ENVIRONMENTAL INVESTIGATION AND REMEDIATION
FIFTH WHEEL TRUCK REPAIR FACILITY
307 EAST ARLINGTON STREET
YAKIMA, WASHINGTON

Prepared for:

Mr. Richard F. Hahn
Hahn Motors Company
1201 South First Street
Yakima, Washington 98901

Prepared by:

Maxim Technologies, Inc.
402 E. Yakima Avenue, Suite 750
P.O. Box 2887
Yakima, Washington 98907

Maxim Project No. 5609500619

May 2, 1996

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

Hahn Motors Company retained Maxim Technologies, Inc. (Maxim) to conduct investigation, remediation and monitoring activities at the Fifth Wheel Truck Repair facility in Yakima, Washington during the time period February 1995 through February 1996. The Fifth Wheel Truck Repair facility, owned by Hahn Motors Company, is located within the Yakima Railroad Area (YRRA) which was established by the Washington State Department of Ecology (Ecology) in response to the discovery of tetrachloroethylene (PCE) in the groundwater beneath the area. Ecology has identified the Fifth Wheel Truck Repair facility as a Potential Liable Party (PLP) for the presence of PCE in soil and groundwater beneath the site. Fifth Wheel Truck Repair entered into an Enforcement Order with Ecology to conduct Remedial Investigations at the site. Maxim personnel conducted these activities according to our proposal dated December 12, 1994 (Huntingdon, 1994) and requirements of Ecology's *YRRA Remedial Investigation (RI) Work Plan*, (Ecology).

1.1 SITE DESCRIPTION

The Fifth Wheel Truck Repair facility includes the Fifth Wheel Truck Repair and the S&S Auto Body shops housed within one 14,000 square foot building located at 307 and 309 East Arlington Street in Yakima, Washington (Figure 1). Fifth Wheel and S&S lease their shop space from the Hahn Motors Company. Parking areas surrounding the building to the north, east and west are paved with asphalt. East Arlington Street borders the facility to the south and Consolidated Freightways borders the facility to the north and east (Figure 2).

The Fifth Wheel Truck Repair shop occupies the west approximate one-half of the building and is comprised of a truck repair area, a storage room, and offices. Waste fluids generated at the facility drain into a subfloor oil/water separator which is connected to the city sewer system. An interior catch basin was used to collect liquid wastes from the repair area prior to installation of the oil/water separator. The interior catch basin was removed from the facility during 1991 along with sludge and soil contaminated with petroleum hydrocarbons and PCE. A dry well at the back parking lot of Fifth Wheel Truck Repair was also contaminated with petroleum hydrocarbons and was removed in 1991. A new dry well replaced the old well. This dry well collects runoff from the back parking lot.

S&S Auto body occupies the east approximate one-half of the building and is comprised of auto repair and paint areas, a storage room, and offices. Two sump drains were formerly located inside the S&S shop and one was located outside the building. These

sump drains were used by S&S personnel for the disposal of liquid wastes and also collected some runoff water.

Groundwater depths range between approximately 10 and 20 ft below ground surface and groundwater generally flows to the east. Leakage from the Yakima Valley irrigation system influence depth and flow direction in the area. However, results of early monitoring events conducted at the Fifth Wheel facility did not indicate effects of the irrigation system on groundwater in the area of the facility (Huntingdon, 1995a).

The facility is underlain by the Yakima Gravel which consists of unconsolidated silty and sandy gravel mixtures (approximately 50% boulders, cobbles and pebbles, and 50% fines). The soils are classified as GW, GM and SM in the Unified Soil Classification System (USCS). Basalt boulders, cobbles and pebbles dominate the gravel fraction. The color of the gravel is mostly brown to black (Huntingdon, 1995a).

1.2 SITE HISTORY

Maxim personnel researched the past environmental history of the Fifth Wheel Truck Repair facility as required by the Ecology's *YRRA RI Work Plan*. Our research determined that since 1989 several consulting firms have conducted environmental investigations and remediation activities at the Fifth Wheel Truck Repair and adjacent properties including Consolidated Freightways and Hahn Motors. Investigations of the Fifth Wheel Truck Repair facility reported petroleum and PCE contaminated soil and detectable concentrations of PCE and metals in the groundwater. Remedial actions at the Fifth Wheel Truck Repair shop included the removal of petroleum and PCE contaminated soil from the building interior, the removal of a petroleum contaminated dry well and the installation of two groundwater monitoring wells. Although PCE was found in soil beneath the building floor, the sampling plan consisted of collecting only one sample. The sampling plan was not sufficient to properly characterize the PCE in soil and groundwater beneath the site.

Previous investigation and remediation of Consolidated Freightways, located immediately east and hydraulically downgradient of Fifth Wheel, included removal of petroleum contaminated soil. PCE concentrations of 12 micrograms per liter μg/l, which exceeded EPA drinking water standards of 5 μg/l were also reported.

1.3 PROJECT OBJECTIVES

Maxim developed the objectives of this investigation in accordance with Ecology's ***YRRA RI Work Plan***. The scope of the investigation was based on the findings of previous investigations and the requirements under of the Enforcement Order for Remedial Investigations issued by Ecology. These objectives include the following:

- Research the past history of the site to identify any past practices or site features which could potentially cause adverse impacts to the environment;
- Evaluate the general hydrogeologic characteristics of the site including direction and gradient of groundwater flow;
- Characterize PCE and other contamination (metals and petroleum) in soil and groundwater beneath the site;
- Remediate any potential sources of contamination to soil and/or groundwater remaining at the site; and,
- Provide recommendations for additional investigation, remediation or monitoring activities at the site, if necessary.

2.0 METHODS

Requirements for Remedial Investigation of PCE and other hazardous substances (as defined by RCW 70.105D.020(3)) are outlined in Ecology's *YRRA RI Work Plan* ("Work Plan"). This Work Plan dictated the overall approach, methods and procedures used for this project. Components of the Work Plan which were met by work completed at the site by Maxim personnel during the past approximate 12 months include the following:

- Development of a work plan for submittal to Ecology;
- Characterization of groundwater by installation of two downgradient monitoring wells in addition to the two upgradient wells previously installed;
- Characterization of soil by collection and analysis of soil samples from test pits and borings;
- Interim remedial actions including excavation of sump sludge and associated contaminated soil;
- Preparation and submittal of *Site History Report* (Huntingdon, 1995b) and *Remedial Investigation - Interim Report* (Huntingdon, 1995a);
- Groundwater monitoring, five rounds of bi-monthly and quarterly sampling in February 1995, April 1995, September 1995, November 1995, and February 1996; and,
- Preparation of this final report integrating all data collected in the past 12 months.

The methods used by Maxim personnel to complete the majority of the aforementioned tasks are described in the following sections.

2.1 MONITORING WELL DRILLING AND INSTALLATION

Work completed during previous investigations at the Fifth Wheel Truck Repair facility included the installation of two monitoring wells along the west side of the facility. These two monitoring wells, MW-3 and MW-4, are located upgradient of the facility. Subsequently, Maxim's project manager supervised the drilling and installation of two downgradient wells (MW-1 and MW-2) on February 6, 1995 (Figure 2). Installation of wells MW-1 and MW-2 complemented the two upgradient wells (MW-3 and MW-4) and

enabled Maxim personnel to evaluate groundwater chemistry and flow beneath the site in accordance with requirements of the Work Plan.

An air rotary ODEX drill rig was used to drill monitoring wells MW-1 and MW-2. Drill cuttings were examined continuously while drilling each well and lithologic characteristics were recorded on borehole logs (Appendix A). A total of four soil samples were also collected with a split-spoon sampler while drilling MW-1 and MW-2. These samples were submitted for laboratory analysis of volatile organic compounds (VOCs) using EPA Method 8010/8020, Total Petroleum Hydrocarbons (TPH) using EPA Method WTPH-D/extended, and 13 priority pollutant metals using EPA Methods 6010 and 7471.

Borings MW-1 and MW-2 were advanced until approximately 15 feet of groundwater was penetrated (total depth of 35 feet below ground surface) and were completed as monitoring wells. The monitoring wells were constructed of two-inch diameter flush-threaded PVC. A 20 foot section of factory slotted PVC screen (0.020 inch slots) was incorporated into the lower section of the casing column in each monitoring well. The annular space between the borehole and the screened section was backfilled with inert silica sand. The annular space above the sand filter pack was backfilled with granular bentonite. The well was completed at the surface by concreting a flush mount well protector around the well casing. After completion, the wells were developed using a polyethylene disposable bailer to remove drilling debris and ensure adequate hydraulic communication between the water bearing formation and well bore.

Following completion and development activities, a site survey was prepared. The survey was prepared by Gray Surveying, Inc., in accordance with Ecology's requirements outlined in the Work Plan.

The survey included well elevations, latitude and longitude for each well and reference to five known points so that the well locations could be tied to Ecology's GIS database. The well elevations are used along with the static water level measurements to calculate groundwater elevations and gain hydrogeologic information for the site.

2.2 TEST PIT INVESTIGATION

Recovery of split spoon samples while drilling monitoring wells MW-1 and MW-2 was relatively poor and VOCs which may have been present in cuttings samples were likely volatilized by the air rotary system. Based on these facts, Maxim and Ecology personnel concurred that a test pit investigation was warranted to gain further information of impacts

to soil beneath the site. Subsequently, two test pits (TP-1 and TP-2) were excavated along the east side of the facility on April 21, 1995 (Figure 2).

Maxim's project manager supervised the excavation of test pits TP-1 and TP-2. Three soil samples were collected at depths of 5, 10 and 15 feet below ground surface from each of the test pits. These samples were analyzed on-site by a mobile laboratory. The mobile laboratory services were provided by Transglobal Environmental Geosciences Northwest, Inc. (TEG). TEG analyzed the samples for VOCs using EPA Methods 8010/8020, and heavy oil using EPA Method WTPH-D/extended. Additionally, soil samples were collected for 13 priority pollutant metals. These samples were shipped to Sound Analytical Laboratory for analysis of total metals according to EPA Methods 6010 and 7471.

2.3 GROUNDWATER MONITORING

Maxim personnel conducted six groundwater monitoring events at the Fifth Wheel Truck Repair facility during February 1995, April 1995, August 1995, September 1995, November 1995 and February 1996. The groundwater was sampled for the contaminants of concern including PCE, petroleum hydrocarbons, and metals. The September 1995, monitoring event was an extra event. The wells were re-sampled in September, because the sampling methodology of the August 1995 sampling event was suspect (two of the wells were sampled using a disposable bailer and the other two were sampled using a stainless steel bailer).

A Maxim field scientist measured water levels in the four site monitoring wells (MW-1 through MW-4) during each of the six monitoring events using a decontaminated electric well probe. The wells were then purged of approximately three casing volumes of water and samples were collected using disposable polyethylene bailers or a decontaminated stainless steel bailer. Samples obtained from the wells were immediately transferred to the sample containers and appropriately preserved. Groundwater sampling field forms are contained in Appendix B.

The groundwater samples were submitted for laboratory analysis of VOCs (including PCE and BTEX) by EPA Method 8010/8020, TPH by WTPH-418.1, and for priority pollutant metals by EPA Methods 6010 and 7471. Because sample analysis results for metals and petroleum hydrocarbons were all below detection limits in the first three sampling events, Mr. Rick Roeder, Ecology Site Manager, approved discontinuing sampling for these constituents. Groundwater samples collected after the August sampling event were analyzed for VOCs (including PCE), only.

Chain-of-custody forms were completed prior to sample shipment. Information including station identification number, well depth, static water level, and date and time of sample collection was recorded on the field forms (Appendix B).

2.4 SUMP SAMPLING AND INTERIM ACTION REMEDIATION

S&S Auto Body historically used three sumps (Sumps 1, 2 and 3) for disposal of liquid wastes (Figure 2). Sumps 1 and 2 were located inside the S&S Auto Body shop and Sump 3 was located outside and to the north of the shop. A Maxim field scientist collected a sludge samples from Sumps 1 and 3 for laboratory analysis of VOCs, TPH and total metals on April 21, 1995. Sump 2 was inaccessible at the time of sampling. Laboratory analysis of samples collected from the sumps indicated the sumps were contaminated with TPH, VOCs (xylenes), and metals including cadmium, chromium and lead.

Interim Action remediation of the sumps was conducted on September 27, 1995 by subcontracted personnel. Tri-Valley Construction, Inc., removed sludge from the interior of the three sumps. The sludge was containerized in overpack drums and stored on-site following sludge removal. Sumps 1 and 2 were excavated to two feet below their bases. A confirmational soil sample was collected from the base of each sump and shipped for TPH, VOCs and metals analyses. Laboratory analysis results of confirmational soil samples reported that Sumps 1 and 2 were contaminated at 2 feet below their bases with cadmium concentrations above Washington State Model Toxics Control Act (MTCA) Method A cleanup levels of 2.0 mg/kg. Sump 1 was contaminated with TPH and lead in addition to cadmium. VOCs (including PCE) concentrations in all three sumps were below laboratory method detection limits (ND).

Because of upcoming construction activities at the back of S&S Auto Body adjacent to Sump 3, Maxim was requested to excavate and remove the sump and all associated contaminated soil. Sump 3 was excavated and removed on October 2, 1995. Following removal of Sump 3, a confirmational soil sample was collected for TPH, VOCs, and total metals analysis. Laboratory analysis reported all constituents below detection limits, except for cadmium. Cadmium concentrations ranged between 3.1 mg/kg and 46.0 mg/kg (in the stockpile), which exceed MTCA Method A cleanup levels of 2.0 mg/kg. Additional soil excavation to 10 feet below ground surface was performed on October 6, 1995. A confirmational soil sample was collected by Maxim personnel at the base of the excavation and shipped for cadmium analysis. Laboratory analysis results reported cadmium at concentrations of 1.4 mg/kg, below MTCA method A cleanup levels of 2.0 mg/kg. These efforts successfully completed the remedial action for Sump 3.

Contracted personnel completed the abandonment of Sump 1 and 2. The sumps were filled with concrete on September 27, 1995 immediately after their cleanup, before any additional wastewater could re-contaminate the sumps. A new wastewater collection system was installed connecting S&S Auto Body floor drains with the Fifth Wheel Truck Repair oil/water separator. A replacement sump with a submersible pump was installed in the former location of Sump 3. This pump transports the waste water from S&S to the Fifth Wheel Truck repair shop.

Soil removed from around Sump 3 was temporarily stockpiled on-site until appropriate disposal could be determined for both the soil and sump sludge. Maxim contacted Rabanco Landfill Disposal Division to inquire whether Rabanco would accept the waste. Rabanco's engineer required additional soil sampling to determine if the waste is hazardous: Toxicity Characteristic Leaching Procedure (TCLP) for lead from Sump 1 sludge; TCLP cadmium, VOCs analysis (EPA Method 8240), and Semi-Volatile analysis (EPA Method 8270) were conducted on a soil sample collected from the stockpile. Sample analysis results determined Rabanco could accept the waste. On December 22, 1995, 33.4 tons of contaminated soil, sump sludge in overpack drums, and drill cuttings from monitoring wells MW-1 and MW-2 were loaded and transported by a Rabanco Landfill subcontractor the disposal site.

3.0 PRESENTATION AND INTERPRETATION OF DATA

Maxim personnel collected environmental data while completing investigation, remediation and monitoring activities at the Fifth Wheel Truck Repair facility during the past approximate 12 months. This section presents and provides interpretations of that data.

3.1 ANALYTICAL RESULTS OF MONITORING WELL AND TEST PIT SOIL SAMPLES

Maxim personnel collected soil samples while drilling monitoring wells and excavating test pits at the facility. These samples were analyzed for VOCs (including PCE and BTEX), TPH and metals. The results of the soil analyses are summarized in Table 1 and the laboratory reports are contained in Appendix C.

3.1.1 Monitoring Well Soil Samples

PCE concentrations of 0.16 milligrams per kilogram (mg/kg) and 0.05 mg/kg were reported in soil samples collected at 20 feet below ground surface while drilling monitoring wells MW-1 and MW-2, respectively (Table 1). The depth of these two samples (20 feet) were considered to be just above the water table. A benzene concentration of 0.48 mg/kg was also detected in the soil sample collected while drilling monitoring well MW-1 at a depth of 20 feet (Table 1). The PCE concentrations were above MTCA Method B/protective of groundwater. The benzene concentrations in these samples were below MTCA Method A Cleanup Levels. Concentrations of VOCs in all other soil samples collected during monitoring well drilling were below laboratory method detection limits (ND).

Detectable concentrations of TPH (heavy oil) were measured in three of the four soil samples collected during monitoring well drilling. These concentrations ranged from 33 mg/kg (MW-2 at 20 feet) to 110 mg/kg (MW-1 at 10 feet). The MTCA Method A cleanup level for TPH is 200 mg/kg (Table 1).

Varying concentrations of cadmium, chromium, copper, nickel and zinc were reported in all of the soil samples collected while drilling monitoring wells MW-1 and MW-2. Beryllium was also detected in the "MW-1 @ 15" sample at a concentration above MTCA Method B Cleanup Levels (Table 1). Cadmium concentrations measured in these samples exceed MTCA Method A of B Cleanup Levels, but only by about 1 to 4 mg/kg. Other metals concentrations reported in the samples are well below the established Method A or B Cleanup Levels (Table 1).

3.1.2 Test Pit Soil Samples

VOCs (including PCE and BTEX) were below laboratory method detection limits (ND) in the test pit soil samples. TPH concentrations of 36 mg/kg to 115 mg/kg were detected in three of the six samples collected. These concentrations are well below the MTCA Method A Cleanup Level for TPH (Table 1).

Varying concentrations of chromium, copper, lead, nickel and zinc were reported in each of the six samples. These concentrations were also well below the MTCA Method A or B Cleanup Levels (Table 1).

3.2 GROUNDWATER CHARACTERIZATION

Water levels and relative groundwater elevations measured throughout the duration of the project in monitoring wells MW-1 through MW-4 are shown in Table 2. Review of the information provided in Table 2 indicates that groundwater depths have fluctuated over a range of approximately 5 feet during the past 12 months. These groundwater fluctuations are graphically presented in Figure 3. The lowest water levels recorded during the past year of monitoring have occurred during February, and the highest water levels have been recorded during September.

Static water levels and groundwater elevations measured over the past approximate 12 months are shown on Figure 4. The interpreted potentiometric surface of each event are also shown on Figure 4. These data and interpretations indicate that groundwater predominantly flows toward the east/southeast beneath the site and the gradient of flow varies between 0.8 and 2.6 percent.

3.3 GROUNDWATER QUALITY

Laboratory reports for groundwater samples collected from monitoring wells MW-1 through MW-4 during the six monitoring events conducted at the site are contained in Appendix D. Although VOCs analysis includes 17 individual analytes, only concentrations of PCE and chloroform were detected in the samples. Similarly, the metals analysis conducted on the samples included 13 individual analytes (priority pollutants), but only concentrations of copper (Cu) and zinc (Zn) were measured. These results are summarized in Table 3.

Concentrations of PCE measured in water samples collected from monitoring wells MW-1 through MW-4 during the past year ranged from 0.6 micrograms per liter (μg/l) to 9.3

µg/l with a mean concentration of 4.6 µg/l. Only 10 of the 24 individual samples collected during this time period from the four wells exceeded the EPA drinking water standard of 5.0 µg/l. Elevated PCE concentrations were found both in the up-gradient and down-gradient wells. There is no apparent correlation between PCE concentrations and water table high and lows as has been observed in other sites within the YRRA. However, PCE concentrations have increased slightly over time at upgradient and downgradient wells, suggesting that PCE that originated off-site is migrating through the site. The behavior of individual and mean PCE concentrations with time are presented in Figure 5.

Concentrations of chloroform ranging from 1.2 µg/l to 3.8 µg/l were detected in water samples collected from each of the four monitoring wells during August and September 1995, and February 1996 (Table 3). Presently, there is no Ecology or U.S. EPA maximum contaminant level (MCL) established specifically for chloroform in drinking water. However, the EPA has an MCL of 100 µg/l for total trihalomethanes, one of which is chloroform (EPA, 1992). The presence of chloroform at the site may possibly be attributed to leaky city water mains. Chloroform has been shown to be a by-product of the chemical breakdown of chlorine in municipal water supplies (Howard, 1990).

A copper concentration of 0.046 milligrams per liter (mg/l) was measured in the water sample collected from monitoring well MW-1 during February 1995. The measured concentration is well below the EPA secondary drinking water standard for copper of 1.0 mg/l (EPA, 1992). Concentrations of zinc ranging from 0.03 mg/l to 0.13 mg/l were measured in water samples from each of the wells during the February 1995 and April 1995 monitoring events. These measured concentrations also fall well below the EPA secondary drinking water standard for zinc of 5.0 mg/l (Table 3).

3.4 SUMP CLEANUP RESULTS

Maxim personnel collected sludge samples prior to remediation, samples of soil removed from around Sump 3 during the remediation, and soil samples from below each of the three sumps following remediation (Figure 2). The results of these efforts are presented in the following sections.

3.4.1 Sludge Sample Results

Laboratory analysis reports of sludge samples collected during April, 1995 are contained in Appendix C and results are summarized in Table 4. Concentrations of organic compounds including 1,2 dichloroethene (DCE; 19.7 mg/kg), Total BTEX (41.46 mg/kg)

and TPH (4,140 mg/kg) were detected in the sample of sludge collected from Sump 1 (Table 4). Only the TPH concentration detected in this sample exceeded the MTCA Method A Cleanup Level (Table 4). A TPH concentration of >25,000 mg/kg was detected in the sludge sample collected from Sump 3 which also exceeds the established cleanup level. Other concentrations of organic compounds were below laboratory method detection limits.

Concentrations of metals including cadmium, chromium, copper, lead, nickel, zinc and mercury were also detected in the two sludge samples. The cadmium, chromium and lead concentrations all exceeded the MTCA Method A Cleanup Levels (Table 6).

Maxim personnel utilized the results of the sump sampling and analysis to plan the appropriate cleanup and disposal of the sludge. Based on these results, subcontracted personnel removed and containerized the sludge in 55-gallon overpack drums.

3.4.2 Stockpile Sample Results

The laboratory analysis results of the composite stockpile sample, associated with the excavation of Sump 3, are summarized in Table 4. Concentrations of TPH (1,040 mg/kg) and cadmium (46.0 mg/kg) detected in the *Stockpile* sample exceeded MTCA Method A Cleanup Levels (Table 4). Following additional laboratory analyses characterizing the waste, Rabanco landfill near Roosevelt, Washington accepted both the sump sludge and the contaminated soil from the stockpile. A waste disposal document is contained in Appendix E.

3.4.3 Confirmation Sample Results

The laboratory analysis reports of soil samples collected to confirm the effectiveness of the cleanup of Sump 1, Sump 2, and Sump 3 are contained in Appendix F. The results are summarized in Table 4. A Total BTEX concentration of 0.20 mg/kg and a TPH concentration of 395 mg/kg (which exceeds the MTCA Method A Cleanup Level for TPH) were detected in the Sump 1 sample (Table 4). A TPH concentration of 73 mg/kg was measured in the Sump 2 sample. No other organic compound concentrations were measured in the confirmation samples.

Detectable levels of cadmium, chromium, copper, lead, nickel and zinc were measured in each of the confirmation samples. A mercury concentration of 0.13 mg/kg was also detected in the Sump 3 sample. Only cadmium and lead in the Sump 1 sample and cadmium in the Sump 2 sample exceeded MTCA Method A Cleanup Levels.

The results of the confirmation sampling indicate that cleanup of the Sump 1 and 2 and the excavation of Sump 3 was effective. Although some soil still contaminated with TPH, cadmium, and lead was left in-place around former Sump 1, and concentrations of cadmium still persists in soil beneath Sump 2, these metal and heavy petroleum compounds are not likely to mobilize in the subsurface since the building prevents infiltration of water in these areas. The contaminated soil left beneath the building is expected to be excavated and removed at a time when the building is demolished.

4.0 SUMMARY OF FINDINGS

Based on environmental data collected at the Fifth Wheel Truck Repair facility from February 1995 through February 1996, the following findings are evident:

- Laboratory analysis of soil samples collected while drilling monitoring wells and excavating test pits indicated that concentrations of VOCs (including PCE and BTEX) in soil beneath the facility are well below MTCA Method A Cleanup Levels. Although concentrations of several different metals and TPH were measured in monitoring well and test pit soil samples, only cadmium and beryllium concentrations exceeded the established cleanup levels.

- The Yakima Gravel, consisting of unconsolidated open-framework silty to cobbly sediments, underlies the site. Near-surface groundwater occurs in these sediments at depths which fluctuate from 14 to 22 feet. Groundwater flows consistently toward the east/southeast under a gradient which appears to vary between 0.8 and 2.6 percent.

- Five groundwater sampling events of monitoring wells MW-1 through MW-4 reported concentrations of PCE slightly above EPA drinking water standards in 10 of 24 samples collected. PCE concentrations ranged between 1 ppb and 9 ppb with a mean of 4.6 ppb. Elevated PCE concentrations were detected both in the up-gradient and down-gradient wells suggesting an off-site source of PCE. There is no clear correlation between PCE concentrations and water table high and lows associated with irrigation water as has been observed at other sites within the YRRA. PCE concentrations do, however, vary over a one-year period and may be tied to some season change or temporary phenomenon such as a transient slug of PCE that originated off-site. Varying concentrations of chloroform, copper and zinc were also detected in the groundwater samples. Except for PCE, none of the detected contaminant concentrations exceeded U.S. EPA drinking water standards.

- Sludge and soil removed from in and around the three sumps formerly used by S&S Auto Body were excavated and transported off-site for proper disposal.

- Samples collected to confirm the effectiveness of the sump cleanup efforts indicate some soil affected by petroleum hydrocarbons and cadmium at levels above MTCA Method A Cleanup Levels was left in-place underneath the building. However, the overall effort to remediate these sumps was effective. Contaminants in soil left in-place under the building will likely not mobilize through the subsurface because of the lack of infiltration, the immobile nature of these contaminants, and the complete abandonment of the two indoor sumps.

5.0 DISCUSSION AND CONCLUSIONS

Based on the results of our year-long investigation and successful completion of remedial actions at the Fifth Wheel Truck Repair facility, we believe that known potential sources of contamination have been effectively remediated. Although prior excavations and remedial actions at the Fifth Wheel Truck Repair shop were poorly documented, PCE and petroleum contaminated soil was removed to the degree possible without threatening the integrity of the building. The S&S Auto Body shop was contaminated with petroleum hydrocarbons and metals but was not contaminated with PCE. Inaccessible contaminated soil was left in-place and will be excavated when the building is demolished in the future. It is possible that inaccessible residual PCE contaminated soil remains at the Fifth Wheel Truck Repair shop.

The relatively low concentrations of PCE in groundwater beneath the site suggest that if contaminated soil remains, this site is not a significant source. Most importantly, the PCE concentrations in upgradient wells are similar to those in downgradient wells suggesting that the source of PCE contamination originates off-site. Finally, PCE concentrations in groundwater have declined when compared to values measured in 1989 at Consolidated Freightways (from 12 ppb to 9 ppb or less). This decline suggests that, even if this site was a source of PCE in the past, it is no longer a significant contributor to the PCE problem in the YRRA. All of this evidence taken together indicates that the Fifth Wheel Truck Repair Facility is not a measurable source of PCE contamination in groundwater and that the low levels of PCE measured in groundwater at this site result from off-site contamination sources.

6.0 RECOMMENDATIONS

Contaminated soil and sludge associated with former sumps at the S&S Auto Body shop were identified and removed from the site. Confirmational sampling conducted upon completion of these activities indicates potential sources of groundwater contamination appear to have been successfully removed from the site. Based on these findings and conclusions, we provide the following recommendations for future activities at the site:

- We recommend leaving the contaminated soil in place until the building is demolished;

- We recommend quarterly groundwater monitoring at the site for the next two years to verify both seasonal and long-term trends in PCE concentrations. The groundwater samples should be analyzed for PCE, only; and,

- We recommend that the worn out flush mount covers for monitoring wells MW-3 and MW-4 be replaced.

7.0 LIMITATIONS

Maxim's remedial investigation was performed with generally accepted practices of the profession undertaken in similar studies at the same time and in the same geographical area. Maxim observed that degree of care and skill generally exercised by the profession under similar circumstances and conditions. This report has been prepared for the use of Fifth Wheel Truck Repair facility. Fifth Wheel Truck Repair is the only party to which Maxim has explained the risks involved in the development of the scope of services needed to satisfactorily manage those risks, if any, from Fifth Wheel Truck Repair point of view. Accordingly, reliance on this report by any other party may involve assumptions whose extent and nature may lead to a distorted meaning and impact of the findings and opinions related herein.

Prepared by:

Rachel Tauman

Rachel Tauman
Project Manager

Reviewed by:

William H. Bucher

Bill Bucher
Senior Hydrologist

8.0 REFERENCES

Ecology, 1993. The Model Toxics Control Act Cleanup Regulations, Chapters 173 - 340 WAC, Washington State Department of Ecology Toxics Cleanup Program. Publication No. 94-06. Amended December 1993.

Ecology. Yakima Railroad Area (YRRA) Remedial Investigation Work Plan. Washington State Department of Ecology.

EPA, 1992. Drinking Water Standards for Public Water Supplies. United States Environmental Protection Agency, Washington D.C. February.

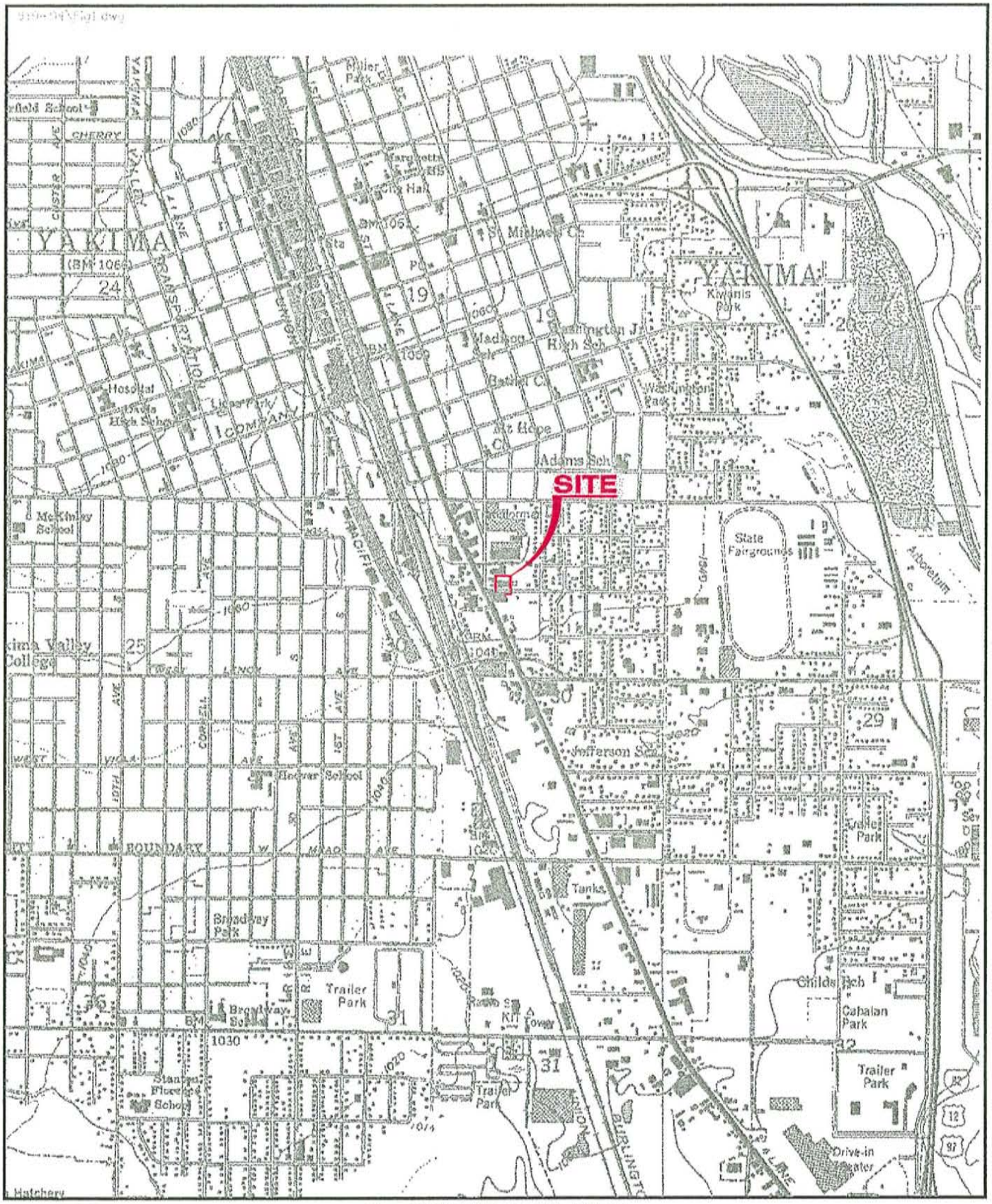
Howard, Philip H., 1990. Handbook of Environmental Fate and Exposure Data for Organic Chemical Volume II Solvents. Lewis Publishers, Inc., Chelsea, Michigan.

Huntingdon, 1994. Proposal for Remedial Investigation - Groundwater Monitoring Wells Installation and Quarterly Sampling, Fifth Wheel Truck Repair, 307 East Arlington Street, Yakima, Washington. December 12.

Huntingdon, 1995a. Remedial Investigation - Interim Report Fifth Wheel Truck Repair Facility, 307 East Arlington Street, Yakima, Washington. May 25.

Huntingdon, 1995b. Site History Report, Fifth Wheel Truck Repair Facility, 307 East Arlington Street, Yakima, Washington. June 15.

FIGURES



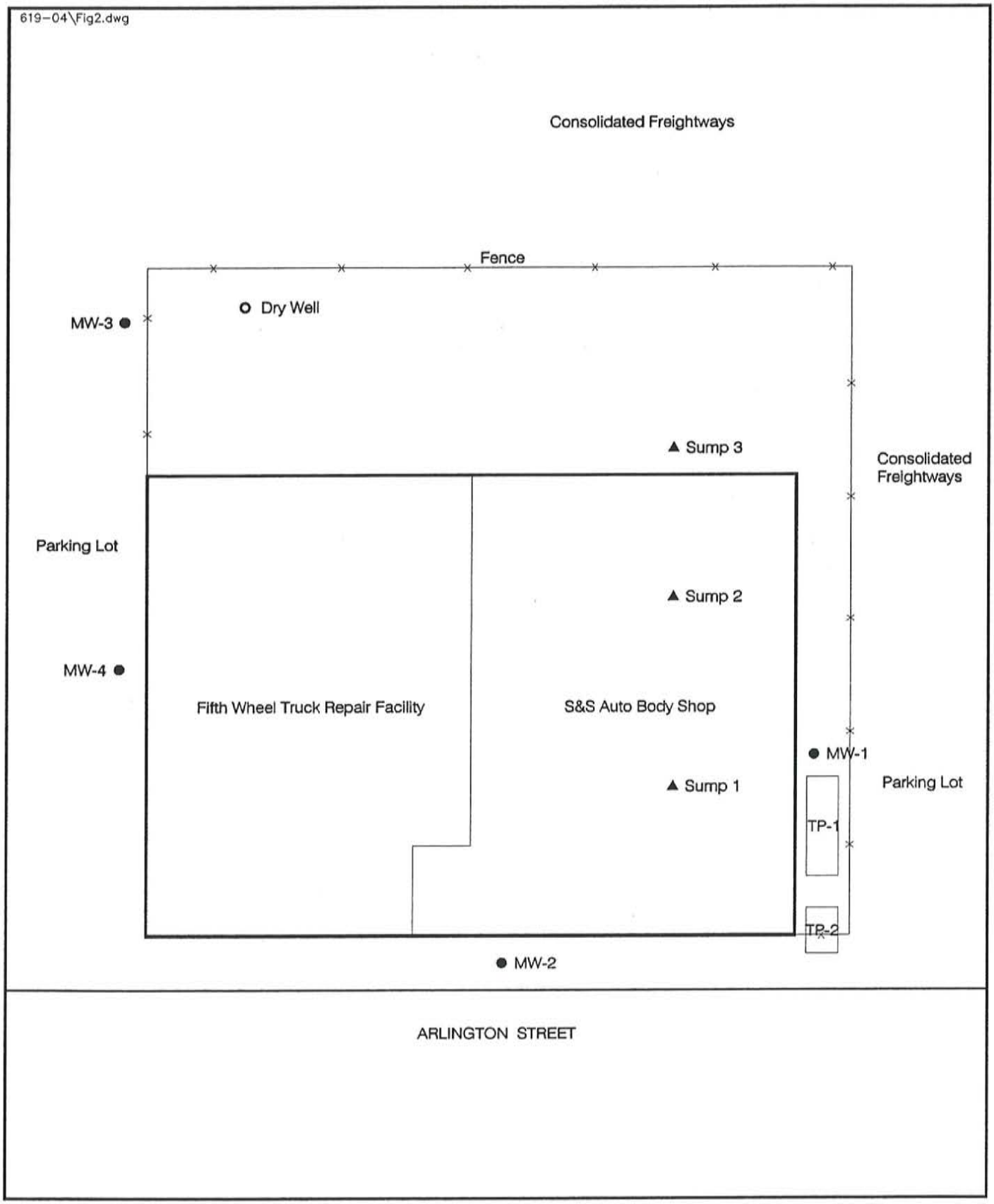
From USGS 7.5' Yakima West Quad

N

0 Feet 2000

MAXIM 5609600619.04

Location Map
Fifth Wheel Truck Repair Facility
Yakima, Washington
FIGURE 1



N

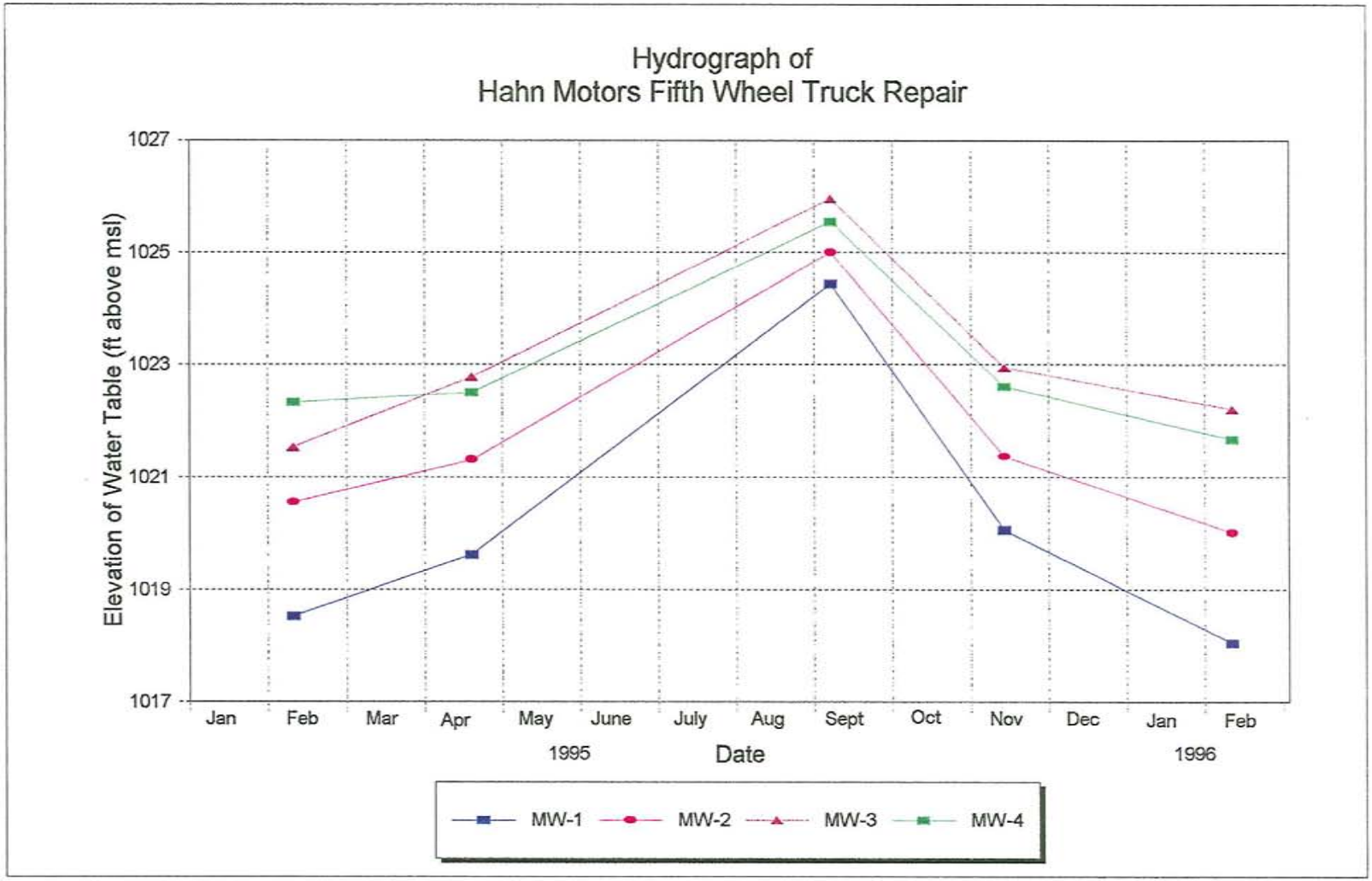
0 Feet 30

● Monitoring Well
▲ Sump
TP-2 Test Pit

MAXIM 5609600619.04

Site Map
Fifth Wheel Truck Repair
Yakima, Washington
FIGURE 2

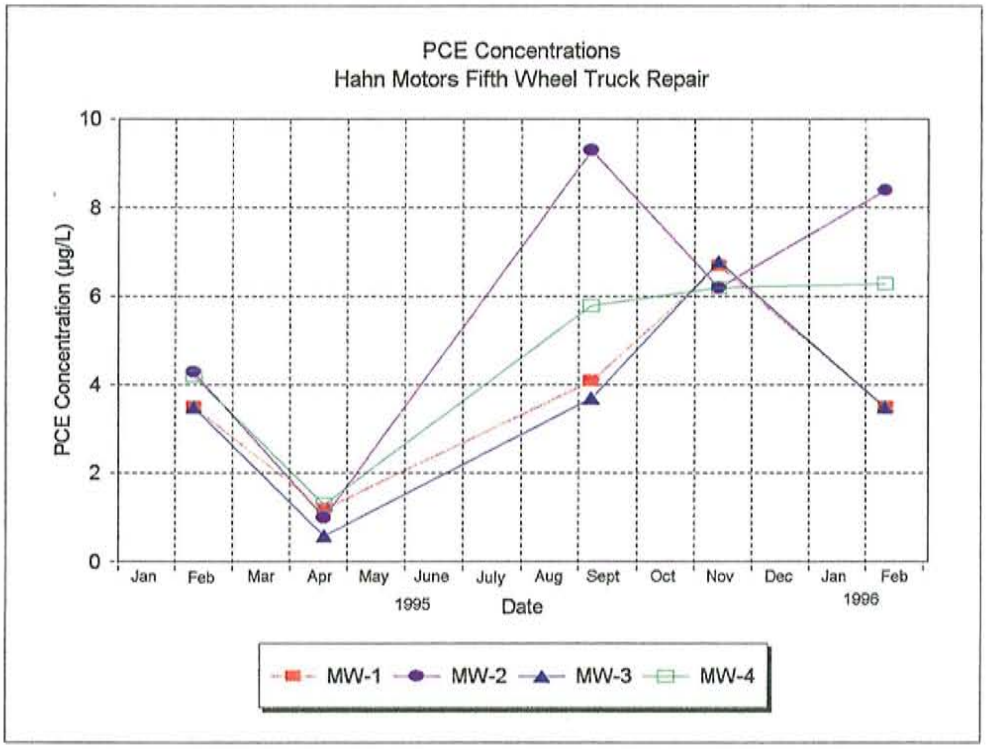
\619\Fig4.dwg

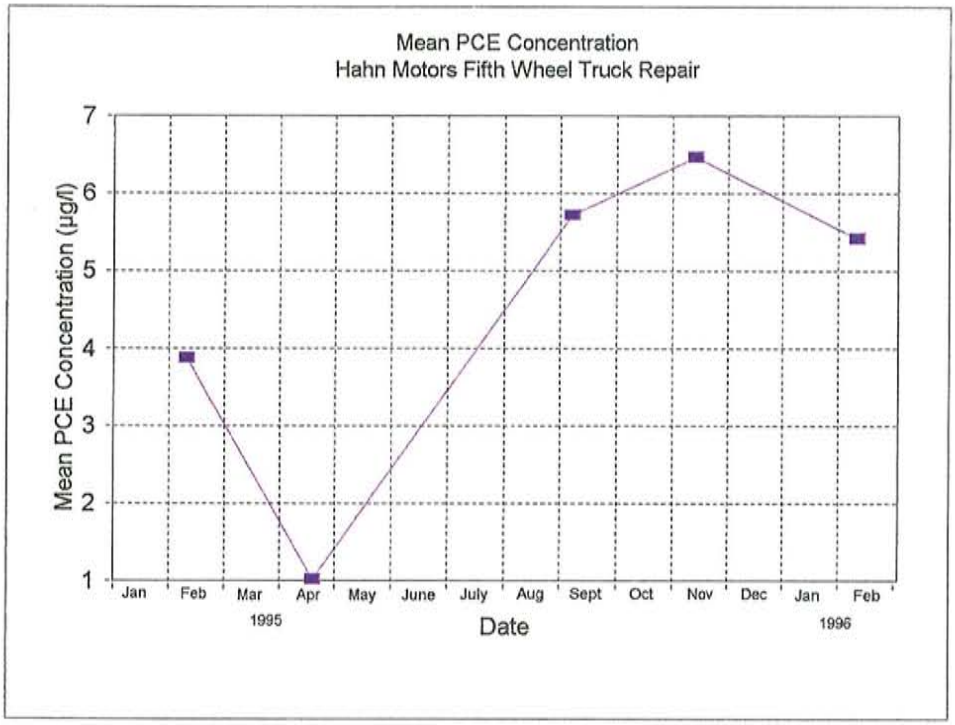


Water Table Hydrograph
Fifth Wheel Truck Repair
Yakima, Washington
FIGURE 3

MAXIM 5609500619

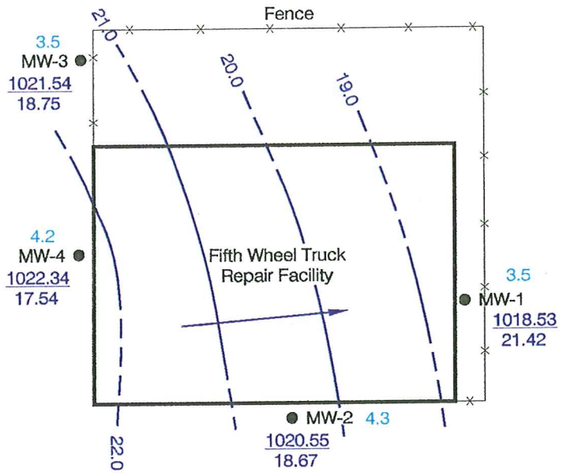
g: \619\Fig4.dwg



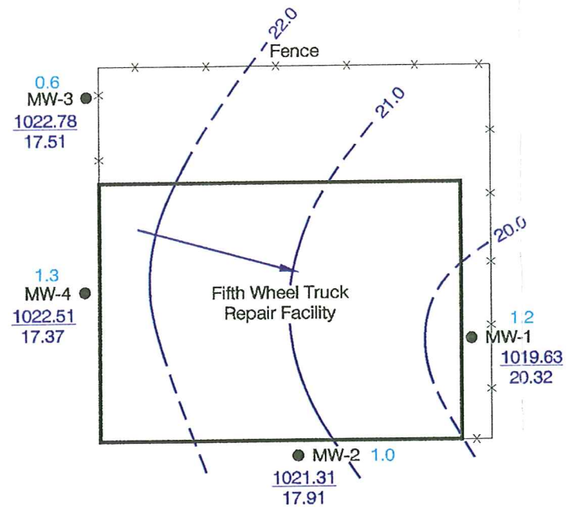


PCE Concentrations in Groundwater
Fifth Wheel Truck Repair
Yakima, Washington
FIGURE 5

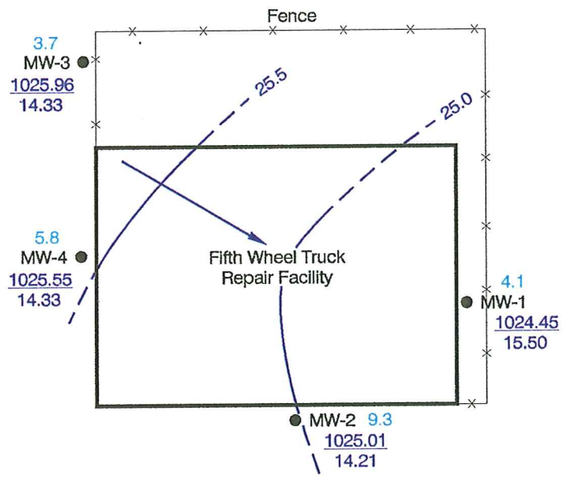
619\Fig3.dwg



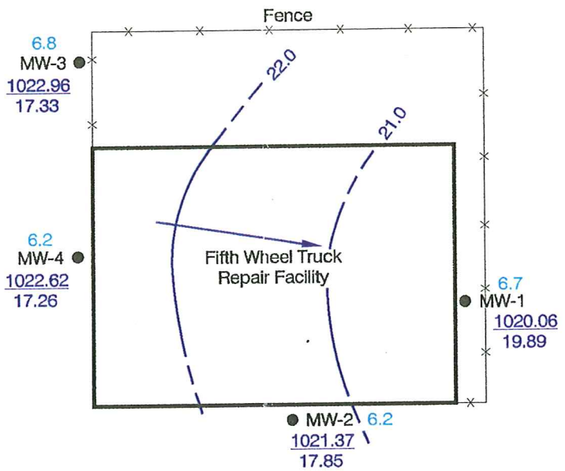
February 1995



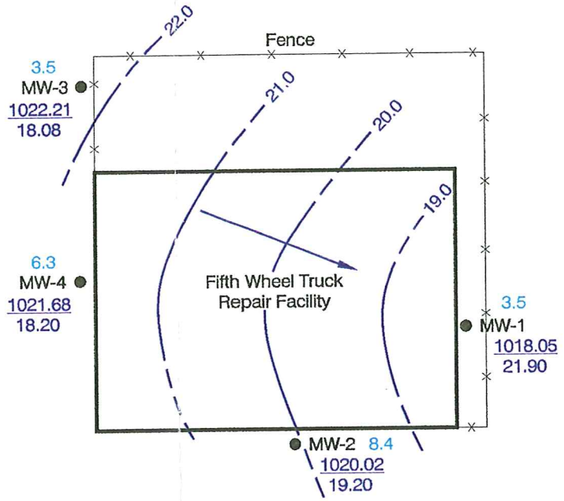
April 1995



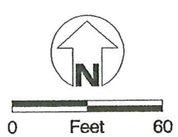
September 1995



November 1995



February 1996



● Monitoring Well

1021.37 / 17.85 = Groundwater Elevation / Depth to Groundwater

4.3 PCE Concentrations (µg/l)

Groundwater Potentiometric Line (dashed where inferred)

Groundwater Flow Direction

Groundwater Elevation Map
Fifth Wheel Truck Repair
Yakima, Washington
FIGURE 4

MAXIM 5609600619.04

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS
FIFTH WHEEL TRUCK REPAIR FACILITY
YAKIMA, WASHINGTON

Parameter	Sample ID and Depth (sample date)[1]											
	MW-1 @ 10 (2-8-95)	MW-1 @ 15 (2-8-95)	MW-1 @ 20 (2-8-95)	MW-2 @ 20 (2-8-95)	TP-1 @ 5 (4-19-95)	TP-1 @ 10 (4-19-95)	TP-1 @ 18 (4-19-95)	TP-2 @ 5 (4-19-95)	TP-2 @ 10 (4-19-95)	TP-2 @ 18 (4-19-95)	MTCA Method A Cleanup Level[2]	MTCA Method B Cleanup Level
PCE[3]	ND[8]	ND	0.16	0.05	ND	ND	ND	ND	ND	ND	0.5	0.08 (Method protective of GW)
DCE[4]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Benzene[5]	ND	ND	0.48	ND	ND	ND	ND	ND	ND	ND	0.5	
Toluene[5]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	40.0	
Ethylbenzene[5]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.0	
Xylenes[5]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.0	
Heavy Oil[6]	110	108	ND	33	36	54	115	ND	ND	ND	200.0	-
Antimony[7]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	32.0
Arsenic[7]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.0	-
Beryllium[7]	ND	0.60	ND	ND	ND	ND	ND	ND	ND	ND	-	0.233
Cadmium[7]	3.8	5.3	4.8	3.4	1.5	ND	ND	ND	ND	ND	2.0	-
Chromium[7]	11.0	8.4	10.0	13.0	14.0	8.8	7.6	12.0	7.9	10.0	100.0	-
Copper[7]	18.0	45.0	21.0	23.0	39.0	15.0	14.0	22.0	13.0	14.0	-	2,960.0
Lead[7]	ND	ND	ND	ND	200.0	26.0	20.0	34.0	7.3	8.0	250.0	-
Nickel[7]	15.0	16.0	14.0	10.0	12.0	7.8	7.0	13.0	7.3	9.3	-	1,600.0
Selenium[7]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	400.0
Silver[7]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	400.0
Thallium[7]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	5.6
Zinc[7]	55.0	60.0	46.0	42.0	99.0	36.0	38.0	69.0	36.0	38.0	-	24,000.0
Mercury[7]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	-

1 Sample ID indicates specific monitoring well or test pit location; sample depth given in feet below ground surface.
2 Model Toxics control Act (MTCA) Method A and B Cleanup Levels established by the Washington State Department of Ecology, December 1993.
3 PCE = Tetrachloroethylene, analyzed according to EPA Methods 8010/8020, and reported in milligrams per kilogram (mg/kg).
4 DCE = 1,2 dichloroethene, analyzed according to EPA Methods 8010/8020, and reported in milligrams per kilogram (mg/kg).
5 Benzene, toluene, ethylbenzene and xylenes, analyzed according to EPA Methods 8010/8020, and reported in milligrams per kilogram (mg/kg).
6 Total Petroleum Hydrocarbons (TPH) analyzed according to WTPH-D Extended, and reported in milligrams per kilogram (mg/kg).
7 Total Metals, analyzed according to EPA Methods 6010 and 7416, and reported in milligrams per kilogram (mg/kg).
8 ND = Not Detected.

Notes: all concentrations reported in milligrams per kilogram (mg/kg).
- indicates cleanup level for a specific parameter in soil has not been established.

TABLE 2
WATER LEVEL DATA
FIFTH WHEEL REPAIR FACILITY
YAKIMA, WASHINGTON

DATE	WELLS							
	MW-1 (1039.95)[1]		MW-2 (1039.22)		MW-3 (1040.29)		MW-4 (1039.88)	
	DTW[2]	GW ELEV[3]	DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV
February 9, 1995	21.42	1018.53	18.67	1020.55	18.75	1021.54	17.54	1022.34
April 19, 1995	20.32	1019.63	17.91	1021.31	17.51	1022.78	17.37	1022.51
September 5, 1995	15.50	1024.45	14.21	1025.01	14.33	1025.96	14.33	1025.55
November 27, 1995	19.89	1020.06	17.85	1021.37	17.33	1022.96	17.26	1022.62
February 7, 1996	21.90	1018.05	19.20	1020.02	18.08	1022.21	18.20	1021.68

1 Measuring point elevation, relative to mean sea level, measured in feet.
2 DTW = depth to water below measuring point, measured in feet.
3 GW ELEV = groundwater elevation, measured in feet.

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
FIFTH WHEEL REPAIR FACILITY
YAKIMA, WASHINGTON

Well No.	Sampling Date	Parameter			
		PCE[1] (µg/l)	Chloroform[2] (µg/l)	Cu[3] (mg/l)	Zn[4] (mg/l)
MW-1	2-15-95	3.5	ND[5]	0.046	0.11
	4-21-95	1.2	ND	ND	0.04
	8-29-95	NW[X]	NW[X]	ND	ND
	9-05-95	4.1	1.6	NA[6]	NA
	11-27-95	6.7	ND	NA	NA
	2-08-96	3.5	1.4	NA	NA
MW-2	2-15-95	4.3	ND	ND	0.13
	4-21-95	1.0	ND	ND	0.07
	8-29-95	NW[X]	NW[X]	ND	ND
	9-05-95	9.3	2.0	NA	NA
	11-27-95	6.2	ND	NA	NA
	2-08-96	8.4	3.8	NA	NA
MW-3	2-15-95	3.5	ND	ND	0.03
	4-21-95	0.6	ND	ND	0.05
	8-29-95	NW[X]	NW[X]	ND	ND
	9-05-95	3.7	1.8	NA	NA
	11-27-95	6.8	ND	NA	NA
	2-08-96	3.5	1.7	NA	NA
MW-4	2-15-95	4.2	ND	ND	0.07
	4-21-95	1.3	ND	ND	0.03
	8-29-95	NW[X]	NW[X]	ND	ND
	9-05-95	5.8	1.8	NA	NA
	11-27-95	6.2	ND	NA	NA
	2-08-96	6.3	3.1	NA	NA
EPA Drinking Water Standards [7]		5.0	100	1.0	5.0

1 PCE = Tetrachloroethylene, analyzed according to EPA Method 8010/8020, reported in micrograms per liter (µg/l).
2 Chloroform, analyzed according to EPA Method 8010/8020, reported in micrograms per liter (µg/l).
3 Cu = Copper, analyzed according to EPA Method 200.7, reported in milligrams per liter (mg/l).
4 Zn = Zinc, analyzed according to EPA Method 200.7, reported in milligrams per liter (mg/l).
5 ND = Not Detected
6 NA = Not Analyzed NW[X] = invalid data re-sampled 8-5-95
7 Based on Washington MTCA Method A or B cleanup levels, or U.S. EPA Primary and Secondary drinking water standards.

TABLE 4
SUMP SLUDGE AND SOIL SAMPLE ANALYTICAL RESULTS
FIFTH WHEEL TRUCK REPAIR FACILITY
YAKIMA, WASHINGTON

Analyte		MTCA Method A Cleanup Level[1] (mg/kg)	Sludge Samples		Confirmation Samples					
			Sump-1 (mg/kg)	Sump-2 (mg/kg)	Sump-1 (mg/kg)	Sump-2 (mg/kg)	Sump-3 South (mg/kg)	Sump-3 West (mg/kg)	Sump-3 Bottom (mg/kg)	Stockpile (mg/kg)
Organics	PCE[2]	0.5	ND[7]	ND	ND	ND	ND	ND	ND	ND
	DCE[3]	NE[8]	19.7	ND	NA[9]	NA	NA	NA	NA	NA
	Total BTEX[4]	85.5	41.46	ND	0.20	ND	ND	ND	ND	ND
	TPH[5]	200.0	4,140	>25,000	395	73	ND	ND	ND	1040
Metals[6]	Antimony	NE	ND	ND	ND	ND	ND	ND	ND	ND
	Arsenic	20.0	ND	ND	ND	ND	ND	ND	ND	ND
	Beryllium	NE	ND	ND	ND	ND	ND	ND	ND	ND
	Cadmium	2.0	19.0	13.0	8.9	7.7	5.0	3.8	1.4 (at 10 ft BGS Nov. 1995)	46.0
	Chromium	100.00	130.0	150.0	20.0	11.0	10.0	18.0	9.0	14
	Copper	NE	110.0	110.0	46.0	21.0	18.0	14.0	19.0	27
	Lead	250.0	540.0	290.0	440.0	26.0	ND	7.2	23.0	87
	Nickel	NE	65.0	46.0	28.0	14.0	11.0	15.0	14.0	12.0
	Selenium	NE	ND	ND	ND	ND	ND	ND	ND	ND
	Silver	NE	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium	NE	ND	ND	ND	ND	ND	ND	ND	ND
	Zinc	NE	4,000	1,500	450	110	40	35	94	120
	Mercury	1.0	0.3	0.2	ND	ND	ND	ND	0.13	ND

1 Model Toxics Control Act (MTCA) Method A Cleanup Levels, established by the Washington State Department of Ecology Toxics Cleanup Program, Amended December 1992.
2 PCE = Tetrachloroethylene, analyzed according to EPA Method 8010, reported in milligrams per kilogram (mg/kg).
3 DCE = 1,2 Dichloroethene, analyzed according to EPA Method 8010, reported in milligrams per kilogram (mg/kg).
4 BTEX = benzene, toluene, ethylbenzene and xylenes, analyzed according to EPA Method 8020, reported in milligrams per kilogram (mg/kg).
5 TPH = Total Petroleum Hydrocarbons (diesel and oil in soil), analyzed according to WTPH-D/D-Extended, reported in milligrams per kilogram (mg/kg).
6 Metals analyzed according to EPA Methods 6010 and 7471 (mercury), reported in milligrams per kilogram (mg/kg).
7 ND = Not Detected
8 NE = Not Established
9 NA = Not Analyzed

APPENDIX A

MONITORING WELL DRILLING LOGS

BORING LOG

PROJECT: HAHN FIFTH WHEEL TRUCK REPAIR
YAKIMA, WASHINGTON

JOB NO.: 195-1900 BORING NO: MW-1 PAGE: 1 of 1

LOCATION: 307 ARLINGTON STREET (SW 1/4, NE 1/4, S 30, T 13 N, R 19 E of the W.M.)

TYPE: MONITORING WELL SOIL: ROTARY ODEX ROCK: N/A

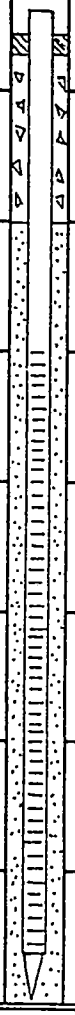
DRILLED BY: R & R DRILLING PUYALLUP, WASHINGTON LOGGED BY: RACHEL TAUMAN

ELEVATION: SURFACE - 0 ft. GROUNDWATER - 20.0 ft. BGS.

DATE: STARTED - 2/06/95 COMPLETED - 2/06/95

CASING: SLOT SIZE - .020 DIAMETER - 2" SCH 40 PVC

DEPTH IN FEET	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	GEOLOGIC ORIGIN	N or CR	SAMPLE NO.	SAMPLE TYPE	ORGANIC VAPOR PID (ppm)	ORGANIC VAPOR Mapl (ppm)	WELL COMPLETION
0	Well Graded GRAVELS; dry; very dense; non-plastic; brown-black (GW).	GW							Flush Mount Conc. Bent.
5				>50					
10				>50					Sand
15	Silty GRAVELS; moist; very dense; non-plastic; brown-black (GM).	GM		>50					
20	Silty SAND; poorly graded sand & gravel; wet; very dense; non-plastic; brown-black (SM). Groundwater at 20 ft. BGS.	SM		>50					
25									
30									
35	Base of boring at approximately 35 ft. BGS.								



BORING LOG

PROJECT: HAHN FIFTH WHEEL TRUCK REPAIR
YAKIMA, WASHINGTON

JOB NO.: 195-1900 BORING NO: MW-2 PAGE: 1 of 1

LOCATION: 307 ARLINGTON STREET (SW 1/4, NE 1/4, S 30, T 13 N, R 19 E of the W.M.)

TYPE: MONITORING WELL SOIL: ROTARY ODEX ROCK: N/A

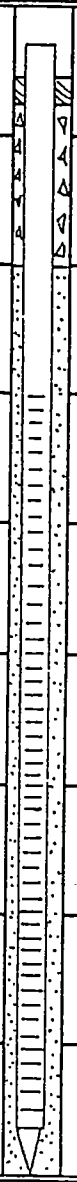
DRILLED BY: R & R DRILLING PUYALLUP, WASHINGTON LOGGED BY: RACHEL TAUMAN

ELEVATION: SURFACE - 0 ft. GROUNDWATER - 20.0 ft. BGS.

DATE: STARTED - 2/06/95 COMPLETED - 2/06/95

CASING: SLOT SIZE - .020 DIAMETER - 2" SCH 40 PVC

DEPTH IN FEET	CLASSIFICATION AND DESCRIPTION	SYMBOL	GEOLOGIC ORIGIN	N or CR	SAMPLE NO.	SAMPLE TYPE	ORGANIC VAPOR PID (ppm)	ORGANIC VAPOR Mspl (ppm)	WELL COMPLETION
0	Silty sandy GRAVEL; slightly moist; very dense; non-plastic; brown (GM). 60% basalt	GM							Flush Mount Conc. Bent.
5				>50					
10				>50					Sand
15				>50					
18.5	Sharp break in grain size Silty SAND with gravel; wet; very dense; non-plastic; brown (SM).	SM							
20	Groundwater at 20 ft. BGS.			>50					
25									
30									
35	Base of boring at approximately 35 ft. BGS.								



APPENDIX B

GROUNDWATER SAMPLING FIELD FORMS

Chen Northern, Inc.
Consulting Engineers and Scientists

PROJECT REPORT

Project Hahn motors Job No. 1-95-1900

Client " " Date 2-9-95

Contractor _____ Report No. _____

Feature Water Sampling Sheet 1 of 1

Weather Sunny Min. Temp. 50s Max. Temp. _____ Work Period 8:30 (A.M.) P.M. to 6:30 A.M. (P.M.)

Personnel	Position	Mileage	Total Hours
Tom M	Tech	170	10 hrs

NARRATIVE

Load up material mob to yakima Hahn motors take four water samples from monitoring wells Return to shop Do paper work prepare sample to ship.

Priority pollutants metals 8010 - 7181

5-Disposible Bailers

1-5 pair nitrile gloves

towels

soap

string

1-gal distilled water

1-55 gal Barrel

1-Bucket

Preliminary observations and/or Test Results verbally reported to: _____

Approved _____ Date _____ Prepared By Thomas A Machado
CHEN NORTHERN, INC.

DISTRIBUTION: Original for NET Office File – Copy to Client – Copy for Field File

SHIELDS PRINTING – FORM 3274

GROUNDWATER LEVEL DATA SHEET

PROJECT: HAHN motors YAKIMA, WA PROJECT NO.: 1-95-1900

DATE: 2-9-95 MEASUREMENTS TAKEN BY: Tom M MEASURING DEVICE: WATER METER

WEATHER CONDITIONS: Sunny

Well No.	Time	Reference Elevation	Depth to Groundwater	Groundwater Elevation	Reference Point	Well Depth	Comments
MW-4	12:00	Top of pvc	17'6.5"	8'4"	top of pvc	26'4"	clear
MW-2	1:45	Top of pvc	18'8"	16'8"	Top of pvc	34'	murky
MW-1	2:30	Top of pvc	21'5"	12'7"	top of pvc	34'	murky
MW-3	3:30	top of pvc	18'9"	7'2"	top of pvc	26'7.5"	clear
							priority Pollutants
							8010 metals
							418.1

NOTES:

CHEN-NORTHERN, INC.

WELL SAMPLING REPORT

PROJECT: HAHN Motors YAKIMA, WA

JOB NO.: 1-95-1900 DATE: 2-9-95

LOCATION: YAKIMA, WA

SAMPLERS: Tom M

METHOD: BAILED

WEATHER: Sunny

TEMP.: 60° HUMIDITY: 30 %

GROUNDWATER WELL NO.: MW-2 (IN Front of SS Auto sidewalk)

WELL DIA.: 2"

WATER IN COVER: None

DEPTH TO WATER: 18' 8"

WELL DEPTH: 34'

HEIGHT OF WATER: 16' 8"

WATER VOLUME: 4# Bailer 9 gals

PURGE WATER CALC: _____

MULT. FACTOR

2" CASING = 0.16

4" CASING = 0.65

5" CASING = 1.02

6" CASING = 1.47

Calculations

Time	Sample/Purge	Volume (Gals)	Temp. (°C)	pH	Cond. (mhos)	Odor	Appearance
12:50	9 gals	9 Gals	62°	7.4	200	None	Murky

SAMPLES COLLECTED: 1-Liter Bottle with HNO3

For metals priority pollutants 8010 - 8081 Metals

REMARKS: 1-Bailer, water meter, distilled water, Barrel, Bucket, Brush, soap, PH meter, conductivity meter, measuring tape, string, Jar, Baird (4# Bailers 9 gals)

CHEN-NORTHERN, INC.

WELL SAMPLING REPORT

PROJECT: HAHN motors

JOB NO.: 1-95-1900 DATE: 2-9-94

LOCATION: YAKIMA, WA

SAMPLERS: Tom M.

METHOD: BAILER

WEATHER: Sunny

TEMP.: 55° HUMIDITY: Low

GROUNDWATER

WELL NO.: No-MW-4

WELL DIA.: 2"

WATER IN COVER: NONE

DEPTH TO WATER: 17'6.5"

WELL DEPTH: 26' 4"

HEIGHT OF WATER: 8' 4"

WATER VOLUME: 3 Bailer per 1' of water

PURGE WATER

CALC: _____

MULT. FACTOR

2" CASING = 0.16

4" CASING = 0.65

5" CASING = 1.02

6" CASING = 1.47

Calculations

Time	Sample/ Purge	Volume (Gals)	Temp. (°C)	pH	Cond. (mhos)	Odor	Appearance
11:30	SAMP	5 GALS	60°	7.9	220	NONE	CLEAR

SAMPLES COLLECTED: 1 - 1 Liter - Sample Bottle with HNO3

priority Pollutants: 8010 418.1 metals

REMARKS: WATER METER. Bucket, soap, Brush, Bailer

PH METER, conductivity meter, Distilled water, Spr. string, Thermometer

(Bailed 3.4 BAILERS)

CHEN-NORTHERN, INC.

WELL SAMPLING REPORT

PROJECT: HAHN Motors

JOB NO.: 1-95-1960 DATE: 2-9-95

LOCATION: YAKIMA, WA

SAMPLERS: Tom M

METHOD: Bailer

WEATHER: Sunny

TEMP.: 50° HUMIDITY: 40%

GROUNDWATER

WELL NO.: MW-3

WELL DIA.: 2"

WATER IN COVER: YES

DEPTH TO WATER: 18' 9"

WELL DEPTH: 26' 7.5"

HEIGHT OF WATER: 7' 2"

WATER VOLUME: 21 Bailers 4½ gal

PURGE WATER

CALC: _____

MULT. FACTOR

2" CASING = 0.16

4" CASING = 0.65

5" CASING = 1.02

6" CASING = 1.47

Calculations

Time	Sample/Purge	Volume (Gals)	Temp. (°C)	pH	Cond. (mhos)	Odor	Appearance
3:30	4½ gals	4½ gals	61°	7.6	260	None	Merky

SAMPLES COLLECTED: 1- 1 litre Bottle, HNO3

Priority Pullutants 8010 418.1 Metals

REMARKS: 1- Bailer Brush Bracket, Soap, string, water meter

PH-meter conductivity meter Thermometer Jar distilled

water.

(21 Bailers 4½ gal)

CHEN-NORTHERN, INC.

WELL SAMPLING REPORT

PROJECT: HAHN motors YAKIMA, WA

JOB NO.: 1-95-1900 DATE: 2-9-95

LOCATION: YAKIMA, WA

SAMPLERS: Tom M

METHOD: BAILER

WEATHER: Sunny

TEMP.: 50 HUMIDITY: 40

GROUNDWATER

WELL NO.: MW-1

WELL DIA.: 2"

WATER IN COVER: NONE

DEPTH TO WATER: 21'5"

WELL DEPTH: 34'

HEIGHT OF WATER: 12'7"

WATER VOLUME: 36 BAILERS 8gal

PURGE WATER

CALC: _____

MULT. FACTOR

2" CASING = 0.16

4" CASING = 0.65

5" CASING = 1.02

6" CASING = 1.47

Calculations

Time	Sample/Purge	Volume (Gals)	Temp. (°C)	pH	Cond. (mhos)	Odor	Appearance
2:20	8gal	8 gals	60°	7.3	240	None	Merky

SAMPLES COLLECTED: - 1-1 Litre BOTTLE WITH HNO3

priority pollutant 8010 & 418.1 Metals

REMARKS: 1 Bailer, Brush Bucket, Soap, string, water meter, PH meter, conductivity meter, Thermometer, Jar distilled water,

(36 Bailers 8gal)

Chen Northern, Inc.
Consulting Engineers and Scientists

PROJECT REPORT

Project Hahn Motors Job No. 195-1900

Client _____ Date 4-19-95

Contractor _____ Report No. _____

Feature _____ Sheet 2 of 2

Weather _____ Min. Temp. _____ Max. Temp. _____ Work Period _____ A.M. P.M. to _____ A.M. P.M.

Personnel	Position	Mileage	Total Hours

NARRATIVE

2:30P Sampled Sump 1 - 2 8oz Jars

2:40P Sampled Sump 3 - 2 8oz Jars

~~Was~~ not able to Sample Sump 2, because grate "Cover" Could not be Removed.

3:30P Yakima, WA → Pasco, WA

5:10P Arrived Pasco, WA - Completed Paperwork.

Preliminary observations and/or Test Results verbally reported to: _____

Approved _____ Date 4-19-95 Prepared By _____

CHEN NORTHERN, INC.

DISTRIBUTION: Original for NET Office File – Copy to Client – Copy for Field File

CHEN-NORTHERN, INC.

WELL SAMPLING REPORT

PROJECT: Hahn Motors

JOB NO.: 195-1900 DATE: 4-19-95

LOCATION: 1201 South First Street Yakima, WA

SAMPLERS: Bolles

METHOD: Bailer

WEATHER: Cool, Calm

TEMP.: 50°F HUMIDITY: ———

GROUNDWATER

WELL NO.: MW-1

WELL DIA.: 2"

WATER IN COVER: Yes

DEPTH TO WATER: 20.32 ft.

WELL DEPTH: 33.95 ft.

HEIGHT OF WATER: 13.63 ft.

WATER VOLUME: 2.1 gal

PURGE WATER

CALC: ———

MULT. FACTOR

2" CASING = 0.16

4" CASING = 0.65

5" CASING = 1.02

6" CASING = 1.47

Calculations

Time	Sample/Purge	Volume (Gals)	Temp. (°F)	pH	Cond. (mhos)	Odor	Appearance
11:50A	purge	~ 7 gal	60°F	7.1	220 mhos	none	slightly cloudy
1:30P	Sample MW-1	—	—	—	—	none	clear

SAMPLES COLLECTED: 2 - 40 mL VOA 601/8010 - 602/8020

1 - 250mL poly Priority Pollutants

REMARKS: purge ~ 6.3 gal

CHEN-NORTHERN, INC.

WELL SAMPLING REPORT

PROJECT: Hahn Motors

JOB NO.: 195-1900 DATE: 4-19-95

LOCATION: 1201 South First Street Yakima, WA

SAMPLERS: Bolles

METHOD: Bailer

WEATHER: Cool, Calm

TEMP.: 50°F HUMIDITY: _____

GROUNDWATER

WELL NO.: MW-2

WELL DIA.: 2"

WATER IN COVER: NO

DEPTH TO WATER: 17.91 ft.

WELL DEPTH: 34.00 ft.

HEIGHT OF WATER: 16.09 ft.

WATER VOLUME: 2.6 gal.

PURGE WATER

CALC: _____

MULT. FACTOR

2" CASING = 0.16

4" CASING = 0.65

5" CASING = 1.02

6" CASING = 1.47

Calculations

Time	Sample/Purge	Volume (Gals)	Temp. (°C)	pH	Cond. (mhos)	Odor	Appearance
12:30P	Purge	~ 8.0 gal	60°F	7.3	200 mhos	None	slightly Cloudy
1:40P	Sample MW-2	—	—	—	—	None	Clear

SAMPLES COLLECTED: 2 - 40mL VOA 601 / 8010 - 602 / 8020

1 - 250mL Poly Priority Pollutants

REMARKS: purge ~ 7-8 gal

CHEN-NORTHERN, INC.

WELL SAMPLING REPORT

PROJECT: Hahn Motors

JOB NO.: 195-1900 DATE: 4-19-95

LOCATION: 1201 South First Street Yakima, WA

SAMPLERS: Bolles

METHOD: Bailer

WEATHER: Cool, Calm

TEMP.: 50°F HUMIDITY: _____

GROUNDWATER

WELL NO.: MW-3

WELL DIA.: 2"

WATER IN COVER: YES

DEPTH TO WATER: 17.51ft.

WELL DEPTH: 26.72ft.

HEIGHT OF WATER: 9.21

WATER VOLUME: 1.5 gal

PURGE WATER

CALC: _____

MULT. FACTOR

2" CASING = 0.16

4" CASING = 0.65

5" CASING = 1.02

6" CASING = 1.47

Calculations

Time	Sample/Purge	Volume (Gals)	Temp. (~~°C~~)	pH	Cond. (mhos)	Odor	Appearance
12:50P	Purge	~ 4.5gal	60°F	7.3	200 mhos	None	Slightly Cloudy
1:50P	Sample MW-3	—	—	—	—	None	Clear

SAMPLES COLLECTED: 2 - 40mL VOA 601/8010 - 602/8020

1 - 250mL Poly Priority Pollutants

REMARKS: Purge ~ 4.5gal

Chen Northern, Inc.
Consulting Engineers and Scientists

PROJECT REPORT

Project: Hahn Motors — Job No. 195-1900
Client: ____ — Date: 4-19-95
Contractor: ____ — Report No. ____
Feature: Groundwater Sampling — Sheet 1 of 2

Weather: Cool, Windy — Min. Temp. 55°F — Max. Temp. 60°F — Work Period 8:40 A.M. to 5:40 P.M.

Personnel	Position	Mileage	Total Hours
J. Bolles	Geologist	177	~8.5 hrs

NARRATIVE

8:40 A Pasco, WA → Yakima, WA
10:30 A Arrived Site

Gauged Wells

	SWL	T.D.
MW-1	20.32 ft.	33.95 ft.
MW-2	17.91 ft.	34.00 ft.
MW-3	17.51 ft.	26.72 ft.
MW-4	17.37 ft.	26.40 ft.

11:15 A Completed gauging wells.
11:25 A Began Purging Wells.
See Well Sampling Reports for information
1:05 P Completed Purging wells.
1:30 P Sampled MW-1
1:40 P Sampled MW-2
1:50 P Sampled MW-3
2:00 P Sampled MW-4

Preliminary observations and/or Test Results verbally reported to: ____

Approved ____ Date 4-19-95 Prepared By [signature]
CHEN NORTHERN, INC.

DISTRIBUTION: Original for NET Office File – Copy to Client – Copy for Field File

CHEN-NORTHERN, INC.

WELL SAMPLING REPORT

PROJECT: Hahn Motors

JOB NO.: 195-1900 DATE: 4-19-95

LOCATION: 1201 South First Street Yakima, WA

SAMPLERS: Bolles

METHOD: Bailer

WEATHER: Cool, Calm

TEMP.: 50°F HUMIDITY: _____

GROUNDWATER

WELL NO.: MW-4

WELL DIA.: 2"

WATER IN COVER: YES

DEPTH TO WATER: 17.37ft.

WELL DEPTH: 26.40ft.

HEIGHT OF WATER: 9.03 ft.

WATER VOLUME: 1.4 gal

PURGE WATER

CALC: _____

MULT. FACTOR

2" CASING = 0.16

4" CASING = 0.65

5" CASING = 1.02

6" CASING = 1.47

Calculations

Time	Sample/Purge	Volume (Gals)	Temp. (°C)	pH	Cond. (mhos)	Odor	Appearance
1:05P	Purge	N 4.5 gal	60°F	7.6	220 mhos	None	slightly cloudy
2:00P	Sample MW-4	—	—	—	—	None	Clear

SAMPLES COLLECTED: 2 - ~~40~~ 40mL VOAS 601/8010 — 602/8020

1 - 250mL Poly Priority Pollutants

REMARKS: Purge 4.2 gal

GROUNDWATER LEVEL DATA SHEET

PROJECT: Hawn Fifth Wheel Truck Repair

PROJECT NO.: 95-3894

DATE: 8-29-95

MEASUREMENTS TAKEN BY:

MEASURING DEVICE: WC Indicator

WEATHER CONDITIONS: Clear 70°

Well No.	Time	Reference Elevation	Depth to Groundwater	Groundwater Elevation	Reference Point	Well Depth	Comments
mw-3	10 30		14' 3 3/4"				Con. 230 Temp 67° PH 7.1
mw-4	10 45		14' 3"				Con 220 Temp 67° PH 7.1
mw-2	11 15		14' 2"				Con 240 Temp 69° PH 7.2
mw-1	11 30		15' 5 1/4"				Con 210 Temp 69° PH 7.0

NOTES:

GROUNDWATER LEVEL DATA SHEET

PROJECT: Fifth Wheel Truck Repair PROJECT NO.: 95-

DATE: 9-5-95 MEASUREMENTS TAKEN BY: Ryan Mull MEASURING DEVICE:

WEATHER CONDITIONS: Sunny 85°

Well No.	Time	Reference Elevation	Depth to Groundwater	Groundwater Elevation	Reference Point	Well Depth	Comments
#3	11:52		14ft 4in			27ft.	Con. 210 PH. 7.0 Temp 69°
#4	11:45		14ft 4in			26ft 8"	Con. 220 PH. 7.2 Temp 70° (well appears to be bent) 19 ft
#2	12:15		14ft 2.5in			>27 ft	Con. 200 PH. 7.3 Temp 71°
#1	12:20		15ft 6in			~27ft	Con 190 PH 7.2 Temp 73°

NOTES:

GROUNDWATER SAMPLING LOG

Project: Hahn 5th Wheel Truck Repair Date/Time: 11-27-95 ; 1435 Station No. MW-1

Narrative Description: east side of building, in area secured by chain link fence

Personnel: Bob Farrell Weather: cool & raining

Well Locked? Yes [ ] No [X] Well Log? Yes [ ] No [X]

Condition of Well: Good

Casing Type: PVC Casing Diameter: 2"

Casing Stickup: flush mount Measuring Point Description: TOC

Aquifer:

Depth to Water (feet below measuring point): 19.89 ft

WELL EVACUATION

Method: Positive Displacement Pump [ ] Hand-Lift Pump [ ] Submersible Pump [X] SST Bailer [ ] PVC Bailer [ ] Teflon Bailer [ ] Other:

One Bore Volume = 2.22 Gallons

Remarks: Evacuated 10 bailers; tested parameters. Evacuated another gal & verified e-

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	Other
1455	4.8	15°C	battery	240 µS	
1500	5.9	15°	dead	230	

WELL SAMPLING

Sampling Method: Stainless Steel Bailer Sample Type: Natural [X] Replicate [ ] X-Contam [ ] Trip Blank [ ] Blind Field Sta. [ ]

SC DATA

Water Temp.	Observed SC (µmhos)	Temp. Correction Factor	Cell Factor	SC = (2) x (3) x (4) µmhos/cm @ 25°C Compensated SC
(1)	(2)	(3)	(4)	

Temperature pH: Other:

Sample Container	Parameters	Preservative
MW-1	VOC's	HCl
MW-1	↓	↓

Laboratory: TEG Chain-of-Custody: Yes [X] No [ ]

Sample Analysis Request Form: Yes [ ] No [ ]

Meter	Serial No.	Calibration Date
pH		
SC		
M-Scope		

Decontamination

Steam: Yes [ ] No [ ] Potable Water: Yes [X] No [ ]

Scrub: Yes [X] No [ ] Liquinox: Yes [X] No [ ]

Methanol: Yes [ ] No [ ] Acetone: Yes [ ] No [ ]

Nitic Acid: Yes [ ] No [ ]

Comments:

GROUNDWATER SAMPLING LOG

Project: Hahn Shell Used Truck Repair Date/Time: 11-27-95; 1045 Station No. MW-2

Narrative Description: in sidewalk at front of building

Personnel: Rob Jarrell Weather: Cool & rainy

Well Locked? Yes [ ] No [X] Well Log? Yes [ ] No [X]

Condition of Well: Good

Casing Type: PVC Casing Diameter: 2"

Casing Stickup: flush mount Measuring Point Description: TOC

Aquifer:

Depth to Water (feet below measuring point): 17.85 ft

WELL EVACUATION

Method: Positive Displacement Pump [ ] Hand-Lift Pump [ ] Submersible Pump [X] SST Bailer [ ] PVC Bailer [ ] Teflon Bailer [ ] Other:

One Bore Volume = 2.6 Gallons

Remarks: Evacuated 20 bailers; tested parameters. Removed another gallon & retested parameters

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	Other
1110	4.8	15°C	7.4	230 us	
1115	5.8	15°C	7.5	220	

WELL SAMPLING

Sampling Method: Stainless Steel Bailer Sample Type: Natural [X] Replicate [ ] X-Contam [ ] Trip Blank [ ] Blind Field Sta. [ ]

SC DATA

Water Temp. (1)	Observed SC (µmhos) (2)	Temp. Correction Factor (3)	Cell Factor (4)	SC = (2) x (3) x (4) µmhos/cm @ 25°C Compensated SC

Temperature: pH: Other:

Sample Container	Parameters	Preservative
MW-2	VOC's	HCl
MW-2	↓	↓

Laboratory: Chain-of-Custody: Yes [ ] No [ ]

Sample Analysis Request Form: Yes [ ] No [ ]

Meter	Serial No.	Calibration Date
pH		
SC		
M-Scope		

Decontamination

Steam: Yes [ ] No [ ] Potable Water: Yes [X] No [ ]

Scrub: Yes [X] No [ ] Liquinox: Yes [X] No [ ]

Methanol: Yes [ ] No [ ] Acetone: Yes [ ] No [ ]

Nitic Acid: Yes [ ] No [ ]

Comments:

GROUNDWATER SAMPLING LOG

Project: Habor 5th Wheel Truck Terminal Date/Time: 11-27-95 Station No. MW-3

Narrative Description: toward northwest corner of building

Personnel: R.C. Farrell Weather: Cool & rainy

Well Locked? Yes [ ] No [X] Well Log? Yes [ ] No [X]

Condition of Well: well cap cracked

Casing Type: PVC Casing Diameter: 2"

Casing Stickup: flush mount Measuring Point Description: TOC

Aquifer:

Depth to Water (feet below measuring point): 17.33 ft

WELL EVACUATION

Method: Positive Displacement Pump [ ] Hand-Lift Pump [ ] Submersible Pump [X] SST Bailer [ ] PVC Bailer [ ] Teflon Bailer [ ] Other:

One Bore Volume = 1.53 Gallons

Remarks: Evacuated w bailer

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	Other
1355	4.8	15°C	bailer dead	2.20 mS	

WELL SAMPLING

Sampling Method: Stainless Steel Bailer Sample Type: Natural [ ] Replicate [ ] X-Contam [ ] Trip Blank [ ] Blind Field Sta. [ ]

SC DATA

Water Temp. (1)	Observed SC (µmhos) (2)	Temp. Correction Factor (3)	Cell Factor (4)	SC = (2) x (3) x (4) µmhos/cm @ 25°C Compensated SC

Temperature pH: Other:

Sample Container	Parameters	Preservative
MW-3	VOC's	HCl
MW-3	↓	↓

Laboratory: Chain-of-Custody: Yes [ ] No [ ]

Sample Analysis Request Form: Yes [ ] No [ ]

Meter	Serial No.	Calibration Date
pH		
SC		
M-Scope		

Decontamination

Steam: Yes [ ] No [ ] Potable Water: Yes [X] No [ ]

Scrub: Yes [X] No [ ] Liquinox: Yes [X] No [ ]

Methanol: Yes [ ] No [ ] Acetone: Yes [ ] No [ ]

Nitic Acid: Yes [ ] No [ ]

Comments: Water in well mount when opened. able to unscrew only one bolt, partway in well mount cover because bolt hole are filled & packed with dirt. Cover is home-made: Only one hole in cover aligns with bolt holes of mount.

GROUNDWATER SAMPLING LOG

Project: Hahn Sch. Wheel Truck Repair Date/Time: 11-27-95; 1130 Station No. MW-4

Narrative Description: toward southwest corner of building

Personnel: Pete Jarrell Weather: Cool & rainy

Well Locked? Yes [ ] No [X] Well Log? Yes [ ] No [X]

Condition of Well: Good

Casing Type: PVC Casing Diameter: 2"

Casing Stickup: flush mount Measuring Point Description: TOC

Aquifer:

Depth to Water (feet below measuring point): 17.26 ft

WELL EVACUATION

Method: Positive Displacement Pump [ ] Hand-Lift Pump [ ] Submersible Pump [X] SST Bailer [ ] PVC Bailer [ ] Teflon Bailer [ ] Other:

One Bore Volume = 1.46 Gallons

Remarks:

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	Other
1205	4.5	15°C	7.4	720 µS	

WELL SAMPLING

Sampling Method: Stainless Steel Bailer Sample Type: Natural [X] Replicate [ ] X-Contam [ ] Trip Blank [ ] Blind Field Sta. [ ]

SC DATA

Water Temp. (1)	Observed SC (µmhos) (2)	Temp. Correction Factor (3)	Cell Factor (4)	SC = (2) x (3) x (4) µmhos/cm @ 25°C Compensated SC

Temperature: pH: Other:

Sample Container	Parameters	Preservative
MW-4	VOC's	HCl
MW-4	↓	↓

Laboratory: TEG Chain-of-Custody: Yes [X] No [ ]

Sample Analysis Request Form: Yes [ ] No [ ]

Meter	Serial No.	Calibration Date
pH		
SC		
M-Scope		

Decontamination

Steam: Yes [ ] No [ ] Potable Water: Yes [X] No [ ]

Scrub: Yes [X] No [ ] Liquinox: Yes [X] No [ ]

Methanol: Yes [ ] No [ ] Acetone: Yes [ ] No [ ]

Nitic Acid: Yes [ ] No [ ]

Comments: Unable to secure well mount cover, because bolt holes are filled & packed with dirt.

GROUNDWATER SAMPLING LOG

Project: Hahn - Fifth Wheel Truck Repair Date/Time: 2-7-96/1330 Station No. MW-1

Narrative Description: On East Side of S & S Body Shop

Personnel: R. Farrell Weather: Cool, raining

Well Locked? Yes [ ] No [X] Well Log? Yes [ ] No [X]

Condition of Well: Good

Casing Type: PVC Casing Diameter: 2"

Casing Stickup: Flush Mount Measuring Point Description: TOC

Aquifer:

Depth to Water (feet below measuring point): 21.9 ft

WELL EVACUATION

Method: Positive Displacement Pump [ ] Hand-Lift Pump [ ] Submersible Pump [ ] SST Bailer [ ] PVC Bailer [ ] Teflon Bailer [ ] Other:

One Bore Volume = 1.9 Gallons

Remarks:

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	Other
1345	4 gal	14°	6.8	200 µs	
	6 1/4	15°	7.6	160	
	7 1/2	14°	6.9	170	

WELL SAMPLING

Sampling Method: Stainless Steel Bailer Sample Type: Natural [X] Replicate [ ] X-Contam [ ] Trip Blank [ ] Blind Field Sta. [ ]

SC DATA

Water Temp. (1)	Observed SC (µmhos) (2)	Temp. Correction Factor (3)	Cell Factor (4)	SC = (2) x (3) x (4) µmhos/cm @ 25°C Compensated SC

Temperature pH: Other:

Sample Container	Parameters	Preservative
MW-1	VOC's	HCl
MW-1	↓	↓

Laboratory: Chain-of-Custody: Yes [ ] No [ ]

Sample Analysis Request Form: Yes [ ] No [ ]

Meter	Serial No.	Calibration Date
pH		
SC		
M-Scope		

Decontamination

Steam: Yes [ ] No [ ] Potable Water: Yes [ ] No [ ]

Scrub: Yes [ ] No [ ] Liquinox: Yes [ ] No [ ]

Methanol: Yes [ ] No [ ] Acetone: Yes [ ] No [ ]

Nitic Acid: Yes [ ] No [ ]

Comments: Well Cap Slit

GROUNDWATER SAMPLING LOG

Project: Hahn - Fifth Wheel Truck Repair Date/Time: 2-7-96/1130 Station No. MW-2

Narrative Description: In front of Building in Sidewalk

Personnel: Rob Farrell Weather: Cool, raining

Well Locked? Yes [ ] No [X] Well Log? Yes [ ] No [ ]

Condition of Well: Good

Casing Type: PVC Casing Diameter: 2"

Casing Stickup: Flush Mount Measuring Point Description: TOC

Aquifer:

Depth to Water (feet below measuring point): 19.2 ft

WELL EVACUATION

Method: Positive Displacement Pump [ ] Hand-Lift Pump [ ] Submersible Pump [X] SST Bailer [ ] PVC Bailer [ ] Teflon Bailer [ ] Other:

One Bore Volume = 2.4 Gallons

Remarks:

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	Other
1230	5 gal	15°C	7.2	240 µS	
1235	6 1/4	14°	7.2	240	

WELL SAMPLING

Sampling Method: Stainless Steel Bailer Sample Type: Natural [X] Replicate [ ] X-Contam [ ] Trip Blank [ ] Blind Field Sta. [ ]

SC DATA

Water Temp. (1)	Observed SC (µmhos) (2)	Temp. Correction Factor (3)	Cell Factor (4)	SC = (2) x (3) x (4) µmhos/cm @ 25°C Compensated SC

Temperature: pH: Other:

Sample Container	Parameters	Preservative
MW-2	VOC's	HCl
MW-2	↓	↓
Blind Duplicate		

Laboratory: Chain-of-Custody: Yes [ ] No [ ]

Sample Analysis Request Form: Yes [ ] No [ ]

Meter	Serial No.	Calibration Date
pH		
SC		
M-Scope		

Decontamination

Steam: Yes [ ] No [ ] Potable Water: Yes [X] No [ ]

Scrub: Yes [X] No [ ] Liquinox: Yes [X] No [ ]

Methanol: Yes [ ] No [ ] Acetone: Yes [ ] No [ ]

Nitic Acid: Yes [ ] No [ ]

Comments: Well Cap Slit

GROUNDWATER SAMPLING LOG

Project: Hahn - Fifth Wheel Truck Repair Date/Time: 2-7-96 / 1425 Station No. MW-3

Narrative Description: In Alley Near Northwest Corner of Fence

Personnel: Rob Farrell Weather: Cool, raining

Well Locked? Yes [ ] No [X] Well Log? Yes [ ] No [X]

Condition of Well: Fair - Home-made Monument Cover, Bolt holes packed with dirt

Casing Type: PVC Casing Diameter: 2"

Casing Stickup: Flush Mount Measuring Point Description: TOC

Aquifer:

Depth to Water (feet below measuring point): 18.08 ft

WELL EVACUATION

Method: Positive Displacement Pump [ ] Hand-Lift Pump [ ] Submersible Pump [X] SST Bailer [ ] PVC Bailer [ ] Teflon Bailer [ ] Other:

One Bore Volume = 1.4 Gallons

Remarks:

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	Other
1445	4¼	14°C	meter not working	230 µs	

WELL SAMPLING

Sampling Method: Stainless Steel Bailer Sample Type: Natural [X] Replicate [ ] X-Contam [ ] Trip Blank [ ] Blind Field Sta. [ ]

SC DATA

Water Temp. (1)	Observed SC (µmhos) (2)	Temp. Correction Factor (3)	Cell Factor (4)	SC = (2) x (3) x (4) µmhos/cm @ 25°C Compensated SC

Temperature pH: Other:

Sample Container	Parameters	Preservative
MW-3	VOC's	HCl
MW-3	↓	↓

Laboratory: Chain-of-Custody: Yes [X] No [ ]

Sample Analysis Request Form: Yes [ ] No [ ]

Meter	Serial No.	Calibration Date
pH		
SC		
M-Scope		

Decontamination

Steam: Yes [ ] No [ ] Potable Water: Yes [X] No [ ]

Scrub: Yes [X] No [ ] Liquinox: Yes [X] No [ ]

Methanol: Yes [ ] No [ ] Acetone: Yes [ ] No [ ]

Nitic Acid: Yes [ ] No [ ]

Comments: Well cap broken. Cover of well mount is home-made. Only one bolt hole in cover aligns with bolt holes of mount. Able to insert only one bolt, part-way, because holes are packed with dirt.

GROUNDWATER SAMPLING LOG

Project: Hahn - Fifth Wheel Truck Repair Date/Time: 2-7-96/1515 Station No. MW-4

Narrative Description: In Alley, near center of Fifth Wheel west wall

Personnel: Rob Farrell Weather: cool, raining

Well Locked? Yes [ ] No [X] Well Log? Yes [ ] No [X]

Condition of Well: Fair - Bolt holes in well Monument Packed with Dirt

Casing Type: PVC Casing Diameter: 2"

Casing Stickup: Flush Mount Measuring Point Description: TOC

Aquifer:

Depth to Water (feet below measuring point): 18.2 ft

WELL EVACUATION

Method: Positive Displacement Pump [ ] Hand-Lift Pump [ ] Submersible Pump [X] SST Bailer [ ] PVC Bailer [ ] Teflon Bailer [ ] Other:

One Bore Volume = 1 1/3 Gallons

Remarks:

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	Other
1600	5gal	14°C	meter not working	230 µS	

WELL SAMPLING

Sampling Method: Stainless Steel Bailer Sample Type: Natural [X] Replicate [ ] X-Contam [ ] Trip Blank [ ] Blind Field Sta. [ ]

SC DATA

Water Temp. (1)	Observed SC (µmhos) (2)	Temp. Correction Factor (3)	Cell Factor (4)	SC = (2) x (3) x (4) µmhos/cm @ 25°C Compensated SC

Temperature pH: Other:

Sample Container	Parameters	Preservative
MW-4	VOC's	HCl
MW-4	↓	↓

Laboratory: Chain-of-Custody: Yes [ ] No [ ]

Sample Analysis Request Form: Yes [ ] No [ ]

Meter	Serial No.	Calibration Date
pH		
SC		
M-Scope		

Decontamination

Steam: Yes [ ] No [ ] Potable Water: Yes [X] No [ ]

Scrub: Yes [X] No [ ] Liquinox: Yes [X] No [ ]

Methanol: Yes [ ] No [ ] Acetone: Yes [ ] No [ ]

Nitic Acid: Yes [ ] No [ ]

Comments: Bolt holes of well mount packed with dirt. Unable to secure well mount cover. Had water entering well from alley surface during well evacuation & sampling. This due to well being lower than surrounding surface... Evacuated more than 3 bore volumes to mitigate effect of this surface water.

APPENDIX C

LABORATORY REPORTS OF MONITORING WELL AND TEST PIT SOIL SAMPLES, AND SUMP DRAIN SLUDGE SAMPLES

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

7110 38th Drive SE
Lacey, Washington 98503

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: 206-459-4670
Fax: 206-459-3432

Rachel Tauman
Huntingdon Engineering & Environmental, Inc.
2214 North 4th Ave.
Pasco, WA 98036

February 13, 1995

Dear Ms. Tauman:

Please find enclosed the data report for off-site analytical services February 8th through 13th for the Hahn Motors Project, Yakima, Washington. There were 4 soil samples analyzed for Chlorinated Hydrocarbons by EPA Method 8021, for Heavy Petroleum Hydrocarbons by WTPH-418.1, and for Priority Pollutant Metals (12) by EPA 6000 and 7000 Series Methods.

The results of the analyses are summarized in the attached table. All soil sample values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to Huntingdon for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A. Korosec
(President)

QA/QC FOR ANALYTICAL METHODS

GENERAL

The TEG Northwest Laboratory quality assurance and quality control (QA/QC) procedures are conducted following the guidelines and objectives which meet or exceed certification/accreditation requirements of California DOHS, Washington DOE, and Oregon DEQ. The Quality Control Program is a consistent set of procedures which assures data quality through the use of appropriate blanks, replicate analyses, surrogate spikes, and matrix spikes, and with the use of reference standards that meet or exceed EPA standards.

When analyses are taking place on-site with the mobile lab, the need for Field Blanks or Travel/Trip Blanks is eliminated. If there is going to be a delay before sample preparation for analysis, the sample is stored at 4° C.

ANALYTICAL METHODS

TEG Northwest Labs use analytical methodologies which are in conformity with U. S. Environmental Protection Agency (EPA), Washington DOE, and Oregon DEQ methodologies. When necessary and appropriate due to the nature or composition of the sample, TEG may use variations of the methods which are consistent with recognized standards or variations used by the industry and government laboratories.

Purgeable Volatile Halocarbons
(Chlorinated Hydrocarbons, EPA 601/8010,8021)

A blank and a calibration standard are run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day if more than 10 samples have been run. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

TPH-Heavy Fuel Hydrocarbons
(EPA 418.1, WTPH-418.1)

Calibration plot values must produce a best fit line, with known values deviating from the plot by less than 10%. Prior to sample run, a blank, a calibration standard, and a method blank are run. One method blank per 10 samples is prepared. A sample duplicate is prepared for each 10 samples to be run per day.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

HAHN MOTORS PROJECT

Huntingdon Engineering & Environmental

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Soil

Sample-Number	MDL mg/kg	Method Blank	MW#1@10	MW#1@15	MW#1@120	MW#1@20 Dup.	MW#2@20
Date		02/08/95	02/08/95	02/08/95	02/08/95	02/08/95	02/08/95
1,1 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
1,2 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
Benzene	0.01	nd	nd	nd	0.48	nd	nd
Trichloroethene	0.01	nd	nd	nd	nd	nd	nd
Toluene	0.01	nd	nd	nd	nd	nd	nd
Cis Dichloropropene	0.01	nd	nd	nd	nd	nd	nd
Trans Dichlorpropene	0.01	nd	nd	nd	nd	nd	nd
Tetrachloroethene	0.01	nd	nd	nd	0.16	nd	0.05
Chlorobenzene	0.01	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.01	nd	nd	nd	nd	nd	nd
Total Xylenes	0.01	nd	nd	nd	nd	nd	nd
1,3 Dichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
1,4 Dichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
1,2 Dichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
1,1 Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
1,2 Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.05	nd	nd	nd	nd	nd	nd
1,1,1 Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
1,1,2 Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd
Spike Recovery (%)		92	101	97	113	103	97

"nd" Indicates Not Detected at the listed detection limit.

"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

HAHN MOTORS FIFTH WHEEL TRUCK REPAIR
Huntingdon Engineering & Enviromental Inc.

Heavy Petroleum Hydrocarbons in soil by WTPH-418.1

Sample Number	Date	TPH mg/kg
Meth. Blank	02/08/95	nd
MW#1@10	02/08/95	110
MW#1@15	02/08/95	108
MW#1@20	02/08/95	nd
MW#2	02/08/95	33
Method Detection Limit		10

"nd" Indicates not detected at the listed detection limit.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

FIFTH WHEEL AUTO REPAIR
Yakima, Washington
Huntingdon Engineering and Environmental, Inc.
Project No. 195-1900

Specific Halogenated Hydrocarbons and BTEX (EPA 8010/8020) in Soil

Sample-Number	MDL	Method Blank	TP#1 @ 5	TP#1 @ 10	TP#1 @ 18	TP#2 @ 5	TP#2 @ 10
Date		04/19/95	04/19/95	04/19/95	04/19/95	04/19/95	04/19/95
	mg/kg						
1,1 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
1,2 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
Benzene	0.05	nd	nd	nd	nd	nd	nd
Trichloroethene	0.05	nd	nd	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd	nd	nd
Cis Dichloropropene	0.05	nd	nd	nd	nd	nd	nd
Trans Dichlorpropene	0.05	nd	nd	nd	nd	nd	nd
Tetrachloroethene	0.05	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd	nd	nd
Total Xylenes	0.05	nd	nd	nd	nd	nd	nd
1,3 Dichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
1,4 Dichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
1,2 Dichlorobenzene	0.05	nd	nd	nd	nd	nd	nd
1,1 Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
1,2 Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.05	nd	nd	nd	nd	nd	nd
1,1,1 Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
1,1,2 Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd
Spike Recovery (%)		102	113	89	84	108	89

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

FIFTH WHEEL AUTO REPAIR
Yakima, Washington
Huntingdon Engineering and Environmental, Inc.
Project No. 195-1900

Specific Halogenated Hydrocarbons and BTEX (EPA 8010/8020) in Soil

Sample-Number	MDL	TP#2 @ 18	TP#2 @ 18 Dup	Sump #1	Sump #3		
Date		04/19/95	04/19/95	04/19/95	04/19/95		
	mg/kg						
1,1 Dichloroethene	0.05	nd	nd	nd	nd		
1,2 Dichloroethene	0.05	nd	nd	19.7	nd		
Benzene	0.05	nd	nd	0.22	nd		
Trichloroethene	0.05	nd	nd	nd	nd		
Toluene	0.05	nd	nd	5.84	nd		
Cis Dichloropropene	0.05	nd	nd	nd	nd		
Trans Dichlorpropene	0.05	nd	nd	nd	nd		
Tetrachloroethene	0.05	nd	nd	nd	nd		
Ethylbenzene	0.05	nd	nd	14.2	nd		
Total Xylenes	0.05	nd	nd	21.2	nd		
1,3 Dichlorobenzene	0.05	nd	nd	nd	nd		
1,4 Dichlorobenzene	0.05	nd	nd	nd	nd		
1,2 Dichlorobenzene	0.05	nd	nd	nd	nd		
1,1 Dichloroethane	0.05	nd	nd	nd	nd		
1,2 Dichloroethane	0.05	nd	nd	nd	nd		
Chloroform	0.05	nd	nd	nd	nd		
Carbon Tetrachloride	0.05	nd	nd	nd	nd		
1,1,1 Trichloroethane	0.05	nd	nd	nd	nd		
1,1,2 Trichloroethane	0.05	nd	nd	nd	nd		
Tetrachloroethane	0.05	nd	nd	nd	nd		
Spike Recovery (%)		94	81	89	90		

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

FIFTH WHEEL AUTO REPAIR
Yakima, Washington
Huntingdon Engineering and Environmental, Inc.
Project No. 195-1900

Oil in Soil by WTPHD-Extended

Sample Number	Date	Percent Recovery	Heavy Oil mg/kg
Meth. Blank	04/19/95	83	nd
TP#1 @ 5	04/19/95	98	36
TP#1 @ 10	04/19/95	112	54
TP#1 @ 18	04/19/95	87	115
TP#2 @ 5	04/19/95	104	nd
TP#2 @ 10	04/19/95	89	nd
TP#2 @ 18	04/19/95	94	nd
TP#2 @ 18 Dup	04/19/95	96	nd
Sump #1	04/19/95	112	4140
Sump #3	04/19/95	int	>25000
MDL			20

"nd" Indicates not detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

TRANSMITTAL MEMORANDUM

DATE: February 22, 1995

TO: Mike Korosec
TEG Northwest

PROJECT: Hahn Motors Fifth Wheel Truck Repair

LABORATORY NUMBER: 46405

Enclosed are the original and one copy of the Tier II data deliverables package for Laboratory Work Order Number 46405. Eight samples were received for analysis at Sound Analytical Services, Inc., on February 15, 1995.

Should there be any questions regarding this data package, please do not hesitate to call me at (206) 922-2310.

Sincerely,

Andrew J. Riddell
Project Manager

AJR:tm

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: TEG Northwest Date: February 21, 1995

Report On: Analysis of Soil & Water Lab No.: 46405

IDENTIFICATION:
Samples received on 02-15-95
Project: Hahn Motors Fifth Wheel Truck Repair

ANALYSIS:

Lab Sample No. 46405-1 Client ID: MW#1 @ 10
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 2-21-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	6.0
Arsenic	ND	10
Beryllium	ND	0.50
Cadmium	3.8	0.50
Chromium	11	1.0
Copper	18	2.5
Lead	ND	5.0
Nickel	15	4.0
Selenium	ND	30
Silver	ND	1.0
Thallium	ND	20
Zinc	55	2.0

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 2-21-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.07

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Hahn Motors Fifth Wheel Truck Repair
Lab No. 46405
February 21, 1995

Lab Sample No. 46405-2 Client ID: MW#1 @ 15
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 2-21-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	5.9
Arsenic	ND	9.8
Beryllium	0.60	0.49
Cadmium	5.3	0.49
Chromium	8.4	0.98
Copper	45	2.4
Lead	ND	4.9
Nickel	16	3.9
Selenium	ND	30
Silver	ND	0.98
Thallium	ND	20
Zinc	60	2.0

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 2-21-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.09

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Hahn Motors Fifth Wheel Truck Repair
Lab No. 46405
February 21, 1995

Lab Sample No. 46405-3 Client ID: MW#1 @ 20
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 2-21-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	5.9
Arsenic	ND	9.9
Beryllium	ND	0.49
Cadmium	4.8	0.49
Chromium	10	0.99
Copper	21	2.5
Lead	ND	4.9
Nickel	14	4.0
Selenium	ND	30
Silver	ND	0.99
Thallium	ND	20
Zinc	46	2.0

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 2-21-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.09

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Hahn Motors Fifth Wheel Truck Repair
Lab No. 46405
February 21, 1995

Lab Sample No. 46405-4 Client ID: MW#2 @ 20
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 2-21-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	6.4
Arsenic	ND	11
Beryllium	ND	0.53
Cadmium	3.4	0.53
Chromium	13	1.1
Copper	23	2.7
Lead	ND	5.3
Nickel	10	4.2
Selenium	ND	33
Silver	ND	1.1
Thallium	ND	21
Zinc	42	2.1

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 2-21-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.10

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-4 Client ID: TP#1@5
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 5-3-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	6.4
Arsenic	ND	11
Beryllium	ND	0.53
Cadmium	1.5	0.53
Chromium	14	1.1
Copper	39	2.7
Lead	200	5.3
Nickel	12	4.2
Selenium	ND	16
Silver	ND	1.1
Thallium	ND	16
Zinc	99	2.1

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 5-2-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.09

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-5 Client ID: TP#1@10
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 5-3-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	5.4
Arsenic	ND	9.0
Beryllium	ND	0.45
Cadmium	ND	0.45
Chromium	8.8	0.90
Copper	15	2.3
Lead	26	4.5
Nickel	7.8	3.6
Selenium	ND	14
Silver	ND	0.90
Thallium	ND	14
Zinc	36	1.8

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 5-3-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.08

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-6 Client ID: TP#1@18
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 5-3-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	5.6
Arsenic	ND	9.2
Beryllium	ND	0.46
Cadmium	ND	0.46
Chromium	7.6	0.92
Copper	14	2.3
Lead	20	4.6
Nickel	7.0	3.7
Selenium	ND	14
Silver	ND	0.92
Thallium	ND	14
Zinc	38	1.8

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 5-2-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.07

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-7 Client ID: TP#2@5
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 5-3-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	6.0
Arsenic	ND	10
Beryllium	ND	0.50
Cadmium	ND	0.50
Chromium	12	1.0
Copper	22	2.5
Lead	34	5.0
Nickel	13	4.0
Selenium	ND	15
Silver	ND	1.0
Thallium	ND	15
Zinc	69	2.0

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 5-2-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.08

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-8 Client ID: TP#2@10
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 5-3-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	5.9
Arsenic	ND	9.8
Beryllium	ND	9.49
Cadmium	ND	0.49
Chromium	7.9	0.98
Copper	13	2.4
Lead	7.3	4.9
Nickel	7.3	3.9
Selenium	ND	15
Silver	ND	0.98
Thallium	ND	15
Zinc	36	2.0

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 5-2-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.09

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-9 Client ID: TP#2@18
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 5-3-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	5.8
Arsenic	ND	9.8
Beryllium	ND	0.49
Cadmium	ND	0.49
Chromium	10	0.98
Copper	14	2.4
Lead	8.0	4.9
Nickel	9.3	3.9
Selenium	ND	15
Silver	ND	0.98
Thallium	ND	15
Zinc	38	2.0

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 5-2-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.08

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-2 Client ID: Sump 1
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 5-3-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	13
Arsenic	ND	22
Beryllium	ND	1.1
Cadmium	19	1.1
Chromium	130	2.2
Copper	110	5.6
Lead	540	11
Nickel	65	8.9
Selenium	ND	34
Silver	ND	2.2
Thallium	ND	34
Zinc	4,000	4.5

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 5-2-95
Units: mg/kg

Parameter	Result	PQL
Mercury	0.30	0.20

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-3 Client ID: Sump 3
Matrix: Soil

ICP Metals Per EPA Method 6010
Date Analyzed: 5-3-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	8.2
Arsenic	ND	14
Beryllium	ND	0.68
Cadmium	13	0.68
Chromium	150	1.4
Copper	110	3.4
Lead	290	6.8
Nickel	46	5.5
Selenium	ND	20
Silver	ND	1.4
Thallium	ND	20
Zinc	1,500	2.7

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 5-2-95
Units: mg/kg

Parameter	Result	PQL
Mercury	0.20	0.12

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 46405q1
Units: mg/kg

Date Analyzed: 2-21-95

MATRIX SPIKE

MS No. 46466-1 Batch QC

Parameter	Sample Result	MS Result	MS Amount	%R
Arsenic	ND	390	350	111
Cadmium	ND	6.6	8.7	76
Chromium	ND	40	35	114
Copper	5.0	54	44	111
Lead	ND	92	87	106
Nickel	ND	100	87	115
Selenium	81	500	350	120
Silver	ND	9.0	8.7	103
Zinc	19	120	87	116

MS = Matrix Spike %R = Percent Recovery

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 46405q1
Units: mg/kg

Date Analyzed: 2-21-95

METHOD BLANK

Parameter	Result	PQL
Antimony	ND	6.0
Arsenic	ND	10
Beryllium	ND	0.50
Cadmium	ND	0.50
Chromium	ND	1.0
Copper	ND	2.5
Lead	ND	5.0
Nickel	ND	4.0
Selenium	ND	20
Silver	ND	1.0
Thallium	ND	20
Zinc	ND	2.0

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 46405q1
Units: mg/kg

Date Analyzed: 2-21-95

DUPLICATE

Dup No. 46466-1 Batch QC

Parameter	Sample Result	Duplicate Result	RPD
Arsenic	ND	ND	NC
Cadmium	ND	ND	NC
Chromium	ND	ND	NC
Copper	5.0	4.8	4.1
Lead	ND	ND	NC
Nickel	ND	ND	NC
Selenium	81	96	17
Silver	ND	ND	NC
Zinc	19	16	17

RPD = Relative Percent Difference

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Mercury

Client: TEG Northwest
Lab No: 46405q3
Units: mg/kg

Date Analyzed: 2-21-95

METHOD BLANK

Parameter	Result	PQL
Mercury	ND	0.10

ND - Not Detected
PQL - Practical Quantitation Limit

DUPLICATE

Dup No. 46405-3

Parameter	Sample Result	Duplicate Result	RPD
Mercury	ND	ND	NC

RPD = Relative Percent Difference

MATRIX SPIKE

MS No. 46405-3

Parameter	Sample Result	MS Result	MS Amount	%R
Mercury	ND	0.96	0.89	107

MS = Matrix Spike %R = Percent Recovery

MATRIX SPIKE DUPLICATE

MSD No. 46405-3

Parameter	MS Result	MSD Result	MSD Amount	%R	RPD
Mercury	0.96	0.89	0.79	112	4.6

MSD = Matrix Spike Duplicate RPD = Relative Percent Difference

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 48210q1
Units: mg/kg

Date Analyzed: 5-3-95

METHOD BLANK

Parameter	Result	PQL
Antimony	ND	6.0
Arsenic	ND	10
Beryllium	ND	0.50
Cadmium	ND	0.50
Chromium	ND	1.0
Copper	ND	2.5
Lead	ND	5.0
Nickel	ND	4.0
Selenium	ND	15
Silver	ND	1.0
Thallium	ND	15
Zinc	ND	2.0

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 48210q1
Units: mg/kg

Date Analyzed: 5-3-95

DUPLICATE

Dup No. 48210-9

Parameter	Sample Result	Duplicate Result	RPD	Flag
Antimony	ND	ND	NC	
Arsenic	ND	ND	NC	
Beryllium	ND	ND	NC	
Cadmium	ND	ND	NC	
Chromium	10	13	26	
Copper	14	18	25	
Lead	8.0	8.0	0.0	
Nickel	9.3	12	25	
Selenium	ND	ND	NC	
Silver	ND	ND	NC	
Thallium	ND	ND	NC	
Zinc	38	43	12	

NC = Not Calculated
RPD = Relative Percent Difference

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 48210q1
Units: mg/kg

Date Analyzed: 5-3-95

MATRIX SPIKE

MS No. 48210-9

Parameter	Sample Result	MS Result	MS Amount	%R	Flag
Antimony	ND	63	100	63	X6
Arsenic	ND	370	410	90	
Beryllium	ND	9.3	10	93	
Cadmium	ND	9.2	10	92	
Chromium	10	47	41	90	
Copper	14	60	51	90	
Lead	8.0	100	100	92	
Nickel	9.3	100	100	91	
Selenium	ND	350	410	85	
Silver	ND	9.8	10	98	
Thallium	ND	360	410	88	
Zinc	38	140	100	102	

MS = Matrix Spike %R = Percent Recovery

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Mercury

Client: TEG Northwest
Lab No: 48210q2
Units: mg/kg

Date Analyzed: 5-2-95

METHOD BLANK

Parameter	Result	PQL
Mercury	ND	0.10

ND - Not Detected
PQL - Practical Quantitation Limit

DUPLICATE

Dup No. 48210-9

Parameter	Sample Result	Duplicate Result	RPD	Flag
Mercury	ND	ND	NC	

NC = Not Calculated
RPD = Relative Percent Difference

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

MS / MSD No. 48210-9

Parameter	Sample Result	MS Result	MS Amount	MS %R	MSD Result	MSD Amount	MSD %R	RPD
Mercury	ND	0.86	0.86	100	0.85	0.90	94	6.2

%R = Percent Recovery
MS = Matrix Spike
RPD = Relative Percent Difference
MSD = Matrix Spike Duplicate

Fifth Wheel Truck Repair
Project or Site Name

CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers Environmental Scientists

Rachel Tauman
Contact or Report to

Project Number

Rachel Tauman
Sampler Name (Printed)

- ☐ Chen-Northern, Inc., Division
- ☐ Thomas-Hartig & Associates, Inc., Division
- ☐ Schaefer Dixon Associates, Inc., Division
- ☐ Herzog Associates, Inc., Division

Contact Address or Location

Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: 8010	418.1	Metals					NOTES	LAB NUMBER
Feb 6	10:00	MW#1 @ 10'		Soil	1	X	X	X						
Feb 6	11:00	MW#1 @ 15'		Soil	1	X	X	X						
Feb 6	12:00	MW#1 @ 20'		Soil	1	X	X	X						
Feb 7	11:00	MW#2 @ 20'		Soil	1	X	X	X						

Relinquished by:	Date	Time	Received by:
Rachel Tauman	Feb 7	12:00	Susan Burns
Susan Burns	Feb 7	2:50	Michael Kerins
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks:
due to poor recovery
1 jar only per depth
sampling priorities
#1 8010
#2 418.1
#3 Priority Pollutants

CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers Environmental Scientists

Hahn Motors
Project or Site Name

195 - 1900
Project Number

Justin Bolles
Sampler Name (Printed)

- ☐ Chen-Northern, Inc., Division
- ☐ Thomas-Hartig & Associates, Inc., Division
- ☐ Schaefer Dixon Associates, Inc., Division
- ☐ Herzog Associates, Inc., Division

Rachel Tauman
Contact or Report to

Huntingdon - Pasco, WA
Contact Address or Location

Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: Priority	NOTES	LAB NUMBER
4-19-95	2:30P	Sump-1	Grab	Soil	1	X		
4-19-95	2:40P	Sump-3	Grab	Soil	1	X		

Relinquished by:	Date	Time	Received by:	Remarks:
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by:	

APPENDIX D

LABORATORY REPORTS OF GROUNDWATER SAMPLES

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

7110 38th Drive SE
Lacey, Washington 98503

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: 206-459-4670
Fax: 206-459-3432

Rachel Tauman
Huntingdon Engineering & Environmental, Inc.
2214 North 4th Ave.
Pasco, WA 98036

February 17, 1995

Dear Ms. Tauman:

Please find enclosed the data report for off-site analytical services February 15th through 17th for the Hahn Motors Project, Yakima, Washington. There were 4 water samples analyzed for Chlorinated Hydrocarbons by EPA Method 8021, for Heavy Petroleum Hydrocarbons by WTPH-418.1, and for Priority Pollutant Metals (13) by EPA 6000 and 7000 Series Methods.

The results of the analyses are summarized in the attached table. All soil sample values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to Huntingdon for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A. Korosec

Michael A. Korosec
(President)

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

HAHN MOTORS PROJECT
Yakima, Washington
Huntingdon Engineering & Environmental, Inc.
Project No. 1-95-1900

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Water

Sample-Number	MDL	Method Blank	MW-1	MW-1 Dup.	MW-2	MW-3	MW-4
Date	ug/l	02/15/95 ug/l	02/15/95 ug/l	02/15/95 ug/l	02/15/95 ug/l	02/15/95 ug/l	02/15/95 ug/l
1,1 Dichloroethene	5	nd	nd	nd	nd	nd	nd
1,2 Dichloroethene	5	nd	nd	nd	nd	nd	nd
Benzene	1	nd	nd	nd	nd	nd	nd
Trichloroethene	1	nd	nd	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd	nd	nd
Cis Dichloropropene	1	nd	nd	nd	nd	nd	nd
Trans Dichlorpropene	1	nd	nd	nd	nd	nd	nd
Tetrachloroethene	1	nd	3.5	3.5	4.3	3.5	4.2
Chlorobenzene	1	nd	nd	nd	nd	nd	nd
Ethylbenzene	1	nd	nd	nd	nd	nd	nd
Total Xylenes	1	nd	nd	nd	nd	nd	nd
1,3 Dichlorobenzene	1	nd	nd	nd	nd	nd	nd
1,4 Dichlorobenzene	1	nd	nd	nd	nd	nd	nd
1,2 Dichlorobenzene	1	nd	nd	nd	nd	nd	nd
1,1 Dichloroethane	1	nd	nd	nd	nd	nd	nd
1,2 Dichloroethane	1	nd	nd	nd	nd	nd	nd
Chloroform	1	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	1	nd	nd	nd	nd	nd	nd
1,1,1 Trichloroethane	1	nd	nd	nd	nd	nd	nd
1,1,2 Trichloroethane	1	nd	nd	nd	nd	nd	nd
Tetrachloroethane	1	nd	nd	nd	nd	nd	nd
Spike Recovery (%)		92	92	101	90	101	102

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

HAHN MOTORS PROJECT
Yakima, Washington
Huntingdon Engineering & Environmental, Inc.
Project No. 1-95-1900

Heavy Petroleum Hydrocarbons in Water by WTPH-418.1

Sample Number	Date	TPH ug/l
Meth. Blank	02/15/95	nd
MW-1	02/15/95	nd
MW-1 Dup.	02/15/95	nd
MW-2	02/15/95	nd
MW-3	02/15/95	nd
MW-4	02/15/95	nd
Method Detection Limit		500

"nd" Indicates not detected at the listed detection limit.

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Hahn Motors Fifth Wheel Truck Repair
Lab No. 46405
February 21, 1995

Lab Sample No. 46405-5 Client ID: MW1
Matrix: Water

ICP Metals Per EPA Method 200.7
Date Analyzed: 2-17-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.06
Arsenic	ND	0.10
Beryllium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Copper	0.046	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.15
Silver	ND	0.01
Thallium	ND	0.15
Zinc	0.11	0.02

Mercury By Cold Vapor AA Per EPA Method 245.2
Date Analyzed: 2-17-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0002

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Hahn Motors Fifth Wheel Truck Repair
Lab No. 46405
February 21, 1995

Lab Sample No. 46405-6 Client ID: MW2
Matrix: Water

ICP Metals Per EPA Method 200.7
Date Analyzed: 2-17-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.06
Arsenic	ND	0.10
Beryllium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.15
Silver	ND	0.01
Thallium	ND	0.15
Zinc	0.13	0.02

Mercury By Cold Vapor AA Per EPA Method 245.2
Date Analyzed: 2-17-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0002

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Hahn Motors Fifth Wheel Truck Repair
Lab No. 46405
February 21, 1995

Lab Sample No. 46405-7 Client ID: MW3
Matrix: Water

ICP Metals Per EPA Method 200.7
Date Analyzed: 2-17-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.06
Arsenic	ND	0.10
Beryllium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.15
Silver	ND	0.01
Thallium	ND	0.15
Zinc	0.03	0.02

Mercury By Cold Vapor AA Per EPA Method 245.2
Date Analyzed: 2-17-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0002

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Hahn Motors Fifth Wheel Truck Repair
Lab No. 46405
February 21, 1995

Lab Sample No. 46405-8 Client ID: MW4
Matrix: Water

ICP Metals Per EPA Method 200.7
Date Analyzed: 2-17-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.06
Arsenic	ND	0.10
Beryllium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.15
Silver	ND	0.01
Thallium	ND	0.15
Zinc	0.07	0.02

Mercury By Cold Vapor AA Per EPA Method 245.2
Date Analyzed: 2-17-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0002

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 46405q2
Units: mg/L

Date Analyzed: 2-17-95

METHOD BLANK

Parameter	Result	PQL
Antimony	ND	0.06
Arsenic	ND	0.10
Beryllium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.15
Silver	ND	0.01
Thallium	ND	0.15
Zinc	ND	0.02

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 46405q2
Units: mg/L

Date Analyzed: 2-17-95

DUPLICATE

Dup No. 46424-2 Batch QC

Parameter	Sample Result	Duplicate Result	RPD
Arsenic	ND	ND	NC
Cadmium	ND	ND	NC
Chromium	ND	ND	NC
Copper	ND	ND	NC
Lead	0.29	0.24	19
Nickel	ND	ND	NC
Selenium	ND	ND	NC
Silver	ND	ND	NC
Zinc	0.03	0.03	0.0

RPD = Relative Percent Difference

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 46405q2
Units: mg/L

Date Analyzed: 2-17-95

MATRIX SPIKE

MS No. 46424-2 Batch QC

Parameter	Sample Result	MS Result	MS Amount	%R
Arsenic	ND	3.4	4.0	85
Cadmium	ND	0.075	0.10	75
Chromium	ND	0.33	0.40	82
Copper	ND	0.41	0.50	82
Lead	0.29	1.1	1.0	81
Nickel	ND	0.86	1.0	86
Selenium	ND	3.3	4.0	82
Zinc	0.03	0.88	1.0	85

MS = Matrix Spike %R = Percent Recovery

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Mercury

Client: TEG Northwest
Lab No: 46405q4
Units: mg/L

Date Analyzed: 2-17-95

METHOD BLANK

Parameter	Result	PQL
Mercury	ND	0.0002

ND - Not Detected
PQL - Practical Quantitation Limit

DUPLICATE

Dup No. 46405-8

Parameter	Sample Result	Duplicate Result	RPD
Mercury	ND	ND	NC

RPD = Relative Percent Difference

MATRIX SPIKE

MS No. 46405-8

Parameter	Sample Result	MS Result	MS Amount	%R
Mercury	ND	0.0017	0.0020	85

MS = Matrix Spike %R = Percent Recovery

MATRIX SPIKE DUPLICATE

MSD No. 46405-8

Parameter	MS Result	MSD Result	MSD Amount	%R	RPD
Mercury	0.0017	0.0016	0.0020	80	6.1

MSD = Matrix Spike Duplicate RPD = Relative Percent Difference

Fifth Wheel Truck Repair
Hahn Motors
Project or Site Name

1-95-1900
Project Number

Thomas A Marsh
Sampler Name (Printed)

CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers Environmental Scientists

- ☐ Chen-Northern, Inc., Division
- ☐ Thomas-Hartig & Associates, Inc., Division
- ☐ Schaefer Dixon Associates, Inc., Division
- ☐ Herzog Associates, Inc., Division

Rachel Tauman
Contact or Report to

Contact Address or Location

Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: 8010	418.1	Metals*					NOTES	LAB NUMBER
2-4-95	11:30 AM	MW-4		water	1	X	X	X						
2-9-95	12:50 PM	MW-2		water	1	X	X	X						
2-9-95	2:20 PM	MW-1		water	1	X	X	X						
2-9-95	3:30 PM	MW-3		water	1	X	X	X						

Relinquished by:	Date	Time	Received by:
Thomas A Marsh	Feb 9		
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks:
* Metals
Priority Pollutants

teg

TRANSGLOBAL ENVIRONMENTAL GEOCHEMISTRY,

CHAIN-OF-CUSTODY RECORD

P.O. #: _____

CLIENT: Transglobal Environmental Geosciences Northwest, Inc.
ADDRESS: 6604 Martin Way E. Olympia, WA 98516
PHONE: (360) 459-4670 FAX: (360)
CLIENT PROJECT #: _____ PROJECT MANAGER: Mike Krosec

DATE: 2/14/95 PAGE 1 OF 1
TEG PROJECT #: _____
LOCATION: Hahn Motors Fifth Wheel Truck Repair
COLLECTOR: _____ DATE OF COLLECTION: 2/14/95

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES: VOA 601/8010	VOA 602/8020	VOA 624/8240	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (g & d)	PNA 610/8100	PEST/PCBs 8080	HEX CHROME	ORGANIC LEAD	TOTAL LEAD	pH	ASBESTOS	Metals:	FIELD NOTES	Total Number Of Containers	Laboratory Note Number
MW#1@10	10'		Soil	8oz Jar															X			1	
MW#1@15	15'		Soil	8 oz Jar															X			1	
MW#1@20	20'		Soil	8 oz Jar															X			1	
MW#2@20	20'		Soil	8 oz Jar															X			1	
MW1		1470	H_2O	liter Amber															X			1	
MW2		1250	H_2O	liter Amber															X			1	
MW3		1530	H_2O	liter Amber															X			1	
MW4		1130	H_2O	liter Amber															X			1	

RELINQUISHED BY: (Signature) Kevin Vanderhey — DATE/TIME 2/15/95 10:30 — RECEIVED BY: (Signature) Mary Cutler — DATE/TIME 2/15/95 10:30
RELINQUISHED BY: (Signature) — DATE/TIME — RECEIVED BY: (Signature) — DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:
Priority Pollutant Metals by ICP for both Soil + water
Std. Turnaround

Fifth Wheel Truck Repair
Hahn Motors
Project or Site Name

1-95-1900
Project Number

Thomas A Machesky
Sampler Name (Printed)

CHAIN OF CUSTODY RECORD

Huntingdon

Consulting Engineers Environmental Scientists

- ☐ Chen-Northern, Inc., Division
- ☐ Thomas-Hartig & Associates, Inc., Division
- ☐ Schaefer Dixon Associates, Inc., Division
- ☐ Herzog Associates, Inc., Division

Rachel Tauman
Contact or Report to

Contact Address or Location

Thomas A Machesky
Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED 8010	418.1	Metals*					NOTES	LAB NUMBER
2-9-95	11:30 AM	MW-4		water	1	X	X	X						
2-9-95	12:50 PM	MW-2		water	1	X	X	X						
2-9-95	2:20 PM	MW-1		water	1	X	X	X						
2-9-95	3:30 PM	MW-3		water	1	X	X	X						

Relinquished by:	Date	Time	Received by:
Thomas A Machesky	Feb 9	5:00 PM	Michael O'Konski 2/9
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks:

* Metals
Priority Pollutants

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

7110 38th Drive SE
Lacey, Washington 98503

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: 360-459-4670
Fax: 360-459-3432

April 26, 1995

Rachel Tauman
Huntingdon Engineering and Environmental, Inc.
2214 North 4th Ave.
Pasco, WA 98036

Dear Ms. Tauman:

Please find enclosed the data report for analyses conducted April 19 and 21, 1995, for soil and water samples from the Fifth Wheel Auto Repair Project in Yakima, Washington. The soils and waters were analyzed for Oil by WTPH-D Extended, Specific Halogenated Hydrocarbons and BTEX by EPA Method 8010/8020, and Priority Pollutant Metals.

The results of the analysis are summarized in the attached table. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to Huntingdon Engineering & Environmental for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A. Korosec

Michael A. Korosec
President

tl/huntingd.ltr

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

FIFTH WHEEL AUTO REPAIR
Yakima, Washington
Huntingdon Engineering and Environmental, Inc.
Project No. 195-1900

Specific Halogenated Hydrocarbons and BTEX (EPA 8010/8020) in Water

Sample-Number	MDL	Method Blank	MW-1	MW-2	MW-3	MW-4	
Date	ug/l	04/21/95	04/21/95	04/21/95	04/21/95	04/21/95	
1,1 Dichloroethene	1	nd	nd	nd	nd	nd	
1,2 Dichloroethene	1	nd	nd	nd	nd	nd	
Benzene	1	nd	nd	nd	nd	nd	
Trichloroethene	1	nd	nd	nd	nd	nd	
Toluene	1	nd	nd	nd	nd	nd	
Cis Dichloropropene	1	nd	nd	nd	nd	nd	
Trans Dichlorpropene	1	nd	nd	nd	nd	nd	
Tetrachloroethene	1	nd	1.2	1.0	0.6	1.3	
Ethylbenzene	1	nd	nd	nd	nd	nd	
Total Xylenes	1	nd	nd	nd	nd	nd	
1,3 Dichlorobenzene	1	nd	nd	nd	nd	nd	
1,4 Dichlorobenzene	1	nd	nd	nd	nd	nd	
1,2 Dichlorobenzene	1	nd	nd	nd	nd	nd	
1,1 Dichloroethane	1	nd	nd	nd	nd	nd	
1,2 Dichloroethane	1	nd	nd	nd	nd	nd	
Chloroform	1	nd	nd	nd	nd	nd	
Carbon Tetrachloride	1	nd	nd	nd	nd	nd	
1,1,1 Trichloroethane	1	nd	nd	nd	nd	nd	
1,1,2 Trichloroethane	1	nd	nd	nd	nd	nd	
Tetrachloroethane	1	nd	nd	nd	nd	nd	
Spike Recovery (%)		107	103	114	87	95	

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

FIFTH WHEEL AUTO REPAIR
Yakima, Washington
Huntingdon Engineering and Environmental, Inc.
Project No. 195-1900

Oil in Water by WTPHD-Extended

Sample Number	Date	Percent Recovery	Heavy Oil ug/l
Meth. Blank	04/19/95	87	nd
MW-1	04/19/95	80	nd
MW-1 Dup	04/19/95	123	nd
MW-2	04/19/95	103	nd
MW-3	04/19/95	106	nd
MW-4	04/19/95	122	nd
MDL			400

"nd" Indicates not detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

teg

TRANSGLOBAL ENVIRONMENTAL GEOCHEMISTRY

CHAIN-OF-CUSTODY RECORD

P.O. #: _____

CLIENT: Hamilton

ADDRESS:

PHONE: _____ FAX: _____

CLIENT PROJECT #: 195-1400 PROJECT MANAGER: Rachel Taumah

DATE: 4-19-95 PAGE 1 OF 1

TEG PROJECT #: NW9504 19-1

LOCATION: Yakima 5th Wheel Repair

COLLECTOR: Rachel Taumah DATE OF COLLECTION: 4-19

Sample Number	Depth	Time	Sample Type	Container Type	VOA 601/8010	VOA 602/8020	VOA 624/8240	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (g & d)	PNA 610/8100	PEST/PCBs 8080	HEX CHROME	ORGANIC LEAD	TOTAL LEAD	pH	ASBESTOS	BTEX EXTD	FIELD NOTES	Total Number Of Containers	Laboratory Note Number
TP#1@5	5'	1030	Soil	8oz glass jar	X	X														X		1	
TP#1@10	10'	1050	"	"	X	X														X		1	
TP#1@18	18'	1100	"	"	X	X														X		1	
TP#2@5	5'	1110	"	"	X	X														X		1	
TP#2@10	10'	1120	"	"	X	X														X		1	
TP#2@18	18'	1130	"	"	X	X														X		1	
MW#1		1330	water	40ml VOAs	X	X														X		2	
MW#2		1340			X	X														X		2	
MW#3		1350			X	X														X		2	
MW#4		1400			X	X														X		2	
Sump-1		1430	Soil	8oz Glass Jar	X	X														X		1	
Sump-3		1440	Soil	8oz Glass Jar	X	X														X		1	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
Rachel Taumah		[illegible]	4-19-95 1800
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	16
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	Y
NOTES:	

LABORATORY NOTES:

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-10 Client ID: MW#1
Matrix: Water

ICP Metals Per EPA Method 6010
Date Analyzed: 5-4-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.10
Arsenic	ND	0.10
Beryllium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.15
Silver	ND	0.01
Thallium	ND	0.15
Zinc	0.04	0.02

Mercury By Cold Vapor AA Per EPA Method 7470
Date Analyzed: 5-2-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0002

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-11 Client ID: MW#2
Matrix: Water

ICP Metals Per EPA Method 6010
Date Analyzed: 5-4-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.10
Arsenic	ND	0.10
Beryllium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.15
Silver	ND	0.01
Thallium	ND	0.15
Zinc	0.07	0.02

Mercury By Cold Vapor AA Per EPA Method 7470
Date Analyzed: 5-2-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0002

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-12 Client ID: MW#3
Matrix: Water

ICP Metals Per EPA Method 6010
Date Analyzed: 5-4-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.10
Arsenic	ND	0.10
Beryllium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.15
Silver	ND	0.01
Thallium	ND	0.15
Zinc	0.05	0.02

Mercury By Cold Vapor AA Per EPA Method 7470
Date Analyzed: 5-2-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0002

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: NW950420&21
Lab No. 48210
May 9, 1995

Lab Sample No. 48210-13 Client ID: MW#4
Matrix: Water

ICP Metals Per EPA Method 6010
Date Analyzed: 5-4-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.10
Arsenic	ND	0.10
Beryllium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.15
Silver	ND	0.01
Thallium	ND	0.15
Zinc	0.03	0.02

Mercury By Cold Vapor AA Per EPA Method 7470
Date Analyzed: 5-2-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0002

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 48210q3
Units: mg/L

Date Analyzed: 5-4-95

METHOD BLANK

Parameter	Result	PQL
Antimony	ND	0.10
Arsenic	ND	0.10
Beryllium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.15
Silver	ND	0.01
Thallium	ND	0.15
Zinc	ND	0.02

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 48210q3
Units: mg/L

Date Analyzed: 5-4-95

DUPLICATE

Dup No. 48314-2 Batch QC

Parameter	Sample Result	Duplicate Result	RPD	Flag
Antimony	ND	ND	NC	
Arsenic	ND	ND	NC	
Beryllium	ND	ND	NC	
Cadmium	0.007	0.006	15	
Chromium	ND	ND	NC	
Copper	0.034	0.037	8.4	
Lead	ND	ND	NC	
Nickel	ND	ND	NC	
Selenium	ND	ND	NC	
Silver	ND	ND	NC	
Thallium	ND	ND	NC	
Zinc	0.11	0.12	8.7	

NC = Not Calculated
RPD = Relative Percent Difference

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Metals

Client: TEG Northwest
Lab No: 48210q3
Units: mg/L

Date Analyzed: 5-4-95

MATRIX SPIKE

MS No. 48314-2 Batch QC

Parameter	Sample Result	MS Result	MS Amount	%R	Flag
Antimony	ND	0.90	1.0	90	
Arsenic	ND	3.8	4.0	95	
Beryllium	ND	0.099	0.10	99	
Cadmium	0.007	0.11	0.10	103	
Chromium	ND	0.39	0.40	98	
Copper	0.034	0.50	0.50	93	
Lead	ND	0.94	1.0	94	
Nickel	ND	1.0	1.0	100	
Selenium	ND	3.7	4.0	92	
Silver	ND	0.10	0.10	100	
Thallium	ND	3.9	4.0	98	
Zinc	0.11	1.1	1.0	99	

MS = Matrix Spike %R = Percent Recovery

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Mercury

Client: TEG Northwest
Lab No: 48210q4
Units: mg/L

Date Analyzed: 5-2-95

METHOD BLANK

Parameter	Result	PQL
Mercury	ND	0.0002

ND - Not Detected
PQL - Practical Quantitation Limit

DUPLICATE

Dup No. 48210-12

Parameter	Sample Result	Duplicate Result	RPD	Flag
Mercury	ND	ND	NC	

NC = Not Calculated
RPD = Relative Percent Difference

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

MS / MSD No. 48210-12

Parameter	Sample Result	MS Result	MS Amount	MS %R	MSD Result	MSD Amount	MSD %R	RPD
Mercury	ND	0.0021	0.0020	105	0.0022	0.0020	110	4.7

%R = Percent Recovery
MS = Matrix Spike
RPD = Relative Percent Difference
MSD = Matrix Spike Duplicate

TRANSGLOBAL ENVIRONMENTAL GEOCHEMISTRY. teg

CHAIN-OF-CUSTODY RECORD

P.O. #: ______

CLIENT: Huntingdon
ADDRESS:
PHONE: FAX:
CLIENT PROJECT #: 195-1900 PROJECT MANAGER: Rachel Tauman

DATE: 4-19-95 PAGE 1 OF 1
TEG PROJECT #: NW950419-1
LOCATION: Yakima 5th Wheel Repair
COLLECTOR: Rachel Tauman DATE OF COLLECTION: 4-19

Sample Number	Depth	Time	Sample Type	Container Type	VOA 601/8010	VOA 602/8020	VOA 624/8240	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (g & d)	PNA 610/8100	PEST/PCBs 8080	HEX CHROME	ORGANIC LEAD	TOTAL LEAD	pH	ASBESTOS	Priority EXT D	FIELD NOTES	Total Number Of Containers	Laboratory Note Number
TP#1 @5	5'	1030	Soil	8oz glass jar	X	X														X		1	
TP#1 @10	10'	1050	↓	"	X	X														X		1	
TP#1 @18	18'	1100		"	X	X														X		1	
TP#2 @5	5'	1110		"	X	X														X		1	
TP#2 @10	10'	1120		"	X	X														X		1	
TP#2 @18	18'	1130	↓	"	X	X														X		1	
MW #1		1330	water	40ml VOA's	X	X														X		2	
MW #2		1340	↓	↓	X	X														X		2	
MW #3		1350			X	X														X		2	
MW #4		1400	↓	↓	X	X														X		2	
Sump-1		1430	Soil	8oz Glass Jar	X	X														X		1	
Sump-3		1440	Soil	8oz Glass Jar	X	X														X		1	

RELINQUISHED BY: (Signature) Rachel Tauman DATE/TIME
RECEIVED BY: (Signature) [signature] DATE/TIME 4-19-95 1800
RELINQUISHED BY: (Signature) DATE/TIME
RECEIVED BY: (Signature) DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	16
CHAIN OF CUSTODY SEALS Y/N/NA	N
SEALS INTACT? Y/N/NA	NA
RECEIVED GOOD COND./COLD	Y
NOTES:	

LABORATORY NOTES:
Priority Pollutants
Send to Sound

CHAIN OF CUSTODY RECORD

Huntingdon

Consulting Engineers Environmental Scientists

Hahn Motors - 5th Wheel Truck Repair
Project or Site Name

195-1960
Project Number

Rachel Tarman
Sampler Name (Printed)

- [x] Chen-Northern, Inc., Division
- [ ] Thomas-Hartig & Associates, Inc., Division
- [ ] Schaefer Dixon Associates, Inc., Division
- [ ] Herzog Associates, Inc., Division

Rachel Tarman
Contact or Report to

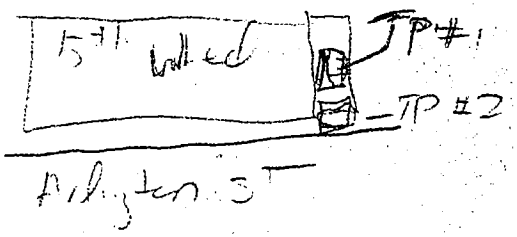
Contact Address or Location

Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: Priority Pollutants	NOTES	LAB NUMBER
4/19/95	10:30	TP#1 @5	Grab	Soil	1	X	Priority Pollutants	
"	10:50	TP#1 @10	Grab	Soil	1	X		
"	11:00	TP#1 @18	Grab	Soil	1	X		
4/19/95	11:10	TP#2 5	Grab	Soil	1	X		
	11:20	TP#2 10	Grab	Soil	1	X		
	11:30	TP#2 18	Grab	Soil	1	X		
4/19/95	1:30	MW #1		Water	1	X		
	~~2:40~~ 1:40p	MW #2		Water	1	X		
	~~2:50~~ 1:50p	MW #3		Water	1	X		
	~~3:00~~ 2:00p	MW #4		Water	1	X		

	Date	Time	Received by:
Relinquished by: Rachel Tarman	4/19/95	6:00	Chen-2 Chilton
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks:



TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

FIFTH WHEEL TRUCK REPAIR PROJECT
Yakima, Washington
Maxim Technology, Inc.
Project No.: 95-3894

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Water

Sample-Number	MDL	Method Blank	MW-1	MW-2	MW-3	MW-3 Dup	MW-4
Date	ug/l	08/30/95 ug/l	08/30/95 ug/l	08/30/95 ug/l	08/31/95 ug/l	08/31/95 ug/l	08/31/95 ug/l
1,1 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Cis-1,2 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Trans-1,2 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Benzene	1	nd	nd	nd	nd	nd	nd
Trichloroethene	1	nd	nd	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd	nd	nd
Tetrachloroethene	1	nd	6.0	8.7	2.8	2.8	3.1
Ethylbenzene	1	nd	nd	nd	nd	nd	nd
Total Xylenes	1	nd	nd	nd	nd	nd	nd
1,1 Dichloroethane	1	nd	nd	nd	nd	nd	nd
1,2 Dichloroethane	1	nd	nd	nd	nd	nd	nd
Chloroform	1	nd	2.7	2.7	1.2	1.2	1.3
Carbon Tetrachloride	1	nd	nd	nd	nd	nd	nd
1,1,1 Trichloroethane	1	nd	nd	nd	nd	nd	nd
1,1,2 Trichloroethane	1	nd	nd	nd	nd	nd	nd
Tetrachloroethane	1	nd	nd	nd	nd	nd	nd
Spike Recovery (%)		85	104	96	110	109	96

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

FIFTH WHEEL TRUCK REPAIR PROJECT
Yakima, Washington
Maxim Technology, Inc.
Project No.: 95-3894

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Water

Sample-Number	MDL	200 PPB MS	200 PPB MS
Date		08/30/95	08/30/95
	ug/l	ug/l	ug/l
1,1 Dichloroethene	1	170	223
Cis-1,2 Dichloroethene	1	230	177
Trans-1,2 Dichloroethene	1	226	170
Benzene	1	186	206
Trichloroethene	1	214	172
Toluene	1	183	221
Tetrachloroethene	1	208	166
Ethylbenzene	1	177	225
Total Xylenes	1	606	651
1,1 Dichloroethane	1	223	176
1,2 Dichloroethane	1	230	186
Chloroform	1	231	181
Carbon Tetrachloride	1	228	182
1,1,1 Trichloroethane	1	228	181
1,1,2 Trichloroethane	1	233	175
Tetrachloroethane	1	403	413
Spike Recovery (%)		89	88

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

FIFTH WHEEL TRUCK REPAIR PROJECT
Yakima, Washington
Maxim Technology, Inc.
Project No.: 95-3894

Gasoline, Diesel and Oil in Water by WTPH-G and WTPH-D/D-Extended

Sample Number	Date	Recovery %	Gasoline ug/l	Diesel ug/l	Heavy Oil ug/l
Meth. Blank	08/30/95	98	nd	nd	nd
MW-1	08/30/95	81	nd	nd	nd
MW-2	08/30/95	127	nd	nd	nd
MW-3	08/30/95	85	nd	nd	nd
MW-4	08/30/95	101	nd	nd	nd
MDL			200	400	400

"nd" Indicates not detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers · Environmental Scientists

- ☐ Chen-Northern, Inc., Division
- ☒ Thomas-Hartig & Associates, Inc., Division
- ☐ Schaefer Dixon Associates, Inc., Division
- ☐ Herzog Associates, Inc., Division

Project or Site Name: Fifth Wheel Truck Repair

Project Number: 95-3894

Sampler Name (Printed): Bryan Mull

Contact or Report to: Rachel Tauman

Phone (509) 577-8592

Contact Address or Location:

Sampler Signature: [signature]

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP. OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	Priority Pollutants	TPH-D Extended	8010/8020					NOTES	LAB NUMBER
[illegible]	[illegible]	MW-3		Water	2 VOA 2 liters (4)	X	X	X						
[illegible]	12 00	MW-4		Water	2 VOA 1 liter 1 plastic (4)	X	X	X						
[illegible]	[illegible]	MW-2		Water	2 VOA 1 liter 1 plastic (4)	X	X	X						
[illegible]	[illegible]	MW-1		Water	2 VOA 1 liter 1 plastic (4)	X	X	X						

Relinquished by	Date	Time	Received by
[signature]	8-29-95	1 15	[signature]
[signature]	8-29-95	2:00	

Remarks: Priority Pollutant Metals (13)
TPH-D - Extended
8010/8020
4 wells - All Water

SOUND ANALYTICAL SERVICES, INC.

T.E.G. Northwest
Project: Maxim /Fifth Wheel
Lab No. 51133
September 6, 1995

Lab Sample No. 51133-4 Client ID: MW 1

ICP Metals Per EPA Method 6010
Date Analyzed: 9-5-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.15
Arsenic	ND	0.15
Beryllium	ND	0.005
Cadmium	ND	0.010
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.20
Silver	ND	0.01
Thallium	ND	0.15
Zinc	ND	0.02

Mercury By Cold Vapor AA Per EPA Method 7470
Date Analyzed: 9-5-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0004

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

T.E.G. Northwest
Project: Maxim/Fifth Wheel
Lab No. 51133
September 6, 1995

Lab Sample No. 51133-3 Client ID: MW 2

ICP Metals Per EPA Method 6010
Date Analyzed: 9-5-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.15
Arsenic	ND	0.15
Beryllium	ND	0.005
Cadmium	ND	0.010
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.20
Silver	ND	0.01
Thallium	ND	0.15
Zinc	ND	0.02

Mercury By Cold Vapor AA Per EPA Method 7470
Date Analyzed: 9-5-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0004

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: T.E.G. Northwest Date: September 6, 1995

Report On: Analysis of Water Lab No.: 51133

IDENTIFICATION:
Samples received on 08-30-95
Project: Maxim/Fifth Wheel

ANALYSIS:

Lab Sample No. 51133-1 Client ID: MW 3

ICP Metals Per EPA Method 6010
Date Analyzed: 9-5-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.15
Arsenic	ND	0.15
Beryllium	ND	0.005
Cadmium	ND	0.010
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.20
Silver	ND	0.01
Thallium	ND	0.15
Zinc	ND	0.02

Mercury By Cold Vapor AA Per EPA Method 7470
Date Analyzed: 9-5-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0004

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

T.E.G. Northwest
Project: Maxim/Fifth Wheel
Lab No. 51133
September 6, 1995

Lab Sample No. 51133-2 Client ID: MW 4

ICP Metals Per EPA Method 6010
Date Analyzed: 9-5-95
Units: mg/L

Parameter	Result	PQL
Antimony	ND	0.15
Arsenic	ND	0.15
Beryllium	ND	0.005
Cadmium	ND	0.010
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Nickel	ND	0.04
Selenium	ND	0.20
Silver	ND	0.01
Thallium	ND	0.15
Zinc	ND	0.02

Mercury By Cold Vapor AA Per EPA Method 7470
Date Analyzed: 9-5-95
Units: mg/L

Parameter	Result	PQL
Mercury	ND	0.0004

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Dissolved Metals

Client: T.E.G. Northwest
Lab No: 51133qc
Units: mg/L
Date Analyzed: 9-5-95

METHOD BLANK

Parameter	Result	PQL
Antimony	ND	0.15
Arsenic	ND	0.15
Beryllium	ND	0.005
Cadmium	ND	0.010
Chromium	ND	0.01
Copper	ND	0.025
Lead	ND	0.05
Mercury	ND	0.0004
Nickel	ND	0.04
Selenium	ND	0.20
Silver	ND	0.01
Thallium	ND	0.15
Zinc	ND	0.02

ND = Not Detected
PQL = Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Dissolved Metals

Client: T.E.G. Northwest
Lab No: 51133qc
Units: mg/L
Date Analyzed: 9-5-95

DUPLICATE

Dup No. 51131-2 Batch QC

Parameter	Sample	Duplicate	RPD
Antimony	ND	ND	NC
Arsenic	ND	ND	NC
Beryllium	ND	ND	NC
Cadmium	ND	ND	NC
Chromium	ND	ND	NC
Copper	0.40	0.40	0.0
Lead	ND	ND	NC
Mercury	ND	ND	NC
Nickel	ND	ND	NC
Selenium	ND	ND	NC
Silver	ND	ND	NC
Thallium	ND	ND	NC
Zinc	0.55	0.55	0.0

RPD = Relative Percent Difference
ND = Not Detected
NC = Not Calculated

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Dissolved Metals

Client: T.E.G. Northwest
Lab No: 51133qc
Units: mg/L
Date Analyzed: 9-5-95

MATRIX SPIKE

MS No. 51131-2 Batch QC

Parameter	Sample Result	Spiked Sample Result	Spike Added	%R
Antimony	ND	0.79	1.0	79
Arsenic	ND	3.6	4.0	90
Beryllium	ND	0.087	0.10	87
Cadmium	ND	0.080	0.10	80
Chromium	ND	0.34	0.40	85
Copper	0.40	0.84	0.50	88
Lead	ND	0.98	1.0	98
Mercury	ND	0.0022	0.0020	110
Nickel	ND	0.92	1.0	92
Selenium	ND	3.2	4.0	80
Silver	ND	0.08	0.10	80
Thallium	ND	3.1	4.0	78
Zinc	0.55	1.4	1.0	85

%R = Percent Recovery
ND = Not Detected

CHAIN OF CUSTODY RECORD

Huntingdon
Engineering & Environmental Science

F.H.W. Truck Repair
Project or Site Name

-RS-3891
Project Number

Ryan Null
Sampler Name (Printed)

Rachel Tauman
Contact or Report to

Phone (509) 534-8592
Contact Address or Location

Sampler Signature

☐ Chen-Northern, Inc., Division
☐ Thomas-Hardig & Associates, Inc., Division
☐ Schaefer Dixon Associates, Inc., Division
☐ Herzog Associates, Inc., Division

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP. OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: BTEX (8020)	ANALYSIS REQUIRED: TPH-D Extended (8015)	NOTES	LAB NUMBER
8-29-95	11:15	MW-1		Water	2 2 liters (1)	X	X		
8-29-95	12:00	MW-4		Water	2 VOA 1 liter 1 plastic (4)	X	X		
8-29-95	12:15	MW-2		Water	2 VOA 1 liter 1 plastic (4)	X	X		
8-29-95	12:30	MW-3		Water	2 VOA 1 liter 1 plastic (4)	X	X		

Relinquished by: Ryan Null	Date 8-29-95	Time 13:00	Received by:	Remarks: Pollutant Wells
Relinquished by: Rachel Tauman	Date 8-29-95	Time 21:00	Received by: Michelle Hosea 8/30/95 9:40	TPH-D - Extended 8010
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by:	4 Wells - 4 VOA's

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

7110 38th Drive SE
Lacey, Washington 98503

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: 360-459-4670
Fax: 360-459-3432

September 13, 1995

Rachel Tauman
Maxim Technologies
201 E. D Street
Yakima, WA 98901

Dear Ms. Tauman:

Please find enclosed the data report for on-site analyses of water samples conducted September 5, 1995, at the Fifth Wheel Truck Repair Project in Yakima, Washington. The waters were analyzed for Specific Halogenated Hydrocarbons and BTEX by Modified EPA Method 8010/8020.

The results of the analyses are summarized in the attached table. Applicable detection limits and QA/QC data are included. An invoice for this work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to Maxim Technologies for this project. It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A. Korosec

Michael A. Korosec
President

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

FIFTH WHEEL TRUCK REPAIR PROJECT
Yakima, Washington
MAXIM Technologies
Project #: 95-3894

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Water

Sample-Number	MDL	Method Blank	Well #1	Well #2	Well #3	Well #4	Well #4 Dup
Date	ug/l	09/05/95 ug/l	09/05/95 ug/l	09/05/95 ug/l	09/05/95 ug/l	09/05/95 ug/l	09/05/95 ug/l
1,1 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Cis-1,2 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Trans-1,2 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Benzene	5	nd	nd	nd	nd	nd	nd
Trichloroethene	1	nd	nd	nd	nd	nd	nd
Toluene	5	nd	nd	nd	nd	nd	nd
Tetrachloroethene	1	nd	4.1	9.3	3.7	5.8	6.9
Ethylbenzene	5	nd	nd	nd	nd	nd	nd
Total Xylenes	5	nd	nd	nd	nd	nd	nd
1,1 Dichloroethane	1	nd	nd	nd	nd	nd	nd
1,2 Dichloroethane	1	nd	nd	nd	nd	nd	nd
Chloroform	1	nd	1.6	2.0	1.8	1.8	1.9
Carbon Tetrachloride	1	nd	nd	nd	nd	nd	nd
1,1,1 Trichloroethane	1	nd	nd	nd	nd	nd	nd
1,1,2 Trichloroethane	1	nd	nd	nd	nd	nd	nd
1,1,1,2 Tetrachloroethane	1	nd	nd	nd	nd	nd	nd
1,1,2,2 Tetrachloroethane	1	nd	nd	nd	nd	nd	nd
Recovery (%)		97	101	98	102	98	102

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers Environmental Scientists

Fifth Wheel Truck Repair
Project or Site Name

95-3894
Project Number

Bryan Mull
Sampler Name (Printed)

- ☐ Chen-Northern, Inc., Division
- ☐ Thomas-Hartig & Associates, Inc., Division
- ☐ Schaefer Dixon Associates, Inc., Division
- ☐ Herzog Associates, Inc., Division

Rachel Tauman
Contact or Report to

Phone 509-577-8592
Contact Address or Location

Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: 8010	NOTES	LAB NUMBER
Sept 5	12:15	Well #3		Water	2 VOA	✓		
	12:30	Well #4		Water	2 VOA	✓		
	1:45	Well #2		Water	2 VOA	X		
	1:35	Well #1		Water	2 VOA	X		

	Date	Time	Received by:
Relinquished by:	9-5-95	14:00	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks:

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

HAHN FIFTH WHEEL TRUCK REPAIR PROJECT
Yakima, Washington
Maxim Technologies, Inc.

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Water

Sample-Number	MDL	Method Blank	MW-1	MW-1 Dup	MW-2	MW-3	MW-4
Date		11/30/95	11/30/95	11/30/95	11/30/95	11/30/95	11/30/95
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,1 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Trans-1,2 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Cis-1,2 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Benzene	1	nd	nd	nd	nd	nd	nd
Trichloroethene	1	nd	nd	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd	nd	nd
Tetrachloroethene	1	nd	6.7	6.3	6.2	6.8	6.2
Ethylbenzene	1	nd	nd	nd	nd	nd	nd
m,p-Xylene	1	nd	nd	nd	nd	nd	nd
o-Xylene	1	nd	nd	nd	nd	nd	nd
Dichloromethane	1	nd	nd	nd	nd	nd	nd
1,1 Dichloroethane	1	nd	nd	nd	nd	nd	nd
1,2 Dichloroethane	1	nd	nd	nd	nd	nd	nd
Chloroform	1	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	1	nd	nd	nd	nd	nd	nd
1,1,1 Trichloroethane	1	nd	nd	nd	nd	nd	nd
1,1,2 Trichloroethane	1	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1	nd	nd	nd	nd	nd	nd
Spike Recovery (%)		98	96	97	102	99	98

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers Environmental Scientists

Hahn 5th Wheel Truck Repair
Project or Site Name

Project Number

Rob Farrell
Sampler Name (Printed)

- ☐ Chen-Northern, Inc., Division
- ☐ Thomas-Hartig & Associates, Inc., Division
- ☐ Schaefer Dixon Associates, Inc., Division
- ☐ Herzog Associates, Inc., Division

Rachel Tauman
Contact or Report to

PO Box 2887 Yakima, WA 98907
Contact Address or Location

Rob Farrell
Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: 8010/8020	NOTES	LAB NUMBER
11-27-95	1120	MW-2	Grab	H2O	2	X	HCl preservative	
	1210	MW-4	↓	↓	↓	X	↓	
	1400	MW-3				X		
	1500	MW-1				X		

	Date	Time	Received by:	Remarks:
Relinquished by: Rob Farrell	11-27-95	1600	Eric Dam 940 11/28/95	
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by:	

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

7110 38th Drive SE
Lacey, Washington 98503

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: **360-459-4670**
Fax: **360-459-3432**

February 8, 1996

Rachel Tauman
Maxim Technologies
P.O. Box 2887
Yakima, WA 98907

Dear Ms. Tauman:

Please find enclosed the data report for off-site analyses of water sample conducted February 8, 1996, from the Hahn Fifth Wheel Truck Repair Project, Project No. 5609500619, in Yakima, Washington. The water samples were analyzed for Specific Halogenated Hydrocarbons and BTEX by Modified EPA Method 8010/8020.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. An invoice for this work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to Maxim Technologies for this project. It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A Korosec

Michael A. Korosec
President

QA/QC FOR ANALYTICAL METHODS

GENERAL

The TEG Northwest Laboratory quality assurance and quality control (QA/QC) procedures are conducted following the guidelines and objectives which meet or exceed certification/-accreditation requirements of California DOHS, Washington DOE, and Oregon DEQ. The Quality Control Program is a consistent set of procedures which assures data quality through the use of appropriate blanks, replicate analyses, surrogate spikes, and matrix spikes, and with the use of reference standards that meet or exceed EPA standards.

When analyses are taking place on-site with the mobile lab, the need for Field Blanks or Travel/Trip Blanks is eliminated. If there is going to be a delay before sample preparation for analysis, the sample is stored at 4° C.

ANALYTICAL METHODS

TEG Northwest Labs use analytical methodologies which are in conformity with U. S. Environmental Protection Agency (EPA), Washington DOE, and Oregon DEQ methodologies. When necessary and appropriate due to the nature or composition of the sample, TEG may use variations of the methods which are consistent with recognized standards or variations used by the industry and government laboratories.

Purgeable Volatile Aromatics (BTEX, EPA 602/8020)

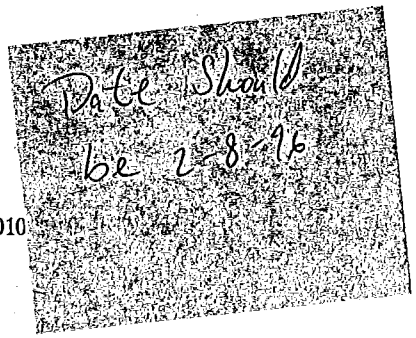
A blank and a calibration standard are run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day if more than 10 samples have been run. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

Purgeable Volatile Halocarbons
(Chlorinated Hydrocarbons, EPA 601/8010,8021)

A blank and a calibration standard are run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day if more than 10 samples have been run. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

HAHN FIFTH WHEEL TRUCK REPAIR PROJECT
Yakima, Washington
Maxim Technologies, Inc.



Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010

Sample-Number	MDL	Method Blank	MW-1	MW-2	MW-3	MW-4	MW-4 Dup
Date		02/08/96	02/08/96	02/08/96	02/08/96	02/08/96	02/08/96
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
1,1 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Trans-1,2 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Cis-1,2 Dichloroethene	1	nd	nd	nd	nd	nd	nd
Benzene	1	nd	nd	nd	nd	nd	nd
Trichloroethene	1	nd	nd	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd	nd	nd
Tetrachloroethene	1	nd	3.5	8.4	3.5	6.3	7.2
Ethylbenzene	1	nd	nd	nd	nd	nd	nd
m,p-Xylene	1	nd	nd	nd	nd	nd	nd
o-Xylene	1	nd	nd	nd	nd	nd	nd
Dichloromethane	1	nd	nd	nd	nd	nd	nd
1,1 Dichloroethane	1	nd	nd	nd	nd	nd	nd
1,2 Dichloroethane	1	nd	nd	nd	nd	nd	nd
Chloroform	1	nd	1.4	3.8	1.7	3.1	3.5
Carbon Tetrachloride	1	nd	nd	nd	nd	nd	nd
1,1,1 Trichloroethane	1	nd	nd	nd	nd	nd	nd
1,1,2 Trichloroethane	1	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1	nd	nd	nd	nd	nd	nd
Spike Recovery (%)		88	76	105	86	90	98

"nd" Indicates Not Detected at the listed detection limit.

"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

HAHN FIFTH WHEEL TRUCK REPAIR PROJECT
Yakima, Washington
Maxim Technologies, Inc.

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Water

Sample-Number	MDL	Trip Blank	Blind	60 PPB MS	60 PPB MSD		
Date		02/08/96	02/08/96	02/08/96	02/08/96		
	ug/l	ug/l	ug/l	ug/l	ug/l		
1,1 Dichloroethene	1	nd	nd	60.8	53.2		
Trans-1,2 Dichloroethene	1	nd	nd	63.7	62.9		
Cis-1,2 Dichloroethene	1	nd	nd	62.2	64.2		
Benzene	1	nd	nd	63.7	55.1		
Trichloroethene	1	nd	nd	60.5	51.4		
Toluene	1	nd	nd	65.5	56.5		
Tetrachloroethene	1	nd	8.5	66.5	60.4		
Ethylbenzene	1	nd	nd	58.6	57.6		
m,p-Xylene	1	nd	nd	125	116		
o-Xylene	1	nd	nd	64.8	53.0		
Dichloromethane	1	nd	nd	65.3	61.6		
1,1 Dichloroethane	1	nd	nd	65.3	58.8		
1,2 Dichloroethane	1	nd	nd	50.7	68.3		
Chloroform	1	nd	4.3	61.4	63.4		
Carbon Tetrachloride	1	nd	nd	62.1	64.3		
1,1,1 Trichloroethane	1	nd	nd	56.7	65.1		
1,1,2 Trichloroethane	1	nd	nd	67.6	59.8		
1,1,1,2-Tetrachloroethane	1	nd	nd	61.3	61		
1,1,2,2-Tetrachloroethane	1	nd	nd	--	--		
Spike Recovery (%)		83	119	104	96		

"nd" Indicates Not Detected at the listed detection limit.

"int" Indicates that interference peaks prevent determination.

CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers Environmental Scientists

- ☐ Chen-Northern, Inc., Division
- ☐ Thomas-Hartig & Associates, Inc., Division
- ☐ Schaefer Dixon Associates, Inc., Division
- ☐ Herzog Associates, Inc., Division

Fifth Wheel Truck Repair
Project or Site Name

5609500619
Project Number

Rob Farrell
Sampler Name (Printed)

Rachel Taugan
Contact or Report to

PO Box 2887, Yakima, WA 98907
Contact Address or Location

Rob Farrell
Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: 8010/8020	NOTES	LAB NUMBER
2-7-96	0900	Trip Blank	Grab	H_2O	1	X		
2-7-96	1600	MW-4			2	X		
	1450	MW-3			2	X		
	1400	MW-1			2	X		
		Blind Duplicate			~~2~~	X		
		MW-2	"	"		X		

	Date	Time		
Relinquished by: Rob Farrell	2-7-96	1707	Received by: [signature] 2-8-96 0915	Remarks:
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by:	

APPENDIX E

SOIL DISPOSAL LABORATORY REPORTS AND MANIFESTS

SOUND ANALYTICAL SERVICES, INC.

Client Name	TEG Northwest
Client ID:	HAHN STOCKPILE
Lab ID:	52419-01
Date Received:	10/25/95
Date Prepared:	11/7/95
Date Analyzed:	11/8/95
% Solids	92.67

Volatile Organics by USEPA Method 8240

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Dibromofluoromethane	106		76	148
Toluene-d8	94		66	134
4-Bromofluorobenzene	95		51	113

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Chloromethane	ND	9.7	
Bromomethane	ND	9.7	
Vinyl Chloride	ND	9.7	
Chloroethane	ND	9.7	
Methylene Chloride	ND	4.9	
Acetone	ND	4.9	
Carbon Disulfide	ND	4.9	
1,1-Dichloroethene	ND	4.9	
1,1-Dichloroethane	ND	4.9	
1,2-Dichloroethene (total)	ND	4.9	
Chloroform	ND	4.9	
1,2-Dichloroethane	ND	4.9	
2-Butanone (MEK)	ND	4.9	
1,1,1-Trichloroethane	ND	4.9	
Carbon Tetrachloride	ND	4.9	
Vinyl Acetate	ND	4.9	
Bromodichloromethane	ND	4.9	
1,2-Dichloropropane	ND	4.9	
cis-1,3-Dichloropropene	ND	4.9	
Trichloroethene	ND	4.9	
Dibromochloromethane	ND	4.9	
1,1,2-Trichloroethane	ND	4.9	
Benzene	ND	4.9	
trans-1,3-Dichloropropene	ND	4.9	
Bromoform	ND	4.9	
4-Methyl-2-pentanone (MIBK)	ND	4.9	

SOUND ANALYTICAL SERVICES, INC.

Volatile Organics by USEPA Method 8240 data for 52419-01 continued...

Analyte	Result (ug/kg)	PQL	Flags
2-Hexanone	ND	4.9	
Tetrachloroethene	ND	4.9	
1,1,2,2-Tetrachloroethane	ND	4.9	
Toluene	ND	4.9	
Chlorobenzene	ND	4.9	
Ethylbenzene	ND	4.9	
Styrene	ND	4.9	
Xylenes (total)	ND	4.9	

SOUND ANALYTICAL SERVICES, INC.

Client Name	TEG Northwest
Client ID:	HAHN STOCKPILE
Lab ID:	52419-01
Date Received:	10/25/95
Date Prepared:	10/27/95
Date Analyzed:	10/27/95
% Solids	92.67

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Nitrobenzene - d5	95		23	120
2 - Fluorobiphenyl	110		30	115
p - Terphenyl - d14	109		18	137
Phenol - d5	102		24	113
2 - Fluorophenol	101		25	121
2,4,6 - Tribromophenol	113		19	122

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**PQL**	**Flags**
Phenol	ND	160	
bis(2-Chloroethyl)ether	ND	160	
2-Chlorophenol	ND	160	
1,3-Dichlorobenzene	ND	160	
1,4-Dichlorobenzene	ND	160	
Benzyl Alcohol	ND	320	
1,2-Dichlorobenzene	ND	160	
2-Methylphenol	ND	160	
bis(2-Chloroisopropyl)ether	ND	160	
4-Methylphenol	ND	160	
N-nitroso-di-n-propylamine	ND	160	
Hexachloroethane	ND	160	
Nitrobenzene	ND	160	
Isophorone	ND	160	
2-Nitrophenol	ND	160	
2,4-Dimethylphenol	ND	160	
Benzoic Acid	ND	800	
bis(2-Chloroethoxy)methane	ND	160	
2,4-Dichlorophenol	ND	160	
1,2,4-Trichlorobenzene	ND	160	
Naphthalene	ND	160	
4-Chloroaniline	ND	320	
Hexachlorobutadiene	ND	160	
4-Chloro-3-methylphenol	ND	320	
2-Methylnaphthalene	ND	160	
Hexachlorocyclopentadiene	ND	160	

SOUND ANALYTICAL SERVICES, INC.

Semivolatile Organics by USEPA Method 8270 data for 52419-01 continued...

Analyte	Result (ug/kg)	PQL	Flags
2,4,6-Trichlorophenol	ND	160	
2,4,5-Trichlorophenol	ND	160	
2-Chloronaphthalene	ND	160	
2-Nitroaniline	ND	800	
Dimethylphthalate	ND	160	
Acenaphthylene	ND	160	
2,6-Dinitrotoluene	270	160	
3-Nitroaniline	ND	800	
Acenaphthene	ND	160	
2,4-Dinitrophenol	ND	800	
4-Nitrophenol	ND	800	
Dibenzofuran	ND	160	
2,4-Dinitrotoluene	ND	160	
Diethylphthalate	ND	160	
4-Chlorophenylphenylether	ND	160	
Fluorene	ND	160	
4-Nitroaniline	ND	800	
4,6-Dinitro-2-methylphenol	ND	800	
N-Nitrosodiphenylamine	ND	160	
4-Bromophenylphenylether	ND	160	
Hexachlorobenzene	ND	160	
Pentachlorophenol	ND	800	
Phenanthrene	ND	160	
Anthracene	ND	160	
Di-n-butylphthalate	320	160	
Fluoranthene	ND	160	
Pyrene	ND	160	
Butylbenzylphthalate	9400	160	
3,3-Dichlorobenzidine	ND	160	
Benzo(a)anthracene	ND	160	
Chrysene	ND	160	
bis(2-Ethylhexyl)phthalate	1500	160	
Di-n-octylphthalate	ND	160	
Benzo(b)fluoranthene	ND	160	
Benzo(k)fluoranthene	ND	160	
Benzo(a)pyrene	ND	160	
Indeno(1,2,3-cd)pyrene	ND	160	
Dibenz(a,h)anthracene	ND	160	
Benzo(g,h,i)perylene	ND	160	

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

TCLP Cadmium

Client: TEG Northwest
Lab No: 52419qc
Units: mg/L
Date Extracted: 11-3-95
Date Analyzed: 11-6-95

METHOD BLANK

Parameter	Result	PQL
Cadmium	ND	0.010

ND = Not Detected
PQL = Practical Quantitation Limit

MATRIX SPIKE

MS No. 52427-1 Batch QC

Parameter	Sample Result	Spiked Sample Result	Spike Added	%R
Cadmium	ND	0.83	1.00	83

%R = Percent Recovery

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - A3977
Date Received:	-
Date Prepared:	11/7/95
Date Analyzed:	11/8/95
% Solids	

Volatile Organics by USEPA Method 8240

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Dibromofluoromethane	104		76	148
Toluene-d8	100		66	134
4-Bromofluorobenzene	97		51	113

Sample results are on an as received basis.

Analyte	Result (ug/kg)	PQL	Flags
Chloromethane	ND	10	
Bromomethane	ND	10	
Vinyl Chloride	ND	10	
Chloroethane	ND	10	
Methylene Chloride	ND	5	
Acetone	ND	5	
Carbon Disulfide	ND	5	
1,1-Dichloroethene	ND	5	
1,1-Dichloroethane	ND	5	
1,2-Dichloroethene (total)	ND	5	
Chloroform	ND	5	
1,2-Dichloroethane	ND	5	
2-Butanone (MEK)	ND	5	
1,1,1-Trichloroethane	ND	5	
Carbon Tetrachloride	ND	5	
Vinyl Acetate	ND	5	
Bromodichloromethane	ND	5	
1,2-Dichloropropane	ND	5	
cis-1,3-Dichloropropene	ND	5	
Trichloroethene	ND	5	
Dibromochloromethane	ND	5	
1,1,2-Trichloroethane	ND	5	
Benzene	ND	5	
trans-1,3-Dichloropropene	ND	5	
Bromoform	ND	5	
4-Methyl-2-pentanone (MIBK)	ND	5	

SOUND ANALYTICAL SERVICES, INC.

Volatile Organics by USEPA Method 8240 data for A3977 continued...

Analyte	Result (ug/kg)	PQL	Flags
2-Hexanone	ND	5	
Tetrachloroethene	ND	5	
1,1,2,2-Tetrachloroethane	ND	5	
Toluene	ND	5	
Chlorobenzene	ND	5	
Ethylbenzene	ND	5	
Styrene	ND	5	
Xylenes (total)	ND	5	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike/Matrix Spike Duplicate Report

Client Sample ID:	HAHN STOCKPILE
Lab ID:	52419-01
Date Prepared:	11/7/95
Date Analyzed:	11/8/95
QC Batch ID:	A3977

Volatile Organics by USEPA Method 8240

Compound Name	Sample Result (ug/kg)	Spike Amount (ug/kg)	MS Result (ug/kg)	MS % Rec.	MSD Result (ug/kg)	MSD % Rec.	RPD	Flag
1,1-Dichloroethene	0	50	57	113	60	119	5.2	
Trichloroethene	0	50	52	104	56	112	7.4	
Benzene	0	50	51	101	53	106	4.8	
Toluene	0	50	53	105	55	110	4.7	
Chlorobenzene	0	50	49	98	50	100	2.0	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - SV626
Date Received:	-
Date Prepared:	10/27/95
Date Analyzed:	10/30/95
% Solids	

Semivolatile Organics by USEPA Method 8270

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Nitrobenzene - d5	96		23	120
2 - Fluorobiphenyl	113		30	115
p - Terphenyl - d14	103		18	137
Phenol - d5	85		24	113
2 - Fluorophenol	106		25	121
2,4,6 - Tribromophenol	93		19	122

Sample results are on an as received basis.

Analyte	**Result (ug/kg)**	**PQL**	**Flags**
Phenol	ND	200	
bis(2-Chloroethyl)ether	ND	200	
2-Chlorophenol	ND	200	
1,3-Dichlorobenzene	ND	200	
1,4-Dichlorobenzene	ND	200	
Benzyl Alcohol	ND	400	
1,2-Dichlorobenzene	ND	200	
2-Methylphenol	ND	200	
bis(2-Chloroisopropyl)ether	ND	200	
4-Methylphenol	ND	200	
N-nitroso-di-n-propylamine	ND	200	
Hexachloroethane	ND	200	
Nitrobenzene	ND	200	
Isophorone	ND	200	
2-Nitrophenol	ND	200	
2,4-Dimethylphenol	ND	200	
Benzoic Acid	ND	1000	
bis(2-Chloroethoxy)methane	ND	200	
2,4-Dichlorophenol	ND	200	
1,2,4-Trichlorobenzene	ND	200	
Naphthalene	ND	200	
4-Chloroaniline	ND	400	
Hexachlorobutadiene	ND	200	
4-Chloro-3-methylphenol	ND	400	
2-Methylnaphthalene	ND	200	
Hexachlorocyclopentadiene	ND	200	

SOUND ANALYTICAL SERVICES, INC.

Semivolatile Organics by USEPA Method 8270 data for SV626 continued...

Analyte	Result (ug/kg)	PQL	Flags
2,4,6-Trichlorophenol	ND	200	
2,4,5-Trichlorophenol	ND	200	
2-Chloronaphthalene	ND	200	
2-Nitroaniline	ND	1000	
Dimethylphthalate	ND	200	
Acenaphthylene	ND	200	
2,6-Dinitrotoluene	ND	200	
3-Nitroaniline	ND	1000	
Acenaphthene	ND	200	
2,4-Dinitrophenol	ND	1000	
4-Nitrophenol	ND	1000	
Dibenzofuran	ND	200	
2,4-Dinitrotoluene	ND	200	
Diethylphthalate	ND	200	
4-Chlorophenylphenylether	ND	200	
Fluorene	ND	200	
4-Nitroaniline	ND	1000	
4,6-Dinitro-2-methylphenol	ND	1000	
N-Nitrosodiphenylamine	ND	200	
4-Bromophenylphenylether	ND	200	
Hexachlorobenzene	ND	200	
Pentachlorophenol	ND	1000	
Phenanthrene	ND	200	
Anthracene	ND	200	
Di-n-butylphthalate	ND	200	
Fluoranthene	ND	200	
Pyrene	ND	200	
Butylbenzylphthalate	ND	200	
3,3-Dichlorobenzidine	ND	200	
Benzo(a)anthracene	ND	200	
Chrysene	ND	200	
bis(2-Ethylhexyl)phthalate	ND	200	
Di-n-octylphthalate	ND	200	
Benzo(b)fluoranthene	ND	200	
Benzo(k)fluoranthene	ND	200	
Benzo(a)pyrene	ND	200	
Indeno(1,2,3-cd)pyrene	ND	200	
Dibenz(a,h)anthracene	ND	200	
Benzo(g,h,i)perylene	ND	200	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike/Matrix Spike Duplicate Report

Client Sample ID:	WA-3
Lab ID:	52397-03
Date Prepared:	10/27/95
Date Analyzed:	10/27/95
QC Batch ID:	SV626

Semivolatile Organics by USEPA Method 8270

Compound Name	Sample Result (ug/kg)	Spike Amount (ug/kg)	MS Result (ug/kg)	MS % Rec.	MSD Result (ug/kg)	MSD % Rec.	RPD	Flag
Phenol	0	10000	12000	116	11000	109	6.2	
2-Chlorophenol	0	10000	11000	112	10000	103	8.4	
1,4-Dichlorobenzene	0	10000	11000	108	11000	110	1.8	
N-nitroso-di-n-propylamine	0	10000	11000	110	12000	120	8.7	
1,2,4-Trichlorobenzene	0	10000	9900	98	11000	110	11.0	
4-Chloro-3-methylphenol	0	10000	11000	106	14000	139	27.0	
Acenaphthene	0	10000	12000	117	12000	119	1.7	
4-Nitrophenol	0	10000	7600	76	6700	68	11.0	
2,4-Dinitrotoluene	0	10000	9500	94	9300	95	0.5	
Pentachlorophenol	0	10000	8700	87	9700	98	12.0	
Pyrene	0	10000	11000	110	11000	108	1.8	

KATHEL TAUMAN

SE Area Study
Project or Site Name

Maxim Hahn
Project Number

Rob Farrell
Sampler Name (Printed)

YAKIMA ENVIRONMENTAL OPERATIONS

MAXIM TECHNOLOGIES INC
ENGINEERING & ENVIRONMENTAL CONSULTANTS

201 EAST "D" STREET
YAKIMA, WASHINGTON 98901
509-577-8592
509-248-1967 FAX

Rachel Tauman
Contact or Report to

(509) 577-8592
Contact Address or Location

Rob Farrell
Sampler Signature

FOR Rabanco

Date Collected	Time Collected	Sample Location or Description	Comp or Grab	Sample Matrix	No. of Containers	Analysis Required: TCLP Cadmium	8240	8270					Notes	Lab Number
10-23-95	1020	Hahn Stock Pile	Comp	Soil	2	X	X	X					TCLP CADMIUM 8240 8270	OM

	Date	Time	
Relinquished by:	10-24-95	9:05 AM	Received by: Patricia Kaman
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by
Relinquished by:	Date	Time	Received by:

Remarks:

PLEASE Perform TCLP ON Lead FOR SUMP #1 You have the JAR

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST IN

FIFTH WHEEL TRUCK REPAIR PROJECT
Yakima, Washington
MAXIM Technologies
Project #: 5609500-619

Heavy Metals in Soil by EPA-7000 Series

EPA-Method #		7130
Sample Number	Date	Cd mg/kg
Meth. Blank	10/09/95	nd
Sump3-10'-BGS	10/09/95	1.4
Method Detection Limit		0.1

"nd" Indicates not detected at the listed detection limit.

CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers Environmental Scientists

- ☐ Chen-Northern, Inc., Division
- ☐ Thomas-Hartig & Associates, Inc., Division
- ☐ Schaefer Dixon Associates, Inc., Division
- ☐ Herzog Associates, Inc., Division

Tahn
SAS Auto Fifth wheel
Project or Site Name

5609500-619
Project Number

Rachel Tauman
Sampler Name (Printed)

Contact or Report to

Contact Address or Location

Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED (Cadmium)	NOTES	LAB NUMBER
Oct 6 1995	10:00	Sump 3 10' BGS	Grab	Soil	1	X		

	Date	Time	Received by:
Relinquished by: Rachel Tauman	Oct 6	12:00	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks: 10' BGS Sump 3 Cadmium only

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: TEG Northwest Date: November 9, 1995

Report On: Analysis of Soil Lab No.: 52419

IDENTIFICATION:
Sample received on 10-25-95

ANALYSIS:

Lab Sample No. 52419-1 Client ID: Hanh Stockpile From SUMP #3

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
ICP Metals by EPA Method 6010
Date Extracted: 11-3-95
Date Analyzed: 11-6-95
Units: mg/L

Parameter	Result	PQL	Max Conc.
Cadmium	0.012	0.010	1.0

ND - Not Detected
PQL - Practical Quantitation Limit

APPENDIX F

LABORATORY REPORTS OF SUMP DRAIN CONFIRMATION SOIL SAMPLES

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

7110 38th Drive SE
Lacey, Washington 98503

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: 360-459-4670
Fax: 360-459-3432

October 11, 1995

Rachel Tauman
Maxim Technologies
201 E. D Street
Yakima, WA 98901

Dear Ms. Tauman:

Please find enclosed the data report for off-site analyses of soil samples conducted October 3 and 5, 1995, from the Hahn/Fifth Wheel Project in Yakima, Washington. The soil samples were analyzed for BTEX by EPA Method 8020 and EPA Method 8010, Diesel and Oil by WTPH-D/D Extended, and ICP Metals by EPA Method 6010.

The results of the analyses are summarized in the attached tables. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to Maxim Technologies for this project. It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A Korosec

Michael A. Korosec
President

QA/QC FOR ANALYTICAL METHODS

GENERAL

The TEG Northwest Laboratory quality assurance and quality control (QA/QC) procedures are conducted following the guidelines and objectives which meet or exceed certification/-accreditation requirements of California DOHS, Washington DOE, and Oregon DEQ. The Quality Control Program is a consistent set of procedures which assures data quality through the use of appropriate blanks, replicate analyses, surrogate spikes, and matrix spikes, and with the use of reference standards that meet or exceed EPA standards.

When analyses are taking place on-site with the mobile lab, the need for Field Blanks or Travel/Trip Blanks is eliminated. If there is going to be a delay before sample preparation for analysis, the sample is stored at 4° C.

ANALYTICAL METHODS

TEG Northwest Labs use analytical methodologies which are in conformity with U. S. Environmental Protection Agency (EPA), Washington DOE, and Oregon DEQ methodologies. When necessary and appropriate due to the nature or composition of the sample, TEG may use variations of the methods which are consistent with recognized standards or variations used by the industry and government laboratories.

TPH-Gasoline, TPH-Diesel
(Gasoline and/or Diesel, Modified EPA 8015, WTPH-G and WTPH-D)

A blank and a calibration standard are run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. A duplicate sample is run at a rate of 1 per 10 samples (or a matrix spike sample is prepared and analyzed). At least 1 method blank is run per 10 samples analyzed.

Purgeable Volatile Aromatics
(BTEX, EPA 602/8020)

A blank and a calibration standard are run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day if more than 10 samples have been run. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

Purgeable Volatile Halocarbons
(Chlorinated Hydrocarbons, EPA 601/8010,8021)

A blank and a calibration standard are run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day if more than 10 samples have been run. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

HAHN / FIFTH WHEEL PROJECT
Yakima, Washington
MAXIM Technologies
Project No. 5609500-619

2' below
SUMPS #1 & #2

BTEX (EPA 8020), Trichloroethene & Tetrachloroethene (EPA 8010) Analyses for Soils

Sample Number	Date Analyzed	Benzene mg/kg	Toluene mg/kg	Eth Benz mg/kg	Xylene mg/kg	TCE mg/kg	PCE mg/kg	Recovery (%)
Meth. Blank	10/03/95	nd	nd	nd	nd	nd	nd	89
Sump-1	10/03/95	nd	nd	nd	0.20	nd	nd	93
Sump-2	10/03/95	nd	nd	nd	nd	nd	nd	91
Sump-3 South	10/03/95	nd	nd	nd	nd	nd	nd	105
Sump-3 South Dup	10/03/95	nd	nd	nd	nd	nd	nd	96
Sump-3 West	10/03/95	nd	nd	nd	nd	nd	nd	97
Sump-3 Bottom	10/03/95	nd	nd	nd	nd	nd	nd	96
Stockpile	10/03/95	nd	nd	nd	nd	nd	nd	94
Detection Limits		0.05	0.05	0.05	0.05	0.05	0.05	

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interferences prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

HAHN / FIFTH WHEEL PROJECT
Yakima, Washington
MAXIM Technologies
Project No. 5609500-619

Diesel and Oil in Soil by and WTPH-D/D-Extended

Sample Number	Date	Recovery %	Diesel mg/kg	Heavy Oil mg/kg
Meth. Blank	10/03/95	93	nd	nd
Sump-1	10/03/95	104	nd	395
Sump-2	10/03/95	99	nd	73
Sump-3 South	10/03/95	106	nd	nd
Sump-3 South Dup	10/03/95	108	nd	nd
Sump-3 West	10/03/95	105	nd	nd
Sump-3 Bottom	10/03/95	103	nd	nd
Stockpile	10/03/95	113	nd	1040
MDL			20	20

"nd" Indicates not detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: TEG Northwest Date: October 12, 1995

Report On: Analysis of Soil Lab No.: 51869

IDENTIFICATION:
Samples received on 10-03-95
Project: Maxim/Hahn

ANALYSIS:

Lab Sample No. 51869-1 Client ID: Sump-1

ICP Metals Per EPA Method 6010
Date Analyzed: 10-11-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	15
Arsenic	ND	15
Beryllium	ND	0.50
Cadmium	8.9	1.0
Chromium	20	1.0
Copper	46	2.5
Lead	440	5.0
Nickel	28	4.0
Selenium	ND	42
Silver	ND	1.0
Thallium	ND	15
Zinc	450	2.0

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 10-11-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.11

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Maxim/Hahn
Lab No. 51869
October 12, 1995

Lab Sample No. 51869-2 Client ID: Sump-2

ICP Metals Per EPA Method 6010
Date Analyzed: 10-11-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	15
Arsenic	ND	15
Beryllium	ND	0.50
Cadmium	7.7	1.0
Chromium	11	1.0
Copper	21	2.5
Lead	26	5.0
Nickel	14	4.0
Selenium	ND	1.0
Silver	ND	1.0
Thallium	ND	15
Zinc	110	2.0

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 10-11-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.08

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Maxim/Hahn
Lab No. 51869
October 12, 1995

Lab Sample No. 51869-3 Client ID: Sump-3 South

ICP Metals Per EPA Method 6010
Date Analyzed: 10-11-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	14
Arsenic	ND	14
Beryllium	ND	0.49
Cadmium	5.0	0.97
Chromium	10	0.97
Copper	18	2.4
Lead	ND	4.9
Nickel	11	3.9
Selenium	ND	30
Silver	ND	0.97
Thallium	ND	25
Zinc	40	1.9

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 10-11-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.08

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Maxim/Hahn
Lab No. 51869
October 12, 1995

Lab Sample No. 51869-4 Client ID: Sump-3 West

ICP Metals Per EPA Method 6010
Date Analyzed: 10-11-95
Units: mg/kg

Parameter	Result	PQL
Antimony	ND	14
Arsenic	ND	14
Beryllium	ND	0.45
Cadmium	3.8	0.91
Chromium	18	0.91
Copper	14	2.3
Lead	7.2	4.5
Nickel	15	3.6
Selenium	ND	18
Silver	ND	0.91
Thallium	ND	14
Zinc	35	1.8

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 10-11-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.08

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: TEG Northwest Date: October 5, 1995

Report On: Analysis of Soil Lab No.: 51868

IDENTIFICATION:
Samples received on 10-03-95
Project: Maxium/Hahn

ANALYSIS:

Lab Sample No. 51868-1 Client ID: Sump 3 Bottom

ICP Metals Per EPA Method 6010
Date Analyzed: 10-5-95
Units: mg/kg

Parameter	Result	Cleanup Levels	PQL
Antimony	ND		15
Arsenic	ND		15
Beryllium	ND		0.49
Cadmium	3.1	2.0	0.98
Chromium	9.0		0.98
Copper	19		2.4
Lead	23		4.9
Nickel	14		4.9
Selenium	ND		20
Silver	ND		0.98
Thallium	ND		15
Zinc	94		2.0

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 10-4-95
Units: mg/kg

Parameter	Result	PQL
Mercury	0.13	0.09

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

TEG Northwest
Project: Maxium/Hahn
Lab No. 51868
October 5, 1995

Lab Sample No. 51868-2 Client ID: Stock Pile

ICP Metals Per EPA Method 6010
Date Analyzed: 10-5-95
Units: mg/kg

Parameter	Result	cleanup	PQL
Antimony	ND		15
Arsenic	ND		15
Beryllium	ND		0.49
Cadmium	46	2.0	0.98
Chromium	14		0.98
Copper	27		2.4
Lead	87		4.9
Nickel	12		3.9
Selenium	ND		20
Silver	ND		0.98
Thallium	ND		15
Zinc	120		2.0

Mercury By Cold Vapor AA Per EPA Method 7471
Date Analyzed: 10-4-95
Units: mg/kg

Parameter	Result	PQL
Mercury	ND	0.08

ND - Not Detected
PQL - Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Total Metals

Client: TEG Northwest
Lab No: 51868qc
Units: mg/kg

METHOD BLANK

Date Analyzed: 10-5-95

Parameter	Result	PQL
Antimony	ND	15
Arsenic	ND	15
Beryllium	ND	0.50
Cadmium	ND	1.0
Chromium	ND	1.0
Copper	ND	2.5
Lead	ND	5.0
Nickel	ND	4.0
Selenium	ND	20
Silver	ND	1.0
Thallium	ND	15
Zinc	ND	2.0

Date Analyzed: 10-4-95

Parameter	Result	PQL
Mercury	ND	0.10

ND = Not Detected
PQL = Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Total Metals

Client: TEG Northwest
Lab No: 51868qc
Units: mg/kg

DUPLICATE

Dup No. 51865-1 Batch QC
Date Analyzed: 10-5-95

Parameter	Sample	Duplicate	RPD	Flag
Arsenic	280	200	33	
Beryllium	ND	ND	NC	
Cadmium	20	18	10	
Chromium	410	700	52	X4a
Copper	140	140	0.0	
Lead	4,600	6,600	36	X4a
Nickel	37	36	2.7	
Selenium	86	79	8.5	
Silver	ND	ND	NC	
Thallium	ND	ND	NC	
Zinc	14,000	13,000	7.4	

Dup No. 51868-1
Date Analyzed: 10-4-95

Parameter	Sample	Duplicate	RPD	Flag
Mercury	0.13	0.13	0.0	

RPD = Relative Percent Difference
ND = Not Detected
NC = Not Calculated

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Total Metals

Client: TEG Northwest
Lab No: 51868qc
Units: mg/kg

MATRIX SPIKE

MS No. 51865-1 Batch QC
Date Analyzed: 10-5-95

Parameter	Sample Result	Spiked Sample Result	Spike Added	%R	Flag
Arsenic	280	610	480	69	X6
Beryllium	ND	11	12	92	
Cadmium	20	24	12	33	X6
Chromium	440	450	48	83	
Copper	140	220	60	130	X6
Lead	4,600	4,800	120	NR	X7a
Nickel	37	140	120	86	
Selenium	86	490	480	84	
Silver	ND	12	120	100	
Thallium	ND	390	480	81	
Zinc	14,000	12,000	120	NR	X7a

MS No. 51868-1
Date Analyzed: 10-4-95

Parameter	Sample Result	Spiked Sample Result	Spike Added	%R
Mercury	0.13	0.98	0.78	109

%R = Percent Recovery
ND = Not Detected
NR = Not Reported

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Total Metals

Client: TEG Northwest
Lab No: 51869qc
Units: mg/kg
Date Analyzed: 10-11-95

METHOD BLANK

Parameter	Result	PQL
Antimony	ND	15
Arsenic	ND	15
Beryllium	ND	0.50
Cadmium	ND	1.0
Chromium	ND	1.0
Copper	ND	2.5
Lead	ND	5.0
Mercury	ND	0.10
Nickel	ND	4.0
Selenium	ND	20
Silver	ND	1.0
Thallium	ND	15
Zinc	ND	2.0

ND = Not Detected
PQL = Practical Quantitation Limit

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Total Metals

Client: TEG Northwest
Lab No: 51869qc
Units: mg/kg
Date Analyzed: 10-11-95

DUPLICATE

Dup No. 51869-3

Parameter	Sample	Duplicate	RPD
Antimony	ND	ND	NC
Arsenic	ND	ND	NC
Beryllium	ND	ND	NC
Cadmium	5.0	4.5	10
Chromium	10	12	18
Copper	18	19	5.4
Lead	ND	ND	NC
Mercury	ND	ND	NC
Nickel	11	12	8.7
Selenium	ND	ND	NC
Silver	ND	ND	NC
Thallium	ND	ND	NC
Zinc	40	44	9.5

RPD = Relative Percent Difference

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Total Metals

Client: TEG Northwest
Lab No: 51869qc
Units: mg/kg
Date Analyzed: 10-11-95

MATRIX SPIKE

MS No. 51869-3

Parameter	Sample Result	Spiked Sample Result	Spike Added	%R
Antimony	ND	91	100	91
Arsenic	ND	360	400	90
Beryllium	ND	9.4	10	94
Cadmium	5.0	14	10	90
Chromium	10	46	40	90
Copper	18	63	50	90
Lead	ND	94	100	94
Mercury	ND	0.81	0.73	111
Nickel	11	110	100	89
Selenium	ND	370	400	92
Thallium	ND	350	400	88
Zinc	40	130	100	90

%R = Percent Recovery
ND = Not Detected

HAHN
(S+S Auto - Fifth Wheel Truck)

CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers Environmental Scientists

Project or Site Name: 5609500-619

Project Number

Bryan Mull
Sampler Name (Printed)

- ☐ Chen-Northern, Inc., Division
- ☐ Thomas-Hartig & Associates, Inc., Division
- ☐ Schaefer Dixon Associates, Inc., Division
- ☐ Herzog Associates, Inc., Division

Rachel Trauman
Contact or Report to

509-577-8592
Contact Address or Location

Bryan Mull
Sampler Signature

Hahn / Fifth Wheel

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: Waste Oil Extended List	ANALYSIS REQUIRED: Priority Pollutant Metals	ANALYSIS REQUIRED: 8020	NOTES	LAB NUMBER
9-27-95	10 AM	Sump 1 #6	Grab	Soil	1	X	X	X		
9-27-95	1 PM	Sump 2 #5	Grab	Soil	1	X	X	X	Elan Metals	
10-2-95		Sump 3 South wall #1	Grab	Soil	1	X	X	X	"	
10-2-95		Sump 3 Westwall #2	Grab	Soil	1	X	X	X	"	
10-2-95		Sump 3 Bottom #3	Grab	Soil	1	X	X	X	Quick Turn on Metals	
10-2-95	11 30	Stockpile #4	Grab	Soil	1	X	X	X	Quick Turn on Metals.	

	Date	Time	Received by:
Relinquished by: Bryan Mull	10-2-95	12 30	
Relinquished by:	10-3-95	10:20	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks:
24 hour Rush.

HAHN
(Fifth Wheel / S+S Auto)