Not Applicable	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	12/06/12	Lab ID:	02-2241 mb
Date Analyzed:	12/06/12	Data File:	120628.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	<0.05
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	<0.05
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	<0.05
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	<0.03	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	<0.05	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	<0.5 L

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B16-W	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	12/18/12	Lab ID:	211105-14 1/10
Date Analyzed:	12/18/12	Data File:	121830.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Ethanol	<10,000	2-Hexanone	150
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	<10
Vinyl chloride	<2	Dibromochloromethane	<10
Bromomethane	<10	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	<10
Trichlorofluoromethane	<10	Ethylbenzene	740
Acetone	950	1,1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	4,300 ve
Methylene chloride	71 lc	o-Xylene	2,100 ve
t-Butyl alcohol (TBA)	<500	Styrene	<10
Methyl t-butyl ether (MTBE)	<10	Isopropylbenzene	31
trans-1,2-Dichloroethene	<10	Bromoform	<10
Diisopropyl ether (DIPE)	<10	n-Propylbenzene	55
1,1-Dichloroethane	<10	Bromobenzene	<10
Ethyl t-butyl ether (ETBE)	<10	1,3,5-Trimethylbenzene	260
2,2-Dichloropropane	<10	1,1,2,2-Tetrachloroethane	<10
cis-1,2-Dichloroethene	<10	1,2,3-Trichloropropane	<10
Chloroform	<10	2-Chlorotoluene	<10
2-Butanone (MEK)	600	4-Chlorotoluene	<10
t-Amyl methyl ether (TAME)	<10	tert-Butylbenzene	<10
1,2-Dichloroethane (EDC)	100	1,2,4-Trimethylbenzene	1,000
1,1,1-Trichloroethane	<10	sec-Butylbenzene	<10
1,1-Dichloropropene	<10	p-Isopropyltoluene	<10
Carbon tetrachloride	<10	1,3-Dichlorobenzene	<10
Benzene	4,600 ve	1,4-Dichlorobenzene	<10
Trichloroethene	<10	1,2-Dichlorobenzene	<10
1,2-Dichloropropane	<10	1,2-Dibromo-3-chloropropane	<100
Bromodichloromethane	<10	1,2,4-Trichlorobenzene	<10
Dibromomethane	<10	Hexachlorobutadiene	<10
4-Methyl-2-pentanone	<100	Naphthalene	200
cis-1,3-Dichloropropene	<10	1,2,3-Trichlorobenzene	<10
Toluene	11,000 ve	Butane	<100 L
trans-1,3-Dichloropropene	<10	Pentane	<100 L
1,1,2-Trichloroethane	<10	Isooctane	<100 L

Note: The sample was analyzed outside of recommended holding time. Results should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B16-W	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	12/07/12	Lab ID:	211105-14 1/100
Date Analyzed:	12/08/12	Data File:	120729.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Ethanol	<100,000	2-Hexanone	<1,000
Dichlorodifluoromethane	<100	1,3-Dichloropropane	<100
Chloromethane	<1,000	Tetrachloroethene	<100
Vinyl chloride	<20	Dibromochloromethane	<100
Bromomethane	<100	1,2-Dibromoethane (EDB)	<100
Chloroethane	<100	Chlorobenzene	<100
Trichlorofluoromethane	<100	Ethylbenzene	800
Acetone	1,300	1,1,1,2-Tetrachloroethane	<100
1,1-Dichloroethene	<100	m,p-Xylene	4,000
Methylene chloride	<500	o-Xylene	1,900
t-Butyl alcohol (TBA)	<5,000	Styrene	<100
Methyl t-butyl ether (MTBE)	<100	Isopropylbenzene	<100
trans-1,2-Dichloroethene	<100	Bromoform	<100
Diisopropyl ether (DIPE)	<100	n-Propylbenzene	<100
1,1-Dichloroethane	<100	Bromobenzene	<100
Ethyl t-butyl ether (ETBE)	<100	1,3,5-Trimethylbenzene	260
2,2-Dichloropropane	<100	1,1,2,2-Tetrachloroethane	<100
cis-1,2-Dichloroethene	<100	1,2,3-Trichloropropane	<100
Chloroform	<100	2-Chlorotoluene	<100
2-Butanone (MEK)	<1,000	4-Chlorotoluene	<100
t-Amyl methyl ether (TAME)	<100	tert-Butylbenzene	<100
1,2-Dichloroethane (EDC)	<100	1,2,4-Trimethylbenzene	980
1,1,1-Trichloroethane	<100	sec-Butylbenzene	<100
1,1-Dichloropropene	<100	p-Isopropyltoluene	<100
Carbon tetrachloride	<100	1,3-Dichlorobenzene	<100
Benzene	3,800	1,4-Dichlorobenzene	<100
Trichloroethene	<100	1,2-Dichlorobenzene	<100
1,2-Dichloropropane	<100	1,2-Dibromo-3-chloropropane	<1,000
Bromodichloromethane	<100	1,2,4-Trichlorobenzene	<100
Dibromomethane	<100	Hexachlorobutadiene	<100
4-Methyl-2-pentanone	<1,000	Naphthalene	170
cis-1,3-Dichloropropene	<100	1,2,3-Trichlorobenzene	<100
Toluene	9,200	Butane	<1,000 L
trans-1,3-Dichloropropene	<100	Pentane	<1,000 L
1,1,2-Trichloroethane	<100	Isooctane	<1,000 L

Note: The sample was analyzed outside of recommended holding time. Results should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B18-W	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	12/07/12	Lab ID:	211105-16
Date Analyzed:	12/08/12	Data File:	120727.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Ethanol	<1,000	2-Hexanone	<10
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	100	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
t-Butyl alcohol (TBA)	<50	Styrene	<1
Methyl t-butyl ether (MTBE)	1.4	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
Diisopropyl ether (DIPE)	<1	n-Propylbenzene	<1
1,1-Dichloroethane	<1	Bromobenzene	<1
Ethyl t-butyl ether (ETBE)	<1	1,3,5-Trimethylbenzene	<1
2,2-Dichloropropane	<1	1,1,2,2-Tetrachloroethane	<1
cis-1,2-Dichloroethene	<1	1,2,3-Trichloropropane	<1
Chloroform	<1	2-Chlorotoluene	<1
2-Butanone (MEK)	46	4-Chlorotoluene	<1
t-Amyl methyl ether (TAME)	<1	tert-Butylbenzene	<1
1,2-Dichloroethane (EDC)	<1	1,2,4-Trimethylbenzene	<1
1,1,1-Trichloroethane	<1	sec-Butylbenzene	<1
1,1-Dichloropropene	<1	p-Isopropyltoluene	<1
Carbon tetrachloride	<1	1,3-Dichlorobenzene	<1
Benzene	<0.35	1,4-Dichlorobenzene	<1
Trichloroethene	<1	1,2-Dichlorobenzene	<1
1,2-Dichloropropane	<1	1,2-Dibromo-3-chloropropane	<10
Bromodichloromethane	<1	1,2,4-Trichlorobenzene	<1
Dibromomethane	<1	Hexachlorobutadiene	<1
4-Methyl-2-pentanone	<10	Naphthalene	<1
cis-1,3-Dichloropropene	<1	1,2,3-Trichlorobenzene	<1
Toluene	<1	Butane	<10 L
trans-1,3-Dichloropropene	<1	Pentane	<10 L
1,1,2-Trichloroethane	<1	Isooctane	<10 L

Note: The sample was analyzed outside of recommended holding time. Results should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	AEG
Date Received:	Not Applicable	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	12/07/12	Lab ID:	02-2242 mb
Date Analyzed:	12/07/12	Data File:	120706.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Ethanol	<1,000	2-Hexanone	<10
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
t-Butyl alcohol (TBA)	<50	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
Diisopropyl ether (DIPE)	<1	n-Propylbenzene	<1
1,1-Dichloroethane	<1	Bromobenzene	<1
Ethyl t-butyl ether (ETBE)	<1	1,3,5-Trimethylbenzene	<1
2,2-Dichloropropane	<1	1,1,2,2-Tetrachloroethane	<1
cis-1,2-Dichloroethene	<1	1,2,3-Trichloropropane	<1
Chloroform	<1	2-Chlorotoluene	<1
2-Butanone (MEK)	<10	4-Chlorotoluene	<1
t-Amyl methyl ether (TAME)	<1	tert-Butylbenzene	<1
1,2-Dichloroethane (EDC)	<1	1,2,4-Trimethylbenzene	<1
1,1,1-Trichloroethane	<1	sec-Butylbenzene	<1
1,1-Dichloropropene	<1	p-Isopropyltoluene	<1
Carbon tetrachloride	<1	1,3-Dichlorobenzene	<1
Benzene	<0.35	1,4-Dichlorobenzene	<1
Trichloroethene	<1	1,2-Dichlorobenzene	<1
1,2-Dichloropropane	<1	1,2-Dibromo-3-chloropropane	<10
Bromodichloromethane	<1	1,2,4-Trichlorobenzene	<1
Dibromomethane	<1	Hexachlorobutadiene	<1
4-Methyl-2-pentanone	<10	Naphthalene	<1
cis-1,3-Dichloropropene	<1	1,2,3-Trichlorobenzene	<1
Toluene	<1	Butane	<10 L
trans-1,3-Dichloropropene	<1	Pentane	<10 L
1,1,2-Trichloroethane	<1	Isooctane	<10 L

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	AEG
Date Received:	Not Applicable	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	12/18/12	Lab ID:	02-2302 mb
Date Analyzed:	12/18/12	Data File:	121809.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Ethanol	<1,000	2-Hexanone	<10
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
t-Butyl alcohol (TBA)	<50	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
Diisopropyl ether (DIPE)	<1	n-Propylbenzene	<1
1,1-Dichloroethane	<1	Bromobenzene	<1
Ethyl t-butyl ether (ETBE)	<1	1,3,5-Trimethylbenzene	<1
2,2-Dichloropropane	<1	1,1,2,2-Tetrachloroethane	<1
cis-1,2-Dichloroethene	<1	1,2,3-Trichloropropane	<1
Chloroform	1.4 lc	2-Chlorotoluene	<1
2-Butanone (MEK)	<10	4-Chlorotoluene	<1
t-Amyl methyl ether (TAME)	<1	tert-Butylbenzene	<1
1,2-Dichloroethane (EDC)	<1	1,2,4-Trimethylbenzene	<1
1,1,1-Trichloroethane	<1	sec-Butylbenzene	<1
1,1-Dichloropropene	<1	p-Isopropyltoluene	<1
Carbon tetrachloride	<1	1,3-Dichlorobenzene	<1
Benzene	<0.35	1,4-Dichlorobenzene	<1
Trichloroethene	<1	1,2-Dichlorobenzene	<1
1,2-Dichloropropane	<1	1,2-Dibromo-3-chloropropane	<10
Bromodichloromethane	<1	1,2,4-Trichlorobenzene	<1
Dibromomethane	<1	Hexachlorobutadiene	<1
4-Methyl-2-pentanone	<10	Naphthalene	<1
cis-1,3-Dichloropropene	<1	1,2,3-Trichlorobenzene	<1
Toluene	<1	Butane	<10 L
trans-1,3-Dichloropropene	<1	Pentane	<10 L
1,1,2-Trichloroethane	<1	Isooctane	<10 L

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Organic Lead and Manganese By EPA Method 200.8

Client ID:	B16-S2-4	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	12/11/12	Lab ID:	211105-02
Date Analyzed:	12/12/12	Data File:	211105-02.010
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Analyte:	Concentration mg/kg (ppm)
Organic Lead	<0.05
Organic Manganese	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Organic Lead and Manganese By EPA Method 200.8

Client ID:	Method Blank	Client:	AEG
Date Received:	Not Applicable	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	12/10/12	Lab ID:	I2-827 mb
Date Analyzed:	12/12/12	Data File:	I2-827 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Analyte:	Concentration mg/kg (ppm)
Organic Lead	<0.05
Organic Manganese	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 212068-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Ethanol	mg/kg (ppm)	125	<50	73	29-126
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	10	10-56
Chloromethane	mg/kg (ppm)	2.5	<0.5	36	10-90
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	39	10-91
Bromomethane	mg/kg (ppm)	2.5	<0.5	47	10-110
Chloroethane	mg/kg (ppm)	2.5	<0.5	48	10-101
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	39	10-95
Acetone	mg/kg (ppm)	12.5	<0.5	60	11-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	56	11-103
Methylene chloride	mg/kg (ppm)	2.5	<0.5	72	14-128
t-Butyl alcohol (TBA)	mg/kg (ppm)	125	<2.5	70	36-119
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	72	17-134
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	66	13-112
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	<0.05	70	35-107
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	69	23-115
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	<0.05	76	38-110
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	83	18-117
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	74	25-120
Chloroform	mg/kg (ppm)	2.5	<0.05	75	29-117
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	67	20-133
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	<0.05	77	41-111
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	73	22-124
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	72	27-112
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	69	26-107
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	71	24-112
Benzene	mg/kg (ppm)	2.5	<0.03	71	26-114
Trichloroethene	mg/kg (ppm)	2.5	<0.03	74	30-112
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	74	31-119
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	81	31-131
Dibromomethane	mg/kg (ppm)	2.5	<0.05	77	27-124
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	74	16-147
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	84	28-137
Toluene	mg/kg (ppm)	2.5	<0.05	76	34-112
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	86	30-136
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	77	32-126
2-Hexanone	mg/kg (ppm)	12.5	<0.5	73	17-147
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	77	29-125
Tetrachloroethene	mg/kg (ppm)	2.5	<0.03	76	32-107
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	85	32-143
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	80	32-126
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	79	37-113
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	78	39-111
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	85	35-126
m,p-Xylene	mg/kg (ppm)	5	<0.1	79	40-111
o-Xylene	mg/kg (ppm)	2.5	<0.05	79	40-113
Styrene	mg/kg (ppm)	2.5	<0.05	82	38-118
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	81	40-112
Bromoform	mg/kg (ppm)	2.5	<0.05	85	19-171
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	78	40-112
Bromobenzene	mg/kg (ppm)	2.5	<0.05	80	40-115
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	80	40-113
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	78	33-128
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	74	33-123
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	78	39-110
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	79	40-111
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	79	40-113
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	82	41-112
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	80	38-114
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	82	38-114
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	80	40-110
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	78	40-108
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	80	41-112
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	80	34-134
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	84	33-114
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	83	31-115
Naphthalene	mg/kg (ppm)	2.5	<0.05	85	39-118
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	86	38-114

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	mg/kg (ppm)	125	115	111	55-138	4
Dichlorodifluoromethane	mg/kg (ppm)	2.5	37	36	10-76	3
Chloromethane	mg/kg (ppm)	2.5	70	68	34-98	3
Vinyl chloride	mg/kg (ppm)	2.5	80	78	42-107	3
Bromomethane	mg/kg (ppm)	2.5	72	72	49-113	0
Chloroethane	mg/kg (ppm)	2.5	74	74	50-115	0
Trichlorofluoromethane	mg/kg (ppm)	2.5	77	77	53-112	0
Acetone	mg/kg (ppm)	12.5	97	96	39-147	1
1,1-Dichloroethene	mg/kg (ppm)	2.5	91	90	65-110	1
Methylene chloride	mg/kg (ppm)	2.5	104	101	62-119	3
t-Butyl alcohol (TBA)	mg/kg (ppm)	125	110	108	73-123	2
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	95	96	75-115	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	96	97	71-113	1
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	95	94	81-106	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	98	97	76-109	1
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	101	100	75-114	1
2,2-Dichloropropane	mg/kg (ppm)	2.5	124	125	65-131	1
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	99	98	77-110	1
Chloroform	mg/kg (ppm)	2.5	100	99	78-108	1
2-Butanone (MEK)	mg/kg (ppm)	12.5	105	103	60-121	2
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	100	102	77-116	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	98	97	80-109	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	105	104	72-116	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	99	97	77-108	2
Carbon tetrachloride	mg/kg (ppm)	2.5	109	108	67-123	1
Benzene	mg/kg (ppm)	2.5	97	96	75-107	1
Trichloroethene	mg/kg (ppm)	2.5	98	98	72-107	0
1,2-Dichloropropane	mg/kg (ppm)	2.5	99	97	78-111	2
Bromodichloromethane	mg/kg (ppm)	2.5	109	108	75-126	1
Dibromomethane	mg/kg (ppm)	2.5	104	102	80-111	2
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	109	107	81-113	2
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	115	114	71-138	1
Toluene	mg/kg (ppm)	2.5	101	99	79-112	2
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	119	117	77-135	2
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	103	100	84-112	3
2-Hexanone	mg/kg (ppm)	12.5	110	106	71-129	4
1,3-Dichloropropane	mg/kg (ppm)	2.5	103	99	82-113	4
Tetrachloroethene	mg/kg (ppm)	2.5	104	100	77-110	4
Dibromochloromethane	mg/kg (ppm)	2.5	115	113	64-152	2
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	108	106	83-116	2
Chlorobenzene	mg/kg (ppm)	2.5	101	99	82-111	2
Ethylbenzene	mg/kg (ppm)	2.5	101	99	81-114	2
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	115	113	76-125	2
mp-Xylene	mg/kg (ppm)	5	103	101	82-115	2
o-Xylene	mg/kg (ppm)	2.5	102	100	81-116	2
Styrene	mg/kg (ppm)	2.5	105	103	81-118	2
Isopropylbenzene	mg/kg (ppm)	2.5	104	102	81-117	2
Bromoform	mg/kg (ppm)	2.5	112	112	50-174	0
n-Propylbenzene	mg/kg (ppm)	2.5	104	102	82-116	2
Bromobenzene	mg/kg (ppm)	2.5	104	103	83-112	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	105	105	82-117	0
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	110	108	82-121	2
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	105	104	79-116	1
2-Chlorotoluene	mg/kg (ppm)	2.5	102	101	80-114	1
4-Chlorotoluene	mg/kg (ppm)	2.5	103	102	82-114	1
tert-Butylbenzene	mg/kg (ppm)	2.5	105	103	82-116	2
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	105	105	82-116	0
sec-Butylbenzene	mg/kg (ppm)	2.5	104	104	82-117	0
p-Isopropyltoluene	mg/kg (ppm)	2.5	106	105	82-118	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	103	103	83-112	0
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	102	100	82-110	2
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	103	101	84-111	2
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	123	120	71-131	2
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	106	106	78-114	0
Hexachlorobutadiene	mg/kg (ppm)	2.5	110	110	77-118	0
Naphthalene	mg/kg (ppm)	2.5	110	109	84-120	1
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	108	107	85-117	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

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

Laboratory Code: 212092-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Ethanol	ug/L (ppb)	2,500	<1,000	92	18-177
Dichlorodifluoromethane	ug/L (ppb)	50	<10	103	10-172
Chloromethane	ug/L (ppb)	50	<10	96	25-166
Vinyl chloride	ug/L (ppb)	50	<0.2	103	36-166
Bromomethane	ug/L (ppb)	50	<1	90	47-169
Chloroethane	ug/L (ppb)	50	<1	96	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	98	44-165
Acetone	ug/L (ppb)	250	<10	98	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	93	60-136
Methylene chloride	ug/L (ppb)	50	<5	85	67-132
t-Butyl alcohol (TBA)	ug/L (ppb)	2,500	<50	103	35-165
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	94	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	93	72-129
Diisopropyl ether (DIPE)	ug/L (ppb)	50	<1	94	76-128
1,1-Dichloroethane	ug/L (ppb)	50	<1	95	70-128
Ethyl t-butyl ether (ETBE)	ug/L (ppb)	50	<1	95	71-132
2,2-Dichloropropane	ug/L (ppb)	50	<1	97	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	93	71-127
Chloroform	ug/L (ppb)	50	<1	94	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	95	10-129
t-Amyl methyl ether (TAME)	ug/L (ppb)	50	<1	94	71-132
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	95	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	96	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	95	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	113	56-152
Benzene	ug/L (ppb)	50	<0.35	94	76-125
Trichloroethene	ug/L (ppb)	50	<1	93	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	96	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	104	61-150
Dibromomethane	ug/L (ppb)	50	<1	96	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	95	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	101	72-132
Toluene	ug/L (ppb)	50	<1	95	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	103	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	95	68-131
2-Hexanone	ug/L (ppb)	250	<10	97	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	96	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	98	73-129
Dibromochloromethane	ug/L (ppb)	50	<1	113	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	98	69-134
Chlorobenzene	ug/L (ppb)	50	<1	95	77-122
Ethylbenzene	ug/L (ppb)	50	<1	95	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	110	73-137
m,p-Xylene	ug/L (ppb)	100	<2	95	69-135
o-Xylene	ug/L (ppb)	50	<1	94	68-137
Styrene	ug/L (ppb)	50	<1	90	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	94	65-142
Bromoform	ug/L (ppb)	50	<1	113	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	95	58-144
Bromobenzene	ug/L (ppb)	50	<1	95	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	94	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	98	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	96	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	94	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	93	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	96	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	95	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	93	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	95	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	94	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	93	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	94	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	111	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	94	76-132
Hexachlorobutadiene	ug/L (ppb)	50	<1	82	60-143
Naphthalene	ug/L (ppb)	50	<1	100	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	98	69-148

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	ug/L (ppb)	2,500	91	93	28-187	2
Dichlorodifluoromethane	ug/L (ppb)	50	103	99	25-158	4
Chloromethane	ug/L (ppb)	50	103	97	45-156	6
Vinyl chloride	ug/L (ppb)	50	103	98	50-154	5
Bromomethane	ug/L (ppb)	50	90	87	55-143	3
Chloroethane	ug/L (ppb)	50	95	94	58-146	1
Trichlorofluoromethane	ug/L (ppb)	50	97	94	50-150	3
Acetone	ug/L (ppb)	250	94	90	60-155	4
1,1-Dichloroethene	ug/L (ppb)	50	94	91	67-136	3
Methylene chloride	ug/L (ppb)	50	85	79	39-148	7
t-Butyl alcohol (TBA)	ug/L (ppb)	2,500	106	97	46-163	9
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	95	85	64-147	11
trans-1,2-Dichloroethene	ug/L (ppb)	50	93	87	68-128	7
Diisopropyl ether (DIPE)	ug/L (ppb)	50	94	88	71-138	7
1,1-Dichloroethane	ug/L (ppb)	50	95	89	79-121	7
Ethyl t-butyl ether (ETBE)	ug/L (ppb)	50	95	89	67-149	7
2,2-Dichloropropane	ug/L (ppb)	50	104	94	55-143	10
cis-1,2-Dichloroethene	ug/L (ppb)	50	94	88	80-123	7
Chloroform	ug/L (ppb)	50	93	88	80-121	6
2-Butanone (MEK)	ug/L (ppb)	250	96	89	57-149	8
t-Amyl methyl ether (TAME)	ug/L (ppb)	50	95	88	64-147	8
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	94	89	73-132	5
1,1,1-Trichloroethane	ug/L (ppb)	50	97	91	83-130	6
1,1-Dichloropropene	ug/L (ppb)	50	95	89	77-129	7
Carbon tetrachloride	ug/L (ppb)	50	115	105	75-158	9
Benzene	ug/L (ppb)	50	93	88	69-134	6
Trichloroethene	ug/L (ppb)	50	92	88	80-120	4
1,2-Dichloropropane	ug/L (ppb)	50	95	88	77-123	8
Bromodichloromethane	ug/L (ppb)	50	103	96	81-133	7
Dibromomethane	ug/L (ppb)	50	96	91	82-125	5
4-Methyl-2-pentanone	ug/L (ppb)	250	96	89	70-140	8
cis-1,3-Dichloropropene	ug/L (ppb)	50	103	95	82-132	8
Toluene	ug/L (ppb)	50	95	89	72-122	7
trans-1,3-Dichloropropene	ug/L (ppb)	50	105	98	80-136	7
1,1,2-Trichloroethane	ug/L (ppb)	50	94	89	75-124	5
2-Hexanone	ug/L (ppb)	250	96	91	64-152	5
1,3-Dichloropropane	ug/L (ppb)	50	96	90	76-126	6
Tetrachloroethene	ug/L (ppb)	50	99	93	76-121	6
Dibromochloromethane	ug/L (ppb)	50	112	105	84-133	6
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	97	92	82-125	5
Chlorobenzene	ug/L (ppb)	50	95	90	83-114	5
Ethylbenzene	ug/L (ppb)	50	95	90	77-124	5
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	110	102	84-127	8
m,p-Xylene	ug/L (ppb)	100	95	90	83-125	5
o-Xylene	ug/L (ppb)	50	94	88	86-121	7
Styrene	ug/L (ppb)	50	95	91	85-127	4
Isopropylbenzene	ug/L (ppb)	50	94	88	87-122	7
Bromoform	ug/L (ppb)	50	112	104	74-136	7
n-Propylbenzene	ug/L (ppb)	50	97	91	74-126	6
Bromobenzene	ug/L (ppb)	50	96	90	80-121	6
1,3,5-Trimethylbenzene	ug/L (ppb)	50	97	90	80-126	7
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	98	90	66-126	9
1,2,3-Trichloropropane	ug/L (ppb)	50	95	91	67-124	4
2-Chlorotoluene	ug/L (ppb)	50	95	89	77-127	7
4-Chlorotoluene	ug/L (ppb)	50	95	89	78-128	7
tert-Butylbenzene	ug/L (ppb)	50	99	92	85-127	7
1,2,4-Trimethylbenzene	ug/L (ppb)	50	96	90	82-125	6
sec-Butylbenzene	ug/L (ppb)	50	97	91	80-125	6
p-Isopropyltoluene	ug/L (ppb)	50	99	92	82-127	7
1,3-Dichlorobenzene	ug/L (ppb)	50	96	90	85-116	6
1,4-Dichlorobenzene	ug/L (ppb)	50	95	90	84-121	5
1,2-Dichlorobenzene	ug/L (ppb)	50	95	89	85-116	7
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	109	101	57-141	8
1,2,4-Trichlorobenzene	ug/L (ppb)	50	97	92	72-130	5
Hexachlorobutadiene	ug/L (ppb)	50	97	90	53-141	7
Naphthalene	ug/L (ppb)	50	99	92	64-133	7
1,2,3-Trichlorobenzene	ug/L (ppb)	50	100	93	65-136	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

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

Laboratory Code: 212275-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	ug/L (ppb)	2,500	<1,000	84	67	51-145	23 vo
Dichlorodifluoromethane	ug/L (ppb)	50	<10	87	79	59-141	10
Chloromethane	ug/L (ppb)	50	<10	85	85	67-131	0
Vinyl chloride	ug/L (ppb)	50	<0.2	86	85	73-131	1
Bromomethane	ug/L (ppb)	50	<1	79	83	68-131	5
Chloroethane	ug/L (ppb)	50	<1	83	84	70-127	1
Trichlorofluoromethane	ug/L (ppb)	50	<1	88	88	73-127	0
Acetone	ug/L (ppb)	250	<10	76	60	60-143	24 vo
1,1-Dichloroethene	ug/L (ppb)	50	<1	90	98	74-123	9
Methylene chloride	ug/L (ppb)	50	<5	78	83	62-125	6
t-Butyl alcohol (TBA)	ug/L (ppb)	2,500	<50	82	65 vo	70-128	23 vo
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	84	85	73-123	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	88	91	74-123	3
Diisopropyl ether (DIPE)	ug/L (ppb)	50	<1	87	90	81-111	3
1,1-Dichloroethane	ug/L (ppb)	50	<1	88	91	82-110	3
Ethyl t-butyl ether (ETBE)	ug/L (ppb)	50	<1	91	95	82-112	4
2,2-Dichloropropane	ug/L (ppb)	50	<1	62 vo	65	63-126	5
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	94	97	75-117	3
Chloroform	ug/L (ppb)	50	<1	92	95	82-110	3
2-Butanone (MEK)	ug/L (ppb)	250	<10	86	70 vo	73-121	21 vo
t-Amyl methyl ether (TAME)	ug/L (ppb)	50	<1	90	93	80-112	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	88	89	78-113	1
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	88	91	79-117	3
1,1-Dichloropropene	ug/L (ppb)	50	<1	87	90	81-110	3
Carbon tetrachloride	ug/L (ppb)	50	<1	88	87	74-123	1
Benzene	ug/L (ppb)	50	<0.35	90	93	80-108	3
Trichloroethene	ug/L (ppb)	50	<1	91	93	78-108	2
1,2-Dichloropropane	ug/L (ppb)	50	<1	91	93	83-110	2
Bromodichloromethane	ug/L (ppb)	50	<1	94	97	80-117	3
Dibromomethane	ug/L (ppb)	50	<1	89	89	83-110	0
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	94	80	80-122	16
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	92	94	77-121	2
Toluene	ug/L (ppb)	50	<1	94	96	77-113	2
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	98	97	76-121	1
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	96	92	83-110	4
2-Hexanone	ug/L (ppb)	250	<10	89	73 vo	77-124	20
1,3-Dichloropropane	ug/L (ppb)	50	<1	91	90	82-110	1
Tetrachloroethene	ug/L (ppb)	50	<1	94	94	70-115	0
Dibromochloromethane	ug/L (ppb)	50	<1	102	100	71-130	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	94	91	85-112	3
Chlorobenzene	ug/L (ppb)	50	<1	93	96	74-115	3
Ethylbenzene	ug/L (ppb)	50	<1	93	95	71-120	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	100	104	79-120	4
mp-Xylene	ug/L (ppb)	100	<2	96	98	81-112	2
o-Xylene	ug/L (ppb)	50	<1	95	96	82-112	1
Styrene	ug/L (ppb)	50	<1	97	99	67-124	2
Isopropylbenzene	ug/L (ppb)	50	<1	94	97	77-118	3
Bromoform	ug/L (ppb)	50	<1	94	80	52-144	16
n-Propylbenzene	ug/L (ppb)	50	<1	94	96	74-117	2
Bromobenzene	ug/L (ppb)	50	<1	95	97	69-123	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	95	98	79-114	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	97	88	82-117	10
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	90	78	77-114	14
2-Chlorotoluene	ug/L (ppb)	50	<1	94	96	80-110	2
4-Chlorotoluene	ug/L (ppb)	50	<1	92	94	81-111	2
tert-Butylbenzene	ug/L (ppb)	50	<1	95	98	81-116	3
1,2,4-Trimethylbenzene	ug/L (ppb)	50	9.8	97	101	74-118	4
sec-Butylbenzene	ug/L (ppb)	50	<1	94	96	78-116	2
p-Isopropyltoluene	ug/L (ppb)	50	<1	96	94	79-117	2
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	95	98	81-111	3
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	93	96	78-110	3
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	94	97	81-111	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	96	80	70-126	18
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	91	94	74-115	3
Hexachlorobutadiene	ug/L (ppb)	50	<1	92	96	67-120	4
Naphthalene	ug/L (ppb)	50	<1	93	85	78-123	9
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	93	93	80-114	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	ug/L (ppb)	2,500	86	91	62-136	6
Dichlorodifluoromethane	ug/L (ppb)	50	99	102	54-149	3
Chloromethane	ug/L (ppb)	50	96	96	67-133	0
Vinyl chloride	ug/L (ppb)	50	93	94	73-132	1
Bromomethane	ug/L (ppb)	50	84	85	74-126	1
Chloroethane	ug/L (ppb)	50	87	86	72-125	1
Trichlorofluoromethane	ug/L (ppb)	50	83	89	76-125	7
Acetone	ug/L (ppb)	250	84	84	58-133	0
1,1-Dichloroethene	ug/L (ppb)	50	102	100	75-119	2
Methylene chloride	ug/L (ppb)	50	79	79	71-112	0
t-Butyl alcohol (TBA)	ug/L (ppb)	2,500	93	92	75-124	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	87	88	79-117	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	91	91	76-118	0
Diisopropyl ether (DIPE)	ug/L (ppb)	50	88	88	84-110	0
1,1-Dichloroethane	ug/L (ppb)	50	91	91	82-110	0
Ethyl t-butyl ether (ETBE)	ug/L (ppb)	50	94	94	79-115	0
2,2-Dichloropropane	ug/L (ppb)	50	65 vo	66 vo	77-128	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	93	94	83-110	1
Chloroform	ug/L (ppb)	50	91	92	82-110	1
2-Butanone (MEK)	ug/L (ppb)	250	95	94	69-118	1
t-Amyl methyl ether (TAME)	ug/L (ppb)	50	93	91	80-114	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	88	87	80-110	1
1,1,1-Trichloroethane	ug/L (ppb)	50	85	86	80-116	1
1,1-Dichloropropene	ug/L (ppb)	50	87	86	83-110	1
Carbon tetrachloride	ug/L (ppb)	50	94	97	72-128	3
Benzene	ug/L (ppb)	50	90	90	81-108	0
Trichloroethene	ug/L (ppb)	50	90	91	77-108	1
1,2-Dichloropropane	ug/L (ppb)	50	90	90	82-109	0
Bromodichloromethane	ug/L (ppb)	50	95	97	76-120	2
Dibromomethane	ug/L (ppb)	50	90	90	84-109	0
4-Methyl-2-pentanone	ug/L (ppb)	250	101	99	81-118	2
cis-1,3-Dichloropropene	ug/L (ppb)	50	96	96	76-128	0
Toluene	ug/L (ppb)	50	93	93	83-108	0
trans-1,3-Dichloropropene	ug/L (ppb)	50	104	104	76-128	0
1,1,2-Trichloroethane	ug/L (ppb)	50	95	94	84-108	1
2-Hexanone	ug/L (ppb)	250	97	97	78-119	0
1,3-Dichloropropane	ug/L (ppb)	50	93	93	83-110	0
Tetrachloroethene	ug/L (ppb)	50	94	94	81-109	0
Dibromochloromethane	ug/L (ppb)	50	109	107	63-140	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	98	97	85-113	1
Chlorobenzene	ug/L (ppb)	50	93	92	84-108	1
Ethylbenzene	ug/L (ppb)	50	94	93	84-110	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	102	102	76-125	0
mp-Xylene	ug/L (ppb)	100	96	95	84-112	1
o-Xylene	ug/L (ppb)	50	94	93	82-113	1
Styrene	ug/L (ppb)	50	97	96	84-116	1
Isopropylbenzene	ug/L (ppb)	50	94	94	84-114	0
Bromoform	ug/L (ppb)	50	102	103	40-161	1
n-Propylbenzene	ug/L (ppb)	50	94	95	81-115	1
Bromobenzene	ug/L (ppb)	50	95	95	80-113	0
1,3,5-Trimethylbenzene	ug/L (ppb)	50	95	96	83-117	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	101	101	82-118	0
1,2,3-Trichloropropane	ug/L (ppb)	50	92	93	74-116	1
2-Chlorotoluene	ug/L (ppb)	50	94	95	81-112	1
4-Chlorotoluene	ug/L (ppb)	50	93	94	81-113	1
tert-Butylbenzene	ug/L (ppb)	50	95	96	81-119	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	95	95	83-116	0
sec-Butylbenzene	ug/L (ppb)	50	95	96	83-116	1
p-Isopropyltoluene	ug/L (ppb)	50	95	95	82-119	0
1,3-Dichlorobenzene	ug/L (ppb)	50	96	96	83-111	0
1,4-Dichlorobenzene	ug/L (ppb)	50	94	94	82-109	0
1,2-Dichlorobenzene	ug/L (ppb)	50	95	95	83-111	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	104	103	62-133	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	92	93	77-117	1
Hexachlorobutadiene	ug/L (ppb)	50	96	98	74-118	2
Naphthalene	ug/L (ppb)	50	97	96	75-131	1
1,2,3-Trichlorobenzene	ug/L (ppb)	50	94	96	87-115	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES
FOR ORGANIC LEAD AND MANGANESE
USING EPA METHOD 200.8**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Organic Lead	mg/kg (ppm)	2.83	74	83	70-130	11
Organic Manganese	mg/kg (ppm)	0.5	97	93	70-130	4

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 - More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

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

pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.

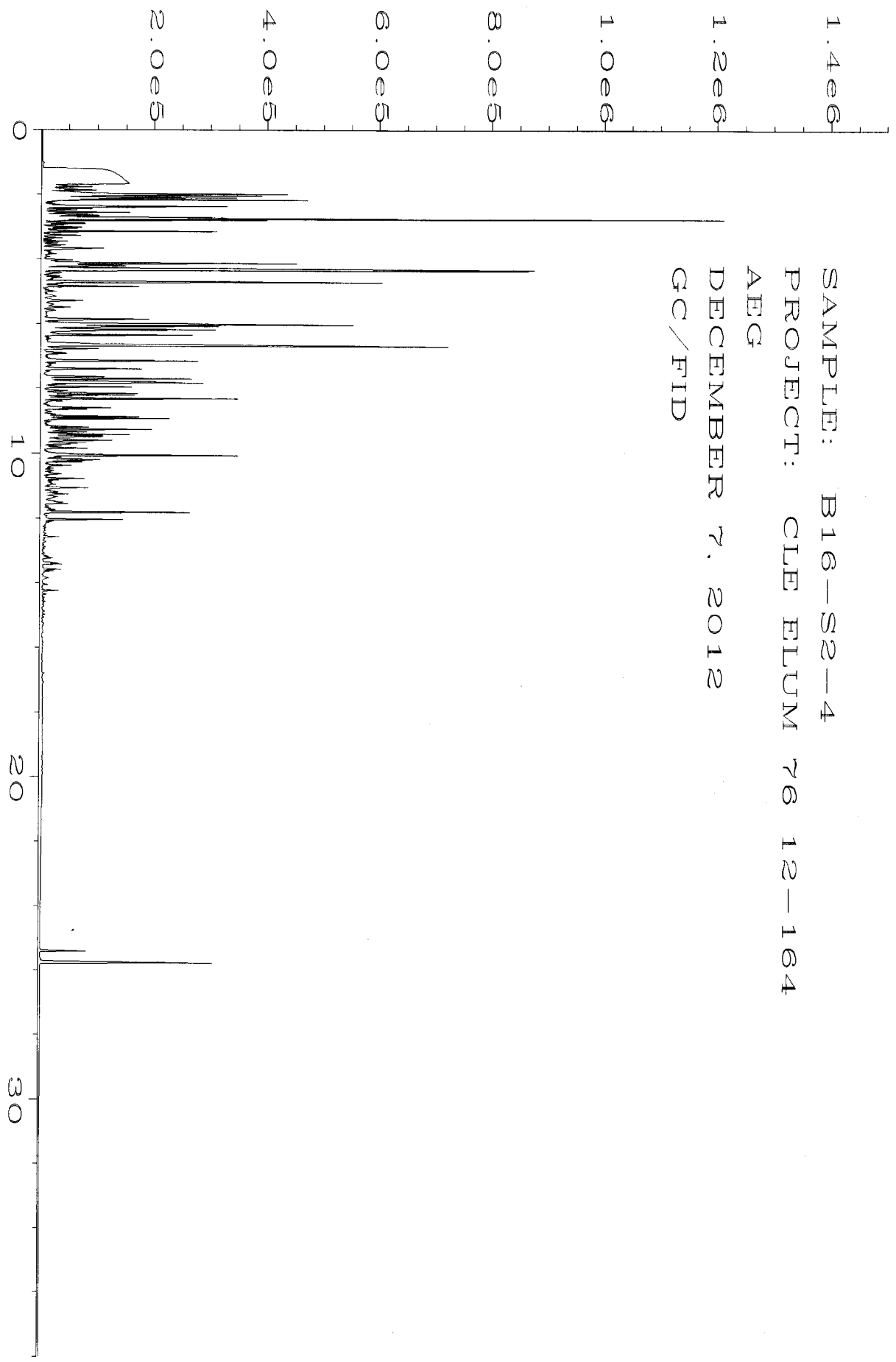
pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

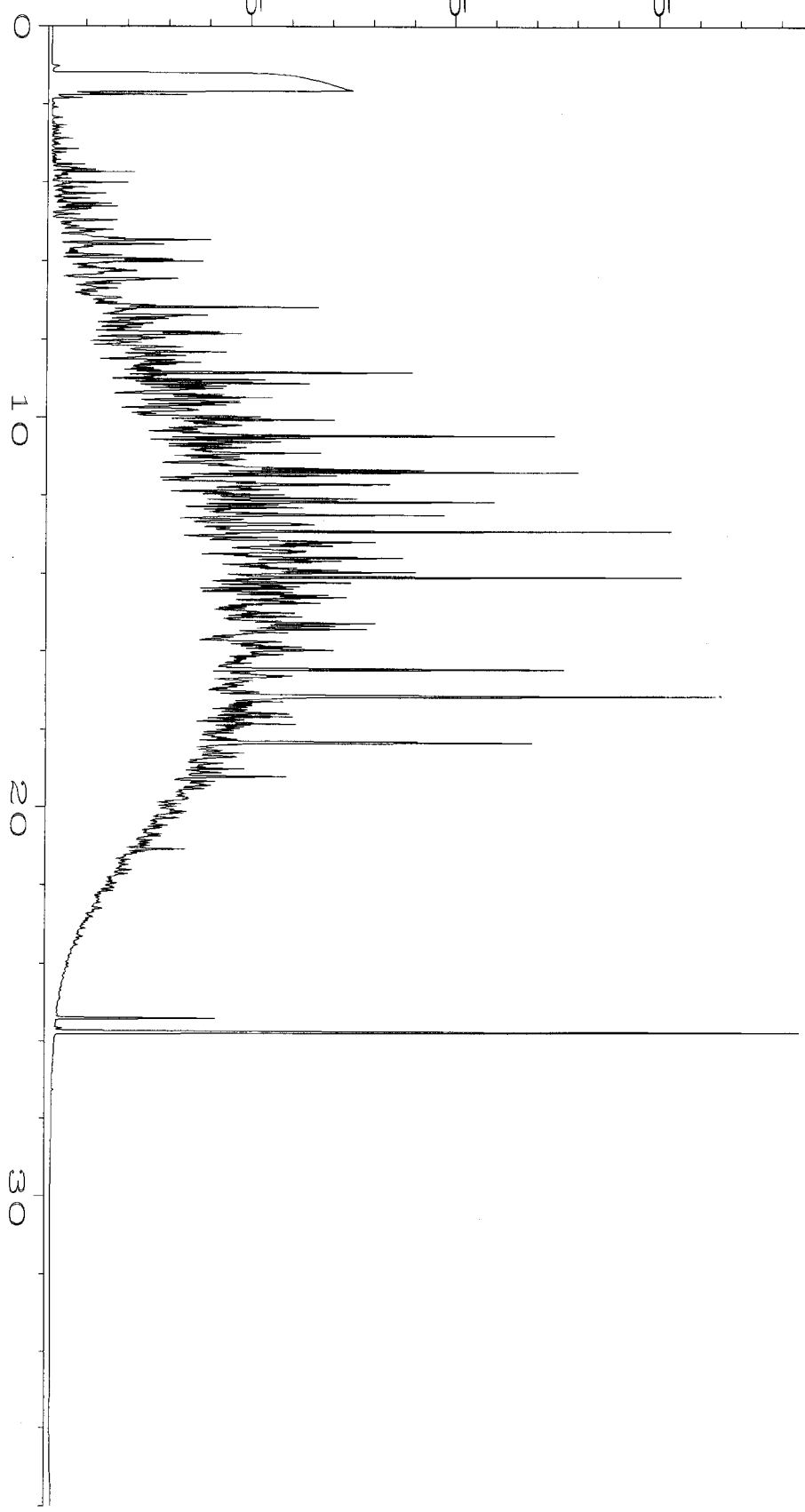
SAMPLE: B16-S2-4
PROJECT: CLE FLUM 76 12-164
AEG
DECEMBER 7, 2012
GC/FID



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3.0e5
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1.0e5
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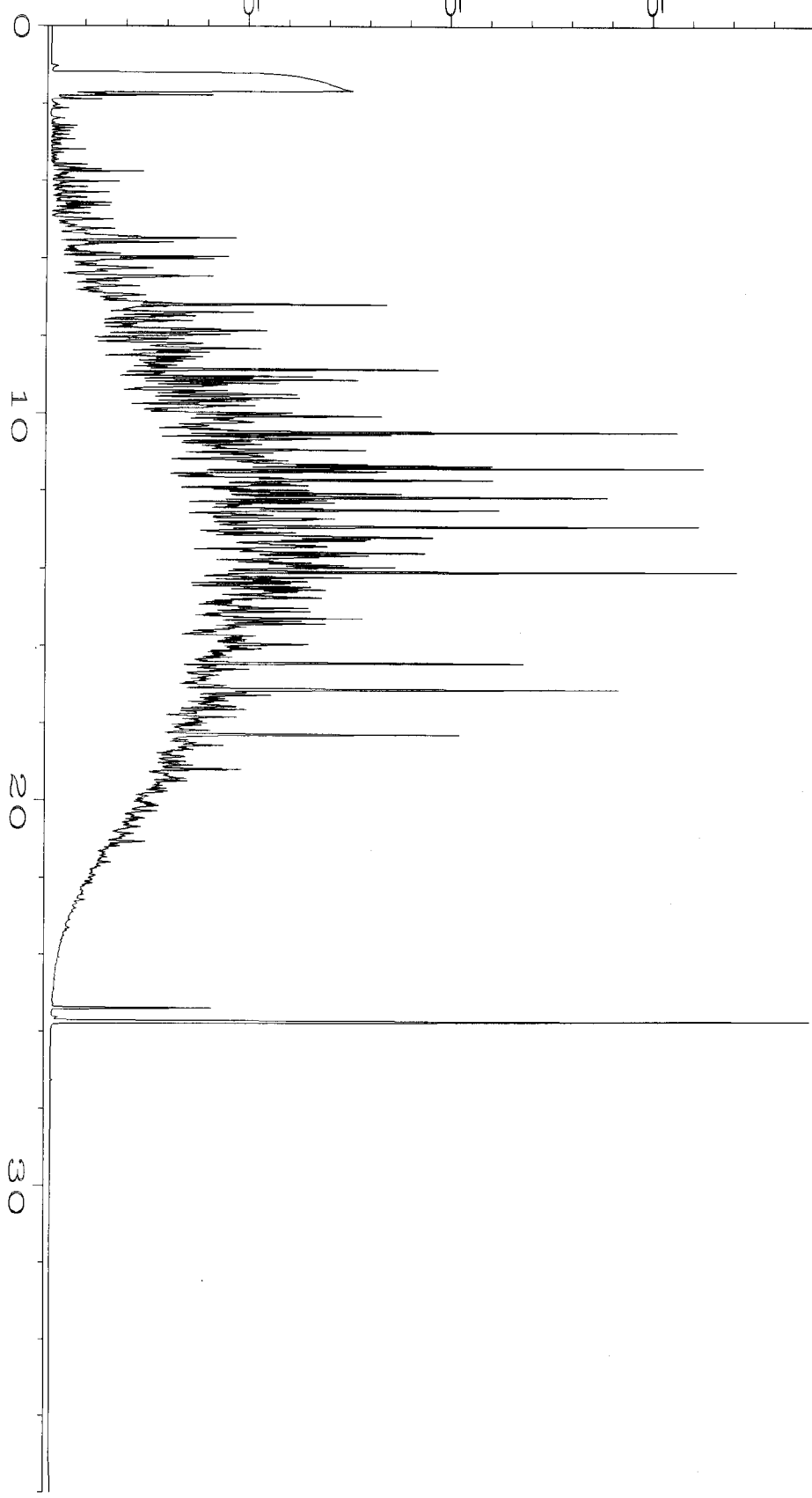
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PROJECT: CLE FLUM 76 12-164
AEG
DECEMBER 7, 2012
GC/FID



Sig. 1 in C:\HPCHEM\5\DATA\12-07-12\008F0401.D

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3.0e5
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SAMPLE: B23-S3-10
PROJECT: CLE ELUM 76 12-164
AEG
DECEMBER 7, 2012
GC/FID



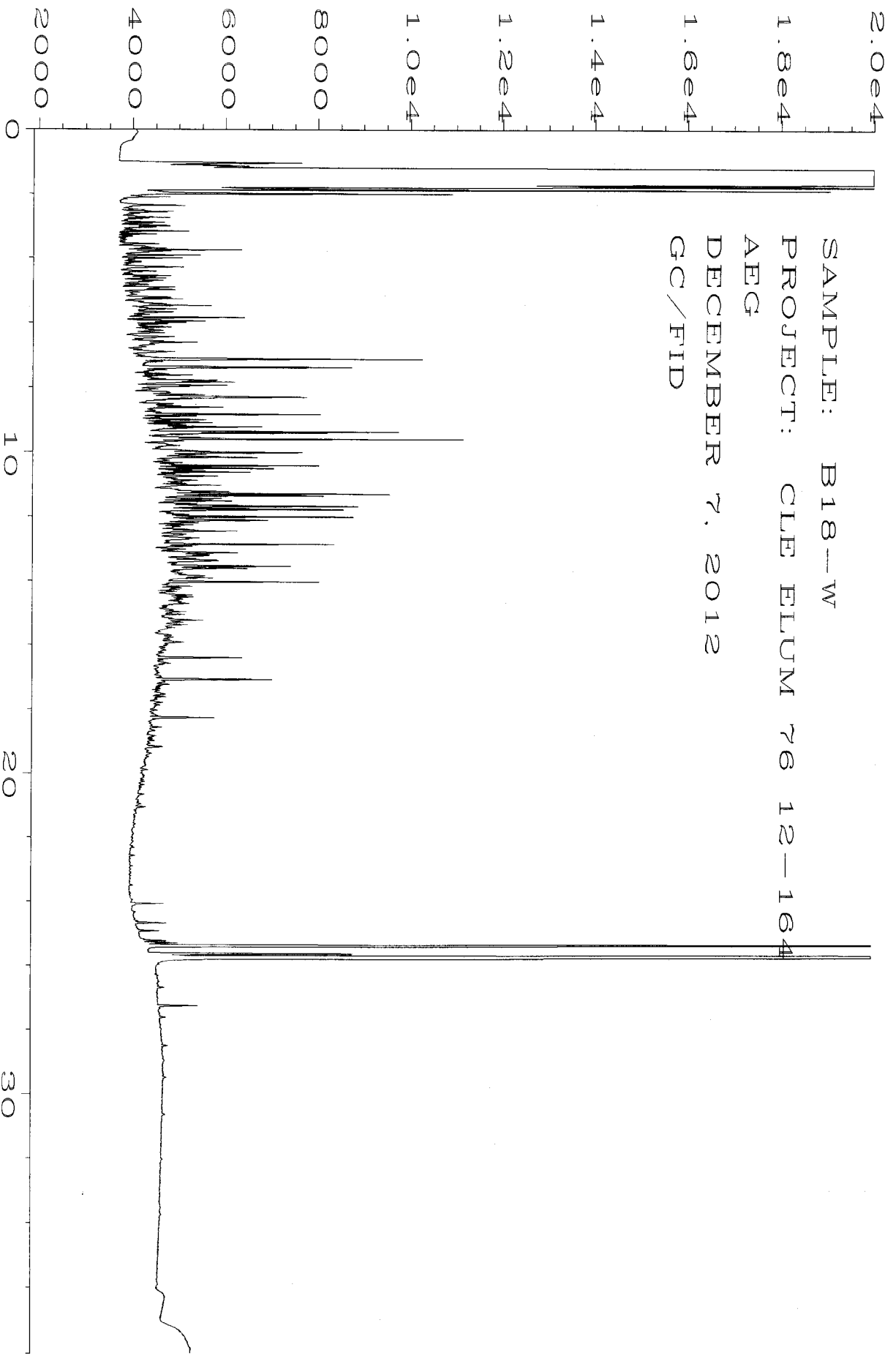
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SAMPLE: B16-W
PROJECT: CLE FLUM 76 12-164
AEG
DECEMBER 7, 2012
GC/FID

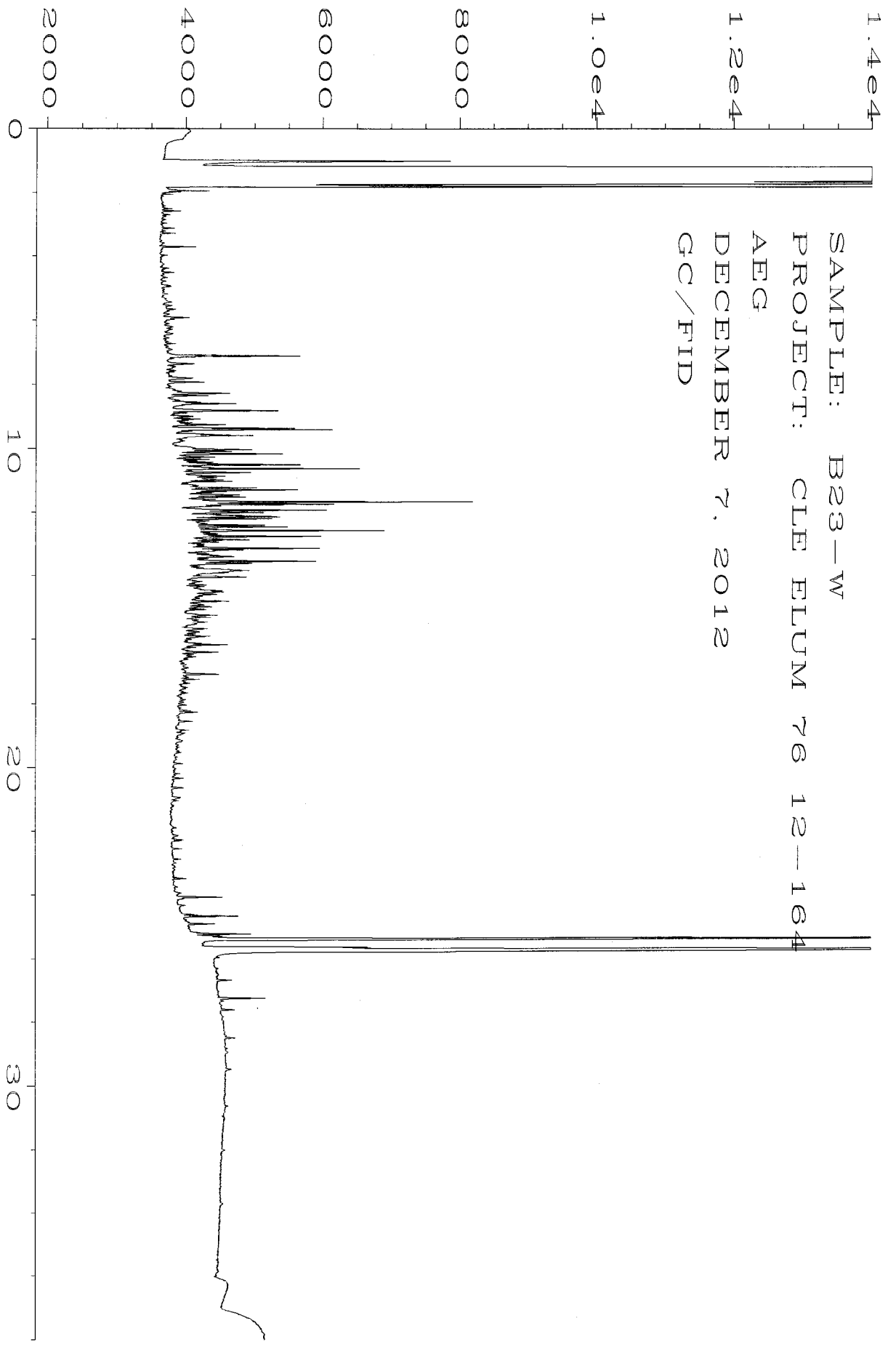


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SAMPLE: B18-W
PROJECT: CLE FLUM 76 12-164
AEG
DECEMBER 7, 2012
GC/FID

Fig. 1 in C:\HPCHEM\5\DATA\12-07-12\012F0601.D



SAMPLE: B23-W
PROJECT: CLE FLUM 76 12-164
AEG
DECEMBER 7, 2012
GC/FID

Fig. 1 in C:\HPCHEM\5\DATA\12-07-12\013F0601.D

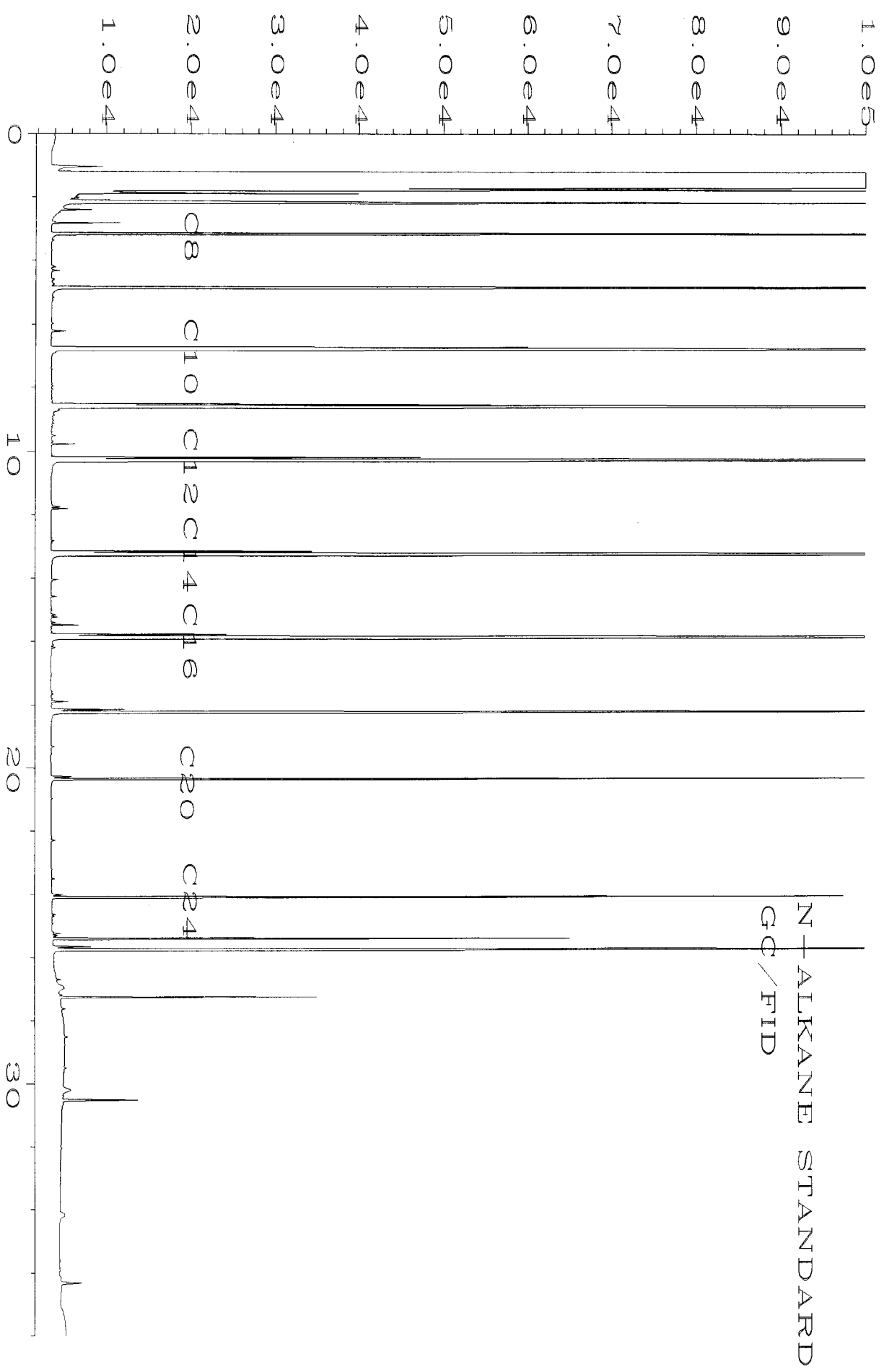
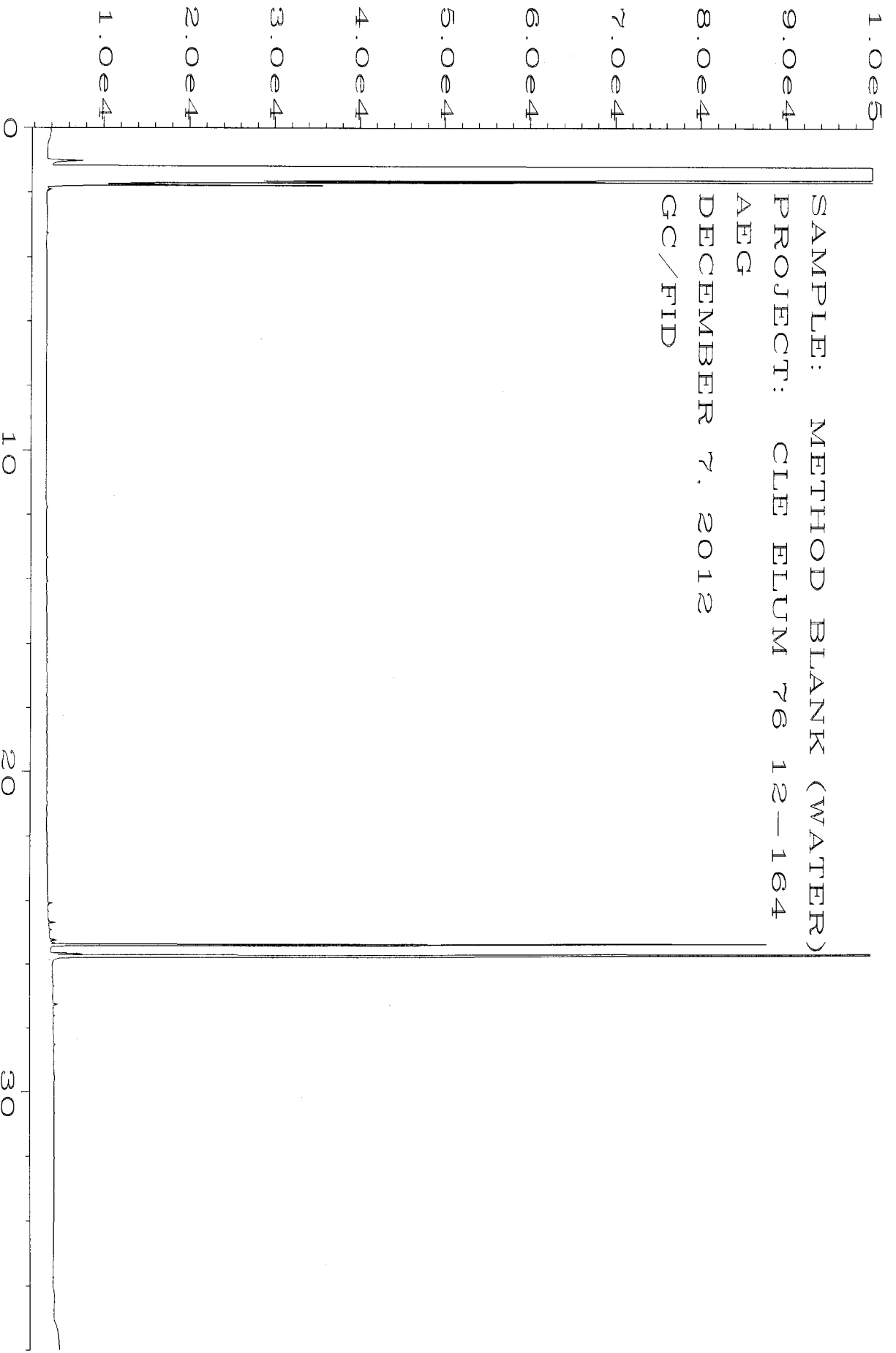
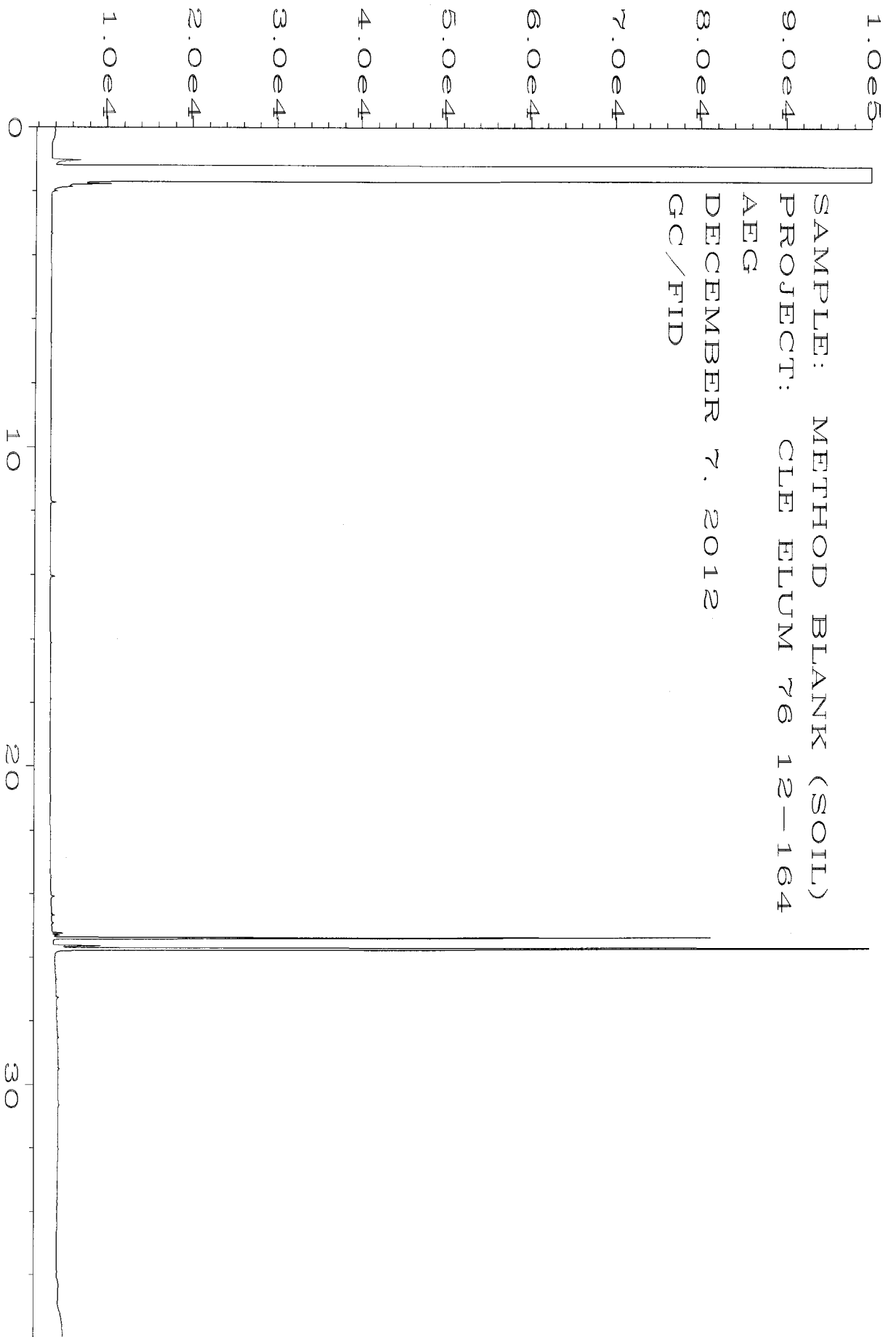


Fig. 1 in C:\HPCHEM\5\DATA\12-07-12\100F0201.D



Sig. 1 in C:\HPCHEM\5\DATA\12-07-12\010F0601.D



SAMPLE: METHOD BLANK (SOIL)
PROJECT: CLE FLUM 76 12-164
AEG
DECEMBER 7. 2012
GC/FID

Sig. 1 in C:\HPCHEM\5\DATA\12-07-12\003F0401.D

211105

SAMPLE CHAIN OF CUSTODY
 NE 11/07/12 US3/005/ATG/12

Send Report To Ms. Yenny Van

Company AEG

Address 605 11th Ave SE Suite 201

City, State, ZIP Olympia, WA. 98501

Phone # 360 352 9635 Fax # 360 352 8164

SAMPLERS (signature) L Chaudhri
 PROJECT NAME/NO. Geo Biom76-3rd Floor
 PO# 12-164

REMARKS Number of HFCs + e-waste

Page # 1 of 3
 TURNAROUND TIME
 Standard (2 Weeks)
 RUSH
 Rush charges authorized by

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						Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B <i>Extended</i> VOCs by 8260	SVOCs by 8270	HFS	LCMS org. Pb	
B16-51-2	01A.E	11/06/12	10:03	soil	5	✓	✓	✓				
B16-52-4	02		10:06			✓	✓	✓				
B16-53-7.5	03		10:16			✓	✓	✓				
B17-51-2	04		10:50			✓	✓	✓				
B17-52-4	05		10:55			✓	✓	✓				
B17-53-9	06		11:04			✓	✓	✓				
B18-51-2	07		12:01			✓	✓	✓				
B18-52-4	08		12:04			✓	✓	✓				
B18-54-10	09		12:21			✓	✓	✓				
B19-51-2	10		13:12			✓	✓	✓				

Friedman & Bryna, Inc.
 3012 16th Avenue West
 Seattle, WA 98119-2029
 At. (206) 285-8282
 Fax (206) 283-5044
 FORMS\CC\CCOC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>L Chaudhri</u>	<u>Leo Chaudhri</u>	<u>AEG</u>	<u>11/07/12</u>	<u>10:21</u>
<u>Kurt Johnson</u>	<u>Kurt Johnson</u>	<u>AEG</u>	<u>11/7/12</u>	<u>10:21</u>
Received by:				
Relinquished by:				
Received by:				

Samples received at 57 °C

211105

SAMPLE CHAIN OF CUSTODY Mc 11/07/12

VS3/805/AIS6/V2
Page # 2 of 3

Send Report To Mc Yerby WJ

Company AEG

Address 605 11th Ave SE Suite 201

City, State, ZIP OLYMPIA, WA 98501

Phone # 360 352 9835 Fax # 360 352 8164

SAMPLERS (signature) <u>L. Chaudhry</u>	PO#
PROJECT NAME/NO.	12-164
REMARKS	<u>Ce Elum 76 - 3rd Probe</u>

TURNAROUND TIME
 Standard (2 Weeks)
 RUSH
 Rush charges authorized by _____

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						Notes	
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	Extended VOCs by 8260	SVOCs by 8270	HFS		TOTAL METALS
B21-53-11.5	11AF	11/06/12	14:22	soil	5	✓	✓	✓					
B22-53-10	12I	✓	15:06	↓	↓	✓	✓	✓					
B23-53-10	13	✓	16:28	↓	↓	✓	✓	✓					
B16-W	14RF	✓	10:40	water	6	✓	✓	✓	X	✓			
B17-W	15AF	✓	11:20	✓	6	✓	✓	✓					
B18-W	16AF	✓	12:32	✓	5	✓	✓	✓	X				
B20-W	17T	✓	13:57	✓	5	✓	✓	✓					
B21-W	18T	✓	14:40	✓	5	✓	✓	✓					
B22-W	19	✓	15:23	✓	5	✓	✓	✓					
B23-W	20	✓	16:40	✓	5	✓	✓	✓	X				

Relinquished by: <u>L. Chaudhry</u>	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Received by: <u>Kurt Jensen</u>		<u>LEO CHAUDHRY</u>	<u>AEG</u>	<u>11/07/12</u>	<u>10:21</u>
Relinquished by:					
Received by:					

Friedman & Bryna, Inc.
 3012 16th Avenue West
 Seattle, WA 98119-2029
 PA. (206) 285-8282
 Fax (206) 283-5044
 FOI#MS100C/COC/DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

January 22, 2013

Yen-Vy Ven
AEG
605 11th Ave SE, Suite 201
Olympia, WA 98501

Dear Ms. Ven:

As requested, we have reviewed the reports issued by Friedman and Bruya, Inc. (F&BI) on November 21, 2012, January 2, 2013, and January 22, 2013 from the Cle Elum 76 – 3rd Probe 12-164, F&BI 211105/212037 project. These reports included analytical data generated from the testing of soil and water samples collected from various locations at the site. The purpose of this review was to provide further information regarding the nature of the material present in these samples. Our findings are provided below.

The analytical work completed at F&BI included testing of samples using a gas chromatograph fitted with a flame ionization detector (GC/FID). The GC/FID traces provide information regarding the boiling range and general composition of the material present in these samples. In addition, select samples were analyzed for volatile organic compounds using a GC fitted with a mass spectrometer (MS), and organometallic compounds using an inductively coupled plasma mass spectrometer (ICP-MS).

Review of the data generated for the samples B16-S1-2 and B16-S2-4 shows that these samples contain gasoline. Oxygenates such as methyl *t*-butyl ether (MTBE) and organometallic compounds were not identified in these samples. The GC/FID traces generated for the samples B16-S1-2 and B16-S2-4 are provided as Figures 1 and 2, respectively.

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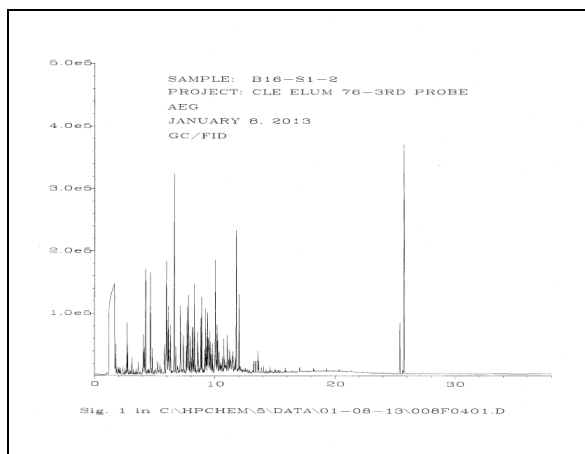


Figure 1. GC/FID trace of B16-S1-2

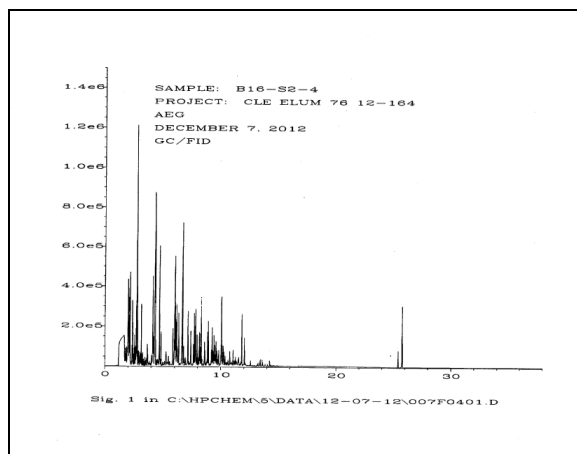


Figure 2. GC/FID trace of B16-S2-4

As shown in Figure 1, the gasoline present in the sample B16-S1-2 shows a loss of volatile compounds characteristic of evaporative weathering. The gasoline present in the sample B16-S2-4 appears relatively unweathered, as shown in Figure 2.

Based on review of the site information provided by AEG, it is our understanding that a recent catastrophic surface release of gasoline occurred at the site. For the purposes of this report, it was assumed that the gasoline present in the samples B16-S1-2 and B16-S2-4 is representative of the recent release. A summary of our findings is provided below.

- Based on the analytical results generated, the samples B5-3-11, B16-S3-7.5, B19-S1-2', B16-W, B18-W, and B23-W appear to have been impacted by gasoline. A trace level of gasoline may also be present in the sample B7-3-11.
- Comparison of the data generated for the samples B5-3-11 and B16-S3-7.5, and the assumed source samples B16-S1-2 and B16-S2-4, shows that the gasoline present in the samples B5-3-11 and B16-S3-7.5 is consistent with impact from the recent gasoline release at the site. This is based on the presence of isooctane in these samples as well as the level of degradation seen in the gasoline. The presence of isooctane indicates gasoline impact.

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- Comparison of the data generated for the samples B7-3-11, B19-S1-2', and B16-W, and the assumed source samples B16-S1-2 and B16-S2-4, shows that the gasoline present in the samples B7-3-11, B19-S1-2', and B16-W may or may not be consistent with impact from the recent gasoline release at the site. This is based on the apparent absence of isooctane and/or the low level of gasoline relative to the amount of diesel fuel in the samples.
- Comparison of the data generated for the sample B18-W and the assumed source samples B16-S1-2 and B16-S2-4 shows that the gasoline present in the sample B18-W is not consistent with impact from the recent gasoline release at the site. This is based on the presence of MTBE in this sample as well as the severe level of degradation that has occurred to the gasoline.
- Comparison of the data generated for the sample B23-W and the assumed source samples B16-S1-2 and B16-S2-4 shows that the gasoline present in the sample B23-W is not consistent with impact from the recent gasoline release at the site. This is due to the apparent absence of isooctane in this sample and the severe level of degradation that has occurred to the gasoline.
- Based on the analytical results generated, the samples B16-S3-7.5, B18-S4-10, B23-S3-10, B5-3-11, B6-3-10', B7-3-11, B8-3-11, B16-W, and B18-W contain a middle distillate such as diesel fuel No. 2 or heating oil. A low level of middle distillate may also be present in the sample B16-S1-2 .
- Other compounds such as acetone, methyl *t*-butyl ether (MTBE), 1,2-dichloroethane (EDC), and 2-butanone (MEK) were identified at the site. These compounds are not consistent with the recent release and indicate that other releases have occurred at the site.

In summary, based on the analytical results generated, the samples B5-3-11, B16-S3-7.5, and possibly B7-3-11, B19-S1-2', and B16-W, appear to have been impacted with gasoline from the recent gasoline release at the site. A variety of other historic releases also appear to have impacted the site including historic gasoline, diesel, and solvent releases. Additional testing may be useful in further characterizing the nature of the contamination present at this site, if warranted.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Yen-Vy Ven
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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.

A handwritten signature in black ink, appearing to read 'Kurt Johnson', with a large loop at the end of the name.

Kurt Johnson, Chemist
Enclosures
mcp/KJ
c: yvan@aegwa.com
NAA0122R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

January 22, 2013

Yen-Vy Van, Project Manager
AEG
605 11th Ave SE, Suite 201
Olympia, WA 98501

Dear Ms. Van:

Included are the results from the additional testing of material submitted on December 3, 2012 from the Cle Elum 76, F&BI 212037 project.

The sample B6-3-10' was extracted and analyzed using a gas chromatograph with a flame ionization detector (GC/FID). The data generated yielded information on the boiling range and general chemical composition of the material present. The GC/FID traces are enclosed. A GC/FID trace of a standard consisting of normal alkanes is also provided for reference purposes.

In addition, the sample B6-3-10' was analyzed for total petroleum hydrocarbons as gasoline and diesel fuel using GC/FID; benzene, ethylbenzene, and the xylenes using a GC fitted with a photoionization detector (PID); and volatile organic compounds using a GC fitted with a mass spectrometer (MS). The results of this testing, including the associated quality assurance, are also enclosed.

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.

Sincerely,

FRIEDMAN & BRUYA, INC.



Kurt Johnson
Chemist

Enclosures
mcp/KJ
c: yvan@aegwa.com
NAA0122R.DOC

Date of Report: 01/22/13
Date Received: 12/03/12
Project: Cle Elum 76, F&BI 212037
Date Extracted: 01/08/13
Date Analyzed: 01/08/13

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

Sample ID

GC Characterization

B6-3-10'

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 No. 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*-C₉ to *n*-C₂₈ showing a maximum near *n*-C₁₈. This correlates with a temperature range of approximately 150°C to 430°C with a maximum near 320°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.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/22/13
Date Received: 12/03/12
Project: Cle Elum 76, F&BI 212037
Date Extracted: 01/09/13
Date Analyzed: 01/09/13

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING EPA METHOD 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
B6-3-10' 212037-06	<0.02	<0.02	<0.02	0.078	9.4	85
Method Blank 03-0038 MB	<0.02	<0.02	<0.02	<0.06	<2	81

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/22/13
Date Received: 12/03/12
Project: Cle Elum 76, F&BI 212037
Date Extracted: 01/07/13
Date Analyzed: 01/07/13

**RESULTS FROM THE ANALYSIS OF 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 mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u> (C ₁₀ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 50-150)
B6-3-10' 212037-06	3,000	84
Method Blank 03-055 MB	<50	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B6-3-10'	Client:	AEG
Date Received:	12/03/12	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	01/07/13	Lab ID:	212037-06
Date Analyzed:	01/07/13	Data File:	010725.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	99	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50 ca	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	0.23
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	0.71
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	0.054
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	0.061
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	<0.03	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	0.73
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	<0.05	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	<0.5 L

Note: The sample was analyzed outside of recommended holding time. The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	AEG
Date Received:	NA	Project:	Cle Elum 76, F&BI 212037
Date Extracted:	01/07/13	Lab ID:	03-008 mb
Date Analyzed:	01/07/13	Data File:	010712.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50 ca	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	<0.05
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	<0.05
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	<0.05
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	<0.03	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	<0.05	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	<0.5 L

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/22/13

Date Received: 12/03/12

Project: Cle Elum 76, F&BI 212037

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES, AND TPH AS GASOLINE
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 301058-01 (Duplicate)

Analyte	Reporting Units	(Wet Wt) Sample Result	(Wet Wt) Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	84	69-120
Toluene	mg/kg (ppm)	0.5	84	70-117
Ethylbenzene	mg/kg (ppm)	0.5	85	65-123
Xylenes	mg/kg (ppm)	1.5	85	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/22/13

Date Received: 12/03/12

Project: Cle Elum 76, F&BI 212037

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

Laboratory Code: 301040-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	105	108	64-133	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/22/13

Date Received: 12/03/12

Project: Cle Elum 76, F&BI 212037

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 301043-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Ethanol	mg/kg (ppm)	125	<50	78	10-174
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	19	10-142
Chloromethane	mg/kg (ppm)	2.5	<0.5	46	10-126
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	48	10-138
Bromomethane	mg/kg (ppm)	2.5	<0.5	63	10-163
Chloroethane	mg/kg (ppm)	2.5	<0.5	65	10-176
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	81	10-176
Acetone	mg/kg (ppm)	12.5	<0.5	75	10-163
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	70	10-160
Methylene chloride	mg/kg (ppm)	2.5	<0.5	73	10-156
t-Butyl alcohol (TBA)	mg/kg (ppm)	125	<2.5	86	16-169
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	79	21-145
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	75	14-137
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	<0.05	78	29-136
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	76	19-140
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	<0.05	84	27-141
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	83	10-158
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	80	25-135
Chloroform	mg/kg (ppm)	2.5	<0.05	82	21-145
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	79	19-147
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	<0.05	82	27-144
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	79	12-160
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	80	10-156
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	77	17-140
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	85	9-164
Benzene	mg/kg (ppm)	2.5	<0.03	76	29-129
Trichloroethene	mg/kg (ppm)	2.5	<0.03	80	21-139
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	80	30-135
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	90	23-155
Dibromomethane	mg/kg (ppm)	2.5	<0.05	82	23-145
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	85	24-155
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	86	28-144
Toluene	mg/kg (ppm)	2.5	<0.05	81	35-130
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	91	26-149
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	83	30-142
2-Hexanone	mg/kg (ppm)	12.5	<0.5	83	15-166
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	82	31-137
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	80	20-133
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	96	28-150
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	85	28-142
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	82	32-129
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	84	32-137
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	91	31-143
mp-Xylene	mg/kg (ppm)	5	<0.1	85	34-136
o-Xylene	mg/kg (ppm)	2.5	<0.05	86	33-134
Styrene	mg/kg (ppm)	2.5	<0.05	87	35-137
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	89	31-142
Bromoform	mg/kg (ppm)	2.5	<0.05	102	21-156
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	86	23-146
Bromobenzene	mg/kg (ppm)	2.5	<0.05	82	34-130
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	87	18-149
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	85	28-140
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	83	25-144
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	84	31-134
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	85	31-136
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	88	30-137
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	88	10-182
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	88	23-145
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	90	21-149
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	84	30-131
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	83	29-129
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	84	31-132
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	101	11-161
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	94	22-142
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	91	19-142
Naphthalene	mg/kg (ppm)	2.5	<0.05	99	14-157
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	97	20-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/22/13

Date Received: 12/03/12

Project: Cle Elum 76, F&BI 212037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	mg/kg (ppm)	125	76	86	11-168	12
Dichlorodifluoromethane	mg/kg (ppm)	2.5	52	52	10-146	0
Chloromethane	mg/kg (ppm)	2.5	70	70	27-133	0
Vinyl chloride	mg/kg (ppm)	2.5	78	77	22-139	1
Bromomethane	mg/kg (ppm)	2.5	85	84	38-114	1
Chloroethane	mg/kg (ppm)	2.5	85	86	20-153	1
Trichlorofluoromethane	mg/kg (ppm)	2.5	148	94	10-196	45 vo
Acetone	mg/kg (ppm)	12.5	94	90	52-141	4
1,1-Dichloroethene	mg/kg (ppm)	2.5	95	95	47-128	0
Methylene chloride	mg/kg (ppm)	2.5	96	94	42-132	2
t-Butyl alcohol (TBA)	mg/kg (ppm)	125	98	98	41-150	0
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	95	94	60-123	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	95	95	67-127	0
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	92	91	69-115	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	94	94	68-115	0
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	99	98	48-142	1
2,2-Dichloropropane	mg/kg (ppm)	2.5	105	103	57-133	2
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	96	96	72-113	0
Chloroform	mg/kg (ppm)	2.5	96	96	66-120	0
2-Butanone (MEK)	mg/kg (ppm)	12.5	94	95	57-123	1
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	97	96	47-143	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	94	93	56-135	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	100	99	62-131	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	98	95	69-128	3
Carbon tetrachloride	mg/kg (ppm)	2.5	108	106	60-139	2
Benzene	mg/kg (ppm)	2.5	92	91	68-114	1
Trichloroethene	mg/kg (ppm)	2.5	95	95	68-114	0
1,2-Dichloropropane	mg/kg (ppm)	2.5	94	95	72-127	1
Bromodichloromethane	mg/kg (ppm)	2.5	105	104	72-130	1
Dibromomethane	mg/kg (ppm)	2.5	97	97	70-120	0
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	97	97	45-145	0
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	103	101	75-136	2
Toluene	mg/kg (ppm)	2.5	94	94	66-126	0
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	106	105	72-132	1
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	96	94	75-113	2
2-Hexanone	mg/kg (ppm)	12.5	96	95	33-152	1
1,3-Dichloropropane	mg/kg (ppm)	2.5	95	94	72-130	1
Tetrachloroethene	mg/kg (ppm)	2.5	94	94	72-114	0
Dibromochloromethane	mg/kg (ppm)	2.5	113	112	74-125	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	98	98	74-132	0
Chlorobenzene	mg/kg (ppm)	2.5	95	94	76-111	1
Ethylbenzene	mg/kg (ppm)	2.5	97	97	64-123	0
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	106	105	69-135	1
m,p-Xylene	mg/kg (ppm)	5	99	98	78-122	1
o-Xylene	mg/kg (ppm)	2.5	99	99	77-124	0
Styrene	mg/kg (ppm)	2.5	100	100	74-126	0
Isopropylbenzene	mg/kg (ppm)	2.5	102	101	76-127	1
Bromoform	mg/kg (ppm)	2.5	119	116	56-132	3
n-Propylbenzene	mg/kg (ppm)	2.5	99	98	74-124	1
Bromobenzene	mg/kg (ppm)	2.5	94	93	72-122	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	100	99	76-126	1
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	97	97	56-143	0
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	95	94	61-137	1
2-Chlorotoluene	mg/kg (ppm)	2.5	96	96	74-121	0
4-Chlorotoluene	mg/kg (ppm)	2.5	98	96	75-122	2
tert-Butylbenzene	mg/kg (ppm)	2.5	100	100	73-130	0
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	100	99	76-125	1
sec-Butylbenzene	mg/kg (ppm)	2.5	102	100	71-130	2
p-Isopropyltoluene	mg/kg (ppm)	2.5	103	102	70-132	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	96	95	75-121	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	95	94	74-117	1
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	96	96	76-121	0
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	116	115	61-136	1
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	106	106	70-129	0
Hexachlorobutadiene	mg/kg (ppm)	2.5	103	102	50-153	1
Naphthalene	mg/kg (ppm)	2.5	111	113	60-125	2
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	108	110	62-130	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 - More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

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

pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.

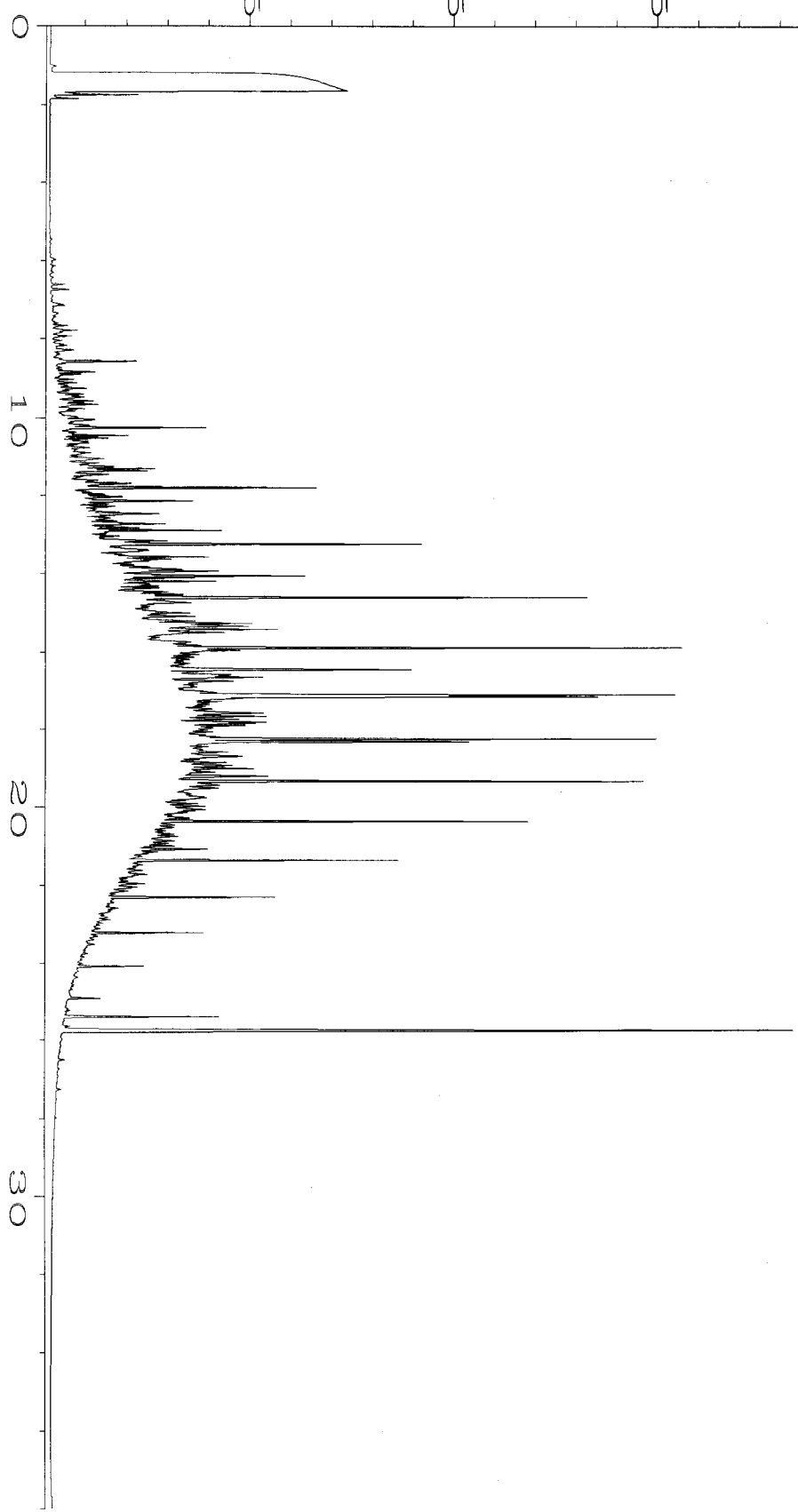
ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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

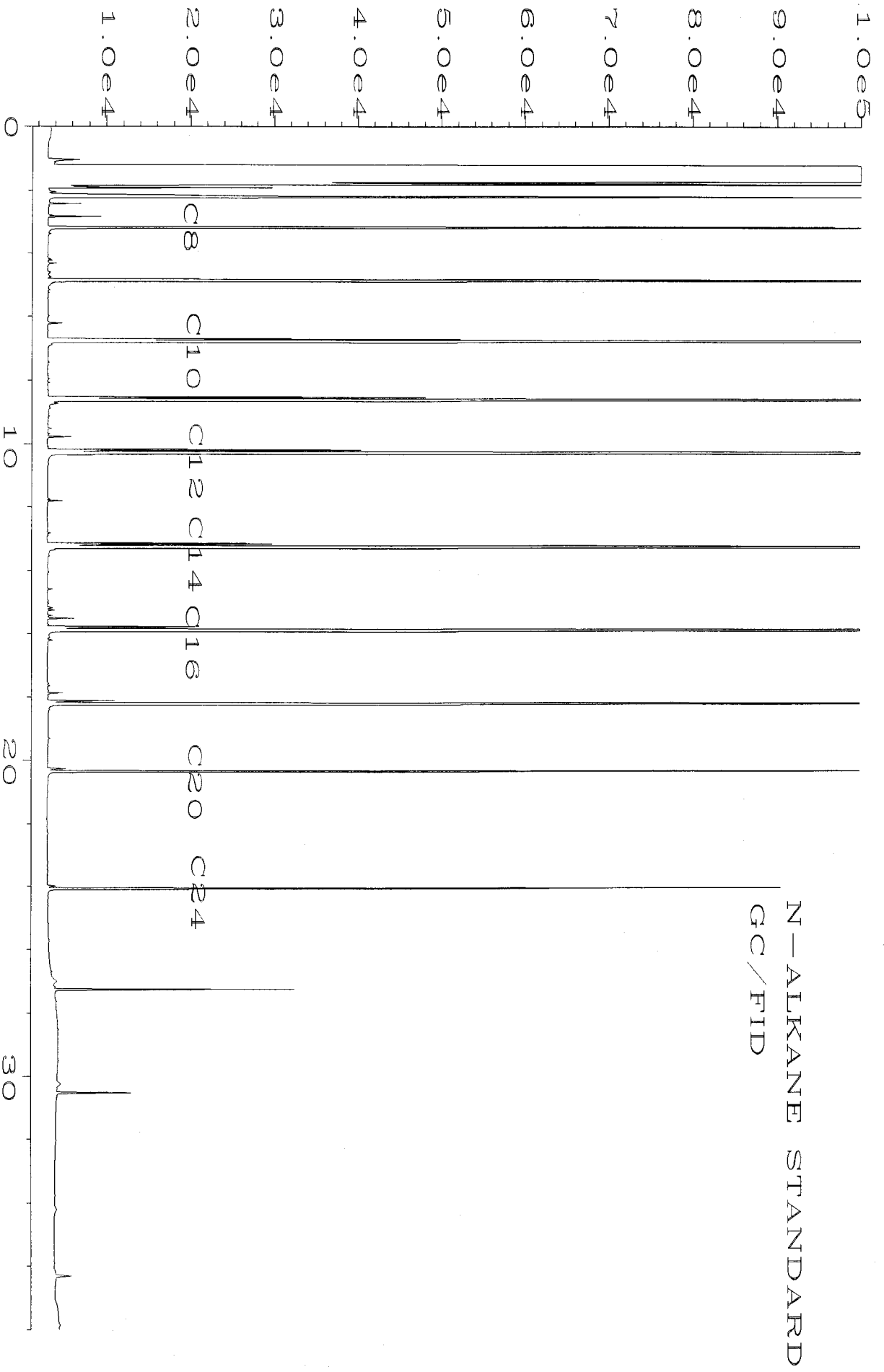
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

5.0e5
4.0e5
3.0e5
2.0e5
1.0e5
0

SAMPLE: B6-3-10'
PROJECT: CLE FLUM 76
AEG
JANUARY 8, 2013
GC/FID

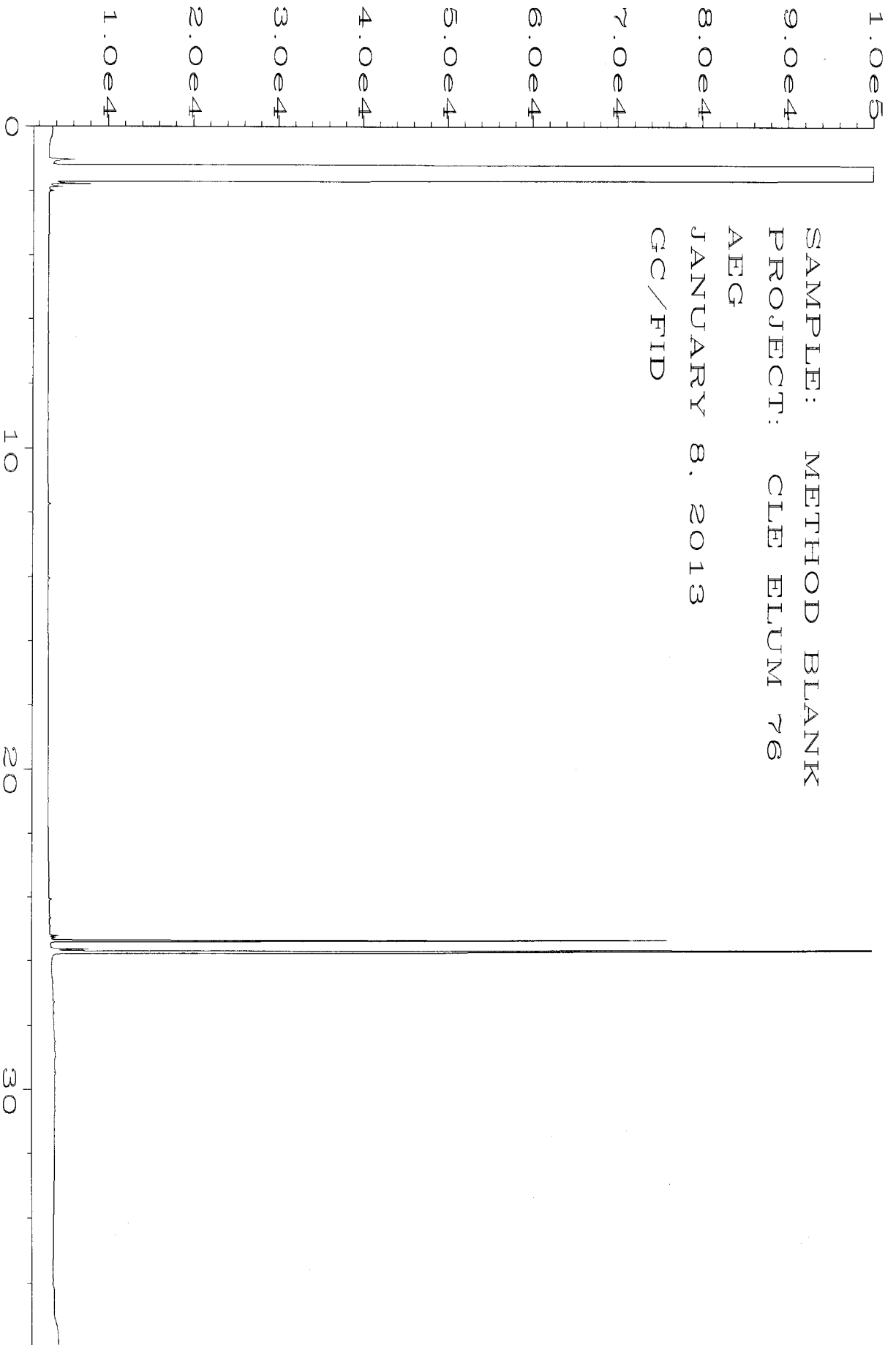


Sig. 1 in C:\HPCHEM\5\DATA\01-08-13\005F0401.D



N-ALKANE STANDARD
GC/FID

Sig. 1 in C:\HPCHEM\5\DATA\01-08-13\100F0201.D



Sig. 1 in C:\HPCHEM\5\DATA\01-08-13\003FO401.D

212037

SAMPLE CHAIN OF CUSTODY

KT 12/03/12 E03/V1

Send Report To: Yen-Vy Van

Company: AEG

Address: 605 11th Ave. SE, Suite 201

City, State, ZIP: Olympia, WA 98501

Phone #: (360) 352-9885 Fax #

SAFETY (signature)

PROJECT NAME/NO.

Cle Elum 76

NOI

REMARKS

Disposed after 90 days
 Return samples
 Will call with instructions

CHAIN OF CUSTODY
 Received (Signature)
 Date: 12/9/12

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSIS					Notes		
						TPH-Diesel	TPH-Gasoline	MTBK by 822B	Extended VOCs by 822B	SVOCs by 822B		HPS	ICP-MS org. Pb
B1-2-8	01	7/31/12	12:40	Soil	1								
B2-3-10	02	7/31/12	13:33	Soil	1								
B3-3-9'	03	7/31/12	14:20	Soil	1								
B4-3-10'	04	7/31/12	11:14	Soil	1								
B5-3-11'	05	7/31/12	10:10	Soil	1								
B6-3-10'	06	7/31/12	17:11	Soil	1	(X)	(X)	(X)					
B7-3-11	07	7/31/12	9:21	Soil	1								
B8-3-11	08	7/31/12	16:24	Soil	1								
B11-W		10/10	10:22	water	3								
B12-W	09A-C	10/10	12:40	water	3								arrived broken
B13-W	10A-C	10/10	14:06	water	3								

Samples received at 4 °C

Miller

Nhan Phan

Feb 8

12/9/12

1230

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

January 22, 2013

Yen-Vy Van, Project Manager
AEG
605 11th Ave SE, Suite 201
Olympia, WA 98501

Dear Ms. Van:

Included are the results from the additional testing of material submitted on November 7, 2012 from the Cle Elum 76 - 3rd Probe 12-164, F&BI 211105 project.

The samples B16-S1-2 and B16-S3-7.5 were extracted and analyzed using a gas chromatograph with a flame ionization detector (GC/FID). The data generated yielded information on the boiling range and general chemical composition of the material present. The GC/FID traces are enclosed. A GC/FID trace of a standard consisting of normal alkanes is also provided for reference purposes.

In addition, the samples B16-S1-2, B16-S2-4, B16-S3-7.5, and B18-S4-10 were analyzed for volatile organic compounds using a GC fitted with a mass spectrometer (MS). The results of this testing are also enclosed.

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.

Sincerely,

FRIEDMAN & BRUYA, INC.



Kurt Johnson
Chemist

Enclosures
mcp/KJ
c: yvan@aegwa.com
NAA0122R.DOC

Date of Report: 01/22/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

Date Extracted: 01/08/13

Date Analyzed: 01/08/13

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

Sample ID

GC Characterization

B16-S1-2

The GC trace using the flame ionization detector (FID) showed the presence of low to medium boiling compounds. The majority of material present in this sample is indicative of gasoline.

The low boiling compounds appear as a ragged pattern of peaks eluting from *n*-C₇ to *n*-C₁₃ showing a maximum near *n*-C₁₀. This correlates with a temperature range of approximately 100°C to 240°C with a maximum near 170°C. Within this range, the GC/FID trace showed the presence of peaks, at varying levels, that are indicative of the xylenes, C₃-benzenes, and methylnaphthalenes. These compounds are characteristic of the constituents commonly found in gasoline. The relative abundance of the volatile and semivolatile constituents present indicates that substantial degradation has occurred to the gasoline.

It should be noted that peaks are present eluting after *n*-C₁₃ on the GC/FID trace. The presence of these peaks indicates that a trace level of a higher boiling material such as diesel fuel may also be present in this sample.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

Date of Report: 01/22/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

Date Extracted: 01/08/13

Date Analyzed: 01/08/13

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

Sample ID

GC Characterization

B16-S3-7.5

The GC trace using the flame ionization detector (FID) showed the presence of low to medium boiling compounds. The patterns displayed by these peaks are indicative of a mixture of a low boiling material such as gasoline and a middle distillate such as diesel fuel No. 2 or heating oil.

The low boiling compounds appear as a ragged pattern of peaks eluting from *n*-C₇ to *n*-C₁₃ showing a maximum near *n*-C₈. This correlates with a temperature range of approximately 100°C to 240°C with a maximum near 130°C. Within this range, the GC/FID trace showed the presence of peaks, at varying levels, that are indicative of the xylenes and C₃-benzenes. These compounds are characteristic of the constituents commonly found in gasoline. The relative abundance of the volatile and semivolatile constituents present indicates that substantial degradation has occurred to the gasoline.

The medium boiling compounds appear as an irregular pattern of peaks on top of a broad hump or unresolved complex mixture (UCM). This material elutes from *n*-C₈ to *n*-C₂₈ showing a maximum near *n*-C₁₇. This correlates with a temperature range of approximately 130°C to 430°C with a maximum near 300°C. Within this range, peaks are present which are indicative of normal alkanes as well as isoprenoids including norpristane, pristane, and phytane. The relative abundance of the normal alkanes and isoprenoids indicates that a mixture of degraded and relatively undegraded fuel is likely present in the sample.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B16-S1-2	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	01/07/13	Lab ID:	211105-01
Date Analyzed:	01/07/13	Data File:	010731.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	104	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50 ca	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	7.8
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	34 ve
Methylene chloride	<0.5	o-Xylene	24 ve
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	2.1
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIP E)	<0.05	n-Propylbenzene	7.1
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	16 ve
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	45 ve
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	1.6
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	0.95
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	0.37	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	21 ve
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	7.7	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	2.3 L

Note: The sample was analyzed outside of recommended holding time. The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B16-S1-2	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	01/07/13	Lab ID:	211105-01 1/5
Date Analyzed:	01/07/13	Data File:	010727.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	99	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<250 ca	2-Hexanone	<2.5
Dichlorodifluoromethane	<2.5	1,3-Dichloropropane	<0.25
Chloromethane	<2.5	Tetrachloroethene	<0.12
Vinyl chloride	<0.25	Dibromochloromethane	<0.25
Bromomethane	<2.5	1,2-Dibromoethane (EDB)	<0.25
Chloroethane	<2.5	Chlorobenzene	<0.25
Trichlorofluoromethane	<2.5	Ethylbenzene	7.7
Acetone	<2.5	1,1,1,2-Tetrachloroethane	<0.25
1,1-Dichloroethene	<0.25	m,p-Xylene	32
Methylene chloride	<2.5	o-Xylene	22
t-Butyl alcohol (TBA)	<12	Styrene	<0.25
Methyl t-butyl ether (MTBE)	<0.25	Isopropylbenzene	2.1
trans-1,2-Dichloroethene	<0.25	Bromoform	<0.25
Diisopropyl ether (DIPE)	<0.25	n-Propylbenzene	7.1
1,1-Dichloroethane	<0.25	Bromobenzene	<0.25
Ethyl t-butyl ether (ETBE)	<0.25	1,3,5-Trimethylbenzene	16
2,2-Dichloropropane	<0.25	1,1,2,2-Tetrachloroethane	<0.25
cis-1,2-Dichloroethene	<0.25	1,2,3-Trichloropropane	<0.25
Chloroform	<0.25	2-Chlorotoluene	<0.25
2-Butanone (MEK)	<2.5	4-Chlorotoluene	<0.25
t-Amyl methyl ether (TAME)	<0.25	tert-Butylbenzene	<0.25
1,2-Dichloroethane (EDC)	<0.25	1,2,4-Trimethylbenzene	57 ve
1,1,1-Trichloroethane	<0.25	sec-Butylbenzene	1.6
1,1-Dichloropropene	<0.25	p-Isopropyltoluene	0.91
Carbon tetrachloride	<0.25	1,3-Dichlorobenzene	<0.25
Benzene	0.36	1,4-Dichlorobenzene	<0.25
Trichloroethene	<0.15	1,2-Dichlorobenzene	<0.25
1,2-Dichloropropane	<0.25	1,2-Dibromo-3-chloropropane	<2.5
Bromodichloromethane	<0.25	1,2,4-Trichlorobenzene	<1.2
Dibromomethane	<0.25	Hexachlorobutadiene	<1.2
4-Methyl-2-pentanone	<2.5	Naphthalene	22
cis-1,3-Dichloropropene	<0.25	1,2,3-Trichlorobenzene	<1.2
Toluene	7.6	Butane	<2.5 L
trans-1,3-Dichloropropene	<0.25	Pentane	<2.5 L
1,1,2-Trichloroethane	<0.25	Isooctane	3.8 L

Note: The sample was analyzed outside of recommended holding time. The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B16-S2-4	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	01/07/13	Lab ID:	211105-02
Date Analyzed:	01/07/13	Data File:	010733.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50 ca	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	24 ve
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	81 ve
Methylene chloride	<0.5	o-Xylene	47 ve
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	4.1
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	15 ve
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	24 ve
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	46 ve
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	2.3
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	1.2
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	2.5	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	20 ve
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	48 ve	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	28 L

Note: The sample was analyzed outside of recommended holding time. The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B16-S2-4	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	01/07/13	Lab ID:	211105-02 1/10
Date Analyzed:	01/07/13	Data File:	010728.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	99	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<500 ca	2-Hexanone	<5
Dichlorodifluoromethane	<5	1,3-Dichloropropane	<0.5
Chloromethane	<5	Tetrachloroethene	<0.25
Vinyl chloride	<0.5	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.5
Chloroethane	<5	Chlorobenzene	<0.5
Trichlorofluoromethane	<5	Ethylbenzene	23
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.5
1,1-Dichloroethene	<0.5	m,p-Xylene	96
Methylene chloride	<5	o-Xylene	43
t-Butyl alcohol (TBA)	<25	Styrene	<0.5
Methyl t-butyl ether (MTBE)	<0.5	Isopropylbenzene	3.8
trans-1,2-Dichloroethene	<0.5	Bromoform	<0.5
Diisopropyl ether (DIPE)	<0.5	n-Propylbenzene	14
1,1-Dichloroethane	<0.5	Bromobenzene	<0.5
Ethyl t-butyl ether (ETBE)	<0.5	1,3,5-Trimethylbenzene	23
2,2-Dichloropropane	<0.5	1,1,2,2-Tetrachloroethane	<0.5
cis-1,2-Dichloroethene	<0.5	1,2,3-Trichloropropane	<0.5
Chloroform	<0.5	2-Chlorotoluene	<0.5
2-Butanone (MEK)	<5	4-Chlorotoluene	<0.5
t-Amyl methyl ether (TAME)	<0.5	tert-Butylbenzene	<0.5
1,2-Dichloroethane (EDC)	<0.5	1,2,4-Trimethylbenzene	86 ve
1,1,1-Trichloroethane	<0.5	sec-Butylbenzene	2.2
1,1-Dichloropropene	<0.5	p-Isopropyltoluene	1.2
Carbon tetrachloride	<0.5	1,3-Dichlorobenzene	<0.5
Benzene	2.3	1,4-Dichlorobenzene	<0.5
Trichloroethene	<0.3	1,2-Dichlorobenzene	<0.5
1,2-Dichloropropane	<0.5	1,2-Dibromo-3-chloropropane	<5
Bromodichloromethane	<0.5	1,2,4-Trichlorobenzene	<2.5
Dibromomethane	<0.5	Hexachlorobutadiene	<2.5
4-Methyl-2-pentanone	<5	Naphthalene	20
cis-1,3-Dichloropropene	<0.5	1,2,3-Trichlorobenzene	<2.5
Toluene	44	Butane	<2.5 L
trans-1,3-Dichloropropene	<0.5	Pentane	<2.5 L
1,1,2-Trichloroethane	<0.5	Isooctane	30 L

Note: The sample was analyzed outside of recommended holding time. The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B16-S3-7.5	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	01/07/13	Lab ID:	211105-03
Date Analyzed:	01/07/13	Data File:	010732.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	120	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50 ca	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	2.6
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	36 ve
Methylene chloride	<0.5	o-Xylene	22 ve
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	0.59
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	0.97
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	9.5 ve
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	30 ve
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	0.84
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	0.92
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	3.4	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	2.0
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	30 ve	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	9.1 L

Note: The sample was analyzed outside of recommended holding time. The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B16-S3-7.5	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	01/07/13	Lab ID:	211105-03 1/5
Date Analyzed:	01/07/13	Data File:	010729.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	105	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<250 ca	2-Hexanone	<2.5
Dichlorodifluoromethane	<2.5	1,3-Dichloropropane	<0.25
Chloromethane	<2.5	Tetrachloroethene	<0.12
Vinyl chloride	<0.25	Dibromochloromethane	<0.25
Bromomethane	<2.5	1,2-Dibromoethane (EDB)	<0.25
Chloroethane	<2.5	Chlorobenzene	<0.25
Trichlorofluoromethane	<2.5	Ethylbenzene	2.5
Acetone	<2.5	1,1,1,2-Tetrachloroethane	<0.25
1,1-Dichloroethene	<0.25	m,p-Xylene	33
Methylene chloride	<2.5	o-Xylene	20
t-Butyl alcohol (TBA)	<12	Styrene	<0.25
Methyl t-butyl ether (MTBE)	<0.25	Isopropylbenzene	0.58
trans-1,2-Dichloroethene	<0.25	Bromoform	<0.25
Diisopropyl ether (DIPE)	<0.25	n-Propylbenzene	0.99
1,1-Dichloroethane	<0.25	Bromobenzene	<0.25
Ethyl t-butyl ether (ETBE)	<0.25	1,3,5-Trimethylbenzene	9.6
2,2-Dichloropropane	<0.25	1,1,2,2-Tetrachloroethane	<0.25
cis-1,2-Dichloroethene	<0.25	1,2,3-Trichloropropane	<0.25
Chloroform	<0.25	2-Chlorotoluene	<0.25
2-Butanone (MEK)	<2.5	4-Chlorotoluene	<0.25
t-Amyl methyl ether (TAME)	<0.25	tert-Butylbenzene	<0.25
1,2-Dichloroethane (EDC)	<0.25	1,2,4-Trimethylbenzene	31
1,1,1-Trichloroethane	<0.25	sec-Butylbenzene	0.88
1,1-Dichloropropene	<0.25	p-Isopropyltoluene	0.95
Carbon tetrachloride	<0.25	1,3-Dichlorobenzene	<0.25
Benzene	3.2	1,4-Dichlorobenzene	<0.25
Trichloroethene	<0.15	1,2-Dichlorobenzene	<0.25
1,2-Dichloropropane	<0.25	1,2-Dibromo-3-chloropropane	<2.5
Bromodichloromethane	<0.25	1,2,4-Trichlorobenzene	<1.2
Dibromomethane	<0.25	Hexachlorobutadiene	<1.2
4-Methyl-2-pentanone	<2.5	Naphthalene	2.1
cis-1,3-Dichloropropene	<0.25	1,2,3-Trichlorobenzene	<1.2
Toluene	27	Butane	<2.5 L
trans-1,3-Dichloropropene	<0.25	Pentane	<2.5 L
1,1,2-Trichloroethane	<0.25	Isooctane	12 L

Note: The sample was analyzed outside of recommended holding time. The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B18-S4-10	Client:	AEG
Date Received:	11/07/12	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	01/07/13	Lab ID:	211105-09
Date Analyzed:	01/07/13	Data File:	010730.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	122	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50 ca	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	0.33
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	<0.05
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	0.13
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	0.055
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	<0.03	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	0.21
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	<0.05	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	<0.5 L

Note: The sample was analyzed outside of recommended holding time. The sample was received in a container not approved by the method. The value reported should be considered an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	AEG
Date Received:	Not Applicable	Project:	Cle Elum 76, F&BI 211105
Date Extracted:	01/07/13	Lab ID:	03-008 mb
Date Analyzed:	01/07/13	Data File:	010712.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Ethanol	<50 ca	2-Hexanone	<0.5
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
t-Butyl alcohol (TBA)	<2.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
Diisopropyl ether (DIPE)	<0.05	n-Propylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromobenzene	<0.05
Ethyl t-butyl ether (ETBE)	<0.05	1,3,5-Trimethylbenzene	<0.05
2,2-Dichloropropane	<0.05	1,1,2,2-Tetrachloroethane	<0.05
cis-1,2-Dichloroethene	<0.05	1,2,3-Trichloropropane	<0.05
Chloroform	<0.05	2-Chlorotoluene	<0.05
2-Butanone (MEK)	<0.5	4-Chlorotoluene	<0.05
t-Amyl methyl ether (TAME)	<0.05	tert-Butylbenzene	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,4-Trimethylbenzene	<0.05
1,1,1-Trichloroethane	<0.05	sec-Butylbenzene	<0.05
1,1-Dichloropropene	<0.05	p-Isopropyltoluene	<0.05
Carbon tetrachloride	<0.05	1,3-Dichlorobenzene	<0.05
Benzene	<0.03	1,4-Dichlorobenzene	<0.05
Trichloroethene	<0.03	1,2-Dichlorobenzene	<0.05
1,2-Dichloropropane	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Bromodichloromethane	<0.05	1,2,4-Trichlorobenzene	<0.25
Dibromomethane	<0.05	Hexachlorobutadiene	<0.25
4-Methyl-2-pentanone	<0.5	Naphthalene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2,3-Trichlorobenzene	<0.25
Toluene	<0.05	Butane	<0.5 L
trans-1,3-Dichloropropene	<0.05	Pentane	<0.5 L
1,1,2-Trichloroethane	<0.05	Isooctane	<0.5 L

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/22/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 301043-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Ethanol	mg/kg (ppm)	125	<50	78	10-174
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	19	10-142
Chloromethane	mg/kg (ppm)	2.5	<0.5	46	10-126
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	48	10-138
Bromomethane	mg/kg (ppm)	2.5	<0.5	63	10-163
Chloroethane	mg/kg (ppm)	2.5	<0.5	65	10-176
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	81	10-176
Acetone	mg/kg (ppm)	12.5	<0.5	75	10-163
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	70	10-160
Methylene chloride	mg/kg (ppm)	2.5	<0.5	73	10-156
t-Butyl alcohol (TBA)	mg/kg (ppm)	125	<2.5	86	16-169
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	79	21-145
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	75	14-137
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	<0.05	78	29-136
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	76	19-140
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	<0.05	84	27-141
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	83	10-158
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	80	25-135
Chloroform	mg/kg (ppm)	2.5	<0.05	82	21-145
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	79	19-147
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	<0.05	82	27-144
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	79	12-160
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	80	10-156
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	77	17-140
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	85	9-164
Benzene	mg/kg (ppm)	2.5	<0.03	76	29-129
Trichloroethene	mg/kg (ppm)	2.5	<0.03	80	21-139
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	80	30-135
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	90	23-155
Dibromomethane	mg/kg (ppm)	2.5	<0.05	82	23-145
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	85	24-155
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	86	28-144
Toluene	mg/kg (ppm)	2.5	<0.05	81	35-130
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	91	26-149
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	83	30-142
2-Hexanone	mg/kg (ppm)	12.5	<0.5	83	15-166
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	82	31-137
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	80	20-133
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	96	28-150
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	85	28-142
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	82	32-129
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	84	32-137
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	91	31-143
m,p-Xylene	mg/kg (ppm)	5	<0.1	85	34-136
o-Xylene	mg/kg (ppm)	2.5	<0.05	86	33-134
Styrene	mg/kg (ppm)	2.5	<0.05	87	35-137
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	89	31-142
Bromoform	mg/kg (ppm)	2.5	<0.05	102	21-156
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	86	23-146
Bromobenzene	mg/kg (ppm)	2.5	<0.05	82	34-130
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	87	18-149
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	85	28-140
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	83	25-144
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	84	31-134
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	85	31-136
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	88	30-137
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	88	10-182
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	88	23-145
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	90	21-149
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	84	30-131
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	83	29-129
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	84	31-132
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	101	11-161
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	94	22-142
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	91	19-142
Naphthalene	mg/kg (ppm)	2.5	<0.05	99	14-157
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	97	20-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/22/13

Date Received: 11/07/12

Project: Cle Elum 76 - 3rd Probe 12-164, F&BI 211105

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	mg/kg (ppm)	125	76	86	11-168	12
Dichlorodifluoromethane	mg/kg (ppm)	2.5	52	52	10-146	0
Chloromethane	mg/kg (ppm)	2.5	70	70	27-133	0
Vinyl chloride	mg/kg (ppm)	2.5	78	77	22-139	1
Bromomethane	mg/kg (ppm)	2.5	85	84	38-114	1
Chloroethane	mg/kg (ppm)	2.5	85	86	20-153	1
Trichlorofluoromethane	mg/kg (ppm)	2.5	148	94	10-196	45 vo
Acetone	mg/kg (ppm)	12.5	94	90	52-141	4
1,1-Dichloroethene	mg/kg (ppm)	2.5	95	95	47-128	0
Methylene chloride	mg/kg (ppm)	2.5	96	94	42-132	2
t-Butyl alcohol (TBA)	mg/kg (ppm)	125	98	98	41-150	0
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	95	94	60-123	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	95	95	67-127	0
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	92	91	69-115	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	94	94	68-115	0
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	99	98	48-142	1
2,2-Dichloropropane	mg/kg (ppm)	2.5	105	103	57-133	2
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	96	96	72-113	0
Chloroform	mg/kg (ppm)	2.5	96	96	66-120	0
2-Butanone (MEK)	mg/kg (ppm)	12.5	94	95	57-123	1
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	97	96	47-143	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	94	93	56-135	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	100	99	62-131	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	98	95	69-128	3
Carbon tetrachloride	mg/kg (ppm)	2.5	108	106	60-139	2
Benzene	mg/kg (ppm)	2.5	92	91	68-114	1
Trichloroethene	mg/kg (ppm)	2.5	95	95	68-114	0
1,2-Dichloropropane	mg/kg (ppm)	2.5	94	95	72-127	1
Bromodichloromethane	mg/kg (ppm)	2.5	105	104	72-130	1
Dibromomethane	mg/kg (ppm)	2.5	97	97	70-120	0
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	97	97	45-145	0
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	103	101	75-136	2
Toluene	mg/kg (ppm)	2.5	94	94	66-126	0
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	106	105	72-132	1
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	96	94	75-113	2
2-Hexanone	mg/kg (ppm)	12.5	96	95	33-152	1
1,3-Dichloropropane	mg/kg (ppm)	2.5	95	94	72-130	1
Tetrachloroethene	mg/kg (ppm)	2.5	94	94	72-114	0
Dibromochloromethane	mg/kg (ppm)	2.5	113	112	74-125	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	98	98	74-132	0
Chlorobenzene	mg/kg (ppm)	2.5	95	94	76-111	1
Ethylbenzene	mg/kg (ppm)	2.5	97	97	64-123	0
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	106	105	69-135	1
mp-Xylene	mg/kg (ppm)	5	99	98	78-122	1
o-Xylene	mg/kg (ppm)	2.5	99	99	77-124	0
Styrene	mg/kg (ppm)	2.5	100	100	74-126	0
Isopropylbenzene	mg/kg (ppm)	2.5	102	101	76-127	1
Bromoform	mg/kg (ppm)	2.5	119	116	56-132	3
n-Propylbenzene	mg/kg (ppm)	2.5	99	98	74-124	1
Bromobenzene	mg/kg (ppm)	2.5	94	93	72-122	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	100	99	76-126	1
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	97	97	56-143	0
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	95	94	61-137	1
2-Chlorotoluene	mg/kg (ppm)	2.5	96	96	74-121	0
4-Chlorotoluene	mg/kg (ppm)	2.5	98	96	75-122	2
tert-Butylbenzene	mg/kg (ppm)	2.5	100	100	73-130	0
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	100	99	76-125	1
sec-Butylbenzene	mg/kg (ppm)	2.5	102	100	71-130	2
p-Isopropyltoluene	mg/kg (ppm)	2.5	103	102	70-132	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	96	95	75-121	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	95	94	74-117	1
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	96	96	76-121	0
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	116	115	61-136	1
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	106	106	70-129	0
Hexachlorobutadiene	mg/kg (ppm)	2.5	103	102	50-153	1
Naphthalene	mg/kg (ppm)	2.5	111	113	60-125	2
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	108	110	62-130	2

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 - More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

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

pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE: B16-S1-2
PROJECT: CLE FLUM 76-3RD PROBE
AEG
JANUARY 8, 2013
GC/FID

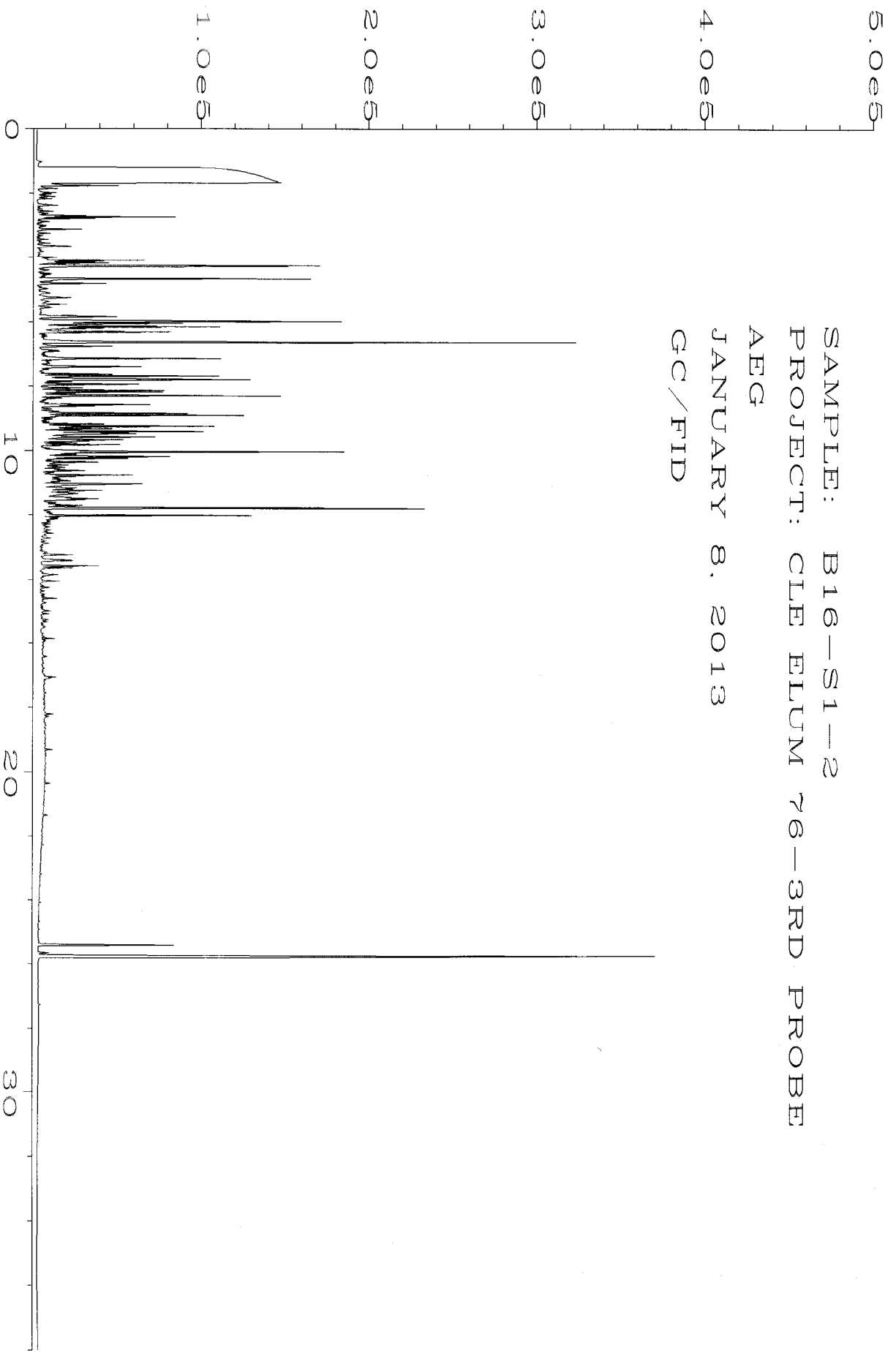
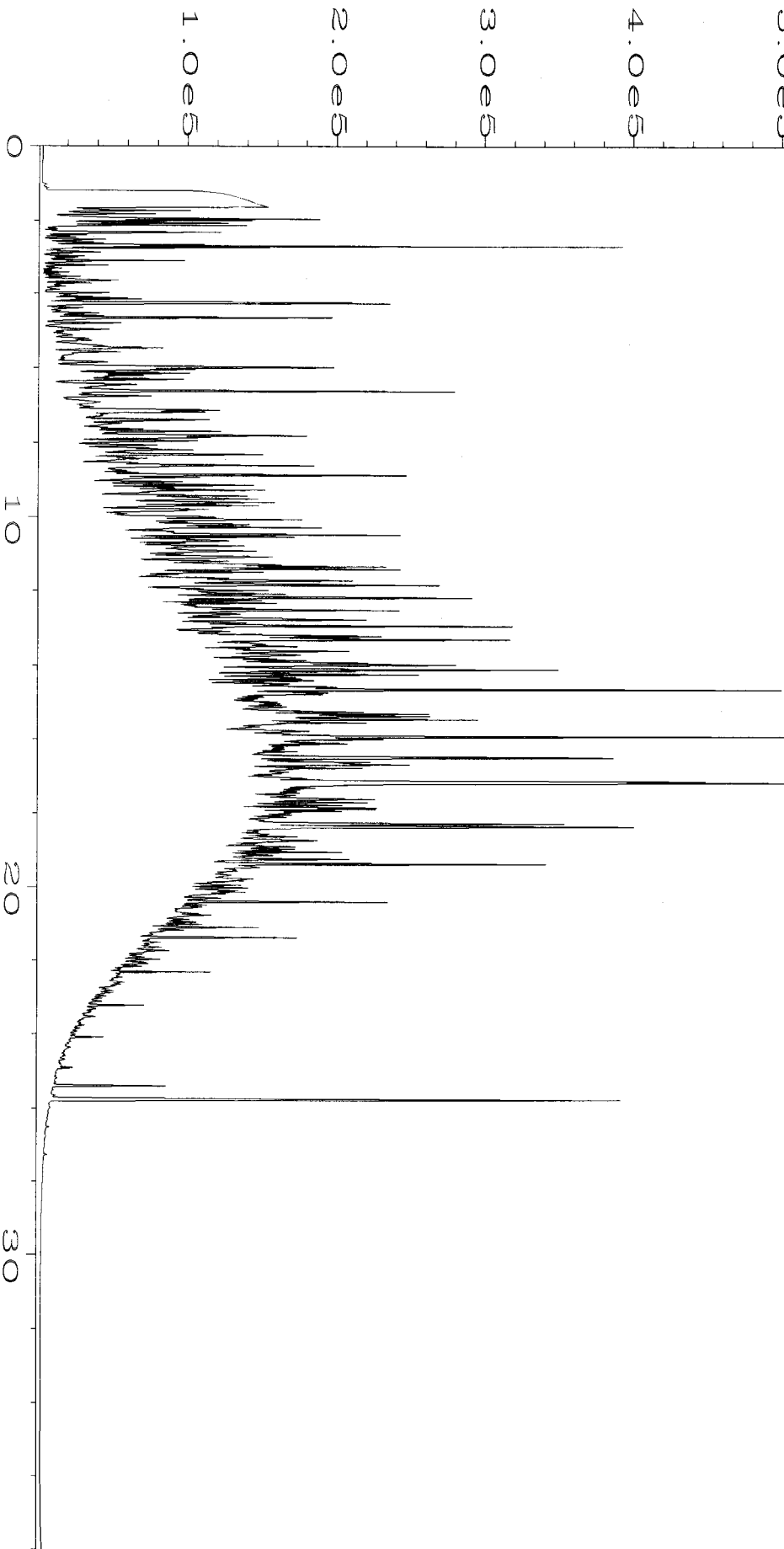
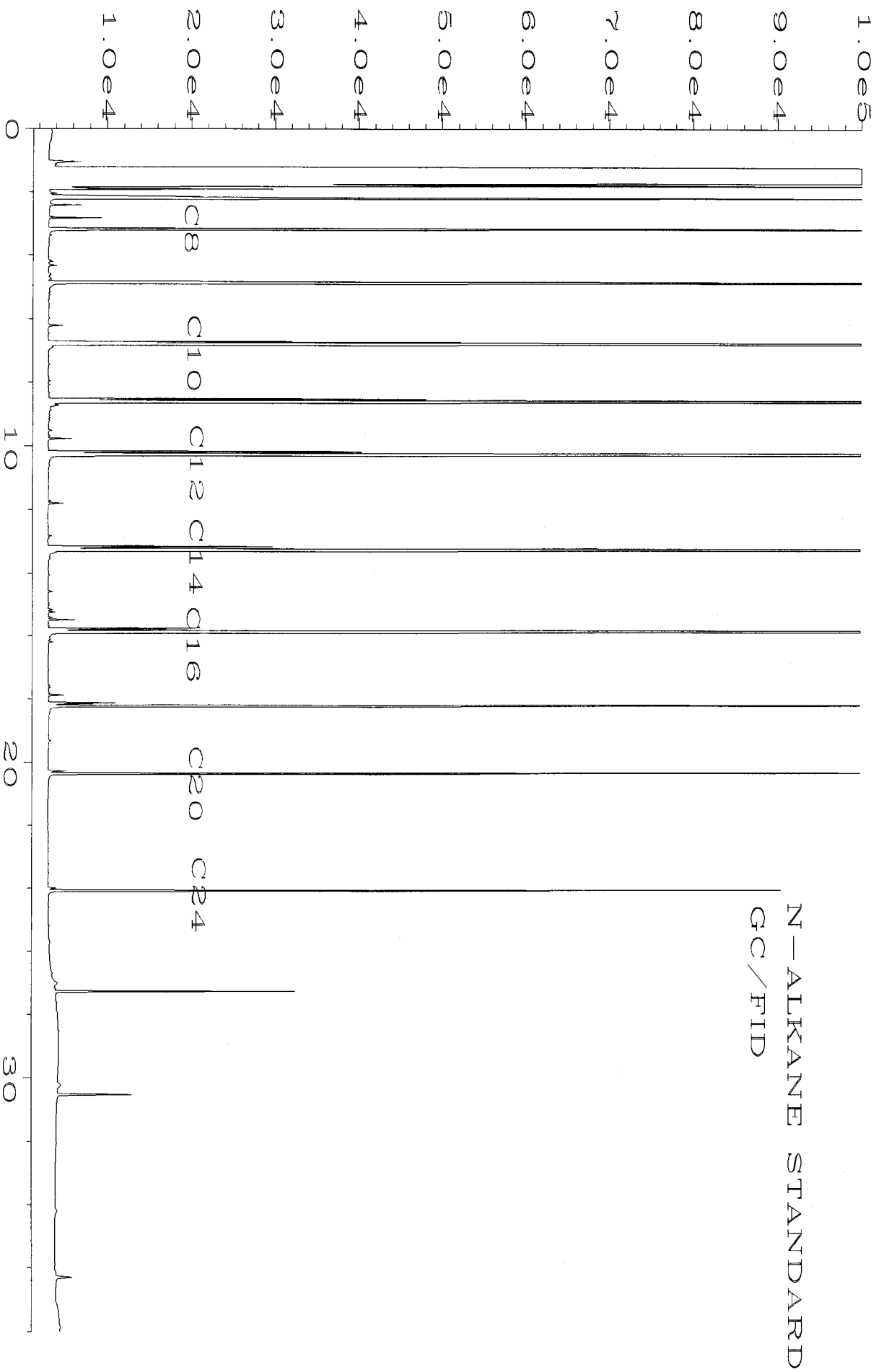


Fig. 1 in C:\HPCHEM\5\DATA\01-08-13\008FO401.D

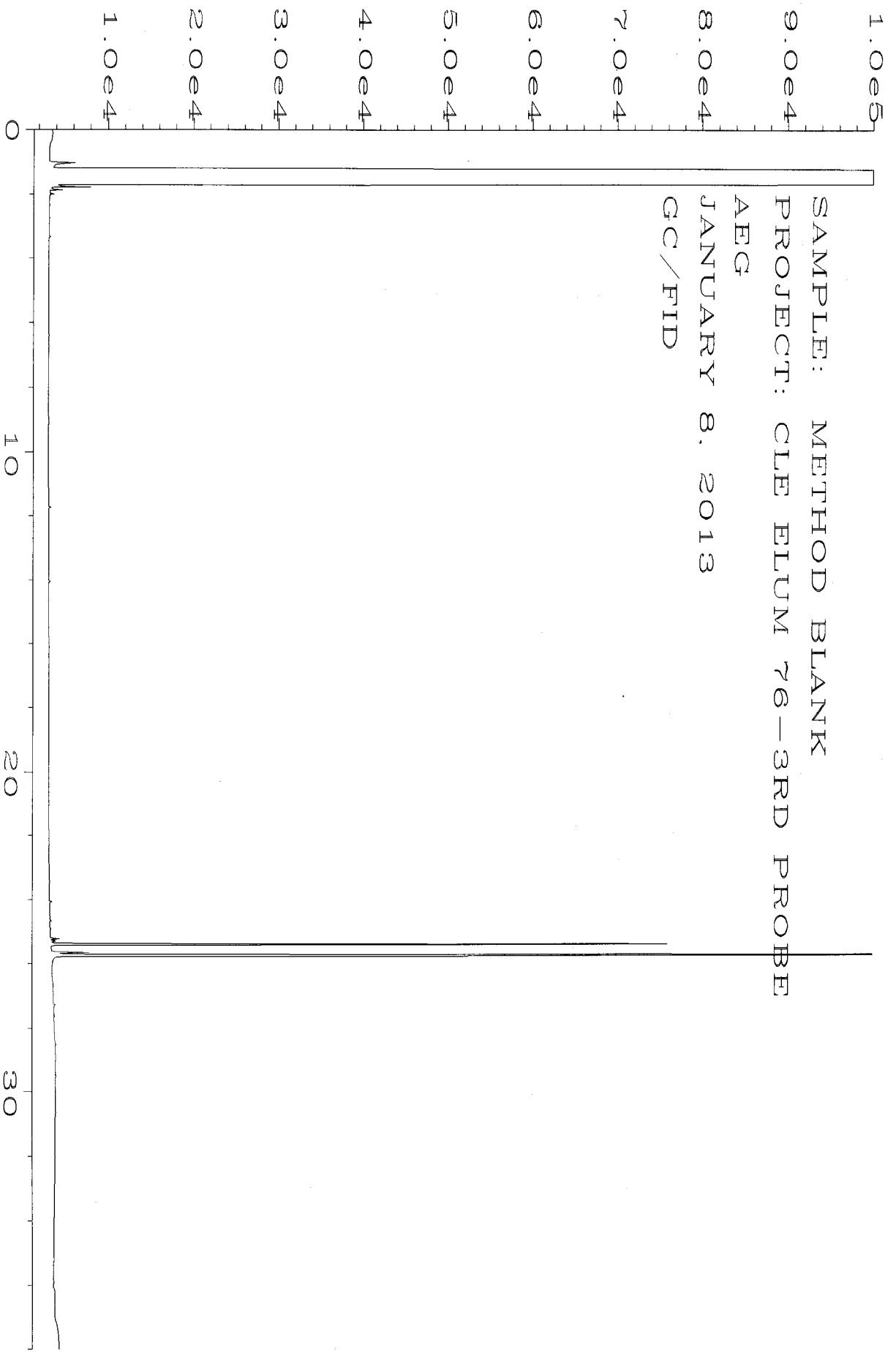
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PROJECT: CLE ELUM 76-3RD PROBE
AEG
JANUARY 8, 2013
GC/FID



Sig. 1 in C:\HPCHEM\5\DATA\01-08-13\009F0401.D



Sig. 1 in C:\HPCHEM\5\DATA\01-08-13\100F0201.D



Sig. 1 in C:\HPCHEM\5\DATA\01-08-13\003FO401.D

211105

SAMPLE CHAIN OF CUSTODY NE 11/07/12 US3/BOS/AZP/12

Send Report To Ms. Yen-Vy Van

Company AE6

Address 605 11th Ave SE Suite 201

City, State, ZIP Olympia, WA. 98501

Phone # 360 352 9635 Fax # 360 352 8164

SAMPLERS (signature) L. Chaudron

Page # 1 of 3

PROJECT NAME/NO. CLB BLM 76-3rd Floor PO# 12-1664

REMARKS NUM - 0 OF Huddery + even 11

TURNAROUND TIME
 Standard (2 Weeks)
 RUSH
 Rush charges authorized by _____

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						Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B <i>Extended VOCs by 8260</i>	SVOCs by 8270	HFS	ICPMS org. Pb	
B16-51-2	11A-E	11/06/12	10:03	soil	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B16-52-4	09		10:06			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B16-53-7.5	03		10:16			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B17-51-2	04		10:50			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B17-52-4	05		10:55			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B17-53-9	06		11:04			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B18-51-2	07		12:01			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B18-52-4	08		12:04			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B18-54-10	09		12:21			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B19-51-2	10		13:12			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Friedman & Bryna, Inc.
 3012 16th Avenue West
 Seattle, WA 98119-2029
 At (206) 285-8282
 Fax (206) 283-5044
 FORAS00C00C.DOC

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
<u>L. Chaudron</u>		<u>Leo Chaudron</u>		<u>AE6</u>		<u>11/07/12</u>	<u>10:21</u>
<u>[Signature]</u>		<u>Kurt Johnson</u>		<u>AE6</u>		<u>11/7/12</u>	<u>10:21</u>
Received by:		Received by:		Received by:			

Samples received at 51 °C

