Report

Phase II Remedial Investigation
Paxton Sales Corporation
Yakima, Washington

May 25, 1995

Prepared for

Velikanje, Moore & Shore Inc. P.S.
Yakima, Washington

Prepared by

LANDAU ASSOCIATES, INC.

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LANDAU
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May 25, 1995

Mr. Mark Fickes
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RE: STATUS REPORT
PAXTON SALES CORPORATION REMEDIAL INVESTIGATION
YAKIMA, WASHINGTON

INTRODUCTION

This status report describes Phase II Remedial Investigation (RI) services completed at the Paxton Sales Corporation (Paxton) site between December, 1994 and April, 1995. Paxton is located at 108 West Mead, as shown on Figure 1.

The first phase of the RI is reported in our site history report (Landau Associates 1994a). Landau Associates completed Phase II field work in accordance to the work plan submitted to Velikanje, Moore & Shore, Inc. on December 27, 1994 (Landau Associates 1994b) with the following exceptions:

- One-inch brass rings were used to line the inside of the Dames & Moore soil sampler while collecting soil samples from MW-2. Analytical results suggest that the brass rings did not interfere with or elevate results of the priority pollutant metal analysis.

- A soil duplicate for all requested analyses was proposed in the work plan; however, due to a lack of soil recovery in the sampling attempts, only a duplicate for volatile organic compounds (VOC) analysis was collected from MW-2.

- The upgradient well (originally designated as MW-1) was deleted from the work plan based on low field screening results of cross- and assumed downgradient wells.

- Paxton Sales' personnel are currently measuring groundwater levels in the monitoring wells on a bi-weekly basis and Landau Associates is processing the data to determine groundwater flow and gradients.

TRIMSOL CUTTING SOLUTION

Paxton has used a cutting solution under the brand name "TrimSol" since it began operations in 1966, with the exception of a one- to two-year period in the mid-1980s when diethanolamine was used. The primary components of TrimSol are described in: 1) a Preliminary Assessment Report prepared by Ecology and Environment, Inc. (Ecology and Environment, 1988); 2) MSDS sheet and other information provided by the manufacturer, Master Chemical Corporation, and 3) laboratory analysis performed by Analytical Resources Inc., (ARI) in November, 1994. The manufacturers information and analytical results were provided to Velikanje, Moore & Shore, Inc. and the Washington State Department of Ecology (Ecology) in correspondence dated December 14, 1994.

According to the manufacturer, TrimSol is a chlorinated alkene polymer that contains no chlorinated solvents (e.g. tetrachloroethene [PCE]). The analytical work performed by ARI supports that statement, as no PCE was detected in the analyzed sample of TrimSol (at a 2 mg/L detection unit). Based on the above, it does not appear that TrimSol could be a source of PCE to either site soil or groundwater.

SOIL SAMPLING, SITE GEOLOGY AND HYDROGEOLOGY

Site soil conditions were explored by drilling three borings, during the period of January 3 to 15, 1995, using a cable-tool drill rig. All three soil borings were converted to monitoring wells upon completion of soil sampling (borings/wells identified as MW-1, MW-2 and MW-3). The borings were drilled approximately 10 ft into the saturated zone at the time of drilling. The locations of the monitoring wells are shown on Figure 2, which also shows other general site features.

Soil samples were attempted every 2.5 ft during the drilling process to identify site geology and for chemical analysis. Native soil consists of very dense gravel with varying amounts of sand and silt. Logs for the borings/wells are presented in Appendix A.

Samples were field screened for initial assessment of potential compounds of concern based on observations and photoionization detector (PID) readings. No unusual odors, discoloration or PID readings were noted during drilling/sampling. One soil sample was selected from each well for chemical analysis based on the results of field screening. A duplicate volatile organic compound (VOC) sample was collected from MW-2. Soil samples selected for chemical analysis were placed in laboratory supplied containers and labeled appropriately.

Soil samples were analyzed for total petroleum hydrocarbons [TPH] (WTPH-HCID); VOCs (EPA Method 8260, [only Method 8010 listed compounds reported]); base/neutral/acids and semi-volatile organic compounds (EPA Method 8270); cyanide (Method 335.2); and priority pollutant metals (EPA Method 6010/7000).

During drilling, groundwater levels were 20-21 ft below the surface. Water levels later stabilized at about 18-20 ft below the surface. Soil to approximately 10 ft above the static water level showed evidence of seasonal groundwater fluctuations.

GROUNDWATER SAMPLING

The monitoring wells were installed and developed according to WAC 173-160. The initial round of groundwater sampling was completed on January 23, 1995 (during lower winter-time groundwater levels). A duplicate sample was collected from MW-1. Groundwater samples were analyzed for VOCs (EPA Method 8260 [8010 list reported]); diesel-range total petroleum hydrocarbons (WTPH-D); priority pollutant metals (EPA Methods 6010/7000); base/neutral/acids and semivolatile organic compounds (EPA Method 8270); and cyanide (Method 335.2). No unusual odors or discoloration were noted during well purging and sampling.

GROUNDWATER ELEVATION DATA

Monitoring of site ground water levels occurred about weekly from January 23, 1995 through March 1, 1995, and is currently ongoing on about a bi-weekly schedule. Readings are being taken by measuring the depth to groundwater with an electrical sounding tape. The depth measurement is read from a surveyed point on the PVC well casing; groundwater elevations are calculated based on a site datum of elevation 100.00 ft. A summary of groundwater elevation data is presented in Table 1.

From the groundwater information obtained, Landau Associates has determined that net groundwater flow is to the east at an average gradient of about 0.016 ft per ft. Groundwater elevations and flow direction from the February 27, 1995 readings are shown on Figure 3. Higher, summertime groundwater levels from May 22, 1995 are shown on Figure 4. Figures 5, 6 and 7 present plots of groundwater elevation data. These data are generally consistent with regional information collected by Ecology in 1993 (Ecology 1993a), although the flow direction at Paxton shows a stronger easterly component than noted by Ecology.

ANALYTICAL PROGRAM

Analytical Resources, Inc. (ARI), based in Seattle, Washington, performed the soil and groundwater sample chemical analyses. ARI maintains a comprehensive internal quality assurance program. Landau Associates also performed a focused data validation to provide a reasonable degree of confidence in project data. The focused data validation was completed in compliance with the *National Functional Guidelines for Organic Data Review* (EPA 1991). A February 27, 1995 Landau Associates technical memorandum provides the results of the data validation, and is included as Appendix B.

SOIL QUALITY

Summaries of chemical analyses results for soil samples are presented in Tables 2 through 6; the laboratory reports are included in Appendix C. The results indicate that VOCs, petroleum hydrocarbons, semivolatile organic compounds, and cyanide were not detected in site soil. The metals results indicate that arsenic, beryllium, chromium, copper, lead, nickel, selenium, thallium, and zinc are present in site soil, but occur at typical background concentrations. The pattern of occurrence does not suggest that the dry well at Paxton is a source of metals to site soil.

GROUNDWATER QUALITY

Summaries of groundwater chemical analyses are presented in Table 7; the laboratory reports are included in Appendix C. Semivolatile organic compounds and diesel range hydrocarbons were not detected in site groundwater. VOC analyses indicate that PCE was present in all groundwater samples at the following concentrations: MW-1 = 2.3 μg/L; MW-1A, (duplicate) = 2.2 μg/L; MW-2 = 1.7 μg/L; and MW-3 = 3.1 μg/L. These values are below the MCL and Method A cleanup level of 5 μg/L and the 4 μg/L advisory level established by Ecology. The current pattern of occurrence does not suggest that the dry well is the source of PCE to site groundwater.

Cyanide was detected in site groundwater at MW-1; however, the data validation qualified the cyanide data because the relative percent difference between the sample and field duplicate exceeded the established control limits. The reported laboratory values for cyanide in groundwater at MW-1 are well below published MTCA Method B values (CLARC II, January '95).

The metals results indicate that arsenic, beryllium, chromium, copper, lead, mercury, nickel, selenium, thallium, and zinc are present in site groundwater. The laboratory data for arsenic has been rejected because the field duplicate results were outside of control limits. However, arsenic is commonly found in shallow groundwater throughout the Yakima area due to the past application of arsenic containing pesticides. Accordingly, the possible presence of arsenic in site groundwater is not currently viewed as cause for additional study at this time (since Paxton is not a known user [source] of arsenic).

Beryllium (as a non-carcinogen), chromium, copper, mercury, nickel, selenium and zinc were either not detected, or reported at levels below MTCA Method B values.

Lead was found in site groundwater in all 3 wells at concentrations above the MTCA Method A cleanup level. Lead in shallow groundwater is also common in the Yakima area, again primarily due to past use of pesticides. Paxton reports no past use of lead, and the pattern of occurrence does not suggest the dry well as a source. Accordingly, the presence of lead in shallow groundwater is not currently viewed as cause for additional study at this time.

Thallium was found in site groundwater at MW-1 and MW-2 at concentrations slightly above the MTCA Method B value. Levels are low and there is no known local man-caused source of thallium; therefore, the presence of thallium in shallow groundwater is not currently viewed as cause for additional study at this time.

CMX CORPORATION DATA

CMX Corporation (CMX), located at 206 West Mead, is west and generally up- or cross-gradient to Paxton. In November 1992, Ecology installed a monitoring well at CMX, collected one groundwater sample for analysis, and reported the results in February 1993 (Ecology 1993). The text of that report states "groundwater samples non-detect" (for PCE); however, Ecology's data summary table and laboratory report for that sample show a PCE concentration of 1.8 μg/L. Assuming the laboratory report is correct, it appears that low levels of PCE are present in shallow groundwater in the up- gradient direction to Paxton.

FINDINGS AND RECOMMENDATIONS

The following findings and recommendations are based on Phase II RI data, the earlier Phase I history report and other relevant documents:

- Geologic conditions at Paxton are consistent with regional findings.

- The depth to groundwater, flow direction and gradient at Paxton are generally consistent with regional finding; however, flow direction at the site appears to be in a more easterly direction than shown in Ecology, 1993. As a result, MW-2, which was located in the assumed down-gradient direction, appears to be in a cross-and downgradient direction to the Paxton drywell.

- The TrimSol cutting solution, earlier suspected of being a source of PCE, contains no PCE.

- Field observations and laboratory analytical results do not suggest that site soil conditions have been impacted by Paxton's operations.

- Groundwater quality data on samples taken during winter-time "lows" (January 1995) indicate that site groundwater contains concentrations of PCE below the 5 μg/L MCL and MTCA Method A cleanup level and the 4 μg/L Ecology advisory level. The site values (1.7 μg/L to 3.1 μg/L) are in line with the 1.8 μg/L 1992 value from the CMX site, suggesting probable background levels. The pattern of occurrence of PCE in groundwater at Paxton does not suggest that the dry well is a source.

- The occurrence of cyanide in site groundwater shows a possible link between site operations and groundwater in the monitoring well nearest the dry well (MW-1). However, the qualified value reported by the laboratory is well below the MTCA Method B cleanup level for cyanide (as a non-carcinogen).

- The occurrence of lead, arsenic and other metals in site groundwater is consistent with background levels, or that which could be attributed to past agricultural practices. The pattern of occurrence does not suggest the Paxton dry well as a source.

What are background?

- Since one round of groundwater samples is typically not adequate for drawing final conclusions, Landau Associates recommends additional groundwater sampling. The next sampling should be performed after water levels rise in the spring (e.g. June '95) so that "high" and "low" groundwater level samples can be evaluated.

- Once the next groundwater sample results have been obtained, the need for future site activities, if any, can be determined.

LANDAU ASSOCIATES, INC.

By: William D. Evans

William D. Evans, CPG
Associate

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REFERENCES

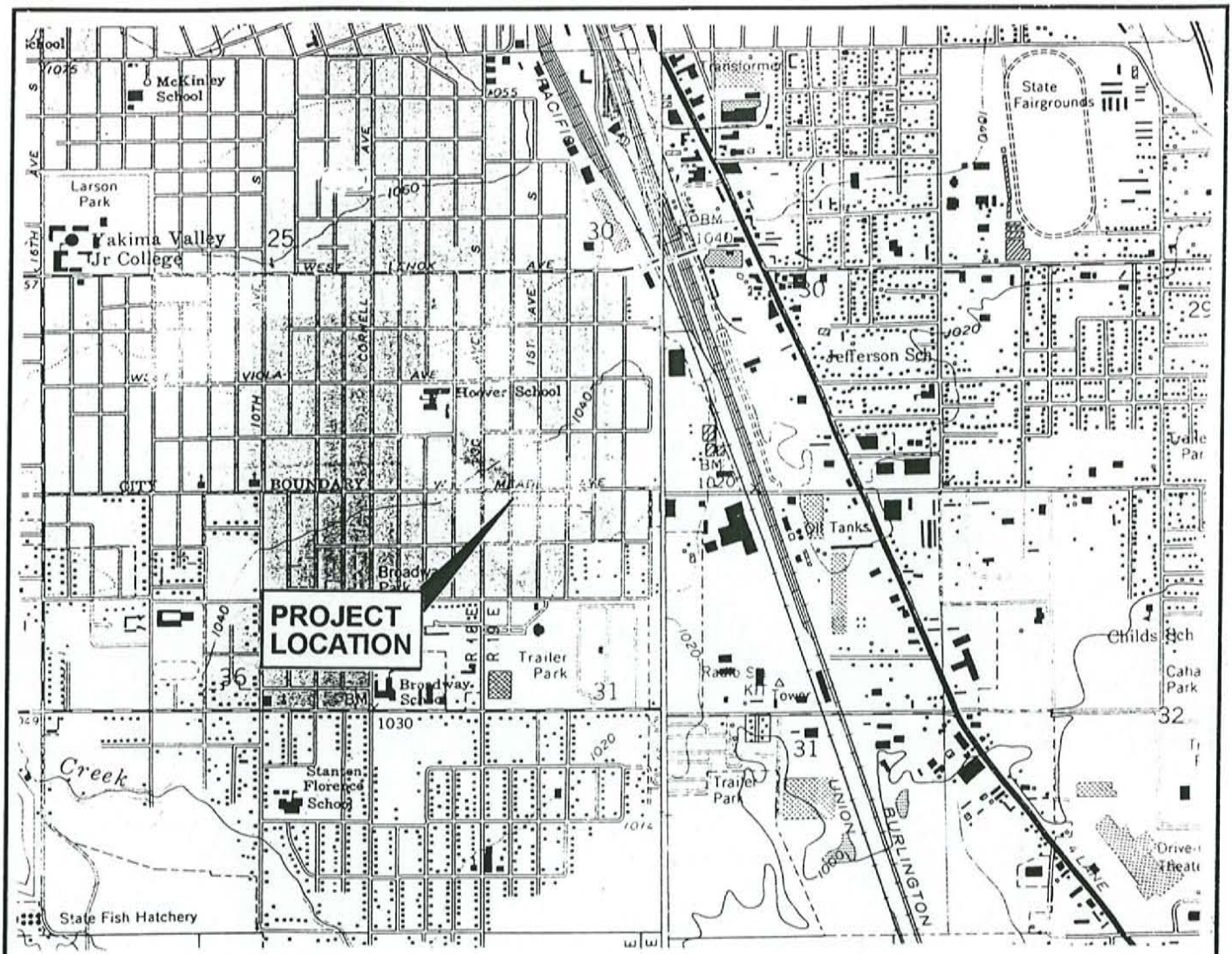
EPA. 1991. *National Functional Guidelines for Organic Data Review.* U.S. Environmental Protection Agency.

Landau Associates, Inc. 1994a. *Site History Report, Paxton Sales Corporation, Yakima, Washington.* December 27, 1994.

Landau Associates, Inc. 1994b. *Work Plan, Paxton Sales Corporation, Yakima, Washington.* December 12, 1994.

Washington State Department of Ecology. 1993. *Investigation of Potentially Liable Persons (PLPs) Soil and Ground Water Contamination, Yakima Railroad Area, Yakima, Washington.* February, 1993.

Washington State Department of Ecology. 1995. *Model Toxics Control Act Cleanup Levels and Risk Calculations (CLARC II) Update.* January, 1995.



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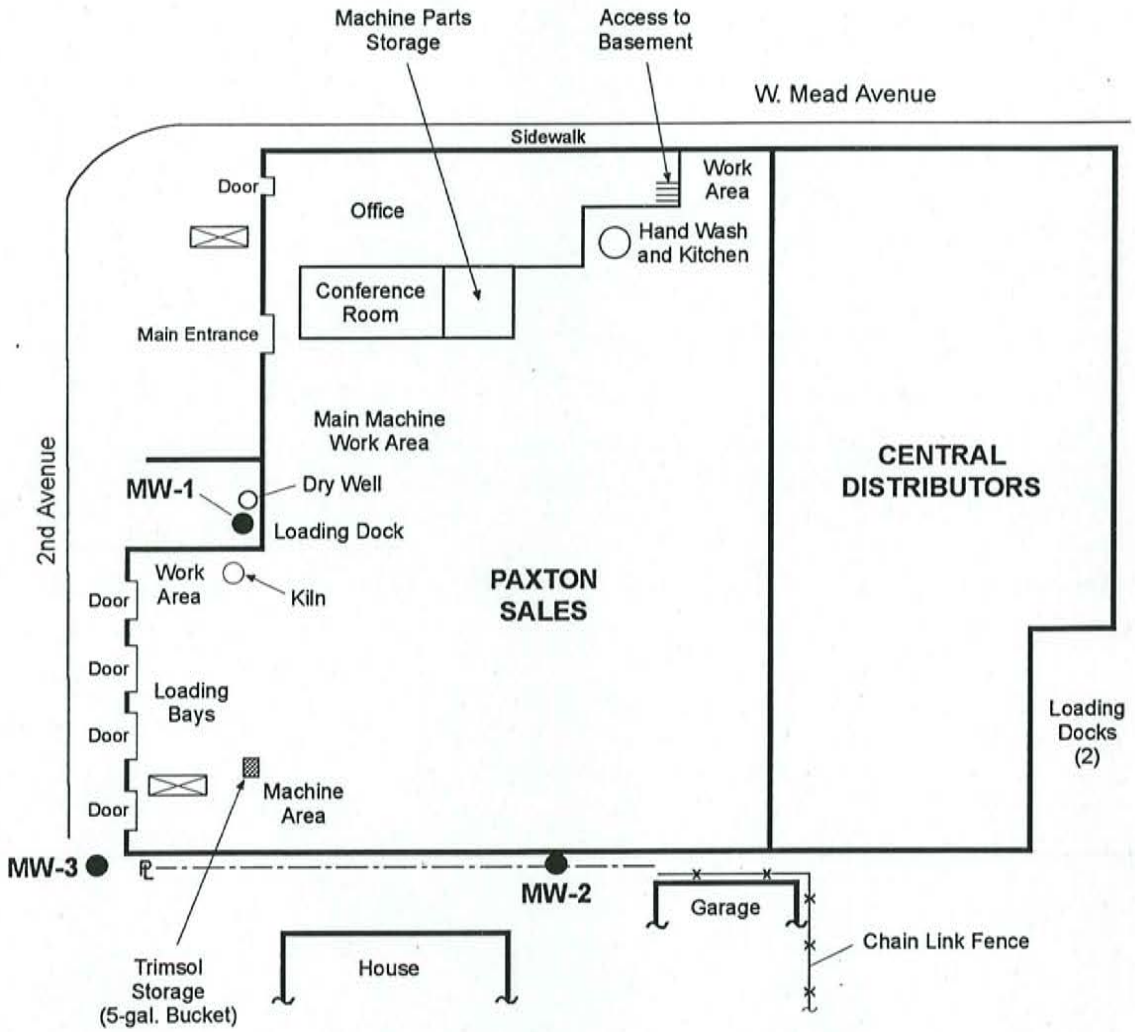
Vicinity Map

Figure 1



KEY

● MW-1 Monitoring Well Location and Identification

⊠ Estimated Location of Abandoned In-Place UST

Notes:
1. This site plan is based on "rag tape" measurements. It should be used as a source of general information only.
2. Property line is approximate.

Site Plan Showing Monitoring Well Locations

Figure 2

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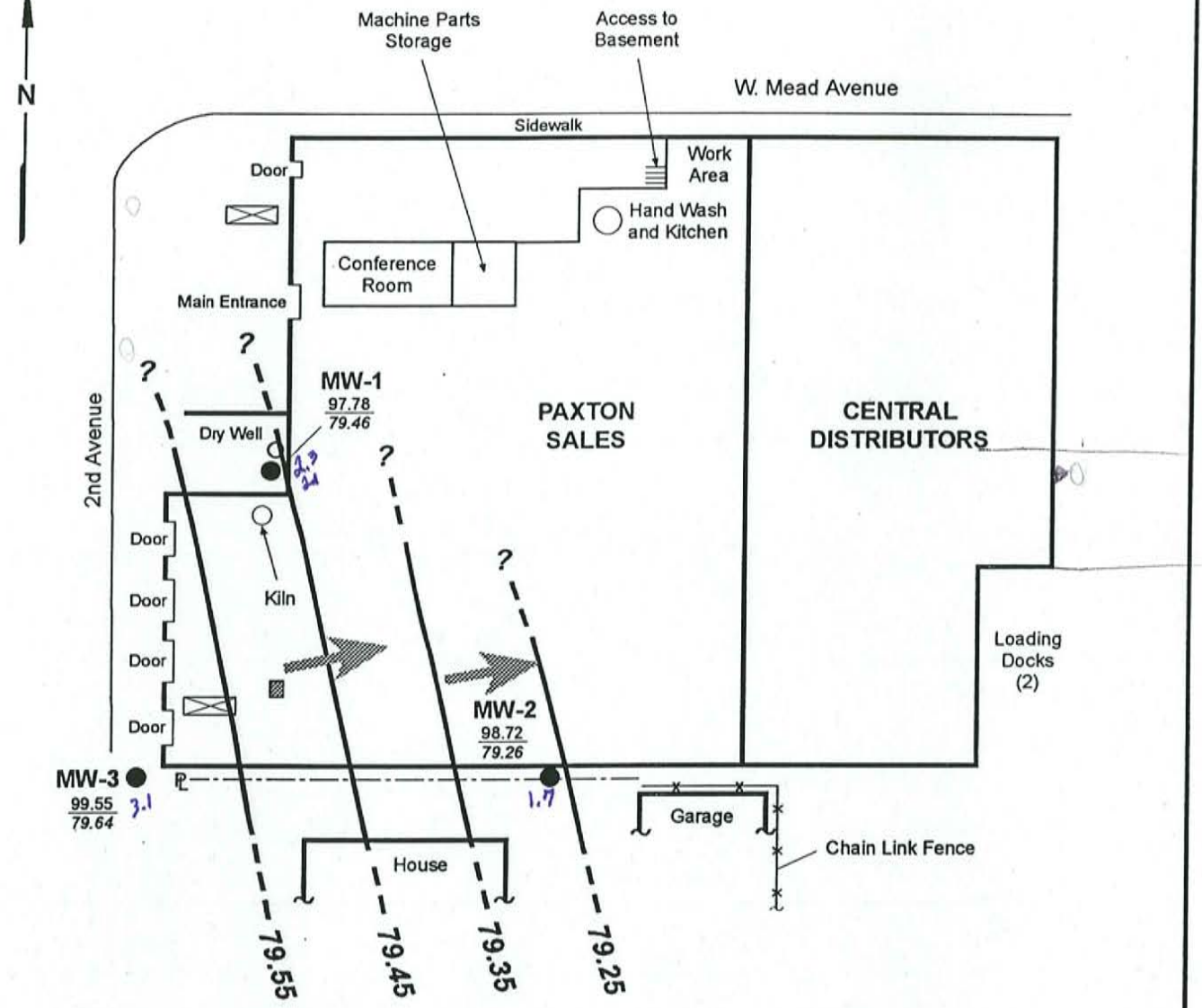

KEY

- MW-1 — Monitoring Well Location and Identification
- Estimated Location of Abandoned In-Place UST
- 79.25 — Approximate Groundwater Contour
- 97.78 / 79.78 — PVC Casing Elevation (ft); Groundwater Elevation (ft), Measured 2/27/95
- Approximate Direction of Groundwater Flow

0 40 80

Approximate Scale in Feet

Notes:
1. This site plan is based on "rag tape" measurements. It should be used as a source of general information only.
2. Property line is approximate.

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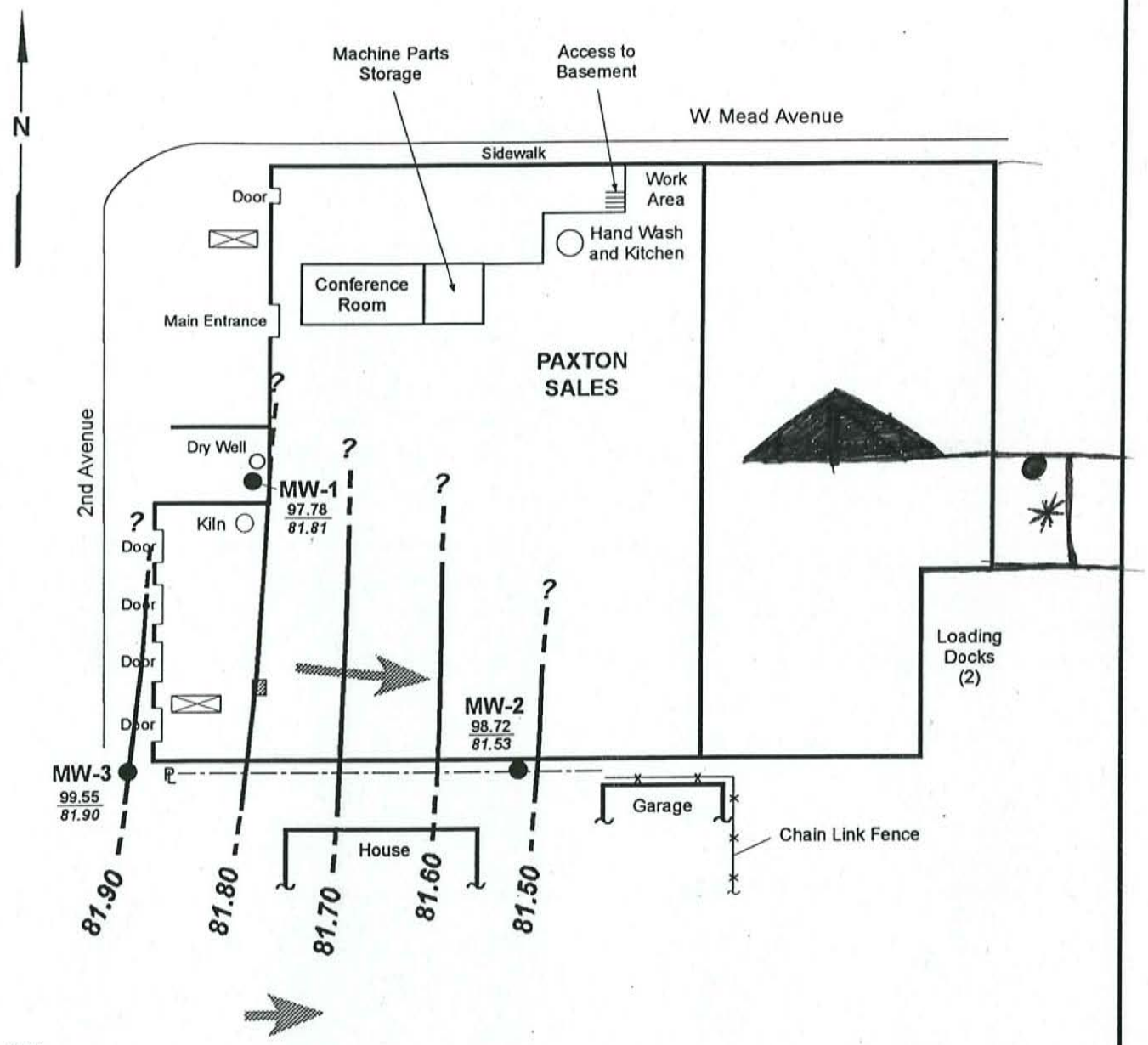
Groundwater Flow Gradient - February 1995

Figure 3



KEY

- MW-1 — Monitoring Well Location and Identification
- Estimated Location of Abandoned In-Place UST
- 81.50 — Approximate Groundwater Contour
- 97.78 / 79.78 — PVC Casing Elevation (ft); Groundwater Elevation (ft), Measured 5/22/95
- Approximate Direction of Groundwater Flow

0 40 80

Approximate Scale in Feet

Notes:
1. This site plan is based on "rag tape" measurements. It should be used as a source of general information only.
2. Property line is approximate.

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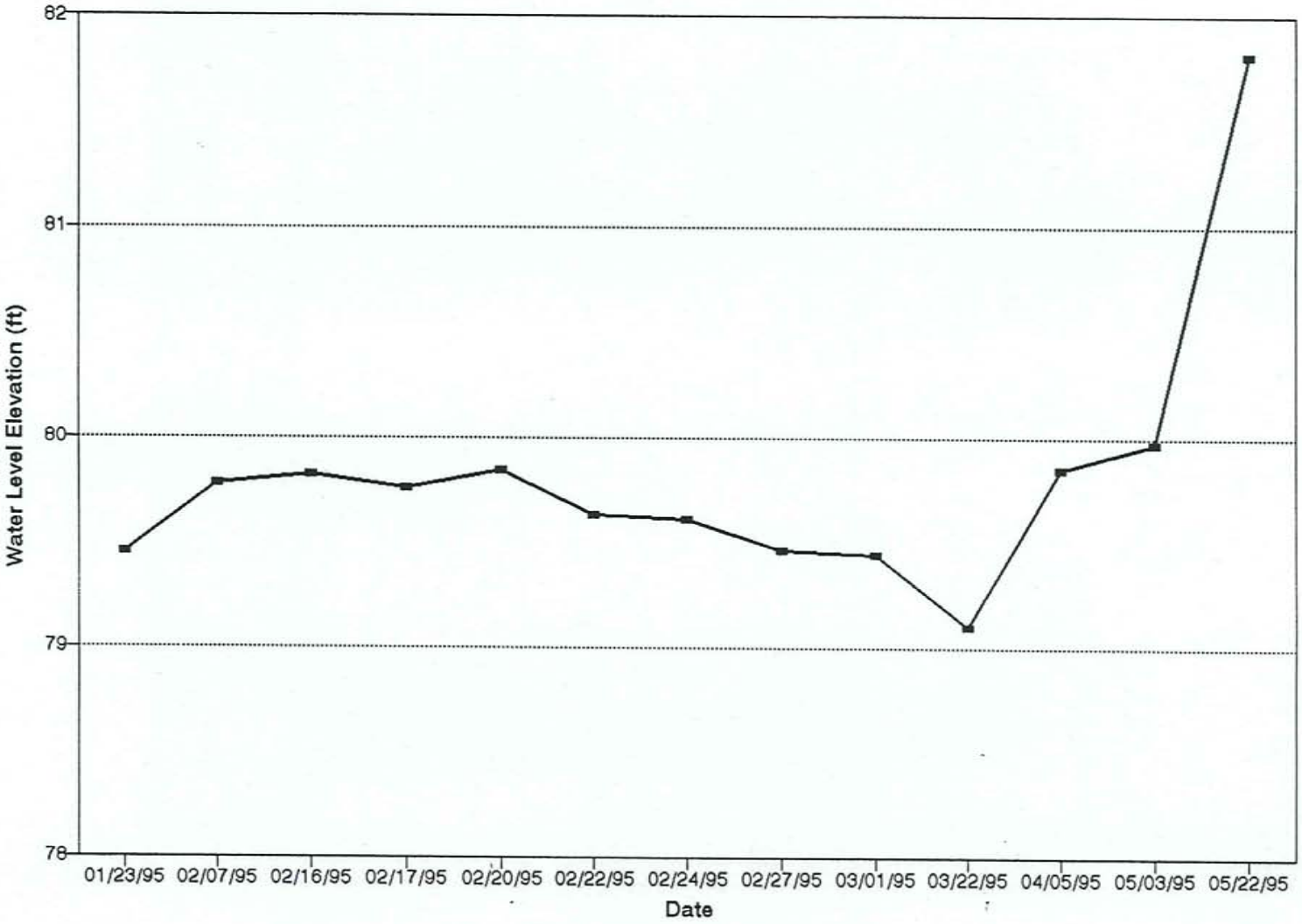
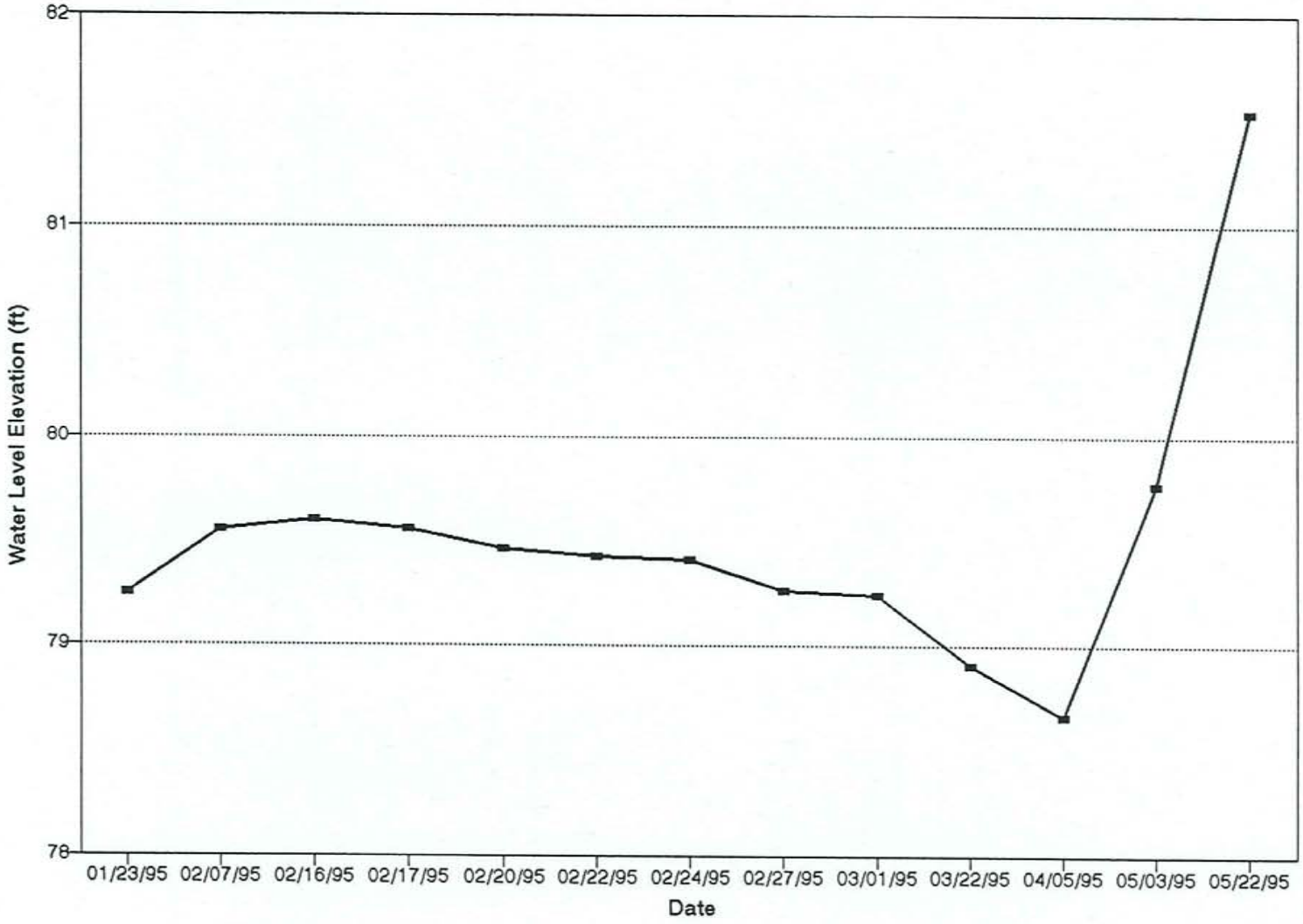
Groundwater Flow Gradient - May 1995

Figure 4



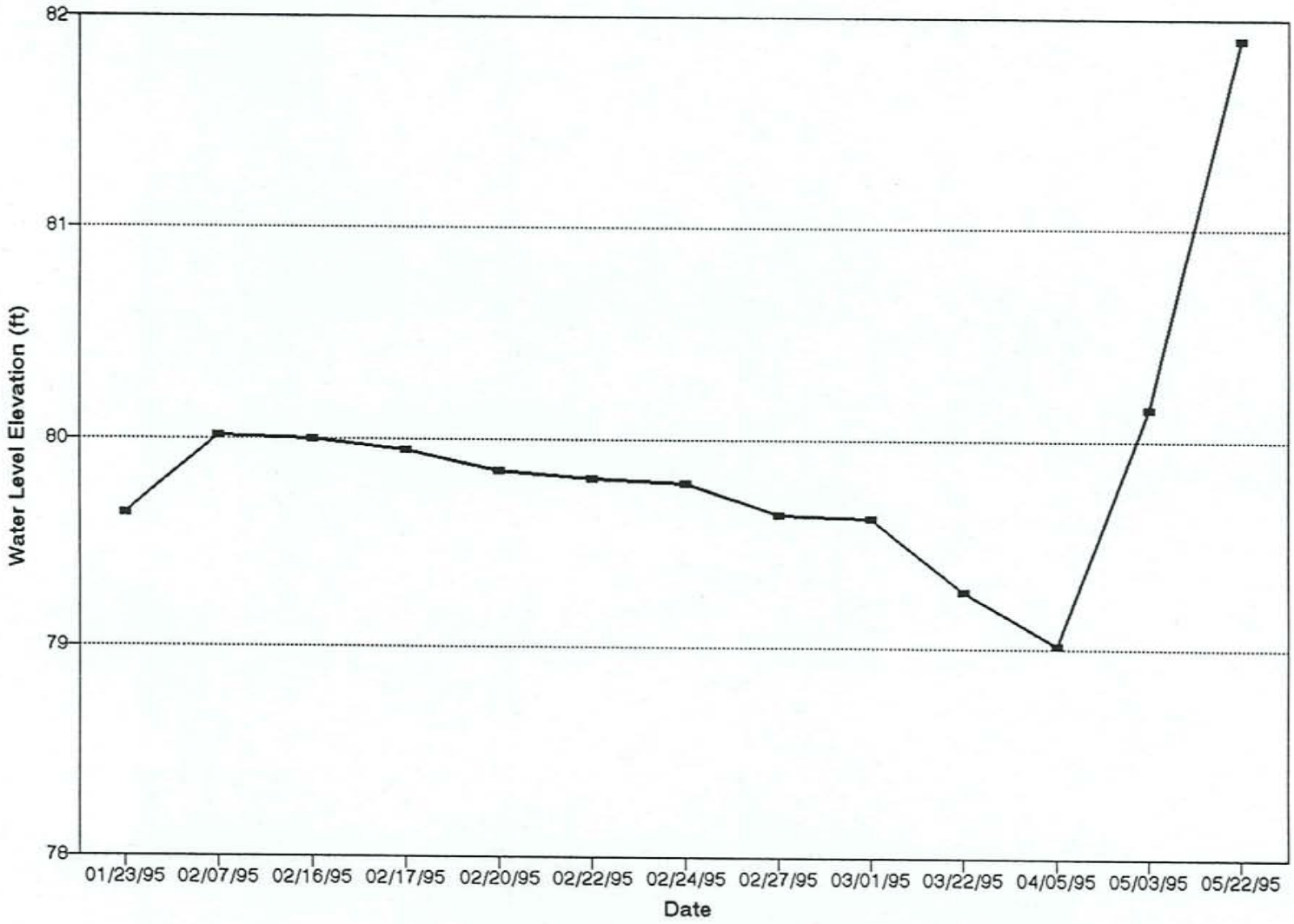
Summary of Groundwater Elevations
MW-1

Figure 5



Summary of Groundwater Elevations
MW-2

Figure 6



Summary of Groundwater Elevations
MW-3

Figure 7

TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS
PAXTON SALES

Well	Measurement Date	Depth to Water	Well Casing Elevation	Water Elevation
MW-1	01/23/95	18.33	97.78	79.45
	02/07/95	18.00	97.78	79.78
	02/16/95	17.96	97.78	79.82
	02/17/95	18.02	97.78	79.76
	02/20/95	18.13	97.78	79.84
	02/22/95	18.15	97.78	79.63
	02/24/95	18.17	97.78	79.61
	02/27/95	18.32	97.78	79.46
	03/01/95	18.34	97.78	79.44
	03/22/95	18.68	97.78	79.10
	04/05/95	18.93	97.78	79.85
	05/03/95	17.81	97.78	79.97
	05/22/95	15.97	97.78	81.81
MW-2	01/23/95	19.47	98.72	79.25
	02/07/95	19.17	98.72	79.55
	02/16/95	19.12	98.72	79.60
	02/17/95	19.16	98.72	79.56
	02/20/95	19.26	98.72	79.46
	02/22/95	19.30	98.72	79.42
	02/24/95	19.31	98.72	79.41
	02/27/95	19.46	98.72	79.26
	03/01/95	19.48	98.72	79.24
	03/22/95	19.82	98.72	78.90
	04/05/95	20.06	98.72	78.66
	05/03/95	18.95	98.72	79.77
	05/22/95	17.19	98.72	81.53
MW-3	01/23/95	19.91	99.55	79.64
	02/07/95	19.54	99.55	80.01
	02/16/95	19.55	99.55	80.00
	02/17/95	19.61	99.55	79.94
	02/20/95	19.71	99.55	79.84
	02/22/95	19.74	99.55	79.81
	02/24/95	19.76	99.55	79.79
	02/27/95	19.91	99.55	79.64
	03/01/95	19.93	99.55	79.62
	03/22/95	20.28	99.55	79.27
	04/05/95	20.54	99.55	79.01
	05/03/95	19.40	99.55	80.15
	05/22/95	17.65	99.55	81.90

TABLE 2
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
SOIL ANALYSIS DATA
VOLATILE ORGANIC COMPOUNDS (ug/kg)

ANALYTE	MW-1-5.1	MW-1-7.5	MW-1-22.3	MW-1-30.0	MW-2-20.2	MW-2-120.2*	MW-3-14.6
Chloromethane	2.2 U	2.1 U	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U
Vinyl Chloride	2.2 U	2.1 U	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U
Chloroethane	2.2 U	2.1 U	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U
Methylene Chloride	2.4 U	2.2 U	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U
1,1-Dichloroethene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
1,1-Dichloroethane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
trans-1,2-Dichloroethene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
Chloroform	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
1,2-Dichloroethane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
1,1,1-Trichloroethane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
Carbon Tetrachloride	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
Bromodichloromethane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
1,2-Dichloropropane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
Trichloroethene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
Dibromochloromethane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
1,1,2-Trichloroethane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
trans-1,3-Dichloropropene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
2-Chloroethylvinylether	5.4 U	5.4 U	5.6 U	5.2 U	5.4 U	5.5 U	5.2 U
Bromoform	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
Tetrachloroethene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
1,1,2,2-Tetrachloroethane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
Chlorobenzene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
Trichlorofluoromethane	2.2 U	2.1 U	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U
1,2-Dichlorobenzene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
1,3-Dichlorobenzene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U

TABLE 2
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
SOIL ANALYSIS DATA
VOLATILE ORGANIC COMPOUNDS (ug/kg)

ANALYTE	MW-1-5.1	MW-1-7.5	MW-1-22.3	MW-1-30.0	MW-2-20.2	MW-2-120.2*	MW-3-14.6
1,4-Dichlorobenzene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
Bromoethane	2.2 U	2.1 U	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U
Dibromomethane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
1,1,1,2-Tetrachloroethane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
1,2,3-Trichloropropane	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
Bromobenzene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
2-Chlorotoluene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U
4-Chlorotoluene	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U

Notes:
* = MW-2-120.2 is a duplicate of MW-2-20.2.
U = Analyte not detected at the detection limit reported.

file: paxvoc.wq1
2-21-95
mlm

TABLE 3
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
SOIL ANALYSIS DATA
TPH-HCID

ANALYTE		MW-1-5.2	MW-1-22.4	MW-1-25.0	MW-1-27.5	MW-2-20.8	MW-3-15
Gas Range	(mg/kg)	20 U	20 U	20 U	20 U	20 U	10 U
Diesel Range	(mg/kg)	25 U	25 U	25 U	25 U	25 U	10 U
Oil Range	(mg/kg)	50 U	50 U	50 U	50 U	50 U	25 U

Notes:
U = Analyte not detected at detection limit reported.

file: paxtph.wq1
2-21-95
mlm

TABLE 4
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
SOIL ANALYSIS DATA
SEMIVOLATILE ORGANIC COMPOUNDS (ug/kg)

ANALYTE	MW-1-17.6	MW-1-20.2	MW-2-20.4	MW-3-20
Phenol	150 U	150 U	150 U	140 U
Bis-(2-chloroethyl) Ether	150 U	150 U	150 U	140 U
2-Chlorophenol	74 U	76 U	73 U	70 U
1,3-Dichlorobenzene	74 U	76 U	73 U	70 U
1,4-Dichlorobenzene	74 U	76 U	73 U	70 U
Benzyl Alcohol	370 U	380 U	370 U	350 U
1,2-Dichlorobenzene	74 U	76 U	73 U	70 U
2-Methylphenol	150 U	150 U	150 U	140 U
2,2'-Oxybis (1-Chloropropane)	74 U	76 U	73 U	70 U
4-Methylphenol	74 U	76 U	73 U	70 U
N-Nitroso-Di-N-Propylamine	150 U	150 U	150 U	140 U
Hexachloroethane	150 U	150 U	150 U	140 U
Nitrobenzene	74 U	76 U	73 U	70 U
Isophorone	74 U	76 U	73 U	70 U
2-Nitrophenol	370 U	380 U	370 U	350 U
2,4-Dimethylphenol	220 U	230 U	220 U	210 U
Benzoic Acid	740 U	760 U	730 U	700 U
bis (2-chloroethoxy) Methane	74 U	76 U	73 U	70 U
2,4-Dichlorophenol	220 U	230 U	220 U	210 U
1,2,4-Trichlorobenzene	74 U	76 U	73 U	70 U
Naphthalene	74 U	76 U	73 U	70 U
4-Chloroaniline	220 U	230 U	220 U	210 U
Hexachlorobutadiene	150 U	150 U	150 U	140 U
4-Chloro-3-methylphenol	150 U	150 U	150 U	140 U
2-Methylnaphthalene	74 U	76 U	73 U	70 U
Hexachlorocyclopentadiene	370 U	380 U	370 U	350 U
2,4,6-Trichlorophenol	370 U	380 U	370 U	350 U
2,4,5-Trichlorophenol	370 U	380 U	370 U	350 U
2-Chloronaphthalene	74 U	76 U	73 U	70 U
2-Nitroaniline	370 U	380 U	370 U	350 U
Dimethylphthalate	74 U	76 U	73 U	70 U
Acenaphthylene	74 U	76 U	73 U	70 U
3-Nitroaniline	440 U	460 U	440 U	420 U
Acenaphthene	74 U	76 U	73 U	70 U
2,4-Dinitrophenol	740 U	760 U	730 U	700 U
4-Nitrophenol	370 U	380 U	370 U	350 U
Debenzofuran	74 U	76 U	73 U	70 U
2,6-Dinitrotoluene	370 U	380 U	370 U	350 U
2,4-Dinitrotoluene	370 U	380 U	370 U	350 U
Diethylphthalate	74 U	76 U	73 U	70 U

TABLE 4
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
SOIL ANALYSIS DATA
SEMIVOLATILE ORGANIC COMPOUNDS (ug/kg)

ANALYTE	MW-1-17.6	MW-1-20.2	MW-2-20.4	MW-3-20
4-Chlorophenyl-phenylether	74 U	76 U	73 U	70 U
Fluorene	74 U	76 U	73 U	70 U
4-Nitroaniline	370 U	380 U	370 U	350 U
4,6-Dinitro-2-Methylphenol	740 U	760 U	730 U	700 U
N-Nitrosodiphenylamine	74 U	76 U	73 U	70 U
4-Bromophenyl-phenylether	74 U	76 U	73 U	70 U
Hexachlorobenzene	74 U	76 U	73 U	70 U
Pentachlorophenol	370 U	380 U	370 U	350 U
Phenanthrene	74 U	76 U	73 U	70 U
Carbazole	74 U	76 U	73 U	70 U
Anthracene	74 U	76 U	73 U	70 U
Di-n-Butylphthalate	74 U	76 U	73 U	70 U
Fluoranthene	74 U	76 U	73 U	70 U
Pyrene	74 U	76 U	73 U	70 U
Butylbenzylphthalate	74 U	76 U	73 U	70 U
3,3'-Dichlorobenzidine	370 U	380 U	370 U	350 U
Benzo (a) anthracene	74 U	76 U	73 U	70 U
bis (2-Ethylhexyl) phthalate	74 U	76 U	73 U	70 U
Chrysene	74 U	76 U	73 U	70 U
Di-n-Octyl phthalate	74 U	76 U	73 U	70 U
Benzo (b) fluoranthene	74 U	76 U	73 U	70 U
Benzo (k) fluoranthene	74 U	76 U	73 U	70 U
Benzo (a) pyrene	74 U	76 U	73 U	70 U
Indeno (1,2,3-cd) pyrene	74 U	76 U	73 U	70 U
Dibenz (a,h) anthracene	74 U	76 U	73 U	70 U
Benzo (g,h,i) perylene	74 U	76 U	73 U	70 U

Notes:
U = Analyte not detected at detection limit reported.

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2-21-95
mlm

TABLE 5
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
SOIL ANALYSIS DATA
CYANIDE, TOTAL SOLIDS

ANALYTE		MW-1-10.0	MW-1-30.1	MW-2-20.5	MW-3-19.8
Cyanide	(mg/kg)	0.18 U	0.20 U	0.11 U	0.20 U
Total Solids	(%)	92.3	91.3	88.9	92.9

Notes:
U = Analyte not detected at detection limit reported.

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2-21-95
mlm

TABLE 6
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
SOIL ANALYSIS DATA
METALS (mg/kg)

ANALYTE	MW-1-5.3	MW-1-15.2	MW-2-20.3	MW-3-14.8
Antimony	0.1 U	0.1 U	0.1 U	0.1 U
Arsenic - 1.4 mg/kg	3.4	2.7	3.1	3.5
Beryllium ~ .2	0.3	0.3	0.3	0.2
Cadmium	0.2 U	0.2 U	0.2 U	0.2
Chromium - III or VI	15.5	16.9	24.6	14.7
Copper	17.2	22.7	21.9	27.8
Lead	3.7	5.0	3.9	3.6
Mercury	0.05 U	0.05 U	0.04 U	0.04 U
Nickel	11	14	16	11
Selenium	0.1 U	0.1 U	0.1	0.2
Silver	0.3 U	0.3 U	0.3 U	0.3 U
Thallium	0.2	0.2	0.5 U	0.2
Zinc	47.9	49.4	53.2	49.1

Notes:
U = Analyte not detected at detection limit reported.

file: paxmetl.wq1
2-21-95
mlm

TABLE 7
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
GROUNDWATER ANALYSIS DATA

ANALYTE	MW-1-123	MW-1A-123*	MW-2-123	MW-3-123
Volatile Organic Compounds (ug/L)				
Chloromethane	2.0 U	2.0 U	2.0 U	2.0 U
Vinyl Chloride	2.0 U	2.0 U	2.0 U	2.0 U
Chloroethane	2.0 U	2.0 U	2.0 U	2.0 U
Methylene Chloride	2.0 U	2.0 U	2.0 U	2.0 U
1,1-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U
2-Chloroethylvinylether	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	2.3	2.2	1.7	3.1
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U
Bromoethane	2.0 U	2.0 U	2.0 U	2.0 U
Dibromomethane	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	1.0 U	1.0 U	1.0 U	1.0 U

TABLE 7
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
GROUNDWATER ANALYSIS DATA

ANALYTE	MW-1-123	MW-1A-123*	MW-2-123	MW-3-123
Semivolatile Organic Compounds (ug/L)				
Phenol	2.0 U	2.0 U	2.0 U	2.0 U
Bis-(2-chloroethyl) Ether	2.0 U	2.0 U	2.0 U	2.0 U
2-Chlorophenol	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U
Benzyl Alcohol	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylphenol	2.0 U	2.0 U	2.0 U	2.0 U
2,2'-Oxybis (1-Chloropropane)	1.0 U	1.0 U	1.0 U	1.0 U
4-Methylphenol	1.0 U	1.0 U	1.0 U	1.0 U
N-Nitroso-Di-N-Propylamine	2.0 U	2.0 U	2.0 U	2.0 U
Hexachloroethane	2.0 U	2.0 U	2.0 U	2.0 U
Nitrobenzene	1.0 U	1.0 U	1.0 U	1.0 U
Isophorone	1.0 U	1.0 U	1.0 U	1.0 U
2-Nitrophenol	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dimethylphenol	3.0 U	3.0 U	3.0 U	3.0 U
Benzoic Acid	10 U	10 U	10 U	10 U
bis (2-chloroethoxy) Methane	1.0 U	1.0 U	1.0 U	1.0 U
2,4-Dichlorophenol	3.0 U	3.0 U	3.0 U	3.0 U
1,2,4-Trichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	1.0 U	1.0 U	1.0 U	1.0 U
4-Chloroaniline	3.0 U	3.0 U	3.0 U	3.0 U
Hexachlorobutadiene	2.0 U	2.0 U	2.0 U	2.0 U
4-Chloro-3-methylphenol	2.0 U	2.0 U	2.0 U	2.0 U
2-Methylnaphthalene	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorocyclopentadiene	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	5.0 U	5.0 U	5.0 U	5.0 U
2,4,5-Trichlorophenol	5.0 U	5.0 U	5.0 U	5.0 U
2-Chloronaphthalene	1.0 U	1.0 U	1.0 U	1.0 U
2-Nitroaniline	5.0 U	5.0 U	5.0 U	5.0 U
Dimethylphthalate	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene	1.0 U	1.0 U	1.0 U	1.0 U
3-Nitroaniline	6.0 U	6.0 U	6.0 U	6.0 U
Acenaphthene	1.0 U	1.0 U	1.0 U	1.0 U
2,4-Dinitrophenol	10 U	10 U	10 U	10 U
4-Nitrophenol	5.0 U	5.0 U	5.0 U	5.0 U
Dibenzofuran	1.0 U	1.0 U	1.0 U	1.0 U
2,6-Dinitrotoluene	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrotoluene	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 7
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
GROUNDWATER ANALYSIS DATA

ANALYTE	MW-1-123	MW-1A-123*	MW-2-123	MW-3-123
Semivolatile Organic Compounds (ug/L) (continued)				
Diethylphthalate	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorophenyl-phenylether	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene	1.0 U	1.0 U	1.0 U	1.0 U
4-Nitroaniline	5.0 U	5.0 U	5.0 U	5.0 U
4,6-Dinitro-2-Methylphenol	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	1.0 U	1.0 U	1.0 U	1.0 U
4-Bromophenyl-phenylether	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	5.0 U	5.0 U	5.0 U	5.0 U
Phenanthrene	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene	1.0 U	1.0 U	1.0 U	1.0 U
Di-n-Butylphthalate	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	1.0 U	1.0 U	1.0 U	1.0 U
Butylbenzylphthalate	1.0 U	1.0 U	1.0 U	1.0 U
3,3'-Dichlorobenzidine	5.0 U	5.0 U	5.0 U	5.0 U
Benzo (a) anthracene	1.0 U	1.0 U	1.0 U	1.0 U
bis (2-Ethylhexyl) phthalate	1.0 U	1.0 U	1.0 U	1.0 U
Chrysene	1.0 U	1.0 U	1.0 U	1.0 U
Di-n-Octyl phthalate	1.0 U	1.0 U	1.0 U	1.0 U
Benzo (b) fluoranthene	1.0 U	1.0 U	1.0 U	1.0 U
Benzo (k) fluoranthene	1.0 U	1.0 U	1.0 U	1.0 U
Benzo (a) pyrene	1.0 U	1.0 U	1.0 U	1.0 U
Indeno (1,2,3-cd) pyrene	1.0 U	1.0 U	1.0 U	1.0 U
Dibenz (a,h) anthracene	1.0 U	1.0 U	1.0 U	1.0 U
Benzo (g,h,i) perylene	1.0 U	1.0 U	1.0 U	1.0 U

TABLE 7
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
GROUNDWATER ANALYSIS DATA

ANALYTE	MW-1-123	MW-1A-123*	MW-2-123	MW-3-123
METALS (mg/L)				
Antimony	0.001 UJ	0.001 UJ	0.001 UJ	0.001 UJ
Arsenic	--- R	--- R	--- R	--- R
Beryllium	0.003	0.002	0.003	0.001
Cadmium	0.002 U	0.002 U	0.002 U	0.002 U
Chromium	0.106 J	0.085 J	0.127 J	0.042 J
Copper	0.210	0.185	0.289	0.074
Lead	0.038	0.034	0.046	0.015
Mercury	0.0005	0.0005	0.0005	0.001 U
Nickel	0.09	0.08	0.10	0.04
Selenium	0.005 U	0.005 U	0.007	0.007
Silver	0.003 U	0.003 U	0.003 U	0.003 U
Thallium	0.002	0.002	0.002	0.001 U
Zinc	0.343	0.289	0.403	0.122
WTPH-D (mg/L)	0.25 U	0.25 U	0.25 U	0.25 U
CYANIDE (mg/L)	0.020 J	0.031 J	0.005 UJ	0.005 UJ

Notes:
* = MW-1A-123 is a duplicate of MW-1-123.
J = Estimated concentration.
U = Undetected at the reported detection limit.
UJ = Undetected at the estimated detection limit listed.
R = Data rejected by quality assurance review.

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Appendix A

Soil Boring and Well Logs

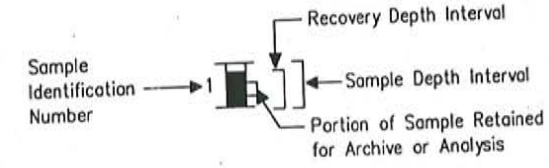
Soil Classification System

MAJOR DIVISIONS			GRAPHIC SYMBOL	USCS LETTER SYMBOL (1)	TYPICAL DESCRIPTIONS (2)(3)
COARSE-GRAINED SOIL (More than 50% of material is larger than No.200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No.4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well-graded gravel; gravel/sand mixture(s); little or no fines
				GP	Poorly graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)		GM	Silty gravel; gravel/sand/silt mixture(s)
				GC	Clayey gravel; gravel/sand/clay mixture(s)
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No.4 sieve)	CLEAN SAND (Little or no fines)		SW	Well-graded sand; gravelly sand; little or no fines
				SP	Poorly graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)		SM	Silty sand; sand/silt mixture(s)
				SC	Clayey sand; sand/clay mixture(s)
FINE-GRAINED SOIL (More than 50% of material is smaller than No.200 sieve size)	SILT AND CLAY (Liquid Limit less than 50)			ML	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity
				CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay
				OL	Organic silt; organic, silty clay of low plasticity
	SILT AND CLAY (Liquid Limit greater than 50)			MH	Inorganic silt; micaceous or diatomaceous fine sand or silty soil
				CH	Inorganic clay of high plasticity; fat clay
				OH	Organic clay of medium to high plasticity; organic silt
	HIGHLY ORGANIC SOIL			PT	Peat; humus; swamp soil with high organic content
	OTHER			AC	Pavement; Asphalt or Concrete

Notes:
1. USCS letter symbols correspond to the symbols used by the Unified Soil Classification System and ASTM Classification methods. Dual letter symbols (e.g., SM-SP) for a sand or gravel indicate a soil with an estimated 5-15% fines. Multiple letter symbols (e.g.,ML/CL) indicate borderline or multiple soil classifications.
2. Soil classifications are based on the general approach presented in the *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*, as outlined in ASTM D2488. Where laboratory index testing has been conducted, soil classifications are based on the *Standard Test Method for Classification of Soils for Engineering Purposes*, as outlined in ASTM D2487.
3. Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:
   - Primary Constituent: >50% – "GRAVEL," "SAND," "SILT," "CLAY," etc.
   - Secondary Constituents: >30% and ≤50% – "very gravelly," "very sandy," "very silty," etc.
   - >15% and ≤30% – "gravelly," "sandy," "silty," etc.
   - Additional Constituents: >5% and ≤15% – "with gravel," "with sand," "with silt," etc.
   - ≤5% – "trace gravel," "trace sand," "trace silt," etc., or not noted.

Key

SAMPLE NUMBER & INTERVAL



TEST DATA

Code	Description

SAMPLER TYPE

Code	Description
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon Sampler
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon Sampler
c	Shelby Tube
d	Grab Sample
e	3.00-inch I.D. Core Barrel Sampler
1	300-lb Hammer, 30-inch Drop
2	140-lb Hammer, 30-inch Drop
3	Pushed
4	350-lb. Hammer, 30-inch Drop

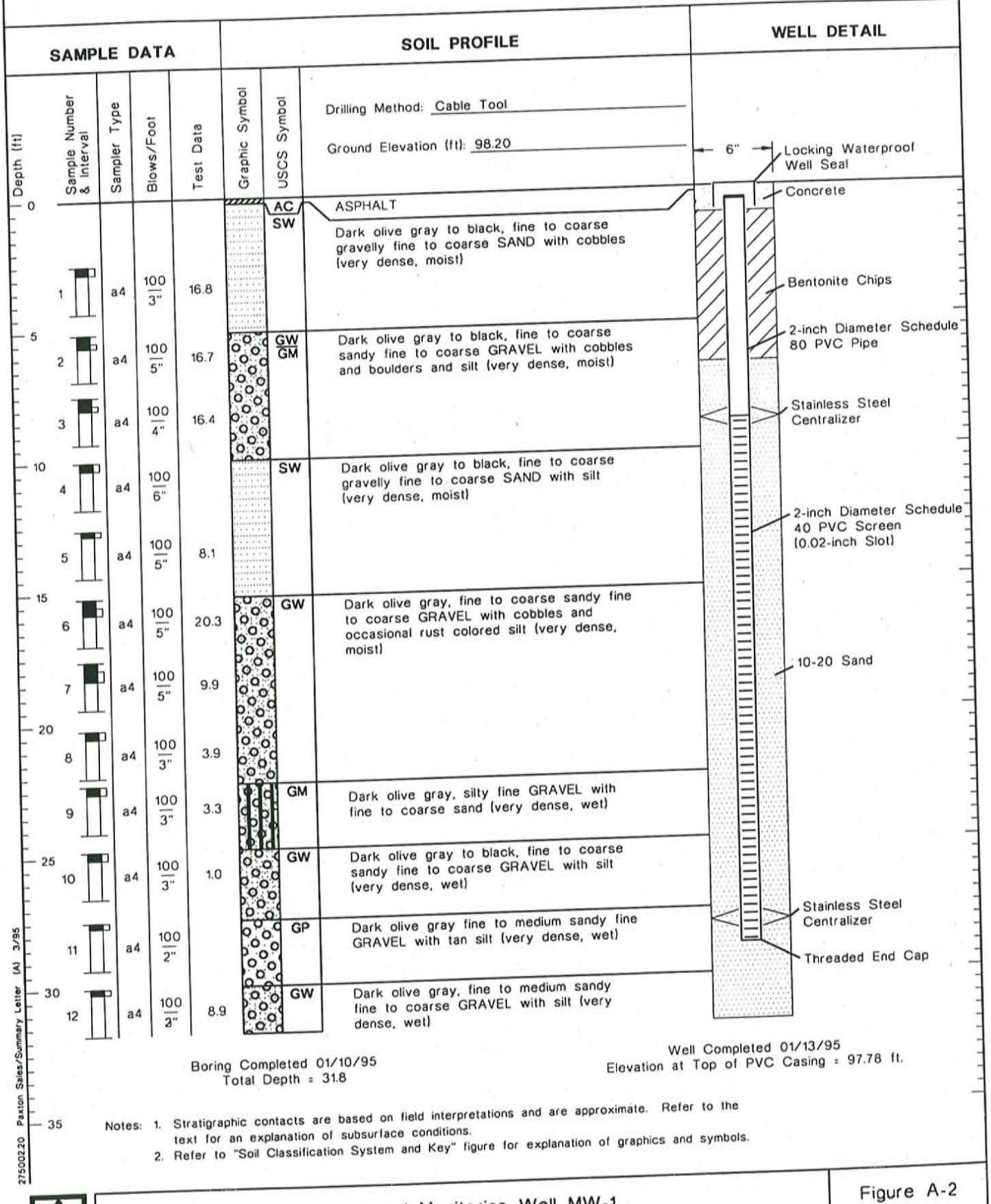
OTHER

▽ ATD	Approximate Water Elevation At Time of Drilling (ATD) or On Date Noted

Soil Classification System and Key

Figure A-1

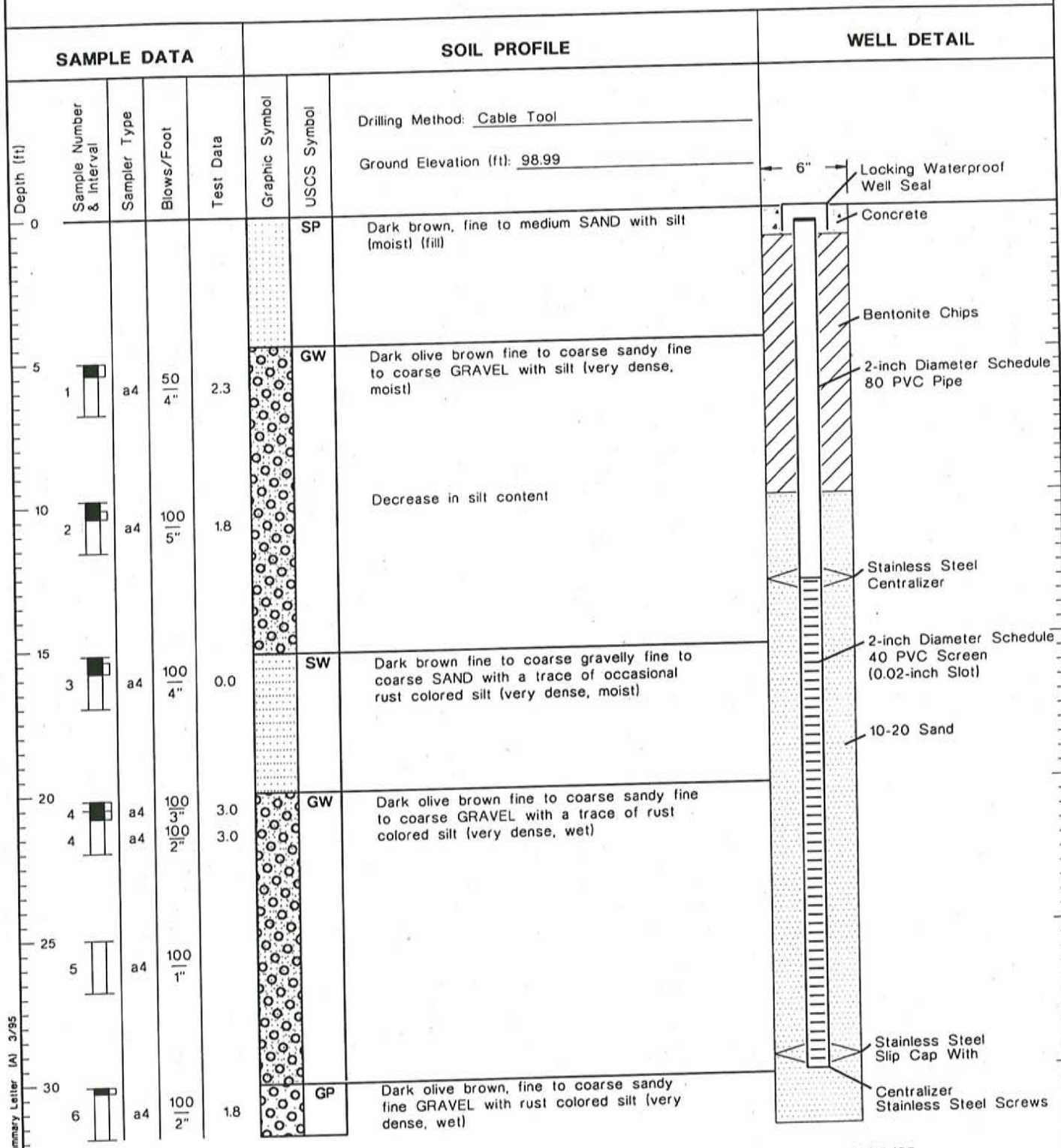
MW-1



Boring and Monitoring Well MW-1

Figure A-2

MW-2



Boring Completed 01/14/95
Total Depth = 31.9

Well Completed 01/15/95
Elevation at Top of PVC Casing = 98.72

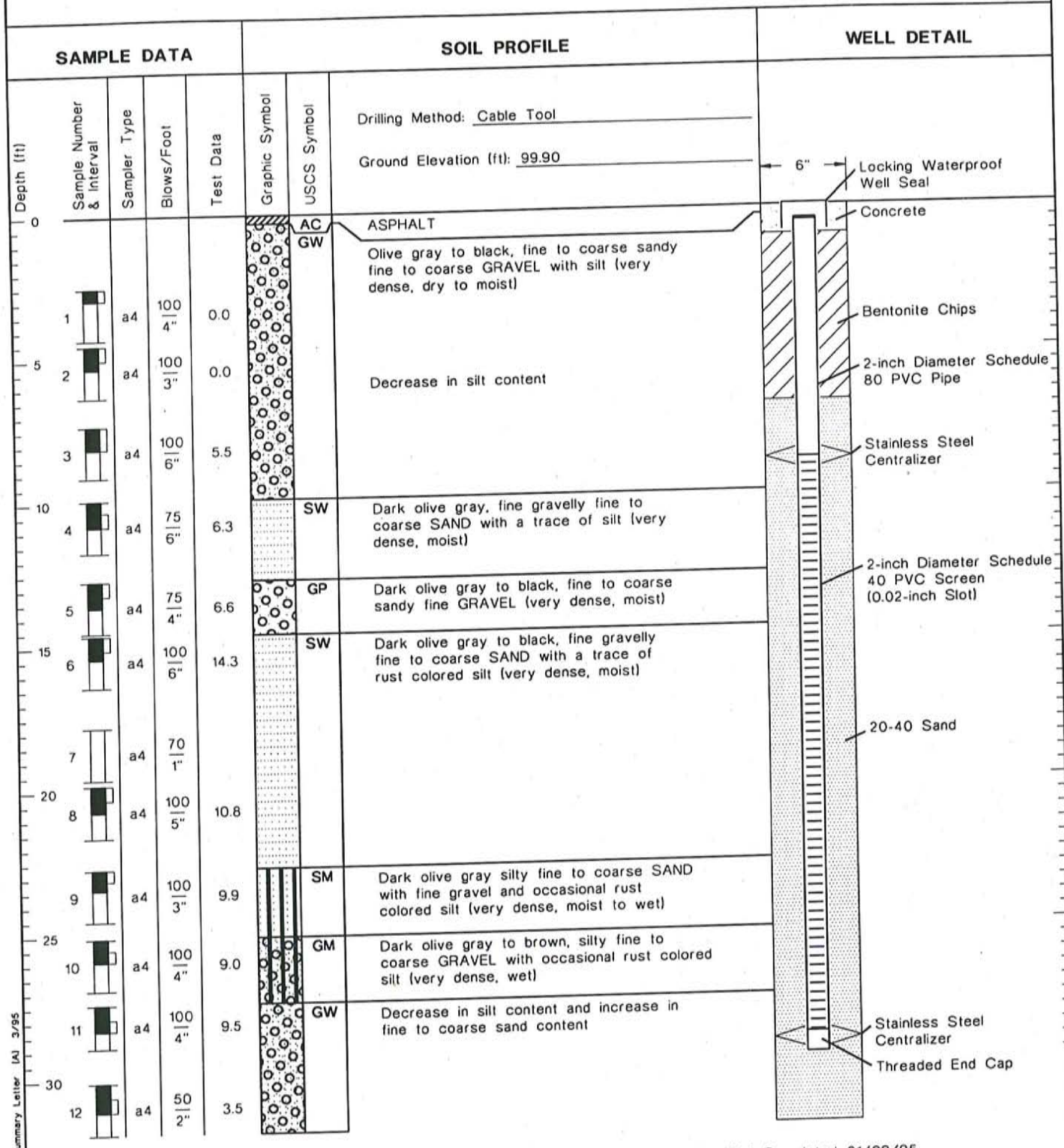
Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate. Refer to the text for an explanation of subsurface conditions.
2. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

275002.20 Paxton Sales/Summary Letter (A) 3/95

Boring and Monitoring Well MW-2

Figure A-3

MW-3



Boring Completed 01/09/95
Total Depth = 31.9

Well Completed 01/09/95
Elevation at Top of PVC Casing = 99.55

Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate. Refer to the text for an explanation of subsurface conditions.
2. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

27500220 Paxton Sales/Summary Letter (A) 3/95

Boring and Monitoring Well MW-3

Figure A-4

Appendix B

Data Validation Technical Memorandum

LANDAU ASSOCIATES, INC.

Environmental and Geotechnical Services

TECHNICAL MEMORANDUM

TO: Bill Evans, Project Manager, Landau Associates, Inc.

FROM: Mandie MacDonald, Landau Associates, Inc. MM

DATE: March 1, 1995

RE: PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION
LABORATORY DATA VALIDATION

This memorandum provides the results of a focused data validation associated with 25 soil samples, 4 water samples, and 1 trip blank collected during the remedial investigation at the Paxton Sales Corporation site. Samples were analyzed by Analytical Resources Inc. (ARI), Seattle, Washington. This data quality validation covers ARI data packages J442, J468, J477, and J547. Samples were analyzed for one or more of the following: volatile organic compounds (EPA Method 8260), semivolatile organic compounds (EPA Method 8270), metals (WPA Method 6010/7000 series), total petroleum hydrocarbons (TPH) (Washington Method WTPH-HCID), diesel range petroleum hydrocarbons (Washington Method WTPH-d), and cyanide (EPA method 335.2). Sample data were evaluated in accordance with portions of the *National Functional Guidelines for Organic Data Review* (EPA 1991). The following parameters were evaluated:

- Chain-of-custody records
- Holding time
- Blank results (laboratory method and field trip)
- Surrogate recoveries (organic analyses only)
- Matrix spikes and matrix spike duplicates
- Laboratory control and standard reference samples
- Laboratory duplicates
- Field duplicates
- Completeness and overall data quality.

CHAIN-OF-CUSTODY RECORDS

Signed chain-of-custody records were attached to each of the data packages. Two of the seven bottles containing one of the water samples were broken during transit, but the lab was able to complete all requested analyses using the remaining bottles for that sample. All other samples were received by the laboratory in good condition.

VOLATILE ORGANIC COMPOUND ANALYSES

HOLDING TIMES

Acceptable without further qualification. The specified holding time between sample collection and analysis was met for all samples. No data qualifiers are needed.

BLANK RESULTS

Laboratory Method Blanks

Acceptable with the exceptions described below. At least one method blank was analyzed with each batch of samples. Methylene chloride was reported in the method blank associated with data package J442, but not in any of the associated samples. Several compounds were reported in the first method blank associated with data package J468. A second method blank was run and all volatile organic compounds were reported as undetected; however, the laboratory elected to qualify its sample results based on the first method blank. Reviewing sample results based on the first method blank resulted in low levels of methylene chloride (reported in two samples) being qualified as undetected. No other data qualifiers are needed. Data qualifiers are summarized in Table 1.

Field Trip Blanks

Acceptable without further qualification. One trip blank was submitted for analysis with the water samples (ARI J547). All volatile organic compounds were reported as undetected in the trip blank. No data qualifiers are needed.

SURROGATE RECOVERIES

Acceptable without further qualification. Surrogate recoveries were reported within control limits for all surrogate spiking compounds in all samples. No data qualifiers are needed.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RESULTS

Matrix spike and matrix spike duplicate (MS/MSD) analyses were not performed; however, the laboratory did perform blank spike analyses with each sample set. All spike recoveries were reported within MS control limits. No data qualifiers are needed.

LABORATORY CONTROL/STANDARD REFERENCE SAMPLES

No laboratory control or standard reference samples were analyzed for volatile organic compounds; however, the blank spike samples described above can be considered laboratory control samples for calibration verification purposes. No data qualifiers are needed.

LABORATORY DUPLICATES

Not performed or required for volatile organic compound analysis.

FIELD DUPLICATES

Two blind field duplicate pairs were submitted for volatile organic compound analysis, one with the water samples and one with the soil samples associated with data package J477. All volatile organic compounds were reported as undetected in both samples of the soil duplicate pair. All volatile organic compounds except tetrachloroethene were reported as undetected in the water duplicate pair. The relative percent difference (RPD) between the reported tetrachloroethene results in this pair was calculated to be within acceptable control limits. No data qualifiers are needed. Field duplicate results are summarized in Table 2.

SEMIVOLATILE ORGANIC COMPOUND ANALYSES

HOLDING TIMES

Acceptable without further qualification. The specified holding times between sample collection, extraction, and analysis were met for all samples. No data qualifiers are needed.

BLANK RESULTS

Laboratory Method Blanks

Acceptable without further qualification. At least one method blank was analyzed with each batch of samples. All semivolatile organic compounds were reported as undetected in the method blanks. No data qualifiers are needed.

Field Trip Blanks

Not required for semivolatile organic analysis.

SURROGATE RECOVERIES

Acceptable without further qualification. Surrogate recoveries were reported within control limits for all surrogate spiking compounds in all samples. No data qualifiers are needed.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RESULTS

Acceptable with the following discussion. Matrix spike analyses were performed with data packages 468 and J477. No matrix spike duplicate analyses were performed. Recoveries of all spiking compounds except pentachlorophenol were reported within acceptable control limits. Pentachlorophenol recovery was reported below the control limit in both MS samples, indicating that sample results may be biased low; however data are not qualified based solely on matrix spike results. No data qualifiers are needed.

A blank spike sample was analyzed with data package J442. Recoveries of all spiking compounds were reported within MS/MSD control limits. No data qualifiers are needed.

LABORATORY CONTROL/STANDARD REFERENCE SAMPLES

A laboratory control sample was analyzed with data package J547. All analytes were reported within MS/MSD control limits. No data qualifiers are needed.

LABORATORY DUPLICATES

Not required for semivolatile organic compound analysis.

FIELD DUPLICATE RESULTS

A blind field duplicate was submitted for semivolatile organic compound analysis with the water samples (ARI J547). All semivolatile organic compounds were reported as undetected in both samples of the duplicate pair. No data qualifiers are needed.

METALS ANALYSES

HOLDING TIMES

Acceptable without further qualification. The specified holding time between sample collection and analysis was met for all samples. No data qualifiers are needed.

BLANK RESULTS

Laboratory Method Blanks

Acceptable with the following exceptions. At least one method blank was analyzed with each sample batch. Zinc was reported at low levels in the each of the method blanks associated with the soil samples and lead was reported in the method blank associated with the water samples. Reported detections less than five times the blank concentration were qualified as undetected (U). No sample results were affected. No further data qualifiers are needed.

Field Trip Blanks

Not required for metals analysis.

SURROGATE RECOVERIES

Not applicable to metals analysis.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RESULTS

Acceptable with the following exceptions. Blank spike samples were analyzed with each of the soil sample batches. All spiking analytes were reported within control limits for MS analysis. An MS sample was analyzed with the water samples. The reported recovery for antimony was well below the control limit. All results for antimony were qualified as estimated (J for detects, UJ for nondetects). Data qualifiers are summarized in Table 1. No additional data qualifiers are needed.

LABORATORY DUPLICATES

One laboratory duplicate was analyzed with the water samples. Relative percent differences (RPD) between the sample and its duplicate were reported within acceptable control limits for all analytes. No data qualifiers are needed.

FIELD DUPLICATE RESULTS

One field duplicate pair was analyzed for metals with the water samples. Relative percent differences (RPD) between the duplicate samples were calculated to be within acceptable control limits for all analytes except chromium and arsenic. The RPD for chromium was slightly below the control limit; all sample results for chromium were qualified as estimated (J for detects, UJ for nondetects). The RPD for arsenic exceeded the control limit by a large enough margin that all arsenic results for the water samples were rejected (R). Data qualifiers are summarized in Table 1.

TPH ANALYSES (WTPH-HCID AND WTPH-d)

HOLDING TIMES

Acceptable without further qualification. The specified holding time between sample collection and analysis was met for all samples. No data qualifiers are needed.

BLANK RESULTS

Laboratory Method Blanks

Acceptable without further qualification. At least one laboratory method blank was analyzed with each batch of samples. All analytes were reported as undetected in the method blanks. No data qualifiers are needed.

Field Trip Blanks

Not required for TPH analysis.

SURROGATE RECOVERIES

Acceptable without further qualification. Surrogate recoveries were reported within control limits for all surrogate spiking compounds in all samples. No data qualifiers are needed.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix spike samples were not performed with the TPH analyses; however, blank spike samples were analyzed with data packages J442, J468, and J547. Recoveries for all spiking compounds were reported within MS/MSD control limits for all samples. No data qualifiers are needed.

LABORATORY CONTROL/STANDARD REFERENCE SAMPLES

A laboratory control sample was analyzed with data package J477. Recoveries of all analytes were reported within the control limits for matrix spike samples. No data qualifiers are needed.

LABORATORY DUPLICATES

No laboratory duplicates were performed for TPH analysis.

FIELD DUPLICATE RESULTS

One blind field duplicate was analyzed with the water samples. Diesel range petroleum hydrocarbons were reported as undetected in both samples of the duplicate pair. No data qualifiers are needed.

CYANIDE ANALYSES

HOLDING TIMES

Acceptable without further qualification. The specified holding time between sample collection and analysis was met for all samples. No data qualifiers are needed.

BLANK RESULTS

Laboratory Method Blanks

Acceptable without further qualification. At least one method blank was analyzed with each batch of samples. Cyanide was reported as undetected in all of the method blanks. No data qualifiers are needed.

Field Trip Blanks

Not required for inorganic analyses.

SURROGATE RECOVERIES

Not applicable to inorganic analyses.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix spike samples were analyzed with sample batches J442, J477, and J547. Recoveries of the spiked analytes were reported within acceptable control limits for all samples. No matrix spike duplicate samples were analyzed.

LABORATORY CONTROL/STANDARD REFERENCE SAMPLES

Standard reference material samples were analyzed with each batch of field samples. Recoveries of the standard reference concentrations were reported within the control limits for matrix spike samples. No data qualifiers are needed.

LABORATORY DUPLICATES

Laboratory duplicate samples were analyzed with sample batches J442, J477, and J547. Relative percent differences between the two samples in each duplicate pair were reported within acceptable control limits. No data qualifiers are needed.

FIELD DUPLICATE RESULTS

One blind field duplicate was submitted for cyanide analysis with the water samples. The calculated relative percent difference between the two samples of the duplicate pair exceeded the established control limit. Because of this variability between duplicate samples, all cyanide results for the water samples were qualified as estimated (J). Data qualifiers are summarized in Table 1.

OVERALL DATA QUALITY AND COMPLETENESS

All data except cyanide in the water samples are considered usable, with qualifiers were needed as described above and summarized in Table 1. The four cyanide analyses in the water samples were rejected due to variability between duplicate samples. Data completeness is therefore calculated to be 99.6%.

REFERENCES

EPA. 1991. *National Functional Guidelines for Organic Data Review.* U.S. Environmental Protection Agency.

TABLE 1
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION LABORATORY DATA VALIDATION
SUMMARY OF DATA QUALIFIERS

Data Package	Samples Affected	Analyte	Qualifier Assigned	Reason
J468	MW-1-5.1 MW-1-7.5	Methylene Chloride	Concentrations less than 10 times method blank concentration assigned U (Undetected)	Method blank contamination.
J547	MW-1-123 MW-1A-123 MW-2-123 MW-3-123	Cyanide	All results qualified as estimated concentration (J)	Field duplicate results outside control limits.
J547	MW-1-123 MW-1A-123 MW-2-123 MW-3-123	Antimony	All results qualified as estimated concentration (J)	Low spike recovery.
J547	MW-1-123 MW-1A-123 MW-2-123 MW-3-123	Chromium	All results qualified as estimated concentration (J)	Field duplicate results outside control limits.
J547	MW-1-123 MW-1A-123 MW-2-123 MW-3-123	Arsenic	All results rejected (R)	Field duplicate results outside control limits.

TABLE 2
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION LABORATORY DATA VALIDATION
SUMMARY OF FIELD DUPLICATE RESULTS

Volatile Organic Compounds	MW-2-20.2	MW-2-120.2	RPD
All Analytes	Undetected	Undetected	N/A

Volatile Organic Compounds	MW-1-123	MW-1A-123	RPD
Tetrachloroethene	2.3 ug/L	2.2 ug/L	4.4%
All Other Analytes	Undetected	Undetected	N/A

Semivolatile Organic Compounds	MW-1-123	MW-1A-123	RPD
All Analytes	Undetected	Undetected	N/A

Metals	MW-1-123	MW-1A-123	RPD
Arsenic	.024	.007	110%*
Beryllium	.003	.002	A/L
Chromium	.106	.085	21.8%
Copper	.210	.185	12.7%
Lead	.038	.034	11.1%
Mercury	.0005	.0005	0
Nickel	.009	.08	11.8%
Thallium	.002	.002	0
Zinc	.343	.289	17.1%
All other metals	Undetected	Undetected	N/A

TABLE 2
PAXTON SALES CORPORATION
REMEDIAL INVESTIGATION LABORATORY DATA VALIDATION
SUMMARY OF FIELD DUPLICATE RESULTS

WTPH-d	MW-1-123	MW-1A-123	RPD
Diesel Hydrocarbons	Undetected	Undetected	N/A

Cyanide	MW-1-123	MW-1A-123	RPD
	0.020 mg/L	0.031 mg/L	43%*

Notes:

RPD = Relative percent difference.
N/A = Not applicable, RPD cannot be calculated for undetected analytes.
A/L = Alternate limit applies for concentrations less than 5 times the detection limit.
* = Outside control limits.

Appendix C

Laboratory Reports

Analytical Resources, Incorporated
Analytical Chemists and Consultants

cc to MLM

January 30, 1995

Mr. Bill Evans
Landau Associates, Inc.
3600 Port of Tacoma Road
Suite 501
Tacoma, WA 98424

RE: Project No. 275002.23 Paxton Sales / ARI Job No. J442

Dear Mr. Evans:

Please find enclosed original results and Chain-of-Custody Record (COC NO. 2511) for the above-referenced project. Analytical Resources, Incorporated (ARI), accepted the following five soil samples on January 11, 1995:

MW-3-15 **MW-3-14.8** **MW-3-19.8** **MW-3-20** **MW-3-14.6**

ARI received the samples intact with no discrepancies on the chain-of-custody documentation. The laboratory analyzed the samples for volatile organic compounds by EPA method 8260, semivolatile organics by EPA method 8270, total petroleum hydrocarbons by WDOE method WTPH-HCID, metals following the EPA method 6010/7000 series, and cyanide by EPA method 335.2.

Sample analysis was routine and no analytical complications were noted with this sample delivery group.

As always, a copy of this report and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please feel free to contact me at your convenience. If I am unavailable, you can leave a message on my voice mail and I will return your call as soon as possible.

Sincerely,

ANALYTICAL RESOURCES, INC.

Bryan D. Anderson

Bryan D. Anderson
Project Manager
(206)340-2866, ext. 116

enclosures
cc: file J442

BDA/dn

LANDAU ASSOCIATES, INC.
Edmonds, WA (206) 778-0907
FAX (206)778-6409

Chain-of-Custody Record

No. 2511

Date 1/10/94

Page 1 of 1

Project Paxton Sales Job No. 275002.23

Client Yelinkanje, Moore & Shore Inc

Project Location Yakima WA

Sampler's Name Christine Kimmel

Sample No.	Date	Time	Location	No. of Containers	TPH - WTPH-HCID	VOA 8010	PAH 8270	Cyanide 335.2	Metals 6010/7000	Observations/Comments
MW-3-15	1/6/95		MW-3 SOIL	1	X					cooler temp 2.0°c
MW-3-14.8	1/6/95	Soil	MW-3	1				X		
MW-3-19.8	"	"	"	1			X			
MW-3-20	"	"	"	1		X				
MW-3-14.6	"	"	"	1		X				

Special Shipment/Handling or Storage Requirements

Method of Shipment UPS

Relinquished by	Received by	Relinquished by	Received by
Signature: Christine Kimmel	Signature: Shelby Miller	Signature:	Signature:
Printed Name: Christine Kimmel	Printed Name: Shelby Miller	Printed Name:	Printed Name:
Company: Landau Associates	Company: ARI	Company:	Company:
Date: 1/10/95 Time: 1330	Date: 1/11/95 Time: 10:45	Date: Time:	Date: Time:

3/91

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

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(206) 621-7523 (FAX)

TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales

Matrix: Soil

Data Release Authorized:
Reported: 01/20/95

Date Received: 01/11/95

Lab ID	Client Sample ID	Date Analyzed	Dilution Factor	Gas Range	Diesel Range	Oil Range	Surrogate Recovery
95-291	Method Blank	01/16/95	1:1	10 U	10 U	25 U	92.5%
J442A	MW-3-15	01/17/95	1:1	10 U	10 U	25 U	106%

Values reported in ppm (mg/L).
Surrogate is Methyl Arachidate.
Gas value based on total peaks in the range from Toluene to C12.
Diesel value based on the total peaks in the range from C12 to C24.
Oil value based on the total peaks in the range from C24 to C32.

Data Qualifiers

U	Compound not detected at the given detection limit.
X	Value detected above linear range of instrument. Dilution required.
J	Indicates an estimated value below the calculated detection limit.
S	No value reported due to saturation of the detector. Dilution required.
D	Indicates the surrogate was not detected because of dilution of the extract.
C	Indicates a probable value which cannot be confirmed due to matrix interference.
NR	Indicates no recovery due to matrix interference and/or dilution.

FORM-1 HCID

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

Lab Sample ID: J442SB
LIMS ID: 95-291
Matrix: Soil

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales

Data Release Authorized:
Reported: 01/20/95

Date extracted: 01/16/95

LABORATORY CONTROL SAMPLE RECOVERY REPORT

CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
LABORATORY CONTROL SAMPLE			
Diesel Range	539	500	108%

HCID Surrogate Recovery

Spike Blank	Methylarachidate	104%

Values reported in parts per million (mg/kg)

HCID SPIKE CONTROL LIMITS

Percent Recovery 50-150%
Duplicate RPD <50%

Advisory QA Limits

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ORGANIC COMPOUND
DATA REPORTING QUALIFIERS

U Indicates the compound was analyzed for, but not detected at the given detection limit.

J Indicates an estimated value when the result is less than the calculated detection limit.

D Indicates the surrogate/spike(s) was not detected, due to dilution of extract.

NR Indicates the surrogate recovery cannot be reported due to matrix interference.

E Indicates a value above the linear range of the detector. Sample dilution required.

S Indicates no value reported due to saturation of the detector. Dilution required.

Y Indicates a raised detection limit due to matrix interferences.

NA Indicates compound was not analyzed.

M Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.

B Indicates compound was found in the associated method blank.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: MW-3-14.6

Lab Sample ID: J442E
LIMS ID: 95-295
Matrix: Soil
Data Release Authorized: mt
Reported: 01/17/95

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales
Date Sampled: 01/06/95
Date Received: 01/11/95

Instrument: FINN1
Date Analyzed: 01/12/95

Sample Amount: 4.83 g dry Wt
Percent Moisture: 9.1%

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.1 U
75-01-4	Vinyl Chloride	2.1 U
75-00-3	Chloroethane	2.1 U
75-09-2	Methylene Chloride	2.1 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.2 U
75-25-2	Bromoform	1.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.1 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-96-4	Bromoethane	2.1 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	97.2%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	99.5%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 1 of 1

Sample No: Method Blank

Lab Sample ID: 011295MB
LIMS ID: 95-295
Matrix: Soil
Data Release Authorized: MH
Reported: 01/17/95

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales
Date Sampled: NA
Date Received: NA

Instrument: FINN1
Date Analyzed: 01/12/95

Sample Amount: 5.00 g dry Wt Equiv
Percent Moisture: NA

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	**Methylene Chloride**	**6.9**
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-83-9	Bromoethane	2.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	93.0%
d8-Toluene	97.0%
Bromofluorobenzene	99.1%
d4-1,2-Dichlorobenzene	96.2%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by GC/MS
Page 1 of 1

Lab Sample ID: J442SB
LIMS ID: 95-295
Matrix: Soil
Data Release Authorized: MH
Reported: 01/18/95
Date Analyzed: 01/12/95

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales
Date Received: 01/11/95

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE AMT	% RECOVERY
Chloromethane	68.4	50.0	137%
Vinyl Chloride	67.0	50.0	134%
Chloroethane	50.2	50.0	100%
Methylene Chloride	45.6	50.0	91.2%
1,1-Dichloroethene	54.5	50.0	109%
1,1-Dichloroethane	47.4	50.0	94.8%
trans-1,2-Dichloroethene	50.3	50.0	101%
Chloroform	44.8	50.0	89.6%
1,2-Dichloroethane	47.3	50.0	94.6%
1,1,1-Trichloroethane	44.8	50.0	89.6%
Carbon Tetrachloride	48.2	50.0	96.4%
Bromodichloromethane	47.3	50.0	94.6%
1,2-Dichloropropane	50.1	50.0	100%
Trichloroethene	47.2	50.0	94.4%
Dibromochloromethane	46.0	50.0	92.0%
1,1,2-Trichloroethane	46.1	50.0	92.2%
trans-1,3-Dichloropropene	45.6	50.0	91.2%
2-Chloroethylvinylether	49.8	50.0	99.6%
Bromoform	46.7	50.0	93.4%
Tetrachloroethene	46.1	50.0	92.2%
1,1,2,2-Tetrachloroethane	47.1	50.0	94.2%
Chlorobenzene	45.6	50.0	91.2%
Trichlorofluoromethane	44.3	50.0	88.6%
1,2-Dichlorobenzene	45.6	50.0	91.2%
1,3-Dichlorobenzene	46.2	50.0	92.4%
1,4-Dichlorobenzene	46.4	50.0	92.8%
Bromoethane	52.2	50.0	104%
Dibromomethane	44.6	50.0	89.2%
1,1,1,2-Tetrachloroethane	45.8	50.0	91.6%
1,2,3-Trichloropropane	47.2	50.0	94.4%
Bromobenzene	47.3	50.0	94.6%
2-Chlorotoluene	48.9	50.0	97.8%
4-Chlorotoluene	45.1	50.0	90.2%

Spike Blank Surrogate Recovery

d4-1,2-Dichloroethane	94.2%
d8-Toluene	98.0%
Bromofluorobenzene	98.4%
d4-1,2-Dichlorobenzene	100.%

Reported in ug/kg-dry-Wt

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ORGANIC COMPOUND
DATA REPORTING QUALIFIERS

U Indicates the compound was analyzed for, but not detected at the given detection limit.

J Indicates an estimated value when the result is less than the calculated detection limit.

D Indicates the surrogate/spike(s) was not detected, due to dilution of extract.

NR Indicates the surrogate recovery cannot be reported due to matrix interference.

E Indicates a value above the linear range of the detector. Sample dilution required.

S Indicates no value reported due to saturation of the detector. Dilution required.

Y Indicates a raised detection limit due to matrix interferences.

NA Indicates compound was not analyzed.

M Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.

B Indicates compound was found in the associated method blank.

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 2
Lab Sample ID: J442MB
LIMS ID: 95-294
Matrix: Soil
Data Release Authorized: MLL
Reported: 01/17/95

Sample No: Method Blank
QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales
Date Sampled: NA
Date Received: NA

Date extracted: 01/13/95
Date analyzed: 01/16/95
Instrument: FINN8
GPC Cleanup: NO

Sample Amount: 30.0 g-dry-wt Equiv
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: NA
pH: NA

CAS Number	Analyte	ug/kg
108-95-2	Phenol	130 U
111-44-4	Bis-(2-Chloroethyl) Ether	130 U
95-57-8	2-Chlorophenol	67 U
541-73-1	1,3-Dichlorobenzene	67 U
106-46-7	1,4-Dichlorobenzene	67 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	67 U
95-48-7	2-Methylphenol	130 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	67 U
106-44-5	4-Methylphenol	67 U
621-64-7	N-Nitroso-Di-N-Propylamine	130 U
67-72-1	Hexachloroethane	130 U
98-95-3	Nitrobenzene	67 U
78-59-1	Isophorone	67 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	200 U
65-85-0	Benzoic Acid	670 U
111-91-1	bis(2-Chloroethoxy) Methane	67 U
120-83-2	2,4-Dichlorophenol	200 U
120-82-1	1,2,4-Trichlorobenzene	67 U
91-20-3	Naphthalene	67 U
106-47-8	4-Chloroaniline	200 U
87-68-3	Hexachlorobutadiene	130 U
59-50-7	4-Chloro-3-methylphenol	130 U
91-57-6	2-Methylnaphthalene	67 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,5-Trichlorophenol	330 U
91-58-7	2-Chloronaphthalene	67 U
88-74-4	2-Nitroaniline	330 U
131-11-3	Dimethylphthalate	67 U
208-96-8	Acenaphthylene	67 U
99-09-2	3-Nitroaniline	400 U
83-32-9	Acenaphthene	67 U
51-28-5	2,4-Dinitrophenol	670 U
100-02-7	4-Nitrophenol	330 U
132-64-9	Dibenzofuran	67 U
606-20-2	2,6-Dinitrotoluene	330 U

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 2 of 2
Lab Sample ID: J442MB
LIMS ID: 95-294
Matrix: Soil
Data Release Authorized: MAT
Reported: 01/17/95

Sample No: Method Blank
QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales
Date Sampled: NA
Date Received: NA

Date extracted: 01/13/95
Date analyzed: 01/16/95
Instrument: FINN8
GPC Cleanup: NO

Sample Amount: 30.0 g-dry-wt Equiv
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: NA
pH: NA

CAS Number	Analyte	ug/kg
121-14-2	2,4-Dinitrotoluene	330 U
84-66-2	Diethylphthalate	67 U
7005-72-3	4-Chlorophenyl-phenylether	67 U
86-73-7	Fluorene	67 U
100-01-6	4-Nitroaniline	330 U
534-52-1	4,6-Dinitro-2-Methylphenol	670 U
86-30-6	N-Nitrosodiphenylamine	67 U
101-55-3	4-Bromophenyl-phenylether	67 U
118-74-1	Hexachlorobenzene	67 U
87-86-5	Pentachlorophenol	330 U
85-01-8	Phenanthrene	67 U
86-74-8	Carbazole	67 U
120-12-7	Anthracene	67 U
84-74-2	Di-n-Butylphthalate	67 U
206-44-0	Fluoranthene	67 U
129-00-0	Pyrene	67 U
85-68-7	Butylbenzylphthalate	67 U
91-94-1	3,3'-Dichlorobenzidine	330 U
56-55-3	Benzo(a)anthracene	67 U
117-81-7	bis(2-Ethylhexyl)phthalate	67 U
218-01-9	Chrysene	67 U
117-84-0	Di-n-Octyl phthalate	67 U
205-99-2	Benzo(b)fluoranthene	67 U
207-08-9	Benzo(k)fluoranthene	67 U
50-32-8	Benzo(a)pyrene	67 U
193-39-5	Indeno(1,2,3-cd)pyrene	67 U
53-70-3	Dibenz(a,h)anthracene	67 U
191-24-2	Benzo(g,h,i)perylene	67 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	63.6%	d5-Phenol	57.0%
2-Fluorobiphenyl	74.8%	2-Fluorophenol	50.5%
d14-p-Terphenyl	86.3%	2,4,6-Tribromophenol	49.8%
d4-1,2-Dichlorobenzene	68.2%	d4-2-Chlorophenol	60.9%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 2
Lab Sample ID: J442D
LIMS ID: 95-294
Matrix: Soil
Data Release Authorized: MH
Reported: 01/17/95

Sample No: MW-3-20

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales
Date Sampled: 01/06/95
Date Received: 01/11/95

Date extracted: 01/13/95
Date analyzed: 01/16/95
Instrument: FINN8
GPC Cleanup: NO

Sample Amount: 28.6 g-dry-wt
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: 5.7%
pH: 6.7

CAS Number	Analyte	ug/kg
108-95-2	Phenol	140 U
111-44-4	Bis-(2-Chloroethyl) Ether	140 U
95-57-8	2-Chlorophenol	70 U
541-73-1	1,3-Dichlorobenzene	70 U
106-46-7	1,4-Dichlorobenzene	70 U
100-51-6	Benzyl Alcohol	350 U
95-50-1	1,2-Dichlorobenzene	70 U
95-48-7	2-Methylphenol	140 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	70 U
106-44-5	4-Methylphenol	70 U
621-64-7	N-Nitroso-Di-N-Propylamine	140 U
67-72-1	Hexachloroethane	140 U
98-95-3	Nitrobenzene	70 U
78-59-1	Isophorone	70 U
88-75-5	2-Nitrophenol	350 U
105-67-9	2,4-Dimethylphenol	210 U
65-85-0	Benzoic Acid	700 U
111-91-1	bis(2-Chloroethoxy) Methane	70 U
120-83-2	2,4-Dichlorophenol	210 U
120-82-1	1,2,4-Trichlorobenzene	70 U
91-20-3	Naphthalene	70 U
106-47-8	4-Chloroaniline	210 U
87-68-3	Hexachlorobutadiene	140 U
59-50-7	4-Chloro-3-methylphenol	140 U
91-57-6	2-Methylnaphthalene	70 U
77-47-4	Hexachlorocyclopentadiene	350 U
88-06-2	2,4,6-Trichlorophenol	350 U
95-95-4	2,4,5-Trichlorophenol	350 U
91-58-7	2-Chloronaphthalene	70 U
88-74-4	2-Nitroaniline	350 U
131-11-3	Dimethylphthalate	70 U
208-96-8	Acenaphthylene	70 U
99-09-2	3-Nitroaniline	420 U
83-32-9	Acenaphthene	70 U
51-28-5	2,4-Dinitrophenol	700 U
100-02-7	4-Nitrophenol	350 U
132-64-9	Dibenzofuran	70 U
606-20-2	2,6-Dinitrotoluene	350 U

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Lab Sample ID: J442D
LIMS ID: 95-294
Matrix: Soil
Data Release Authorized: MH
Reported: 01/17/95

Sample No: MW-3-20

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales
Date Sampled: 01/06/95
Date Received: 01/11/95

Date extracted: 01/13/95
Date analyzed: 01/16/95
Instrument: FINN8
GPC Cleanup: NO

Sample Amount: 28.6 g-dry-wt
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: 5.7%
pH: 6.7

CAS Number	Analyte	ug/kg
121-14-2	2,4-Dinitrotoluene	350 U
84-66-2	Diethylphthalate	70 U
7005-72-3	4-Chlorophenyl-phenylether	70 U
86-73-7	Fluorene	70 U
100-01-6	4-Nitroaniline	350 U
534-52-1	4,6-Dinitro-2-Methylphenol	700 U
86-30-6	N-Nitrosodiphenylamine	70 U
101-55-3	4-Bromophenyl-phenylether	70 U
118-74-1	Hexachlorobenzene	70 U
87-86-5	Pentachlorophenol	350 U
85-01-8	Phenanthrene	70 U
86-74-8	Carbazole	70 U
120-12-7	Anthracene	70 U
84-74-2	Di-n-Butylphthalate	70 U
206-44-0	Fluoranthene	70 U
129-00-0	Pyrene	70 U
85-68-7	Butylbenzylphthalate	70 U
91-94-1	3,3'-Dichlorobenzidine	350 U
56-55-3	Benzo(a)anthracene	70 U
117-81-7	bis(2-Ethylhexyl)phthalate	70 U
218-01-9	Chrysene	70 U
117-84-0	Di-n-Octyl phthalate	70 U
205-99-2	Benzo(b)fluoranthene	70 U
207-08-9	Benzo(k)fluoranthene	70 U
50-32-8	Benzo(a)pyrene	70 U
193-39-5	Indeno(1,2,3-cd)pyrene	70 U
53-70-3	Dibenz(a,h)anthracene	70 U
191-24-2	Benzo(g,h,i)perylene	70 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	69.8%	d5-Phenol	60.5%
2-Fluorobiphenyl	75.2%	2-Fluorophenol	55.6%
d14-p-Terphenyl	90.2%	2,4,6-Tribromophenol	68.2%
d4-1,2-Dichlorobenzene	71.3%	d4-2-Chlorophenol	64.7%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Lab Sample ID: J442SB
LIMS ID: 95-294
Matrix: Soil

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales

Data Release Authorized: MH
Reported: 01/17/95

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
Phenol	1770	2500	70.8%
2-Chlorophenol	1620	2500	64.8%
1,4-Dichlorobenzene	1200	1670	72.0%
N-Nitroso-Di-N-Propylamine	1250	1670	75.0%
1,2,4-Trichlorobenzene	1330	1670	79.8%
4-Chloro-3-methylphenol	2270	2500	90.8%
Acenaphthene	1090	1670	65.4%
4-Nitrophenol	1970	2500	78.8%
2,4-Dinitrotoluene	1360	1670	81.6%
Pentachlorophenol	1480	2500	59.2%
Pyrene	1580	1670	94.8%

Spike Blank Surrogate Recovery

d5-Nitrobenzene	65.0%	d5-Phenol	62.7%
2-Fluorobiphenyl	69.7%	2-Fluorophenol	55.1%
d14-p-Terphenyl	85.6%	2,4,6-Tribromophenol	56.8%
d4-1,2-Dichlorobenzene	75.7%	d4-2-Chlorophenol	64.3%

Values reported in ug/kg

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Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW-3-19.8

Lab Sample ID: J442C
LIMS ID: 95-293
Matrix: Soil
Data Release Authorized: MAD
Reported: 01/27/95 1-27

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales
Date Sampled: 01/06/95
Date Received: 01/11/95

Analyte	Analysis Date	Method	Dilution Factor	RL	Units		Result
Total Solids	01/11/95	EPA 160.3 SM 2540 B		0.01	Percent		92.9
Total Cyanide	01/18/95	EPA 335.2 SM4500CN-C		0.20	mg/kg	<	0.20 U

RL Analytical reporting limit
U Undetected at reported detection limit

Report for J442 received 01/11/95

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QA Report - Replicate Analysis

Matrix: Soil

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales
Date Received: 01/11/95

Data Release Authorized: MOP
1-27

DUPLICATE ANALYSIS RESULTS
CONVENTIONALS

Constituent	Units	Sample Value	Duplicate Value	RPD
ARI ID: 95-293, J442 C	**Client Sample ID: MW-3-19.8**			
Total Solids	Percent	92.9	93.2	0.3%
Total Cyanide	mg/kg	< 0.20 U	< 0.20 U	NA

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QA Report - Matrix Spike Analysis

QC Report No: J442-Landau Associates, Incorporated
Matrix: Soil
Project: 275002.23
Paxton Sales
Date Received: 01/11/95

Data Release Authorized: MAP 1-27

MATRIX SPIKE QA/QC REPORT
CONVENTIONALS

Constituent	Units	Sample Value	Spike Value	Spike Added	Recovery
ARI ID: 95-293, J442 C	**Client Sample ID: MW-3-19.8**				
Total Cyanide	mg/kg	< 0.2	95.9	103	93.1%

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QA Report - Method Blank Analysis

QC Report No: J442-Landau Associates, Incorporated
Matrix: Soil
Project: 275002.23
Paxton Sales
Date Received: 01/11/95

Data Release Authorized: MOP 1-27

METHOD BLANK RESULTS
CONVENTIONALS

Analysis Date	Constituent	Units	Result
Method Blank			
01/11/95	Total Solids	mg residue	< 1 U
Method Blank			
01/18/95	Total Cyanide	mg/L	< 0.004 U

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QA Report - Standard Reference Material Analysis

QC Report No: J442-Landau Associates, Incorporated
Project: 275002.23
Paxton Sales
Data Release Authorized: MAP 1-27 Date Received: 01/11/95

STANDARD REFERENCE MATERIAL ANALYSIS
CONVENTIONALS

Constituent	Units	Value	True Value	Recovery
SPEX QC Lot#6-153AS				
Total Cyanide	mg/L	0.193	0.200	96.5%
Date analyzed: 01/18/95				

EXPLANATION OF INORGANIC DATA REPORT CODES

The columns labeled 'PREP', 'C', and 'M' contain important information about your analyses. The codes are defined below.

PREPARATION CODES

These 3-letter codes describe methods used to prepare samples for analysis:

AEN USEPA, Metals in air filters
AHM ARI, Mercury in air filters
AHN ARI, Metals in air filters
ANN NIOSH 7300, Metals in air filters
CAN AOAC (1984) 25.024, Metals in earthenware
DE6 EPA 600/4-79-020 218.5, Cr(VI) in water
DMM DMN followed by TMM, Dissolved mercury
DMN Filtered through .45u filter, Dissolved metals
EW6 EWN followed by DE6
EWM EWN followed by TMM
[illegible]VN USEPA SW-846 1310, EP Toxicity
[illegible]P ARI, Metals in tissue ($HNO_3/HClO_4$)
FPP PSEP, Metals in tissue ($HNO_3/HClO_4$)
FRM Journal, Mercury in tissue
FRN Journal, Metals in tissue (HNO_3/H_2O_2)
KRN ARI, Concentration by coprecipitation
LEM USEPA 1311, TCLP followed by TMM
LEN USEPA 1311, TCLP Extraction
[illegible]HM ARI, Mercury in miscellaneous materials
[illegible]HN ARI, Metals in miscellaneous materials
OAM ARI, Mercury in oil, grease or tar
OAN ARI, Metals in oil, grease or tar
PHM ARI, Mercury in wipes
PHN ARI, Metals in wipes
RCC USEPA CLP, Water digestion, HCl matrix
RCN USEPA CLP, Water digestion, HNO_3 matrix
REC EPA 600/4-79-020 4.1.4, HCl matrix
[illegible]I EPA 600/4-79-020 200.7 and 9.4
[illegible]EN EPA 600/4-79-020 4.1.4, HNO_3 matrix
RMA EPA 600/4-79-020 206.2
RWC USEPA SW-846 3005
SCC USEPA CLP, Soil digestion, HCl matrix
SCM USEPA CLP, Mercury in soil
SCN USEPA CLP, Soil digestion, HNO_3 matrix
SEM EPA 600/4-79-020 245.5, Mercury in soil
SHF ARI, Metals in soil, HF digestion
SMN Agronomy,Metals in soil, Water extract
SMM SMN followed by DMM, Dissolved mercury
SPM USEPA 1312, SPLP extraction followed by TMM
SPN USEPA 1312, SPLP Extraction
SSS Standard Methods 302C, Ti in soil
SW6 USEPA SW-846 3060, Cr(VI) in soil
SWC USEPA SW-846 3050, HCl matrix
SWN USEPA SW-846 3050, HNO_3 matrix
SZF PSEP/PSDDA, Microwave, Total acid digestion
TEC EPA 600/4-79-020 4.1.3, HCl matrix
TEG EPA 600/4-79-020 272.1, Silver in water
TEI EPA 600/4-79-020 200.7 and 9.3
TEN EPA 600/4-79-020 4.1.3, HNO_3 matrix
THG ARI, Silver in photographic solutions
TMM EPA 600/4-79-020 245.1, Mercury in water
TSC Standard Methods 302C, Sb/Sn in water
TSN Standard Methods 302D
TSS Standard Methods 302E, Ti in water
TWC USEPA SW-846 3010, HCl matrix
TWG USEPA SW-846 7760, Silver in water
TWN USEPA SW-846 3020, HNO_3 matrix
WMN EPA 600/4-79-020, Preserved, undigested water

CONCENTRATION CODES

These codes are used to qualify reported concentrations:

U No analyte was detected. The reported value is the lower limit of detection.

METHOD CODES

These codes signify the instrumental technique used for analysis:

CVA Cold Vapor Atomic Absorption Spectrophotometry
[illegible]A Flame Atomic Absorption Spectrophotometry
GFA Graphite Furnace Atomic Absorption Spectrophotometry
ICP Inductively Coupled Plasma Atomic Emission Spectrometry

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ARI job number: J442
ARI Sample number: B
Client: Landau Associates
Contact: Bill Evans
Matrix: Soil

% Solids: 93.39

ID number: MW-3-14.8
Project: 275002.23
Description:
Sampled: 01/06/95
Received: 01/11/95

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.1 mg/kg-dry	U	0.1	SWC	GFA	01/17/95
7440-38-2	Arsenic	3.5 mg/kg-dry		0.5	SWN	GFA	01/20/95
7440-41-7	Beryllium	0.2 mg/kg-dry		0.1	SWC	ICP	01/13/95
7440-43-9	Cadmium	0.2 mg/kg-dry		0.2	SWC	ICP	01/13/95
7440-47-3	Chromium	14.7 mg/kg-dry		0.5	SWC	ICP	01/13/95
7440-50-8	Copper	27.8 mg/kg-dry		0.2	SWC	ICP	01/13/95
7439-92-1	Lead	3.6 mg/kg-dry		0.2	SWN	GFA	01/18/95
7439-97-6	Mercury	0.04 mg/kg-dry	U	0.04	SCM	CVA	01/13/95
7440-02-0	Nickel	11 mg/kg-dry		1	SWC	ICP	01/13/95
7782-49-2	Selenium	0.2 mg/kg-dry		0.1	SWN	GFA	01/24/95
7440-22-4	Silver	0.3 mg/kg-dry	U	0.3	SWC	ICP	01/13/95
7440-28-0	Thallium	0.2 mg/kg-dry		0.1	SWN	GFA	01/19/95
7440-66-6	Zinc	49.1 mg/kg-dry		0.4	SWC	ICP	01/13/95

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ARI job number: J442
ARI Sample number: MB
Client: Landau Associates
Contact: Bill Evans
Matrix: Soil

% Solids: 100.0

ID number:
Project: 275002.23
Description: Method Blank
Sampled: / /
Received: / /

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.1 mg/kg-dry	U	0.1	SWC	GFA	01/17/95
7440-38-2	Arsenic	0.1 mg/kg-dry	U	0.1	SWN	GFA	01/17/95
7440-41-7	Beryllium	0.1 mg/kg-dry	U	0.1	SWC	ICP	01/13/95
7440-43-9	Cadmium	0.2 mg/kg-dry	U	0.2	SWC	ICP	01/13/95
7440-47-3	Chromium	0.5 mg/kg-dry	U	0.5	SWC	ICP	01/13/95
7440-50-8	Copper	0.2 mg/kg-dry	U	0.2	SWC	ICP	01/13/95
7439-92-1	Lead	0.1 mg/kg-dry	U	0.1	SWN	GFA	01/18/95
7439-97-6	Mercury	0.05 mg/kg-dry	U	0.05	SCM	CVA	01/13/95
7440-02-0	Nickel	1 mg/kg-dry	U	1	SWC	ICP	01/13/95
7782-49-2	Selenium	0.1 mg/kg-dry	U	0.1	SWN	GFA	01/18/95
7440-22-4	Silver	0.3 mg/kg-dry	U	0.3	SWC	ICP	01/13/95
7440-28-0	Thallium	0.1 mg/kg-dry	U	0.1	SWN	GFA	01/19/95
7440-66-6	Zinc	0.6 mg/kg-dry		0.4	SWC	ICP	01/13/95

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ARI job number: J442
ARI Sample number: MBSPK
Client: Landau Associates
Contact: Bill Evans
Matrix: Soil

% Solids: 100.0

ID number:
Project: 275002.23
Description: Method Blank Spike
Sampled: / /
Received: / /

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	10.3 mg/kg-dry		0.5	SWC	GFA	01/17/95
7440-38-2	Arsenic	10.6 mg/kg-dry		0.5	SWN	GFA	01/17/95
7440-41-7	Beryllium	4.7 mg/kg-dry		0.1	SWC	ICP	01/13/95
7440-43-9	Cadmium	9.7 mg/kg-dry		0.2	SWC	ICP	01/13/95
7440-47-3	Chromium	25.0 mg/kg-dry		0.5	SWC	ICP	01/13/95
7440-50-8	Copper	10.0 mg/kg-dry		0.2	SWC	ICP	01/13/95
7439-92-1	Lead	10.8 mg/kg-dry		0.5	SWN	GFA	01/18/95
7439-97-6	Mercury	0.45 mg/kg-dry		0.05	SCM	CVA	01/13/95
7440-02-0	Nickel	50 mg/kg-dry		1	SWC	ICP	01/13/95
7782-49-2	Selenium	9.7 mg/kg-dry		0.5	SWN	GFA	01/18/95
7440-22-4	Silver	24.0 mg/kg-dry		0.3	SWC	ICP	01/13/95
7440-28-0	Thallium	11.4 mg/kg-dry		0.5	SWN	GFA	01/19/95
7440-66-6	Zinc	48.5 mg/kg-dry		0.4	SWC	ICP	01/13/95

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Matrix Spike Quality Control Report

Client: Landau Associates
Client's sample ID:
ARI sample ID: J442 MBSPK
Units: mg/kg-dry

Analyte	Meth	Sample	Matrix Spike	Spike Added	%R	Control Limit	Q
Antimony	GFA	0	10.3	10.0	103.0	75-125%	
Arsenic	GFA	0	10.6	10.0	106.0	75-125%	
Beryllium	ICP	0	4.7	5.0	94.0	75-125%	
Cadmium	ICP	0	9.7	10.0	97.0	75-125%	
Chromium	ICP	0	25.0	25.0	100.0	75-125%	
Copper	ICP	0	10.0	10.0	100.0	75-125%	
Lead	GFA	0	10.8	10.0	108.0	75-125%	
Mercury	CVA	0	0.45	0.50	90.0	75-125%	
Nickel	ICP	0	50	50	100.0	75-125%	
Selenium	GFA	0	9.7	10.0	97.0	75-125%	
Silver	ICP	0	24.0	25.0	96.0	75-125%	
Thallium	GFA	0	11.4	10.0	114.0	75-125%	
Zinc	ICP	0.6	48.5	50.0	95.8	75-125%	

%R = Percent Recovery

'Q' codes: 'N' = control limit not met
'H' = %R not applicable, sample concentration too high
'§' = Analyte not spiked

Analytical Resources, Incorporated
Analytical Chemists and Consultants

cctomum

275002

February 6, 1995

RECEIVED
FEB - 8 1995
LANDAU ASSOCIATES, INC.
TACOMA

Mr. Bill Evans
Landau Associates, Inc.
3600 Port of Tacoma Road
Suite 501
Tacoma, WA 98424

RE: Project No. 275002 (Yakima) Paxton Sales / ARI Job No. J477

Dear Mr. Evans:

Please find enclosed original results and Chain-of-Custody Record (COC NO. 2509) for the above-referenced project. Analytical Resources, Incorporated (ARI), accepted the following six soil samples on January 16, 1995:

MW-2-20.3	**MW-2-20.5**	**MW-2-20.2**
MW-2-120.2	**MW-2-20.8**	**MW-2-20.4**

ARI received the samples intact. Prior to sample analysis the pesticide analysis was omitted from the COC and the laboratory added semivolatile organic compounds, according to the December 21, 1994, Subcontractor Agreement, Supplement 275002. The laboratory analyzed the samples for volatile organic compounds by EPA method 8260, semivolatile organics by EPA method 8270, total petroleum hydrocarbons by WDOE method WTPH-HCID, metals following the EPA method 6010/7000 series, and cyanide by EPA method 335.2.

Sample analysis was routine and no analytical complications were noted for this sample delivery group.

As always, a copy of this report and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please feel free to contact me at your convenience. If I am unavailable, you can leave a message on my voice mail and I will return your call as soon as possible.

Sincerely,

ANALYTICAL RESOURCES, INC.

Bryan D. Anderson

Bryan D. Anderson
Project Manager
(206)340-2866, ext. 116

enclosures
cc: file J477

BDA/dn

J477

LANDAU ASSOCIATES, INC.
Edmonds, WA (206) 778-0907
FAX (206)778-6409

Chain-of-Custody Record

№ 2509

Date 1/16/95
Page 1 of 1

Project PAXTON SALES Job No. 275002

Client Velinkanje, Moore & SHORE

Project Location Yakima WA

Sampler's Name CHRIS KIMMEL

Sample No.	Date	~~MATRIX~~ Time	Location	No. of Containers	Testing Parameters: METALS	CN- EPA 335.2	NOA	~~WHITE~~ WTPH-HCID	PEST ABN 8270	BNA 1/16/95	Observations/Comments
MW-2-20.3	1/14/95	5010	MW-2	1	X						
MW-2-20.5				1		X					
MW-2-20.2				1			X				
MW-2-120.2				1			X				
MW-2-20.8				1				X			
MW-2-20.4				1					X		

Special Shipment/Handling or Storage Requirements

Method of Shipment HAND DELIVER

Relinquished by	Received by	Relinquished by	Received by
Signature: Christine Kimmel	Signature: Shelby Miller	Signature:	Signature:
Printed Name: Chris Kimmel	Printed Name: Shelby miller	Printed Name:	Printed Name:
Company: Landau Associates	Company: ARI	Company:	Company:
Date 1/16/95 Time 0820	Date 1/16/95 Time 08:20	Date Time	Date Time

3/91

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

EXPLANATION OF INORGANIC DATA REPORT CODES

The columns labeled 'PREP', 'C', and 'M' contain important information about your analyses. The codes are defined below.

PREPARATION CODES

These 3-letter codes describe methods used to prepare samples for analysis:

AEN USEPA, Metals in air filters
AHM ARI, Mercury in air filters
AHN ARI, Metals in air filters
ANN NIOSH 7300, Metals in air filters
CAN AOAC (1984) 25.024, Metals in earthenware
DE6 EPA 600/4-79-020 218.5, Cr(VI) in water
DMM DMN followed by TMM, Dissolved mercury
DMN Filtered through .45u filter, Dissolved metals
EW6 EWN followed by DE6
EWM EWN followed by TMM
E N USEPA SW-846 1310, EP Toxicity
THP ARI, Metals in tissue ($HNO_3/HClO_4$)
TPP PSEP, Metals in tissue ($HNO_3/HClO_4$)
TRM Journal, Mercury in tissue
TRN Journal, Metals in tissue (HNO_3/H_2O_2)
URN ARI, Concentration by coprecipitation
UEM USEPA 1311, TCLP followed by TMM
UEN USEPA 1311, TCLP Extraction
WHM ARI, Mercury in miscellaneous materials
WHN ARI, Metals in miscellaneous materials
OAM ARI, Mercury in oil, grease or tar
OAN ARI, Metals in oil, grease or tar
PHM ARI, Mercury in wipes
PHN ARI, Metals in wipes
RCC USEPA CLP, Water digestion, HCl matrix
RCN USEPA CLP, Water digestion, HNO_3 matrix
REC EPA 600/4-79-020 4.1.4, HCl matrix
[ ] EPA 600/4-79-020 200.7 and 9.4
REN EPA 600/4-79-020 4.1.4, HNO_3 matrix
RMA EPA 600/4-79-020 206.2
RWC USEPA SW-846 3005
SCC USEPA CLP, Soil digestion, HCl matrix
SCM USEPA CLP, Mercury in soil
SCN USEPA CLP, Soil digestion, HNO_3 matrix
SEM EPA 600/4-79-020 245.5, Mercury in soil
SHF ARI, Metals in soil, HF digestion
SMN Agronomy,Metals in soil, Water extract
SMM SMN followed by DMM, Dissolved mercury
SPM USEPA 1312, SPLP extraction followed by TMM
SPN USEPA 1312, SPLP Extraction
SSS Standard Methods 302C, Ti in soil
SW6 USEPA SW-846 3060, Cr(VI) in soil
SWC USEPA SW-846 3050, HCl matrix
SWN USEPA SW-846 3050, HNO_3 matrix
SZF PSEP/PSDDA, Microwave, Total acid digestion
TEC EPA 600/4-79-020 4.1.3, HCl matrix
TEG EPA 600/4-79-020 272.1, Silver in water
TEI EPA 600/4-79-020 200.7 and 9.3
TEN EPA 600/4-79-020 4.1.3, HNO_3 matrix
THG ARI, Silver in photographic solutions
TMM EPA 600/4-79-020 245.1, Mercury in water
TSC Standard Methods 302C, Sb/Sn in water
TSN Standard Methods 302D
TSS Standard Methods 302E, Ti in water
TWC USEPA SW-846 3010, HCl matrix
TWG USEPA SW-846 7760, Silver in water
TWN USEPA SW-846 3020, HNO_3 matrix
WMN EPA 600/4-79-020, Preserved, undigested water

CONCENTRATION CODES

These codes are used to qualify reported concentrations:

U No analyte was detected. The reported value is the lower limit of detection.

METHOD CODES

These codes signify the instrumental technique used for analysis:

CVA Cold Vapor Atomic Absorption Spectrophotometry
FLA Flame Atomic Absorption Spectrophotometry
GFA Graphite Furnace Atomic Absorption Spectrophotometry
ICP Inductively Coupled Plasma Atomic Emission Spectrometry

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ARI job number: J477
ARI Sample number: A
Client: Landau Associates
Contact: Bill Evans
Matrix: Soil

% Solids: 89.31

ID number: MW-2-20.3
Project: 275002
Description:
Sampled: 01/14/95
Received: 01/16/95

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.1 mg/kg-dry	U	0.1	SWC	GFA	01/24/95
7440-38-2	Arsenic	3.1 mg/kg-dry		0.5	SWN	GFA	01/26/95
7440-41-7	Beryllium	0.3 mg/kg-dry		0.1	SWC	ICP	01/19/95
7440-43-9	Cadmium	0.2 mg/kg-dry	U	0.2	SWC	ICP	01/19/95
7440-47-3	Chromium	24.6 mg/kg-dry		0.6	SWC	ICP	01/19/95
7440-50-8	Copper	21.9 mg/kg-dry		0.2	SWC	ICP	01/19/95
7439-92-1	Lead	3.9 mg/kg-dry		0.2	SWN	GFA	01/20/95
7439-97-6	Mercury	0.04 mg/kg-dry	U	0.04	SCM	CVA	01/19/95
7440-02-0	Nickel	16 mg/kg-dry		1	SWC	ICP	01/19/95
7782-49-2	Selenium	0.1 mg/kg-dry		0.1	SWN	GFA	01/24/95
7440-22-4	Silver	0.3 mg/kg-dry	U	0.3	SWC	ICP	01/19/95
7440-28-0	Thallium	0.5 mg/kg-dry	U	0.5	SWN	GFA	01/24/95
7440-66-6	Zinc	53.2 mg/kg-dry		0.4	SWC	ICP	01/19/95

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ARI job number: J477
ARI Sample number: MB
Client: Landau Associates
Contact: Bill Evans
Matrix: Soil

% Solids: 100.0

ID number:
Project: 275002
Description: Method Blank
Sampled: / /
Received: / /

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.1 mg/kg-dry	U	0.1	SWC	GFA	01/24/95
7440-38-2	Arsenic	0.1 mg/kg-dry	U	0.1	SWN	GFA	01/23/95
7440-41-7	Beryllium	0.1 mg/kg-dry	U	0.1	SWC	ICP	01/19/95
7440-43-9	Cadmium	0.2 mg/kg-dry	U	0.2	SWC	ICP	01/19/95
7440-47-3	Chromium	0.5 mg/kg-dry	U	0.5	SWC	ICP	01/19/95
7440-50-8	Copper	0.2 mg/kg-dry	U	0.2	SWC	ICP	01/19/95
7439-92-1	Lead	0.1 mg/kg-dry	U	0.1	SWN	GFA	01/20/95
7439-97-6	Mercury	0.05 mg/kg-dry	U	0.05	SCM	CVA	01/19/95
7440-02-0	Nickel	1 mg/kg-dry	U	1	SWC	ICP	01/19/95
7782-49-2	Selenium	0.1 mg/kg-dry	U	0.1	SWN	GFA	01/24/95
7440-22-4	Silver	0.3 mg/kg-dry	U	0.3	SWC	ICP	01/19/95
7440-28-0	Thallium	0.1 mg/kg-dry	U	0.1	SWN	GFA	01/24/95
7440-66-6	Zinc	0.4 mg/kg-dry		0.4	SWC	ICP	01/19/95

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ARI job number: J477
ARI Sample number: MBSPK
Client: Landau Associates
Contact: Bill Evans
Matrix: Soil

% Solids: 100.0

ID number:
Project: 275002
Description: Method Blank Spike
Sampled: / /
Received: / /

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	10.7 mg/kg-dry		0.5	SWC	GFA	01/24/95
7440-38-2	Arsenic	10.4 mg/kg-dry		0.5	SWN	GFA	01/23/95
7440-41-7	Beryllium	4.9 mg/kg-dry		0.1	SWC	ICP	01/19/95
7440-43-9	Cadmium	9.9 mg/kg-dry		0.2	SWC	ICP	01/19/95
7440-47-3	Chromium	25.5 mg/kg-dry		0.5	SWC	ICP	01/19/95
7440-50-8	Copper	10.0 mg/kg-dry		0.2	SWC	ICP	01/19/95
7439-92-1	Lead	9.5 mg/kg-dry		0.5	SWN	GFA	01/20/95
7439-97-6	Mercury	0.44 mg/kg-dry		0.05	SCM	CVA	01/19/95
7440-02-0	Nickel	50 mg/kg-dry		1	SWC	ICP	01/19/95
7782-49-2	Selenium	10.6 mg/kg-dry		0.5	SWN	GFA	01/24/95
7440-22-4	Silver	24.6 mg/kg-dry		0.3	SWC	ICP	01/19/95
7440-28-0	Thallium	10.1 mg/kg-dry		0.5	SWN	GFA	01/24/95
7440-66-6	Zinc	50.3 mg/kg-dry		0.4	SWC	ICP	01/19/95

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Matrix Spike Quality Control Report

Client: Landau Associates
Client's sample ID:
ARI sample ID: J477 MBSPK
Units: mg/kg-dry

Analyte	Meth	Sample	Matrix Spike	Spike Added	%R	Control Limit	Q
Antimony	GFA	0	10.7	10.0	107.0	75-125%	
Arsenic	GFA	0	10.4	10.0	104.0	75-125%	
Beryllium	ICP	0	4.9	5.0	98.0	75-125%	
Cadmium	ICP	0	9.9	10.0	99.0	75-125%	
Chromium	ICP	0	25.5	25.0	102.0	75-125%	
Copper	ICP	0	10.0	10.0	100.0	75-125%	
Lead	GFA	0	9.5	10.0	95.0	75-125%	
Mercury	CVA	0	0.44	0.50	88.0	75-125%	
Nickel	ICP	0	51	50	102.0	75-125%	
Selenium	GFA	0	10.6	10.0	106.0	75-125%	
Silver	ICP	0	24.6	25.0	98.4	75-125%	
Thallium	GFA	0	10.1	10.0	101.0	75-125%	
Zinc	ICP	0.4	50.3	50.0	99.8	75-125%	

%R = Percent Recovery

'Q' codes: 'N' = control limit not met
'H' = %R not applicable, sample concentration too high
'§' = Analyte not spiked

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Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW-2-20.5

Lab Sample ID: J477B
LIMS ID: 95-450
Matrix: Soil
Data Release Authorized: MAP
Reported: 01/30/95 1-31

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/14/95
Date Received: 01/16/95

Analyte	Analysis Date	Method	Dilution Factor	RL	Units		Result
Total Solids	01/18/95	EPA 160.3 SM 2540 B		0.01	Percent		88.9
Total Cyanide	01/24/95	EPA 335.2 SM4500CN-C		0.11	mg/kg	<	0.11 U

RL Analytical reporting limit
U Undetected at reported detection limit

Report for J477 received 01/16/95

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QA Report - Replicate Analysis

Matrix: Soil

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Received: 01/16/95

Data Release Authorized: MAP 1-30

DUPLICATE ANALYSIS RESULTS
CONVENTIONALS

Constituent	Units	Sample Value		Duplicate Value		RPD
ARI ID: 95-450, J477 B	**Client Sample ID: MW-2-20.5**					
Total Solids	Percent	88.9		86.7		2.5%
Total Cyanide	mg/kg	< 0.11 U		< 0.11 U		NA

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QA Report - Matrix Spike Analysis

QC Report No: J477-Landau Associates, Incorporated
Matrix: Soil
Project: 275002
Paxton Sales
Date Received: 01/16/95

Data Release Authorized: MAP
1.30

MATRIX SPIKE QA/QC REPORT
CONVENTIONALS

Constituent	Units	Sample Value	Spike Value	Spike Added	Recovery
ARI ID: 95-450, J477 B	**Client Sample ID: MW-2-20.5**				
Total Cyanide	mg/kg	< 0.11	43.7	48.6	90.0%

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(206) 621-7523 (FAX)

QA Report - Method Blank Analysis

QC Report No: J477-Landau Associates, Incorporated
Matrix: Soil
Project: 275002
Paxton Sales
Date Received: 01/16/95

Data Release Authorized: MAP 1-30

METHOD BLANK RESULTS
CONVENTIONALS

Analysis Date	Constituent	Units	Result
Method Blank			
01/18/95	Total Solids	mg residue	< 1 U
Method Blank			
01/24/95	Total Cyanide	mg/L	< 0.004 U

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QA Report - Standard Reference Material Analysis

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales

Data Release Authorized: MAP 1-30 Date Received: 01/16/95

STANDARD REFERENCE MATERIAL ANALYSIS
CONVENTIONALS

Constituent	Units	Value	True Value	Recovery
SPEX QC Lot#6-153AS				
Total Cyanide	mg/L	0.185	0.200	92.5%
Date analyzed: 01/24/95				

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ORGANIC COMPOUND DATA REPORTING QUALIFIERS

U	Indicates the compound was analyzed for, but not detected at the given detection limit.
J	Indicates an estimated value when the result is less than the calculated detection limit.
D	Indicates the surrogate/spike(s) was not detected, due to dilution of extract.
NR	Indicates the surrogate recovery cannot be reported due to matrix interference.
E	Indicates a value above the linear range of the detector. Sample dilution required.
S	Indicates no value reported due to saturation of the detector. Dilution required.
Y	Indicates a raised detection limit due to matrix interferences.
NA	Indicates compound was not analyzed.
M	Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.
B	Indicates compound was found in the associated method blank.

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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Seattle, WA 98109-5187
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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: MW-2-20.2

Lab Sample ID: J477C
LIMS ID: 95-451
Matrix: Soil
Data Release Authorized: BHB
Reported: 02/01/95

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/14/95
Date Received: 01/16/95

Instrument: FINN5
Date Analyzed: 01/26/95

Sample Amount: 4.65 g dry Wt
Percent Moisture: 10.6%

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.2 U
75-01-4	Vinyl Chloride	2.2 U
75-00-3	Chloroethane	2.2 U
75-09-2	Methylene Chloride	2.2 U
75-35-4	1,1-Dichloroethene	1.1 U
75-34-3	1,1-Dichloroethane	1.1 U
156-60-5	trans-1,2-Dichloroethene	1.1 U
67-66-3	Chloroform	1.1 U
107-06-2	1,2-Dichloroethane	1.1 U
71-55-6	1,1,1-Trichloroethane	1.1 U
56-23-5	Carbon Tetrachloride	1.1 U
75-27-4	Bromodichloromethane	1.1 U
78-87-5	1,2-Dichloropropane	1.1 U
79-01-6	Trichloroethene	1.1 U
124-48-1	Dibromochloromethane	1.1 U
79-00-5	1,1,2-Trichloroethane	1.1 U
10061-02-6	trans-1,3-Dichloropropene	1.1 U
110-75-8	2-Chloroethylvinylether	5.4 U
75-25-2	Bromoform	1.1 U
127-18-4	Tetrachloroethene	1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	1.1 U
108-90-7	Chlorobenzene	1.1 U
75-69-4	Trichlorofluoromethane	2.2 U
95-50-1	1,2-Dichlorobenzene	1.1 U
541-73-1	1,3-Dichlorobenzene	1.1 U
106-46-7	1,4-Dichlorobenzene	1.1 U
74-96-4	Bromoethane	2.2 U
74-95-3	Dibromomethane	1.1 U
630-20-6	1,1,1,2-Tetrachloroethane	1.1 U
96-18-4	1,2,3-Trichloropropane	1.1 U
108-86-1	Bromobenzene	1.1 U
95-49-8	2-Chlorotoluene	1.1 U
106-43-4	4-Chlorotoluene	1.1 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	107%
d8-Toluene	107%
Bromofluorobenzene	101%
d4-1,2-Dichlorobenzene	103%

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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(206) 621-6490
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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: MW-2-120.2

Lab Sample ID: J477D
LIMS ID: 95-452
Matrix: Soil
Data Release Authorized: BWB
Reported: 02/01/95

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/14/95
Date Received: 01/16/95

Instrument: FINN5
Date Analyzed: 01/26/95

Sample Amount: 4.52 g dry Wt
Percent Moisture: 10.1%

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.2 U
75-01-4	Vinyl Chloride	2.2 U
75-00-3	Chloroethane	2.2 U
75-09-2	Methylene Chloride	2.2 U
75-35-4	1,1-Dichloroethene	1.1 U
75-34-3	1,1-Dichloroethane	1.1 U
156-60-5	trans-1,2-Dichloroethene	1.1 U
67-66-3	Chloroform	1.1 U
107-06-2	1,2-Dichloroethane	1.1 U
71-55-6	1,1,1-Trichloroethane	1.1 U
56-23-5	Carbon Tetrachloride	1.1 U
75-27-4	Bromodichloromethane	1.1 U
78-87-5	1,2-Dichloropropane	1.1 U
79-01-6	Trichloroethene	1.1 U
124-48-1	Dibromochloromethane	1.1 U
79-00-5	1,1,2-Trichloroethane	1.1 U
10061-02-6	trans-1,3-Dichloropropene	1.1 U
110-75-8	2-Chloroethylvinylether	5.5 U
75-25-2	Bromoform	1.1 U
127-18-4	Tetrachloroethene	1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	1.1 U
108-90-7	Chlorobenzene	1.1 U
75-69-4	Trichlorofluoromethane	2.2 U
95-50-1	1,2-Dichlorobenzene	1.1 U
541-73-1	1,3-Dichlorobenzene	1.1 U
106-46-7	1,4-Dichlorobenzene	1.1 U
74-96-4	Bromoethane	2.2 U
74-95-3	Dibromomethane	1.1 U
630-20-6	1,1,1,2-Tetrachloroethane	1.1 U
96-18-4	1,2,3-Trichloropropane	1.1 U
108-86-1	Bromobenzene	1.1 U
95-49-8	2-Chlorotoluene	1.1 U
106-43-4	4-Chlorotoluene	1.1 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	101%
d8-Toluene	110%
Bromofluorobenzene	101%
d4-1,2-Dichlorobenzene	101%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: Method Blank

Lab Sample ID: 012695MB
LIMS ID: 95-451
Matrix: Soil
Data Release Authorized: BMS
Reported: 02/01/95

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: NA
Date Received: NA

Instrument: FINN5
Date Analyzed: 01/26/95

Sample Amount: 5.00 g dry Wt Equiv
Percent Moisture: NA

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-83-9	Bromoethane	2.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	113%
d8-Toluene	102%
Bromofluorobenzene	101%
d4-1,2-Dichlorobenzene	106%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by GC/MS

Lab Sample ID: J477SB
LIMS ID: 95-451
Matrix: Soil
Data Release Authorized: BMB
Reported: 02/01/95
Date Analyzed: 01/26/95

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Received: 01/16/95

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE AMT	% RECOVERY
Chloromethane	57.2	50.0	114%
Vinyl Chloride	63.1	50.0	126%
Chloroethane	52.7	50.0	105%
Methylene Chloride	50.5	50.0	101%
1,1-Dichloroethene	55.2	50.0	110%
1,1-Dichloroethane	50.8	50.0	102%
trans-1,2-Dichloroethene	51.2	50.0	102%
Chloroform	50.5	50.0	101%
1,2-Dichloroethane	53.0	50.0	106%
1,1,1-Trichloroethane	50.2	50.0	100%
Carbon Tetrachloride	53.3	50.0	107%
Bromodichloromethane	51.0	50.0	102%
1,2-Dichloropropane	52.8	50.0	106%
Trichloroethene	51.4	50.0	103%
Dibromochloromethane	49.2	50.0	98.4%
1,1,2-Trichloroethane	50.7	50.0	101%
trans-1,3-Dichloropropene	50.9	50.0	102%
2-Chloroethylvinylether	54.2	50.0	108%
Bromoform	53.3	50.0	107%
Tetrachloroethene	49.5	50.0	99.0%
1,1,2,2-Tetrachloroethane	52.2	50.0	104%
Chlorobenzene	49.7	50.0	99.4%
Trichlorofluoromethane	49.3	50.0	98.6%
1,2-Dichlorobenzene	51.0	50.0	102%
1,3-Dichlorobenzene	51.8	50.0	104%
1,4-Dichlorobenzene	48.1	50.0	96.2%
Bromoethane	57.2	50.0	114%
Dibromomethane	45.0	50.0	90.0%
1,1,1,2-Tetrachloroethane	48.7	50.0	97.4%
1,2,3-Trichloropropane	51.0	50.0	102%
Bromobenzene	50.3	50.0	101%
2-Chlorotoluene	47.8	50.0	95.6%
4-Chlorotoluene	53.7	50.0	107%

Spike Blank Surrogate Recovery	
d4-1,2-Dichloroethane	107.%
d8-Toluene	102.%
Bromofluorobenzene	109.%
d4-1,2-Dichlorobenzene	109.%

Reported in ug/kg-dry-Wt

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales

Matrix: Soil

Data Release Authorized:
Reported: 02/06/95

Date Received: 01/16/95

Lab ID	Client Sample ID	Date Analyzed	Dilution Factor	Gas Range	Diesel Range	Oil Range	Surrogate Recovery
95-453-0116MB	Method Blank	01/16/95	1:1	20 U	25 U	50 U	92.5%
95-453-J477E	MW-2-20.8	01/18/95	1:1	20 U	25 U	50 U	106%

Values reported in ppm (mg/kg) on a dry weight basis.

Surrogate is Methyl Arachidate.
Gas value based on total peaks in the range from Toluene to C12.
Diesel value based on the total peaks in the range from C12 to C24.
Oil value based on the total peaks in the range from C24 to C32.

Data Qualifiers

U	Compound not detected at the given detection limit.
X	Value detected above linear range of instrument. Dilution required.
J	Indicates an estimated value below the calculated detection limit.
S	No value reported due to saturation of the detector. Dilution required.
D	Indicates the surrogate was not detected because of dilution of the extract.
C	Indicates a probable value which cannot be confirmed due to matrix interference.
NR	Indicates no recovery due to matrix interference and/or dilution.

FORM-1 HCID

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

Lab Sample ID: J477SB
LIMS ID: 95-453
Matrix: Soil

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales

Data Release Authorized:
Reported: 01/23/95

Date extracted: 01/16/95

LABORATORY CONTROL SAMPLE RECOVERY REPORT

CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
LABORATORY CONTROL SAMPLE			
Diesel Range	539	500	108%

HCID Surrogate Recovery

Spike Blank	Methylarachidate	104%

Values reported in parts per million (mg/kg)

HCID SPIKE CONTROL LIMITS

Percent Recovery 50-150%
Duplicate RPD <50%

Advisory QA Limits

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ORGANIC COMPOUND DATA REPORTING QUALIFIERS

U Indicates the compound was analyzed for, but not detected at the given detection limit.

J Indicates an estimated value when the result is less than the calculated detection limit.

D Indicates the surrogate/spike(s) was not detected, due to dilution of extract.

NR Indicates the surrogate recovery cannot be reported due to matrix interference.

E Indicates a value above the linear range of the detector. Sample dilution required.

S Indicates no value reported due to saturation of the detector. Dilution required.

Y Indicates a raised detection limit due to matrix interferences.

NA Indicates compound was not analyzed.

M Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.

B Indicates compound was found in the associated method blank.

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 2
Lab Sample ID: J477F
LIMS ID: 95-454
Matrix: Soil
Data Release Authorized: MA
Reported: 01/19/95

Sample No: MW-2-20.4

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/14/95
Date Received: 01/16/95

Date extracted: 01/17/95
Date analyzed: 01/18/95
Instrument: FINN4
GPC Cleanup: NO

Sample Amount: 27.4 g-dry-wt
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: 8.9%
pH: 7.9

CAS Number	Analyte	ug/kg
108-95-2	Phenol	150 U
111-44-4	Bis-(2-Chloroethyl) Ether	150 U
95-57-8	2-Chlorophenol	73 U
541-73-1	1,3-Dichlorobenzene	73 U
106-46-7	1,4-Dichlorobenzene	73 U
100-51-6	Benzyl Alcohol	370 U
95-50-1	1,2-Dichlorobenzene	73 U
95-48-7	2-Methylphenol	150 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	73 U
106-44-5	4-Methylphenol	73 U
621-64-7	N-Nitroso-Di-N-Propylamine	150 U
67-72-1	Hexachloroethane	150 U
98-95-3	Nitrobenzene	73 U
78-59-1	Isophorone	73 U
88-75-5	2-Nitrophenol	370 U
105-67-9	2,4-Dimethylphenol	220 U
65-85-0	Benzoic Acid	730 U
111-91-1	bis(2-Chloroethoxy) Methane	73 U
120-83-2	2,4-Dichlorophenol	220 U
120-82-1	1,2,4-Trichlorobenzene	73 U
91-20-3	Naphthalene	73 U
106-47-8	4-Chloroaniline	220 U
87-68-3	Hexachlorobutadiene	150 U
59-50-7	4-Chloro-3-methylphenol	150 U
91-57-6	2-Methylnaphthalene	73 U
77-47-4	Hexachlorocyclopentadiene	370 U
88-06-2	2,4,6-Trichlorophenol	370 U
95-95-4	2,4,5-Trichlorophenol	370 U
91-58-7	2-Chloronaphthalene	73 U
88-74-4	2-Nitroaniline	370 U
131-11-3	Dimethylphthalate	73 U
208-96-8	Acenaphthylene	73 U
99-09-2	3-Nitroaniline	440 U
83-32-9	Acenaphthene	73 U
51-28-5	2,4-Dinitrophenol	730 U
100-02-7	4-Nitrophenol	370 U
132-64-9	Dibenzofuran	73 U
606-20-2	2,6-Dinitrotoluene	370 U

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 2 of 2
Lab Sample ID: J477F
LIMS ID: 95-454
Matrix: Soil
Data Release Authorized: MH
Reported: 01/19/95

Sample No: MW-2-20.4

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/14/95
Date Received: 01/16/95

Date extracted: 01/17/95
Date analyzed: 01/18/95
Instrument: FINN4
GPC Cleanup: NO

Sample Amount: 27.4 g-dry-wt
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: 8.9%
pH: 7.9

CAS Number	Analyte	ug/kg
121-14-2	2,4-Dinitrotoluene	370 U
84-66-2	Diethylphthalate	73 U
7005-72-3	4-Chlorophenyl-phenylether	73 U
86-73-7	Fluorene	73 U
100-01-6	4-Nitroaniline	370 U
534-52-1	4,6-Dinitro-2-Methylphenol	730 U
86-30-6	N-Nitrosodiphenylamine	73 U
101-55-3	4-Bromophenyl-phenylether	73 U
118-74-1	Hexachlorobenzene	73 U
87-86-5	Pentachlorophenol	370 U
85-01-8	Phenanthrene	73 U
86-74-8	Carbazole	73 U
120-12-7	Anthracene	73 U
84-74-2	Di-n-Butylphthalate	73 U
206-44-0	Fluoranthene	73 U
129-00-0	Pyrene	73 U
85-68-7	Butylbenzylphthalate	73 U
91-94-1	3,3'-Dichlorobenzidine	370 U
56-55-3	Benzo(a)anthracene	73 U
117-81-7	bis(2-Ethylhexyl)phthalate	73 U
218-01-9	Chrysene	73 U
117-84-0	Di-n-Octyl phthalate	73 U
205-99-2	Benzo(b)fluoranthene	73 U
207-08-9	Benzo(k)fluoranthene	73 U
50-32-8	Benzo(a)pyrene	73 U
193-39-5	Indeno(1,2,3-cd)pyrene	73 U
53-70-3	Dibenz(a,h)anthracene	73 U
191-24-2	Benzo(g,h,i)perylene	73 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	85.0%	d5-Phenol	75.3%
2-Fluorobiphenyl	79.0%	2-Fluorophenol	76.0%
d14-p-Terphenyl	87.4%	2,4,6-Tribromophenol	82.0%
d4-1,2-Dichlorobenzene	83.6%	d4-2-Chlorophenol	79.1%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 2
Lab Sample ID: J477MB
LIMS ID: 95-454
Matrix: Soil
Data Release Authorized: MH
Reported: 01/19/95

Sample No: Method Blank

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: NA
Date Received: NA

Date extracted: 01/17/95
Date analyzed: 01/18/95
Instrument: FINN2
GPC Cleanup: NO

Sample Amount: 30.0 g-dry-wt Equiv
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: NA
pH: NA

CAS Number	Analyte	ug/kg
108-95-2	Phenol	130 U
111-44-4	Bis-(2-Chloroethyl) Ether	130 U
95-57-8	2-Chlorophenol	67 U
541-73-1	1,3-Dichlorobenzene	67 U
106-46-7	1,4-Dichlorobenzene	67 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	67 U
95-48-7	2-Methylphenol	130 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	67 U
106-44-5	4-Methylphenol	67 U
621-64-7	N-Nitroso-Di-N-Propylamine	130 U
67-72-1	Hexachloroethane	130 U
98-95-3	Nitrobenzene	67 U
78-59-1	Isophorone	67 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	200 U
65-85-0	Benzoic Acid	670 U
111-91-1	bis(2-Chloroethoxy) Methane	67 U
120-83-2	2,4-Dichlorophenol	200 U
120-82-1	1,2,4-Trichlorobenzene	67 U
91-20-3	Naphthalene	67 U
106-47-8	4-Chloroaniline	200 U
87-68-3	Hexachlorobutadiene	130 U
59-50-7	4-Chloro-3-methylphenol	130 U
91-57-6	2-Methylnaphthalene	67 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,5-Trichlorophenol	330 U
91-58-7	2-Chloronaphthalene	67 U
88-74-4	2-Nitroaniline	330 U
131-11-3	Dimethylphthalate	67 U
208-96-8	Acenaphthylene	67 U
99-09-2	3-Nitroaniline	400 U
83-32-9	Acenaphthene	67 U
51-28-5	2,4-Dinitrophenol	670 U
100-02-7	4-Nitrophenol	330 U
132-64-9	Dibenzofuran	67 U
606-20-2	2,6-Dinitrotoluene	330 U

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Lab Sample ID: J477MB
LIMS ID: 95-454
Matrix: Soil
Data Release Authorized: MH
Reported: 01/19/95

Sample No: Method Blank

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: NA
Date Received: NA

Date extracted: 01/17/95
Date analyzed: 01/18/95
Instrument: FINN2
GPC Cleanup: NO

Sample Amount: 30.0 g-dry-wt Equiv
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: NA
pH: NA

CAS Number	Analyte	ug/kg
121-14-2	2,4-Dinitrotoluene	330 U
84-66-2	Diethylphthalate	67 U
7005-72-3	4-Chlorophenyl-phenylether	67 U
86-73-7	Fluorene	67 U
100-01-6	4-Nitroaniline	330 U
534-52-1	4,6-Dinitro-2-Methylphenol	670 U
86-30-6	N-Nitrosodiphenylamine	67 U
101-55-3	4-Bromophenyl-phenylether	67 U
118-74-1	Hexachlorobenzene	67 U
87-86-5	Pentachlorophenol	330 U
85-01-8	Phenanthrene	67 U
86-74-8	Carbazole	67 U
120-12-7	Anthracene	67 U
84-74-2	Di-n-Butylphthalate	67 U
206-44-0	Fluoranthene	67 U
129-00-0	Pyrene	67 U
85-68-7	Butylbenzylphthalate	67 U
91-94-1	3,3'-Dichlorobenzidine	330 U
56-55-3	Benzo(a)anthracene	67 U
117-81-7	bis(2-Ethylhexyl)phthalate	67 U
218-01-9	Chrysene	67 U
117-84-0	Di-n-Octyl phthalate	67 U
205-99-2	Benzo(b)fluoranthene	67 U
207-08-9	Benzo(k)fluoranthene	67 U
50-32-8	Benzo(a)pyrene	67 U
193-39-5	Indeno(1,2,3-cd)pyrene	67 U
53-70-3	Dibenz(a,h)anthracene	67 U
191-24-2	Benzo(g,h,i)perylene	67 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	69.7%	d5-Phenol	70.2%
2-Fluorobiphenyl	82.2%	2-Fluorophenol	82.3%
d14-p-Terphenyl	94.7%	2,4,6-Tribromophenol	46.3%
d4-1,2-Dichlorobenzene	79.2%	d4-2-Chlorophenol	75.7%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Lab Sample ID: J477SB
LIMS ID: 95-454
Matrix: Soil

QC Report No: J477-Landau Associates, Incorporated
Project: 275002
Paxton Sales

Data Release Authorized: MH
Reported: 01/19/95

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
Phenol	2220	2500	88.8%
2-Chlorophenol	1980	2500	79.2%
1,4-Dichlorobenzene	1350	1670	81.0%
N-Nitroso-Di-N-Propylamine	1430	1670	85.8%
1,2,4-Trichlorobenzene	1430	1670	85.8%
4-Chloro-3-methylphenol	2320	2500	92.8%
Acenaphthene	1470	1670	88.2%
4-Nitrophenol	1790	2500	71.6%
2,4-Dinitrotoluene	1640	1670	98.4%
Pentachlorophenol	1290	2500	51.6%
Pyrene	1740	1670	104%

Spike Blank Surrogate Recovery

d5-Nitrobenzene	69.6%	d5-Phenol	77.6%
2-Fluorobiphenyl	82.9%	2-Fluorophenol	82.0%
d14-p-Terphenyl	93.2%	2,4,6-Tribromophenol	66.0%
d4-1,2-Dichlorobenzene	74.3%	d4-2-Chlorophenol	77.8%

Values reported in ug/kg

Analytical Resources, Incorporated
Analytical Chemists and Consultants

275002

cc to MUM

February 2, 1995

Mr. Bill Evans
Landau Associates, Inc.
3600 Port of Tacoma Road
Suite 501
Tacoma, WA 98424

RE: Project No. 275002 (Yakima) Paxton Sales / ARI Job No. J468

Dear Mr. Evans:

Please find enclosed original results and Chain-of-Custody Record (COC NO. 2509) for the above-referenced project. Analytical Resources, Incorporated (ARI), accepted the fourteen soil samples on January 13, 1995. ARI received the samples intact with no discrepancies on the chain-of-custody documentation.

The laboratory analyzed the samples for volatile organic compounds by EPA method 8260, semivolatile organics by EPA method 8270, total petroleum hydrocarbons by WDOE method WTPH-HCID, metals following the EPA method 6010/7000 series, and cyanide by EPA method 335.2.

Sample analysis was routine and no analytical complications were noted for this sample delivery group.

As always, a copy of this report and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please feel free to contact me at your convenience. If I am unavailable, you can leave a message on my voice mail and I will return your call as soon as possible.

Sincerely,

ANALYTICAL RESOURCES, INC.

Bryan D. Anderson

Bryan D. Anderson
Project Manager
(206)340-2866, ext. 116

enclosures
cc: file J468

BDA/dn

J468

LANDAU ASSOCIATES, INC.
Edmonds, WA (206) 778-0907
FAX (206)778-6409

Chain-of-Custody Record

№ 2514

Date 1/12/95
Page 1 of 1

Project PAXTON SALES Job No. 275002

Client PAXTON

Project Location YAKIMA WA.

Sampler's Name CHRIS KIMMEL

Sample No.	Date	MATRIX ~~Time~~	Location	No. of Containers	Testing Parameters: WTPH-HCID	VOA 8010	ABN 8270	CN - 335.3	METALS 6010/7000	Observations/Comments
MW-1-5.2'	1/11/95	SOIL	MW-1	1	X					
MW-1-5.3'								X		
MW-1-5.1'						X				
MW-1-7.5						X				
MW-1-10.0							X			
MW-1-15.2								X		
MW-1-17.6							X			
MW-1-20.2							X			
MW-1-22.3						X				
MW-1-22.4					X					
MW-1-25.0	1/12/95				X					
MW-1-27.5					X					
MW-1-30.0						X				
MW-1-30.1							X			

Special Shipment/Handling or Storage Requirements

Method of Shipment UPS GROUND

Relinquished by	Received by	Relinquished by	Received by
Christine Kimmel	Jan Felkins		
Signature	Signature	Signature	Signature
CHRISTINE KIMMEL	JAN FELKINS		
Printed Name	Printed Name	Printed Name	Printed Name
LANDAU ASSOCIATES	A.R.I.		
Company	Company	Company	Company
Date 1/12/95 Time 1400	Date 1/13/95 Time 12:00	Date Time	Date Time

3/91

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

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333 Ninth Ave. North
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(206) 621-6490
(206) 621-7523 (FAX)

TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales

Matrix: Soil

Data Release Authorized:
Reported: 02/06/95

Date Received: 01/13/95

Lab ID	Client Sample ID	Date Analyzed	Dilution Factor	Gas Range	Diesel Range	Oil Range	Surrogate Recovery
95-411-0116MB	Method Blank	01/16/95	1:1	20 U	25 U	50 U	92.5%
95-411-J468A	MW-1-5.2'	01/17/95	1:1	20 U	25 U	50 U	93.4%
95-420-J468J	MW-1-22.4	01/17/95	1:1	20 U	25 U	50 U	112%
95-421-J468K	MW-1-25.0	01/17/95	1:1	20 U	25 U	50 U	100%
95-422-J468L	MW-1-27.5	01/17/95	1:1	20 U	25 U	50 U	98.7%

Values reported in ppm (mg/kg) on a dry weight basis.

Surrogate is Methyl Arachidate.
Gas value based on total peaks in the range from Toluene to C12.
Diesel value based on the total peaks in the range from C12 to C24.
Oil value based on the total peaks in the range from C24 to C32.

Data Qualifiers

U	Compound not detected at the given detection limit.
X	Value detected above linear range of instrument. Dilution required.
J	Indicates an estimated value below the calculated detection limit.
S	No value reported due to saturation of the detector. Dilution required.
D	Indicates the surrogate was not detected because of dilution of the extract.
C	Indicates a probable value which cannot be confirmed due to matrix interference.
NR	Indicates no recovery due to matrix interference and/or dilution.

FORM-1 HCID

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

Lab Sample ID: J468SB
LIMS ID: 95-411
Matrix: Soil

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales

Data Release Authorized:
Reported: 01/23/95

Date extracted: 01/16/95

LABORATORY CONTROL SAMPLE RECOVERY REPORT

CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
LABORATORY CONTROL SAMPLE			
Diesel Range	539	500	108%

HCID Surrogate Recovery

Spike Blank	Methylarachidate	104%

Values reported in parts per million (mg/kg)

HCID SPIKE CONTROL LIMITS

Percent Recovery 50-150%
Duplicate RPD <50%

Advisory QA Limits

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ORGANIC COMPOUND DATA REPORTING QUALIFIERS

U	Indicates the compound was analyzed for, but not detected at the given detection limit.
J	Indicates an estimated value when the result is less than the calculated detection limit.
D	Indicates the surrogate/spike(s) was not detected, due to dilution of extract.
NR	Indicates the surrogate recovery cannot be reported due to matrix interference.
E	Indicates a value above the linear range of the detector. Sample dilution required.
S	Indicates no value reported due to saturation of the detector. Dilution required.
Y	Indicates a raised detection limit due to matrix interferences.
NA	Indicates compound was not analyzed.
M	Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.
B	Indicates compound was found in the associated method blank.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: MW-1-5.1'

Lab Sample ID: J468C
LIMS ID: 95-413
Matrix: Soil
Data Release Authorized: SVS
Reported: 01/31/95

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/11/95
Date Received: 01/13/95

Instrument: FINN5
Date Analyzed: 01/25/95

Sample Amount: 4.63 g dry Wt
Percent Moisture: 7.7%

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.2 U
75-01-4	Vinyl Chloride	2.2 U
75-00-3	Chloroethane	2.2 U
75-09-2	**Methylene Chloride**	**2.4 B**
75-35-4	1,1-Dichloroethene	1.1 U
75-34-3	1,1-Dichloroethane	1.1 U
156-60-5	trans-1,2-Dichloroethene	1.1 U
67-66-3	Chloroform	1.1 U
107-06-2	1,2-Dichloroethane	1.1 U
71-55-6	1,1,1-Trichloroethane	1.1 U
56-23-5	Carbon Tetrachloride	1.1 U
75-27-4	Bromodichloromethane	1.1 U
78-87-5	1,2-Dichloropropane	1.1 U
79-01-6	Trichloroethene	1.1 U
124-48-1	Dibromochloromethane	1.1 U
79-00-5	1,1,2-Trichloroethane	1.1 U
10061-02-6	trans-1,3-Dichloropropene	1.1 U
110-75-8	2-Chloroethylvinylether	5.4 U
75-25-2	Bromoform	1.1 U
127-18-4	Tetrachloroethene	1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	1.1 U
108-90-7	Chlorobenzene	1.1 U
75-69-4	Trichlorofluoromethane	2.2 U
95-50-1	1,2-Dichlorobenzene	1.1 U
541-73-1	1,3-Dichlorobenzene	1.1 U
106-46-7	1,4-Dichlorobenzene	1.1 U
74-96-4	Bromoethane	2.2 U
74-95-3	Dibromomethane	1.1 U
630-20-6	1,1,1,2-Tetrachloroethane	1.1 U
96-18-4	1,2,3-Trichloropropane	1.1 U
108-86-1	Bromobenzene	1.1 U
95-49-8	2-Chlorotoluene	1.1 U
106-43-4	4-Chlorotoluene	1.1 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	99.5%
d8-Toluene	99.0%
Bromofluorobenzene	99.2%
d4-1,2-Dichlorobenzene	99.7%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: MW-1-7.5

Lab Sample ID: J468D
LIMS ID: 95-414
Matrix: Soil
Data Release Authorized: BWS
Reported: 01/31/95

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/11/95
Date Received: 01/13/95

Instrument: FINN5
Date Analyzed: 01/25/95

Sample Amount: 4.67 g dry Wt
Percent Moisture: 8.4%

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.1 U
75-01-4	Vinyl Chloride	2.1 U
75-00-3	Chloroethane	2.1 U
75-09-2	**Methylene Chloride**	**2.2 B**
75-35-4	1,1-Dichloroethene	1.1 U
75-34-3	1,1-Dichloroethane	1.1 U
156-60-5	trans-1,2-Dichloroethene	1.1 U
67-66-3	Chloroform	1.1 U
107-06-2	1,2-Dichloroethane	1.1 U
71-55-6	1,1,1-Trichloroethane	1.1 U
56-23-5	Carbon Tetrachloride	1.1 U
75-27-4	Bromodichloromethane	1.1 U
78-87-5	1,2-Dichloropropane	1.1 U
79-01-6	Trichloroethene	1.1 U
124-48-1	Dibromochloromethane	1.1 U
79-00-5	1,1,2-Trichloroethane	1.1 U
10061-02-6	trans-1,3-Dichloropropene	1.1 U
110-75-8	2-Chloroethylvinylether	5.4 U
75-25-2	Bromoform	1.1 U
127-18-4	Tetrachloroethene	1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	1.1 U
108-90-7	Chlorobenzene	1.1 U
75-69-4	Trichlorofluoromethane	2.1 U
95-50-1	1,2-Dichlorobenzene	1.1 U
541-73-1	1,3-Dichlorobenzene	1.1 U
106-46-7	1,4-Dichlorobenzene	1.1 U
74-96-4	Bromoethane	2.1 U
74-95-3	Dibromomethane	1.1 U
630-20-6	1,1,1,2-Tetrachloroethane	1.1 U
96-18-4	1,2,3-Trichloropropane	1.1 U
108-86-1	Bromobenzene	1.1 U
95-49-8	2-Chlorotoluene	1.1 U
106-43-4	4-Chlorotoluene	1.1 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	96.6%
d8-Toluene	97.8%
Bromofluorobenzene	98.2%
d4-1,2-Dichlorobenzene	102%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 1 of 1

Sample No: MW-1-22.3

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Lab Sample ID: J468I
LIMS ID: 95-419
Matrix: Soil
Data Release Authorized: BNP
Reported: 01/31/95

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/11/95
Date Received: 01/13/95

Instrument: FINN5
Date Analyzed: 01/25/95

Sample Amount: 4.48 g dry Wt
Percent Moisture: 12.6%

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.2 U
75-01-4	Vinyl Chloride	2.2 U
75-00-3	Chloroethane	2.2 U
75-09-2	Methylene Chloride	2.2 U
75-35-4	1,1-Dichloroethene	1.1 U
75-34-3	1,1-Dichloroethane	1.1 U
156-60-5	trans-1,2-Dichloroethene	1.1 U
67-66-3	Chloroform	1.1 U
107-06-2	1,2-Dichloroethane	1.1 U
71-55-6	1,1,1-Trichloroethane	1.1 U
56-23-5	Carbon Tetrachloride	1.1 U
75-27-4	Bromodichloromethane	1.1 U
78-87-5	1,2-Dichloropropane	1.1 U
79-01-6	Trichloroethene	1.1 U
124-48-1	Dibromochloromethane	1.1 U
79-00-5	1,1,2-Trichloroethane	1.1 U
10061-02-6	trans-1,3-Dichloropropene	1.1 U
110-75-8	2-Chloroethylvinylether	5.6 U
75-25-2	Bromoform	1.1 U
127-18-4	Tetrachloroethene	1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	1.1 U
108-90-7	Chlorobenzene	1.1 U
75-69-4	Trichlorofluoromethane	2.2 U
95-50-1	1,2-Dichlorobenzene	1.1 U
541-73-1	1,3-Dichlorobenzene	1.1 U
106-46-7	1,4-Dichlorobenzene	1.1 U
74-96-4	Bromoethane	2.2 U
74-95-3	Dibromomethane	1.1 U
630-20-6	1,1,1,2-Tetrachloroethane	1.1 U
96-18-4	1,2,3-Trichloropropane	1.1 U
108-86-1	Bromobenzene	1.1 U
95-49-8	2-Chlorotoluene	1.1 U
106-43-4	4-Chlorotoluene	1.1 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	92.4%
d8-Toluene	92.3%
Bromofluorobenzene	88.1%
d4-1,2-Dichlorobenzene	83.5%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: MW-1-30.0

Lab Sample ID: J468M
LIMS ID: 95-423
Matrix: Soil
Data Release Authorized: BNB
Reported: 01/31/95

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/12/95
Date Received: 01/13/95

Instrument: FINN5
Date Analyzed: 01/25/95

Sample Amount: 4.80 g dry Wt
Percent Moisture: 6.9%

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.1 U
75-01-4	Vinyl Chloride	2.1 U
75-00-3	Chloroethane	2.1 U
75-09-2	Methylene Chloride	2.1 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.2 U
75-25-2	Bromoform	1.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.1 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-96-4	Bromoethane	2.1 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	96.6%
d8-Toluene	97.2%
Bromofluorobenzene	91.7%
d4-1,2-Dichlorobenzene	87.4%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: Method Blank

Lab Sample ID: 012595MB
LIMS ID: 95-413
Matrix: Soil
Data Release Authorized: BWS
Reported: 01/31/95

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: NA
Date Received: NA

Instrument: FINN5
Date Analyzed: 01/25/95

Sample Amount: 5.00 g dry Wt Equiv
Percent Moisture: NA

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	**Methylene Chloride**	**2.3**
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.0 U
95-50-1	**1,2-Dichlorobenzene**	**1.5**
541-73-1	**1,3-Dichlorobenzene**	**1.6**
106-46-7	**1,4-Dichlorobenzene**	**1.6 M**
74-83-9	Bromoethane	2.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	**Bromobenzene**	**1.2**
95-49-8	**2-Chlorotoluene**	**1.1**
106-43-4	**4-Chlorotoluene**	**1.4**

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	101%
d8-Toluene	94.4%
Bromofluorobenzene	91.4%
d4-1,2-Dichlorobenzene	90.2%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: Method Blank

Lab Sample ID: 012595MB
LIMS ID: 95-419
Matrix: Soil
Data Release Authorized: BWS
Reported: 01/31/95

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: NA
Date Received: NA

Instrument: FINN5
Date Analyzed: 01/25/95

Sample Amount: 5.00 g dry Wt Equiv
Percent Moisture: NA

CAS Number	Analyte	ug/kg
74-87-3	Chloromethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-83-9	Bromoethane	2.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	87.6%
d8-Toluene	93.9%
Bromofluorobenzene	91.2%
d4-1,2-Dichlorobenzene	87.0%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by GC/MS

Lab Sample ID: J468SB
LIMS ID: 95-419
Matrix: Soil
Data Release Authorized: BWS
Reported: 01/31/95
Date Analyzed: 01/25/95

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Received: 01/13/95

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE AMT	% RECOVERY
Chloromethane	52.3	50.0	105%
Vinyl Chloride	48.2	50.0	96.4%
Chloroethane	46.1	50.0	92.2%
Methylene Chloride	55.0	50.0	110%
1,1-Dichloroethene	55.3	50.0	111%
1,1-Dichloroethane	51.3	50.0	103%
trans-1,2-Dichloroethene	54.7	50.0	109%
Chloroform	51.0	50.0	102%
1,2-Dichloroethane	51.3	50.0	103%
1,1,1-Trichloroethane	51.3	50.0	103%
Carbon Tetrachloride	49.2	50.0	98.4%
Bromodichloromethane	48.8	50.0	97.6%
1,2-Dichloropropane	49.5	50.0	99.0%
Trichloroethene	48.0	50.0	96.0%
Dibromochloromethane	47.9	50.0	95.8%
1,1,2-Trichloroethane	45.4	50.0	90.8%
trans-1,3-Dichloropropene	46.1	50.0	92.2%
2-Chloroethylvinylether	53.0	50.0	106%
Bromoform	46.2	50.0	92.4%
Tetrachloroethene	47.3	50.0	94.6%
1,1,2,2-Tetrachloroethane	51.8	50.0	104%
Chlorobenzene	47.9	50.0	95.8%
Trichlorofluoromethane	43.7	50.0	87.4%
1,2-Dichlorobenzene	47.3	50.0	94.6%
1,3-Dichlorobenzene	46.2	50.0	92.4%
1,4-Dichlorobenzene	47.7	50.0	95.4%
Bromoethane	57.5	50.0	115%
Dibromomethane	48.3	50.0	96.6%
1,1,1,2-Tetrachloroethane	47.8	50.0	95.6%
1,2,3-Trichloropropane	52.6	50.0	105%
Bromobenzene	46.0	50.0	92.0%
2-Chlorotoluene	43.9	50.0	87.8%
4-Chlorotoluene	51.3	50.0	103%

Spike Blank Surrogate Recovery	
d4-1,2-Dichloroethane	98.0%
d8-Toluene	89.4%
Bromofluorobenzene	97.0%
d4-1,2-Dichlorobenzene	94.0%

Reported in ug/kg-dry-Wt

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ORGANIC COMPOUND
DATA REPORTING QUALIFIERS

U Indicates the compound was analyzed for, but not detected at the given detection limit.

J Indicates an estimated value when the result is less than the calculated detection limit.

D Indicates the surrogate/spike(s) was not detected, due to dilution of extract.

NR Indicates the surrogate recovery cannot be reported due to matrix interference.

E Indicates a value above the linear range of the detector. Sample dilution required.

S Indicates no value reported due to saturation of the detector. Dilution required.

Y Indicates a raised detection limit due to matrix interferences.

NA Indicates compound was not analyzed.

M Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.

B Indicates compound was found in the associated method blank.

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 2
Lab Sample ID: J468G
LIMS ID: 95-417
Matrix: Soil
Data Release Authorized: MH
Reported: 01/19/95

Sample No: MW-1-17.6

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/11/95
Date Received: 01/13/95

Date extracted: 01/17/95
Date analyzed: 01/18/95
Instrument: FINN4
GPC Cleanup: NO

Sample Amount: 27.1 g-dry-wt
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: 9.9%
pH: 8.2

CAS Number	Analyte	ug/kg
108-95-2	Phenol	150 U
111-44-4	Bis-(2-Chloroethyl) Ether	150 U
95-57-8	2-Chlorophenol	74 U
541-73-1	1,3-Dichlorobenzene	74 U
106-46-7	1,4-Dichlorobenzene	74 U
100-51-6	Benzyl Alcohol	370 U
95-50-1	1,2-Dichlorobenzene	74 U
95-48-7	2-Methylphenol	150 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	74 U
106-44-5	4-Methylphenol	74 U
621-64-7	N-Nitroso-Di-N-Propylamine	150 U
67-72-1	Hexachloroethane	150 U
98-95-3	Nitrobenzene	74 U
78-59-1	Isophorone	74 U
88-75-5	2-Nitrophenol	370 U
105-67-9	2,4-Dimethylphenol	220 U
65-85-0	Benzoic Acid	740 U
111-91-1	bis(2-Chloroethoxy) Methane	74 U
120-83-2	2,4-Dichlorophenol	220 U
120-82-1	1,2,4-Trichlorobenzene	74 U
91-20-3	Naphthalene	74 U
106-47-8	4-Chloroaniline	220 U
87-68-3	Hexachlorobutadiene	150 U
59-50-7	4-Chloro-3-methylphenol	150 U
91-57-6	2-Methylnaphthalene	74 U
77-47-4	Hexachlorocyclopentadiene	370 U
88-06-2	2,4,6-Trichlorophenol	370 U
95-95-4	2,4,5-Trichlorophenol	370 U
91-58-7	2-Chloronaphthalene	74 U
88-74-4	2-Nitroaniline	370 U
131-11-3	Dimethylphthalate	74 U
208-96-8	Acenaphthylene	74 U
99-09-2	3-Nitroaniline	440 U
83-32-9	Acenaphthene	74 U
51-28-5	2,4-Dinitrophenol	740 U
100-02-7	4-Nitrophenol	370 U
132-64-9	Dibenzofuran	74 U
606-20-2	2,6-Dinitrotoluene	370 U

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Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW-1-123

Lab Sample ID: J547A
LIMS ID: 95-824
Matrix: Water
Data Release Authorized: MVP
Reported: 02/10/95 2-10

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Analyte	Analysis Date	Method	RL	Units	Result
Total Cyanide	02/09/95	EPA 335.2	0.004	mg/L	0.020

RL Analytical reporting limit

U Undetected at reported detection limit

Report for J547 received 01/24/95

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Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW-1A-123

Lab Sample ID: J547B
LIMS ID: 95-825
Matrix: Water
Data Release Authorized: MAP 2-10
Reported: 02/10/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Analyte	Analysis Date	Method	RL	Units	Result
Total Cyanide	02/09/95	EPA 335.2	0.004	mg/L	0.031

RL Analytical reporting limit

U Undetected at reported detection limit

Report for J547 received 01/24/95

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Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW-3-123

Lab Sample ID: J547C
LIMS ID: 95-826
Matrix: Water
Data Release Authorized: MAP 2-10
Reported: 02/10/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Analyte	Analysis Date	Method	RL	Units	Result
Total Cyanide	02/09/95	EPA 335.2	0.004	mg/L	< 0.005 U

RL Analytical reporting limit

U Undetected at reported detection limit

Report for J547 received 01/24/95

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Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW-2-123

Lab Sample ID: J547D
LIMS ID: 95-827
Matrix: Water
Data Release Authorized: MOP 2-10
Reported: 02/10/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Analyte	Analysis Date	Method	RL	Units	Result
Total Cyanide	02/09/95	EPA 335.2	0.004	mg/L	< 0.005 U

RL Analytical reporting limit

U Undetected at reported detection limit

Report for J547 received 01/24/95

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QA Report - Replicate Analysis

Matrix: Water

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Received: 01/24/95

Data Release Authorized: MAP 2-10

DUPLICATE ANALYSIS RESULTS
CONVENTIONALS

Constituent	Units	Sample Value	Duplicate Value	RPD
ARI ID: 95-826, J547 C	**Client Sample ID: MW-3-123**			
Total Cyanide	mg/L	< 0.005 U	< 0.005 U	NA

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QA Report - Matrix Spike Analysis

QC Report No: J547-Landau Associates, Incorporated
Matrix: Water
Project: 275002
Paxton Sales
Date Received: 01/24/95

Data Release Authorized: MSP 2/7/0

MATRIX SPIKE QA/QC REPORT
CONVENTIONALS

Constituent	Units	Sample Value	Spike Value	Spike Added	Recovery
ARI ID: 95-827, J547 D	**Client Sample ID: MW-2-123**				
Total Cyanide	mg/L	< 0.00	0.208	0.189	110%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: MW-2-123

Lab Sample ID: J547D
LIMS ID: 95-827
Matrix: Water
Data Release Authorized: MP
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Instrument: FINN3
Date Analyzed: 01/31/95

Sample Amount: 5.00 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
127-18-4	**Tetrachloroethene**	**1.7**
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-96-4	Bromoethane	2.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	100%
Bromofluorobenzene	103%
d4-1,2-Dichlorobenzene	98.1%

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QA Report - Method Blank Analysis

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Received: 01/24/95

Matrix: Water

Data Release Authorized: MOP 2-16

METHOD BLANK RESULTS
CONVENTIONALS

Analysis Date	Constituent	Units	Result	
02/09/95	Total Cyanide	mg/L	< 0.004	U

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QA Report - Standard Reference Material Analysis

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Data Release Authorized: MAP 2-10 Date Received: 01/24/95

STANDARD REFERENCE MATERIAL ANALYSIS
CONVENTIONALS

Constituent	Units	Value	True Value	Recovery
SPEX QC Lot#6-153AS				
Total Cyanide	mg/L	0.183	0.200	91.5%
Date analyzed: 02/09/95				

EXPLANATION OF INORGANIC DATA REPORT CODES

The columns labeled 'PREP', 'C', and 'M' contain important information about your analyses. The codes are defined below.

PREPARATION CODES

These 3-letter codes describe methods used to prepare samples for analysis:

AEN USEPA, Metals in air filters
AHM ARI, Mercury in air filters
AHN ARI, Metals in air filters
ANN NIOSH 7300, Metals in air filters
CAN AOAC (1984) 25.024, Metals in earthenware
DE6 EPA 600/4-79-020 218.5, Cr(VI) in water
DMM DMN followed by TMM, Dissolved mercury
DMN Filtered through .45u filter, Dissolved metals
EW6 EWN followed by DE6
EWM EWN followed by TMM
F N USEPA SW-846 1310, EP Toxicity
FHP ARI, Metals in tissue ($HNO_3/HClO_4$)
FPP PSEP, Metals in tissue ($HNO_3/HClO_4$)
FRM Journal, Mercury in tissue
FRN Journal, Metals in tissue (HNO_3/H_2O_2)
KRN ARI, Concentration by coprecipitation
LEM USEPA 1311, TCLP followed by TMM
LEN USEPA 1311, TCLP Extraction
HM ARI, Mercury in miscellaneous materials
HN ARI, Metals in miscellaneous materials
OAM ARI, Mercury in oil, grease or tar
OAN ARI, Metals in oil, grease or tar
PHM ARI, Mercury in wipes
PHN ARI, Metals in wipes
RCC USEPA CLP, Water digestion, HCl matrix
RCN USEPA CLP, Water digestion, HNO_3 matrix
REC EPA 600/4-79-020 4.1.4, HCl matrix
I EPA 600/4-79-020 200.7 and 9.4
REN EPA 600/4-79-020 4.1.4, HNO_3 matrix
PMA EPA 600/4-79-020 206.2
RWC USEPA SW-846 3005
SCC USEPA CLP, Soil digestion, HCl matrix
SCM USEPA CLP, Mercury in soil
SCN USEPA CLP, Soil digestion, HNO_3 matrix
SEM EPA 600/4-79-020 245.5, Mercury in soil
SHF ARI, Metals in soil, HF digestion
SMN Agronomy,Metals in soil, Water extract
SMM SMN followed by DMM, Dissolved mercury
SPM USEPA 1312, SPLP extraction followed by TMM
SPN USEPA 1312, SPLP Extraction
SSS Standard Methods 302C, Ti in soil
SW6 USEPA SW-846 3060, Cr(VI) in soil
SWC USEPA SW-846 3050, HCl matrix
SWN USEPA SW-846 3050, HNO_3 matrix
SZF PSEP/PSDDA, Microwave, Total acid digestion
TEC EPA 600/4-79-020 4.1.3, HCl matrix
TEG EPA 600/4-79-020 272.1, Silver in water
TEI EPA 600/4-79-020 200.7 and 9.3
TEN EPA 600/4-79-020 4.1.3, HNO_3 matrix
THG ARI, Silver in photographic solutions
TMM EPA 600/4-79-020 245.1, Mercury in water
TSC Standard Methods 302C, Sb/Sn in water
TSN Standard Methods 302D
TSS Standard Methods 302E, Ti in water
TWC USEPA SW-846 3010, HCl matrix
TWG USEPA SW-846 7760, Silver in water
TWN USEPA SW-846 3020, HNO_3 matrix
WMN EPA 600/4-79-020, Preserved, undigested water

CONCENTRATION CODES

These codes are used to qualify reported concentrations:

J No analyte was detected. The reported value is the lower limit of detection.

METHOD CODES

These codes signify the instrumental technique used for analysis:

CVA Cold Vapor Atomic Absorption Spectrophotometry
A Flame Atomic Absorption Spectrophotometry
GFA Graphite Furnace Atomic Absorption Spectrophotometry
CP Inductively Coupled Plasma Atomic Emission Spectrometry

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ARI job number: J547
ARI Sample number: A
Client: Landau Associates
Contact: Bill Evans
Matrix: Water

% Solids: 0.00

ID number: MW-1-123
Project: 275002
Description:
Sampled: 01/23/95
Received: 01/24/95

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.001 mg/L	U	0.001	RWC	GFA	01/31/95
7440-38-2	Arsenic	0.024 mg/L		0.001	RMA	GFA	02/07/95
7440-41-7	Beryllium	0.003 mg/L		0.001	TWC	ICP	01/31/95
7440-43-9	Cadmium	0.002 mg/L	U	0.002	TWC	ICP	01/31/95
7440-47-3	Chromium	0.106 mg/L		0.005	TWC	ICP	01/31/95
7440-50-8	Copper	0.210 mg/L		0.002	TWC	ICP	01/31/95
7439-92-1	Lead	0.038 mg/L		0.001	TWN	GFA	01/27/95
7439-97-6	Mercury	0.0005 mg/L		0.0001	TMM	CVA	01/27/95
7440-02-0	Nickel	0.09 mg/L		0.01	TWC	ICP	01/31/95
7782-49-2	Selenium	0.005 mg/L	U	0.005	RMA	GFA	02/02/95
7440-22-4	Silver	0.003 mg/L	U	0.003	TWC	ICP	01/31/95
7440-28-0	Thallium	0.002 mg/L		0.001	TWN	GFA	01/27/95
7440-66-6	Zinc	0.343 mg/L		0.004	TWC	ICP	01/31/95

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ARI job number: J547
ARI Sample number: ASPK
Client: Landau Associates
Contact: Bill Evans
Matrix: Water

% Solids: 0.00

ID number: MW-1-123
Project: 275002
Description: Matrix Spike
Sampled: 01/23/95
Received: 01/24/95

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.036 mg/L		0.005	RWC	GFA	01/31/95
7440-38-2	Arsenic	0.114 mg/L		0.005	RMA	GFA	02/07/95
7440-41-7	Beryllium	0.050 mg/L		0.001	TWC	ICP	01/31/95
7440-43-9	Cadmium	0.099 mg/L		0.002	TWC	ICP	01/31/95
7440-47-3	Chromium	0.353 mg/L		0.005	TWC	ICP	01/31/95
7440-50-8	Copper	0.307 mg/L		0.002	TWC	ICP	01/31/95
7439-92-1	Lead	0.140 mg/L		0.005	TWN	GFA	01/27/95
7439-97-6	Mercury	0.0015 mg/L		0.0001	TMM	CVA	01/27/95
7440-02-0	Nickel	0.58 mg/L		0.01	TWC	ICP	01/31/95
7782-49-2	Selenium	0.09 mg/L		0.01	RMA	GFA	02/02/95
7440-22-4	Silver	0.234 mg/L		0.003	TWC	ICP	01/31/95
7440-28-0	Thallium	0.100 mg/L		0.005	TWN	GFA	01/27/95
7440-66-6	Zinc	0.812 mg/L		0.004	TWC	ICP	01/31/95

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample No: MW-1-17.6

Lab Sample ID: J468G
LIMS ID: 95-417
Matrix: Soil
Data Release Authorized: MH
Reported: 01/19/95

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/11/95
Date Received: 01/13/95

Date extracted: 01/17/95
Date analyzed: 01/18/95
Instrument: FINN4
GPC Cleanup: NO

Sample Amount: 27.1 g-dry-wt
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: 9.9%
pH: 8.2

CAS Number	Analyte	ug/kg
121-14-2	2,4-Dinitrotoluene	370 U
84-66-2	Diethylphthalate	74 U
7005-72-3	4-Chlorophenyl-phenylether	74 U
86-73-7	Fluorene	74 U
100-01-6	4-Nitroaniline	370 U
534-52-1	4,6-Dinitro-2-Methylphenol	740 U
86-30-6	N-Nitrosodiphenylamine	74 U
101-55-3	4-Bromophenyl-phenylether	74 U
118-74-1	Hexachlorobenzene	74 U
87-86-5	Pentachlorophenol	370 U
85-01-8	Phenanthrene	74 U
86-74-8	Carbazole	74 U
120-12-7	Anthracene	74 U
84-74-2	Di-n-Butylphthalate	74 U
206-44-0	Fluoranthene	74 U
129-00-0	Pyrene	74 U
85-68-7	Butylbenzylphthalate	74 U
91-94-1	3,3'-Dichlorobenzidine	370 U
56-55-3	Benzo(a)anthracene	74 U
117-81-7	bis(2-Ethylhexyl)phthalate	74 U
218-01-9	Chrysene	74 U
117-84-0	Di-n-Octyl phthalate	74 U
205-99-2	Benzo(b)fluoranthene	74 U
207-08-9	Benzo(k)fluoranthene	74 U
50-32-8	Benzo(a)pyrene	74 U
193-39-5	Indeno(1,2,3-cd)pyrene	74 U
53-70-3	Dibenz(a,h)anthracene	74 U
191-24-2	Benzo(g,h,i)perylene	74 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	85.4%	d5-Phenol	77.7%
2-Fluorobiphenyl	87.2%	2-Fluorophenol	72.8%
d14-p-Terphenyl	106%	2,4,6-Tribromophenol	75.8%
d4-1,2-Dichlorobenzene	89.7%	d4-2-Chlorophenol	78.6%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 2
Lab Sample ID: J468H
LIMS ID: 95-418
Matrix: Soil
Data Release Authorized: mtf
Reported: 01/19/95

Sample No: MW-1-20.2

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/11/95
Date Received: 01/13/95

Date extracted: 01/17/95
Date analyzed: 01/18/95
Instrument: FINN4
GPC Cleanup: NO

Sample Amount: 26.2 g-dry-wt
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: 12.8%
pH: 8.0

CAS Number	Analyte	ug/kg
108-95-2	Phenol	150 U
111-44-4	Bis-(2-Chloroethyl) Ether	150 U
95-57-8	2-Chlorophenol	76 U
541-73-1	1,3-Dichlorobenzene	76 U
106-46-7	1,4-Dichlorobenzene	76 U
100-51-6	Benzyl Alcohol	380 U
95-50-1	1,2-Dichlorobenzene	76 U
95-48-7	2-Methylphenol	150 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	76 U
106-44-5	4-Methylphenol	76 U
621-64-7	N-Nitroso-Di-N-Propylamine	150 U
67-72-1	Hexachloroethane	150 U
98-95-3	Nitrobenzene	76 U
78-59-1	Isophorone	76 U
88-75-5	2-Nitrophenol	380 U
105-67-9	2,4-Dimethylphenol	230 U
65-85-0	Benzoic Acid	760 U
111-91-1	bis(2-Chloroethoxy) Methane	76 U
120-83-2	2,4-Dichlorophenol	230 U
120-82-1	1,2,4-Trichlorobenzene	76 U
91-20-3	Naphthalene	76 U
106-47-8	4-Chloroaniline	230 U
87-68-3	Hexachlorobutadiene	150 U
59-50-7	4-Chloro-3-methylphenol	150 U
91-57-6	2-Methylnaphthalene	76 U
77-47-4	Hexachlorocyclopentadiene	380 U
88-06-2	2,4,6-Trichlorophenol	380 U
95-95-4	2,4,5-Trichlorophenol	380 U
91-58-7	2-Chloronaphthalene	76 U
88-74-4	2-Nitroaniline	380 U
131-11-3	Dimethylphthalate	76 U
208-96-8	Acenaphthylene	76 U
99-09-2	3-Nitroaniline	460 U
83-32-9	Acenaphthene	76 U
51-28-5	2,4-Dinitrophenol	760 U
100-02-7	4-Nitrophenol	380 U
132-64-9	Dibenzofuran	76 U
606-20-2	2,6-Dinitrotoluene	380 U

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 2 of 2
Lab Sample ID: J468H
LIMS ID: 95-418
Matrix: Soil
Data Release Authorized: MH
Reported: 01/19/95

Sample No: MW-1-20.2

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/11/95
Date Received: 01/13/95

Date extracted: 01/17/95
Date analyzed: 01/18/95
Instrument: FINN4
GPC Cleanup: NO

Sample Amount: 26.2 g-dry-wt
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: 12.8%
pH: 8.0

CAS Number	Analyte	ug/kg
121-14-2	2,4-Dinitrotoluene	380 U
84-66-2	Diethylphthalate	76 U
7005-72-3	4-Chlorophenyl-phenylether	76 U
86-73-7	Fluorene	76 U
100-01-6	4-Nitroaniline	380 U
534-52-1	4,6-Dinitro-2-Methylphenol	760 U
86-30-6	N-Nitrosodiphenylamine	76 U
101-55-3	4-Bromophenyl-phenylether	76 U
118-74-1	Hexachlorobenzene	76 U
87-86-5	Pentachlorophenol	380 U
85-01-8	Phenanthrene	76 U
86-74-8	Carbazole	76 U
120-12-7	Anthracene	76 U
84-74-2	Di-n-Butylphthalate	76 U
206-44-0	Fluoranthene	76 U
129-00-0	Pyrene	76 U
85-68-7	Butylbenzylphthalate	76 U
91-94-1	3,3'-Dichlorobenzidine	380 U
56-55-3	Benzo(a)anthracene	76 U
117-81-7	bis(2-Ethylhexyl)phthalate	76 U
218-01-9	Chrysene	76 U
117-84-0	Di-n-Octyl phthalate	76 U
205-99-2	Benzo(b)fluoranthene	76 U
207-08-9	Benzo(k)fluoranthene	76 U
50-32-8	Benzo(a)pyrene	76 U
193-39-5	Indeno(1,2,3-cd)pyrene	76 U
53-70-3	Dibenz(a,h)anthracene	76 U
191-24-2	Benzo(g,h,i)perylene	76 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	84.2%	d5-Phenol	76.3%
2-Fluorobiphenyl	78.2%	2-Fluorophenol	71.1%
d14-p-Terphenyl	86.8%	2,4,6-Tribromophenol	73.0%
d4-1,2-Dichlorobenzene	82.7%	d4-2-Chlorophenol	79.0%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 2
Lab Sample ID: J468MB
LIMS ID: 95-417
Matrix: Soil
Data Release Authorized: MA
Reported: 01/19/95

Sample No: Method Blank
QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: NA
Date Received: NA

Date extracted: 01/17/95
Date analyzed: 01/18/95
Instrument: FINN2
GPC Cleanup: NO

Sample Amount: 30.0 g-dry-wt Equiv
Final Extract Volume: 2.0 mL
Dilution Factor: 1:1
Percent Moisture: NA
pH: NA

CAS Number	Analyte	ug/kg
108-95-2	Phenol	130 U
111-44-4	Bis-(2-Chloroethyl) Ether	130 U
95-57-8	2-Chlorophenol	67 U
541-73-1	1,3-Dichlorobenzene	67 U
106-46-7	1,4-Dichlorobenzene	67 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	67 U
95-48-7	2-Methylphenol	130 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	67 U
106-44-5	4-Methylphenol	67 U
621-64-7	N-Nitroso-Di-N-Propylamine	130 U
67-72-1	Hexachloroethane	130 U
98-95-3	Nitrobenzene	67 U
78-59-1	Isophorone	67 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	200 U
65-85-0	Benzoic Acid	670 U
111-91-1	bis(2-Chloroethoxy) Methane	67 U
120-83-2	2,4-Dichlorophenol	200 U
120-82-1	1,2,4-Trichlorobenzene	67 U
91-20-3	Naphthalene	67 U
106-47-8	4-Chloroaniline	200 U
87-68-3	Hexachlorobutadiene	130 U
59-50-7	4-Chloro-3-methylphenol	130 U
91-57-6	2-Methylnaphthalene	67 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,5-Trichlorophenol	330 U
91-58-7	2-Chloronaphthalene	67 U
88-74-4	2-Nitroaniline	330 U
131-11-3	Dimethylphthalate	67 U
208-96-8	Acenaphthylene	67 U
99-09-2	3-Nitroaniline	400 U
83-32-9	Acenaphthene	67 U
51-28-5	2,4-Dinitrophenol	670 U
100-02-7	4-Nitrophenol	330 U
132-64-9	Dibenzofuran	67 U
606-20-2	2,6-Dinitrotoluene	330 U

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QA Report - Method Blank Analysis

Matrix: Soil

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Received: 01/13/95

Data Release Authorized: MAP 1-30

METHOD BLANK RESULTS
CONVENTIONALS

Analysis Date	Constituent	Units	Result
Method Blank			
01/16/95	Total Solids	mg residue	< 1 U
Method Blank			
01/18/95	Total Cyanide	mg/L	< 0.004 U

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QA Report - Standard Reference Material Analysis

QC Report No: J468-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Received: 01/13/95

Data Release Authorized: MAP 1-30

STANDARD REFERENCE MATERIAL ANALYSIS
CONVENTIONALS

Constituent	Units	Value	True Value	Recovery
SPEX QC Lot#6-153AS				
Total Cyanide	mg/L	0.193	0.200	96.5%
Date analyzed: 01/18/95				

EXPLANATION OF INORGANIC DATA REPORT CODES

The columns labeled 'PREP', 'C', and 'M' contain important information about your analyses. The codes are defined below.

PREPARATION CODES

These 3-letter codes describe methods used to prepare samples for analysis:

AEN USEPA, Metals in air filters
AHM ARI, Mercury in air filters
AHN ARI, Metals in air filters
ANN NIOSH 7300, Metals in air filters
CAN AOAC (1984) 25.024, Metals in earthenware
DE6 EPA 600/4-79-020 218.5, Cr(VI) in water
DMM DMN followed by TMM, Dissolved mercury
DMN Filtered through .45u filter, Dissolved metals
EW6 EWN followed by DE6
EWM EWN followed by TMM
F[illegible]N USEPA SW-846 1310, EP Toxicity
[illegible] ARI, Metals in tissue ($HNO_3/HClO_4$)
?PP PSEP, Metals in tissue ($HNO_3/HClO_4$)
FRM Journal, Mercury in tissue
FRN Journal, Metals in tissue (HNO_3/H_2O_2)
KRN ARI, Concentration by coprecipitation
LEM USEPA 1311, TCLP followed by TMM
LEN USEPA 1311, TCLP Extraction
MHM ARI, Mercury in miscellaneous materials
.HN ARI, Metals in miscellaneous materials
OAM ARI, Mercury in oil, grease or tar
OAN ARI, Metals in oil, grease or tar
PHM ARI, Mercury in wipes
PHN ARI, Metals in wipes
RCC USEPA CLP, Water digestion, HCl matrix
RCN USEPA CLP, Water digestion, HNO_3 matrix
REC EPA 600/4-79-020 4.1.4, HCl matrix
R[illegible] EPA 600/4-79-020 200.7 and 9.4
K[illegible]N EPA 600/4-79-020 4.1.4, HNO_3 matrix
RMA EPA 600/4-79-020 206.2
RWC USEPA SW-846 3005
SCC USEPA CLP, Soil digestion, HCl matrix
SCM USEPA CLP, Mercury in soil
SCN USEPA CLP, Soil digestion, HNO_3 matrix
SEM EPA 600/4-79-020 245.5, Mercury in soil
SHF ARI, Metals in soil, HF digestion
SMN Agronomy,Metals in soil, Water extract
SMM SMN followed by DMM, Dissolved mercury
SPM USEPA 1312, SPLP extraction followed by TMM
SPN USEPA 1312, SPLP Extraction
SSS Standard Methods 302C, Ti in soil
SW6 USEPA SW-846 3060, Cr(VI) in soil
SWC USEPA SW-846 3050, HCl matrix
SWN USEPA SW-846 3050, HNO_3 matrix
SZF PSEP/PSDDA, Microwave, Total acid digestion
TEC EPA 600/4-79-020 4.1.3, HCl matrix
TEG EPA 600/4-79-020 272.1, Silver in water
TEI EPA 600/4-79-020 200.7 and 9.3
TEN EPA 600/4-79-020 4.1.3, HNO_3 matrix
THG ARI, Silver in photographic solutions
TMM EPA 600/4-79-020 245.1, Mercury in water
TSC Standard Methods 302C, Sb/Sn in water
TSN Standard Methods 302D
TSS Standard Methods 302E, Ti in water
TWC USEPA SW-846 3010, HCl matrix
TWG USEPA SW-846 7760, Silver in water
TWN USEPA SW-846 3020, HNO_3 matrix
WMN EPA 600/4-79-020, Preserved, undigested water

CONCENTRATION CODES

These codes are used to qualify reported concentrations:

U No analyte was detected. The reported value is the lower limit of detection.

METHOD CODES

These codes signify the instrumental technique used for analysis:

CVA Cold Vapor Atomic Absorption Spectrophotometry
FLA Flame Atomic Absorption Spectrophotometry
[illegible]A Graphite Furnace Atomic Absorption Spectrophotometry
ICP Inductively Coupled Plasma Atomic Emission Spectrometry

cc to MLM
mp 2/14

Analytical Resources, Incorporated
Analytical Chemists and Consultants

February 13, 1995

Mr. Bill Evans
Landau Associates, Inc.
3600 Port of Tacoma Road
Suite 501
Tacoma, WA 98424

RE: Project No. 275002 (Yakima) Paxton Sales / ARI Job No. J547

Dear Mr. Evans:

Please find enclosed original results and Chain-of-Custody Record (COC NO. 2508) for the above-referenced project. Analytical Resources, Incorporated (ARI), accepted the following four water samples on January 24, 1995:

MW-1-123 MW-1A-123 MW-3-123 MW-2-123

Two VOC containers associated with sample **MW-1-123** were received broken. The remaining samples were received intact and the laboratory was able to complete the requested analyses without incident. The laboratory analyzed the samples for volatile organic compounds by EPA method 8260 with a modified 8010 compound list, semivolatile organics by EPA method 8270, total petroleum hydrocarbons by WDOE method WTPH-D, metals following the EPA method 6010/7000 series, and cyanide by EPA method 335.2.

As always, a copy of this report and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please feel free to contact me at your convenience. If I am unavailable, you can leave a message on my voice mail and I will return your call as soon as possible.

Sincerely,

ANALYTICAL RESOURCES, INC.

Bryan D. Anderson

Bryan D. Anderson
Project Manager
(206)340-2866, ext. 116

enclosures
cc: file J547

BDA/bda

LANDAU ASSOCIATES, INC.
Edmonds, WA (206) 778-0907
FAX (206)778-6409

Chain-of-Custody Record

№ 2508

Date 1/23/95
Page 1 of 1

Project Paxton Sales Job No. 275002

Client Velinkanje, Moore & Shore

Project Location Yakima WA.

Sampler's Name Christine Kimmel

J547

cooler Temp. 2.0°C

Sample No.	Date	Time	Location	Type	No. of Containers	VOC	WTPH-D	CLP 335.2	Metals 6010/7000	ABN					Observations/Comments
MW-1-123	1/23/95	1100	MW-1	WATER	7	X	X	X	X	X					
MW-1A-123	"	1230	MW-1A	"	7	X	X	X	X	X					No samples were field filtered
MW-3-123	"	1340	MW-3	"	7	X	X	X	X	X					
MW-2-123	"	1430	MW-2	"	7	X	X	X	X	X					
TRIP BLANK	1/20/95				1										
TEMP BLANK					2										
															MW-1-123 2 of 3 received broken 1/24/95 S.M.

Special Shipment/Handling or Storage Requirements

Method of Shipment UPS ground

Relinquished by	Received by	Relinquished by	Received by
Christine Kimmel	Shelby Miller		
Signature	Signature	Signature	Signature
Christine Kimmel	Shelby Miller		
Printed Name	Printed Name	Printed Name	Printed Name
Landau Associates	ARI		
Company	Company	Company	Company
Date 1/23/95 Time 1540	Date 1/24/95 Time 12:15	Date ____ Time ____	Date ____ Time ____

3/91

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

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ORGANIC COMPOUND
DATA REPORTING QUALIFIERS

U Indicates the compound was analyzed for, but not detected at the given detection limit.

J Indicates an estimated value when the result is less than the calculated detection limit.

D Indicates the surrogate/spike(s) was not detected, due to dilution of extract.

NR Indicates the surrogate recovery cannot be reported due to matrix interference.

E Indicates a value above the linear range of the detector. Sample dilution required.

S Indicates no value reported due to saturation of the detector. Dilution required.

Y Indicates a raised detection limit due to matrix interferences.

NA Indicates compound was not analyzed.

M Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.

B Indicates compound was found in the associated method blank.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 1 of 1

Sample No: MW-1-123

Lab Sample ID: J547A
LIMS ID: 95-824
Matrix: Water
Data Release Authorized: *MH*
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Instrument: FINN3
Date Analyzed: 01/31/95

Sample Amount: 5.00 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
127-18-4	**Tetrachloroethene**	**2.3**
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-96-4	Bromoethane	2.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	107%
d8-Toluene	97.9%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	104%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 1 of 1

Sample No: MW-1A-123

Lab Sample ID: J547B
LIMS ID: 95-825
Matrix: Water
Data Release Authorized: *AP*
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Instrument: FINN3
Date Analyzed: 01/31/95

Sample Amount: 5.00 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
127-18-4	**Tetrachloroethene**	**2.2**
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-96-4	Bromoethane	2.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	98.5%
Bromofluorobenzene	96.2%
d4-1,2-Dichlorobenzene	104%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 1 of 1

Sample No: MW-3-123

Lab Sample ID: J547C
LIMS ID: 95-826
Matrix: Water
Data Release Authorized: JBP
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Instrument: FINN3
Date Analyzed: 01/31/95

Sample Amount: 5.00 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
127-18-4	**Tetrachloroethene**	**3.1**
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-96-4	Bromoethane	2.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%
d8-Toluene	98.6%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	102%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: Trip Blank

Lab Sample ID: J547E
LIMS ID: 95-828
Matrix: Water
Data Release Authorized: DH
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/20/95
Date Received: 01/24/95

Instrument: FINN3
Date Analyzed: 01/31/95

Sample Amount: 5.00 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-96-4	Bromoethane	2.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	105%
d8-Toluene	96.5%
Bromofluorobenzene	108%
d4-1,2-Dichlorobenzene	98.2%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 1 of 1

Sample No: Method Blank

Lab Sample ID: 013195MB
LIMS ID: 95-824
Matrix: Water
Data Release Authorized: *DSH*
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: NA
Date Received: NA

Instrument: FINN3
Date Analyzed: 01/31/95

Sample Amount: 5.00 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-90-7	Chlorobenzene	1.0 U
75-69-4	Trichlorofluoromethane	2.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
74-83-9	Bromoethane	2.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-18-4	1,2,3-Trichloropropane	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	117%
d8-Toluene	101%
Bromofluorobenzene	99.9%
d4-1,2-Dichlorobenzene	103%

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ORGANICS ANALYSIS DATA SHEET
Volatiles by GC/MS
Page 1 of 1

Lab Sample ID: J547SB
LIMS ID: 95-824
Matrix: Water
Data Release Authorized: MP
Reported: 02/08/95
Date Analyzed: 01/31/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Received: 01/24/95

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE AMT	% RECOVERY
Chloromethane	40.8	50.0	81.6%
Vinyl Chloride	42.7	50.0	85.4%
Chloroethane	37.1	50.0	74.2%
Methylene Chloride	49.6	50.0	99.2%
1,1-Dichloroethene	46.8	50.0	93.6%
1,1-Dichloroethane	50.5	50.0	101%
trans-1,2-Dichloroethene	50.5	50.0	101%
Chloroform	46.0	50.0	92.0%
1,2-Dichloroethane	46.1	50.0	92.2%
1,1,1-Trichloroethane	51.6	50.0	103%
Carbon Tetrachloride	47.3	50.0	94.6%
Bromodichloromethane	48.7	50.0	97.4%
1,2-Dichloropropane	49.1	50.0	98.2%
Trichloroethene	48.1	50.0	96.2%
Dibromochloromethane	48.0	50.0	96.0%
1,1,2-Trichloroethane	46.5	50.0	93.0%
trans-1,3-Dichloropropene	45.5	50.0	91.0%
2-Chloroethylvinylether	51.9	50.0	104%
Bromoform	45.6	50.0	91.2%
Tetrachloroethene	47.1	50.0	94.2%
1,1,2,2-Tetrachloroethane	48.0	50.0	96.0%
Chlorobenzene	48.6	50.0	97.2%
Trichlorofluoromethane	34.4	50.0	68.8%
1,2-Dichlorobenzene	48.0	50.0	96.0%
1,3-Dichlorobenzene	47.5	50.0	95.0%
1,4-Dichlorobenzene	47.5	50.0	95.0%
Bromoethane	51.8	50.0	104%
Dibromomethane	47.7	50.0	95.4%
1,1,1,2-Tetrachloroethane	47.2	50.0	94.4%
1,2,3-Trichloropropane	50.2	50.0	100%
Bromobenzene	45.3	50.0	90.6%
2-Chlorotoluene	45.6	50.0	91.2%
4-Chlorotoluene	48.5	50.0	97.0%

Spike Blank Surrogate Recovery	
d4-1,2-Dichloroethane	106%
d8-Toluene	98.1%
Bromofluorobenzene	98.8%
d4-1,2-Dichlorobenzene	102%

Reported in ug/L

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TOTAL DIESEL RANGE HYDROCARBONS
WA TPHd Range C12 to C24 by GC/FID

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales

Matrix: Water

Data Release Authorized:
Reported: 02/01/95

Date Received: 01/24/95

Lab ID	Client Sample ID	Date Extracted	Date Analyzed	Dilution Factor	Diesel Range Hydrocarbons		*Diesel ID	Surrogate Recovery
J547-0128MB	Method Blank	01/25/95	01/28/95	1:1	0.25	U	--	126%
95-824-J547A	MW-1-123	01/25/95	01/28/95	1:1	0.25	U	--	123%
95-825-J547B	MW-1A-123	01/25/95	01/28/95	1:1	0.25	U	--	123%
95-826-J547C	MW-3-123	01/25/95	01/28/95	1:1	0.25	U	--	121%
95-827-J547D	MW-2-123	01/25/95	01/28/95	1:1	0.25	U	--	139%

Surrogate is Methyl Arachidate.
* ID indicates, in the opinion of the analyst, the petroleum product with the best pattern match. 'NO' indicates that there was not a good match for any of the requested products.
Values reported in ppm (mg/L) on an weight-as-received basis.
Diesel quantitation on total peaks in the range from C12 to C24.

Data Qualifiers

U	Compound not detected at the given detection limit.
X	Value detected above linear range of instrument. Dilution required.
J	Indicates an estimated value below the calculated detection limit.
S	No value reported due to saturation of the detector. Dilution required.
D	Indicates the surrogate was not detected because of dilution of the extract.
C	Indicates a probable value which cannot be confirmed due to matrix interference.
NR	Indicates no recovery due to matrix interference and/or dilution.

FORM-1 WA TPH-D

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TOTAL DIESEL RANGE HYDROCARBONS
WA TPHd Range C12 to C24 by GC/FID

Lab Sample ID: J547SB
LIMS ID: 95-824
Matrix: Water

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales

Data Released Authorized:
Reported: 02/01/95

LABORATORY CONTROL SAMPLE RECOVERY REPORT

CONSTITUENT	SPIKE FOUND	SPIKE ADDED	% RECOVERY
Diesel Range Hydrocarbons	2.66	2.50	106%

TPHd Surrogate Recovery

Methylarachidate	139%

Values reported in parts per million (mg/L)

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Matrix Spike Quality Control Report

Client: Landau Associates
Client's sample ID: MW-1-123
ARI sample ID: J547 ASPK
Units: mg/L

Analyte	Meth	Sample	Matrix Spike	Spike Added	%R	Control Limit	Q
Antimony	GFA	0	0.036	0.100	36.0	75-125%	N
Arsenic	GFA	0.024	0.114	0.100	90.0	75-125%	
Beryllium	ICP	0.003	0.050	0.050	94.0	75-125%	
Cadmium	ICP	0	0.100	0.100	100.0	75-125%	
Chromium	ICP	0.106	0.353	0.250	98.8	75-125%	
Copper	ICP	0.210	0.307	0.100	97.0	75-125%	
Lead	GFA	0.038	0.140	0.100	102.0	75-125%	
Mercury	CVA	0.0005	0.0015	0.0010	100.0	75-125%	
Nickel	ICP	0.09	0.58	0.50	98.0	75-125%	
Selenium	GFA	0	0.089	0.100	89.0	75-125%	
Silver	ICP	0	0.234	0.250	93.6	75-125%	
Thallium	GFA	0.002	0.100	0.100	98.0	75-125%	
Zinc	ICP	0.343	0.812	0.500	93.8	75-125%	

%R = Percent Recovery

'Q' codes: 'N' = control limit not met
'H' = %R not applicable, sample concentration too high
'§' = Analyte not spiked

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ARI job number: J547
ARI Sample number: B
Client: Landau Associates
Contact: Bill Evans
Matrix: Water

% Solids: 0.00

ID number: MW-1A-123
Project: 275002
Description:
Sampled: 01/23/95
Received: 01/24/95

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.001 mg/L	U	0.001	RWC	GFA	01/31/95
7440-38-2	Arsenic	0.007 mg/L		0.001	RMA	GFA	02/02/95
7440-41-7	Beryllium	0.002 mg/L		0.001	TWC	ICP	01/31/95
7440-43-9	Cadmium	0.002 mg/L	U	0.002	TWC	ICP	01/31/95
7440-47-3	Chromium	0.085 mg/L		0.005	TWC	ICP	01/31/95
7440-50-8	Copper	0.185 mg/L		0.002	TWC	ICP	01/31/95
7439-92-1	Lead	0.034 mg/L		0.001	TWN	GFA	01/27/95
7439-97-6	Mercury	0.0005 mg/L		0.0001	TMM	CVA	01/27/95
7440-02-0	Nickel	0.08 mg/L		0.01	TWC	ICP	01/31/95
7782-49-2	Selenium	0.005 mg/L	U	0.005	RMA	GFA	02/02/95
7440-22-4	Silver	0.003 mg/L	U	0.003	TWC	ICP	01/31/95
7440-28-0	Thallium	0.002 mg/L		0.001	TWN	GFA	01/27/95
7440-66-6	Zinc	0.289 mg/L		0.004	TWC	ICP	01/31/95

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ARI job number: J547
ARI Sample number: BDUP
Client: Landau Associates
Contact: Bill Evans
Matrix: Water

% Solids: 0.00

ID number: MW-1A-123
Project: 275002
Description: Laboratory Duplicate
Sampled: 01/23/95
Received: 01/24/95

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.001 mg/L	U	0.001	RWC	GFA	01/31/95
7440-38-2	Arsenic	0.007 mg/L		0.001	RMA	GFA	02/02/95
7440-41-7	Beryllium	0.002 mg/L		0.001	TWC	ICP	01/31/95
7440-43-9	Cadmium	0.002 mg/L		0.002	TWC	ICP	01/31/95
7440-47-3	Chromium	0.094 mg/L		0.005	TWC	ICP	01/31/95
7440-50-8	Copper	0.184 mg/L		0.002	TWC	ICP	01/31/95
7439-92-1	Lead	0.035 mg/L		0.001	TWN	GFA	01/27/95
7439-97-6	Mercury	0.0004 mg/L		0.0001	TMM	CVA	01/27/95
7440-02-0	Nickel	0.08 mg/L		0.01	TWC	ICP	01/31/95
7782-49-2	Selenium	0.006 mg/L		0.005	RMA	GFA	02/02/95
7440-22-4	Silver	0.003 mg/L	U	0.003	TWC	ICP	01/31/95
7440-28-0	Thallium	0.001 mg/L		0.001	TWN	GFA	01/27/95
7440-66-6	Zinc	0.296 mg/L		0.004	TWC	ICP	01/31/95

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ARI job number: J547
ARI Sample number: D
Client: Landau Associates
Contact: Bill Evans
Matrix: Water

% Solids: 0.00

ID number: MW-2-123
Project: 275002
Description:
Sampled: 01/23/95
Received: 01/24/95

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.001 mg/L	U	0.001	RWC	GFA	01/31/95
7440-38-2	Arsenic	0.007 mg/L		0.001	RMA	GFA	01/30/95
7440-41-7	Beryllium	0.003 mg/L		0.001	TWC	ICP	01/31/95
7440-43-9	Cadmium	0.002 mg/L	U	0.002	TWC	ICP	01/31/95
7440-47-3	Chromium	0.127 mg/L		0.005	TWC	ICP	01/31/95
7440-50-8	Copper	0.289 mg/L		0.002	TWC	ICP	01/31/95
7439-92-1	Lead	0.046 mg/L		0.001	TWN	GFA	01/27/95
7439-97-6	Mercury	0.0005 mg/L		0.0001	TMM	CVA	01/27/95
7440-02-0	Nickel	0.10 mg/L		0.01	TWC	ICP	01/31/95
7782-49-2	Selenium	0.007 mg/L		0.005	RMA	GFA	02/02/95
7440-22-4	Silver	0.003 mg/L	U	0.003	TWC	ICP	01/31/95
7440-28-0	Thallium	0.002 mg/L		0.001	TWN	GFA	01/27/95
7440-66-6	Zinc	0.403 mg/L		0.004	TWC	ICP	01/31/95

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Matrix Duplicate Quality Control Report

Client: Landau Associates
Client's sample ID: MW-1A-123
ARI sample ID: J547 BDUP
Units: mg/L

Analyte	Meth	Original Sample	Matrix Duplicate	RPD	Control Limit	Q
Antimony	GFA	U 0.001	U 0.001	0.0	± 0.001	L
Arsenic	GFA	0.007	0.007	0.0	± 20 %	
Beryllium	ICP	0.002	0.002	0.0	± 0.001	L
Cadmium	ICP	U 0.002	0.002	0.0	± 0.002	L
Chromium	ICP	0.085	0.094	10.1	± 20 %	
Copper	ICP	0.185	0.184	0.5	± 20 %	
Lead	GFA	0.034	0.035	2.9	± 20 %	
Mercury	CVA	0.0005	0.0004	22.2	±0.0001	L
Nickel	ICP	0.08	0.08	0.0	± 20 %	
Selenium	GFA	U 0.005	0.006	18.2	± 0.005	L
Silver	ICP	U 0.003	U 0.003	0.0	± 0.003	L
Thallium	GFA	0.002	0.001	66.7	± 0.001	L
Zinc	ICP	0.289	0.296	2.4	± 20 %	

RPD = Relative Percent Difference

'Q' codes: '*' = control limit not met
'L' = RPD not valid, alternate limit = ± detection limit

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ARI job number: J547
ARI Sample number: C
Client: Landau Associates
Contact: Bill Evans
Matrix: Water

% Solids: 0.00

ID number: MW-3-123
Project: 275002
Description:
Sampled: 01/23/95
Received: 01/24/95

Released by: _____

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.001 mg/L	U	0.001	RWC	GFA	01/31/95
7440-38-2	Arsenic	0.007 mg/L		0.001	RMA	GFA	01/30/95
7440-41-7	Beryllium	0.001 mg/L		0.001	TWC	ICP	01/31/95
7440-43-9	Cadmium	0.002 mg/L	U	0.002	TWC	ICP	01/31/95
7440-47-3	Chromium	0.042 mg/L		0.005	TWC	ICP	01/31/95
7440-50-8	Copper	0.074 mg/L		0.002	TWC	ICP	01/31/95
7439-92-1	Lead	0.015 mg/L		0.001	TWN	GFA	01/27/95
7439-97-6	Mercury	0.0001 mg/L	U	0.0001	TMM	CVA	01/27/95
7440-02-0	Nickel	0.04 mg/L		0.01	TWC	ICP	01/31/95
7782-49-2	Selenium	0.007 mg/L		0.005	RMA	GFA	02/02/95
7440-22-4	Silver	0.003 mg/L	U	0.003	TWC	ICP	01/31/95
7440-28-0	Thallium	0.001 mg/L	U	0.001	TWN	GFA	01/27/95
7440-66-6	Zinc	0.122 mg/L		0.004	TWC	ICP	01/31/95

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ARI job number: J547
ARI Sample number: MB
Client: Landau Associates
Contact: Bill Evans
Matrix: Water

% Solids: 0.00

ID number:
Project: 275002
Description: Method Blank
Sampled: / /
Received: / /

Released by: _____

ANALYTICAL RESULTS

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-36-0	Antimony	0.001 mg/L	U	0.001	RWC	GFA	01/31/95
7440-38-2	Arsenic	0.001 mg/L	U	0.001	RMA	GFA	01/30/95
7440-41-7	Beryllium	0.001 mg/L	U	0.001	TWC	ICP	01/31/95
7440-43-9	Cadmium	0.002 mg/L	U	0.002	TWC	ICP	01/31/95
7440-47-3	Chromium	0.005 mg/L	U	0.005	TWC	ICP	01/31/95
7440-50-8	Copper	0.002 mg/L	U	0.002	TWC	ICP	01/31/95
7439-92-1	Lead	0.001 mg/L		0.001	TWN	GFA	01/30/95
7439-97-6	Mercury	0.0001 mg/L	U	0.0001	TMM	CVA	01/27/95
7440-02-0	Nickel	0.01 mg/L	U	0.01	TWC	ICP	01/31/95
7782-49-2	Selenium	0.001 mg/L	U	0.001	RMA	GFA	01/31/95
7440-22-4	Silver	0.003 mg/L	U	0.003	TWC	ICP	01/31/95
7440-28-0	Thallium	0.001 mg/L	U	0.001	TWN	GFA	01/27/95
7440-66-6	Zinc	0.004 mg/L	U	0.004	TWC	ICP	01/31/95

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ARI job number: J547
ARI Sample number: MB2
Client: Landau Associates
Contact: Bill Evans
Matrix: Water

% Solids: 0.00

ID number:
Project: 275002
Description: Method Blank
Sampled: / /
Received: / /

Released by: _____

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	LOD	Prep	M	Analyzed
7440-38-2	Arsenic	0.001 mg/L	U	0.001	RMA	GFA	02/07/95

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ORGANIC COMPOUND DATA REPORTING QUALIFIERS

U Indicates the compound was analyzed for, but not detected at the given detection limit.

J Indicates an estimated value when the result is less than the calculated detection limit.

D Indicates the surrogate/spike(s) was not detected, due to dilution of extract.

NR Indicates the surrogate recovery cannot be reported due to matrix interference.

E Indicates a value above the linear range of the detector. Sample dilution required.

S Indicates no value reported due to saturation of the detector. Dilution required.

Y Indicates a raised detection limit due to matrix interferences.

NA Indicates compound was not analyzed.

M Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.

B Indicates compound was found in the associated method blank.

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample No: MW-1-123

Lab Sample ID: J547A
LIMS ID: 95-824
Matrix: Water
Data Release Authorized: DH
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Date extracted: 01/27/95
Date analyzed: 01/27/95
Instrument: FINN2

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
108-95-2	Phenol	2.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	2.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	2.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	2.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	3.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethylphthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	6.0 U
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample No: MW-1-123

Lab Sample ID: J547A
LIMS ID: 95-824
Matrix: Water
Data Release Authorized: ARP
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Date extracted: 01/27/95
Date analyzed: 01/27/95
Instrument: FINN2

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	Di-n-Butylphthalate	1.0 U
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0 U
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl phthalate	1.0 U
205-99-2	Benzo(b)fluoranthene	1.0 U
207-08-9	Benzo(k)fluoranthene	1.0 U
50-32-8	Benzo(a)pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	70.0%	d5-Phenol	29.9%
2-Fluorobiphenyl	76.4%	2-Fluorophenol	45.3%
d14-p-Terphenyl	78.0%	2,4,6-Tribromophenol	56.6%
d4-1,2-Dichlorobenzene	69.2%	d4-2-Chlorophenol	63.9%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample No: MW-1A-123

Lab Sample ID: J547B
LIMS ID: 95-825
Matrix: Water
Data Release Authorized: DM
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Date extracted: 01/27/95
Date analyzed: 01/27/95
Instrument: FINN2

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
108-95-2	Phenol	2.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	2.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	2.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	2.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	3.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethylphthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	6.0 U
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample No: MW-1A-123

Lab Sample ID: J547B
LIMS ID: 95-825
Matrix: Water
Data Release Authorized: DBP
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Date extracted: 01/27/95
Date analyzed: 01/27/95
Instrument: FINN2

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	Di-n-Butylphthalate	1.0 U
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0 U
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl phthalate	1.0 U
205-99-2	Benzo(b)fluoranthene	1.0 U
207-08-9	Benzo(k)fluoranthene	1.0 U
50-32-8	Benzo(a)pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	69.8%	d5-Phenol	30.7%
2-Fluorobiphenyl	77.7%	2-Fluorophenol	45.8%
d14-p-Terphenyl	80.3%	2,4,6-Tribromophenol	60.4%
d4-1,2-Dichlorobenzene	71.9%	d4-2-Chlorophenol	63.5%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 2

Sample No: MW-3-123

Lab Sample ID: J547C
LIMS ID: 95-826
Matrix: Water
Data Release Authorized: DBL
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Date extracted: 01/27/95
Date analyzed: 01/27/95
Instrument: FINN2

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
108-95-2	Phenol	2.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	2.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	2.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	2.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	3.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethylphthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	6.0 U
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample No: MW-3-123

Lab Sample ID: J547C
LIMS ID: 95-826
Matrix: Water
Data Release Authorized: OBP
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Date extracted: 01/27/95
Date analyzed: 01/27/95
Instrument: FINN2

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	Di-n-Butylphthalate	1.0 U
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0 U
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl phthalate	1.0 U
205-99-2	Benzo(b)fluoranthene	1.0 U
207-08-9	Benzo(k)fluoranthene	1.0 U
50-32-8	Benzo(a)pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	67.2%	d5-Phenol	38.8%
2-Fluorobiphenyl	77.3%	2-Fluorophenol	56.5%
d14-p-Terphenyl	81.0%	2,4,6-Tribromophenol	60.4%
d4-1,2-Dichlorobenzene	73.0%	d4-2-Chlorophenol	72.2%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample No: MW-2-123

Lab Sample ID: J547D
LIMS ID: 95-827
Matrix: Water
Data Release Authorized: DMP
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Date extracted: 01/27/95
Date analyzed: 01/27/95
Instrument: FINN2

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
108-95-2	Phenol	2.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	2.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	2.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	2.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	3.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethylphthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	6.0 U
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample No: MW-2-123

Lab Sample ID: J547D
LIMS ID: 95-827
Matrix: Water
Data Release Authorized: DSP
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: 01/23/95
Date Received: 01/24/95

Date extracted: 01/27/95
Date analyzed: 01/27/95
Instrument: FINN2

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	Di-n-Butylphthalate	1.0 U
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0 U
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl phthalate	1.0 U
205-99-2	Benzo(b)fluoranthene	1.0 U
207-08-9	Benzo(k)fluoranthene	1.0 U
50-32-8	Benzo(a)pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	66.2%	d5-Phenol	29.9%
2-Fluorobiphenyl	74.4%	2-Fluorophenol	43.7%
d14-p-Terphenyl	81.7%	2,4,6-Tribromophenol	53.9%
d4-1,2-Dichlorobenzene	71.1%	d4-2-Chlorophenol	62.6%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample No: Method Blank

Lab Sample ID: J547MB
LIMS ID: 95-824
Matrix: Water
Data Release Authorized: DSP
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: NA
Date Received: NA

Date extracted: 01/27/95
Date analyzed: 01/27/95
Instrument: FINN2

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
108-95-2	Phenol	2.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	2.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	2.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	2.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	3.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethylphthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	6.0 U
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 2 of 2

Sample No: Method Blank

Lab Sample ID: J547MB
LIMS ID: 95-824
Matrix: Water
Data Release Authorized: DRP
Reported: 02/08/95

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales
Date Sampled: NA
Date Received: NA

Date extracted: 01/27/95
Date analyzed: 01/27/95
Instrument: FINN2

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	Di-n-Butylphthalate	1.0 U
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0 U
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl phthalate	1.0 U
205-99-2	Benzo(b)fluoranthene	1.0 U
207-08-9	Benzo(k)fluoranthene	1.0 U
50-32-8	Benzo(a)pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	69.7%	d5-Phenol	47.5%
2-Fluorobiphenyl	75.3%	2-Fluorophenol	71.9%
d14-p-Terphenyl	76.3%	2,4,6-Tribromophenol	65.0%
d4-1,2-Dichlorobenzene	70.7%	d4-2-Chlorophenol	81.3%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Lab Sample ID: J547SB
LIMS ID: 95-824
Matrix: Water

QC Report No: J547-Landau Associates, Incorporated
Project: 275002
Paxton Sales

Data Release Authorized: DCP
Reported: 02/08/95

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
Phenol	25.0	37.5	66.7%
2-Chlorophenol	32.0	37.5	85.3%
1,4-Dichlorobenzene	18.1	25.0	72.4%
N-Nitroso-Di-N-Propylamine	22.4	25.0	89.6%
1,2,4-Trichlorobenzene	19.3	25.0	77.2%
4-Chloro-3-methylphenol	34.1	37.5	90.9%
Acenaphthene	20.6	25.0	82.4%
4-Nitrophenol	23.3	37.5	62.1%
2,4-Dinitrotoluene	24.1	25.0	96.4%
Pentachlorophenol	35.0	37.5	93.3%
Pyrene	21.6	25.0	86.4%

Spike Blank Surrogate Recovery

d5-Nitrobenzene	70.4%	d5-Phenol	55.1%
2-Fluorobiphenyl	77.0%	2-Fluorophenol	72.4%
d14-p-Terphenyl	76.9%	2,4,6-Tribromophenol	74.4%
d4-1,2-Dichlorobenzene	69.0%	d4-2-Chlorophenol	77.6%

Values reported in ug/L