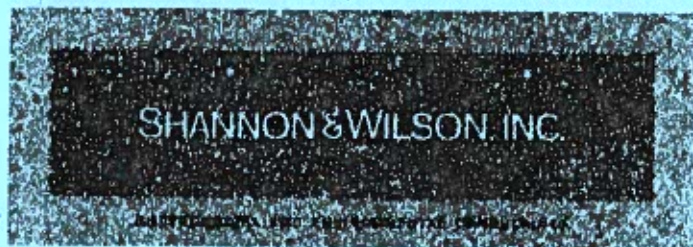


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SEPTIC CRIB CHARACTERIZATION REPORT
5250 AIRPORT INDUSTRIAL ROAD
(LOTS 6,7, AND 13, BLOCK 10)
FAIRBANKS INTERNATIONAL AIRPORT

November 2003



At Shannon & Wilson, our mission is to be a progressive, well-managed professional consulting firm in the fields of engineering and applied earth sciences. Our goal is to perform our services with the highest degree of professionalism with due consideration to the best interests of the public, our clients, and our employees.

Submitted To:
Alaska Industrial Development & Export Authority
813 Northern Lights Blvd.
Anchorage, Alaska 99503

By:
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31-1-11159-003

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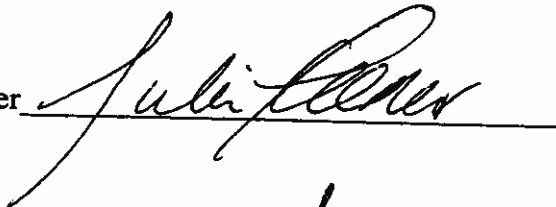
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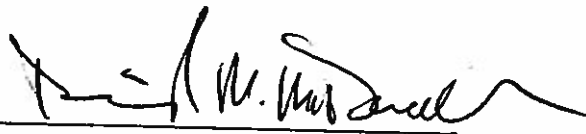
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Shannon & Wilson Project Number: 31-1-11159-003

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**SEPTIC CRIB CHARACTERIZATION REPORT
5250 AIRPORT INDUSTRIAL ROAD
(LOTS 6, 7, AND 13, BLOCK 10)
FAIRBANKS INTERNATIONAL AIRPORT**

1.0 INTRODUCTION

1.1 Objective and Scope

Shannon & Wilson has been retained by the Alaska Industrial Development and Export Authority (AIDEA) to perform several tasks at 5250 Airport Industrial Road (Lots 6, 7, and 13, Block 10, Fairbanks International Airport [FIA]). The objective of this phase of the project was to characterize the area of the septic crib for potential petroleum hydrocarbon and hazardous substance impact. This report summarizes our field activities and findings associated with the septic crib characterization. The work was conducted in accordance with our proposal to AIDEA dated October 3, 2002, and our Work Plan submitted to the Alaska Department of Environmental Conservation (ADEC) entitled *Septic Crib Characterization Work Plan, 5250 Airport Industrial Road, Lots 6, 7, and 13, Block 10, Fairbanks International Airport, Alaska*, dated August 5, 2003. The work plan was approved by ADEC.

1.2 Site Description

The warehouse/shop building located at 5250 Airport Industrial Road is owned by AIDEA and currently unoccupied. The property is an Alaska Department of Transportation and Public Facilities (ADOT&PF) FIA lease lot (ADA-02710). The property is fenced, and the majority is paved. There is a water well on the site. Figure 1 shows the major site features.

A wooden septic crib appeared to serve as the septic system at the subject site. The septic crib has collapsed, creating a 1-foot by 3-foot-opening in the asphalt-paved parking lot (Appendix A, Photo 1). A portion of the timber crib is visible inside this hole. Aside from the wooden crib, the location and configuration of the septic system components are not known. Septic risers are not visible. One cleanout was observed just outside the building wall facing Airport Industrial Road. This septic system was abandoned when the warehouse/shop building was connected at this cleanout to College Utilities, Inc. (see Section 1.4).

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1.3 Previous Investigations

Six underground storage tanks (USTs), used to store gasoline, diesel, and used oil at the site, were removed in 1992 by Engineering Management Inc. (EMI). EMI installed four groundwater monitoring wells (WB-1 through WB-4) in 1993 as shown in Figure 1. Benzene, diesel range organics (DRO), and lead were present above groundwater cleanup levels in samples collected from the monitoring wells. Gasoline range organics (GRO) and chlorinated organic compounds (1,1,1-trichloroethane, cis-1,2-dichloroethene, dichloromethane, dichlorodifluoromethane, trichlorofluoromethane, and vinyl chloride) were also detected in the groundwater.

AMEC Earth & Environmental, Inc., produced a recent report on the site for the ADOT&PF. According to their August 19, 2002, report, groundwater samples were collected on July 24, 2002, from WB-2, WB-3, and WB-4 and analyzed for GRO, DRO, volatile organic compounds, and total lead. Monitoring well WB-1 was not sampled. BTEX, GRO, and DRO were not detected. Dichlorodifluoromethane was detected in WB-3 and WB-4 at 2.99 and 1.26 $\mu\text{g/L}$, respectively. Lead in WB-3 was the only analyte that exceeded cleanup levels.

1.4 Shannon & Wilson Additional Services

Under contract to Shannon & Wilson, Stack Co. installed a sewer service line from the building to the College Utilities sewer main in May 2003. Shannon & Wilson completed the College Utilities Corporation application for service and the building permit application for FIA, and submitted the required information and permit fees to the appropriate agencies. As required by a Memorandum of Agreement between the ADOT&PF and ADEC regarding the incidental excavation of contaminated soil for utility installation, Shannon & Wilson field screened the soils excavated during the sewer line installation using the methods described in Section 2.3. While a small area of stained soil was observed at the former location of the used-oil UST, field screening results and observations did not indicate soil contamination in the trench. No samples were collected for laboratory analysis.

Shannon & Wilson sampled the 47-foot-deep water well on the property (Figure 1) on April 30, 2003. As summarized in our August 4, 2003, report, VOCs and fecal coliform were not reported above their practical quantitation limits (PQL) in the sample.

2.0 FIELD ACTIVITIES

Shannon & Wilson drilled three soil borings and installed three monitoring wells around the septic crib to collect soil and groundwater samples. This task was intended to evaluate if the soil or groundwater has been impacted by contaminants from the on-site septic system. Field activities were conducted in general accordance with the ADEC *Underground Storage Tank Procedures Manual*. The locations of the soil borings/monitoring wells are shown in Figure 1.

2.1 Septic System Observations

On June 9, 2003, Julie Keener of Shannon & Wilson observed the crib and attempted to sample its contents. The top of the crib timbers was measured at about 3 feet below the surface of the parking lot. No odor was observed, and no liquid was visible in the opening. Soil was visible at about 6 to 7 feet below the ground surface. A hand auger was used to attempt to sample sediment or sludge inside the crib. A sample was recovered at about 10 feet below the ground surface (bgs), as deep as possible using the hand auger. The soil had no noticeable odor or debris and a negligible PID reading 0.3 parts per million (ppm). The sample appeared to be the sandy gravel fill that has sloughed into the sinkhole and was therefore not submitted for laboratory analysis.

Inside the building were two separate shop/warehouse areas. Each area had a strip floor drain and a combined oil/water separator and sediment trap (Appendix A, Photos 2 and 4). The trap in the south half of the building was empty and clean (Appendix A, Photo 3). The sediment trap in the north half of the building was not opened; however, the shop floor was clean.

2.2 Soil Boring Installation and Sampling

Three soil borings (B-1 through B-3) were drilled at the site using a truck-mounted Mobile B-61 drill rig equipped with an 8-inch O.D. by 3¼-inch I.D., hollow-stem-auger. Drilling operations were supervised and logged by Ms. Keener. Boring B-1 was installed about 60 feet upgradient of the septic crib. Borings B-2 and B-3 were installed in the inferred downgradient locations, approximately 25 feet from the crib.

The soil borings were drilled to a depth of 21.5 feet bgs. Documentation of the drilling of each borehole was made on a soil boring log. Soil sampling consisted of collecting split-spoon samples at 2.5-foot intervals from the surface to 10 feet bgs, and at 5-foot intervals to the base of the borings. The sampling was accomplished by driving a 3.0-inch O.D. by 2.5-inch I.D., split-spoon sampler into the soil at the base of the auger with a 300-pound drop hammer falling 30

inches onto the drill rods. For each sample, the number of blows required to advance the sampler the final 12 inches is termed the penetration resistance and measures the relative consistency of unfrozen fine-grained soils and the relative density of unfrozen granular soils. Soil samples recovered using this technique were classified in the field, transferred to laboratory-provided sample containers and placed in a cooler with ice-substitute, and transported to our office under chain-of-custody. Logs of the soil borings, including sample descriptions, are presented in Figures 2 through 4.

The drill cuttings were stored at the site in 55-gallon drums pending evaluation of the analytical results. Less than one-half drum of soil was generated from each boring.

2.3 Field Screening

A photoionization detector (PID) was used to perform headspace screening on the soil samples. Field screening of soils was performed using a Photovac Model 2020 PID to measure the relative abundance of total VOCs as an indication of hydrocarbon contamination. The PID was calibrated to a 100 parts per million (ppm) isobutylene-in-air standard in accordance with the manufacturer's instructions. Soil collected for field screening was placed into resealable plastic bags using a clean stainless steel spoon. The soil was allowed to warm to at least room temperature, the probe of the PID was then inserted into the bag's headspace, and the highest PID measurement was recorded. Field screening results ranged from less than one ppm to 71 ppm. The sample collected at 15 feet bgs in boring B-2 exhibited a slight odor, possibly of weathered used oil. The sample from 15 feet in B-3 exhibited a slight septic odor.

Based on field screening results and visual/olfactory evidence, two soil samples from each boring were selected for laboratory analysis. These were the samples collected at 10 feet bgs in each boring, as well as the 7.5-foot-bgs sample from B-1 and the 15-foot-bgs samples from B-2 and B-3. Sample characteristics and depth with respect to the septic crib suggest these samples may be at the depth potentially affected by the crib.

A field duplicate sample was collected from Boring B-2 and identified as *1159-080703-005*. The soil samples were delivered under chain-of-custody to SGS in Fairbanks. The samples were analyzed in the SGS Anchorage and Michigan laboratories by the methods listed in Section 2.5.

2.4 Monitoring Well Installation and Sampling

After drilling and collecting soil samples, a 2-inch-diameter PVC well casing was installed in each boring for completion as a groundwater monitoring well. Monitoring wells were numbered MW-5 through MW-7.

The lower 10-foot section of the casing was made of slotted PVC well screen. Flush-mounted protective monuments were installed around the monitoring well heads. The monitoring wells were constructed in general accordance with ADEC's *Recommended Practices for Monitoring Well Design, Installation, and Decommissioning*, April 1992. On August 21st the monitoring wells were developed by pumping until the water ran clear. One 55-gallon drum of water was pumped from each monitoring well. Development water was stored in drums at the site.

The newly installed monitoring wells were sampled on August 27, 2003. Monitoring wells installed in 1993 by EMI were not sampled. The depths to groundwater ranged from 6.23 to 7.67 feet below the top of the monitoring well casings. Prior to sampling, the wells were purged using a submersible pump and new vinyl tubing until the water quality parameters (temperature, conductivity, dissolved oxygen, and pH) stabilized. The purge water was contained in 5-gallon buckets and stored on the site.

The groundwater samples were collected directly into laboratory-supplied containers using the submersible pump. Following collection, the samples were placed immediately into a cooler with ice-substitute to maintain sample temperatures at or near 4 degrees Celsius. The samples were maintained at this temperature until received by the laboratory.

A field duplicate sample was collected from monitoring well MW-7 and identified as 1159-082703-010. The samples, accompanied by a laboratory-provided trip blank, were delivered under chain-of-custody to SGS in Fairbanks. The samples were analyzed in the SGS Anchorage laboratory by the methods listed in Section 2.5, and the trip blank was analyzed for GRO and VOCs.

2.5 Laboratory Analysis

The soil and groundwater samples were submitted to SGS for GRO by Alaska Method 101 (AK 101), DRO by AK 102, residual range organics (RRO) by AK 103, VOCs by EPA Method 8260, and total RCRA metals by EPA 6000/7000 series. The soil samples were also analyzed for polychlorinated biphenyls (PCBs) by EPA Method 8082. QC samples were collected at a rate of

one for every ten investigative samples submitted for analysis. One soil and one groundwater QC field duplicate were collected.

2.6 Surveying

On October 23rd, a level-loop survey was performed to determine the relative elevations of the tops of the well casings within 0.01 foot. The previously installed monitoring wells were also surveyed. The survey results were used to evaluate groundwater direction at the site.

Groundwater depths ranged from 8.86 to 11.42 feet below the top of the monitoring well casings. Groundwater elevations were lower than those measured in August.

3.0 RESULTS

3.1 Subsurface Conditions

Soils observed in the 8-foot-deep trench for the sewer service installation were about one foot of fill over slightly gravelly silt. Under about 2 inches of asphalt pavement, soils in the borings consisted of as much as 4 feet of gravelly sand fill underlain by interbedded silty sands and gravelly sands, typical of alluvial sediment. Soil boring logs are included in Figures 2 through 4. PID readings on the warmed field screening samples ranged from less than one ppm to 71 ppm.

Based on information obtained from the Williams Alaska Petroleum, Inc., Bulk Fuel Facility, about one-quarter mile southwest of this site, groundwater in the area flows generally to the west, toward the Chena River. Groundwater was measured at about 7 to 8 feet bgs in Shannon & Wilson's monitoring wells in August and 9 to 10.5 feet bgs in October. Based on the elevations obtained from the level survey, groundwater in the vicinity of the crib was calculated to flow to the west in August and October.

3.2 Soil Sample Analytical Results

GRO, DRO, RRO, VOCs, and PCBs were not reported above the laboratory practical quantitation limits (PQLs) in the soil samples. Cadmium, selenium, silver, and mercury were not reported above their PQLs. Arsenic was reported in six of seven samples at 2.51 to 8.88 mg/kg. Barium, chromium, and lead were reported in all samples at 43.9 to 94.7 mg/kg, 7.35 to 20.2 mg/kg, and 2.69 to 6.97 mg/kg, respectively. Soil sample analytical results are summarized in Table 1. The SGS analytical reports are included in Appendix B.

3.3 Groundwater Sample Analytical Results

GRO, DRO, and RRO were not reported above their PQLs in the groundwater samples. Three VOCs were reported in the groundwater samples: chloromethane, dichlorodifluoromethane, and trichlorofluoromethane. Arsenic, chromium, lead, silver, and mercury were not reported above their PQLs. Barium was reported in all the water samples ranging from 196 to 346 µg/L. Cadmium and selenium were reported in monitoring well MW-7 at 2.06 and 14.3 µg/L, respectively. Groundwater sample analytical results are summarized in Table 2. The SGS analytical reports are included in Appendix B.

4.0 QUALITY ASSURANCE/QUALITY CONTROL

Field quality control (QC) procedures for this project included the analysis of two duplicate sample pairs. The QC samples were collected in order to assess the precision of the laboratory's analytical procedures and the potential for cross-contamination during storage and handling.

The duplicate samples were analyzed to evaluate error associated with sampling and laboratory variability. Field duplicate precision can be expressed as a relative percent difference (RPD) between duplicates if both samples contain analytes above their PQL. Duplicate soil samples *1159-080703-004* and *1159-080703-005* were collected from 10 to 11.5 feet in soil boring B-2. The RPDs for barium, chromium, and lead were 15, zero, and 11 percent, respectively. The RPDs for the remaining soil analytes could not be calculated. Groundwater samples *1159-082703-009* and *1159-082703-010* were collected from monitoring well MW-7. The RPDs for trichlorofluoromethane and barium were zero and 3 percent, respectively. The RPDs for the remaining groundwater analytes could not be calculated. Where calculable, the RPDs were within our acceptable limits.

A trip blank was submitted with the groundwater samples. Analytes were not reported above PQLs in the trip blank, indicating contamination from outside sources or cross-contamination did not occur.

Laboratory QC included procedures outlined in SGS's ADEC-approved standard operating procedures documentation. As presented in the laboratory report's QC data package summary sheets (Appendix C), the majority of the laboratory QC parameters fell within SGS's acceptable limits. For the soil samples, surrogate recoveries were within control limits, with the exception of one of the four VOC surrogates in three of seven samples and one of two GRO field surrogates slightly below control limits in one of seven samples.

For three groundwater samples, surrogate recovery for trichlorofluoromethane was biased high; this analyte may be biased high in the corresponding samples. The laboratory chemist noted that the chloromethane concentrations are estimated values due to carryover from another sample. The groundwater samples were reanalyzed (albeit past their holding time). The reanalysis verified the presence of dichlorodifluoromethane and trichlorofluoromethane and the absence of chloromethane. It is the opinion of the laboratory chemist and Shannon & Wilson's QA Officer that the chloromethane detected in the original analysis was an artifact attributable to contamination carryover from another non-project sample. The chloromethane concentrations were flagged as "estimated" in Table 2 since they resulted from contamination of the laboratory instrument; based on the results of the reanalysis, it is our opinion chloromethane was absent in the groundwater samples.

The deviations from the QC goals did not affect the data. Temperatures of the sample coolers were acceptable, and all samples were analyzed within holding time. Laboratory PQLs were less than the corresponding soil or groundwater cleanup levels (described in Section 5.0). The data are considered acceptable for the purposes of this study.

5.0 DISCUSSION

Regulatory issues potentially concerning the on-site septic system are discussed below. In addition, analytes reported in soil and groundwater are evaluated with respect to applicable soil and groundwater cleanup levels in the following sections.

5.1 Regulatory Issues

EPA's Underground Injection Control Program (UIC) was established to protect underground sources of drinking water (USDW) from subsurface disposal of wastes. EPA groups underground injection into five classes (I-V). The UIC regulations separate shallow injection wells such as leach fields into two groups: hazardous disposal (Class IV injection wells) and nonhazardous disposal (Class V) injection wells. Class IV injection wells are prohibited. Class V injection wells are "authorized by rule" provided they meet certain reporting requirements and do not endanger USDWs.

The bathrooms in the building as well as the floor drains in the shop/warehouse areas appeared to be plumbed to the on-site septic system. It is not known whether hazardous materials or

hazardous wastes were discharged to the floor drains in the past. Depending upon whether hazardous fluids were disposed to the floor drains, the septic crib may be classified as a Class IV or V injection well by the EPA.

The floor drains in the warehouse/shop building are no longer plumbed to the on site septic system. The crib therefore no longer receives wastewater. While the contents of the crib are not known, Shannon & Wilson's investigation focused on soil and groundwater in the immediate vicinity.

5.2 Soil Samples

Soil cleanup levels are established under 18 AAC 75.340 and 18 AAC 75.341. Table B1 in the regulations contains cleanup levels for various compounds. Cleanup levels are presented in Table 1 for comparison.

Petroleum hydrocarbons, VOCs, PCBs, and seven of the eight RCRA metals were not reported above cleanup levels in the soil boring samples.

Concentrations of arsenic in six of the seven samples exceeded its 2 mg/kg ADEC soil cleanup level. According to the United States Geology Survey (USGS) Professional Paper 1458, *Element Concentration in Soils and Other Surficial Material of Alaska* (1988), the range of arsenic concentrations in Alaska soils was less than 10 to 750 mg/kg, with an arithmetic mean of 9.6 mg/kg. In addition, areas of Fairbanks are known to have elevated levels of arsenic in soil and groundwater. Arsenic concentrations in soils boring samples were therefore within naturally occurring levels.

5.3 Groundwater Samples

The State of Alaska groundwater cleanup levels are presented in 18 AAC 75.345. The applicable cleanup levels are included in Table 2 for comparison. ADEC cleanup levels have not been established for the three VOCs reported in the groundwater samples. In their absence, EPA Region 3 Risk-Based Concentrations (RBCs) for tap water have been used for comparison. The RBC Table (October 2003) provides risk-based screening concentrations (RBCs) for exposure to chemicals in various media; these values represent concentrations corresponding to fixed levels of risk (i.e., a Hazard Quotient of 1, or a lifetime cancer risk of 10^{-6} , whichever occurs at a lower concentration). RBCs represent neither regulation nor guidance.

Analytes detected in the groundwater samples collected from the monitoring wells did not exceed ADEC groundwater cleanup levels or EPA Region 3 RBCs. Estimated concentrations of chloromethane were reported by the laboratory; however, this analyte is a laboratory containment carry over from another nonproject sample.

The analytical results from the water well sampling earlier this year did not indicate that groundwater contamination was present at the water well.

5.4 Investigation Derived Wastes

Following receipt of the soil and groundwater laboratory results, it was determined that ADEC soil and groundwater cleanup levels were not exceeded. The soil cuttings were spread and the development water was discharged on an unpaved area of the site.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Shannon & Wilson characterized the type and level of potential contaminants in the soil and groundwater in the vicinity of the septic crib at 5250 Airport Industrial Road, Fairbanks, Alaska. This report presents our professional judgement as to the conditions at the site based on information obtained from limited field observations and sampling. Based on our field observations and soil and groundwater characterization sampling, Shannon & Wilson presents the following conclusions:

- Groundwater flows generally to the west.
- The crib no longer receives wastewater from the building.
- The subsurface soil approximately 25 feet away has not been affected the septic crib.
- The former septic crib has not affected groundwater at the site.

Based on our conclusions we provide the following recommendation:

- Backfill and pave the septic crib sinkhole to prevent the infiltration of parking lot runoff.

7.0 LIMITATIONS

The data presented in this report are based on the sampling and analysis that we performed; they should not be construed as a guarantee of the soil and groundwater quality at the site. Our

sampling was intended to confirm the presence or absence of selected contaminants at the sampled locations. It is possible our tests do not represent the highest levels of contamination. In addition, conclusions cannot be drawn on the presence or absence of contaminants for which laboratory analyses were not performed. As a result, the analysis and sampling performed can only provide you with our judgment as to the environmental characteristics of the site, and in no way guarantees that an agency or its staff will reach the same conclusions.

Changes due to natural forces or human activity can occur on the site. The data presented in this report should be considered representative only of the time the data were collected. In addition, changes in government codes, regulations, or laws may occur. Because of such changes beyond our control, our observations and interpretations may need to be revised.

To assist you and others in further understanding the uses and limitations of our report, Shannon & Wilson, Inc. has prepared the attached document *Important Information About Your Geotechnical/Environmental Report* in Appendix D. Please do not hesitate to contact us if you have any questions regarding this report.

**TABLE 1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS**

Sample Number	Sample Location	Sample Depth (ft)	Gasoline Range Organics (mg/kg)	Diesel Range Organics (mg/kg)	Residual Range Organics (mg/kg)	Volatile Organic Compounds (mg/kg)	Polychlorinated Biphenyls (mg/kg)
1159-080703-002	Boring B-1, S3	7.5-9	<1.1	<25.9	<25.9	<0.0027 to <0.340	<0.0537
1159-080703-003	Boring B-1, S4	10-11.5	<1.3	<25.2	<25.2	<0.0030 to <0.380	<0.0539
1159-080703-004*	Boring B-2, S4	10-11.5	<1.2	<28.3	<28.3	<0.0030 to <0.370	<0.0565
1159-080703-005*	Boring B-2, S4	10-11.5	<1.4	<28.0	<28.0	<0.0034 to <0.430	<0.0591
1159-080703-006	Boring B-2, S5	15-16.5	<1.5	<42.8	<42.8	<0.0035 to <0.440	<0.0638
1159-080703-007	Boring B-3, S4	10-11.5	<1.4	<42.7	<42.7	<0.0033 to <0.420	<0.0681
1159-080703-008	Boring B-3, S5	15-16.5	<1.5	<42.7	<42.7	<0.0036 to <0.450	<0.0647
ADEC soil cleanup level			300	250	11,000	(varies)	10

Notes: mg/kg milligrams per kilogram
 < Analyte not reported above given Practical Quantitation Limit (PQL)
 * Field duplicate samples

TABLE 1 (cont'd)
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

Sample Number	Sample Location	Sample Depth (ft)	RCRA Metals (mg/kg)							
			Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
1159-080703-002	Boring B-1, S3	7.5-9	3.41	43.9	<0.209	7.35	2.86	<0.524	<0.105	<0.0422
1159-080703-003	Boring B-1, S4	10-11.5	2.51	61.1	<0.213	9.15	2.69	<0.532	<0.106	<0.0395
1159-080703-004*	Boring B-2, S4	10-11.5	<2.02	49.1	<0.224	7.56	2.71	<0.560	<0.112	<0.0441
1159-080703-005*	Boring B-2, S4	10-11.5	2.56	57.3	<0.230	7.56	3.03	<0.574	<0.115	<0.0457
1159-080703-006	Boring B-2, S5	15-16.5	2.36	56.7	<0.243	12.0	3.31	<0.607	<0.121	<0.0504
1159-080703-007	Boring B-3, S4	10-11.5	8.88	94.7	<0.266	20.2	6.97	<0.664	<0.133	<0.0545
1159-080703-008	Boring B-3, S5	15-16.5	3.61	59.3	<0.247	10.1	3.46	<0.617	<0.123	<0.0492
ADEC soil cleanup level			2	1100	5	26	400	3.5	21	1.4

Notes:

mg/kg

RCRA

<

*

milligrams per kilogram

Resource Conservation and Recovery Act

Analyte not reported above given Practical Quantitation Limit (PQL)

Field duplicate samples

TABLE 2
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS

Sample Number	Sample Location	Gasoline Range Organics (mg/L)	Diesel Range Organics (mg/L)	Residual Range Organics (mg/L)	VOCs † (mg/L)		
					Chloro methane	Dichlorodi fluoromethane	Trichlorofluoro methane
1159-082703-009*	Monitoring Well MW-7	<0.0900	<0.300	<0.500	0.00286 E	<0.00100	0.0158
1159-082703-010*	Monitoring Well MW-7	<0.0900	<0.300	<0.500	0.00301 E	<0.00100	0.0158
1159-082703-011	Monitoring Well MW-6	<0.0900	<0.300	<0.500	0.00279 E	0.00118	<0.00100
1159-082703-012	Monitoring Well MW-5	<0.0900	<0.300	<0.500	0.00337 E	0.00149	0.0150
Trip Blank	-	<0.0900	-	-	<0.00100	<0.00100	<0.00100
ADEC groundwater cleanup level		1.3	1.5	1.1	0.19 ‡	0.35 ‡	1.3 ‡

Notes

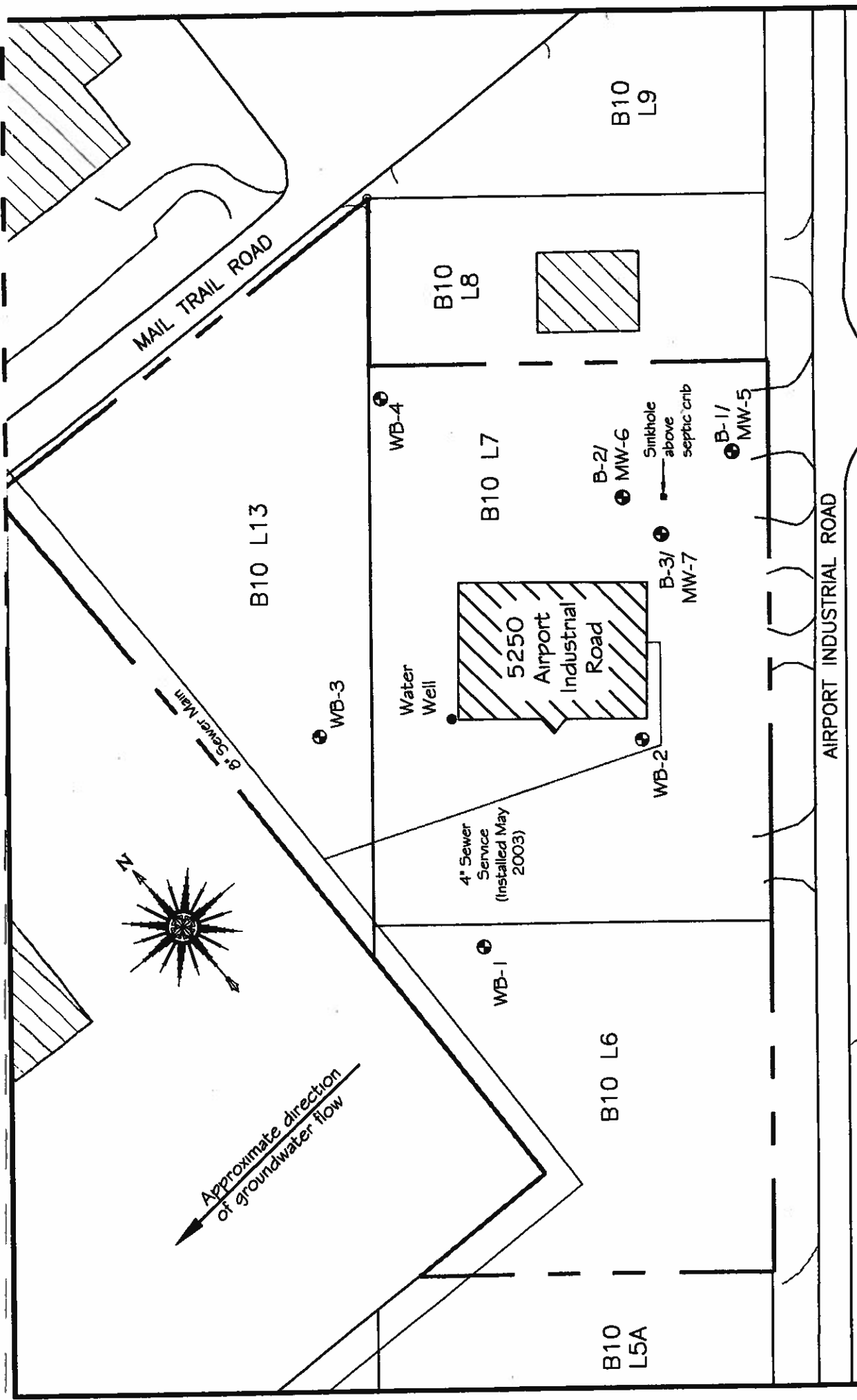
- E Estimated concentration due to carryover from another (non-project) sample.
- mg/L Absence verified upon reanalysis.
- milligrams per liter
- < Not applicable or not analyzed
- * Analyte not reported above given Practical Quantitation Limit (PQL)
- † Field duplicate samples
- ‡ Only those VOCs reported above the PQL are tabulated
- October 2003 EPA Region 3 Drinking Water Risk-Based Concentration (RBC)

TABLE 2 (cont'd)
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS

Sample Number	Sample Location	RCRA Metals (µg/L)							
		Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
1159-082703-009*	Monitoring Well MW-7	<20.0	196	<2.00	<7.00	<2.00	<10.0	<2.00	<0.200
1159-082703-010*	Monitoring Well MW-7	<20.0	202	2.06	<7.00	<2.00	14.3	<2.00	<0.200
1159-082703-011	Monitoring Well MW-6	<20.0	256	<2.00	<7.00	<2.00	<10.0	<2.00	<0.200
1159-082703-012	Monitoring Well MW-5	<20.0	346	<2.00	<7.00	<2.00	<10.0	<2.00	<0.200
ADEC groundwater cleanup level		50	2000	5	100	15	50	180	2

Notes

- µg/L micrograms per liter
- RCRA Resource Conservation and Recovery Act
- < Analyte not reported above given Practical Quantitation Limit (PQL)
- * Field duplicate samples



LEGEND

- WB-3 Previously-Installed Monitoring Well
- B-1/ Shannon & Wilson-Installed Soil Boring/Monitoring Well
- Site Boundary

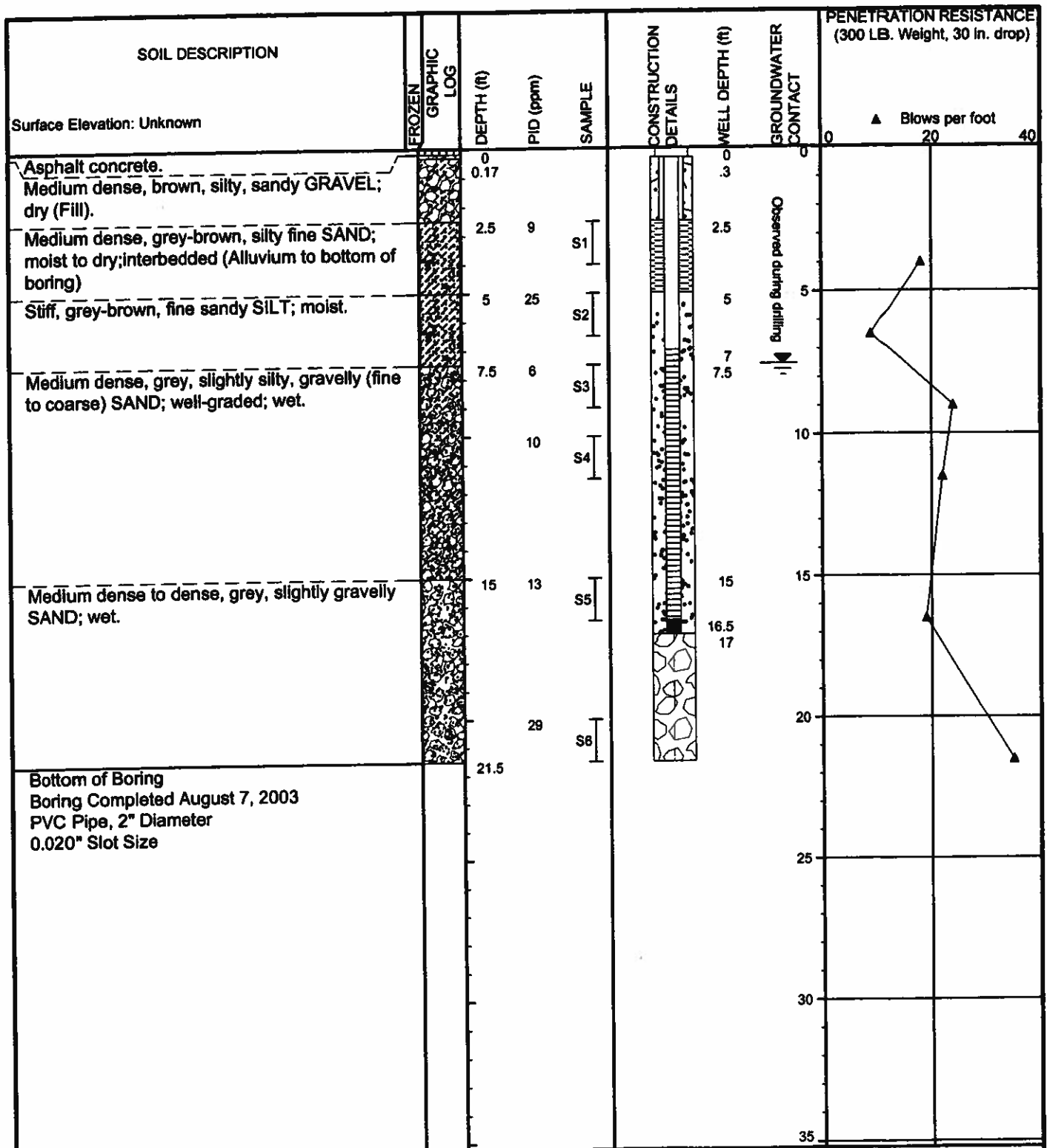
Scale in Feet

5250 Airport Industrial Road
Fairbanks, Alaska

SITE PLAN
November 2003 31-1-11159-003

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 1



- Legend**
- | | | | | |
|---------------|-------------------|--|--|---|
| Frozen Ground | | Asphalt Concrete | | pipe set in cement grout w/ protective casing |
| | | Sandy, Silty Gravel | | Bentonite pellets |
| | | Silty sand and/or sandy silt | | Silica sand, blank PVC |
| | | Sandy gravel, gravelly sand, and/or sand | | Slotted pipe w/ sand |
| | | Water table at boring completion | | Endcap on pipe packed in sand |
| | | 3 in. O.D. Split Spoon Sample | | END OF HOLE IN GRAVEL |
| | Flush-mount cover | | | |

Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.

**Septic Crib Characterization
5250 Airport Industrial Road
Fairbanks International Airport, Alaska**

LOG OF BORING B-1/MW-5

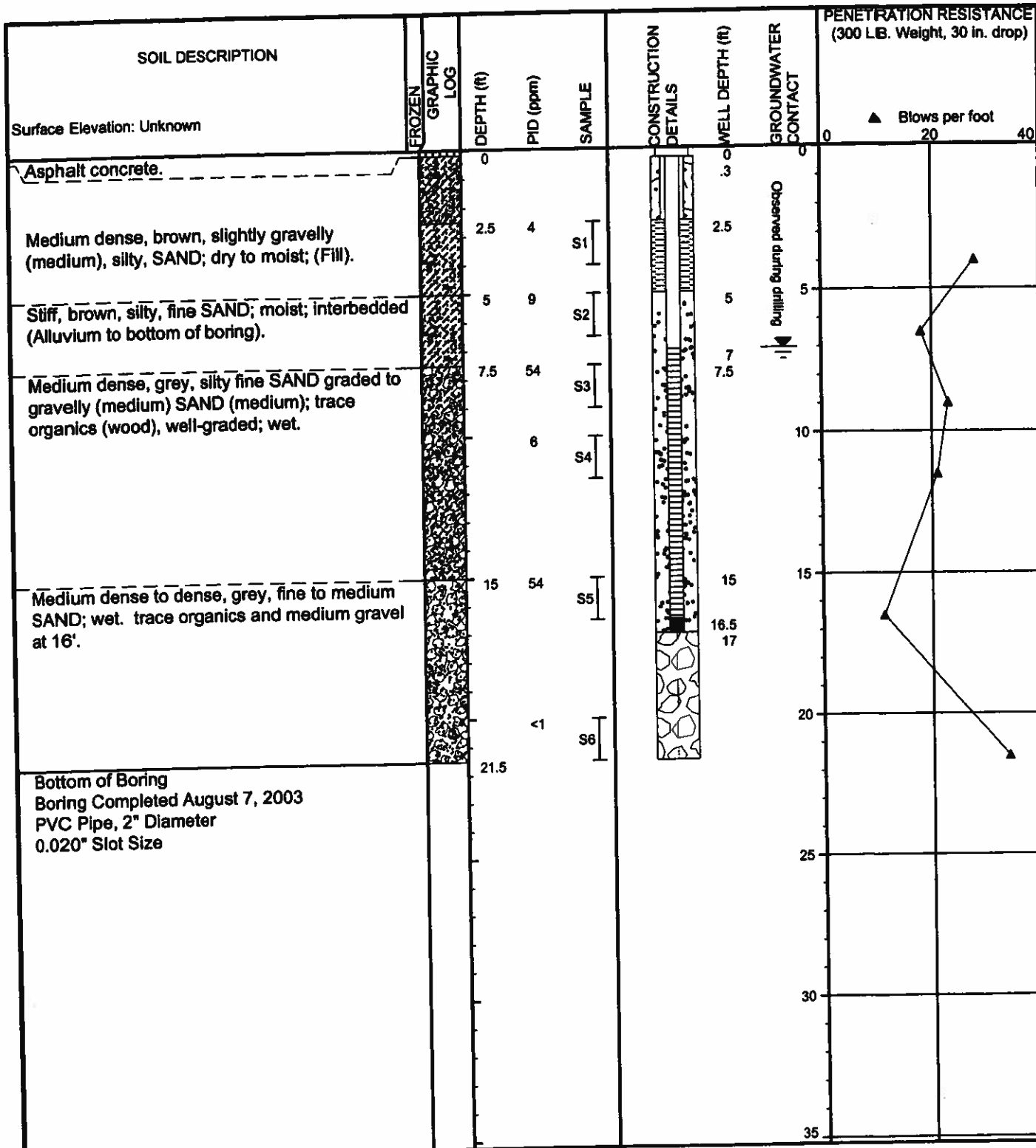
November 2003

31-1-11159

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 2

Sheet 1 of 1



- Legend**
- | | | | |
|--|--|--|---|
| | Asphalt Concrete | | pipe set in cement grout w/ protective casing |
| | Sandy, Silty Gravel | | Bentonite pellets |
| | Silty sand and/or sandy silt | | Silica sand, blank PVC |
| | Sandy gravel, gravelly sand, and/or sand | | Slotted pipe w/ sand |
| | Water table at boring completion | | Endcap on pipe packed in sand |
| | 3 in. O.D. Split Spoon Sample | | END OF HOLE IN GRAVEL |
| | Flush-mount cover | | |

Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.

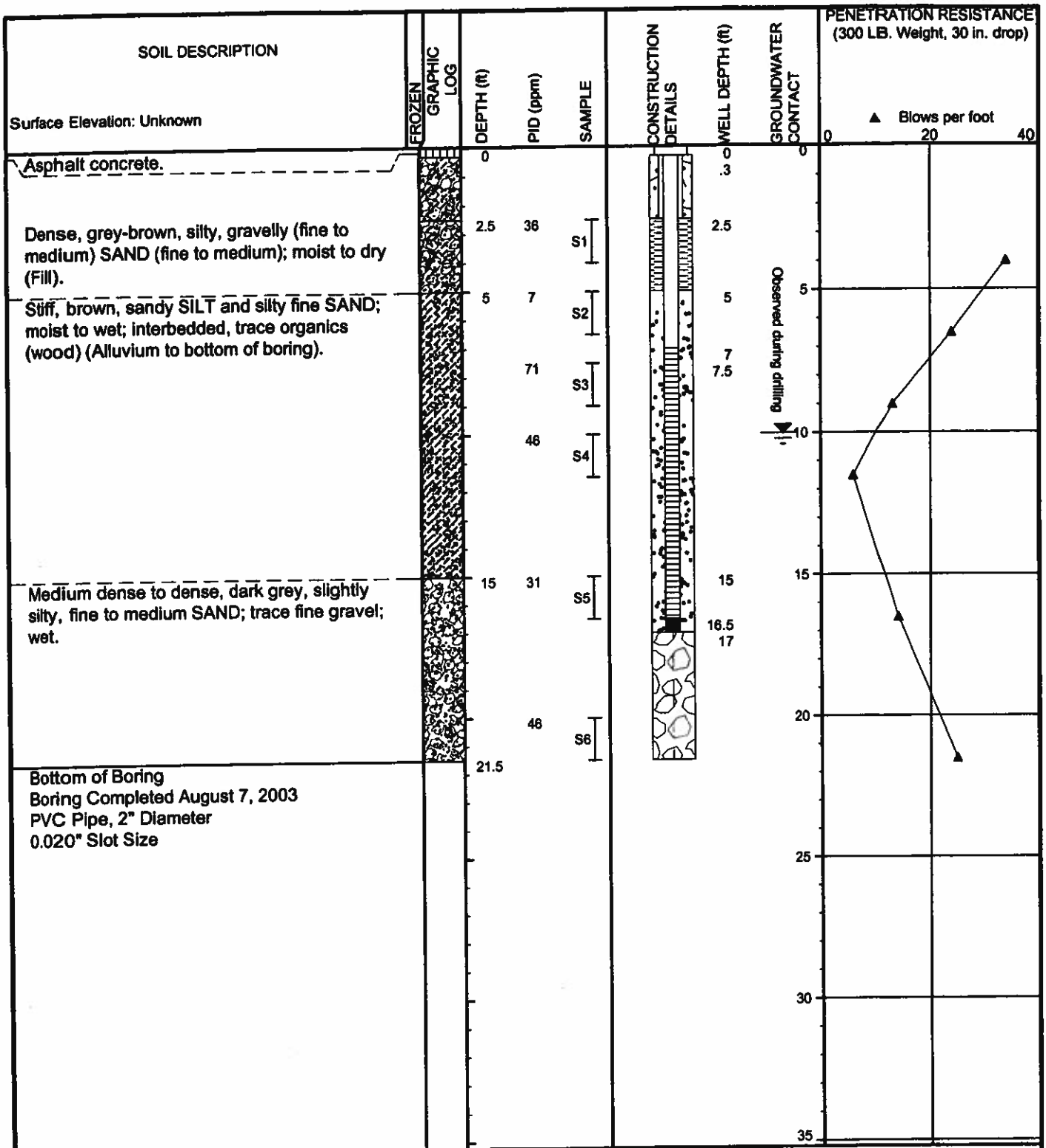
Septic Crib Characterization
5250 Airport Industrial Road
Fairbanks International Airport, Alaska

LOG OF BORING B-2/MW-6

November 2003 31-1-11159

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 3
Sheet 1 of 1



- Legend**
- | | | | | |
|---------------|--|--|--|---|
| Frozen Ground | | Asphalt Concrete | | pipe set in cement grout w/ protective casing |
| | | Sandy, Silty Gravel | | Bentonite pellets |
| | | Silty sand and/or sandy silt | | Silica sand, blank PVC |
| | | Sandy gravel, gravelly sand, and/or sand | | Slotted pipe w/ sand |
| | | Water table at boring completion | | Endcap on pipe packed in sand |
| | | 3 in. O.D. Split Spoon Sample | | END OF HOLE IN GRAVEL |
| | | Flush-mount cover | | |

Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.

**Septic Crib Characterization
5250 Airport Industrial Road
Fairbanks International Airport, Alaska**

LOG OF BORING B-3/MW-7

November 2003

31-1-11159

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 4

Sheet 1 of 1

APPENDIX A

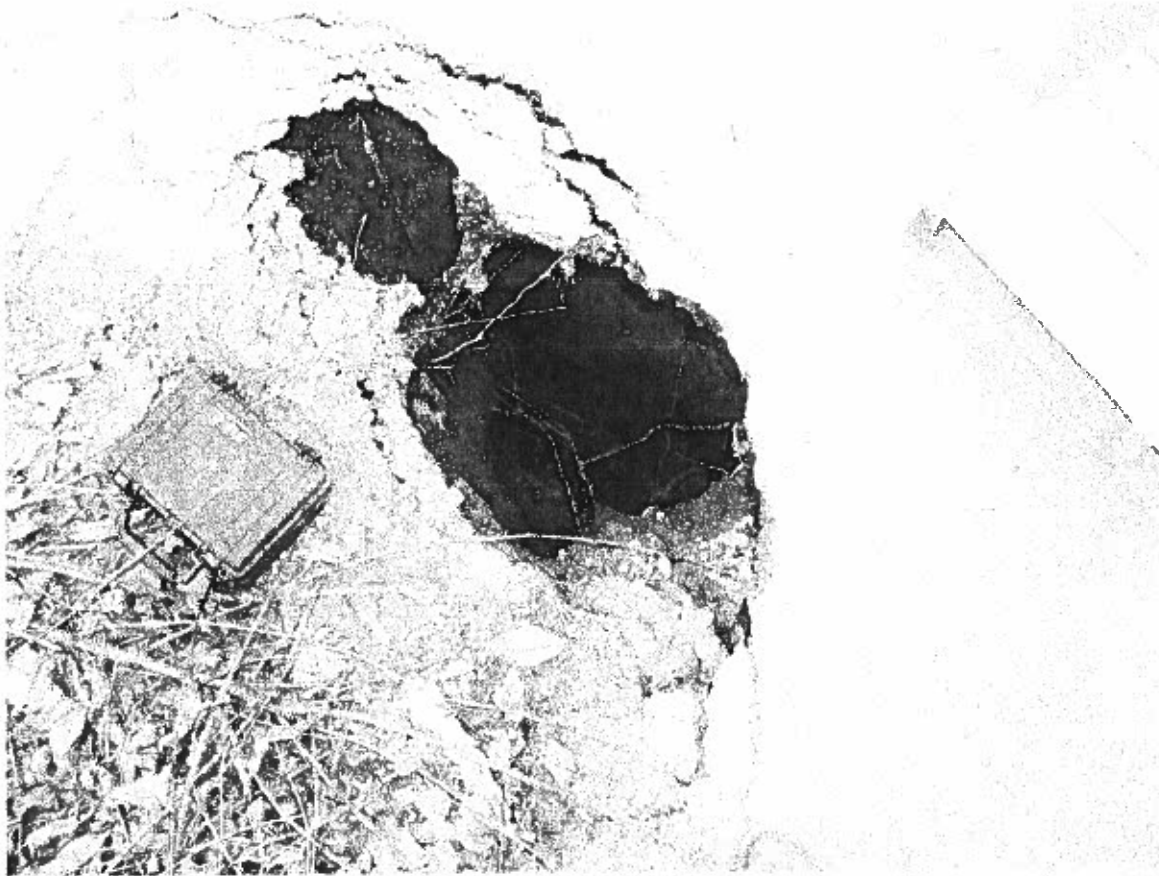


PHOTO 1: 1-foot by 3-foot opening in parking lot pavement above wooden septic crib. Timbers are visible on facing wall.



PHOTO 2: Strip floor drain and oil/water separator/sediment trap (covers removed) in South bay of warehouse/shop building.



PHOTO 3: View into oil/water separator/sediment trap in South bay of warehouse/shop building.

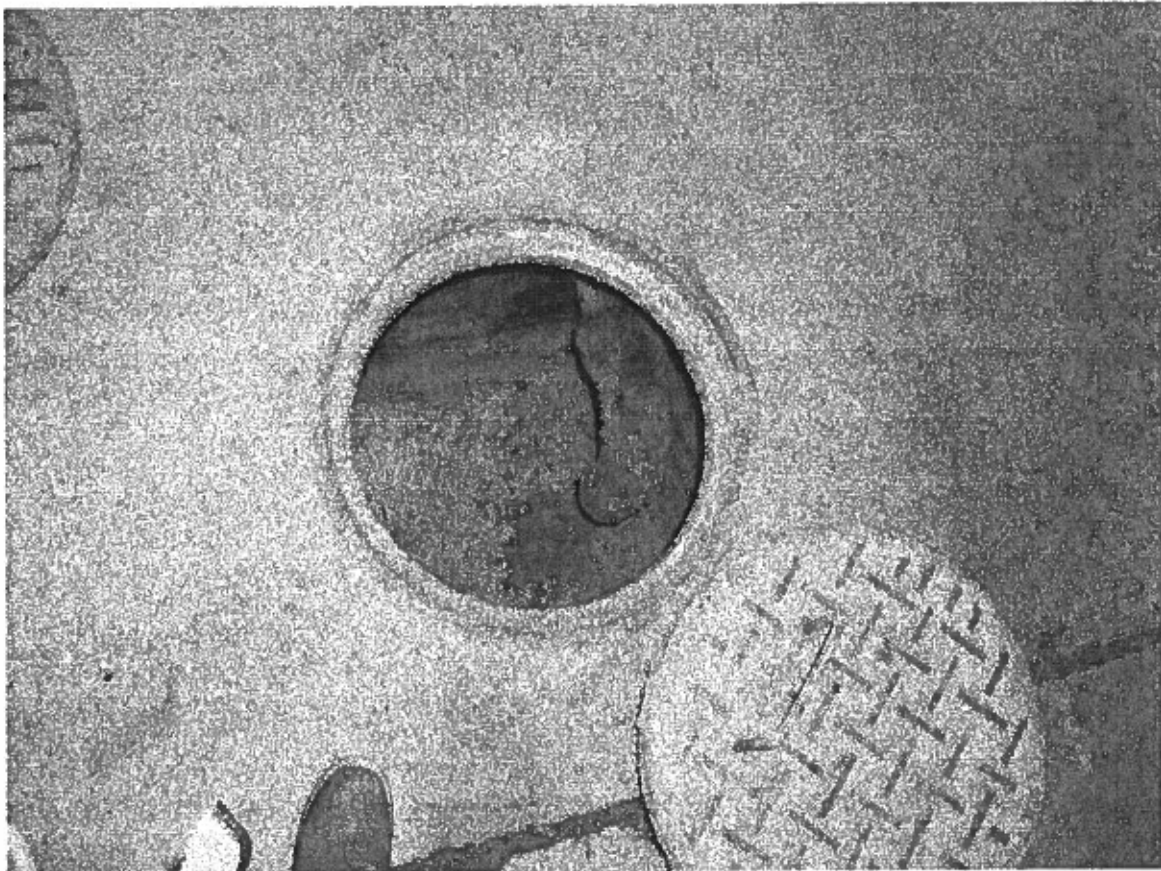


PHOTO 3: View into oil/water separator/sediment trap in South bay of warehouse/shop building.



PHOTO 4: Strip floor drain and oil/water separator/sediment trap in North bay of warehouse/shop building.

APPENDIX B



**SGS/CT&E Environmental Services
Alaska Division
Level I Data Report**

Project: 31-1-11159-003 Weaver Bros
Client: Shannon & Wilson-Fairbanks
CT&E Work Order: 1034268

Contents:

Case Narrative
Chain of Custody/Sample Rec Form
Final Report Pages
QC Summary Pages

Note:

Unless otherwise noted, all quality assurance/quality control criteria are in compliance with the proper regulatory authority and/or SGS's Quality Assurance Program Plan.



Case Narrative

Client SHANFBK Shannon & Wilson-Fairbanks
Workorder 1034268 31-1-11159-003 Weaver Bros

Printed Date/Time 8/20/2003 13:30

Sample ID	Client Sample ID
508577	MS
DRO/RRO - MS/MSD and surrogate recoveries are outside controls. See the LCS for accuracy.	
508578	MSD
DRO/RRO - MS/MSD and surrogate recoveries are outside controls. See the LCS for accuracy.	
508662	MSD
8082 - MSD does not meet QC recovery goals for Aroclor 1260. See the LCS for accuracy.	
508805	MS
SW 7471A - MS/MSD recoveries for Hg were outside of acceptance criteria.	
508806	MSD
SW 7471A - MS/MSD recoveries for Hg were outside of acceptance criteria.	
508807	BND
Post digestion spike was unsuccessful.	
508818	BND
SW7471A - Post digestion spike was unsuccessful; MS/MSD recoveries for Hg were within post digestion spike acceptance criteria.	
1034268001	PS 1159-080703-002
VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI. SW7471A - MS/MSD recoveries for Hg were outside of acceptance criteria. Post digestion spike was unsuccessful. Sample result was determined by MSA.	
1034268002	PS 1159-080703-003
VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI. SW7471A - MS/MSD recoveries for Hg were outside of acceptance criteria. Post digestion spike was unsuccessful. Sample result was determined by MSA.	
1034268003	PS 1159-080703-004
VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.	
1034268004	PS 1159-080703-005
VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.	
1034268005	PS 1159-080703-006



Case Narrative

Client SHANFBK Shannon & Wilson-Fairbanks
Workorder 1034268 31-1-11159-003 Weaver Bros

Printed Date/Time 8/20/2003 13:30

Sample ID **Client Sample ID**

VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.

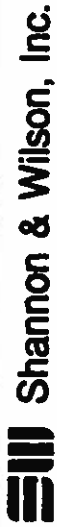
1034268006 PS 1159-080703-007

VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.

1034268007 PS 1159-080703-008

VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.

1034268



2056 Hill Road
Fairbanks, AK 99707
(907) 479-0800

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

11600 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

Chain of Custody Record

Page 1 of 1
Laboratory S&S
Attn: MELODY

Analysis Parameters/Sample Container Description

(Includes preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.			Remarks/Matrix
				GRAB	NOCS (K-OK)	MEMBERS (S&S)	
1159-080703-002	A-C	1005	8/7/03	X	✓	✓	3 SOIL
1159-080703-003	A-B	1015	/	✓	✓	✓	2
1159-080703-004	A-B	1205		✓	✓	✓	2
1159-080703-005	A-B	1210		✓	✓	✓	2
1159-080703-006	A-B	1215		✓	✓	✓	2
1159-080703-007	A-C	1405		✓	✓	✓	3
1159-080703-008	A-C	1415		✓	✓	✓	3

Project Information	Sample Receipt	Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Project Number: 3H-1159-003	Total Number of Containers	Signature: Julie Keener	Signature: _____	Signature: _____
Project Name: MEAVER GROS.	COC Seals/Intact? Y/N/A	Printed Name: JULIE KEENER	Printed Name: _____	Printed Name: _____
Contact: JULIE KEENER	Received Good Cond./Cold	Company: SHANNON & WILSON	Company: _____	Company: _____
Ongoing Project? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Delivery Method:	Received By: 1	Received By: 2	Received By: 3
Sampler: JULIE KEENER	(attach shipping bill, if any)	Signature: Shannon Raines	Signature: _____	Signature: _____
Instructions				
Requested Turn Around Time: STANDARD *		Printed Name: SHANNON RAINES	Printed Name: _____	Printed Name: _____
Special Instructions: * SEE RHONDA FOR SPECIAL VOL INSTRUCTIONS.		Company: S&S	Company: _____	Company: _____
QUOTE # 6422				
Distribution: White - shipment - returned to Shannon & Wilson w/ Laboratory report Yellow - shipment - for consignee files Pink - Shannon & Wilson - Job File				

F-19-01UR

COOLEY - 5.9°C

TE - 5.7°C

SAMPLE RECEIPT FORM

CT&E WO#:

1034268



Yes No NA

- Are samples RUSH, priority, or within 72 hrs. of hold time?
- If yes have you done e-mail notification?
- Are samples within 24 hrs. of hold time or due date?
- If yes, have you spoken with Supervisor?
- Archiving bottles - if required, are they properly marked?
- Are there any problems? PM Notified?
- Were samples preserved correctly and pH verified?
** too much soil in tare weighed jars
Cover 50 grams*
- If this is for PWS, provide PWSID.
- Will courier charges apply?
- Method of payment?
- Data package required? (Level: 1 / 2 / 3)
- Notes:
- Is this a DoD project? (USACE, Navy, AFCEE)

Due Date: 8-17-03
 Received Date: 8-8-03
 Received Time: 4:00
 Is date/time conversion necessary? NO
 # of hours from AK Standard Time:
 Received Temperature*: °C
 Thermometer ID: FBX hmg therm.

Cooler ID	Temp Blank	Cooler Temp
<u>1</u>	<u>5.9</u> °C	<u>5.9</u> °C

*Temperature readings include thermometer correction factors
 Delivery method (circle all that apply): Client /
 Alert Courier / UPS / FedEx / USPS /
 AA Goldstreak / NAC / ERA / PenAir / Carlite
 Lynden / SGS-CT&E / Other:

Airbill #
 Additional Sample Remarks: (✓ if applicable)
 Extra Sample Volume?
 Limited Sample Volume?
 Field preserved for volatiles?
 Field-filtered for dissolved?
 Lab-filtered for dissolved?
 Ref Lab required? 8260+GRO
 Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

Yes	No		Samples/Analyses Affected:
		Is received temperature $4 \pm 2^\circ\text{C}$?	
		Exceptions: <u> </u>	
		Rad Screen performed?	
		Result: <u> </u>	
		Was there an airbill? (Note # above in the right hand column)	
		Was cooler sealed with custody seals? Faxed to COE? <u> </u>	
		# / where: <u> </u>	
		Were seal(s) intact upon arrival?	
		Was there a COC with cooler?	
		Was the COC filled out properly?	
		Did the COC indicate ACOE / AFCEE project? (if applicable)	
		Did the COC and samples correspond?	
		Were all sample packed to prevent breakage?	
		Packing material: <u> </u>	
		Were all samples unbroken and clearly labeled?	
		Were all samples sealed in separate plastic bags?	
		Were all bottles for volatiles free of headspace?	
		Were correct container / sample sizes submitted?	
		Is sample condition good?	

This section must be filled if problems are found.

Yes No

Was client notified of problems?

Individual contacted:

Date/Time:

Phone/Fax:

Reason for contact:

SGS/CT&E Contact:

Notes:

Completed by (sign): (print): Jenny Johnson

Login proof (check one): waived required performed by:

SGS

CT&E WO#:

1034268



SAMPLE RECEIPT FORM FOR TRANSFERS
From
FAIRBANKS, ALASKA OR HONOLULU, HAWAII
To
ANCHORAGE, AK

TO BE COMPLETED IN ANCHORAGE UPON ARRIVAL FROM FAIRBANKS OR HAWAII.
NOTES RECORDED BELOW ARE ACTIONS NEEDED UPON ARRIVAL IN ANCHORAGE.

Notes:

Receipt Date / Time: 8-9-03 0710
Is Sample Date/Time Conversion Necessary? Yes _____ No
Number of Hours From Alaska Standard Time: _____
Foreign Soil? Yes _____ No

COOLER AND TEMP BLANK READINGS*

Cooler ID	Temp Blank	Cooler	Cooler ID	Temp Blank	Cooler
<u>1</u>	<u>2.3</u>	<u>2.5</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

CUSTODY SEALS INTACT: YES / NO # / WHERE: Coast Guard, Fairbanks


COMPLETED BY (INITIAL): _____

*Temperature readings include thermometer correction factors.

1034268

 **CT&E Environmental Services Inc.**
CUSTODY SEAL

Signature: Melody DeBachan Date/Time: 8/8/03 @ 4:30

 **CT&E Environmental Services Inc.**
CUSTODY SEAL

Signature: Melody DeBachan Date/Time: 8/8/03 @ 4:30



Laboratory Analysis Report

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.sgsevenvironmental.com>

Julie Keener
Shannon & Wilson-Fairbanks
2355 Hill Rd
Fairbanks, AK 99709

Work Order: 1034268
31-1-11159-003 Weaver Bros
Client: Shannon & Wilson-Fairbanks
Report Date: August 20, 2003

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Control Manual that outlines this program is available at your request. The laboratory ADEC certification numbers are AK08-03 (DW) and UST-005 (CS).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your SGS Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- PQL Practical Quantitation Limit (reporting limit).
- U Indicates the analyte was analyzed for but not detected.
- F Indicates an estimated value that falls below PQL, but is greater than the MDL.
- J The quantitation is an estimation.
- B Indicates the analyte is found in a blank associated with the sample.
- * The analyte has exceeded allowable regulatory or control limits.
- GT Greater Than
- D The analyte concentration is the result of a dilution.
- LT Less Than
- ! Surrogate out of control limits.
- Q QC parameter out of acceptance range.
- M A matrix effect was present.
- JL The analyte was positively identified, but the quantitation is a low estimation.

Note: Soil samples are reported on a dry weight basis unless otherwise specified.



SGS Ref.# 1034268001
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Client Sample ID 1159-080703-002
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time

Printed Date/Time 08/20/2003 13:30
Collected Date/Time 08/07/2003 10:05
Received Date/Time 08/08/2003 16:00
Technical Director Stephen C. Ede

Released By

Sample Remarks:

VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.
 SW7471A - MS/MSD recoveries for Hg were outside of acceptance criteria. Post digestion spike was unsuccessful. Sample result was determined by MSA.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Solids										
Total Solids		92.2		%	SM20 2540G	B			08/13/03	JGL
Metals Department										
Mercury by Cold Vapor		0.0422 U	0.0422	mg/Kg	SW7471A	C		08/12/03	08/12/03	JAI
RCRA Metals										
Arsenic		3.41	1.89	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Barium		43.9	0.314	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Cadmium		0.209 U	0.209	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Chromium		7.35	0.419	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Lead		2.86	0.209	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Selenium		0.524 U	0.524	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Silver		0.105 U	0.105	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Semivolatile Organic Fuels Department										
Diesel Range Organics		25.9 U	25.9	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Residual Range Organics		25.9 U	25.9	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Surrogates										
5a Androstane <surr>		63.6		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
n-Triacontane-d62 <surr>		86		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
Polychlorinated Biphenyls										
Aroclor-1016		0.0537 U	0.0537	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1221		0.0537 U	0.0537	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA



SGS Ref.# 1034268001
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Client Sample ID 1159-080703-002
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time

Printed Date/Time 08/20/2003 13:30
Collected Date/Time 08/07/2003 10:05
Received Date/Time 08/08/2003 16:00
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polychlorinated Biphenyls										
Aroclor-1232		0.0537 U	0.0537	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1242		0.0537 U	0.0537	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1248		0.0537 U	0.0537	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1254		0.0537 U	0.0537	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1260		0.0537 U	0.0537	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Surrogates										
Decachlorobiphenyl <sur>		88.2		%	SW8082	C	60-125	08/12/03	08/12/03	WAA



SGS Ref.# 1034268002
 Client Name Shannon & Wilson-Fairbanks
 Project Name# 31-1-11159-003 Weaver Bros
 Client Sample ID 1159-080703-003
 Matrix Soil/Solid

All Dates/Times are Alaska Standard Time

Printed Date/Time 08/20/2003 13:30
 Collected Date/Time 08/07/2003 10:15
 Received Date/Time 08/08/2003 16:00
 Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:

VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.
 SW7471A - MS/MSD recoveries for Hg were outside of acceptance criteria. Post digestion spike was unsuccessful. Sample result was determined by MSA.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Solids										
Total Solids		92.8		%	SM20 2540G	B			08/13/03	JGL
Metals Department										
Mercury by Cold Vapor		0.0395 U	0.0395	mg/Kg	SW7471A	C		08/12/03	08/12/03	JAJ
RCRA Metals										
Arsenic		2.51	1.91	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Barium		61.1	0.319	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Cadmium		0.213 U	0.213	mg/Kg	SW6020	C		08/12/03	08/14/03	SCI
Chromium		9.15	0.425	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Lead		2.69	0.213	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Selenium		0.532 U	0.532	mg/Kg	SW6020	C		08/12/03	08/14/03	SCI
Silver		0.106 U	0.106	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Semivolatile Organic Fuels Department										
Diesel Range Organics		25.2 U	25.2	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Residual Range Organics		25.2 U	25.2	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Surrogates										
5a Androstane <surr>		61.6		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
n-Triacontane-d62 <surr>		81.3		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
Polychlorinated Biphenyls										
Aroclor-1016		0.0539 U	0.0539	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1221		0.0539 U	0.0539	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA



GS Ref.# 1034268002
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros
Client Sample ID 1159-080703-003
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time

Printed Date/Time 08/20/2003 13:30
Collected Date/Time 08/07/2003 10:15
Received Date/Time 08/08/2003 16:00
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polychlorinated Biphenyls										
Aroclor-1232		0.0539 U	0.0539	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1242		0.0539 U	0.0539	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1248		0.0539 U	0.0539	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1254		0.0539 U	0.0539	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1260		0.0539 U	0.0539	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Surrogates										
Decachlorobiphenyl <surr>		82.7		%	SW8082	C	60-125	08/12/03	08/12/03	WAA



SGS Ref.# 1034268003
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros
 Client Sample ID 1159-080703-004
 Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
 Printed Date/Time 08/20/2003 13:30
 Collected Date/Time 08/07/2003 12:05
 Received Date/Time 08/08/2003 16:00
 Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:

VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Solids										
Total Solids		86.7		%	SM20 2540G	B			08/13/03	JGL
Metals Department										
Mercury by Cold Vapor		0.0441 U	0.0441	mg/Kg	SW7471A	B		08/19/03	08/19/03	JAI
RCRA Metals										
Arsenic		2.02 U	2.02	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Barium		49.1	0.336	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Cadmium		0.224 U	0.224	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Chromium		7.56	0.448	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Lead		2.71	0.224	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Selenium		0.560 U	0.560	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Silver		0.112 U	0.112	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Semivolatile Organic Fuels Department										
Diesel Range Organics		28.3 U	28.3	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Residual Range Organics		28.3 U	28.3	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Surrogates										
5a Androstane <surr>		60.3		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
n-Triacontane-d62 <surr>		81.9		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
Polychlorinated Biphenyls										
Aroclor-1221		0.0565 U	0.0565	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Aroclor-1016		0.0565 U	0.0565	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Aroclor-1232		0.0565 U	0.0565	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA



GS Ref.# 1034268003
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros
Client Sample ID 1159-080703-004
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
Printed Date/Time 08/20/2003 13:30
Collected Date/Time 08/07/2003 12:05
Received Date/Time 08/08/2003 16:00
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polychlorinated Biphenyls										
Aroclor-1248		0.0565 U	0.0565	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Aroclor-1242		0.0565 U	0.0565	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Aroclor-1254		0.0565 U	0.0565	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Aroclor-1260		0.0565 U	0.0565	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Surrogates										
Decachlorobiphenyl <surr>		84.6		%	SW8082	B	60-125	08/12/03	08/12/03	WAA



SGS Ref.# 1034268004
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros
 Client Sample ID 1159-080703-005
 Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
 Printed Date/Time 08/20/2003 13:30
 Collected Date/Time 08/07/2003 12:10
 Received Date/Time 08/08/2003 16:00
 Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:

VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Solids										
Total Solids		84.1		%	SM20 2540G	B			08/13/03	JG
Metals Department										
Mercury by Cold Vapor		0.0457 U	0.0457	mg/Kg	SW7471A	B		08/19/03	08/19/03	JA
RCRA Metals										
Arsenic		2.56	2.07	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Barium		57.3	0.344	mg/Kg	SW6020	B		08/12/03	08/14/03	SCI
Cadmium		0.230 U	0.230	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Chromium		7.56	0.459	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Lead		3.03	0.230	mg/Kg	SW6020	B		08/12/03	08/14/03	SCI
Selenium		0.574 U	0.574	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Silver		0.115 U	0.115	mg/Kg	SW6020	B		08/12/03	08/14/03	SCL
Semivolatile Organic Fuels Department										
Diesel Range Organics		28.0 U	28.0	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Residual Range Organics		28.0 U	28.0	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Surrogates										
n-Triacontane-d62 <surrogate>		90.2		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
5a Androstane <surrogate>		64.4		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
Polychlorinated Biphenyls										
Aroclor-1221		0.0591 U	0.0591	mg/Kg	SW8082	B		08/12/03	08/12/03	WAJ
Aroclor-1016		0.0591 U	0.0591	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Aroclor-1232		0.0591 U	0.0591	mg/Kg	SW8082	B		08/12/03	08/12/03	WAJ



SGS Ref.# 1034268004
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros
Client Sample ID 1159-080703-005
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time

Printed Date/Time 08/20/2003 13:30
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Received Date/Time 08/08/2003 16:00
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polychlorinated Biphenyls										
Aroclor-1242		0.0591 U	0.0591	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Aroclor-1248		0.0591 U	0.0591	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Aroclor-1254		0.0591 U	0.0591	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Aroclor-1260		0.0591 U	0.0591	mg/Kg	SW8082	B		08/12/03	08/12/03	WAA
Surrogates										
Decachlorobiphenyl <sur>		86.4		%	SW8082	B	60-125	08/12/03	08/12/03	WAA



SGS Ref.# 1034268005
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Client Sample ID 1159-080703-006
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
Printed Date/Time 08/20/2003 13:30
Collected Date/Time 08/07/2003 12:15
Received Date/Time 08/08/2003 16:00
Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:

VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Solids										
Total Solids		77.4		%	SM20 2540G	B			08/13/03	JGI
Metals Department										
Mercury by Cold Vapor		0.0504 U	0.0504	mg/Kg	SW7471A	C		08/19/03	08/19/03	JAI
RCRA Metals										
Arsenic		2.36	2.18	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Barium		56.7	0.364	mg/Kg	SW6020	C		08/12/03	08/14/03	SCI
Cadmium		0.243 U	0.243	mg/Kg	SW6020	C		08/12/03	08/14/03	SCI
Chromium		12.0	0.485	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Lead		3.31	0.243	mg/Kg	SW6020	C		08/12/03	08/14/03	SCI
Selenium		0.607 U	0.607	mg/Kg	SW6020	C		08/12/03	08/14/03	SCI
Silver		0.121 U	0.121	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Semivolatile Organic Fuels Department										
Diesel Range Organics		42.8 U	42.8	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Residual Range Organics		42.8 U	42.8	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Surrogates										
5a Androstane <surr>		62.1		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
n-Triacontane-d62 <surr>		82.7		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
Polychlorinated Biphenyls										
Aroclor-1016		0.0638 U	0.0638	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1221		0.0638 U	0.0638	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1232		0.0638 U	0.0638	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA



SGS Ref.# 1034268005
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros
Client Sample ID 1159-080703-006
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
Printed Date/Time 08/20/2003 13:30
Collected Date/Time 08/07/2003 12:15
Received Date/Time 08/08/2003 16:00
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polychlorinated Biphenyls										
Aroclor-1242		0.0638 U	0.0638	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1248		0.0638 U	0.0638	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1254		0.0638 U	0.0638	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1260		0.0638 U	0.0638	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Surrogates										
Decachlorobiphenyl <surr>		85.4		%	SW8082	C	60-125	08/12/03	08/12/03	WAA



SGS Ref.# 1034268006
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Client Sample ID 1159-080703-007
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
Printed Date/Time 08/20/2003 13:30
Collected Date/Time 08/07/2003 14:05
Received Date/Time 08/08/2003 16:00
Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:
 VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Solids										
Total Solids		73.3		%	SM20 2540G	B			08/13/03	JGL
Metals Department										
Mercury by Cold Vapor		0.0545 U	0.0545	mg/Kg	SW7471A	C		08/19/03	08/19/03	JAI
RCRA Metals										
Arsenic		8.88	2.39	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Barium		94.7	0.398	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Cadmium		0.266 U	0.266	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Chromium		20.2	0.531	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Lead		6.97	0.266	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Selenium		0.664 U	0.664	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Silver		0.133 U	0.133	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Semivolatile Organic Fuels Department										
Diesel Range Organics		42.7 U	42.7	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Residual Range Organics		42.7 U	42.7	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Surrogates										
n-Triacontane-d62 <surr>		70.6		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
5a Androstane <surr>		54.7		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
Polychlorinated Biphenyls										
Aroclor-1016		0.0681 U	0.0681	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1221		0.0681 U	0.0681	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1232		0.0681 U	0.0681	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA



SGS Ref.# 1034268006
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Client Sample ID 1159-080703-007
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time

Printed Date/Time 08/20/2003 13:30
Collected Date/Time 08/07/2003 14:05
Received Date/Time 08/08/2003 16:00
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polychlorinated Biphenyls										
Aroclor-1248		0.0681 U	0.0681	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1242		0.0681 U	0.0681	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1254		0.0681 U	0.0681	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1260		0.0681 U	0.0681	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Surrogates										
Decachlorobiphenyl <sur>		84.1		%	SW8082	C	60-125	08/12/03	08/12/03	WAA



SGS Ref.# 1034268007
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros
 Client Sample ID 1159-080703-008
 Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
 Printed Date/Time 08/20/2003 13:30
 Collected Date/Time 08/07/2003 14:15
 Received Date/Time 08/08/2003 16:00
 Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:

VOCs by SW8260 and GRO by AK101 were analyzed by SGS/CTE of Ludington, MI.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Solids										
Total Solids		77.5		%	SM20 2540G	B			08/13/03	JGI
Metals Department										
Mercury by Cold Vapor		0.0492 U	0.0492	mg/Kg	SW7471A	C		08/19/03	08/19/03	JAI
RCRA Metals										
Arsenic		3.61	2.22	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Barium		59.3	0.370	mg/Kg	SW6020	C		08/12/03	08/14/03	SCI
Cadmium		0.247 U	0.247	mg/Kg	SW6020	C		08/12/03	08/14/03	SCI
Chromium		10.1	0.494	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Lead		3.46	0.247	mg/Kg	SW6020	C		08/12/03	08/14/03	SCI
Selenium		0.617 U	0.617	mg/Kg	SW6020	C		08/12/03	08/14/03	SCI
Silver		0.123 U	0.123	mg/Kg	SW6020	C		08/12/03	08/14/03	SCL
Semivolatile Organic Fuels Department										
Diesel Range Organics		42.7 U	42.7	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Residual Range Organics		42.7 U	42.7	mg/Kg	AK102 103	B		08/12/03	08/13/03	MCM
Surrogates										
n-Triacontane-d62 <surr>		77.7		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
5a Androstane <surr>		56.4		%	AK102 103	B	50-150	08/12/03	08/13/03	MCM
Polychlorinated Biphenyls										
Aroclor-1016		0.0647 U	0.0647	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1221		0.0647 U	0.0647	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1232		0.0647 U	0.0647	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA



GS Ref.# 1034268007
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Client Sample ID 1159-080703-008
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
Printed Date/Time 08/20/2003 13:30
Collected Date/Time 08/07/2003 14:15
Received Date/Time 08/08/2003 16:00
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polychlorinated Biphenyls										
Aroclor-1248		0.0647 U	0.0647	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1242		0.0647 U	0.0647	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1254		0.0647 U	0.0647	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Aroclor-1260		0.0647 U	0.0647	mg/Kg	SW8082	C		08/12/03	08/12/03	WAA
Surrogates										
Decachlorobiphenyl <sur>		82.8		%	SW8082	C	60-125	08/12/03	08/12/03	WAA



SGS Ref.# 508381 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch XXX 12284
Method SW3550B
Date 08/12/2003

QC results affect the following production samples:

1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Semivolatile Organic Fuels Department					
Diesel Range Organics	10.0 U	10.0	mg/Kg	08/13/03	MCM
Residual Range Organics	10.0 U	10.0	mg/Kg	08/13/03	MCM
Surrogates					
n-Triacontane-d62 <surr>	77.7		%	08/13/03	MCM
5a Androstane <surr>	64.8		%	08/13/03	MCM

Batch XFC 5880
Method AK102 103
Instrument HP 5890 Series II FID SV C F



GS Ref.# 508382 Lab Control Sample

Printed Date/Time 08/20/2003 13:30
Prep Batch XXX 12284
Method SW3550B
Date 08/12/2003

Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

QC results affect the following production samples:
1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:
LCS

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Semivolatile Organic Fuels Department								
Diesel Range Organics	LCS	133	80	(75-125)		167 mg/Kg	08/13/03	MCM
Residual Range Organics	LCS	118	71	(60-120)		167 mg/Kg	08/13/03	MCM
Surrogates								
Androstane <surr>	LCS		63	(60-120)		3.33 mg/Kg	08/13/03	MCM
n-Triacontane-d62 <surr>	LCS		76	(60-120)		3.33 mg/Kg	08/13/03	MCM
Batch	XFC 5880							
Method	AK102 103							
Instrument	HP 5890 Series II FID SV C F							



SGS Ref.# 508577 Matrix Spike Printed Date/Time 08/20/2003 13:30
 508578 Matrix Spike Duplicate Prep Batch XXX 12284
 Method Sonication Extraction Soil AK
 Date 08/12/2003
 Original 1034996008
 Matrix Soil/Solid

QC results affect the following production samples:

1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:

MS DRO/RRO - MS/MSD and surrogate recoveries are outside controls. See the LCS for accuracy.

MSD DRO/RRO - MS/MSD and surrogate recoveries are outside controls. See the LCS for accuracy.

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Semivolatile Organic Fuels Department										
Diesel Range Organics	MS	9.36 J	175		58* (60-140)			290 mg/Kg	08/13/03	MCM
	MSD		163		55*		7 (<50)	283 mg/Kg	08/13/03	MCM
Residual Range Organics	MS	53.9	168		42* (60-140)			290 mg/Kg	08/13/03	MCM
	MSD		161		41*		4 (<50)	283 mg/Kg	08/13/03	MCM
Surrogates										
5a Androstane <surr>	MS			49	(50-150)			5.81 mg/Kg	08/13/03	MCM
	MSD			48		5		5.65 mg/Kg	08/13/03	MCM
n-Triacontane-d62 <surr>	MS			51	(50-150)			5.81 mg/Kg	08/13/03	MCM
	MSD			67		24		5.65 mg/Kg	08/13/03	MCM

Batch XFC 5880
 Method AK102 103
 Instrument HP 5890 Series II FID SV C F



GS Ref.# 508391 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch XXX 12288
Method SW3550B
Date 08/12/2003

Results affect the following production samples:

1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Polychlorinated Biphenyls					
Aroclor-1221	0.0250 U	0.0250	mg/Kg	08/12/03	WAA
Aroclor-1016	0.0250 U	0.0250	mg/Kg	08/12/03	WAA
Aroclor-1232	0.0250 U	0.0250	mg/Kg	08/12/03	WAA
Aroclor-1248	0.0250 U	0.0250	mg/Kg	08/12/03	WAA
Aroclor-1242	0.0250 U	0.0250	mg/Kg	08/12/03	WAA
Aroclor-1254	0.0250 U	0.0250	mg/Kg	08/12/03	WAA
Aroclor-1260	0.0250 U	0.0250	mg/Kg	08/12/03	WAA

Surrogates
Decachlorobiphenyl <surr> 83.6 % WAA

Batch XGC 4558
Method SW8082
Instrument HP 5890 Series II ECD SV H F



SGS Ref.# 508392 Lab Control Sample
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch XXX 12288
Method SW3550B
Date 08/12/2003

QC results affect the following production samples:

1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Polychlorinated Biphenyls								
Aroclor-1016	LCS	0.372	84	(54-112)		0.444 mg/Kg	08/12/03	WAA
Aroclor-1260	LCS	0.359	81	(61-131)		0.444 mg/Kg	08/12/03	WAA
Surrogates								
Decachlorobiphenyl <surr>	LCS		88	(60-125)		0.444 mg/Kg	08/12/03	WAA
Batch	XGC 4558							
Method	SW8082							
Instrument	HP 5890 Series II ECD SV H F							



SGS Ref.# 508661 Matrix Spike

Printed Date/Time 08/20/2003 13:30
Prep Batch XXX 12288
Method Sonication Extraction Soil SW
Date 08/12/2003

Original 1034997001
Matrix Soil/Solid

QC results affect the following production samples:
1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Polychlorinated Biphenyls										
Aroclor-1260	MS	0.358	0.614	65	(61-131)			0.445 mg/Kg	08/12/03	WAA
	MSD		0.548	49*		11	(< 30)	0.45 mg/Kg	08/12/03	WAA
Aroclor-1016	MS	0.0549 U	0.401	90	(54-112)			0.445 mg/Kg	08/12/03	WAA
	MSD		0.368	82		8	(< 30)	0.45 mg/Kg	08/12/03	WAA
Surrogates										
Decachlorobiphenyl <surr>	MS			92	(60-125)			0.445 mg/Kg	08/12/03	WAA
	MSD			85		7		0.45 mg/Kg	08/12/03	WAA

Batch XGC 4558
Method SW8082
Instrument HP 5890 Series II ECD SV H F



SGS Ref.# 508762 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch MXX 12035
Method SW3050B
Date 08/12/2003

QC results affect the following production samples:

1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Metals by ICP/MS					
Aluminum	0.834F	1.00	mg/Kg	08/14/03	SCL
Antimony	0.0500 U	0.0500	mg/Kg	08/14/03	SCL
Arsenic	0.900 U	0.900	mg/Kg	08/14/03	SCL
Barium	0.113F	0.150	mg/Kg	08/14/03	SCL
Beryllium	0.0500 U	0.0500	mg/Kg	08/14/03	SCL
Cadmium	0.100 U	0.100	mg/Kg	08/14/03	SCL
Calcium	15.0 U	15.0	mg/Kg	08/14/03	SCL
Chromium	0.200 U	0.200	mg/Kg	08/14/03	SCL
Cobalt	0.250 U	0.250	mg/Kg	08/14/03	SCL
Copper	0.300 U	0.300	mg/Kg	08/14/03	SCL
Iron	5.00 U	5.00	mg/Kg	08/14/03	SCL
Lead	0.100 U	0.100	mg/Kg	08/14/03	SCL
Potassium	50.0 U	50.0	mg/Kg	08/14/03	SCL
Selenium	0.250 U	0.250	mg/Kg	08/14/03	SCL
Silver	0.0500 U	0.0500	mg/Kg	08/14/03	SCL
Sodium	50.0 U	50.0	mg/Kg	08/14/03	SCL
Thallium	0.0100 U	0.0100	mg/Kg	08/14/03	SCL
Vanadium	1.50 U	1.50	mg/Kg	08/14/03	SCL
Zinc	1.63	0.500	mg/Kg	08/14/03	SCL
Magnesium	15.0 U	15.0	mg/Kg	08/14/03	SCL
Manganese	0.103	0.100	mg/Kg	08/14/03	SCL
Molybdenum	0.500 U	0.500	mg/Kg	08/14/03	SCL
Nickel	0.100 U	0.100	mg/Kg	08/14/03	SCL

Batch MMS 2647
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3



GS Ref.# 508763 Lab Control Sample

Printed Date/Time 08/20/2003 13:30
Prep Batch MXX 12035
Method SW3050B
Date 08/12/2003

Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

QC results affect the following production samples:

1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:
LCS

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals by ICP/MS



SGS Ref.# 508763 Lab Control Sample
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros
 Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
 Prep Batch MXX 12035
 Method SW3050B
 Date 08/12/2003

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Metals by ICP/MS								
Aluminum	LCS	57.2	114	(85-115)		50 mg/Kg	08/14/03	SCL
Antimony	LCS	51.3	103	(85-115)		50 mg/Kg	08/14/03	SCL
Arsenic	LCS	52.7	105	(85-115)		50 mg/Kg	08/14/03	SCL
Barium	LCS	53.1	106	(85-115)		50 mg/Kg	08/14/03	SCL
Beryllium	LCS	54.5	109	(85-115)		50 mg/Kg	08/14/03	SCL
Cadmium	LCS	52.1	104	(85-115)		50 mg/Kg	08/14/03	SCL
Calcium	LCS	563	113	(85-115)		500 mg/Kg	08/14/03	SCL
Chromium	LCS	55.0	110	(85-115)		50 mg/Kg	08/14/03	SCL
Cobalt	LCS	55.6	111	(85-115)		50 mg/Kg	08/14/03	SCL
Copper	LCS	50.9	102	(85-115)		50 mg/Kg	08/14/03	SCL
Iron	LCS	59.6	119	* (85-115)		50 mg/Kg	08/14/03	SCL
Lead	LCS	53.8	108	(85-115)		50 mg/Kg	08/14/03	SCL
Potassium	LCS	557	111	(85-115)		500 mg/Kg	08/14/03	SCL
Selenium	LCS	48.7	97	(85-115)		50 mg/Kg	08/14/03	SCL
Silver	LCS	11.2	112	(85-115)		10 mg/Kg	08/14/03	SCL
Sodium	LCS	579	116	* (85-115)		500 mg/Kg	08/14/03	SCL
Thallium	LCS	50.7	101	(85-115)		50 mg/Kg	08/14/03	SCL
Vanadium	LCS	53.0	106	(85-115)		50 mg/Kg	08/14/03	SCL
Zinc	LCS	49.8	100	(85-115)		50 mg/Kg	08/14/03	SCL
Magnesium	LCS	576	115	(85-115)		500 mg/Kg	08/14/03	SCL
Manganese	LCS	53.0	106	(85-115)		50 mg/Kg	08/14/03	SCL



SGS Ref.# 508763 Lab Control Sample
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch MXX 12035
Method SW3050B
Date 08/12/2003

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals by ICP/MS

Molybdenum	LCS	53.4	107	(85-115)		50 mg/Kg	08/14/03	SCL
Nickel	LCS	52.3	105	(85-115)		50 mg/Kg	08/14/03	SCL

Batch MMS 2647
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3



SGS Ref.# 508764 Matrix Spike Printed Date/Time 08/20/2003 13:30
 508765 Matrix Spike Duplicate Prep Batch MXX 12035
 Method Soils/Solids Digest for Metals
 Date 08/12/2003
 Original 1034268003
 Matrix Soil/Solid

QC results affect the following production samples:
 1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:
 MS
 MSD

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Metals by ICP/MS										
Selenium	MS	0.560 U	48.5	100	(75-125)			48.5 mg/Kg	08/14/03	SCL
	MSD		46.4	95		4	(<20)	48.9 mg/Kg	08/14/03	SCL
Silver	MS	0.112 U	10.2	105	(75-125)			9.71 mg/Kg	08/14/03	SCL
	MSD		10.1	103		1	(<20)	9.78 mg/Kg	08/14/03	SCL
Lead	MS	2.71	56.4	111	(75-125)			48.5 mg/Kg	08/14/03	SCL
	MSD		53.4	104		5	(<20)	48.9 mg/Kg	08/14/03	SCL
Arsenic	MS	2.02 U	52.7	106	(75-125)			48.5 mg/Kg	08/14/03	SCL
	MSD		51.8	103		2	(<20)	48.9 mg/Kg	08/14/03	SCL
Barium	MS	49.1	91.7	101	(75-125)			48.5 mg/Kg	08/14/03	SCL
	MSD		90.7	99		1	(<20)	48.9 mg/Kg	08/14/03	SCL
Chromium	MS	7.56	61.6	113	(75-125)			48.5 mg/Kg	08/14/03	SCL
	MSD		59.0	107		4	(<20)	48.9 mg/Kg	08/14/03	SCL
Cadmium	MS	0.224 U	51.4	106	(75-125)			48.5 mg/Kg	08/14/03	SCL
	MSD		48.2	99		6	(<20)	48.9 mg/Kg	08/14/03	SCL

Batch MMS 2647
 Method SW6020
 Instrument Perkin Elmer Sciex ICP-MS P3



SGS Ref.# 508803 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch MXX 12036
Method SW7471A
Date 08/12/2003

χC results affect the following production samples:
1034268001, 1034268002

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Metals Department					
Mercury by Cold Vapor	0.0121F	0.0200	mg/Kg	08/12/03	JAL
Batch	MCV 2805				
Method	SW7471A				
Instrument	HgAA Leeman AutoAnalyzer PS200				



SGS Ref.# 508804 Lab Control Sample
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch MXX 12036
Method SW7471A
Date 08/12/2003

QC results affect the following production samples:
1034268001, 1034268002

Sample Remarks:
LCS

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals Department

Mercury by Cold Vapor LCS 0.169 101 (85-115) 0.167 mg/Kg 08/12/03 JAL

Batch MCV 2805
Method SW7471A
Instrument HgAA Leeman AutoAnalyzer PS200



SGS Ref.# 508805 Matrix Spike Printed Date/Time 08/20/2003 13:30
508806 Matrix Spike Duplicate Prep Batch MXX 12036
Method Digestion Mercury (S)
Date 08/12/2003

Original 1034814002
Matrix Soil/Solid

QC results affect the following production samples:
1034268001, 1034268002

Sample Remarks:

MS SW 7471A - MS/MSD recoveries for Hg were outside of acceptance criteria.

MSD SW 7471A - MS/MSD recoveries for Hg were outside of acceptance criteria.

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Metals Department										
Mercury by Cold Vapor	MS	0.735	0.692		7* (77-120)			0.159 mg/Kg	08/12/03	JAL
	MSD		0.559		-38*	21	(<25)	0.316 mg/Kg	08/12/03	JAL
Batch	MCV 2805									
Method	SW7471A									
Instrument	HgAA Leeman AutoAnalyzer PS200									



SGS Ref.# 508816 Matrix Spike
 508817 Matrix Spike Duplicate

Printed Date/Time 08/20/2003 13:30
 Prep Batch MXX 12036
 Method Digestion Mercury (S)
 Date 08/12/2003

Original 1034827002
 Matrix Oil/Xylene Miscible Liquid

QC results affect the following production samples:
 1034268001, 1034268002

Sample Remarks:
 MS
 MSD

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals Department

Mercury by Cold Vapor	MS	0.0372 U	0.143	83	(77-120)			0.161 mg/Kg	08/12/03	JAL
	MSD		0.153	91		7	(< 25)	0.159 mg/Kg	08/12/03	JAL

Batch MCV 2805
 Method SW7471A
 Instrument HgAA Leeman AutoAnalyzer PS200



SGS Ref.# 508818

Bench Spike DIGESTED

Printed Date/Time 08/20/2003 13:30
Prep Batch MXX 12036
Method Digestion Mercury (S)
Date 08/12/2003

Original 1034827002
Matrix Soil/Solid

QC results affect the following production samples:
1034268001, 1034268002

Sample Remarks:

BND SW7471A - Post digestion spike was unsuccessful; MS/MSD recoveries for Hg were within post digestion spike acceptance criteria.

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Metals Department										
Mercury by Cold Vapor	BND	0.0372 U	0.119		71* (85-115)			0.155 mg/Kg	08/12/03	JAL
Batch	MCV 2805									
Method	SW7471A									
Instrument	HgAA Leeman AutoAnalyzer PS200									



SGS Ref.# 510360 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch MXX 12070
Method SW7471A
Date 08/19/2003

QC results affect the following production samples:

1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Metals Department					
Mercury by Cold Vapor	0.0200 U	0.0200	mg/Kg	08/19/03	JAL
Batch	MCV 2810				
Method	SW7471A				
Instrument	HgAA Leeman AutoAnalyzer PS200				



SGS Ref.# 510361 Lab Control Sample
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch MXX 12070
Method SW7471A
Date 08/19/2003

QC results affect the following production samples:
1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:
LCS

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals Department

Mercury by Cold Vapor LCS 0.187 112 (85-115) 0.167 mg/Kg 08/19/03 JAL

Batch MCV 2810
Method SW7471A
Instrument HgAA Leeman AutoAnalyzer PS200



SGS Ref.# 510362 Matrix Spike
 510363 Matrix Spike Duplicate

Printed Date/Time 08/20/2003 13:30
 Prep Batch MXX 12070
 Method Digestion Mercury (S)
 Date 08/19/2003

Original 1034268007
 Matrix Soil/Solid

QC results affect the following production samples:
 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:
 MS
 MSD

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals Department

Mercury by Cold Vapor	MS	0.0492 U	0.170	98	(77-120)			0.162 mg/Kg	08/19/03	JAL
	MSD		0.168	97		1	(< 25)	0.161 mg/Kg	08/19/03	JAL

Batch MCV 2810
 Method SW7471A
 Instrument HgAA Leeman AutoAnalyzer PS200



SGS Ref.# 510364 Bench Spike DIGESTED Printed Date/Time 08/20/2003 13:30
Prep Batch MXX 12070
Method Digestion Mercury (S)
Date 08/19/2003

Original 1034268007
Matrix Soil/Solid

QC results affect the following production samples:
1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:
BND

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals Department

Mercury by Cold Vapor	BND	0.0492 U	0.160	94	(85-115)			0.159 mg/Kg	08/19/03	JAL
Batch	MCV 2810									
Method	SW7471A									
Instrument	HgAA Leeman AutoAnalyzer PS200									



SGS Ref.# 508834 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch
Method
Date

C results affect the following production samples:

1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Solids					
Total Solids	100		%	08/13/03	JGL
Batch	SPT 5114				
Method	SM20 2540G				
Instrument					



SGS Ref.# 508835 Duplicate
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros
Original 1034268007
Matrix Soil/Solid

Printed Date/Time 08/20/2003 13:30
Prep Batch
Method
Date

QC results affect the following production samples:

1034268001, 1034268002, 1034268003, 1034268004, 1034268005, 1034268006, 1034268007

Sample Remarks:

Parameter	Original Result	QC Result	RPD	RPD Limits	Analysis Date	Init
Solids						
Total Solids	77.5	77.8	0	(< 5)	08/13/03	JGL
Batch	SPT 5114					
Method	SM20 2540G					
Instrument						

36-33-7



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Laboratory Division

1 CLIENT: SGS Shannon & Wilson-FBK

CONTACT: Julie Keener PHONE NO. ()

PROJECT: Weaver Pans 31-1-1151-003

REPORTS TO:

INVOICE TO: SGS AK - Rhonda FAX NO. ()

QUOTE #

P.O. NUMBER

CT&E Reference: SGS-MI

PAGE 1 OF 1

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	NO CONTAINERS	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS
001	1034268001	8/7/08	1005	Soil	1	C	X	X	Client ID
002	002		1015			C	X	X	1159-080703-002
003	003		1205			C	X	X	003
004	004		1210			C	X	X	004
005	005		1215			C	X	X	005
006	006		1405			C	X	X	006
007	007		1415			C	X	X	007
						C	X	X	008

8260RB
GRO AK101

5 Selected/Relinquished By: (1) Thomasha Date 8/11/08 Time 1130

Relinquished By: (2)

Received By:

Received By:

Received By:

Received By:

Shipping Carrier:

Shipping Ticket No.:

Special Deliverable Requirements:

Requested Turnaround Time and Special Instructions: 8260 results by 8/14 or 8/15 email to jak@shanwil.com

INTACT BROKEN ABSENT

Samples Received Cold? (Circle) YES NO

Temperature °C: 30

Chain of Custody Seal: (Circle)

30/2/08



3033367

Yes No

Are samples RUSH, priority, or within 72 hrs. of hold time?
 If yes have you done e-mail notification?
 Are samples within 24 hrs. of hold time or due date?
 If yes, have you spoken with Supervisor?
 Archiving bottles - if required, are they properly marked?
 Are there any problems (e.g., ids, analyses)?
 Were samples preserved correctly and pH verified?

Has Project Manager been notified of problems?
 Is this a DOD project? (USACE, Navy, AFCEE):
if yes, complete page 2 of Sample Receipt Form
 Will a data package be required?
 If this is for PWS, provide PWSID.
 Is there a quote for this project?
 Will courier charges apply?
 Method of payment? _____

Completed by (sign): *[Signature]* (print): V. Ensey

of each Container Received:

- 950 ml amber unpres'd _____
- 950 ml amber w / HCl _____
- 500 ml amber w / H₂SO₄ _____
- 1L cubles unpres'd _____
- 1L Cubitainers w / HNO₃ _____
- 1L Cubitainers w / H₂SO₄ _____
- 1L Cubitainers w / NaOH + ZnAc _____
- 250 mL Nalgene NaOH _____
- 120 ml coll bottles _____
- 60 ml Nalgene unpres'd _____
- 60 mL Nalgene w/ H₂SO₄ _____
- 8 oz amber unpres'd _____
- 4 oz amber unpres'd _____
- 4 oz w / septa w / MeOH _____
- 40 ml vials w / HCl _____
- 40 mL ascorbic acid + HCl _____

Log-in proofed by: DOH 8/12/03

*Temperature readings include thermometer correction factors.

Form F004r04 (Revised 12/28/01)

Due Date: 8/14/03
 Received Date/Time: 8/12/03
 Received Temperature*: _____
 Thermometer ID: 21352801
 Cooler ID: 2-7C Temp Blank 3C

Matrix of each Sample:
7 _____

Trip Blank _____
 BMS/BMSD _____
 Additional Sample Remarks
 Extra Sample Volume? _____
 Limited Sample Volume? _____
 Field pres'd for volatiles? _____
 Field-filtered for dissolved? _____
 Lab-filtered for dissolved? _____
 Ref Lab required? _____

TO BE COMPLETED IN ANCHORAGE UPON ARRIVAL FROM FAIRBANKS:

DATE / TIME: _____

COOLER AND TEMP BLANK READINGS*

Cooler ID	Temp Blank	Cooler
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

CUSTODY SEALS INTACT: YES / NO # / WHERE: _____
 COMPLETED BY (INITIAL): _____



200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.sgsevenvironmental.com>

Julie Keener
Shannon & Wilson

Work Order: 3033367
31-1-11159-003 (1034268)
Client: Shannon & Wilson
Report Date: August 15, 2003

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Control Manual that outlines this program is available at your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your SGS Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

PQL Practical Quantitation Limit (reporting limit).
U Indicates the analyte was analyzed for but not detected.
F Indicates an estimated value that falls below PQL, but is greater than the MDL.
J Indicates an estimated value that falls below PQL, but is greater than the MDL.
B Indicates the analyte is found in the blank associated with the sample.
* The analyte has exceeded allowable limits.
GT Greater Than
D Secondary Dilution
LT Less Than
! Surrogate out of range



SGS Ref.# 3033367001
 Client Name Shannon & Wilson
 Project Name/# 31-1-11159-003 (1034268)
 Client Sample ID 1159-080703-002
 Matrix Solid

Printed Date/Time 08/15/2003 12:56
 Collected Date/Time 08/07/2003 10:05
 Received Date/Time 08/12/2003 9:00
 Technical Director Stephen C. Ede

Released By *Dennis Heckler*

Sample Remarks:
 Sample analyzed at the Ludington, Michigan laboratory of SGS Environmental Services Inc.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
PHYSICAL PROPERTY ANALYSIS								
Total Solids	92.2	0.10	%	SM19 2540G			08/14/03	DDC
GC/MS VOLATILE ORGANIC ANALYSIS								
1,1,1,2-Tetrachloroethane	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1,1-Trichloroethane	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1,2,2-Tetrachloroethane	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1,2-Trichloroethane	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1-Dichloroethane	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1-Dichloroethene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1-Dichloropropene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,3-Trichlorobenzene	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,3-Trichloropropane	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,4-Trichlorobenzene	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,4-Trimethylbenzene	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dibromo-3-chloropropane	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dibromoethane	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichlorobenzene	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichloroethane	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichloropropane	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,3,5-Trimethylbenzene	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,3-Dichlorobenzene	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,3-Dichloropropane	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,4-Dichlorobenzene	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
2,2-Dichloropropane	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
2-Butanone (M E K)	68 U	68	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
2-Chlorotoluene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH



IS Ref.# 3033367001
 Client Name Shannon & Wilson
 Project Name/# 31-1-11159-003 (1034268)
 Client Sample ID 1159-080703-002
 Matrix Solid

Printed Date/Time 08/15/2003 12:56
 Collected Date/Time 08/07/2003 10:05
 Received Date/Time 08/12/2003 9:00
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
2-Hexanone	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chlorotoluene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
4-Isopropyltoluene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
4-Methyl-2-pentanone (MIBK)	340 U	340	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
acetone	68 U	68	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Allyl chloride	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Benzene	2.7 U	2.7	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromobenzene	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromochloromethane	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromodichloromethane	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromoform	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromomethane	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Carbon disulfide	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Carbon tetrachloride	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chlorobenzene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chloroethane	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chloroform	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chloromethane	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
cis-1,2-Dichloroethene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
cis-1,3-Dichloropropene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Dibromochloromethane	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Dibromomethane	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Dichlorodifluoromethane	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Ethylbenzene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Hexachlorobutadiene	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Isopropylbenzene	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Methyl iodide	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Methyl-t-butyl ether	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Methylene chloride	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
n-Butylbenzene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH



SGS Ref.# 3033367001
 Client Name Shannon & Wilson
 Project Name# 31-1-11159-003 (1034268)
 Client Sample ID 1159-080703-002
 Matrix Solid

Printed Date/Time 08/15/2003 12:56
 Collected Date/Time 08/07/2003 10:05
 Received Date/Time 08/12/2003 9:00
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
n-Propylbenzene	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Naphthalene	34 U	34	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
o-Xylene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
P & M -Xylene	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
sec-Butylbenzene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Styrene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
tert-Butylbenzene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Tetrachloroethene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Tetrahydrofuran	110 U	110	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Toluene	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
trans-1,2-Dichloroethene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
trans-1,3-Dichloropropene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Trichloroethene	7.9 U	7.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Trichlorofluoromethane	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Vinyl chloride	16 U	16	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Surrogates								
1,2-Dichloroethane-D4 Surr	101		%	SW-846 8260B	74-123	08/07/03	08/15/03	JEH
4-Bromofluorobenzene Surr	88.6		%	SW-846 8260B	80-124	08/07/03	08/15/03	JEH
Dibromofluoromethane Surr	101		%	SW-846 8260B	87-117	08/07/03	08/15/03	JEH
Toluene-d8 Surr	99.4		%	SW-846 8260B	92-113	08/07/03	08/15/03	JEH
3RO/8021 COMBINATION								
Gasoline Range Organics	1.1 U	1.1	mg/Kg	AK-101		08/07/03	08/13/03	JDS
Surrogates								
1,4-Difluorobenzene IS/Surr	97.4		%	AK-101	60-120	08/07/03	08/13/03	JDS
1-Bromofluorobenzene Surr	122		%	AK-101	50-150	08/07/03	08/13/03	JDS



IS Ref.# 3033367002
Client Name Shannon & Wilson
Project Name# 31-1-11159-003 (1034268)
Client Sample ID 1159-080703-003
Matrix Solid

Printed Date/Time 08/15/2003 12:56
Collected Date/Time 08/07/2003 10:15
Received Date/Time 08/12/2003 9:00
Technical Director Stephen C. Ede

Released By Denise Heckler

Sample Remarks:
Sample analyzed at the Ludington, Michigan laboratory of SGS Environmental Services Inc.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
PHYSICAL PROPERTY ANALYSIS								
Total Solids	92.8	0.10	%	SM19 2540G			08/14/03	DDC
GC/MS VOLATILE ORGANIC ANALYSIS								
1,1,2-Tetrachloroethane	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1,1-Trichloroethane	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1,2,2-Tetrachloroethane	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Trichloroethane	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1-Dichloroethane	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1-Dichloroethene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1-Dichloropropene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,3-Trichlorobenzene	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,3-Trichloropropane	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,4-Trichlorobenzene	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,4-Trimethylbenzene	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dibromo-3-chloropropane	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dibromoethane	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichlorobenzene	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichloroethane	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichloropropane	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,3,5-Trimethylbenzene	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,3-Dichlorobenzene	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,3-Dichloropropane	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,4-Dichlorobenzene	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichloropropane	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Butanone (M E K)	75 U	75	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
2-Chlorotoluene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH



SGS Ref.# 3033367002
 Client Name Shannon & Wilson
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 Matrix Solid

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 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
2-Hexanone	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
4-Chlorotoluene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
4-Isopropyltoluene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
4-Methyl-2-pentanone (MIBK)	380 U	380	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Acetone	75 U	75	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Allyl chloride	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Benzene	3.0 U	3.0	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromobenzene	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromochloromethane	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromodichloromethane	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromoform	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromomethane	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Carbon disulfide	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Carbon tetrachloride	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chlorobenzene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chloroethane	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chloroform	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chloromethane	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
cis-1,2-Dichloroethene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
cis-1,3-Dichloropropene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Dibromochloromethane	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Dibromomethane	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Dichlorodifluoromethane	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Ethylbenzene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Hexachlorobutadiene	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Isopropylbenzene	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Methyl iodide	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Methyl-t-butyl ether	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Methylene chloride	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
n-Butylbenzene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH



IS Ref.# 3033367002
 Client Name Shannon & Wilson
 Project Name/# 31-1-11159-003 (1034268)
 Client Sample ID 1159-080703-003
 Matrix Solid

Printed Date/Time 08/15/2003 12:56
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 Received Date/Time 08/12/2003 9:00
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
n-Propylbenzene	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Phthalene	38 U	38	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
o-Xylene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
p-Xylene	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
tert-Butylbenzene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Styrene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichloroethane	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Tetrahydrofuran	130 U	130	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Toluene	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
trans-1,2-Dichloroethane	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
trans-1,3-Dichloropropene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Trichloroethene	8.8 U	8.8	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Dichlorofluoromethane	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Vinyl chloride	18 U	18	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Surrogates								
1,2-Dichloroethane-D4 Surr	99.4		%	SW-846 8260B	74-123	08/07/03	08/15/03	JEH
4-Bromofluorobenzene Surr	92.5		%	SW-846 8260B	80-124	08/07/03	08/15/03	JEH
1-Bromofluoromethane Surr	103		%	SW-846 8260B	87-117	08/07/03	08/15/03	JEH
Toluene-d8 Surr	98.5		%	SW-846 8260B	92-113	08/07/03	08/15/03	JEH

GC/MS/8021 COMBINATION

Gasoline Range Organics	1.3 U	1.3	mg/Kg	AK-101		08/07/03	08/13/03	JDS
Surrogates								
1,4-Difluorobenzene IS/Surr	90.7		%	AK-101	60-120	08/07/03	08/13/03	JDS
1-Bromofluorobenzene Surr	103		%	AK-101	50-150	08/07/03	08/13/03	JDS



GS Ref.# 3033367003
 Client Name Shannon & Wilson
 Project Name/# 31-1-11159-003 (1034268)
 Client Sample ID 1159-080703-004
 Matrix Solid

Printed Date/Time 08/15/2003 12:56
 Collected Date/Time 08/07/2003 12:05
 Received Date/Time 08/12/2003 9:00
 Technical Director Stephen C. Ede

Released By *Denise Heckler*

Sample Remarks:
 Sample analyzed at the Ludington, Michigan laboratory of SGS Environmental Services Inc.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
PHYSICAL PROPERTY ANALYSIS								
Total Solids	86.7	0.10	%	SM19 2540G			08/14/03	DDC
GC/MS VOLATILE ORGANIC ANALYSIS								
1,1,1,2-Tetrachloroethane	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,1-Trichloroethane	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,2,2-Tetrachloroethane	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,2-Trichloroethane	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloroethane	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloroethene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloropropene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,3-Trichlorobenzene	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,3-Trichloropropane	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,4-Trichlorobenzene	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,4-Trimethylbenzene	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dibromo-3-chloropropane	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dibromoethane	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichlorobenzene	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichloroethane	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichloropropane	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3,5-Trimethylbenzene	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3-Dichlorobenzene	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3-Dichloropropane	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,4-Dichlorobenzene	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
2,2-Dichloropropane	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
2-Butanone (M E K)	75 U	75	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
2-Chlorotoluene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH



SGS Ref.# 3033367003
 Client Name Shannon & Wilson
 Project Name# 31-1-11159-003 (1034268)
 Client Sample ID 1159-080703-004
 Matrix Solid

Printed Date/Time 08/15/2003 12:56
 Collected Date/Time 08/07/2003 12:05
 Received Date/Time 08/12/2003 9:00
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
2-Hexanone	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chlorotoluene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Isopropyltoluene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
4-Methyl-2-pentanone (MIBK)	370 U	370	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Petone	75 U	75	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Ethyl chloride	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Benzene	3.0 U	3.0	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Toluene	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dichloromethane	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromodichloromethane	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloroform	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromomethane	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Carbon disulfide	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Carbon tetrachloride	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromobenzene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloroethane	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloroform	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromomethane	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
cis-1,2-Dichloroethene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
trans-1,3-Dichloropropene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromochloromethane	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dibromomethane	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dichlorodifluoromethane	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Ethylbenzene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Hexachlorobutadiene	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Isopropylbenzene	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Ethyl iodide	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methyl-t-butyl ether	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Ethylene chloride	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Butylbenzene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH



SGS Ref.# 3033367003
Client Name Shannon & Wilson
Project Name# 31-1-11159-003 (1034268)
Client Sample ID 1159-080703-004
Matrix Solid

Printed Date/Time 08/15/2003 12:56
Collected Date/Time 08/07/2003 12:05
Received Date/Time 08/12/2003 9:00
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
n-Propylbenzene	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Naphthalene	37 U	37	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
o-Xylene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
P & M -Xylene	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
sec-Butylbenzene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Styrene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
tert-Butylbenzene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Tetrachloroethene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Tetrahydrofuran	120 U	120	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Toluene	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
trans-1,2-Dichloroethene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
trans-1,3-Dichloropropene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Trichloroethene	8.7 U	8.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Trichlorofluoromethane	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Vinyl chloride	17 U	17	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Surrogates								
1,2-Dichloroethane-D4 Surr	102		%	SW-846 8260B	74-123	08/07/03	08/14/03	JEH
4-Bromofluorobenzene Surr	80.6		%	SW-846 8260B	80-124	08/07/03	08/14/03	JEH
Dibromofluoromethane Surr	101		%	SW-846 8260B	87-117	08/07/03	08/14/03	JEH
Toluene-d8 Surr	98.8		%	SW-846 8260B	92-113	08/07/03	08/14/03	JEH
GRO/8021 COMBINATION								
Gasoline Range Organics	1.2 U	1.2	mg/Kg	AK-101		08/07/03	08/13/03	JDS
Surrogates								
1,4-Difluorobenzene IS/Surr	92.2		%	AK-101	60-120	08/07/03	08/13/03	JDS
4-Bromofluorobenzene Surr	64.3		%	AK-101	50-150	08/07/03	08/13/03	JDS



S Ref.# 3033367004
 Client Name Shannon & Wilson
 Project Name/# 31-1-11159-003 (1034268)
 Client Sample ID 1159-080703-005
 Matrix Solid

Printed Date/Time 08/15/2003 12:56
 Collected Date/Time 08/07/2003 12:10
 Received Date/Time 08/12/2003 9:00
 Technical Director Stephen C. Ede

Released By *Dan Hecker*

Sample Remarks:
 Sample analyzed at the Ludington, Michigan laboratory of SGS Environmental Services Inc.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
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PHYSICAL PROPERTY ANALYSIS

Total Solids	84.1	0.10	%	SM19 2540G			08/14/03	DDC
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GC/MS VOLATILE ORGANIC ANALYSIS

1,1,2-Tetrachloroethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1,1-Trichloroethane	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,2-Tetrachloroethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Trichloroethane	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1-Dichloroethane	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1-Dichloroethene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,1-Dichloropropene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,3-Trichlorobenzene	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,3-Trichloropropane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,4-Trichlorobenzene	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2,4-Trimethylbenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dibromo-3-chloropropane	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dibromoethane	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichlorobenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichloroethane	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,2-Dichloropropane	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,3,5-Trimethylbenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,3-Dichlorobenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,3-Dichloropropane	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
1,4-Dichlorobenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
2,2-Dichloropropane	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
2-Butanone (M E K)	85 U	85	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
2-Chlorotoluene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH



SGS Ref.# 3033367004
Client Name Shannon & Wilson
Project Name/# 31-1-11159-003 (1034268)
Client Sample ID 1159-080703-005
Matrix Solid

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Collected Date/Time 08/07/2003 12:10
Received Date/Time 08/12/2003 9:00
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
2-Hexanone	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
4-Chlorotoluene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
4-Isopropyltoluene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
4-Methyl-2-pentanone (MIBK)	430 U	430	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Acetone	85 U	85	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Allyl chloride	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Benzene	3.4 U	3.4	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromobenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromochloromethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromodichloromethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromoforn	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Bromomethane	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Carbon disulfide	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Carbon tetrachloride	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chlorobenzene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chloroethane	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chloroform	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Chloromethane	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
cis-1,2-Dichloroethene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
cis-1,3-Dichloropropene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Dibromochloromethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Dibromomethane	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Dichlorodifluoromethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Ethylbenzene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Hexachlorobutadiene	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Isopropylbenzene	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Methyl iodide	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Methyl-t-butyl ether	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Methylene chloride	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
n-Butylbenzene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH



S Ref.# 3033367004
Client Name Shannon & Wilson
Project Name/# 31-1-11159-003 (1034268)
Client Sample ID 1159-080703-005
Matrix Solid

Printed Date/Time 08/15/2003 12:56
Collected Date/Time 08/07/2003 12:10
Received Date/Time 08/12/2003 9:00
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
n-Propylbenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Phthalene	43 U	43	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
o-Xylene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
p & m -Xylene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
n-Butylbenzene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Styrene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
tert-Butylbenzene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Tetrachloroethene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Tetrahydrofuran	140 U	140	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Toluene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
trans-1,2-Dichloroethene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
trans-1,3-Dichloropropene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Trichloroethene	9.9 U	9.9	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Trichlorofluoromethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Vinyl chloride	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/15/03	JEH
Surrogates								
1,2-Dichloroethane-D4 Surr	100		%	SW-846 8260B	74-123	08/07/03	08/15/03	JEH
4-Bromofluorobenzene Surr	95		%	SW-846 8260B	80-124	08/07/03	08/15/03	JEH
1-Bromofluoromethane Surr	103		%	SW-846 8260B	87-117	08/07/03	08/15/03	JEH
Toluene-d8 Surr	98.9		%	SW-846 8260B	92-113	08/07/03	08/15/03	JEH

GC/MSO/8021 COMBINATION								
Gasoline Range Organics	1.4 U	1.4	mg/Kg	AK-101		08/07/03	08/13/03	JDS
Surrogates								
1,4-Difluorobenzene IS/Surr	92.9		%	AK-101	60-120	08/07/03	08/13/03	JDS
1-Bromofluorobenzene Surr	117		%	AK-101	50-150	08/07/03	08/13/03	JDS



SGS Ref.# 3033367005
Client Name Shannon & Wilson
Project Name/# 31-1-11159-003 (1034268)
Client Sample ID 1159-080703-006
Matrix Solid

Printed Date/Time 08/15/2003 12:56
Collected Date/Time 08/07/2003 12:15
Received Date/Time 08/12/2003 9:00
Technical Director Stephen C. Ede

Released By

Denise Heckler

Sample Remarks:

Sample analyzed at the Ludington, Michigan laboratory of SGS Environmental Services Inc.
 8260: Surrogate below QC acceptance criteria; results confirmed by reanalysis.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
PHYSICAL PROPERTY ANALYSIS								
Total Solids	77.4	0.10	%	SM19 2540G			08/14/03	DDC
GC/MS VOLATILE ORGANIC ANALYSIS								
1,1,1,2-Tetrachloroethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,1-Trichloroethane	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,2,2-Tetrachloroethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,2-Trichloroethane	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloroethane	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloroethene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloropropene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,3-Trichlorobenzene	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,3-Trichloropropane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,4-Trichlorobenzene	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,4-Trimethylbenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dibromo-3-chloropropane	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dibromoethane	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichlorobenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichloroethane	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichloropropane	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3,5-Trimethylbenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3-Dichlorobenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3-Dichloropropane	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,4-Dichlorobenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichloropropane	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1-Butanone (M E K)	88 U	88	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1-Chlorotoluene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH



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 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
/MS VOLATILE ORGANIC ANALYSIS								
Hexanone	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chlorotoluene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
4-Isopropyltoluene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methyl-2-pentanone (MIBK)	440 U	440	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Acetone	88 U	88	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Allyl chloride	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Benzene	3.5 U	3.5	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromobenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromochloromethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromodichloromethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromoform	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromomethane	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Carbon disulfide	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Carbon tetrachloride	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chlorobenzene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloroethane	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloroform	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloromethane	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
cis-1,2-Dichloroethene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
cis-1,3-Dichloropropene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dibromochloromethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dibromomethane	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dichlorodifluoromethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Ethylbenzene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Hexachlorobutadiene	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Isopropylbenzene	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methyl iodide	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methyl-t-butyl ether	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methylene chloride	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
n-Butylbenzene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH



SGS Ref.# 3033367005
Client Name Shannon & Wilson
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Matrix Solid

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Collected Date/Time 08/07/2003 12:15
Received Date/Time 08/12/2003 9:00
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
n-Propylbenzene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Naphthalene	44 U	44	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
o-Xylene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
P & M -Xylene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
sec-Butylbenzene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Styrene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
tert-Butylbenzene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Tetrachloroethene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Tetrahydrofuran	150 U	150	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Toluene	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
trans-1,2-Dichloroethene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
trans-1,3-Dichloropropene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Trichloroethene	10 U	10	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Trichlorofluoromethane	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Vinyl chloride	20 U	20	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Surrogates								
1,2-Dichloroethane-D4 Surr	98.1		%	SW-846 8260B	74-123	08/07/03	08/14/03	JEH
4-Bromofluorobenzene Surr	68.7	!	%	SW-846 8260B	80-124	08/07/03	08/14/03	JEH
Dibromofluoromethane Surr	99.2		%	SW-846 8260B	87-117	08/07/03	08/14/03	JEH
Toluene-d8 Surr	101		%	SW-846 8260B	92-113	08/07/03	08/14/03	JEH
GRO/8021 COMBINATION								
Gasoline Range Organics	1.5 U	1.5	mg/Kg	AK-101		08/07/03	08/13/03	JDS
Surrogates								
1,4-Difluorobenzene IS/Surr	94		%	AK-101	60-120	08/07/03	08/13/03	JDS
4-Bromofluorobenzene Surr	68.7		%	AK-101	50-150	08/07/03	08/13/03	JDS



S Ref.# 3033367006
 Client Name Shannon & Wilson
 Project Name/# 31-1-11159-003 (1034268)
 Client Sample ID 1159-080703-007
 Matrix Solid

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 Collected Date/Time 08/07/2003 14:05
 Received Date/Time 08/12/2003 9:00
 Technical Director Stephen C. Ede

Released By *Dennis Heckler*

Sample Remarks:
 Sample analyzed at the Ludington, Michigan laboratory of SGS Environmental Services Inc.
 8260: Surrogate below QC acceptance criteria; results confirmed by reanalysis.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
PHYSICAL PROPERTY ANALYSIS								
Total Solids	73.3	0.10	%	SM19 2540G			08/14/03	DDC
GC/MS VOLATILE ORGANIC ANALYSIS								
1,1,2-Tetrachloroethane	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,1-Trichloroethane	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,2,2-Tetrachloroethane	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Trichloroethane	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloroethane	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloroethene	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloropropene	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,3-Trichlorobenzene	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,3-Trichloropropane	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,4-Trichlorobenzene	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,4-Trimethylbenzene	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dibromo-3-chloropropane	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dibromoethane	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichlorobenzene	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichloroethane	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichloropropane	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3,5-Trimethylbenzene	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3-Dichlorobenzene	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3-Dichloropropane	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,4-Dichlorobenzene	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichloropropane	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
2-Butanone (M E K)	83 U	83	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
2-Chlorotoluene	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH



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 Matrix Solid

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 Received Date/Time 08/12/2003 9:00
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
2-Hexanone	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
4-Chlorotoluene	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
4-Isopropyltoluene	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
4-Methyl-2-pentanone (MIBK)	420 U	420	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Acetone	83 U	83	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Allyl chloride	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Benzene	3.3 U	3.3	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromobenzene	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromochloromethane	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromodichloromethane	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromoform	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromomethane	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Carbon disulfide	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Carbon tetrachloride	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chlorobenzene	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloroethane	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloroform	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloromethane	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
cis-1,2-Dichloroethene	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
cis-1,3-Dichloropropene	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dibromochloromethane	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dibromomethane	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dichlorodifluoromethane	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Ethylbenzene	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Hexachlorobutadiene	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Isopropylbenzene	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methyl iodide	19 U	19	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methyl-t-butyl ether	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methylene chloride	42 U	42	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
n-Butylbenzene	9.7 U	9.7	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH



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 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
n-Propylbenzene	19 U		19 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,3-Trichlorobenzene	42 U		42 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
o-Xylene	9.7 U		9.7 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
p & m-Xylene	19 U		19 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,4-Dichlorobenzene	9.7 U		9.7 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Styrene	9.7 U		9.7 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
tert-Butylbenzene	9.7 U		9.7 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Tetrachloroethene	9.7 U		9.7 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Tetrahydrofuran	140 U		140 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Toluene	19 U		19 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
trans-1,2-Dichloroethene	9.7 U		9.7 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
trans-1,3-Dichloropropene	9.7 U		9.7 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Trichloroethene	9.7 U		9.7 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Trichlorofluoromethane	19 U		19 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Vinyl chloride	19 U		19 ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Surrogates								
1,2-Dichloroethane-D4 Surr	99.5		%	SW-846 8260B	74-123	08/07/03	08/14/03	JEH
4-Bromofluorobenzene Surr	66	!	%	SW-846 8260B	80-124	08/07/03	08/14/03	JEH
Dibromofluoromethane Surr	98.5		%	SW-846 8260B	87-117	08/07/03	08/14/03	JEH
Toluene-d8 Surr	100		%	SW-846 8260B	92-113	08/07/03	08/14/03	JEH

GC/MSO/8021 COMBINATION

Gasoline Range Organics	1.4 U		1.4 mg/Kg	AK-101		08/07/03	08/13/03	JDS
Surrogates								
1,4-Difluorobenzene IS/Surr	92.9		%	AK-101	60-120	08/07/03	08/13/03	JDS
1,2-Dibromofluorobenzene Surr	51.9		%	AK-101	50-150	08/07/03	08/13/03	JDS



SGS Ref.# 3033367007
 Client Name Shannon & Wilson
 Project Name/# 31-1-11159-003 (1034268)
 Client Sample ID 1159-080703-008
 Matrix Solid

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 Received Date/Time 08/12/2003 9:00
 Technical Director Stephen C. Ede

Released By *Denise Heckler*

Sample Remarks:
 Sample analyzed at the Ludington, Michigan laboratory of SGS Environmental Services Inc.
 GRO: Field surrogate below QC acceptance criteria; results confirmed by reanalysis.
 8260: Surrogate below QC acceptance criteria; results confirmed by reanalysis.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
PHYSICAL PROPERTY ANALYSIS								
Total Solids	77.5	0.10	%	SM19 2540G			08/14/03	DDC
GC/MS VOLATILE ORGANIC ANALYSIS								
1,1,1,2-Tetrachloroethane	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,1-Trichloroethane	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,2,2-Tetrachloroethane	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1,2-Trichloroethane	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloroethane	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloroethene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,1-Dichloropropene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,3-Trichlorobenzene	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,3-Trichloropropane	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,4-Trichlorobenzene	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2,4-Trimethylbenzene	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dibromo-3-chloropropane	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dibromoethane	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichlorobenzene	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichloroethane	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,2-Dichloropropane	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3,5-Trimethylbenzene	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3-Dichlorobenzene	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,3-Dichloropropane	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
1,4-Dichlorobenzene	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
2,2-Dichloropropane	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
2-Butanone (M E K)	91 U	91	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH



S Ref.# 3033367007
Client Name Shannon & Wilson
Project Name# 31-1-11159-003 (1034268)
Client Sample ID 1159-080703-008
Matrix Solid

Printed Date/Time 08/15/2003 12:56
Collected Date/Time 08/07/2003 14:15
Received Date/Time 08/12/2003 9:00
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GC/MS VOLATILE ORGANIC ANALYSIS								
o-Chlorotoluene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Hexanone	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
4-Chlorotoluene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
4-Isopropyltoluene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methyl-2-pentanone (MIBK)	450 U	450	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Acetone	91 U	91	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Allyl chloride	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Benzene	3.6 U	3.6	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromobenzene	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromochloromethane	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromodichloromethane	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromoform	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Bromomethane	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Carbon disulfide	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Carbon tetrachloride	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chlorobenzene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloroethane	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloroform	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Chloromethane	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
cis-1,2-Dichloroethene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
cis-1,3-Dichloropropene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dibromochloromethane	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dibromomethane	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Dichlorodifluoromethane	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Ethylbenzene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Hexachlorobutadiene	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Isopropylbenzene	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methyl iodide	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methyl-t-butyl ether	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Methylene chloride	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH



GS Ref.# 3033367007
Client Name Shannon & Wilson
Project Name/# 31-1-11159-003 (1034268)
Client Sample ID 1159-080703-008
Matrix Solid

Printed Date/Time 08/15/2003 12:56
Collected Date/Time 08/07/2003 14:15
Received Date/Time 08/12/2003 9:00
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
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GC/MS VOLATILE ORGANIC ANALYSIS

n-Butylbenzene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
n-Propylbenzene	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Naphthalene	45 U	45	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
m-Xylene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
p & m -Xylene	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
sec-Butylbenzene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Styrene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
tert-Butylbenzene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Tetrachloroethene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Tetrahydrofuran	150 U	150	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Toluene	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
trans-1,2-Dichloroethene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
trans-1,3-Dichloropropene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Trichloroethene	11 U	11	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Trichlorofluoromethane	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH
Vinyl chloride	21 U	21	ug/Kg	SW-846 8260B		08/07/03	08/14/03	JEH

Surrogates

1,2-Dichloroethane-D4 Surr	99.6		%	SW-846 8260B	74-123	08/07/03	08/14/03	JEH
4-Bromofluorobenzene Surr	63.4	!	%	SW-846 8260B	80-124	08/07/03	08/14/03	JEH
Dibromofluoromethane Surr	100		%	SW-846 8260B	87-117	08/07/03	08/14/03	JEH
Toluene-d8 Surr	100		%	SW-846 8260B	92-113	08/07/03	08/14/03	JEH

GRO/8021 COMBINATION

Gasoline Range Organics	1.5 U	1.5	mg/Kg	AK-101		08/07/03	08/13/03	JDS
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Surrogates

1,4-Difluorobenzene IS/Surr	92.6		%	AK-101	60-120	08/07/03	08/13/03	JDS
4-Bromofluorobenzene Surr	44.9	!	%	AK-101	50-150	08/07/03	08/13/03	JDS



**SGS/CT&E Environmental Services
Alaska Division
Level I Data Report**

Project: 31-1-11159-003 Weaver Bros.
Client: Shannon & Wilson-Fairbanks
CT&E Work Order: 1035236

Contents:

Case Narrative
Chain of Custody/Sample Rec Form
Final Report Pages
QC Summary Pages

Note:

Unless otherwise noted, all quality assurance/quality control criteria are in compliance with the proper regulatory authority and/or SGS's Quality Assurance Program Plan.



Case Narrative

Client SHANFBK Shannon & Wilson-Fairbanks Printed Date/Time 9/16/2003 11:10
Workorder 1035236 31-1-11159-003 Weaver Bros.

Sample ID Client Sample ID

- 513066 UDUP**
SW6020 ICP Metals - Duplicate RPD recovery was outside of the acceptance criteria. LIMS erroneously calculated the reported value by factoring in the original sample result, which is below the PQL.
- 513506 BND**
SW7470 - Post digest spike recovery for Hg was outside of acceptance criteria; MS/MSD were recovered within post digest spike recovery limit.
- 513767 MSD**
GRO/BTEX - MSD o-xylene recovery is biased low.
- 513785 UDUP**
SW6020 Duplicate RPD recovery was outside of the acceptance criteria. LIMS erroneously calculated the reported value by factoring in the original sample result, which is below the PQL.
- 514944**
Recovery for chloromethane does not meet QC goals. This analyte is not target in the associated samples.
- 51527**
Recoveries for 1,1,1-trichloroethane, 1,1,2-dichloroethane, 1,2-dichloroethane, 1,3-dichloropropane, dibromochloromethane, 1,1,1,2-tetrachloroethane, bromoform, 1,2-dibromochloroethane, chloroethane, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,2-dichloropropane and 2-hexanone are biased high. These analytes are not found in the associated samples.
8260 - CCV recovery for trichlorofluoromethane is biased high (123% recovery). This analyte may be biased high in the associated samples.
- 1035236001 PS 1159-082703-009**
8260 - CCV recovery for trichlorofluoromethane is biased high (123% recovery). This analyte may be biased high in the associated samples.
8260 - Chloromethane recovery is estimated due to carryover from another sample.
- 1035236002 PS 1159-082703-010**
8260 - CCV recovery for trichlorofluoromethane is biased high (123% recovery). This analyte may be biased high in the associated samples.
8260 - Chloromethane recovery is estimated due to carryover from another sample.
- 1035236003 PS 1159-082703-011**
8260 - Chloromethane recovery is estimated due to carryover from another sample.
- 1035236004 PS 1159-082703-012**
8260 - CCV recovery for trichlorofluoromethane is biased high (123% recovery). This analyte may be biased high in the associated samples.
8260 - Chloromethane recovery is estimated due to carryover from another sample.

QUOTE# 6422

1035206

Shannon & Wilson, Inc.

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2065 Hill Road
Falmouth, AK 99707
(907) 479-0500

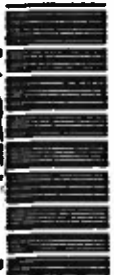
11500 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

6430 Fairbanks Street, Suite 3
Anchorage, AK 99516
(907) 561-2120

Chain of Custody Record

Analysis Parameters/Sample Container Description
(Include preservative if used)

Attn: Nobody



Sample Identity	Lab No.	Time	Date Sampled	Analysis Parameters/Sample Container Description						Total Number of Containers	Remarks/Matrix
				Corro. Grab	DRD (AK-102)	GRD (AK-101)	RRD (AK-103)	VOC (EPA 8260)	Total PCBs (EPA 800)		
1159-082703-009	1	2:41	8/27/03	X	X	X	X	X	9	Water	
1159-082703-010	2	2:00	8/27/03	X	X	X	X	X	9		
1159-082703-011	3	3:39	8/27/03	X	X	X	X	X	9		
1159-082703-012	4	4:43	8/27/03	X	X	X	X	X	9		
Trip Blank	5								6		

Project Information

Project Number: SI-11159-013 Total Number of Containers: 42

Project Name: Weaver Bros COC Seals/Intact? Y/NNA

Contact: Julie Keener Received Good Cond./Cold

Ongoing Project? Yes No Delivery Method:

Sampler: Andra Carlson (attach shipping bill, if any)

Requested Turn Around Time: STANDARD

Special Instructions: LEVEL I & EDP

Received by: Signature: [Signature] Time: 8:30 Date: 8/27/03

Received by: Signature: [Signature] Time: 8:20:01 Date: 8/27/03

Received by: Signature: [Signature] Time: 8:47 Date: 8/28/03

Received by: Signature: [Signature] Time: 8:24:03 Date: 8/28/03

Distribution: White - shipment - returned to Shannon & Wilson w/ Laboratory report
Yellow - shipment - for consignee files
Pink - Shannon & Wilson - Job File

CJF-1091UR
COOLW-1478
TB-6.2c

SGS

SAMPLE RECEIPT FORM

CT&E WO#:

1035236



Yes No NA

Are samples RUSH, priority, or within 72 hrs. of hold time?

If yes have you done e-mail notification?

Are samples within 24 hrs. of hold time or due date?

If yes, have you spoken with Supervisor?

Archiving bottles - if required, are they properly marked?

Are there any problems? PM Notified? _____

Were samples preserved correctly and pH verified?

Due Date: 9-8-03

Received Date: 8-28-03

Received Time: 8:30

Is date/time conversion necessary? NO

of hours from AK Standard Time: _____

Received Temperature*: _____ °C

Thermometer ID: _____

Cooler ID	Temp Blank	Cooler Temp
<u>1</u>	<u>6.2°C</u>	<u>1.4°C</u>
_____	_____ °C	_____ °C
_____	_____ °C	_____ °C
_____	_____ °C	_____ °C

If this is for PWS, provide PWSID. _____

Will courier charges apply?

Method of payment? _____

Data package required? (Level 1 / 2 / 3)

Notes: _____

Is this a DoD project? (USACE, Navy, AFCEE)

*Temperature readings include thermometer correction factors

Delivery method (circle all that apply): Client

Alert Courier / UPS / FedEx / USPS /

AA Goldstreak / NAC / ERA / PenAir / Carille

Lynden / SGS-CT&E / Other: _____

Airbill # _____

Additional Sample Remarks: (if applicable)

Extra Sample Volume? _____

Limited Sample Volume? _____

Field preserved for volatiles? _____

Field-filtered for dissolved? _____

Lab-filtered for dissolved? _____

Ref Lab required? _____

Foreign Soil? _____

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

Yes	No		Samples/Analyses Affected:
_____	_____	Is received temperature $4 \pm 2^\circ\text{C}$?	_____
_____	_____	Exceptions: _____	_____
_____	_____	Rad Screen performed?	_____
_____	_____	Result: _____	_____
_____	_____	Was there an airbill? (Note # above in the right hand column)	_____
_____	_____	Was cooler sealed with custody seals? Faxed to COE? _____	_____
_____	_____	# / where: _____	_____
_____	_____	Were seal(s) intact upon arrival?	_____
_____	_____	Was there a COC with cooler?	_____
_____	_____	Was the COC filled out properly?	_____
_____	_____	Did the COC indicate ACOE / AFCEE project? (if applicable)	_____
_____	_____	Did the COC and samples correspond?	_____
_____	_____	Were all sample packed to prevent breakage?	_____
_____	_____	Packing material: _____	_____
_____	_____	Were all samples unbroken and clearly labeled?	_____
_____	_____	Were all samples sealed in separate plastic bags?	_____
_____	_____	Were all bottles for volatiles free of headspace?	_____
_____	_____	Were correct container / sample sizes submitted?	_____
_____	_____	Is sample condition good?	_____

This section must be filled if problems are found.

Yes No

_____ Was client notified of problems?

Individual contacted: _____

Date/Time: _____

Phone/Fax: _____

Reason for contact: _____

SGS/CT&E Contact: _____

Notes:

Completed by (sign): Shannon Raines (print): Shannon Raines

Login proof (check one): waived _____ required _____ performed by: Anthony H. [unclear]

SGS

CT&E WO#:

1035236



SAMPLE RECEIPT FORM FOR TRANSFERS
From
FAIRBANKS, ALASKA OR HONOLULU, HAWAII
To
ANCHORAGE, AK

TO BE COMPLETED IN ANCHORAGE UPON ARRIVAL FROM FAIRBANKS OR HAWAII.
NOTES RECORDED BELOW ARE ACTIONS NEEDED UPON ARRIVAL IN ANCHORAGE.

Notes: _____

Receipt Date / Time: 8.29.03 0847
Is Sample Date/Time Conversion Necessary? Yes _____ No X
Number of Hours From Alaska Standard Time: N/A
Foreign Soil? Yes _____ No X

COOLER AND TEMP BLANK READINGS*

Cooler ID	Temp Blank	Cooler	Cooler ID	Temp Blank	Cooler
	<u>3.8</u>	<u>2.6</u>			

CUSTODY SEALS INTACT: YES NO # / WHERE: 1P 1B
COMPLETED BY (INITIAL): DA

*Temperature readings include thermometer correction factors.

Signature: Shannon Raines
CT&E Environmental Services Inc.
CUSTODY SEAL



AL

Date/Time: 8-28-03 9:30



CT&E Environmental Services Inc.
CUSTODY SEAL

Signature: Shannon Raines D1

Date/Time: 8-28-03 9:30



Laboratory Analysis Report

200 W. Potter Drive
Anchorage, AK 995 18-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.sgsevenvironmental.com>

Julie Keener
Shannon & Wilson-Fairbanks
2355 Hill Rd
Fairbanks, AK 99709

Work Order:	1035236 31-1-11159-003 Weaver Bros.
Client:	Shannon & Wilson-Fairbanks
Report Date:	September 16, 2003

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Control Manual that outlines this program is available at your request. The laboratory ADEC certification numbers are AK08-03 (DW) and UST-005 (CS).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your SGS Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- PQL Practical Quantitation Limit (reporting limit).
- U Indicates the analyte was analyzed for but not detected.
- F Indicates an estimated value that falls below PQL, but is greater than the MDL.
- J The quantitation is an estimation.
- B Indicates the analyte is found in a blank associated with the sample.
- * The analyte has exceeded allowable regulatory or control limits.
- GT Greater Than
- D The analyte concentration is the result of a dilution.
- LT Less Than
- ! Surrogate out of control limits.
- Q QC parameter out of acceptance range.
- M A matrix effect was present.
- JL The analyte was positively identified, but the quantitation is a low estimation.

Note: Soil samples are reported on a dry weight basis unless otherwise specified.



GS Ref.# 1035236001
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros.
 Client Sample ID 1159-082703-009
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/16/2003 11:10
 Collected Date/Time 08/27/2003 14:41
 Received Date/Time 08/28/2003 16:30
 Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:

8260 - CCV recovery for trichlorofluoromethane is biased high (123% recovery). This analyte may be biased high in the associated samples.
 8260 - Chloromethane recovery is estimated due to carryover from another sample.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Metals Department										
Mercury by Cold Vapor		0.000200 U	0.000200	mg/L	SW7470/E245.1	G		09/12/03	09/12/03	JAL
ACRA Metals										
Arsenic		20.0 U	20.0	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Barium		196	3.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Cadmium		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Chromium		7.00 U	7.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Lead		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Selenium		10.0 U	10.0	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Silver		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Volatile Fuels Department										
Gasoline Range Organics		0.0900 U	0.0900	mg/L	AK101 GRO	A		09/04/03	09/04/03	MML
Surrogates										
4-Bromofluorobenzene <surr>		90		%	AK101 GRO	A	50-150	09/04/03	09/04/03	MML
Semivolatile Organic Fuels Department										
Diesel Range Organics		0.300 U	0.300	mg/L	AK102 103	H		09/02/03	09/02/03	MCM
Residual Range Organics		0.500 U	0.500	mg/L	AK102 103	H		09/02/03	09/02/03	MCM
Surrogates										
5a Androstane <surr>		78.7		%	AK102 103	H	50-150	09/02/03	09/02/03	MCM
n-Triacontane-d62 <surr>		80.8		%	AK102 103	H	50-150	09/02/03	09/02/03	MCM



SGS Ref.# 1035236001
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Client Sample ID 1159-082703-009
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
Printed Date/Time 09/16/2003 11:10
Collected Date/Time 08/27/2003 14:41
Received Date/Time 08/28/2003 16:30
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
Dichlorodifluoromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Chloromethane		0.00286	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Vinyl chloride		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromomethane		0.00300 U	0.00300	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Chloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Trichlorofluoromethane		0.0158	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Methylene chloride		0.00500 U	0.00500	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Carbon disulfide		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
trans-1,2-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
1,1-Dichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
2,2-Dichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
cis-1,2-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
2-Butanone (MEK)		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Bromochloromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chloroform		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Carbon tetrachloride		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
1,1,1-Trichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloropropene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Benzene		0.000400 U	0.000400	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Trichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Dibromomethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Bromodichloromethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Chloroethyl Vinyl Ether		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
cis-1,3-Dichloropropene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Toluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
trans-1,3-Dichloropropene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
1,1,2-Trichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Tetrachloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3-Dichloropropane		0.000400 U	0.000400	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
Dibromochloromethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ
1,2-Dibromoethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chlorobenzene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJJ



GS Ref.# 1035236001
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Client Sample ID 1159-082703-009
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/16/2003 11:10
Collected Date/Time 08/27/2003 14:41
Received Date/Time 08/28/2003 16:30
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
1,1,1,2-Tetrachloroethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Ethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
P & M -Xylene		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
o-Xylene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Styrene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromoform		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Isopropylbenzene (Cumene)		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,2,2-Tetrachloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,3-Trichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
n-Propylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Chlorotoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Chlorotoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3,5-Trimethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
tert-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,4-Trimethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
sec-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Isopropyltoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,4-Dichlorobenzene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3-Dichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
n-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dibromo-3-chloropropane		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,4-Trichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Hexachlorobutadiene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Naphthalene		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,3-Trichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Methyl-2-pentanone (MIBK)		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Hexanone		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Surrogates										
Dibromofluoromethane <surr>		94.1		%	SW8260B	D	85-115	09/08/03	09/09/03	TJE
1,2-Dichloroethane-D4 <surr>		117		%	SW8260B	D	72-119	09/08/03	09/09/03	TJE



SGS Ref.# 1035236001
Client Name Shannon & Wilson-Fairbanks
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Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
4-Bromofluorobenzene <sur>		113		%	SW8260B	D	78-124	09/08/03	09/09/03	TJE
Toluene-d8 <sur>		105		%	SW8260B	D	84-113	09/08/03	09/09/03	TJE



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 Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:

8260 - CCV recovery for trichlorofluoromethane is biased high (123% recovery). This analyte may be biased high in the associated samples.
 8260 - Chloromethane recovery is estimated due to carryover from another sample.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Metals Department										
Mercury by Cold Vapor		0.000200 U	0.000200	mg/L	SW7470/E245.1	G		09/12/03	09/12/03	JAL
CRA Metals										
Arsenic		20.0 U	20.0	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Barium		202	3.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Cadmium		2.06	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Chromium		7.00 U	7.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Lead		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Selenium		14.3	10.0	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Silver		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Volatile Fuels Department										
Gasoline Range Organics		0.0900 U	0.0900	mg/L	AK101 GRO	A		09/04/03	09/04/03	MML
Surrogates										
4-Bromofluorobenzene <surr>		96		%	AK101 GRO	A	50-150	09/04/03	09/04/03	MML
Semivolatile Organic Fuels Department										
Residual Range Organics		0.500 U	0.500	mg/L	AK102 103	H		09/02/03	09/02/03	MCM
Diesel Range Organics		0.300 U	0.300	mg/L	AK102 103	H		09/02/03	09/02/03	MCM
Surrogates										
n-Triacontane-d62 <surr>		80.9		%	AK102 103	H	50-150	09/02/03	09/02/03	MCM
5a Androstane <surr>		72.9		%	AK102 103	H	50-150	09/02/03	09/02/03	MCM



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Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
Dichlorodifluoromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJ
Chloromethane		0.00301	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Vinyl chloride		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromomethane		0.00300 U	0.00300	mg/L	SW8260B	D		09/08/03	09/09/03	TJ
Chloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Trichlorofluoromethane		0.0158	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJ
Methylene chloride		0.00500 U	0.00500	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Carbon disulfide		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
trans-1,2-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJ
1,1-Dichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
2,2-Dichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
cis-1,2-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJ
2-Butanone (MEK)		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Bromochloromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chloroform		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJ
Carbon tetrachloride		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
1,1,1-Trichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloropropene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJ
Benzene		0.000400 U	0.000400	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Trichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJ
Dibromomethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromodichloromethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Chloroethyl Vinyl Ether		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJ
cis-1,3-Dichloropropene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Toluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
trans-1,3-Dichloropropene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,2-Trichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Tetrachloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3-Dichloropropane		0.000400 U	0.000400	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Dibromochloromethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dibromoethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chlorobenzene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE



JS Ref.# 1035236002
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
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Matrix Water (Surface, Eff., Ground)

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Printed Date/Time 09/16/2003 11:10
Collected Date/Time 08/27/2003 14:00
Received Date/Time 08/28/2003 16:30
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
1,1,1,2-Tetrachloroethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Ethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
P & M -Xylene		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
o-Xylene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Styrene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromoform		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Isopropylbenzene (Cumene)		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,2,2-Tetrachloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,3-Trichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
n-Propylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Chlorotoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Chlorotoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3,5-Trimethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
tert-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,4-Trimethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
sec-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Isopropyltoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,4-Dichlorobenzene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3-Dichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
n-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dibromo-3-chloropropane		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,4-Trichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Hexachlorobutadiene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Naphthalene		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,3-Trichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Methyl-2-pentanone (MIBK)		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Hexanone		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Surrogates										
Dibromofluoromethane <surrogate>		94.8		%	SW8260B	D	85-115	09/08/03	09/09/03	TJE
1,2-Dichloroethane-D4 <surrogate>		117		%	SW8260B	D	72-119	09/08/03	09/09/03	TJE



SGS Ref.# 1035236002
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Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
4-Bromofluorobenzene	<sur>	115		%	SW8260B	D	78-124	09/08/03	09/09/03	TJL
Toluene-d8	<sur>	105		%	SW8260B	D	84-113	09/08/03	09/09/03	TJL



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 Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:
 8260 - Chloromethane recovery is estimated due to carryover from another sample.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Metals Department										
Mercury by Cold Vapor		0.000200 U	0.000200	mg/L	SW7470/E245.1	G		09/12/03	09/12/03	JAL
RCRA Metals										
Arsenic		20.0 U	20.0	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Barium		256	3.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Cadmium		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Chromium		7.00 U	7.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Lead		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Selenium		10.0 U	10.0	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Silver		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Volatile Fuels Department										
Gasoline Range Organics		0.0900 U	0.0900	mg/L	AK101 GRO	A		09/04/03	09/04/03	MML
Surrogates										
4-Bromofluorobenzene <surr>		91.3		%	AK101 GRO	A	50-150	09/04/03	09/04/03	MML
Semivolatile Organic Fuels Department										
Residual Range Organics		0.500 U	0.500	mg/L	AK102 103	H		09/02/03	09/02/03	MCM
Diesel Range Organics		0.300 U	0.300	mg/L	AK102 103	H		09/02/03	09/02/03	MCM
Surrogates										
n-Triacontane-d62 <surr>		97		%	AK102 103	H	50-150	09/02/03	09/02/03	MCM
5a Androstane <surr>		84.2		%	AK102 103	H	50-150	09/02/03	09/02/03	MCM

Volatile Gas Chromatography/Mass Spectroscopy



SGS Ref.# 1035236003
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-1159-003 Weaver Bros.
 Client Sample ID 1159-082703-011
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/16/2003 11:10
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 Received Date/Time 08/28/2003 16:30
 Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
Dichlorodifluoromethane		0.00118	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Chloromethane		0.00279	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Vinyl chloride		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromomethane		0.00300 U	0.00300	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Chloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Trichlorofluoromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Methylene chloride		0.00500 U	0.00500	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Carbon disulfide		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
trans-1,2-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
1,1-Dichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
2,2-Dichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
cis-1,2-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
2-Butanone (MEK)		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Bromochloromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chloroform		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Carbon tetrachloride		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
1,1,1-Trichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloropropene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Benzene		0.000400 U	0.000400	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Trichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
Dibromomethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromodichloromethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Chloroethyl Vinyl Ether		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
cis-1,3-Dichloropropene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Toluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
trans-1,3-Dichloropropene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJL
1,1,2-Trichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Tetrachloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3-Dichloropropane		0.000400 U	0.000400	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Dibromochloromethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dibromoethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chlorobenzene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE



GS Ref.# 1035236003
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Client Sample ID 1159-082703-011
Matrix Water (Surface, Eff., Ground)

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Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
1,1,1,2-Tetrachloroethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Ethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
P & M -Xylene		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
o-Xylene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Styrene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromoform		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Isopropylbenzene (Cumene)		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,2,2-Tetrachloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,3-Trichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
n-Propylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Chlorotoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Chlorotoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3,5-Trimethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
tert-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,4-Trimethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
sec-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Isopropyltoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,4-Dichlorobenzene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3-Dichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
n-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dibromo-3-chloropropane		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,4-Trichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Hexachlorobutadiene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Naphthalene		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,3-Trichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Methyl-2-pentanone (MIBK)		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Hexanone		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Surrogates										
Dibromofluoromethane <surr>		96.3		%	SW8260B	D	85-115	09/08/03	09/09/03	TJE
1,2-Dichloroethane-D4 <surr>		118		%	SW8260B	D	72-119	09/08/03	09/09/03	TJE



SGS Ref.# 1035236003
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Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init.
Volatile Gas Chromatography/Mass Spectroscopy										
4-Bromofluorobenzene	<sur>	113		%	SW8260B	D	78-124	09/08/03	09/09/03	TJ
Toluene-d8	<sur>	107		%	SW8260B	D	84-113	09/08/03	09/09/03	TJ



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 Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:

8260 - CCV recovery for trichlorofluoromethane is biased high (123% recovery). This analyte may be biased high in the associated samples.
 8260 - Chloromethane recovery is estimated due to carryover from another sample.

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Metals Department										
Mercury by Cold Vapor		0.000200 U	0.000200	mg/L	SW7470/E245.1	G		09/12/03	09/12/03	JAL
CRRA Metals										
Arsenic		20.0 U	20.0	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Barium		346	3.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Cadmium		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Chromium		7.00 U	7.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Lead		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Selenium		10.0 U	10.0	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Silver		2.00 U	2.00	ug/L	SW6020	G		09/02/03	09/03/03	SCL
Volatile Fuels Department										
Gasoline Range Organics		0.0900 U	0.0900	mg/L	AK101 GRO	A		09/04/03	09/04/03	MML
Surrogates										
4-Bromofluorobenzene <surr>		97.1		%	AK101 GRO	A	50-150	09/04/03	09/04/03	MML
Semivolatile Organic Fuels Department										
Residual Range Organics		0.500 U	0.500	mg/L	AK102 103	H		09/02/03	09/02/03	MCM
Diesel Range Organics		0.300 U	0.300	mg/L	AK102 103	H		09/02/03	09/02/03	MCM
Surrogates										
5a Androstane <surr>		78		%	AK102 103	H	50-150	09/02/03	09/02/03	MCM
n-Triacontane-d62 <surr>		79.1		%	AK102 103	H	50-150	09/02/03	09/02/03	MCM



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Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
Dichlorodifluoromethane		0.00149	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chloromethane		0.00337	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Vinyl chloride		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromomethane		0.00300 U	0.00300	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Trichlorofluoromethane		0.0150	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Methylene chloride		0.00500 U	0.00500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Carbon disulfide		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
trans-1,2-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2,2-Dichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
cis-1,2-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Butanone (MEK)		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromochloromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chloroform		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Carbon tetrachloride		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,1-Trichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloropropene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Benzene		0.000400 U	0.000400	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Trichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Dibromomethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromodichloromethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Chloroethyl Vinyl Ether		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
cis-1,3-Dichloropropene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Toluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
trans-1,3-Dichloropropene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,2-Trichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Tetrachloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3-Dichloropropane		0.000400 U	0.000400	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Dibromochloromethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dibromoethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chlorobenzene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE



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Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
1,1,1,2-Tetrachloroethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Ethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
P & M -Xylene		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
o-Xylene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Styrene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromoform		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Isopropylbenzene (Cumene)		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,2,2-Tetrachloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,3-Trichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
n-Propylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Chlorotoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Chlorotoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3,5-Trimethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
tert-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,4-Trimethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
sec-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Isopropyltoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,4-Dichlorobenzene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3-Dichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
n-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dibromo-3-chloropropane		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,4-Trichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Hexachlorobutadiene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Naphthalene		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,3-Trichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Methyl-2-pentanone (MIBK)		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Hexanone		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Surrogates										
Dibromofluoromethane <surrogate>		92.5		%	SW8260B	D	85-115	09/08/03	09/09/03	TJE
1,2-Dichloroethane-D4 <surrogate>		113		%	SW8260B	D	72-119	09/08/03	09/09/03	TJE



SGS Ref.# 1035236004
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros.
Client Sample ID 1159-082703-012
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
Printed Date/Time 09/16/2003 11:10
Collected Date/Time 08/27/2003 16:43
Received Date/Time 08/28/2003 16:30
Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
4-Bromofluorobenzene <sur>		114		%	SW8260B	D	78-124	09/08/03	09/09/03	TJL
Toluene-d8 <sur>		105		%	SW8260B	D	84-113	09/08/03	09/09/03	TJL



GS Ref.# 1035236005
 Client Name Shannon & Wilson-Fairbanks
 Project Name# 31-1-11159-003 Weaver Bros.
 Client Sample ID Trip Blank
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/16/2003 11:10
 Collected Date/Time 08/27/2003 0:00
 Received Date/Time 08/28/2003 16:30
 Technical Director Stephen C. Ede

Released By *Stephen C. Ede*

Sample Remarks:

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatiles Fuels Department										
Gasoline Range Organics		0.0900 U	0.0900	mg/L	AK101 GRO	A		09/04/03	09/04/03	MML
Surrogates										
4-Bromofluorobenzene <sur>		98		%	AK101 GRO	A	50-150	09/04/03	09/04/03	MML
Volatile Gas Chromatography/Mass Spectroscopy										
Dichlorodifluoromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chloromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Vinyl chloride		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromomethane		0.00300 U	0.00300	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Trichlorofluoromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Methylene chloride		0.00500 U	0.00500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Carbon disulfide		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
trans-1,2-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2,2-Dichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
cis-1,2-Dichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Butanone (MEK)		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromochloromethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chloroform		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Carbon tetrachloride		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,1-Trichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1-Dichloropropene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Benzene		0.000400 U	0.000400	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Trichloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Dibromomethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromodichloromethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE



SGS Ref.# 1035236005
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros.
 Client Sample ID Trip Blank
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/16/2003 11:10
 Collected Date/Time 08/27/2003 0:00
 Received Date/Time 08/28/2003 16:30
 Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
2-Chloroethyl Vinyl Ether		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
cis-1,3-Dichloropropene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Toluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
trans-1,3-Dichloropropene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,2-Trichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Tetrachloroethene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3-Dichloropropane		0.000400 U	0.000400	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Dibromochloromethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dibromoethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Chlorobenzene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,1,2-Tetrachloroethane		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Ethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
P & M -Xylene		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
o-Xylene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Styrene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromoform		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Isopropylbenzene (Cumene)		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Bromobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,1,2,2-Tetrachloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,3-Trichloropropane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
n-Propylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Chlorotoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Chlorotoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3,5-Trimethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
tert-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,4-Trimethylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
sec-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Isopropyltoluene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,4-Dichlorobenzene		0.000500 U	0.000500	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,3-Dichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
n-Butylbenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dibromo-3-chloropropane		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,4-Trichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE



SGS Ref.# 1035236005
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros.
 Client Sample ID Trip Blank
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/16/2003 11:10
 Collected Date/Time 08/27/2003 0:00
 Received Date/Time 08/28/2003 16:30
 Technical Director Stephen C. Ede

Parameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy										
Hexachlorobutadiene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Naphthalene		0.00200 U	0.00200	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2,3-Trichlorobenzene		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
4-Methyl-2-pentanone (MIBK)		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
2-Hexanone		0.0100 U	0.0100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
1,2-Dichloroethane		0.00100 U	0.00100	mg/L	SW8260B	D		09/08/03	09/09/03	TJE
Surrogates										
Dibromofluoromethane <surr>		95.5		%	SW8260B	D	85-115	09/08/03	09/09/03	TJE
1,2-Dichloroethane-D4 <surr>		112		%	SW8260B	D	72-119	09/08/03	09/09/03	TJE
4-Bromofluorobenzene <surr>		108		%	SW8260B	D	78-124	09/08/03	09/09/03	TJE
Toluene-d8 <surr>		106		%	SW8260B	D	84-113	09/08/03	09/09/03	TJE



SGS Ref.# 514937 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch VXX 10821
Method SW5030
Date 09/08/2003

QC results affect the following production samples:

1035236001, 1035236002, 1035236003, 1035236004, 1035236005

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
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Volatile Gas Chromatography/Mass Spectroscopy



GS Ref.# 514937 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch VXX 10821
Method SW5030
Date 09/08/2003

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy					
Dichlorodifluoromethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
Chloromethane	0.000380 F	0.000500	mg/L	09/09/03	TJE
Vinyl chloride	0.000500 U	0.000500	mg/L	09/09/03	TJE
Bromomethane	0.00150 U	0.00150	mg/L	09/09/03	TJE
Chloroethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
Trichlorofluoromethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,1-Dichloroethene	0.000500 U	0.000500	mg/L	09/09/03	TJE
Methylene chloride	0.00250 U	0.00250	mg/L	09/09/03	TJE
Carbon disulfide	0.00100 U	0.00100	mg/L	09/09/03	TJE
trans-1,2-Dichloroethene	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,1-Dichloroethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,2-Dichloropropane	0.000500 U	0.000500	mg/L	09/09/03	TJE
cis-1,2-Dichloroethene	0.000500 U	0.000500	mg/L	09/09/03	TJE
2-Butanone (MEK)	0.00500 U	0.00500	mg/L	09/09/03	TJE
Bromochloromethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
Chloroform	0.000500 U	0.000500	mg/L	09/09/03	TJE
Carbon tetrachloride	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,1,1-Trichloroethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,1-Dichloropropene	0.000500 U	0.000500	mg/L	09/09/03	TJE
Benzene	0.000200 U	0.000200	mg/L	09/09/03	TJE
Trichloroethene	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,2-Dichloropropane	0.000500 U	0.000500	mg/L	09/09/03	TJE
Dibromomethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
Bromodichloromethane	0.000250 U	0.000250	mg/L	09/09/03	TJE
2-Chloroethyl Vinyl Ether	0.00500 U	0.00500	mg/L	09/09/03	TJE
cis-1,3-Dichloropropene	0.000250 U	0.000250	mg/L	09/09/03	TJE
Toluene	0.000500 U	0.000500	mg/L	09/09/03	TJE
trans-1,3-Dichloropropene	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,1,2-Trichloroethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
Tetrachloroethene	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,3-Dichloropropane	0.000200 U	0.000200	mg/L	09/09/03	TJE
Dibromochloromethane	0.000250 U	0.000250	mg/L	09/09/03	TJE
1,2-Dibromoethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
Chlorobenzene	0.000250 U	0.000250	mg/L	09/09/03	TJE
1,1,1,2-Tetrachloroethane	0.000250 U	0.000250	mg/L	09/09/03	TJE
Ethylbenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
p-Xylene	0.00100 U	0.00100	mg/L	09/09/03	TJE
m-Xylene	0.000500 U	0.000500	mg/L	09/09/03	TJE
Styrene	0.000500 U	0.000500	mg/L	09/09/03	TJE
Bromoform	0.000500 U	0.000500	mg/L	09/09/03	TJE



SGS Ref.# 514937 Method Blank
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros.
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
 Prep Batch VXX 10821
 Method SW5030
 Date 09/08/2003

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy					
Isopropylbenzene (Cumene)	0.000500 U	0.000500	mg/L	09/09/03	TJE
Bromobenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,1,2,2-Tetrachloroethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,2,3-Trichloropropane	0.000500 U	0.000500	mg/L	09/09/03	TJE
n-Propylbenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
2-Chlorotoluene	0.000500 U	0.000500	mg/L	09/09/03	TJE
4-Chlorotoluene	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,3,5-Trimethylbenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
tert-Butylbenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,2,4-Trimethylbenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
sec-Butylbenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
4-Isopropyltoluene	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,4-Dichlorobenzene	0.000250 U	0.000250	mg/L	09/09/03	TJE
1,2-Dichlorobenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,3-Dichlorobenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
n-Butylbenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
1,2-Dibromo-3-chloropropane	0.00100 U	0.00100	mg/L	09/09/03	TJE
1,2,4-Trichlorobenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
Hexachlorobutadiene	0.000500 U	0.000500	mg/L	09/09/03	TJE
Naphthalene	0.00100 U	0.00100	mg/L	09/09/03	TJE
1,2,3-Trichlorobenzene	0.000500 U	0.000500	mg/L	09/09/03	TJE
4-Methyl-2-pentanone (MIBK)	0.00500 U	0.00500	mg/L	09/09/03	TJE
2-Hexanone	0.00500 U	0.00500	mg/L	09/09/03	TJE
1,2-Dichloroethane	0.000500 U	0.000500	mg/L	09/09/03	TJE
Surrogates					
Dibromofluoromethane <surr>	98.2		%	09/09/03	TJE
1,2-Dichloroethane-D4 <surr>	108		%	09/09/03	TJE
4-Bromofluorobenzene <surr>	108		%	09/09/03	TJE
Toluene-d8 <surr>	103		%	09/09/03	TJE

Batch VMS 6120
 Method SW8260B
 Instrument HP 5890 Series II MS1 VJA



GS Ref.# 514938 Lab Control Sample
514941 Lab Control Sample Duplicate
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch VXX 10821
Method SW5030
Date 09/08/2003

QC results affect the following production samples:

1035236001, 1035236002, 1035236003, 1035236004, 1035236005

Sample Remarks:

LCS

LCSD

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Volatile Gas Chromatography/Mass Spectroscopy



SGS Ref.# 514938 Lab Control Sample
 514941 Lab Control Sample Duplicate
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros.
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
 Prep Batch VXX 10821
 Method SW5030
 Date 09/08/2003

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy									
Dichlorodifluoromethane	LCS	0.0269	90	(68-175)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0279	93		4	(< 20)	0.03 mg/L	09/08/03	TJE
Chloromethane	LCS	0.0198	66	(56-131)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0209	70		5	(< 20)	0.03 mg/L	09/08/03	TJE
Vinyl chloride	LCS	0.0299	100	(64-149)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0311	104		4	(< 20)	0.03 mg/L	09/08/03	TJE
Bromomethane	LCS	0.0281	94	(53-141)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0265	88		6	(< 20)	0.03 mg/L	09/08/03	TJE
Chloroethane	LCS	0.0271	90	(62-152)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0270	90		0	(< 20)	0.03 mg/L	09/08/03	TJE
Trichlorofluoromethane	LCS	0.0302	101	(57-129)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0304	101		1	(< 20)	0.03 mg/L	09/08/03	TJE
1,1-Dichloroethene	LCS	0.0277	92	(68-130)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0282	94		2	(< 20)	0.03 mg/L	09/08/03	TJE
Methylene chloride	LCS	0.0275	92	(78-124)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0273	91		0	(< 20)	0.03 mg/L	09/08/03	TJE
Carbon disulfide	LCS	0.0356	79	(57-146)			0.045 mg/L	09/08/03	TJE
	LCSD	0.0359	80		1	(< 20)	0.045 mg/L	09/08/03	TJE
trans-1,2-Dichloroethene	LCS	0.0261	87	(83-124)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0296	99		13	(< 20)	0.03 mg/L	09/08/03	TJE
1,1-Dichloroethane	LCS	0.0282	94	(85-125)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0285	95		1	(< 20)	0.03 mg/L	09/08/03	TJE
2,2-Dichloropropane	LCS	0.0302	101	(70-135)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0305	102		1	(< 20)	0.03 mg/L	09/08/03	TJE
cis-1,2-Dichloroethene	LCS	0.0261	87	(87-114)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0264	88		1	(< 20)	0.03 mg/L	09/08/03	TJE
2-Butanone (MEK)	LCS	0.0395	88	(75-133)			0.045 mg/L	09/08/03	TJE
	LCSD	0.0365	81		8	(< 20)	0.045 mg/L	09/08/03	TJE



GS Ref.# 514938 Lab Control Sample
 514941 Lab Control Sample Duplicate
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch VXX 10821
Method SW5030
Date 09/08/2003

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy								
Bromochloromethane	LCS	0.0266	89	(87-126)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0259	86	*	3	(< 20)	0.03 mg/L	09/08/03 TJE
Chloroform	LCS	0.0295	98	(80-120)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0296	99		0	(< 20)	0.03 mg/L	09/08/03 TJE
Carbon tetrachloride	LCS	0.0302	101	(83-130)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0304	101		1	(< 20)	0.03 mg/L	09/08/03 TJE
1,1-Trichloroethane	LCS	0.0299	100	(82-120)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0302	101		1	(< 20)	0.03 mg/L	09/08/03 TJE
1,1-Dichloropropene	LCS	0.0315	105	(87-123)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0316	105		1	(< 20)	0.03 mg/L	09/08/03 TJE
Benzene	LCS	0.0266	89	(88-117)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0267	89		1	(< 20)	0.03 mg/L	09/08/03 TJE
Trichloroethene	LCS	0.0280	94	(72-119)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0276	92		2	(< 20)	0.03 mg/L	09/08/03 TJE
1,2-Dichloropropane	LCS	0.0290	97	(89-116)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0292	97		0	(< 20)	0.03 mg/L	09/08/03 TJE
Dibromomethane	LCS	0.0292	97	(89-119)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0286	95		2	(< 20)	0.03 mg/L	09/08/03 TJE
Bromodichloromethane	LCS	0.0311	104	(86-112)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0309	103		1	(< 20)	0.03 mg/L	09/08/03 TJE
2-Chloroethyl Vinyl Ether	LCS	0.0394	88	(71-133)		0.045 mg/L	09/08/03	TJE
	LCSD	0.0372	83		6	(< 20)	0.045 mg/L	09/08/03 TJE
cis-1,3-Dichloropropene	LCS	0.0297	99	(90-122)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0293	98		1	(< 20)	0.03 mg/L	09/08/03 TJE
Toluene	LCS	0.0287	96	(87-115)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0291	97		2	(< 20)	0.03 mg/L	09/08/03 TJE
trans-1,3-Dichloropropene	LCS	0.0334	111	(85-119)		0.03 mg/L	09/08/03	TJE



SGS Ref.# 514938 Lab Control Sample
 514941 Lab Control Sample Duplicate
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros.
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
 Prep Batch VXX 10821
 Method SW5030
 Date 09/08/2003

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy								
	LCSD	0.0332	111		(< 20)	0.03 mg/L	09/08/03	TJE
1,1,2-Trichloroethane	LCS	0.0318	106	(84-114)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0314	105		(< 20)	0.03 mg/L	09/08/03	TJE
Tetrachloroethene	LCS	0.0276	92	(85-123)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0280	93		(< 20)	0.03 mg/L	09/08/03	TJE
1,3-Dichloropropane	LCS	0.0320	107	(86-118)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0321	107		(< 20)	0.03 mg/L	09/08/03	TJE
Dibromochloromethane	LCS	0.0340	113	(88-119)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0340	113		(< 20)	0.03 mg/L	09/08/03	TJE
1,2-Dibromoethane	LCS	0.0311	104	(86-119)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0309	103		(< 20)	0.03 mg/L	09/08/03	TJE
Chlorobenzene	LCS	0.0303	101	(89-115)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0306	102		(< 20)	0.03 mg/L	09/08/03	TJE
1,1,1,2-Tetrachloroethane	LCS	0.0333	111	(90-116)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0335	112		(< 20)	0.03 mg/L	09/08/03	TJE
Ethylbenzene	LCS	0.0308	103	(80-120)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0309	103		(< 20)	0.03 mg/L	09/08/03	TJE
P & M -Xylene	LCS	0.0602	100	(80-120)		0.06 mg/L	09/08/03	TJE
	LCSD	0.0616	103		(< 20)	0.06 mg/L	09/08/03	TJE
o-Xylene	LCS	0.0299	100	(80-120)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0305	102		(< 20)	0.03 mg/L	09/08/03	TJE
Styrene	LCS	0.0302	101	(80-120)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0310	103		(< 20)	0.03 mg/L	09/08/03	TJE
Bromoform	LCS	0.0348	116	(81-126)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0346	115		(< 20)	0.03 mg/L	09/08/03	TJE
Isopropylbenzene (Cumene)	LCS	0.0311	104	(80-120)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0315	105		(< 20)	0.03 mg/L	09/08/03	TJE



SGS Ref.# 514938 Lab Control Sample
 514941 Lab Control Sample Duplicate
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros.
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
 Prep Batch VXX 10821
 Method SW5030
 Date 09/08/2003

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy								
Bromobenzene	LCS	0.0288	96	(87-117)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0284	95		2	(< 20)	0.03 mg/L	09/08/03 TJE
1,1,2,2-Tetrachloroethane	LCS	0.0330	110	(63-128)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0320	107		3	(< 20)	0.03 mg/L	09/08/03 TJE
1,2,3-Trichloropropane	LCS	0.0314	105	(73-124)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0308	103		2	(< 20)	0.03 mg/L	09/08/03 TJE
1-Propylbenzene	LCS	0.0303	101	(86-121)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0305	102		0	(< 20)	0.03 mg/L	09/08/03 TJE
2-Chlorotoluene	LCS	0.0306	102	(86-116)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0310	103		1	(< 20)	0.03 mg/L	09/08/03 TJE
4-Chlorotoluene	LCS	0.0300	100	(80-120)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0300	100		0	(< 20)	0.03 mg/L	09/08/03 TJE
1,3,5-Trimethylbenzene	LCS	0.0300	100	(87-118)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0302	101		1	(< 20)	0.03 mg/L	09/08/03 TJE
tert-Butylbenzene	LCS	0.0305	102	(86-121)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0307	102		1	(< 20)	0.03 mg/L	09/08/03 TJE
1,2,4-Trimethylbenzene	LCS	0.0300	100	(87-117)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0301	100		0	(< 20)	0.03 mg/L	09/08/03 TJE
sec-Butylbenzene	LCS	0.0309	103	(88-124)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0313	104		1	(< 20)	0.03 mg/L	09/08/03 TJE
4-Isopropyltoluene	LCS	0.0305	102	(86-121)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0302	101		1	(< 20)	0.03 mg/L	09/08/03 TJE
1,4-Dichlorobenzene	LCS	0.0298	99	(88-120)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0293	98		2	(< 20)	0.03 mg/L	09/08/03 TJE
1,2-Dichlorobenzene	LCS	0.0295	98	(86-114)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0291	97		1	(< 20)	0.03 mg/L	09/08/03 TJE
1,3-Dichlorobenzene	LCS	0.0288	96	(88-116)		0.03 mg/L	09/08/03	TJE
	LCSD	0.0284	95		1	(< 20)	0.03 mg/L	09/08/03 TJE



SGS Ref.# 514938 Lab Control Sample
 514941 Lab Control Sample Duplicate
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros.
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
 Prep Batch VXX 10821
 Method SW5030
 Date 09/08/2003

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy									
n-Butylbenzene	LCS	0.0307	102	(85-122)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0309	103		0	(< 20)	0.03 mg/L	09/08/03	TJE
1,2-Dibromo-3-chloropropane	LCS	0.0340	113	(76-121)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0330	110		3	(< 20)	0.03 mg/L	09/08/03	TJE
1,2,4-Trichlorobenzene	LCS	0.0288	96	(84-125)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0288	96		0	(< 20)	0.03 mg/L	09/08/03	TJE
Hexachlorobutadiene	LCS	0.0292	97	(67-131)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0291	97		0	(< 20)	0.03 mg/L	09/08/03	TJE
Naphthalene	LCS	0.0301	100	(75-131)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0298	99		1	(< 20)	0.03 mg/L	09/08/03	TJE
1,2,3-Trichlorobenzene	LCS	0.0292	97	(84-128)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0288	96		1	(< 20)	0.03 mg/L	09/08/03	TJE
4-Methyl-2-pentanone (MIBK)	LCS	0.0464	103	(81-134)			0.045 mg/L	09/08/03	TJE
	LCSD	0.0448	100		4	(< 20)	0.045 mg/L	09/08/03	TJE
2-Hexanone	LCS	0.0520	116	(74-127)			0.045 mg/L	09/08/03	TJE
	LCSD	0.0503	112		3	(< 20)	0.045 mg/L	09/08/03	TJE
1,2-Dichloroethane	LCS	0.0306	102	(82-122)			0.03 mg/L	09/08/03	TJE
	LCSD	0.0299	100		2	(< 20)	0.03 mg/L	09/08/03	TJE
Surrogates									
Dibromofluoromethane <surr>	LCS		98	(85-115)			0.03 mg/L	09/08/03	TJE
	LCSD		98		0		0.03 mg/L	09/08/03	TJE
1,2-Dichloroethane-D4 <surr>	LCS		107	(72-119)			0.03 mg/L	09/08/03	TJE
	LCSD		106		1		0.03 mg/L	09/08/03	TJE
4-Bromofluorobenzene <surr>	LCS		105	(78-124)			0.03 mg/L	09/08/03	TJE
	LCSD		105		0		0.03 mg/L	09/08/03	TJE
Toluene-d8 <surr>	LCS		102	(84-113)			0.03 mg/L	09/08/03	TJE
	LCSD		103		1		0.03 mg/L	09/08/03	TJE



GS Ref.# 514938 Lab Control Sample
514941 Lab Control Sample Duplicate
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch VXX 10821
Method SW5030
Date 09/08/2003

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Volatile Gas Chromatography/Mass Spectroscopy

Batch VMS 6120
Method SW8260B
Instrument HP 5890 Series II MS1 VJA



SGS Ref.# 513764 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch VXX 10787
Method SW5030
Date 09/03/2003

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004, 1035236005

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Volatile Fuels Department					
Gasoline Range Organics	0.0450 U	0.0450	mg/L	09/03/03	MML
Benzene	0.000250 U	0.000250	mg/L	09/03/03	MML
Toluene	0.00100 U	0.00100	mg/L	09/03/03	MML
Ethylbenzene	0.00100 U	0.00100	mg/L	09/03/03	MML
P & M -Xylene	0.00100 U	0.00100	mg/L	09/03/03	MML
o-Xylene	0.00100 U	0.00100	mg/L	09/03/03	MML
Surrogates					
1,4-Difluorobenzene <surr>	81.4		%	09/03/03	MML
4-Bromofluorobenzene <surr>	97.6		%	09/03/03	MML
Batch	VFC 5973				
Method	AK101 8021B				
Instrument	HP 5890 Series II PID+FID VCA				



GS Ref.# 513765 Lab Control Sample

Printed Date/Time 09/16/2003 11:10
Prep Batch VXX 10787
Method SW5030
Date 09/03/2003

Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004, 1035236005

Sample Remarks:
LCS

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Volatile Fuels Department								
Gasoline Range Organics	LCS	0.349	78	(60-120)		0.45 mg/L	09/03/03	MML
Benzene	LCS	0.0226	98	(86-124)		0.0232 mg/L	09/03/03	MML
Toluene	LCS	0.0709	96	(81-120)		0.0741 mg/L	09/03/03	MML
Ethylbenzene	LCS	0.0139	100	(85-127)		0.014 mg/L	09/03/03	MML
p- & m -Xylene	LCS	0.0470	102	(90-119)		0.0461 mg/L	09/03/03	MML
o-Xylene	LCS	0.0176	93	(90-116)		0.0188 mg/L	09/03/03	MML
Surrogates								
1,4-Difluorobenzene <surrogate>	LCS		98	(73-124)		0.05 mg/L	09/03/03	MML
1,2-Dibromofluorobenzene <surrogate>	LCS		120	(60-120)		0.05 mg/L	09/03/03	MML

Batch VFC 5973
Method AK101 8021B
Instrument HP 5890 Series II PID+FID VCA



SGS Ref.# 513766 Matrix Spike
513767 Matrix Spike Duplicate

Printed Date/Time 09/16/2003 11:10
Prep Batch VXX 10787
Method Volatile Fuels Extraction (W)
Date 09/03/2003

Original 1035431001
Matrix Water (Surface, Eff., Ground)

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004, 1035236005

Sample Remarks:
MS
MSD GRO/BTEX - MSD o-xylene recovery is biased low.

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Volatile Fuels Department										
Benzene	MS	0.000500 U	0.0229	99	(86-124)			0.0232 mg/L	09/03/03	MMI
	MSD		0.0206	89		10	(< 20)	0.0232 mg/L	09/03/03	MMI
Ethylbenzene	MS	0.00200 U	0.0146	104	(85-127)			0.014 mg/L	09/03/03	MML
	MSD		0.0131	93		11	(< 20)	0.014 mg/L	09/03/03	MMI
Gasoline Range Organics	MS	0.0900 U	0.356	78	(60-120)			0.45 mg/L	09/03/03	MMI
	MSD		0.338	74		5	(< 20)	0.45 mg/L	09/03/03	MML
P & M -Xylene	MS	0.00200 U	0.0497	107	(90-119)			0.0461 mg/L	09/03/03	MMI
	MSD		0.0440	95		12	(< 20)	0.0461 mg/L	09/03/03	MMI
Toluene	MS	0.00200 U	0.0742	100	(81-120)			0.0741 mg/L	09/03/03	MML
	MSD		0.0659	89		12	(< 20)	0.0741 mg/L	09/03/03	MMI
o-Xylene	MS	0.00200 U	0.0185	98	(90-116)			0.0188 mg/L	09/03/03	MMI
	MSD		0.0160	84*		14	(< 20)	0.0188 mg/L	09/03/03	MML
Surrogates										
1,4-Difluorobenzene <surr>	MS			101	(73-124)			0.05 mg/L	09/03/03	MML
	MSD			92		9		0.05 mg/L	09/03/03	MML
4-Bromofluorobenzene <surr>	MS			122	(50-150)			0.05 mg/L	09/03/03	MML
	MSD			105		15		0.05 mg/L	09/03/03	MML

Batch VFC 5973
Method AK101 8021B
Instrument HP 5890 Series II PID+FID VCA



SS Ref.# 513188 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch XXX 12426
Method SW35 10C
Date 09/02/2003

Results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Semivolatile Organic Fuels Department					
Diesel Range Organics	0.150 U	0.150	mg/L	09/02/03	MCM
Residual Range Organics	0.159F	0.250	mg/L	09/02/03	MCM
Surrogates					
Androstane <surr>	63.8		%	09/02/03	MCM
n-Triacontane-d62 <surr>	79.7		%	09/02/03	MCM
Batch	XFC 5915				
Method	AK102 103				
Instrument	HP 5890 Series II FID SV A F				



SGS Ref.# 513189 Lab Control Sample
 513190 Lab Control Sample Duplicate
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch XXXX 12426
Method SW3510C
Date 09/02/2003

QC results affect the following production samples:
 1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:
 LCS
 LCSD

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Semivolatile Organic Fuels Department								
Diesel Range Organics	LCS	4.32	(75-125)	17	(< 20)	5 mg/L	09/02/03	MCM
	LCSD	5.11				102	5 mg/L	09/02/03
Residual Range Organics	LCS	3.61	(60-120)	13	(< 20)	5 mg/L	09/02/03	MCM
	LCSD	4.11				82	5 mg/L	09/02/03
Surrogates								
n-Triacontane-d62 <surr>	LCS		(60-120)	11		0.1 mg/L	09/02/03	MCM
	LCSD					75	0.1 mg/L	09/02/03
5a Androstane <surr>	LCS		(60-120)	8		0.1 mg/L	09/02/03	MCM
	LCSD					79	0.1 mg/L	09/02/03

Batch XFC 5915
Method AK102 103
Instrument HP 5890 Series II FID SV A F



GS Ref.# 513425 Method Blank
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros.
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
 Prep Batch MXX 12125
 Method SW3015
 Date 09/02/2003

Results affect the following production samples:
 1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Phosphorus	250 U	250	ug/L	09/03/03	SCL
Batch	MMS 2683				
Method	SW6020				
Instrument	Perkin Elmer Sciex ICP-MS P3				

Metals by ICP/MS

Aluminum	50.0 U	50.0	ug/L	09/03/03	SCL
Antimony	0.500 U	0.500	ug/L	09/03/03	SCL
Arsenic	10.0 U	10.0	ug/L	09/03/03	SCL
Barium	1.80 U	1.80	ug/L	09/03/03	SCL
Beryllium	0.500 U	0.500	ug/L	09/03/03	SCL
Cadmium	1.00 U	1.00	ug/L	09/03/03	SCL
Calcium	500 U	500	ug/L	09/03/03	SCL
Chromium	2.37F	3.50	ug/L	09/03/03	SCL
Copper	3.00 U	3.00	ug/L	09/03/03	SCL
Iron	500 U	500	ug/L	09/03/03	SCL
Lead	1.00 U	1.00	ug/L	09/03/03	SCL
Potassium	500 U	500	ug/L	09/03/03	SCL
Selenium	5.00 U	5.00	ug/L	09/03/03	SCL
Silver	1.00 U	1.00	ug/L	09/03/03	SCL
Sodium	500 U	500	ug/L	09/03/03	SCL
Thallium	0.500 U	0.500	ug/L	09/03/03	SCL
Titanium	25.0 U	25.0	ug/L	09/03/03	SCL
Zinc	12.5 U	12.5	ug/L	09/03/03	SCL
Cobalt	1.50 U	1.50	ug/L	09/03/03	SCL
Magnesium	500 U	500	ug/L	09/03/03	SCL
Manganese	2.00 U	2.00	ug/L	09/03/03	SCL
Molybdenum	1.50 U	1.50	ug/L	09/03/03	SCL
Nickel	2.00 U	2.00	ug/L	09/03/03	SCL

Batch MMS 2683
 Method SW6020
 Instrument Perkin Elmer Sciex ICP-MS P3



SGS Ref.# 513426 Lab Control Sample

Printed Date/Time 09/16/2003 11:10

Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Prep Batch MXX 12125
Method SW3015
Date 09/02/2003

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:
LCS

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Phosphorus	LCS	12400	109	(85-115)			11400 ug/L	09/03/03	SCL

Batch MMS 2683
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3

Metals by ICP/MS



SGS Ref.# 513426 Lab Control Sample

Printed Date/Time 09/16/2003 11:10
 Prep Batch MXX 12125
 Method SW3015
 Date 09/02/2003

Client Name Shannon & Wilson-Fairbanks
 Project Name/# 31-1-11159-003 Weaver Bros.
 Matrix Water (Surface, Eff., Ground)

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Metals by ICP/MS								
Aluminum	LCS	1360	120 *	(85-115)		1140 ug/L	09/03/03	SCL
Antimony	LCS	1160	102	(85-115)		1140 ug/L	09/03/03	SCL
Arsenic	LCS	1220	107	(85-115)		1140 ug/L	09/03/03	SCL
Barium	LCS	1150	101	(85-115)		1140 ug/L	09/03/03	SCL
Beryllium	LCS	1260	111	(85-115)		1140 ug/L	09/03/03	SCL
Cadmium	LCS	1220	107	(85-115)		1140 ug/L	09/03/03	SCL
Calcium	LCS	11800	104	(85-115)		11400 ug/L	09/03/03	SCL
Chromium	LCS	1210	107	(85-115)		1140 ug/L	09/03/03	SCL
Iron	LCS	1410	124 *	(85-115)		1140 ug/L	09/03/03	SCL
Copper	LCS	1250	110	(85-115)		1140 ug/L	09/03/03	SCL
Lead	LCS	1170	103	(85-115)		1140 ug/L	09/03/03	SCL
Potassium	LCS	12600	111	(85-115)		11400 ug/L	09/03/03	SCL
Selenium	LCS	1120	99	(85-115)		1140 ug/L	09/03/03	SCL
Silver	LCS	237	104	(85-115)		227 ug/L	09/03/03	SCL
Sodium	LCS	12900	114	(85-115)		11400 ug/L	09/03/03	SCL
Thallium	LCS	1080	95	(85-115)		1140 ug/L	09/03/03	SCL
Vanadium	LCS	1220	107	(85-115)		1140 ug/L	09/03/03	SCL
Zinc	LCS	1130	99	(85-115)		1140 ug/L	09/03/03	SCL
Cobalt	LCS	1140	100	(85-115)		1140 ug/L	09/03/03	SCL
Magnesium	LCS	13200	116 *	(85-115)		11400 ug/L	09/03/03	SCL
Manganese	LCS	1220	107	(85-115)		1140 ug/L	09/03/03	SCL



SGS Ref.# 513426 Lab Control Sample

Printed Date/Time 09/16/2003 11:10

Client Name Shannon & Wilson-Fairbanks

Prep Batch MXX 12125

Project Name/# 31-1-11159-003 Weaver Bros.

Method SW3015

Matrix Water (Surface, Eff., Ground)

Date 09/02/2003

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals by ICP/MS

Molybdenum	LCS	1230	108	(85-115)		1140 ug/L	09/03/03	SCL
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Nickel	LCS	1210	106	(85-115)		1140 ug/L	09/03/03	SCL
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Batch MMS 2683
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3



GS Ref.# 513427 Matrix Spike
513428 Matrix Spike Duplicate

Printed Date/Time 09/16/2003 11:10
Prep Batch MXX 12125
Method Waters Digest for Metals by A
Date 09/02/2003

Original 1035236001
Matrix Water (Surface, Eff., Ground)

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:

MS
MSD

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Batch	MMS 2683									
Method	SW6020									
Instrument	Perkin Elmer Sciex ICP-MS P3									

Metals by ICP/MS

Selenium	MS	10.0 U	1140	100	(75-125)			1140 ug/L	09/03/03	SCL
	MSD		1120	97		3	(< 20)	1140 ug/L	09/03/03	SCL
Silver	MS	2.00 U	229	101	(75-125)			227 ug/L	09/03/03	SCL
	MSD		222	98		3	(< 20)	227 ug/L	09/03/03	SCL
Lead	MS	2.00 U	1130	100	(75-125)			1140 ug/L	09/03/03	SCL
	MSD		1180	104		4	(< 20)	1140 ug/L	09/03/03	SCL
Arsenic	MS	20.0 U	1200	106	(75-125)			1140 ug/L	09/03/03	SCL
	MSD		1190	104		1	(< 20)	1140 ug/L	09/03/03	SCL
Barium	MS	196	1260	94	(75-125)			1140 ug/L	09/03/03	SCL
	MSD		1300	97		3	(< 20)	1140 ug/L	09/03/03	SCL
Cadmium	MS	2.00 U	1120	99	(75-125)			1140 ug/L	09/03/03	SCL
	MSD		1130	100		1	(< 20)	1140 ug/L	09/03/03	SCL
Chromium	MS	7.00 U	1140	100	(75-125)			1140 ug/L	09/03/03	SCL
	MSD		1130	99		1	(< 20)	1140 ug/L	09/03/03	SCL

Batch MMS 2683
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3



SGS Ref.# 513785 Undigested Duplicate
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros.
Original 1035408002
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch
Method
Date

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:
SW6020 ICP Metals - Duplicate RPD recovery was outside of the acceptance criteria. LIMS erroneously calculated the reported value by factoring in the original sample result, which is below the PQL.

Parameter	Original Result	QC Result	RPD	RPD Limits	Analysis Date	Init
Silver	8.32	8.49	2	(< 20)	09/03/03	SCL
Batch	MMS 2683					
Method	SW6020					
Instrument	Perkin Elmer Sciex ICP-MS P3					



GS Ref.#

513786

Bench Spike Liquid

Printed Date/Time
Prep Batch
Method
Date

09/16/2003 11:10

Original 1035408002
Matrix Water (Surface, Eff., Ground)

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:
BN1

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Silver	BN1	8.32	1310	104	(75-125)			1250 ug/L	09/03/03	SCL
Batch	MMS 2683									
Method	SW6020									
Instrument	Perkin Elmer Sciex ICP-MS P3									



SGS Ref.# 513066 Undigested Duplicate
Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros.
Original 1035408002
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch
Method
Date

QC results affect the following production samples:

Sample Remarks:

SW6020 ICP Metals - Duplicate RPD recovery was outside of the acceptance criteria. LIMS erroneously calculated the reported value by factoring in the original sample result, which is below the PQL.

Parameter	Original Result	QC Result	RPD	RPD Limits	Analysis Date	Init
Arsenic	20.0 U	20.0 U *	200	(< 20)	08/30/03	WAW
Barium	39.2	40.0	2	(< 20)	08/30/03	WAW
Cadmium	2.00 U	2.00 U *	40	(< 20)	08/30/03	WAW
Chromium	7.00 U	3.89F	6	(< 20)	08/30/03	WAW
Lead	2.31	2.40	4	(< 20)	08/30/03	WAW
Selenium	10.0 U	10.0 U	0	(< 20)	08/30/03	WAW

Batch MMS 2677
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3



GS Ref.#

513067

Bench Spike Liquid

Printed Date/Time

09/16/2003 11:10

Prep

Batch

Method

Date

Original

1035408002

Matrix

Water (Surface, Eff., Ground)

QC results affect the following production samples:

Sample Remarks:

BN1

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Barium	BN1	39.2	5460	108	(75-125)			5000 ug/L	08/30/03	WAW
Selenium	BN1	10.0 U	4990	100	(75-125)			5000 ug/L	08/30/03	WAW
Arsenic	BN1	20.0 U	4730	95	(75-125)			5000 ug/L	08/30/03	WAW
Lead	BN1	2.31	5100	102	(75-125)			5000 ug/L	08/30/03	WAW
Cadmium	BN1	2.00 U	5940	119	(75-125)			5000 ug/L	08/30/03	WAW
Chromium	BN1	7.00 U	5050	101	(75-125)			5000 ug/L	08/30/03	WAW

Batch

MMS 2677

Method

SW6020

Instrument

Perkin Elmer Sciex ICP-MS P3



SGS Ref.# 513496 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch MXX 12129
Method SW7470A
Date 09/02/2003

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Metals Department					
Mercury by Cold Vapor	0.000100 U	0.000100	mg/L	09/02/03	JAL
Batch	MCV 2820				
Method	SW7470/E245.1				
Instrument	HgAA Leeman AutoAnalyzer PS200				



GS Ref.# 513497 Lab Control Sample

Printed Date/Time 09/16/2003 11:10
Prep Batch MXX 12129
Method SW7470A
Date 09/02/2003

Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:
LCS

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals Department

Mercury by Cold Vapor LCS 0.00400 100 (85-115) 0.004 mg/L 09/02/03 JAL

Batch MCV 2820
Method SW7470/E245.1
Instrument HgAA Leeman AutoAnalyzer PS200



SGS Ref.# 513504 Matrix Spike
513505 Matrix Spike Duplicate

Printed Date/Time 09/16/2003 11:10
Prep Batch MXX 12129
Method Digestion Mercury (W)
Date 09/02/2003

Original 1035225003
Matrix Other Liquids

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:
MS
MSD

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Metals Department										
Mercury by Cold Vapor	MS	0.0200 U	0.410	102	(77-120)			0.4 mg/L	09/02/03	JAL
	MSD		0.412	102		0	(< 15)	0.4 mg/L	09/02/03	JAL
Batch	MCV 2820									
Method	SW7470/E245.1									
Instrument	HgAA Leeman AutoAnalyzer PS200									



GS Ref.# 513506

Bench Spike DIGESTED

Printed Date/Time 09/16/2003 11:10
Prep Batch MXX 12129
Method Digestion Mercury (W)
Date 09/02/2003

Original 1035225003
Matrix Other Liquids

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:

BND SW7470 - Post digest spike recovery for Hg was outside of acceptance criteria; MS/MSD were recovered within post digest spike recovery limit.

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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metals Department

Mercury by Cold Vapor	BND	0.0200 U	0.334	83 *	(85-115)			0.4 mg/L	09/02/03	JAL
Batch	MCV 2820									
Method	SW7470/E245.1									
Instrument	HgAA Leeman AutoAnalyzer PS200									



SGS Ref.# 515915 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/16/2003 11:10
Prep Batch MXX 12186
Method SW7470A
Date 09/12/2003

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
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Metals Department

Mercury by Cold Vapor	0.000100 U	0.000100	mg/L	09/12/03	JAL
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Batch MCV 2829
Method SW7470/E245.1
Instrument HgAA Leeman AutoAnalyzer PS200



IGS Ref.# 515916 Lab Control Sample

Printed Date/Time 09/16/2003 11:10
Prep Batch MXX 12186
Method SW7470A
Date 09/12/2003

Client Name Shannon & Wilson-Fairbanks
Project Name# 31-1-11159-003 Weaver Bros.
Matrix Water (Surface, Eff., Ground)

QC results affect the following production samples:

1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:
LCS

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals Department

Mercury by Cold Vapor	LCS	0.00406	102	(85-115)		0.004 mg/L	09/12/03	JAL
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Batch MCV 2829
Method SW7470/E245.1
Instrument HgAA Leeman AutoAnalyzer PS200



SGS Ref.# 515922 Matrix Spike

Printed Date/Time 09/17/2003 12:21
Prep Batch MXX 12186
Method Digestion Mercury (W)
Date 09/12/2003

Original 1035620003
Matrix Water (Surface, Eff., Ground)

QC results affect the following production samples:
1035236001, 1035236002, 1035236003, 1035236004

Sample Remarks:
MS

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
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Metals Department

Mercury by Cold Vapor	MS	0.00200 U	0.0412	102	(77-120)			0.04 mg/L	09/12/03	JAL
Batch	MCV 2829									
Method	SW7470/E245.1									
Instrument	HgAA Leeman AutoAnalyzer PS200									

APPENDIX C



Dated: November 11, 2003
Re: Septic Crib Characterization Report 5250
Industrial Road (lots 6,7, and 13 Block 10)
Fairbanks International Airport 31-1-11159-003

Important Information About Your Geotechnical/Environmental Report

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors which were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland

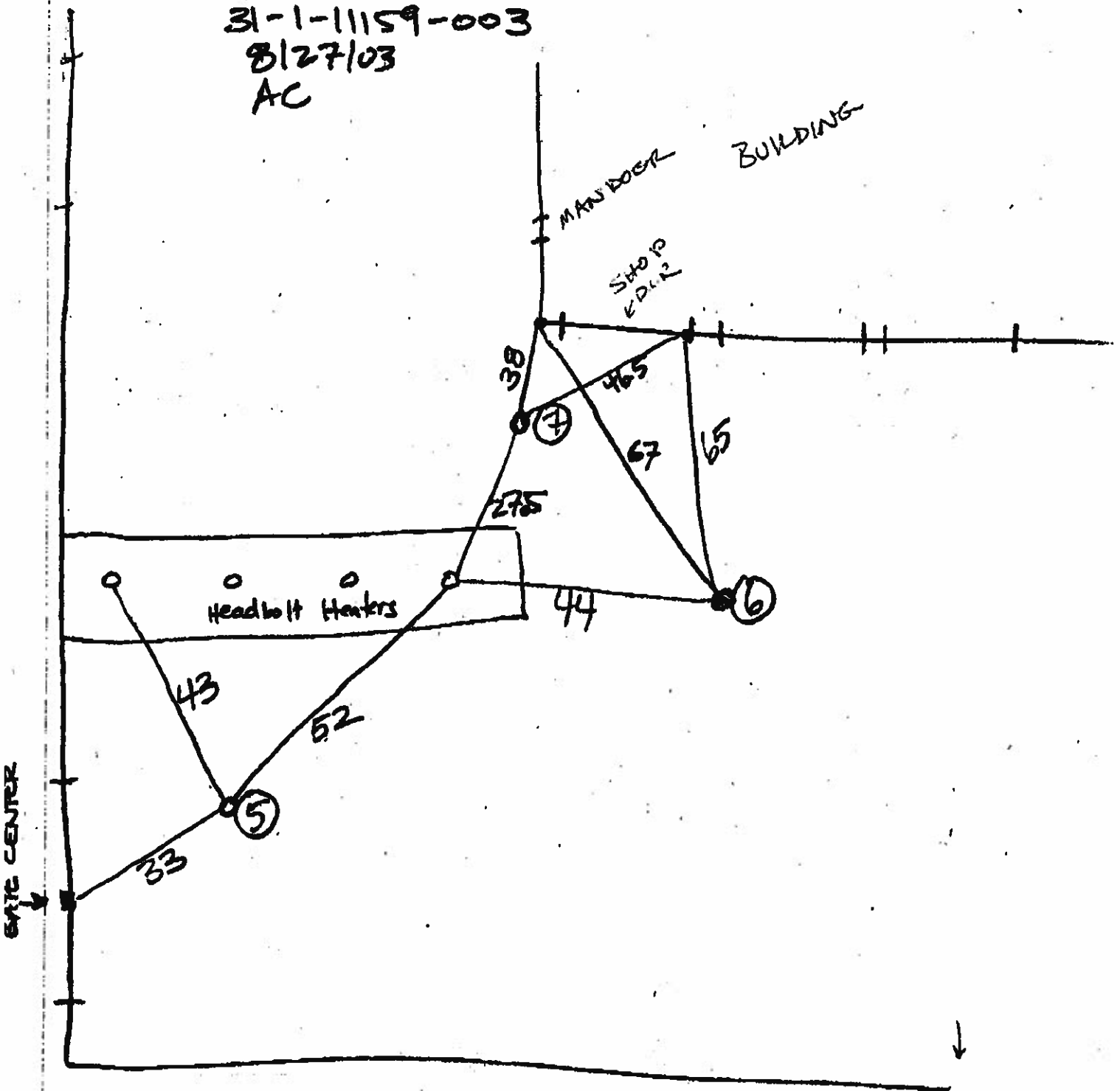
SWING TIES

WEAVER BROS.

31-1-11159-003

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John A.H. Scott 10/23/03

ELEVATIONS FOR MONITORING WELLS AT WEAVER BROTHERS FACILITY ON AIRPORT INDUSTRIAL ROAD

All measurements were made at the top of casing on the "sharpie mark".

WELL	ELEVATION (FT)	Water level from TDC (FT)	groundwater elevation	DTW 8/27/03	GW 2/03
WB-1	433,000	9.57	423.43		
WB-2	434,580	10.80	423.78		
WB-3	432,905	9.40	423.51		
WB-4	434,985	11.42	423.56	6.23	426.41
NW-5	432,640	8.86	423.78	7.54	426.34
NW-6	433,940	10.20	423.74	7.67	426.34
NW-7	434,050	10.31	423.74		

* NOTE: Assumed elevation to be nearly the same as bench mark "K-60". This elevation was given by Al Briley the Airport Engineer.

