

CLEARWATER

GROUP, INC.

Environmental Services



2/2

SITE ASSESSMENT REPORT

4273

**Ryder Transportation Services, Inc.
19 West Washington Street
Yakima, Washington
(RLC 0904)**

Prepared for:

**Ryder Transportation Services, Inc.
3600 NW 82nd Avenue
Miami, Florida 33166**

Prepared by:

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Clearwater Project No.: OC-130**

March 2000

1.0 INTRODUCTION

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1.0 INTRODUCTION

1.1 PURPOSE

A Site Assessment has been conducted for the Ryder Student Transportation Services, Inc, (RSTS) facility located at 19 West Washington Street, Yakima, Washington (Figure 1). The assessment was performed by Clearwater Group, Inc., (Clearwater) on behalf of RSTS. The purpose of the subject activities was to delineate the extent of petroleum impacted groundwater associated with the former subject underground storage tank (UST) system at the facility, provide specifics on local and site-specific geology, discuss the methodologies of the assessment, and provide recommendations for any additional activities. This report presents, evaluates, and summarizes the results of the site characterization and assessment necessary for the evaluation of site closure.

1.2 SCOPE OF WORK

Clearwater was authorized by RSTS to perform a site assessment at the subject facility. All activities were performed under Clearwater supervision at the site and included the following to fulfill the requirements of WAC 173-340:

- Mobilized to the site to perform a preliminary site evaluation;
- Documented site history;
- Conducted surveys to prepare a revised site map, locate utilities and surveyed monitoring wells;
- Researched applicable literature sources;
- Advanced four soil borings, completed two of the borings as recovery wells and one of the borings as a monitoring well;
- Determined groundwater flow direction and horizontal hydraulic gradient on two dates;
- Collected groundwater samples for chemical analysis;
- Performed chemical analysis for total petroleum hydrocarbons for diesel, heavy oils and gasoline hydrocarbons, benzene, toluene, ethylbenzene, and xylene isomers (BTEX), and select water samples for volatile organics and RCRA 8 metals;
- Prepared subject Site Assessment.

2.0 BACKGROUND INFORMATION

2.1 Area of Investigation

The Ryder facility is located in an industrial area in south-west Yakima (Figure 1). The facility is located at 19 West Washington Street, Yakima. The facility occupies a roughly rectangular lot approximately 840 feet east to west and 320 feet north to south (Figure 2). Adjacent properties consist of S.S. Stiener Co. to the north and to the east, Zellerbach and Yakima Brewing and Malting companies to the west, and West Washington Street and Golden Villa Mobile Park to the south. The Ryder facility is used to park, fuel, and service trucks.

2.2 Topography and Surface Water Drainage

The Yakima River is located approximately one-half mile to the east of the Ryder facility. The surface water at the Ryder facility drains to catch basins located at several points on-site. In this part of south Yakima, the direction of surface water drainage is toward the Yakima River which is located east of the Ryder property. The vicinity of the Ryder facility is nearly flat with a slight slope to the east. The site is slightly below surrounding grade and draws surface drainage onto the property. Based on evidence from the excavation, the Ryder facility is built on native material. The site is surfaced with asphalt over approximately three to six inches of gravel. Asphalt covered the former USTs, and remains beneath the buildings and east of the Ryder maintenance building.

2.3 Site History and Operations

Ryder began use of the site in 1983 to service its fleet of trucks. The USTs had previously been installed and stored diesel fuel and gasoline. The supplemental diesel tank was decommissioned after Ryders occupancy of the site because they did not have need for the extra volume of diesel fuel. The gasoline UST continued in service. These two newer tanks were installed during the fuel shortage in the mid 1970's when the site was occupied by Del Monte and used as a packing facility. The extra UST served to ensure ample quantities of fuel through the harvest season.

The former facility layout is provided is illustrated in Figure 2. The decommissioned fuel UST system and adjacent dispenser island is located at the south-west corner of the site. Utilities present in the vicinity of the UST system consisted of overhead electric lines that trended east to west with a drop to a circuit panel just north of the dispenser island. The circuit panel serviced both the pumps and the wash shed immediately north of the dispenser island. Water was fed

underground to the wash shed and fueling area from the south west corner of the shop.

A concrete storm water drain pipe is located approximately 35 feet north of the dispenser island trending east to west at approximately 6 feet below grade (Figure 4). No other utilities or subsurface improvements were found.

The four tank UST system was installed in two phases in the early and mid 1970's (Figure 3). All components of the decommissioned UST system were constructed of single-wall steel. The UST system consisted of three 10,000-gallon diesel fuel tanks and one 10,000-gallon gasoline tank and associated product piping and vent pipes. The original UST system consisted of two 10,000-gallon diesel fuel tanks set side by side against the western edge of the property. The original system was supplemented during the fuel shortage of the mid 1970's with two more 10,000 gallon tanks including one diesel and one gasoline. These two tanks were installed end to end on the east side of the original USTs. The UST system served two diesel dispensers and one gasoline dispenser. The tanks were 8 feet in diameter by 24.5 feet in length. This UST fueling system had been in continuous use since installation in the early 1970's until decommissioning in July 1999. No previous USTs are known from the Ryder fueling island area.

The three diesel fuel USTs served one metered product dispenser located near the center of the fueling area. One satellite diesel fuel dispenser was located at the west margin of the fueling area. Gasoline was dispensed from a single metered dispenser located at the north end of the dispenser island.

The decommissioned UST system was monitored by manual inventory reconciliation. There are six monitoring wells located at the facility. No water supply wells are located at the facility. Tanknology, Inc., reportedly tested the tightness of the UST system annually and passed the system each year. Annual checks by the Fire Marshall always found the UST system to be in compliance. No water reportedly accumulated in the tanks and no complaints have been made with respect to the UST system.

A trench drain was located ten feet north of the fuel islands and ran approximately east-west. The drain was forty-five feet long, eight inches wide and eight to ten inches deep and constructed of concrete. The trench drain emptied into a oil/water separator pre-holding vault which in turn was connected to a final separator located to the south and east of the UST system. The drain was removed while excavating petroleum contaminated soil. The collection vault was left in place. A new drain system was installed with a third collection vault. Ryder uses above-ground containers to store all liquids used in their vehicle maintenance facility.

The July 1999 UST excavation and site remediation activities are summarized below:

A total of four USTs have been decommissioned at the subject property under the direction of Clearwater. Three USTs were decommissioned and removed from the site, two diesel and one gasoline. One diesel UST was closed in place as removing it could endanger the adjacent office structure.

Diesel impacted soil was found in the area of the diesel UST fill ports, the diesel piping and diesel dispensers. Gasoline impacted soil was found associated with the tank fill spout. The tanks, turbines, and piping in the vicinity of the tanks appeared to be in good condition during system decommissioning and removal. PCS was concentrated in the soil beneath several pipe joints, valves and the diesel dispensers.

A total of 665 tons of PCS was removed from the Ryder facility and transported to Anderson Landfill for treatment and disposal. Remediation of the tank excavation is complete to MTCA Method A Cleanup Standards. Soil from beneath the former diesel and gasoline dispensers was removed during tank decommissioning and remediation of the UST excavation.

A monitoring well, MW-3, was destroyed during the excavation of PCS. Clearwater recommended installing three monitoring/recovery wells at the site to investigate dissolved-phase hydrocarbons in groundwater. This drilling program should also be designed to investigate lateral and vertical extents of petroleum contamination in the vicinity of the diesel fueling area and former UST cavity. The elevations of the wellheads should be surveyed to allow groundwater measurements to be used in calculation of gradient. Upon review of data from groundwater monitoring and sampling, an evaluation will be made as to the necessity of any further investigation or remediation.

A new above ground UST system designed to meet EPA December 1998 specifications was installed in approximately the same area (Figure 4). The UST system excavation was backfilled following decommissioning and removal of the fueling system and all related components.

3.0 CURRENT SITE INVESTIGATION

3.1 REGIONAL GEOLOGIC SETTING

An understanding of the local and regional geologic setting around the vicinity of the facility is critical to this assessment to assist in the evaluation of subsurface conditions beneath the site which may affect contaminant fate, transport and

migratory pathways to groundwater. Refer to previous reports for an evaluation of regional geologic settings.

3.2 SOIL BORING ADVANCEMENT

All fieldwork was performed in accordance with Clearwater's Field Procedures (Appendix C). Drilling activities occurred during the week of February 10, 2000.

Clearwater contracted Geo-Tech Explorations for advancing soil borings using a MB-80. Portions of each soil sample were retained for a visual sedimentologic description, logging by Steven Textoris, onsite Clearwater geologist. Refer to Appendix A for soil boring logs and monitoring well construction details.

Three of four soil borings were advanced to 13 feet (ft) bgs. The locations of the borings were determined based on previous data available from the former UST and PCS excavation conducted during site upgrade, groundwater flow direction, and proximity to the source area. The locations of soil borings and monitoring wells are presented on Figure 4.

3.2.1 Soil Sampling

Removal of PCS above cleanup levels was completed during the UST excavation. The soils encountered during the drilling event was backfill emplaced upon completion of the excavation. As a result, no soil sampling was performed for laboratory analysis.

3.3 MONITORING WELL INSTALLATION

Appendix B depicts monitoring well construction details of newly installed wells RW-1, RW-2 and MW-7. Both recovery wells were constructed with four inch diameter PVC inclusive of 9 ft of screen and upto 3 ft of riser. The monitoring wells were completed approximately 1.5 ft below-grade in 1 ft by 2 ft diameter vaults that had earlier been installed during site resurfacing. Monitoring well MW-7 was installed as an upgradient well for monitoring purposes only. MW-7 was completed to 12 ft bls with 2 inch diameter PVC inclusive of 9 ft of screen and 3 ft of riser. MW-7 was completed flush to grade with monument and manhole.

An attempt was made to install an additional recovery well. At approximately 6 ft bls an unmarked PVC water line was damaged. Ryder was notified immediately and Cecon (Contractor for UST excavating and installation) was contacted to repair the damaged water line. This well was not completed. Upon completion of remaining wells, an elevation survey was conducted to determine the vertical elevation of the north site of the top-of-casing at each new well location.

The new monitoring wells were surged and developed until clear of fines.

3.3.1 Groundwater Monitoring and Sampling

Following well purging at all well locations on site and recovery of the water table to static conditions, groundwater samples were collected from monitoring wells all existing and new wells: MW-1, MW-2, MW-4, MW-5, MW-6, MW-7, RW-1 and RW-2 using dedicated polyethylene bailers on February 10, 2000.

3.4 LABORATORY ANALYSES

3.4.1 Soil Analyses

No laboratory analysis of soils was performed due to adequate excavation of PCS in July, 1999 supported by previous confirmation sampling and analyses.

3.4.2 Groundwater Analyses

All samples were labeled, documented on a chain-of-custody form, and placed in a cooler for transport to Columbia Analytical of Portland, Oregon. Groundwater samples collected from all monitoring wells were analyzed for concentrations of dissolved-phase gasoline compounds by Ecology Method NWTPH-Dx, WTPHG and for BTEX by EPA Method 8020 (modified). Due to the proximity of RW-1 to a former sump, groundwater samples were also analyzed for volatile organics and total metals.

4.0 DISCUSSION OF FINDINGS

4.1 LOCAL GEOLOGY

Soils encountered during the installation of the wells included backfill material from the excavation of PCS. Backfill material contained a gravelly, silty sand aggregate. The backfill surrounding the USTs was a mix of the native material which consists of sub- to well-rounded gravels with clasts approaching cobble size, and fine, medium and coarse sands with fines, or SM by the Unified Soil Classification System (ASTM D-2488).

4.2 HORIZONTAL HYDRAULIC GRADIENT

All monitoring/recovery wells were surveyed to reference elevation and benchmark. An elevation survey conducted from the top-of-casing of each

monitoring well allowed for the determination of groundwater flow direction. The monitoring wells were gauged on February 10, 2000 and on March 10, 2000. Refer to Figures 5 and 6, respectively. The gradient depicted in Figure 6 is typical of historical gradients. The horizontal hydraulic gradient was estimated to be 0.0019 ft/ft to the east.

4.3 EXTENT OF SOIL CONTAMINATION

As a result of effective remediation of PCS during the UST removal activities, no soil sampling was conducted during the installation of wells.

4.4 EXTENT OF GROUNDWATER CONTAMINATION

A summary of groundwater analytical results is presented in Table 1. Dissolved groundwater hydrocarbon concentrations are displayed graphically on the Hydrocarbon Concentration Map (Figure 7). Groundwater samples were obtained from each well. Analysis were performed by WTPHG/BTEX and NWTPH-Dx on all samples. Additionally, due to the location of a former sump in the immediate vicinity of RW-1, analyses were performed by total metals and volatile organics. As indicated on Figure 4, concentrations of dissolved-phase diesel were not detected in groundwater samples from any wells with the exception of RW-1. A concentration of 3,500 ug/L diesel and 2.2 ug/L benzene were detected. Both of these detections are at concentrations above MTCA Method A Cleanup Levels. A copy of the laboratory reports, QA/QC documentation, and chain-of-custody forms are attached in Appendix B.

5.0 RECOMMENDATIONS

During excavation of PCS in July 1999 MW-3 was destroyed. An attempt to install an additional recovery well in the vicinity of MW-3 was abandoned after a water line was encountered. The water line was repaired and rerouted at a later date. Because MW-3 previously had been an impacted well, additional investigation in this area is warranted.

Clearwater recommends installation of a recovery well as previously authorized by Ryder, followed by an elevation survey, sampling of all wells for similar compounds and submittal of an addendum to this report. Consideration of any additional activities will depend upon the date obtained from the new well.

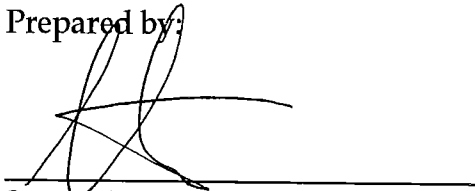
6.0 CERTIFICATION

This report was prepared by and under the supervision of professional registered geologists at Clearwater Group, Inc., of Portland, Oregon. All statements, conclusions and recommendations are based solely upon field observations and analyses performed by a state-certified laboratory related to the work performed by Clearwater Group, Inc. Clearwater Group, Inc. is not responsible for laboratory errors.

The service performed by Clearwater Group, Inc. has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

CLEARWATER GROUP, INC.

Prepared by:

A handwritten signature in black ink, appearing to read 'S. Textoris', is written over a horizontal line.

Steven D. Textoris, R.G.
Regional Manager



TABLES

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND
 SAMPLE ANALYTICAL RESULTS
 Ryder Truck Rental LC-0904
 Yakima, WA

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	BTEX (ppb)	TPHd (ppb)	418.1/HO (ppm)	Vol orgs (ppm)	barium (ppb)	lead (ppb)	Product Thickness (inches)	Total Depth (feet)
MW-1	9/1/94	999.36	3.23	996.13	-	-	-	-	-	-	-	-	-
	9/8/94	999.36	-	-	-	-	ND	ND	-	-	-	-	-
	2/28/95	999.36	6.30	993.06	-	-	2300	10	-	-	-	-	-
	6/3/95	999.36	4.59	994.77	-	-	ND	ND	-	-	-	-	12.5
	10/5/95	999.36	2.66	996.70	-	-	ND	ND	-	-	-	-	-
	10/26/95	999.36	3.51	995.85	-	-	-	-	-	-	-	-	-
	12/12/95	999.36	4.99	994.37	-	-	-	-	-	-	-	-	-
	1/17/96	999.36	6.05	993.31	-	-	-	-	-	-	-	-	-
	2/14/96	999.36	5.68	993.68	-	-	-	-	-	-	-	-	-
	3/27/96	999.36	6.25	993.11	-	-	-	-	-	-	-	-	-
	5/1/96	999.36	5.77	993.59	-	-	-	-	-	-	-	-	-
	5/29/96	999.36	4.06	995.30	-	-	-	-	-	-	-	-	-
	6/26/96	999.36	3.72	995.64	-	-	-	-	-	-	-	-	-
	7/17/96	999.36	3.23	996.13	-	-	-	-	-	-	-	-	-
	8/13/96	999.36	2.80	996.56	-	-	-	-	-	-	-	-	-
	9/17/96	999.36	3.46	995.90	-	-	-	-	-	-	-	-	-
	10/24/96	999.36	3.20	996.16	-	-	-	-	-	-	-	-	-
	11/13/96	999.36	4.06	995.30	-	-	-	-	-	-	-	-	-
	12/11/96	999.36	4.91	994.45	-	-	-	-	-	-	-	-	-
	1/15/97	999.36	4.49	994.87	-	-	-	-	-	-	-	-	-
	2/5/97	999.36	4.40	994.96	-	-	-	-	-	-	-	-	-
	3/20/97	999.36	4.61	994.75	-	-	-	-	-	-	-	-	-
	4/17/97	999.36	5.21	994.15	-	-	-	-	-	-	-	-	-
	5/19/97	999.36	4.20	995.16	-	-	-	-	-	-	-	-	-
	6/26/97	999.36	3.68	995.68	-	-	-	-	-	-	-	-	-
	7/10/97	999.36	3.15	996.21	-	-	-	-	-	-	-	-	-
	8/14/97	999.36	3.13	996.23	-	-	-	-	-	-	-	-	-
	9/12/97	999.36	2.70	996.66	-	-	-	-	-	-	-	-	-
	10/7/97	999.36	2.60	996.76	-	-	-	-	-	-	-	-	-
	2/19/98	999.36	5.60	993.76	-	-	-	-	-	-	-	-	-
	3/13/98	999.36	5.77	993.59	-	-	-	-	-	-	-	-	-

Table 1

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 Ryder Truck Rental LC-0904
 Yakima, WA

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	BTEX (ppb)	TPHd (ppb)	418.1/HO (ppm)	Vol orgs (ppm)	barium (ppb)	lead (ppb)	Product Thickness (inches)	Total Depth (feet)
	4/22/98	999.36	5.92	993.44	-	-	-	-	-	-	-	-	-
	7/29/98	999.36	3.35	996.01	-	-	-	-	-	-	-	-	-
	9/11/98	999.36	3.45	995.91	-	-	-	-	-	-	-	-	-
	10/19/98	999.36	3.26	996.10	-	-	-	-	-	-	-	-	-
	11/20/98	999.36	4.60	994.76	-	-	-	-	-	-	-	-	-
	12/29/98	999.36	5.82	993.54	-	-	-	-	-	-	-	-	-
	1/19/99	999.36	6.06	993.30	-	-	-	-	-	-	-	-	-
	2/17/99	999.36	4.10	995.26	-	-	-	-	-	-	-	-	-
	3/30/99	999.36	6.70	992.66	-	-	-	-	-	-	-	-	-
	5/26/99	999.36	4.70	994.66	-	-	-	-	-	-	-	-	-
	7/25/99	999.36	2.97	996.39	ND	-	ND	ND	-	-	-	-	-
	2/10/00	999.36	6.20	993.16	ND	ND	ND	ND	-	-	-	-	-
	3/10/00	999.36	5.86	993.50	-	-	-	-	-	-	-	-	-
MW-2	9/1/94	1000.28	4.07	996.21	-	-	-	-	-	-	-	-	-
	9/8/94	1000.28	-	-	-	-	281	ND	-	-	-	-	-
	2/28/95	1000.28	7.23	993.05	-	-	920	0.70	-	-	-	-	-
	6/3/95	1000.28	4.54	995.74	-	-	ND	ND	-	-	-	-	12.61
	10/5/95	1000.28	3.41	996.87	-	-	ND	ND	-	-	-	-	-
	10/26/95	1000.28	4.30	995.98	-	-	-	-	-	-	-	-	-
	12/12/95	1000.28	5.87	994.41	-	-	-	-	-	-	-	-	-
	1/17/96	1000.28	7.00	993.28	-	-	-	-	-	-	-	-	-
	2/14/96	1000.28	6.57	993.71	-	-	390	ND	-	-	-	-	-
	3/27/96	1000.28	7.18	993.10	-	-	-	-	-	-	-	-	-
	5/1/96	1000.28	6.74	993.54	-	-	-	-	-	-	-	-	-
	5/29/96	1000.28	4.98	995.30	-	-	ND	ND	-	-	-	-	-
	6/26/96	1000.28	4.56	995.72	-	-	-	-	-	-	-	-	-
	7/17/96	1000.28	4.08	996.20	-	-	-	-	-	-	-	-	-
	8/13/96	1000.28	2.64	997.64	-	-	-	-	-	-	-	-	-
	9/17/96	1000.28	3.24	997.04	-	-	680	ND	-	-	-	-	-
	10/24/96	1000.28	3.94	996.34	-	-	-	-	-	-	-	-	-
	11/13/96	1000.28	4.84	995.44	-	-	-	-	-	-	-	-	-

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MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	BTEX (ppb)	TPHd (ppb)	418.1/HO (ppm)	Vol orgs (ppm)	barium (ppb)	lead (ppb)	Product Thickness (inches)	Total Depth (feet)
	12/11/96	1000.28	5.71	994.57	-	-	290	ND	-	-	-	-	-
	1/15/97	1000.28	5.26	995.02	-	-	-	-	-	-	-	-	-
	2/5/97	1000.28	5.18	995.10	-	-	-	-	-	-	-	-	-
	3/20/97	1000.28	5.41	994.87	-	-	389	ND	-	-	-	-	-
	4/17/97	1000.28	6.06	994.22	-	-	-	-	-	-	-	-	-
	5/19/97	1000.28	5.07	995.21	-	-	-	-	-	-	-	-	-
	6/26/97	1000.28	4.50	995.78	-	-	-	-	-	-	-	-	-
	7/10/97	1000.28	4.20	996.08	-	-	398	ND	-	-	-	-	-
	8/14/97	1000.28	3.91	996.37	-	-	-	-	-	-	-	-	-
	9/12/97	1000.28	3.42	996.86	-	-	-	-	-	-	-	-	-
	10/7/97	1000.28	3.40	996.88	-	-	ND	ND	-	-	-	-	-
	2/19/98	1000.28	6.30	993.98	-	-	1,010	ND	-	-	-	-	-
	3/13/98	1000.28	6.70	993.58	-	-	-	-	-	-	-	-	-
	4/22/98	1000.28	6.89	993.39	-	-	341	ND	-	-	-	-	-
	7/29/98	1000.28	4.18	996.10	-	-	150	ND	-	-	-	-	-
	9/11/98	1000.28	3.21	997.07	-	-	-	-	-	-	-	-	-
	10/19/98	1000.28	4.00	996.28	-	-	ND	ND	-	-	-	-	-
	11/20/98	1000.28	5.40	994.88	-	-	-	-	-	-	-	-	-
	12/29/98	1000.28	6.74	993.54	-	-	-	-	-	-	-	-	-
	1/19/99	1000.28	7.02	993.26	-	-	422	0.556	-	-	-	-	-
	2/17/99	1000.28	4.90	995.38	-	-	-	-	-	-	-	-	-
	3/30/99	1000.28	7.68	992.60	-	-	-	-	-	-	-	-	-
	5/26/99	1000.28	4.90	995.38	-	-	ND	ND	-	-	-	-	-
	7/25/99	1000.28	4.20	996.08	ND	ND	ND	ND	-	-	-	-	-
	2/10/00	1000.28	7.21	993.07	ND	ND	ND	ND	-	-	-	-	-
	3/10/00	1000.28	7.21	993.07	-	-	-	-	-	-	-	-	-
MW-3	9/1/94	999.70	3.70	996.00	-	-	-	-	-	-	-	-	-
	9/8/94	999.70	-	-	-	-	126000	154	-	-	-	-	-
	2/28/95	999.70	7.28	992.42	-	-	4,000,000	980	-	-	-	3.5	-
	3/30/95	999.70	-	-	-	-	-	-	-	-	-	10	-
	4/4/95	999.70	-	-	-	-	-	-	-	-	-	0.5	-

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND
 SAMPLE ANALYTICAL RESULTS
 Ryder Truck Rental LC-0904
 Yakima, WA

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	BTEX (ppb)	TPHd (ppb)	418.1/HO (ppm)	Vol orgs (ppm)	barium (ppb)	lead (ppb)	Product Thickness (inches)	Total Depth (feet)
	4/6/95	999.70	-	-	-	-	-	-	-	-	-	3.0	-
	4/13/95	999.70	-	-	-	-	-	-	-	-	-	3.5	-
	4/18/95	999.70	-	-	-	-	-	-	-	-	-	3.5	-
	4/26/95	999.70	-	-	-	-	-	-	-	-	-	1.0	-
	6/3/95	999.70	5.09	994.61	-	-	-	-	-	-	-	sheen	12.56
	10/5/95	999.70	3.07	996.63	-	-	86600	130	-	-	-	sheen	-
	10/26/95	999.70	3.95	995.75	-	-	-	-	-	-	-	sheen	-
	11/17/95	999.70	4.17	995.53	-	-	-	-	-	-	-	sheen	-
	12/12/95	999.70	5.43	994.27	-	-	-	-	-	-	-	emulsion	-
	1/17/96	999.70	6.53	993.17	-	-	-	-	-	-	-	emulsion	-
	2/14/96	999.70	6.12	993.58	-	-	126000	ND	-	-	-	emulsion	-
	3/27/96	999.70	6.77	992.93	-	-	-	-	-	-	-	emulsion	-
	5/1/96	999.70	6.26	993.44	-	-	-	-	-	-	-	sheen	-
	5/29/96	999.70	4.54	995.16	-	-	16400	130	-	-	-	sheen	-
	6/26/96	999.70	4.18	995.52	-	-	-	-	-	-	-	sheen	-
	7/17/96	999.70	3.70	996.00	-	-	-	-	-	-	-	sheen	-
	8/13/96	999.70	2.28	997.42	-	-	-	-	-	-	-	sheen	-
	9/17/96	999.70	2.90	996.80	-	-	13700	37	-	-	-	sheen	-
	10/24/96	999.70	3.63	996.07	-	-	-	-	-	-	-	sheen	-
	11/13/96	999.70	4.49	995.21	-	-	-	-	-	-	-	sheen	-
	12/11/96	999.70	5.34	994.36	-	-	460000	283	-	-	-	sheen	-
	1/15/97	999.70	4.83	994.87	-	-	-	-	-	-	-	sheen	-
	2/5/97	999.70	4.75	994.95	-	-	-	-	-	-	-	sheen	-
	3/20/97	999.70	4.48	995.22	-	-	182000	75.6	-	-	-	sheen	-
	4/17/97	999.70	5.60	994.10	-	-	-	-	-	-	-	sheen	-
	5/19/97	999.70	4.60	995.10	-	-	-	-	-	-	-	sheen	-
	6/26/97	999.70	4.07	995.63	-	-	-	-	-	-	-	sheen	-
	7/10/97	999.70	3.50	996.20	-	-	394000	194	-	-	-	sheen	-
	8/14/97	999.70	3.53	996.17	-	-	-	-	-	-	-	sheen	-
	9/12/97	999.70	2.65	997.05	-	-	-	-	-	-	-	sheen	-
	10/7/97	999.70	3.02	996.68	-	-	56600	60.8	-	-	-	sheen	-
	2/19/98	999.70	5.80	993.90	-	-	189000	73.9	-	-	-	sheen	-
	3/13/98	999.70	6.17	993.53	-	-	-	-	-	-	-	sheen	-

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND
 SAMPLE ANALYTICAL RESULTS
 Ryder Truck Rental LC-0904
 Yakima, WA

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	BTEX (ppb)	TPHd (ppb)	418.1/HO (ppm)	Vol orgs (ppm)	barium (ppb)	lead (ppb)	Product Thickness (inches)	Total Depth (feet)
	4/22/98	999.70	6.30	993.40	-	-	55700	37.4	-	-	-	sheen	-
	7/29/98	999.70	3.72	995.98	-	-	110000	100.0	-	-	-	sheen	-
	9/11/98	999.70	2.88	996.82	-	-	-	-	-	-	-	sheen	-
	10/19/98	999.70	3.63	996.07	-	-	1490	852	-	-	-	sheen	-
	11/20/98	999.70	4.98	994.72	-	-	-	-	-	-	-	sheen	-
	12/29/98	999.70	6.18	993.52	-	-	-	-	-	-	-	sheen	-
	1/19/99	999.70	6.45	993.25	-	-	90800	59.7	-	-	-	sheen	-
	2/17/99	999.70	4.30	995.40	-	-	-	-	-	-	-	sheen	-
	3/30/99	999.70	7.04	992.66	-	-	-	-	-	-	-	sheen	-
	5/26/99	999.70	4.70	995.00	-	-	529000	ND	-	-	-	sheen	-
	7/25/99	999.70	3.78	995.92	120000	ND	930000	ND	-	-	-	sheen	-

MW-3 REMOVED DURING EXCAVATION

MW-4	9/1/94	999.36	3.42	995.94	-	-	-	-	-	-	-	-	-
	9/8/94	999.36	-	-	-	-	4,410	3.68	-	-	-	-	-
	2/28/95	999.36	6.52	992.84	-	-	1500	ND	-	-	-	-	-
	6/3/95	999.36	4.86	994.50	-	-	330	3.7	-	-	-	-	12.42
	10/5/95	999.36	2.81	996.55	-	-	ND	0.8	-	-	-	-	-
	10/26/95	999.36	3.65	995.71	-	-	-	-	-	-	-	-	-
	12/12/95	999.36	5.20	994.16	-	-	-	-	-	-	-	-	-
	1/17/96	999.36	6.26	993.10	-	-	-	-	-	-	-	-	-
	2/14/96	999.36	5.89	993.47	-	-	530	0.9	-	-	-	-	-
	3/27/96	999.36	6.46	992.90	-	-	-	-	-	-	-	-	-
	5/1/96	999.36	6.03	993.33	-	-	-	-	-	-	-	-	-
	5/29/96	999.36	4.30	995.06	-	-	310	ND	-	-	-	-	-
	6/26/96	999.36	3.95	995.41	-	-	-	-	-	-	-	-	-
	7/17/96	999.36	3.46	995.90	-	-	-	-	-	-	-	-	-
	8/13/96	999.36	2.02	997.34	-	-	-	-	-	-	-	-	-
	9/17/96	999.36	2.67	996.69	-	-	370	ND	-	-	-	-	-
	10/24/96	999.36	3.35	996.01	-	-	-	-	-	-	-	-	-
	11/13/96	999.36	4.23	995.13	-	-	-	-	-	-	-	-	-
	12/11/96	999.36	5.11	994.25	-	-	947	ND	-	-	-	-	-

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND
 SAMPLE ANALYTICAL RESULTS
 Ryder Truck Rental LC-0904
 Yakima, WA

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	BTEX (ppb)	TPHd (ppb)	418.1/HO (ppm)	Vol orgs (ppm)	barium (ppb)	lead (ppb)	Product Thickness (inches)	Total Depth (feet)
	1/15/97	999.36	4.58	994.78	-	-	-	-	-	-	-	-	-
	2/5/97	999.36	4.51	994.85	-	-	-	-	-	-	-	-	-
	3/20/97	999.36	4.76	994.60	-	-	4770	ND	-	-	-	-	-
	4/17/97	999.36	5.39	993.97	-	-	-	-	-	-	-	-	-
	5/19/97	999.36	4.39	994.97	-	-	-	-	-	-	-	-	-
	6/26/97	999.36	3.85	995.51	-	-	-	-	-	-	-	-	-
	7/10/97	999.36	3.42	995.94	-	-	714	ND	-	-	-	-	-
	8/14/97	999.36	3.28	996.08	-	-	-	-	-	-	-	-	-
	9/12/97	999.36	2.80	996.56	-	-	-	-	-	-	-	-	-
	10/7/97	999.36	2.78	996.58	-	-	ND	ND	-	-	-	-	-
	2/19/98	999.36	5.55	993.81	-	-	ND	ND	-	-	-	-	-
	3/13/98	999.36	5.95	993.41	-	-	-	-	-	-	-	-	-
	4/22/98	999.36	6.09	993.27	-	-	ND	ND	-	-	-	-	-
	7/29/98	999.36	3.48	995.88	-	-	ND	ND	-	-	-	-	-
	9/11/98	999.36	2.65	996.71	-	-	-	-	-	-	-	-	-
	10/19/98	999.36	3.38	995.98	-	-	306	ND	-	-	-	-	-
	11/20/98	999.36	4.76	994.60	-	-	-	-	-	-	-	-	-
	12/29/98	999.36	5.96	993.40	-	-	-	-	-	-	-	-	-
	1/19/99	999.36	6.23	993.13	-	-	ND	ND	-	-	-	-	-
	2/17/99	999.36	4.21	995.15	-	-	-	-	-	-	-	-	-
	3/30/99	999.36	6.88	992.48	-	-	-	-	-	-	-	-	-
	5/26/99	999.36	4.54	994.82	-	-	ND	ND	-	-	-	-	-
	7/25/99	999.36	3.54	995.82	ND	-	ND	ND	-	-	-	-	-
	2/10/00	999.36	6.40	992.96	ND	ND	ND	ND	-	-	-	-	-
	3/10/00	999.36	8.24	991.12	-	-	-	-	-	-	-	-	-
MW-5	9/1/94	998.72	2.70	996.02	-	-	-	-	-	-	-	-	-
	9/8/94	998.72	-	-	-	-	ND	ND	-	-	-	-	-
	2/28/95	998.72	5.81	992.91	-	-	400	ND	-	-	-	-	-
	6/3/95	998.72	4.09	994.63	-	-	ND	ND	-	-	-	-	12.32
	10/5/95	998.72	2.17	996.55	-	-	ND	ND	-	-	-	-	-
	10/26/95	998.72	3.06	995.66	-	-	-	-	-	-	-	-	-

Table 1

**SUMMARY OF GROUND WATER ELEVATIONS AND
SAMPLE ANALYTICAL RESULTS**
Ryder Truck Rental LC-0904
Yakima, WA

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	BTEX (ppb)	TPHd (ppb)	418.1/HO (ppm)	Vol orgs (ppm)	barium (ppb)	lead (ppb)	Product Thickness (inches)	Total Depth (feet)
	12/12/95	998.72	4.53	994.19	-	-	-	-	-	-	-	-	-
	1/17/96	998.72	5.60	993.12	-	-	-	-	-	-	-	-	-
	2/14/96	998.72	5.26	993.46	-	-	-	-	-	-	-	-	-
	3/27/96	998.72	5.82	992.90	-	-	-	-	-	-	-	-	-
	5/1/96	998.72	5.35	993.37	-	-	-	-	-	-	-	-	-
	5/29/96	998.72	3.70	995.02	-	-	-	-	-	-	-	-	-
	6/26/96	998.72	3.30	995.42	-	-	-	-	-	-	-	-	-
	7/17/96	998.72	2.81	995.91	-	-	-	-	-	-	-	-	-
	8/13/96	998.72	2.40	996.32	-	-	-	-	-	-	-	-	-
	9/17/96	998.72	2.06	996.66	-	-	-	-	-	-	-	-	-
	10/24/96	998.72	2.80	995.92	-	-	-	-	-	-	-	-	-
	12/11/96	998.72	4.50	994.22	-	-	-	-	-	-	-	-	-
	3/20/97	998.72	4.17	994.55	-	-	-	-	-	-	-	-	-
	4/17/97	998.72	4.77	993.95	-	-	-	-	-	-	-	-	-
	5/19/97	998.72	3.74	994.98	-	-	-	-	-	-	-	-	-
	6/26/97	998.72	3.70	995.02	-	-	-	-	-	-	-	-	-
	7/10/97	998.72	2.78	995.94	-	-	-	-	-	-	-	-	-
	8/14/97	998.72	2.69	996.03	-	-	-	-	-	-	-	-	-
	9/12/97	998.72	2.30	996.42	-	-	-	-	-	-	-	-	-
	10/7/97	998.72	2.80	995.92	-	-	-	-	-	-	-	-	-
	2/19/98	998.72	5.58	993.14	-	-	-	-	-	-	-	-	-
	3/13/98	998.72	5.31	993.41	-	-	-	-	-	-	-	-	-
	4/22/98	998.72	5.45	993.27	-	-	-	-	-	-	-	-	-
	7/29/98	998.72	2.90	995.82	-	-	-	-	-	-	-	-	-
	9/11/98	998.72	2.02	996.70	-	-	-	-	-	-	-	-	-
	10/19/98	998.72	2.83	995.89	-	-	-	-	-	-	-	-	-
	11/20/98	998.72	4.11	994.61	-	-	-	-	-	-	-	-	-
	12/29/98	998.72	5.37	993.35	-	-	-	-	-	-	-	-	-
	1/19/99	998.72	5.60	993.12	-	-	-	-	-	-	-	-	-
	2/17/99	998.72	4.01	994.71	-	-	-	-	-	-	-	-	-
	3/30/99	998.72	6.24	992.48	-	-	-	-	-	-	-	-	-
	5/26/99	998.72	3.91	994.81	-	-	-	-	-	-	-	-	-

Table 1

**SUMMARY OF GROUND WATER ELEVATIONS AND
SAMPLE ANALYTICAL RESULTS**
Ryder Truck Rental LC-0904
Yakima, WA

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	BTEX (ppb)	TPHd (ppb)	418.1/HO (ppm)	Vol orgs (ppm)	barium (ppb)	lead (ppb)	Product Thickness (inches)	Total Depth (feet)
	7/25/99	998.72	2.95	995.77	ND	-	ND	ND	-	-	-	-	-
	2/10/00	998.72	5.78	992.94	ND	ND	ND	ND	-	-	-	-	-
	3/10/00	998.72	6.42	992.30	-	-	-	-	-	-	-	-	-
MW-6	9/1/94	998.90	-	-	-	-	-	-	-	-	-	-	-
	9/8/94	998.90	-	-	-	-	ND	ND	-	-	-	-	-
	2/28/95	998.90	6.12	992.78	-	-	ND	ND	-	-	-	-	-
	6/3/95	998.90	4.48	994.42	-	-	ND	ND	-	-	-	-	12.2
	10/5/95	998.90	2.49	996.41	-	-	ND	ND	-	-	-	-	-
	10/26/95	998.90	3.34	995.56	-	-	-	-	-	-	-	-	-
	12/12/95	998.90	4.82	994.08	-	-	-	-	-	-	-	-	-
	1/17/96	998.90	5.89	993.01	-	-	-	-	-	-	-	-	-
	3/27/96	998.90	6.09	992.81	-	-	-	-	-	-	-	-	-
	5/1/96	998.90	5.66	993.24	-	-	-	-	-	-	-	-	-
	5/29/96	998.90	3.93	994.97	-	-	-	-	-	-	-	-	-
	6/26/96	998.90	3.58	995.32	-	-	-	-	-	-	-	-	-
	7/17/96	998.90	3.13	995.77	-	-	-	-	-	-	-	-	-
	8/13/96	998.90	2.67	996.23	-	-	-	-	-	-	-	-	-
	9/17/96	998.90	2.33	996.57	-	-	-	-	-	-	-	-	-
	10/24/96	998.90	2.33	996.57	-	-	-	-	-	-	-	-	-
	11/13/96	998.90	3.90	995.00	-	-	-	-	-	-	-	-	-
	12/11/96	998.90	4.75	994.15	-	-	-	-	-	-	-	-	-
	1/15/97	998.90	4.29	994.61	-	-	-	-	-	-	-	-	-
	2/5/97	998.90	4.22	994.68	-	-	-	-	-	-	-	-	-
	3/20/97	998.90	4.40	994.50	-	-	-	-	-	-	-	-	-
	4/17/97	998.90	5.02	993.88	-	-	-	-	-	-	-	-	-
	5/19/97	998.90	4.15	994.75	-	-	-	-	-	-	-	-	-
	6/26/97	998.90	3.51	995.39	-	-	-	-	-	-	-	-	-
	7/10/97	998.90	3.11	995.79	-	-	-	-	-	-	-	-	-
	8/14/97	998.90	2.95	995.95	-	-	-	-	-	-	-	-	-
	9/12/97	998.90	2.30	996.60	-	-	-	-	-	-	-	-	-
	10/7/97	998.90	3.25	995.65	-	-	-	-	-	-	-	-	-

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND
 SAMPLE ANALYTICAL RESULTS
 Ryder Truck Rental LC-0904
 Yakima, WA

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	BTEX (ppb)	TPHd (ppb)	418.1/HO (ppm)	Vol orgs (ppm)	barium (ppb)	lead (ppb)	Product Thickness (inches)	Total Depth (feet)
	2/19/98	998.90	6.05	992.85	-	-	-	-	-	-	-	-	-
	3/13/98	998.90	5.57	993.33	-	-	-	-	-	-	-	-	-
	4/22/98	998.90	5.72	993.18	-	-	-	-	-	-	-	-	-
	7/29/98	998.90	3.13	995.77	-	-	-	-	-	-	-	-	-
	9/11/98	998.90	2.30	996.60	-	-	-	-	-	-	-	-	-
	10/19/98	998.90	3.06	995.84	-	-	-	-	-	-	-	-	-
	11/20/98	998.90	4.40	994.50	-	-	-	-	-	-	-	-	-
	12/29/98	998.90	5.61	993.29	-	-	-	-	-	-	-	-	-
	1/19/99	998.90	5.85	993.05	-	-	-	-	-	-	-	-	-
	2/17/99	998.90	4.05	994.85	-	-	-	-	-	-	-	-	-
	3/30/99	998.90	6.47	992.43	-	-	-	-	-	-	-	-	-
	5/26/99	998.90	4.60	994.30	-	-	ND	ND	-	-	-	-	-
	7/25/99	998.90	3.20	995.70	ND	-	ND	ND	-	-	-	-	-
	2/10/00	998.90	5.98	992.92	ND	ND	ND	ND	-	-	-	-	-
	3/10/00	998.90	8.60	990.30	-	-	-	-	-	-	-	-	-
MW-7	2/10/00	999.92	6.52	993.40	ND	ND	ND	ND	-	-	-	-	12
	3/10/00	999.92	5.72	994.20	-	-	-	-	-	-	-	-	-
RW-1	2/10/00	998.47	2.70	995.77	ND	2.2	3500	ND	ND	70.00	11.00	-	12
	3/10/00	998.47	7.91	990.56	-	-	-	-	-	-	-	-	-
RW-2	2/10/00	999.16	5.80	993.36	ND	ND	ND	ND	-	-	-	-	12
	3/10/00	999.16	4.66	994.50	-	-	-	-	-	-	-	-	-

MTCA Method A Cleanup Levels:

1000	various	1000	1	various	5
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Table 1

**SUMMARY OF GROUND WATER ELEVATIONS AND
SAMPLE ANALYTICAL RESULTS**

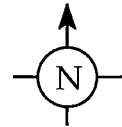
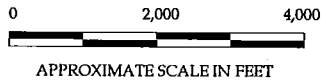
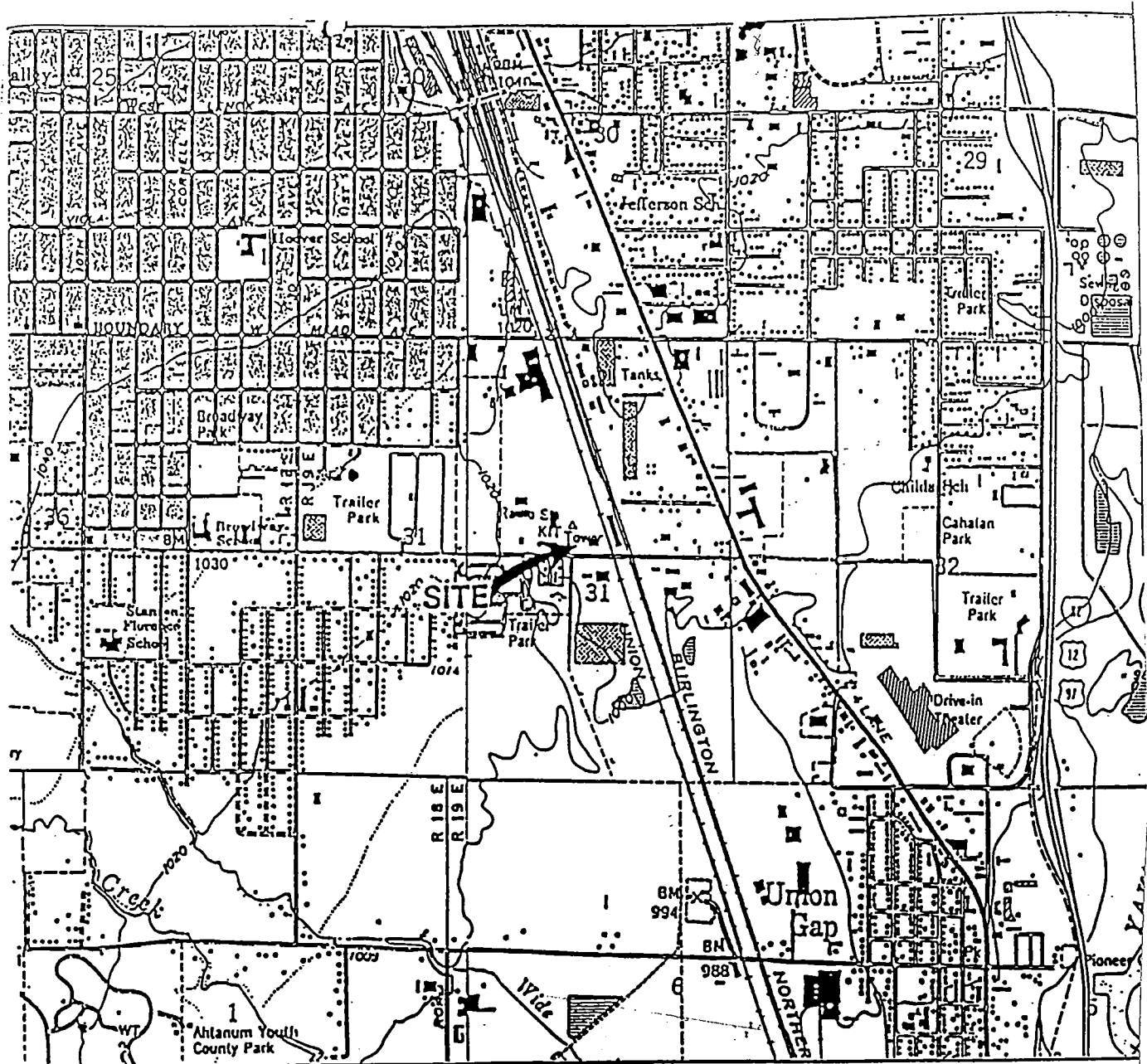
Ryder Truck Rental LC-0904
Yakima, WA

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	BTEX (ppb)	TPHd (ppb)	418.1/HO (ppm)	Vol orgs (ppm)	barium (ppb)	lead (ppb)	Product Thickness (inches)	Total Depth (feet)
--------	------	---------------	---------------	---------------	---------------	---------------	---------------	-------------------	-------------------	-----------------	---------------	----------------------------------	--------------------------

Notes:

- TOC: Elevation of the top of well casing referenced to 1000 feet
- DTW: Depth to water
- GWE: Ground water elevation
- TPHd: Total petroleum hydrocarbons as diesel analyzed by EPA Method 8015 (M) (ppb) or by NW method
- TPH: Total petroleum hydrocarbons analyzed by 418.1 (ppm)
- ***: Indicates dates of First Recovery pumping 200 gallons from MW-3
- ND: Not detected in concentrations exceeding method detection limit or reporting limit
- Volatile Org
Analyzed by EPA Method 8260
- Not measured or sampled
- NWTPH-Gx NW TPH gasoline by EPA Method 602 or 624 for NWTPHGx
- Total Metals Analyzed by EPA Method 200.9 and accompanying method
- BTEX Benzene, Toluene, Ethylbenzene and Total Xylenes analyzed by EPA Method 624
- NWTPH-HCID NW hydrocarbon identification
- FP: Free product

FIGURES



SOURCE: Based on USGS 7.5 minute Yakima East and Yakima West (revised 1985) Washington topographic quadrangles.

SITE LOCATION MAP

Ryder Truck Rental
19 West Washington Street
Yakima, WA

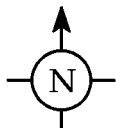
CLEARWATER GROUP, INC.

Project No.
OC-130

Report Date
3/00


Figure
1

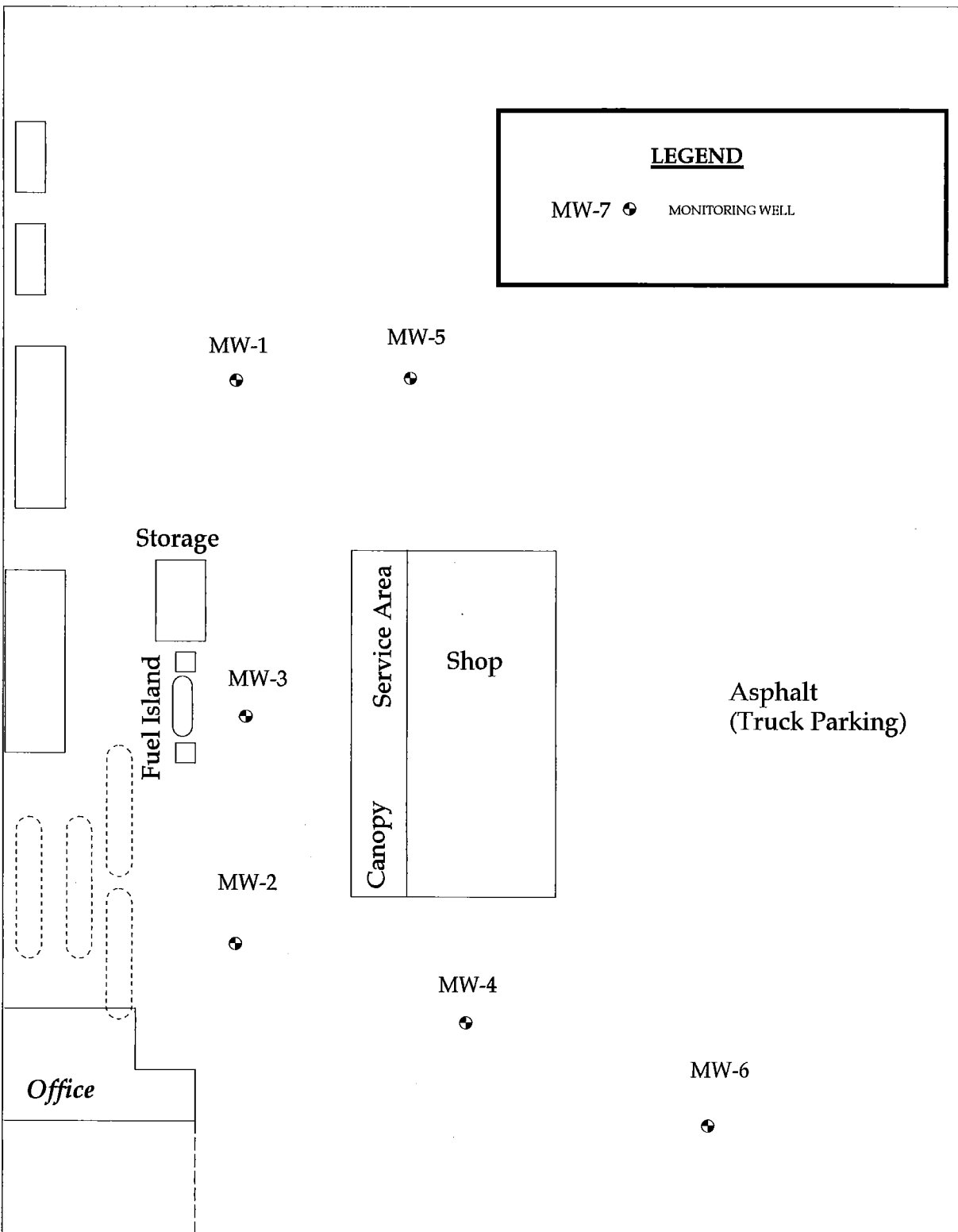
S. S. Steiner Company



Yakima Brewing and Malting

LEGEND

MW-7  MONITORING WELL



Storage Unit

Storage

Fuel Island

Former USTs

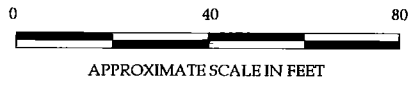
Office

Canopy Service Area

Shop

Asphalt (Truck Parking)

Washington Street



FORMER SITE MAP

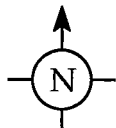
Ryder Truck Rental
19 West Washington Street
Yakima, WA

CLEARWATER GROUP, INC.

Project No.
OC-130

Report Date
3/00

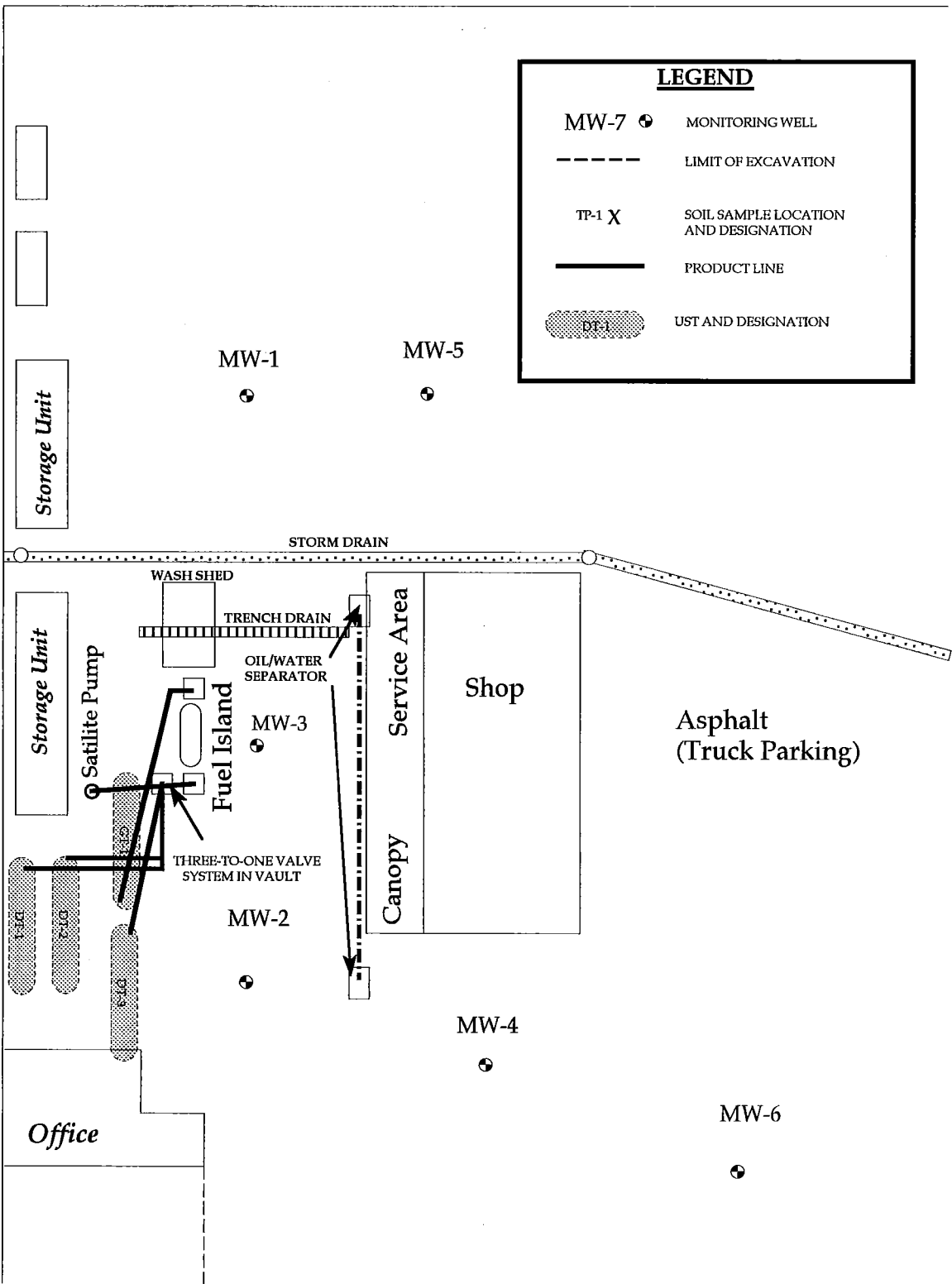
Figure
2



Yakima Brewing
and Malting

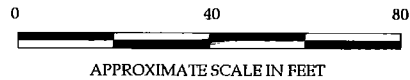
LEGEND

- MW-7 MONITORING WELL
- LIMIT OF EXCAVATION
- TP-1 X SOIL SAMPLE LOCATION AND DESIGNATION
- PRODUCT LINE
- UST AND DESIGNATION



USTs

Washington Street



PREVIOUS SITE/UST SYSTEM MAP

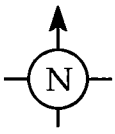
Ryder Truck Rental
19 West Washington Street
Yakima, WA

CLEARWATER GROUP, INC.

Project No.
OC-130

Report Date
3/00

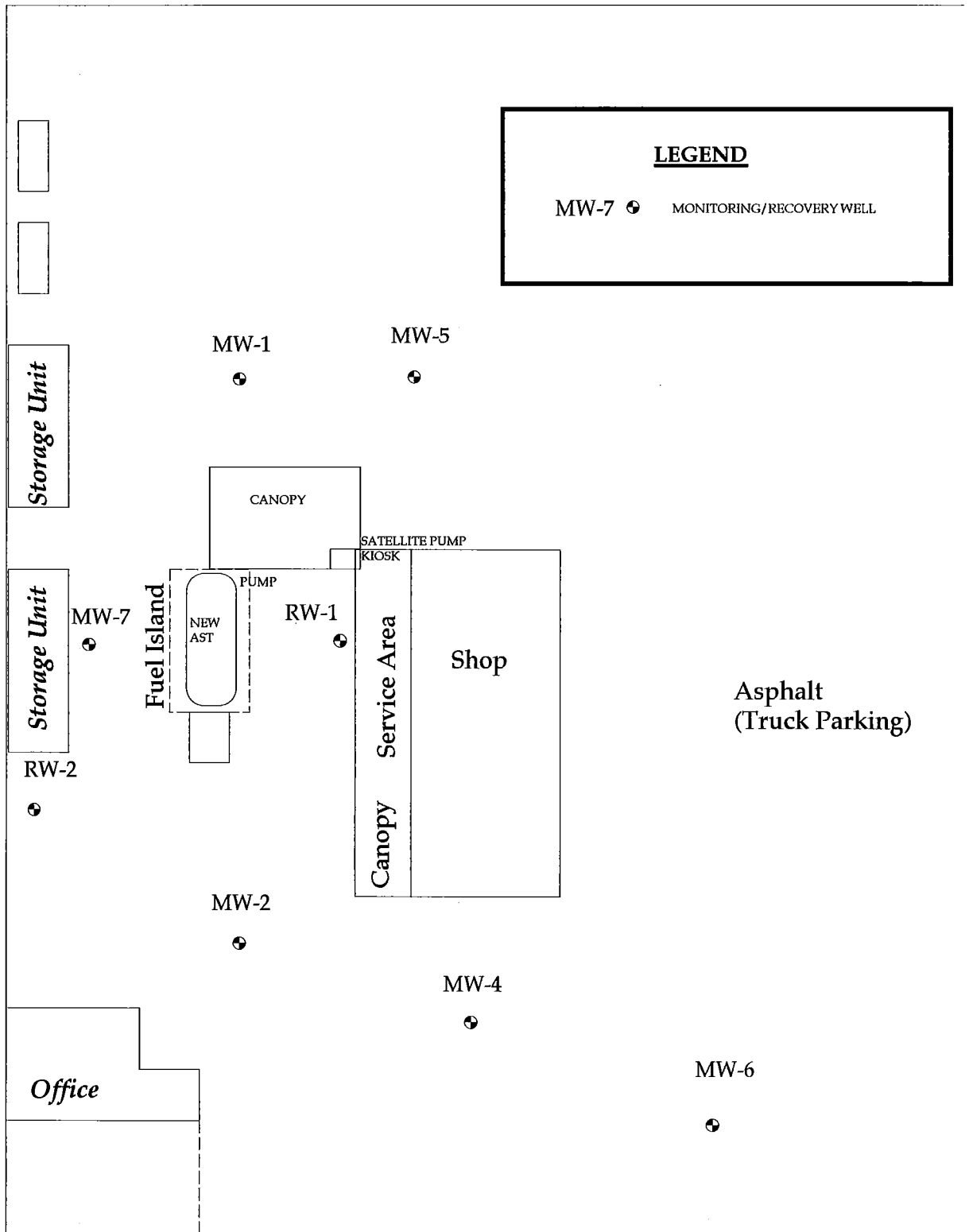
Figure
3



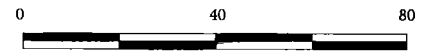
Yakima Brewing
and Malting

LEGEND

MW-7 MONITORING/RECOVERY WELL



Washington Street



APPROXIMATE SCALE IN FEET

CURRENT SITE MAP

Ryder Truck Rental
19 West Washington Street
Yakima, WA

CLEARWATER GROUP, INC.

Project No.
OC-130

Report Date
3/00

Figure
4

APPENDIX B



CERTIFICATE OF ANALYSIS

CLIENT: CLEARWATER GROUP
1925 NE PACIFIC STREET
PORTLAND OR 97213

PHONE: (503) 233-9302
FAX: (503) 233-9067

DATE SUBMITTED: 02/10/20

PROJECT NAME: OC-130

PROJECT NUMBER: OC-130

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX	DESCRIPTION
0257-001		02/09/2000	1000	Water	MW-1
0257-002		02/09/2000	0800	Water	RW-2
0257-003		02/10/2000	0700	Water	RW-1
0257-004		02/09/2000	1300	Water	MW-2
0257-005		02/09/2000	1600	Water	MW-4
0257-006		02/09/2000	1500	Water	MW-5
0257-007		02/10/2000	0900	Water	MW-6
0257-008		02/10/2000	1100	Water	MW-7

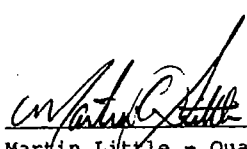
REPORT DATE: 02/25/2000

REPORT NUMBER: 0257

PAGE: 1 OF 6

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION		ANALYST
					LIMIT		
MW-1							
0257-001	NWTPH-Dx (WATER)	DIESEL CONTENT	ND	mg/L	0.25		Abby K.
		OIL/GREASE CONTENT	ND	mg/L	0.6		
			SURROGATE RECOVERY	74	%RECOVERY	50%-150%	
	NWTPH-Gx (WATER)	GASOLINE CONTENT	ND	mg/L	0.25		Jacob F.
		NWTPH-G (WATER)					
			SURROGATE RECOVERY	84%	%RECOVERY	50%-150%	
EPA 624	BTEX 3	BENZENE	ND	ug/L	0.5		Jacob F.
		ETHYLBENZENE	ND	ug/L	0.5		
		TOLUENE	ND	ug/L	0.5		
		META- & PARA-XYLENE	ND	ug/L	0.5		
		ORTHO-XYLENE	ND	ug/L	0.5		
		SURROGATE RECOVERY	99%	%RECOVERY	80%-120%		

REVIEWED BY:


Martin Little - Quality Manager

CERTIFICATE OF ANALYSIS

REPORT DATE: 02/25/2000

REPORT NUMBER: 0257

PAGE: 2 OF 6

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION	ANALYST
					LIMIT	
RW-2						
0257-002	NWTPH-Dx (WATER)	DIESEL CONTENT	ND	mg/L	0.25	Abby K.
	NWTPH-D	OIL/GREASE CONTENT	ND	mg/L	0.6	
		SURROGATE RECOVERY	76	%RECOVERY	50%-150%	
	NWTPH-Gx (WATER)	GASOLINE CONTENT	ND	mg/L	0.25	Jacob F.
	NWTPH-G (WATER)	SURROGATE RECOVERY	84%	%RECOVERY	50%-150%	
BTEX 3 EPA 624		BENZENE	ND	ug/L	0.5	Jacob F.
		ETHYLBENZENE	ND	ug/L	0.5	
		TOLUENE	ND	ug/L	0.5	
		META- & PARA-XYLENE	ND	ug/L	0.5	
		ORTHO-XYLENE	ND	ug/L	0.5	
		SURROGATE RECOVERY	97%	%RECOVERY	80%-120%	
RW-1						
0257-003	NWTPH-Dx (WATER)	DIESEL CONTENT	3.5	mg/L	0.25	Abby K.
	NWTPH-D	OIL/GREASE CONTENT	ND	mg/L	0.6	
		SURROGATE RECOVERY	84	%RECOVERY	50%-150%	
	NWTPH-Gx (WATER)	GASOLINE CONTENT	ND	mg/L	0.25	Jacob F.
	NWTPH-G (WATER)	SURROGATE RECOVERY	91%	%RECOVERY	50%-150%	
BTEX EXTENDED EPA 624		BENZENE	ND	ug/L	0.5	Jacob F.
		ETHYLBENZENE	ND	ug/L	0.5	
		TOLUENE	ND	ug/L	0.5	
		M- & P-XYLENE	ND	ug/L	0.5	
		O-XYLENE	2.2	ug/L	0.5	
		NAPHTHALENE	ND	ug/L	0.5	
		SURROGATE RECOVERY	83%	%RECOVERY	80-120%	
VOLATILE ORGANICS 2 EPA 8260		ACROLEIN	ND	mg/L	0.10	Jacob F.
		ACRYLONITRILE	ND	mg/L	0.10	
		BENZENE	ND	mg/L	0.0005	
		BROMOFORM	ND	mg/L	0.0025	
		CARBON TETRACHLORIDE	ND	mg/L	0.0005	
		CHLOROBENZENE	ND	mg/L	0.0005	
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005	
		CHLOROETHANE	ND	mg/L	0.005	
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0025	

CERTIFICATE OF ANALYSIS

REPORT DATE: 02/25/2000

REPORT NUMBER: 0257

PAGE: 3 OF 6

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
RW-1		SAMPLE ID:				
0257-003	VOLATILE ORGANICS 2 EPA 8260	CHLOROFORM	0.0092	mg/L	0.0005	Jacob F.
		DICHLOROBROMOMETHANE	ND	mg/L	0.0005	
		1,2-DICHLOROBENZENE	ND	mg/L	0.0005	
		1,3-DICHLOROBENZENE	ND	mg/L	0.0005	
		1,4-DICHLOROBENZENE	ND	mg/L	0.0005	
		1,1-DICHLOROETHANE	ND	mg/L	0.0005	
		1,2-DICHLOROETHANE	ND	mg/L	0.0005	
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005	
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005	
		TRANS-1,2-DICHLOROETHYLENE	ND	mg/L	0.0005	
		1,3-DICHLOROPROPYLENE	ND	mg/L	0.0005	
		ETHYLBENZENE	ND	mg/L	0.0005	
		METHYL BROMIDE	ND	mg/L	0.002	
		METHYL CHLORIDE	ND	mg/L	0.005	
		METHYLENE CHLORIDE	ND	mg/L	0.005	
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.005	
		TETRACHLOROETHYLENE	ND	mg/L	0.005	
		TOLUENE	ND	mg/L	0.005	
		1,1,1-TRICHLOROETHANE	ND	mg/L	0.005	
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.005	
		TRICHLOROETHYLENE	ND	mg/L	0.005	
		TRICHLOROFLUORMETHANE	ND	mg/L	0.0025	
		VINYL CHLORIDE	ND	mg/L	0.005	
		SURROGATE 1	102%	% RECOVERY	80%-120%	
		SURROGATE 3	96%	% RECOVERY	80%-120%	
		SURROGATE 2	OBSCURED	% RECOVERY	80%-120%	
RW-1						
0257-003	ARSENIC - GFAA EPA 200.9/7060A	ARSENIC	ND	mg/L	0.003	Greg W.
	BARIUM - ICP EPA 200.7/6010B	TOTAL BARIUM	0.07	mg/L	0.01	Greg W.
	CADMIUM - GFAA EPA 200.9/7131A	CADMIUM	ND	mg/L	0.002	Greg W.
	CHROMIUM - GFAA EPA 200.9/7191	CHROMIUM	ND	mg/L	0.002	Greg W.
	LEAD - GFAA EPA 200.9/7421	LEAD	0.011	mg/L	0.002	Dave M.

CERTIFICATE OF ANALYSIS

REPORT DATE: 02/25/2000

REPORT NUMBER: 0257

PAGE: 4 OF 6

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION	ANALYST
					LIMIT	
RW-1						
0257-003	MERCURY - CVAA EPA245.1/7470/7471	TOTAL MERCURY	ND	mg/L	0.0003	Greg W.
	SELENIUM - GFAA EPA 200.9/7740	SELENIUM	ND	mg/L	0.002	Dave M.
	SILVER - GFAA EPA 200.9/272.2	SILVER	ND	mg/L	0.002	Dave M.
MW-2						
0257-004	NWTPH-Dx (WATER) NWTPH-D	DIESEL CONTENT	ND	mg/L	0.25	Abby K.
		OIL/GREASE CONTENT	ND	mg/L	0.6	
		SURROGATE RECOVERY	84	%RECOVERY	50%-150%	
0257-004	NWTPH-Gx (WATER) NWTPH-G (WATER)	GASOLINE CONTENT	ND	mg/L	0.25	Jacob F.
		SURROGATE RECOVERY	86%	%RECOVERY	50%-150%	
		BTEX 4 EPA 624	BENZENE	ND	ug/L	
TOLUENE	ND	ug/L	0.5			
ETHYLBENZENE	ND	ug/L	0.5			
M- & P-XYLENE	ND	ug/L	0.5			
O-XYLENE	ND	ug/L	0.5			
		SURROGATE 1 RECOVERY	87%	%RECOVERY	80%-120%	
		SURROGATE 2 RECOVERY	86%	%RECOVERY	80%-120%	
		SURROGATE 3 RECOVERY	95%	%RECOVERY	80%-120%	
MW-4						
0257-005	NWTPH-Dx (WATER) NWTPH-D	DIESEL CONTENT	ND	mg/L	0.25	Abby K.
		OIL/GREASE CONTENT	ND	mg/L	0.6	
		SURROGATE RECOVERY	73	%RECOVERY	50%-150%	
0257-005	NWTPH-Gx (WATER) NWTPH-G	GASOLINE CONTENT	ND	mg/L	0.25	Jacob F.
		SURROGATE RECOVERY	86%	%RECOVERY	50%-150%	

CERTIFICATE OF ANALYSIS

REPORT DATE: 02/25/2000

REPORT NUMBER: 0257

PAGE: 5 OF 6

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
SAMPLE ID:						
MW-4						
0257-005	BTEX 4 EPA 624	BENZENE	ND	ug/L	0.5	Jacob F.
		TOLUENE	ND	ug/L	0.5	
		ETHYLBENZENE	ND	ug/L	0.5	
		M- & P-XYLENE	ND	ug/L	0.5	
		O-XYLENE	ND	ug/L	0.5	
		SURROGATE 1 RECOVERY	91%	%RECOVERY	80%-120%	
		SURROGATE 2 RECOVERY	86%	%RECOVERY	80%-120%	
		SURROGATE 3 RECOVERY	94%	%RECOVERY	80%-120%	
MW-5						
0257-006	NWTPH-Dx (WATER) NWTPH-D	DIESEL CONTENT	ND	mg/L	0.25	Abby K.
		OIL/GREASE CONTENT	ND	mg/L	0.6	
		SURROGATE RECOVERY	69	%RECOVERY	50%-150%	
	NWTPH-Gx (WATER) NWTPH-G (WATER)	GASOLINE CONTENT	ND	mg/L	0.25	Jacob F.
		SURROGATE RECOVERY	81%	%RECOVERY	50%-150%	
	BTEX 4 EPA 624	BENZENE	ND	ug/L	0.5	Jacob F.
		TOLUENE	ND	ug/L	0.5	
		ETHYLBENZENE	ND	ug/L	0.5	
		M- & P-XYLENE	ND	ug/L	0.5	
		O-XYLENE	ND	ug/L	0.5	
		SURROGATE 1 RECOVERY	87%	%RECOVERY	80%-120%	
		SURROGATE 2 RECOVERY	81%	%RECOVERY	80%-120%	
		SURROGATE 3 RECOVERY	92%	%RECOVERY	80%-120%	
MW-6						
0257-007	NWTPH-Dx (WATER) NWTPH-D	DIESEL CONTENT	ND	mg/L	0.25	Abby K.
		OIL/GREASE CONTENT	ND	mg/L	0.6	
		SURROGATE RECOVERY	103	%RECOVERY	50%-150%	
	NWTPH-Gx (WATER) NWTPH-G (WATER)	GASOLINE CONTENT	ND	mg/L	0.25	Jacob F.
		SURROGATE RECOVERY	84%	%RECOVERY	50%-150%	

CERTIFICATE OF ANALYSIS

REPORT DATE: 02/25/2000

REPORT NUMBER: 0257

PAGE: 6 OF 6

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
MW-6		SAMPLE ID:				
0257-007	BTEX 4 EPA 624	BENZENE	ND	ug/L	0.5	Jacob F.
		TOLUENE	ND	ug/L	0.5	
		ETHYLBENZENE	ND	ug/L	0.5	
		M- & P-XYLENE	ND	ug/L	0.5	
		O-XYLENE	ND	ug/L	0.5	
		SURROGATE 1 RECOVERY	88%	%RECOVERY	80%-120%	
		SURROGATE 2 RECOVERY	84%	%RECOVERY	80%-120%	
		SURROGATE 3 RECOVERY	89%	%RECOVERY	80%-120%	
MW-7						
0257-008	NWTPH-Dx (WATER) NWTPH-D	DIESEL CONTENT	ND	mg/L	0.25	Abby K.
		OIL/GREASE CONTENT	ND	mg/L	0.6	
		SURROGATE RECOVERY	68	%RECOVERY	50%-150%	
	NWTPH-Gx (WATER) NWTPH-G (WATER)	GASOLINE CONTENT	ND	mg/L	0.25	Jacob F.
		SURROGATE RECOVERY	95%	%RECOVERY	50%-150%	
	BTEX 4 EPA 624	BENZENE	ND	ug/L	0.5	Jacob F.
		TOLUENE	ND	ug/L	0.5	
		ETHYLBENZENE	ND	ug/L	0.5	
		M- & P-XYLENE	ND	ug/L	0.5	
		O-XYLENE	ND	ug/L	0.5	
		SURROGATE 1 RECOVERY	99%	%RECOVERY	80%-120%	
		SURROGATE 2 RECOVERY	95%	%RECOVERY	80%-120%	
		SURROGATE 3 RECOVERY	83%	%RECOVERY	80%-120%	

COLUMBIA INSPECTION, INC.

CHAIN OF CUSTODY RECORD

Laboratory • Inspection • Tank Calibration
 Environmental • Petroleum • OR Certified Water Analysis

7133 N. Lombard, Portland, OR 97203
 4901 E. 20th Street, Fife, WA 98424
 613 Escobar Street, Martinez, CA 94553
 790 Basin Street, Unit #2, San Pedro, CA 90731

Ph: (503) 286-9464 Fax: (503) 285-7831
 Ph: (253) 922-8781 Fax: (253) 922-8957
 Ph: (510) 229-0360 Fax: (510) 229-2821
 Ph: (310) 833-1557 Fax: (310) 833-1585

Customer Name: _____
 Attention: _____
 Address: **CLEARWATER GROUP INC.**
1925 N.E. PACIFIC STREET
PORTLAND, OR 97232
 Phone: () _____
 FAX: () _____
 Sampler: _____ Submitted

Project Name: OC-130
 Project Number: OC-130
 P.O. Number: _____
 Testing Priority: _____ Notification Method(s) _____
 Standard Telephone
 Rush FAX
 Due Date: _____ Mail

Sample id#	Sample Description	Sample Matrix	Sample Date	Sample Time	Analyses To Be Performed																
MW-1		W	2/9 10:00		X																
RW-2			2/10 8:00		X																
RW-1			2/10 7:00		X																
MW-2			2/9 10:00		X																
MW-4			2/9 8:00		X																
MW-5			2/9 3:00		X																
MW-6			2/10 9:00		X																
MW-7			2/10 11:00		X																

Relinquished By: Signature: _____	Received By: Signature: _____ Printed Name: _____	Date/Time 2/10/00 12:45
Printed Name: _____	Signature: _____ Printed Name: _____	Date/Time
Relinquished By: Signature: _____	Signature: _____ Printed Name: _____	
Printed Name: _____	Printed Name: _____	

FOR LABORATORY USE ONLY

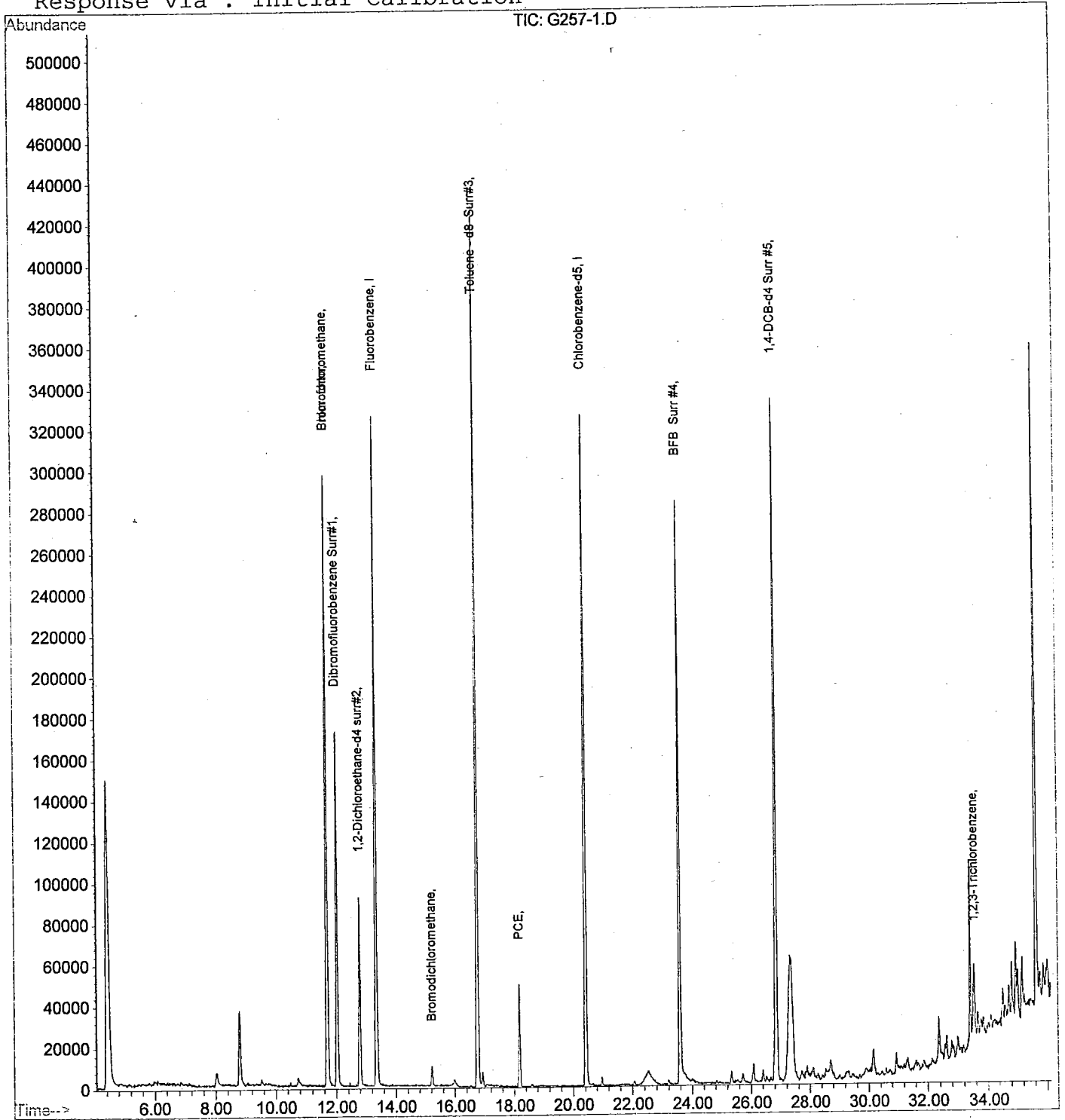
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 Laboratory Project Number: 257 Cash/Check # _____
 Overtime authorized Yes No Amount Paid: \$ _____

Data File : C:\HPCHEM\1\DATA02\G257-1.D
Acq On : 17 Feb 2000 1:49 pm
Sample : 2k-0257-1 25ml sample + surr/int std
Misc :
MS Integration Params: GENIE.E
Quant Time: Feb 17 14:57 19100

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: V524A.RES

Method : C:\HPCHEM\1\METHODS\V524A.M (Chemstation Integrator)
Title : vol524a
Last Update : Thu Feb 10 10:27:33 2000
Response via : Initial Calibration

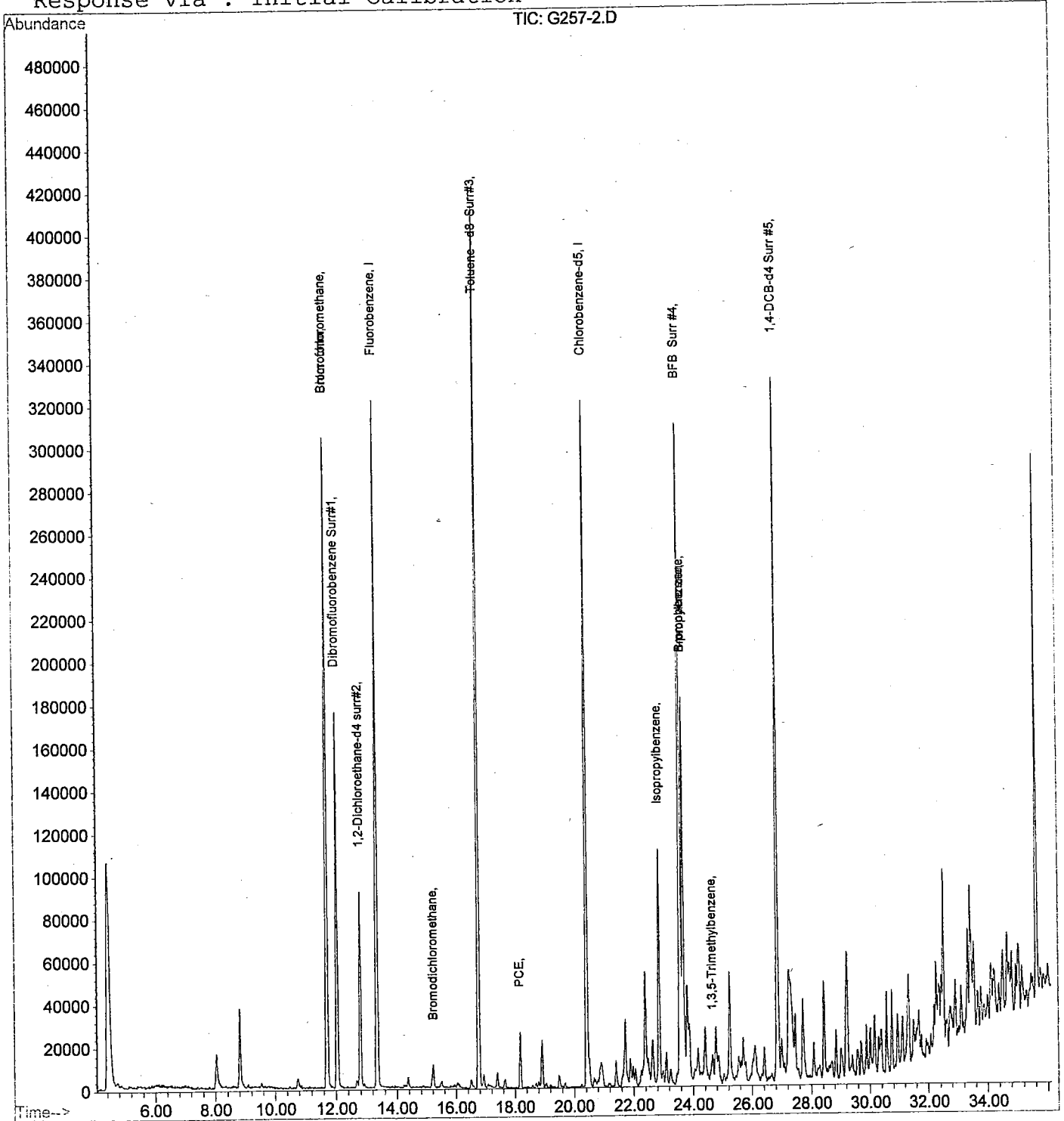


Data File : C:\HPCHEM\1\DATA02\G257-2.D
Acq On : 17 Feb 2000 3:12 pm
Sample : 2k-0257-2 25ml sample + surr/int std
Misc :
MS Integration Params: GENIE.E
Quant Time: Feb 17 19:17 19100

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: V524A.RES

Method : C:\HPCHEM\1\METHODS\V524A.M (Chemstation Integrator)
Title : vol524a
Last Update : Thu Feb 10 10:27:33 2000
Response via : Initial Calibration

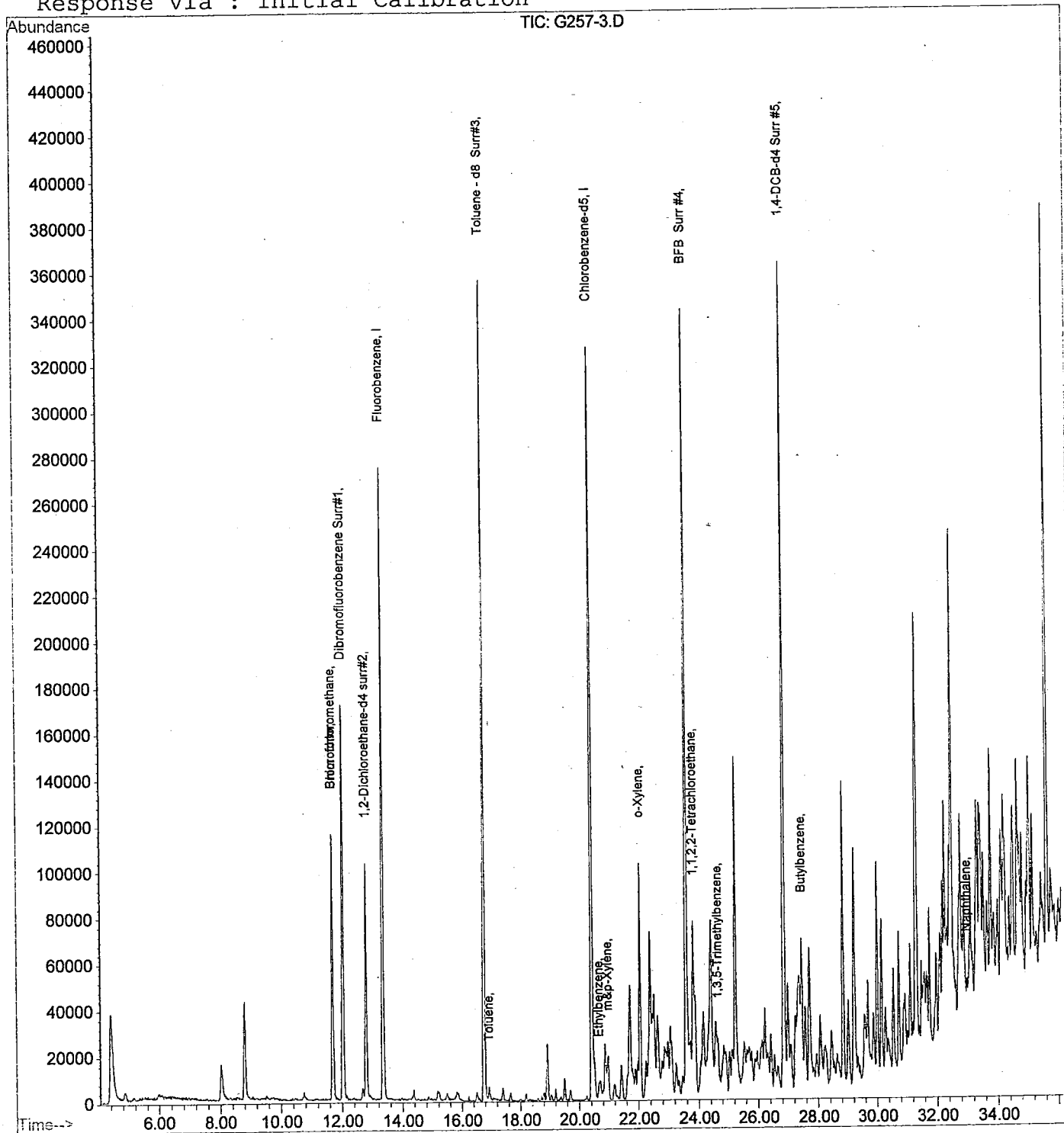


Data File : C:\HPCHEM\1\DATA02\G257-3.D
Acq On : 17 Feb 2000 4:01 pm
Sample : 2k-0257-3 5.0 ml sample + surr/int std
Misc :
MS Integration Params: GENIE.E
Quant Time: Feb 17 19:25 19100

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: V524A.RES

Method : C:\HPCHEM\1\METHODS\V524A.M (Chemstation Integrator)
Title : vol524a
Last Update : Thu Feb 10 10:27:33 2000
Response via : Initial Calibration

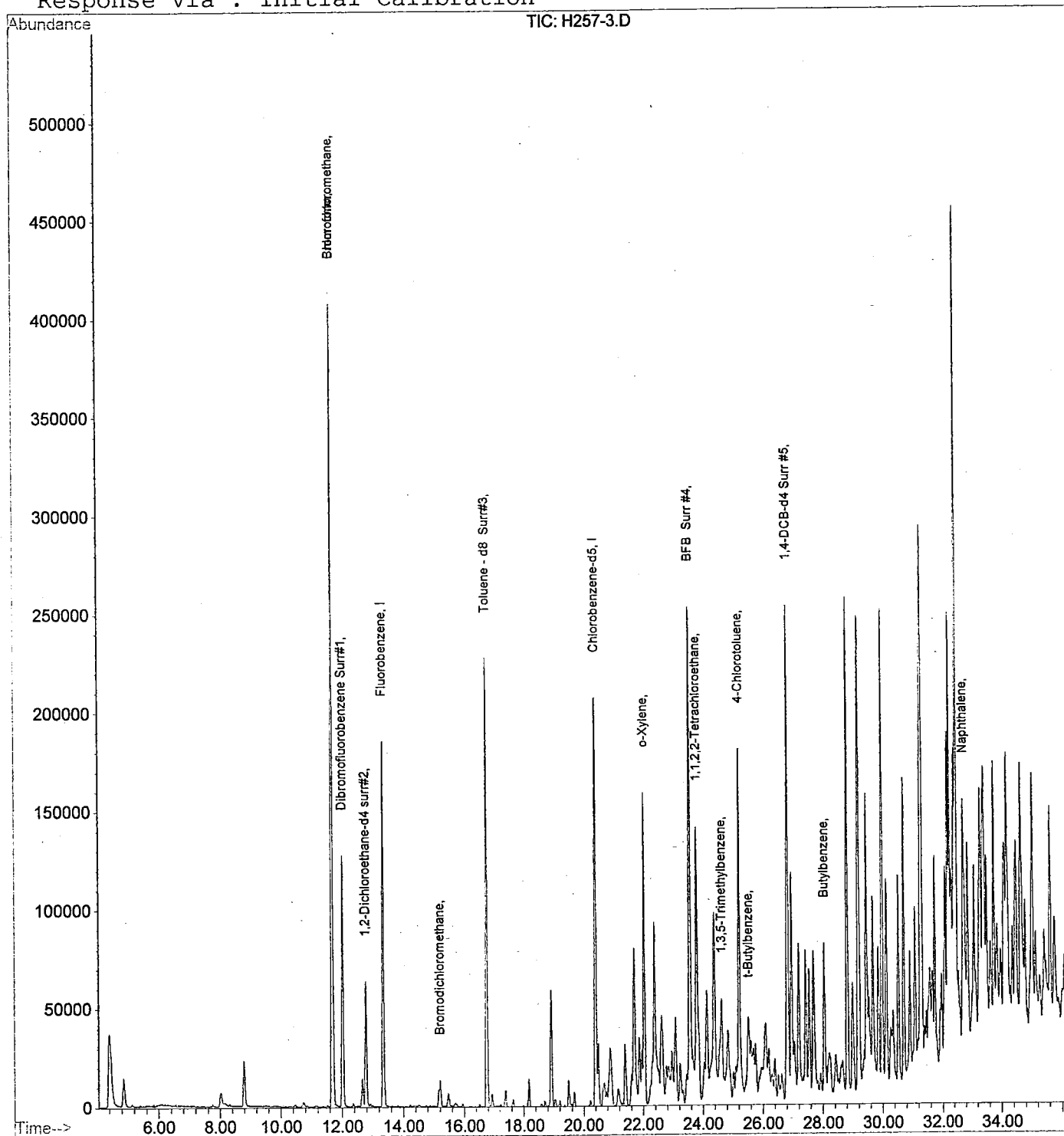


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Misc :
MS Integration Params: GENIE.E
Quant Time: Feb 18 16:31 19100

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: V524A.RES

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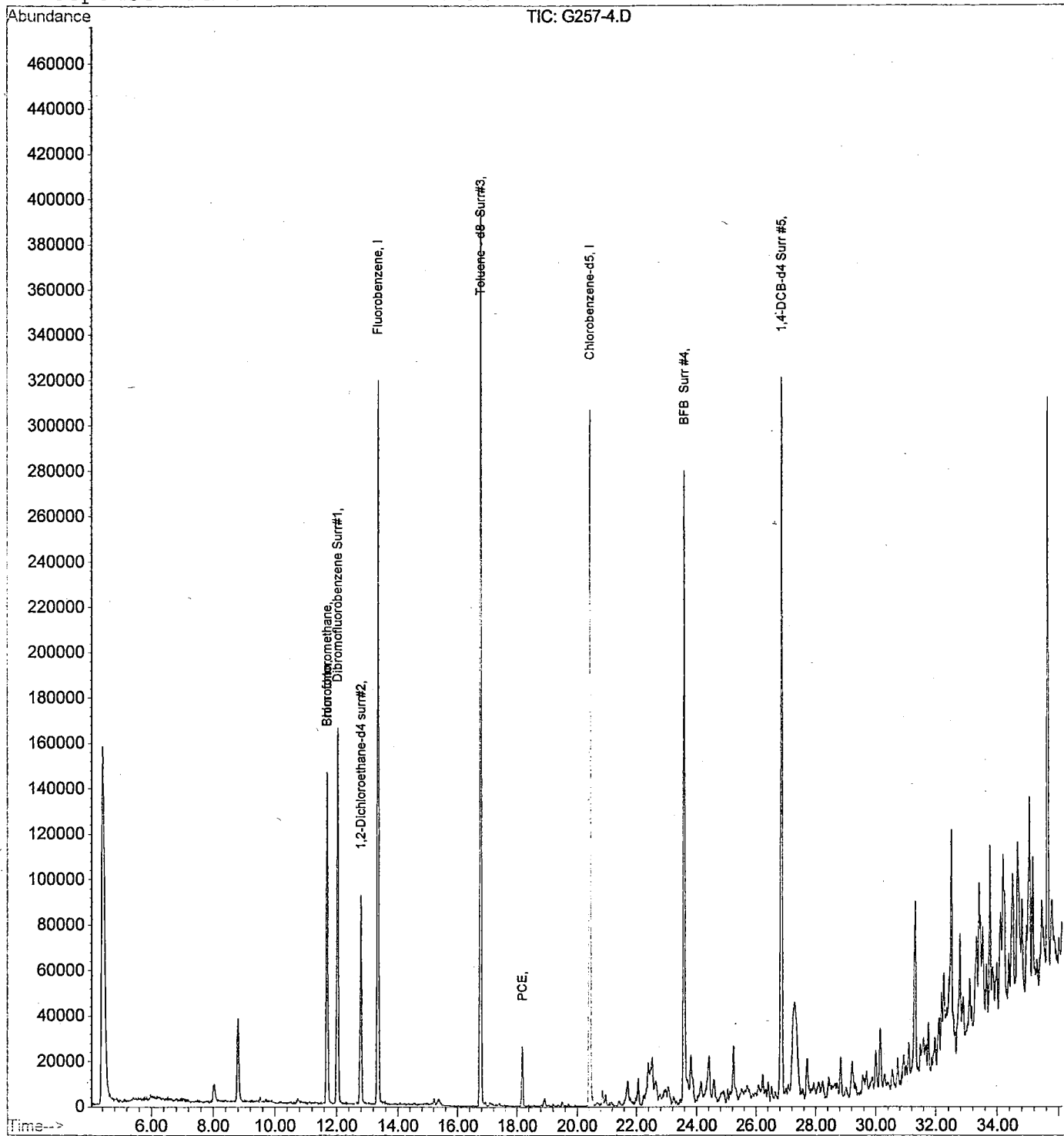


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Acq On : 17 Feb 2000 4:58 pm
Sample : 2k-0257-4 25.0 ml sample + surr/int std
Misc :
MS Integration Params: GENIE.E
Quant Time: Feb 18 10:10 19100

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: V524A.RES

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Title : vol524a
Last Update : Thu Feb 10 10:27:33 2000
Response via : Initial Calibration

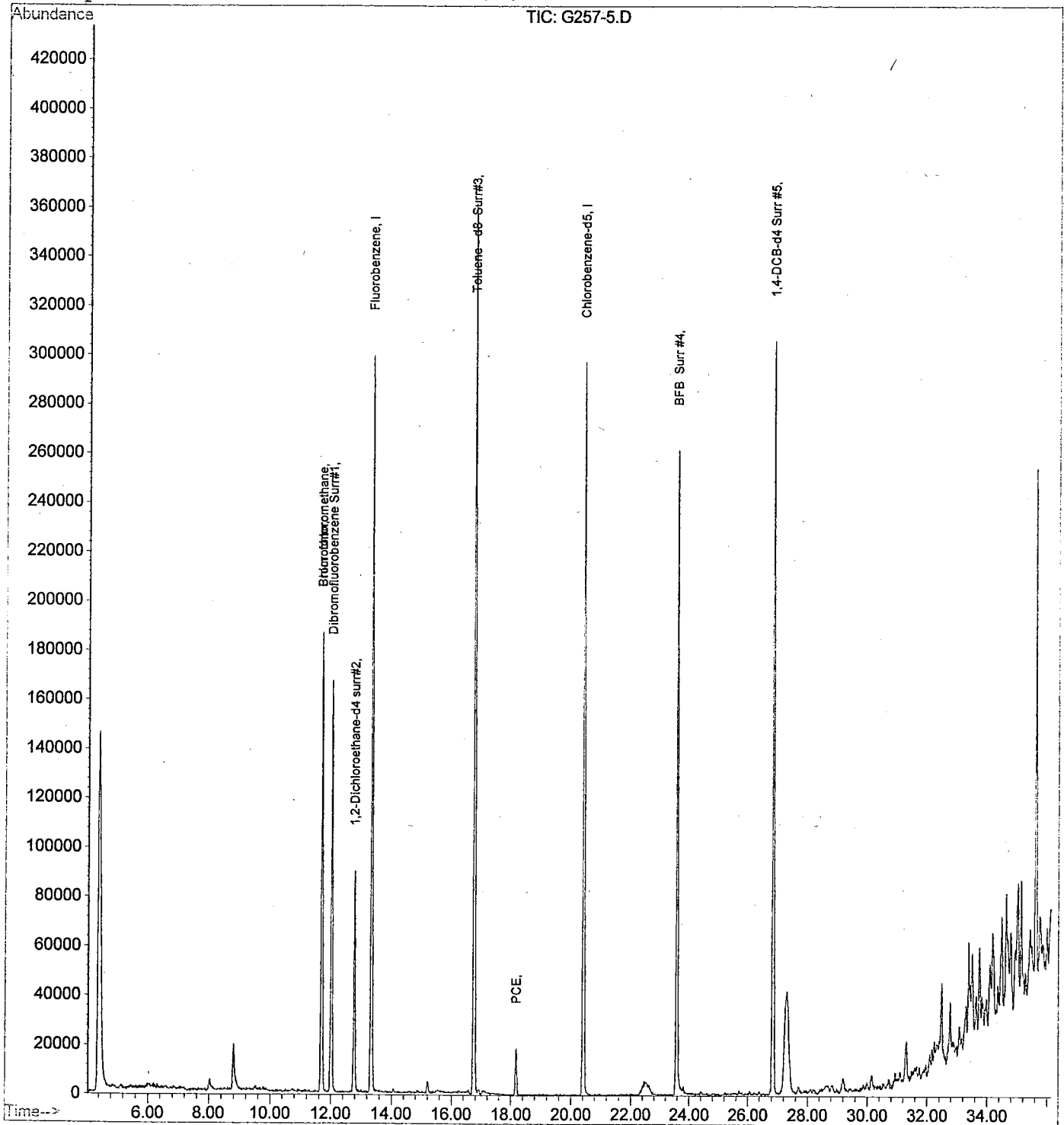


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Last Update : Thu Feb 10 10:27:33 2000

Response via : Initial Calibration

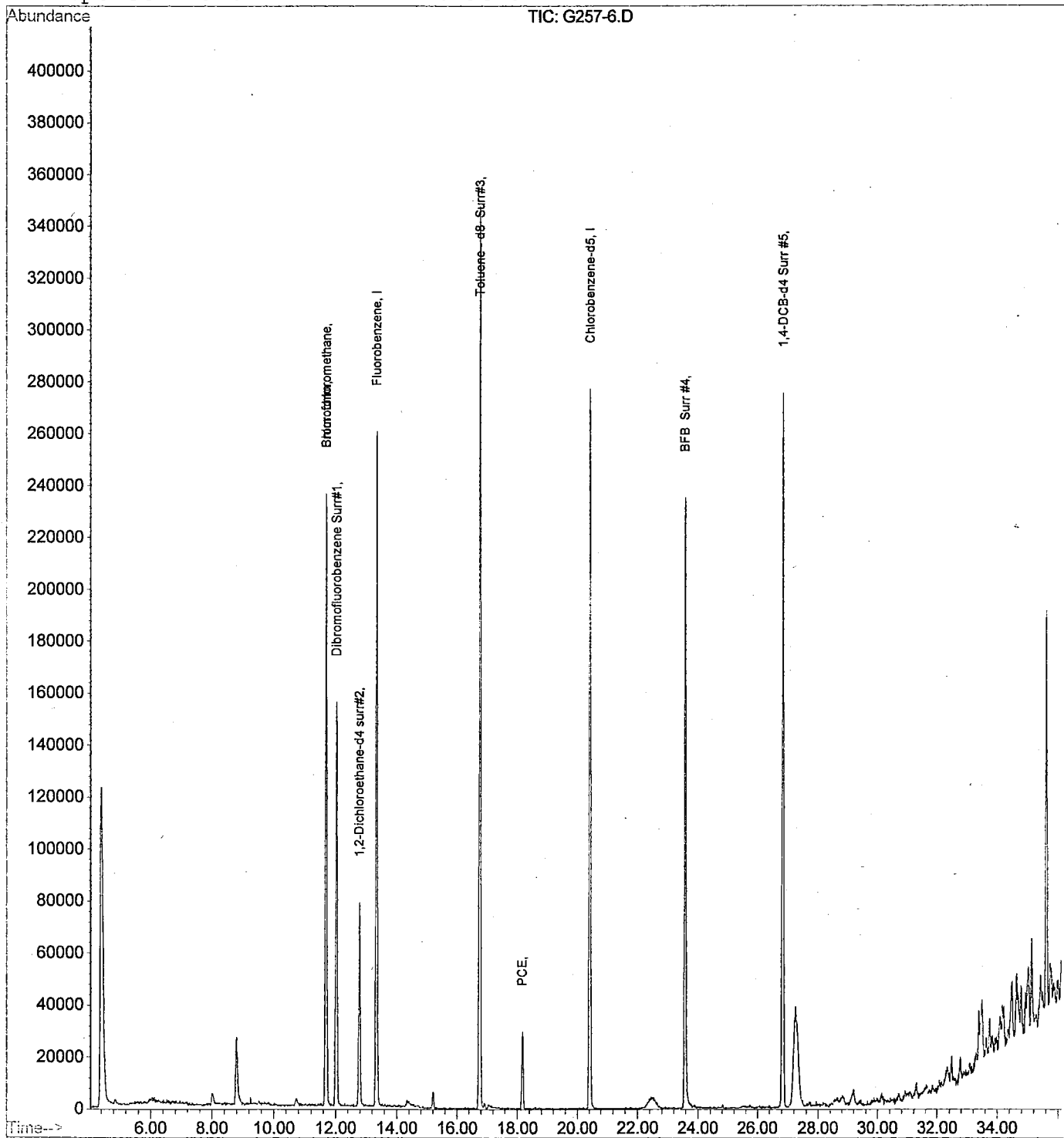


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Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: V524A.RES

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Title : vol524a
Last Update : Thu Feb 10 10:27:33 2000
Response via : Initial Calibration

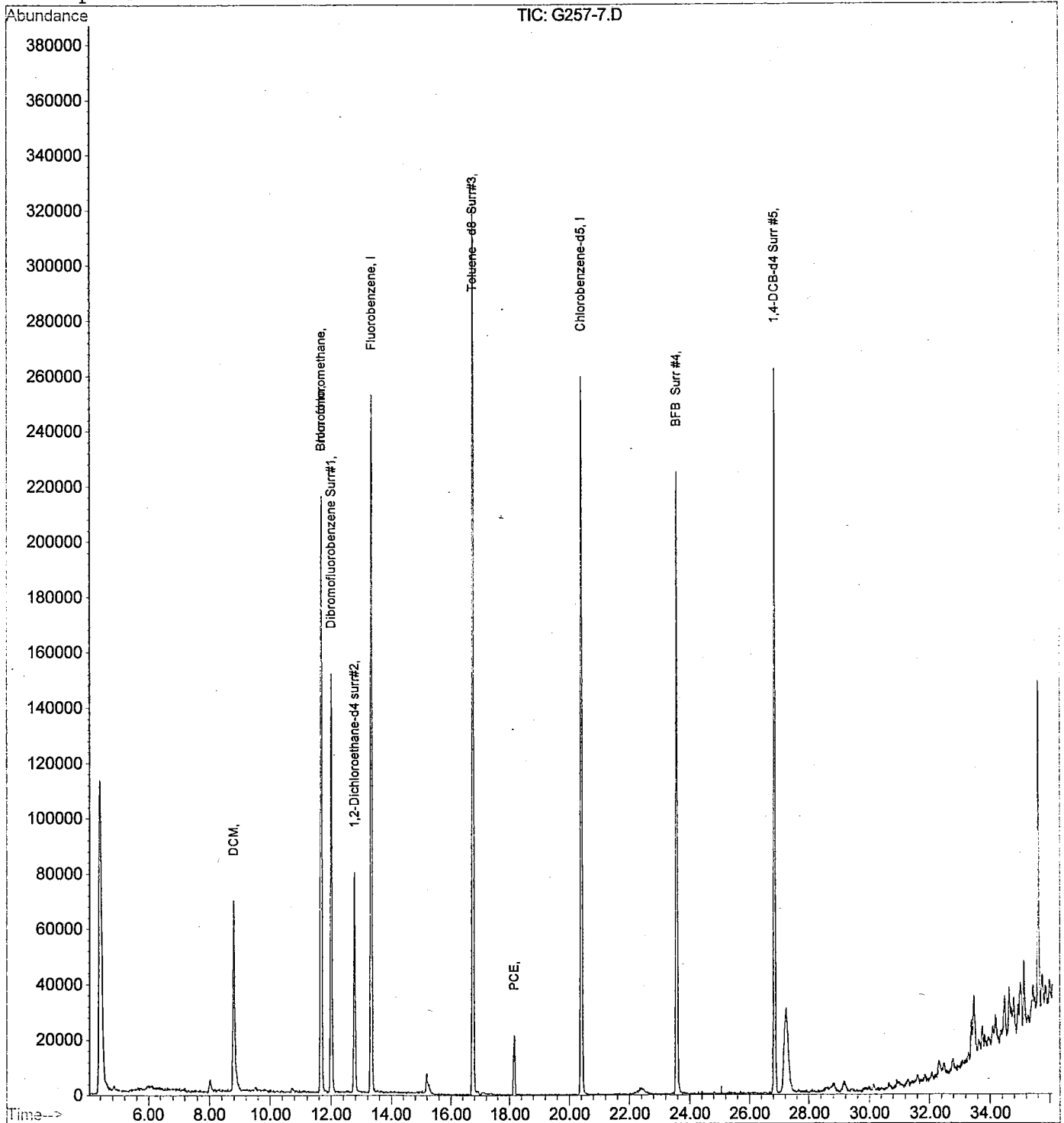


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Last Update : Thu Feb 10 10:27:33 2000

Response via : Initial Calibration

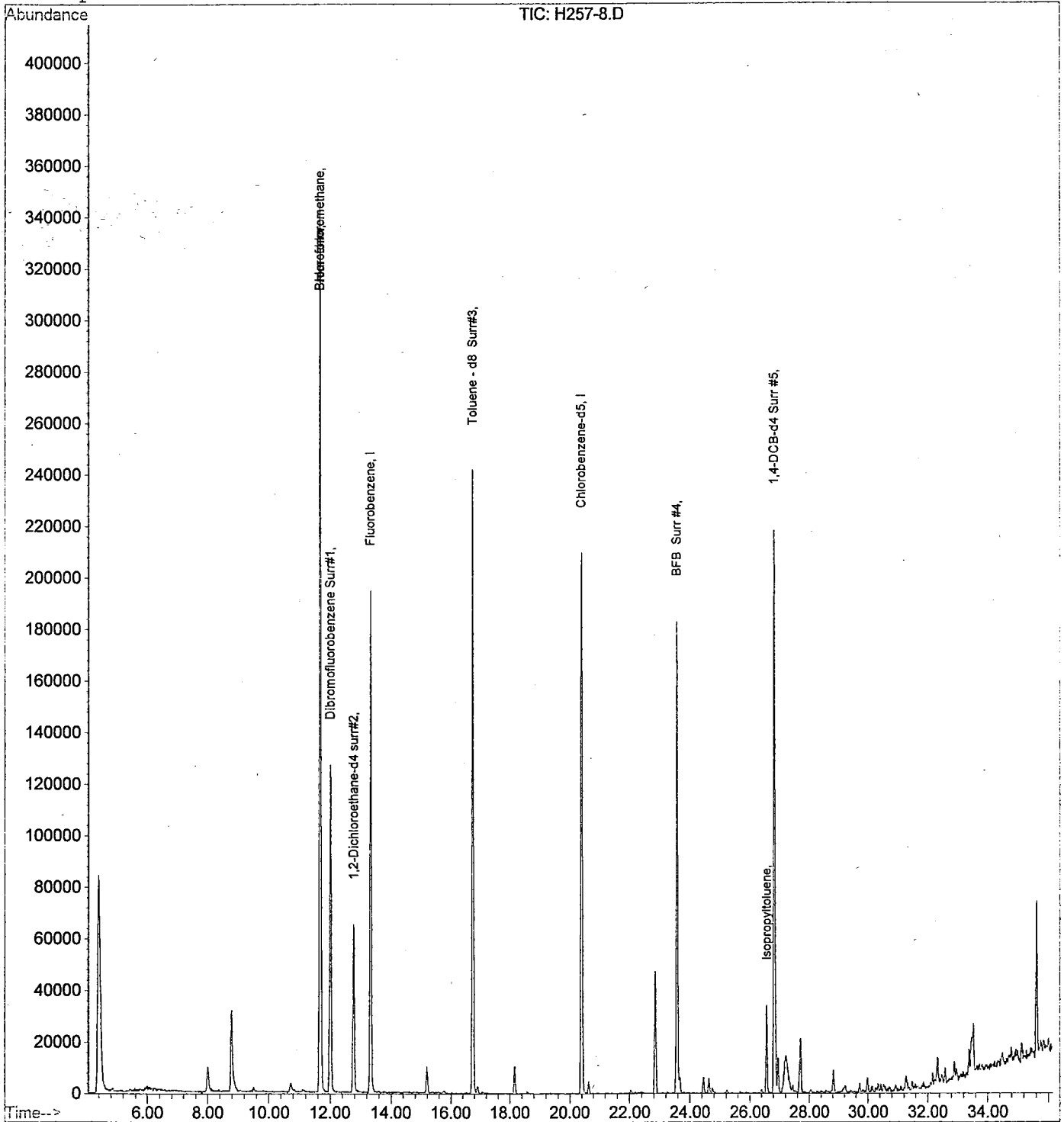


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Quant Time: Feb 18 15:38 19100

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: V524A.RES

Method : C:\HPCHEM\1\METHODS\V524A.M (Chemstation Integrator)
Title : vol524a
Last Update : Thu Feb 10 10:27:33 2000
Response via : Initial Calibration

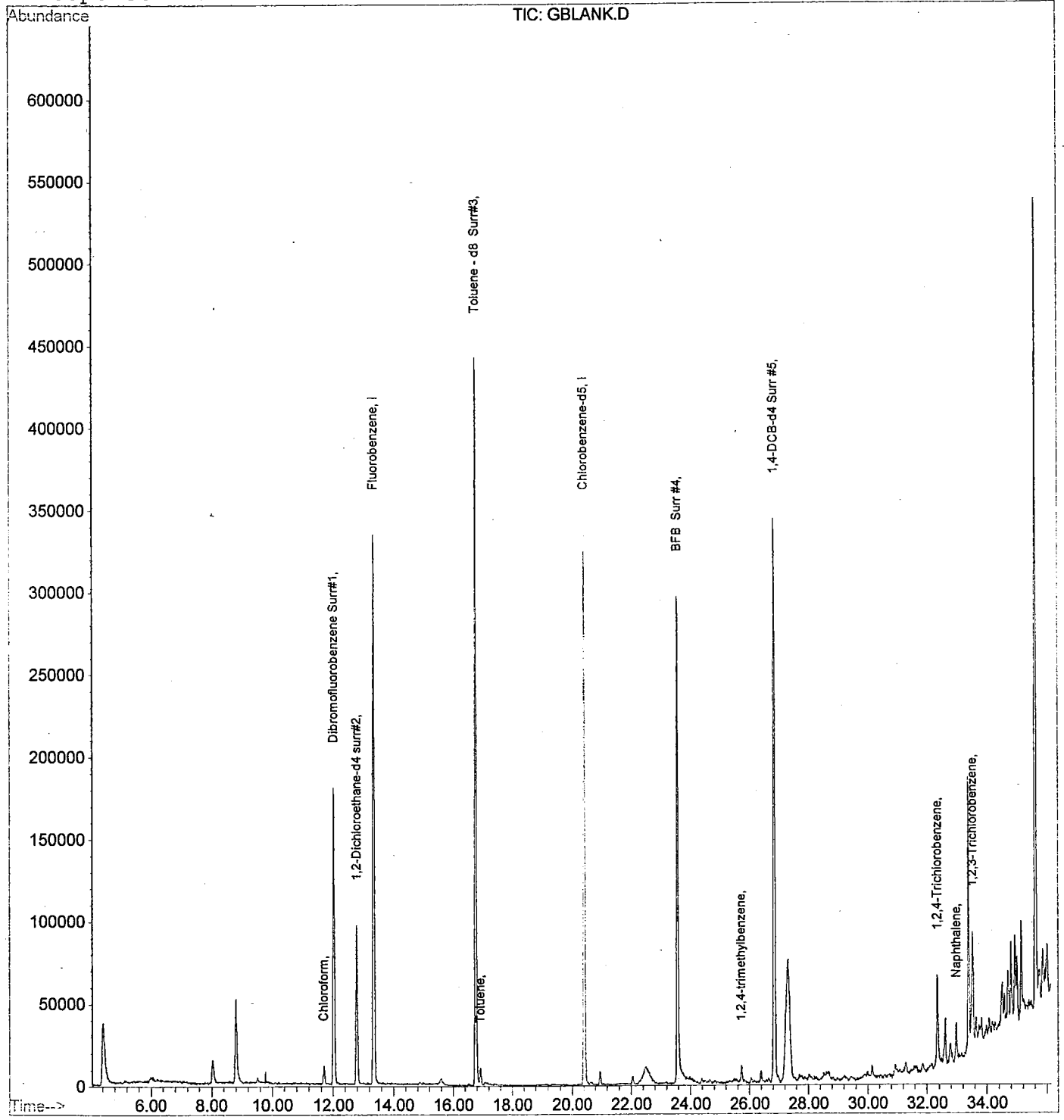


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Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: V524A.RES

Method : C:\HPCHEM\1\METHODS\V524A.M (Chemstation Integrator)
Title : vol524a
Last Update : Thu Feb 10 10:27:33 2000
Response via : Initial Calibration



CLEARWATER

APPENDIX C

CLEARWATER GROUP, INC.

Soil Borehole Drilling, Monitoring Well Installation and Development, and Groundwater Sampling Field Procedures

Drilling and Soil Sampling

Permits, Site Safety Plan, Utility Clearance

Clearwater Group, Inc. (CGI) obtains all the required permits, unless otherwise contractually directed. CGI prepares a site specific Site Safety Plan detailing site hazards, site safety and control, decontamination procedures, and emergency response procedures to be employed throughout the defined phase of work. At least 48 hours prior to drilling, Underground Service Alert (USA) or an equivalent agency is notified of the planned work. CGI, attempts to locate all underground and above ground utilities by site inspection (in conjunction with its' subcontractors and knowledgeable site managers, if available), and review of site as-built drawings. CGI may employ a private, professional utility locator to refine the site utility inspection.

Drilling Equipment

All soil borings are drilled using a truck-mounted hollow-stem auger drill rig, unless site conditions warrant a different drilling method. Subsurface conditions permitting, the first five feet of each boring is advanced using a hand-auger or post-hole digger. All drilling equipment is inspected daily and maintained in safe working condition by the operator. All down-hole drilling equipment is steam cleaned prior to arriving on site. Working components of the drill rig near the borehole, as well as augers and drill rods are thoroughly steam cleaned between each boring location. All CGI drilling and sampling methods are consistent with ASTM Method D-1452-80, and local, state and federal regulations.

Soil Sampling and Lithologic Description

Whenever possible, the first Clearwater boring to be drilled at a site is continuously cored to obtain a complete lithologic description. Otherwise, soil samples are typically collected every 5 feet to the total depth explored, using brass tubes fitted in a California-modified split spoon sampler. If copper or zinc contamination is the subject of the investigation, stainless steel liners are used instead of brass. Additional soil samples may be collected based upon significant changes in lithology or in areas of obvious soil contamination. During soil sample collection, the split spoon sampler is driven 18 to 24 inches past the lead auger by a 140-pound hammer falling a minimum of 30 inches. The number of blows necessary to drive the sampler and the amount of soil recovered is recorded on the Field Exploratory Soil Boring Log. The soil sampler and liners are cleaned with an Alconox® solution and rinsed with tap water prior to each sampling event. New liners are used whenever a soil sample may be retained for laboratory analysis.

Soil samples selected for laboratory analysis are sealed on both ends with teflon tape and plastic end caps. The samples are labeled, documented on a chain-of-custody form and placed in a cooler for transport to a state certified analytical laboratory. Soil contained in remaining liners is removed for lithologic descriptions (according to the Unified Soil Classification System). Additional soil is screened for organic vapors by placing approximately 30 grams of soil in a sealed plastic bag or a glass jar sealed with aluminum foil. The bag or jar is left undisturbed for approximately 15 minutes, in the sun if possible. The head space in the bag is accessed in a manner to minimize entry of outside air, and is tested for total organic vapor using a calibrated organic vapor meter (OVM). The results of the field screening are noted with the lithologic descriptions on the Field Exploratory Soil Boring Log.

On encountering an impermeable (clayey) layer three feet or more in thickness below a saturated permeable layer, where the impermeable layer is considered to be a possible confining layer for an underlying aquifer, drilling is halted until a decision to proceed is obtained from the project manager. This process minimizes the chance of introducing contamination to an underlying, clean aquifer.

Soil Waste Management

Soil cuttings are stockpiled on and covered with plastic sheeting to control runoff, or contained in 55-gallon D.O.T.-approved drums on site. Waste soil is sampled to chemically profile it for disposal, and hauled by a licensed waste hauler to an appropriate landfill. All waste stored on site is properly labeled at the time of production.

Soil Boring Abandonment

Soil borings which are not to be converted into monitoring wells are sealed to the ground surface using neat cement or sand-cement slurry in accordance with federal, state and local regulations. Native soil may be used to fill the top two to three feet for cosmetic purposes, as permitted.

Monitoring Well Installation

Well Casing, Screen and Filter Pack Construction

All well construction is performed in accordance with Department of Water Resources "California Well Standards" and all requirements of local oversight agencies. Soil borings to be converted into single-cased monitoring wells are a minimum of eight inches in diameter for 2-inch diameter wells and a minimum of ten inches in diameter for 4-inch diameter wells. Monitoring wells are constructed with schedule 40, threaded, polyvinyl chloride (PVC) casing unless site geochemistry or contamination necessitates an alternative material. The wells are constructed with factory-slotted screen and threaded end caps.

The screened interval is placed such that it extends approximately ten feet into the water bearing zone, and at least five feet above the expected maximum water level. The screened interval may extend less than five feet above the maximum water level, only to prevent intersection of the screened interval with the top of the confining layer of a confined aquifer, or where the water table is too shallow to allow this construction.

A graded sand filter pack is placed in the annular space across the screened interval and extended approximately one to two feet above the screen, as site conditions permit, so as to prevent extension of the sand pack into an overlying water-bearing unit. The well screen slot size is the maximum size capable of retaining 90% of the filter pack. Typically, 0.010-inch screen is used where the formation is predominantly clay and/or silt or poorly-graded fine sand. 0.020-inch screen is used where the formation is predominantly well-graded or medium to coarse sand and/or gravel.

The filter pack grade (mean grain size) is selected according to native sediment type as follows: a) for poorly graded fine sand or silt/clay - 4 times the 70% retained grain size of the formation b) for medium to coarse sand, gravel or well graded sediments - 6 times the 70% retained grain size. Since results of particle size analysis are not always available, Clearwater often selects screen size and filter pack on the basis of general site stratigraphy, and specifically the finest significantly thick layer of sediment to be screened. Commonly selected grades are Lone Star® 3, 2/12 or 2/16 (or equivalent) with 0.020-inch slotted screen and Lone Star® 1/20 with 0.010-inch slotted screen.

Well Seal and Completion

A minimum two foot seal of bentonite is placed above the sand pack. The bentonite seal is hydrated by either formation water or potable water. Neat cement or a cement/bentonite grout mixture seals the remaining annular space to the surface. If bentonite is used in the grout mixture, it does not exceed 5% by weight. The grout is placed using a tremie pipe, if the top of the bentonite is more than 20 feet below grade, or if water is present in the boring above the bentonite seal. A watertight locking cap and protective traffic-rated vault box is installed on top of each well. Well construction details are presented on the Field Exploratory Soil Boring Log. Following completion of a well, Clearwater completes and submits, or ensures that the driller has sufficient information to complete and submit, the state-required Well Completion Report or equivalent document.

Well Development

All newly installed wells are developed prior to sampling to remove fine grained sediments from the well and stabilize the filter pack and the disturbed aquifer materials. Development takes place prior to or at least 24 hours after setting the seal on the well, unless otherwise directed by a local oversight agency. Well development consists of surging with a surge block and removing water from the well with either a pump or bailer, until the well is free of sediment, or until at least 10 well casing volumes have been removed. Depth to bottom is measured to determine casing volume. If the well is sampled immediately following development, temperature, pH, specific conductance and turbidity (qualitative) are monitored during well development (see section "Groundwater Sampling"). All development equipment is cleaned prior to use and between wells with an Alconox® solution, then rinsed in potable water. All data collected during development are recorded on the Well Development Data Sheet and, if necessary, the Purging Data Sheet.

Quality Assurance Procedures

To prevent contamination of the samples, CGI personnel adhere to the following procedures in the field:

- A new, clean pair of latex gloves are put on prior to sampling each well
- Wells are gauged, purged and groundwater samples are collected in the expected order of increasing degree of contamination based on historical analytical results.
- All purging equipment will be thoroughly decontaminated between each well, using the procedures previously described at the beginning of this section.
- During sample collection for volatile organic analysis, the amount of air passing through the sample is minimized. This helps prevent the air from stripping the volatiles from the water. Sample bottles are filled by slowly running the sample down the side of the bottle until there is a convex meniscus over the mouth of the bottle. The lid is carefully screwed onto the bottle such that no air bubbles are present within the bottle. If a bubble is present, the cap is removed and additional water is added to the sample container. After resealing the sample container, if bubbles still are present inside, the sample container is discarded and the procedure is repeated with a new container.

Laboratory and field handling procedures may be monitored, if required by the client or regulators, by including quality control (QC) samples for analysis with the groundwater samples. Examples of different types of QC samples are as follows:

- Trip blanks are prepared at the analytical laboratory by laboratory personnel to check field handling procedures. Trip blanks are transported to the project site in the same manner as the laboratory-supplied sample containers to be filled. They are not opened, and are returned to the laboratory with the samples collected. Trip blanks are analyzed for purgable organic compounds.
- Equipment blanks are prepared in the field to determine if decontamination of field sampling equipment has been effective. The sampling equipment used to collect the groundwater samples is rinsed with distilled water which is then decanted into laboratory-supplied containers. The equipment blanks are transported to the laboratory, and are analyzed for the same chemical constituents as the samples collected at the site.
- Duplicates are collected at the same time that the standard groundwater samples are being collected and are analyzed for the same compounds in order to check the reproducibility of laboratory data. They are typically only collected from one well per sampling event. The duplicate is assigned an identification number that will not associate it with the source well.

Generally, trip blanks and field blanks check field handling and transportation procedures. Duplicates check laboratory procedures. The configuration of QC samples is determined by CGI depending on site conditions and regulatory requirements.

Well Surveying

All well elevations are surveyed at the north side of the top of casing to the nearest ± 0.01 foot. The exact survey point (at the center of the survey rod or, if the casing stub is uneven, the point of contact between casing and rod) is clearly marked and maintained on the casing rim. Elevations are referenced either to mean sea level or to a project datum. A project datum is typically chosen so as to minimize the possibility of its' later disturbance. For instance, fire hydrants are commonly selected. Where required, the wells are surveyed by a licensed land surveyor, relative to mean sea level.

Groundwater Sampling

Groundwater Monitoring

Prior to beginning, a decontamination area is established. Decontamination procedures consist of scrubbing downhole equipment in an Alconox® solution wash (wash solution is pumped through any purging pumps used), and rinsing in a first rinse of potable water and a second rinse of potable water or deionized water if the latter is required. Any non-dedicated down hole equipment is decontaminated prior to use.

Prior to purging and sampling a well, the static water level is measured to the nearest 0.01 feet with an electronic water sounder. Depth to bottom is typically measured once per year, at the request of the project manager, and during Clearwater's first visit to a site. If historical analytical data are not available, with which to establish a reliable order of increasing well contamination, the water sounder and tape will be decontaminated between each well. If floating separate-phase hydrocarbons (SPH) are suspected or observed, SPH is collected using a clear, open-ended product bailer, and the thickness is measured to the nearest 0.01 feet in the bailer. SPH may alternatively be measured with an electronic interface probe. Any monitoring well containing a measurable thickness of SPH before or during purging is not additionally purged and no sample is collected from that well. Wells containing a hydrocarbon sheen are sampled unless otherwise specified by the project manager. Field observations such as well integrity as well as water level measurements and floating product thicknesses are noted on the Gauging Data/Purge Calculations form.

Well Purging

Each monitoring well to be sampled is purged using either a PVC bailer or a submersible pump. Physical parameters (pH, temperature and conductivity) of the purge water are monitored during purging activities to assess if the water sample collected is representative of the aquifer. If required, parameters such as dissolved oxygen, turbidity, salinity etc. are also measured. Samples are considered representative if parameter stability is achieved. Stability is defined as a change of less than 0.25 pH units, less than 10% change in conductivity in micro mhos, and less than 1.0 degree centigrade (1.8 degrees Fahrenheit) change in temperature. Parameters are measured in a discreet sample decanted from the bailer separately from the rest of the purge water. Parameters are measured at least four times during purging; initially, and at volume intervals of one well volume. Purging continues until three well casing volumes have been removed or until the well completely dewater. Wells which dewater or demonstrate a slow recharge, may be sampled after fewer than three well volumes have been removed. Well purging information is recorded on the Purge Data sheet. All meters used to measure parameters are calibrated daily. Purge water is sealed, labeled, and stored on site in D.O.T.-approved 55-gallon drums. After being chemically profiled, the water is removed to an appropriate disposal facility by a licensed waste hauler.

Groundwater Sample Collection

Groundwater samples are collected immediately after purging or, if purging rate exceeds well recharge rate, when the well has recharged to at least 80% of its static water level. If recharge is extremely slow, the well is allowed to recharge for at least two hours, if practicable, or until sufficient volume has accumulated for sampling. The well is sampled within 24 hours of purging or repurged. Samples are collected using polyethylene bailers, either disposable or dedicated to the well. Samples being analyzed for compounds most sensitive to volatilization are collected first. Water samples are placed in appropriate laboratory-supplied containers, labeled, documented on a chain of custody form and placed on ice in a cooler for transport to a state-certified analytical laboratory. Analytical detection limits match or surpass standards required by relevant local or regional guidelines.

CLEARWATER GROUP, INC.

Soil Sampling Procedures

Soil samples are typically collected in six-inch long, two-inch diameter brass tubes. If copper or zinc contamination is the subject of the investigation, stainless steel liners are used instead of brass. Soil sample locations are typically selected by field screening a portion of the soil for organic vapors using a calibrated organic vapor meter.

Once the sampling location has been determined, a small thickness of superficial soil is removed prior to collection, to prevent cross contamination. If the location being sampled has been exposed to the air for more than a few minutes, hand-tools will be used to dig at least 12 inches into the soil in order to collect as fresh a sample as possible. The sample is collected by pushing the tube into the soil by hand, or a rubber mallet may be used if the tube can not be driven by hand. If it is not possible to drive the tube into the soil, loose soil may be scraped from the freshly exposed surface and placed in the tube by hand. Soil samples selected for laboratory analysis are immediately sealed on both ends with Teflon[®] lined plastic end caps, labeled, documented on a chain-of-custody form, and placed in a chilled cooler for transport to a state-certified laboratory.

To prevent cross-contamination of the samples, Clearwater personnel adhere to the following procedures in the field:

- A new, clean pair of latex or nitrile gloves are donned prior to collecting each sample.
- All hand-digging equipment is thoroughly decontaminated between each sample, by scrubbing equipment in a wash of Alconox[®] solution, followed by a double rinse in potable water. If required the second rinse will consist of distilled water.

CLEARWATER GROUP, INC.

Groundwater Monitoring and Sampling Field Procedures

Groundwater Monitoring

Prior to beginning a decontamination area is established. Decontamination procedures consist of scrubbing downhole equipment in an Alconox® solution wash (wash solution is pumped through any purging pumps used) and rinsing in a first rinse of potable water and a second rinse of potable water or deionized water if the latter is required. Any non-dedicated down hole equipment is decontaminated prior to use.

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Quality Assurance Procedures

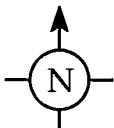
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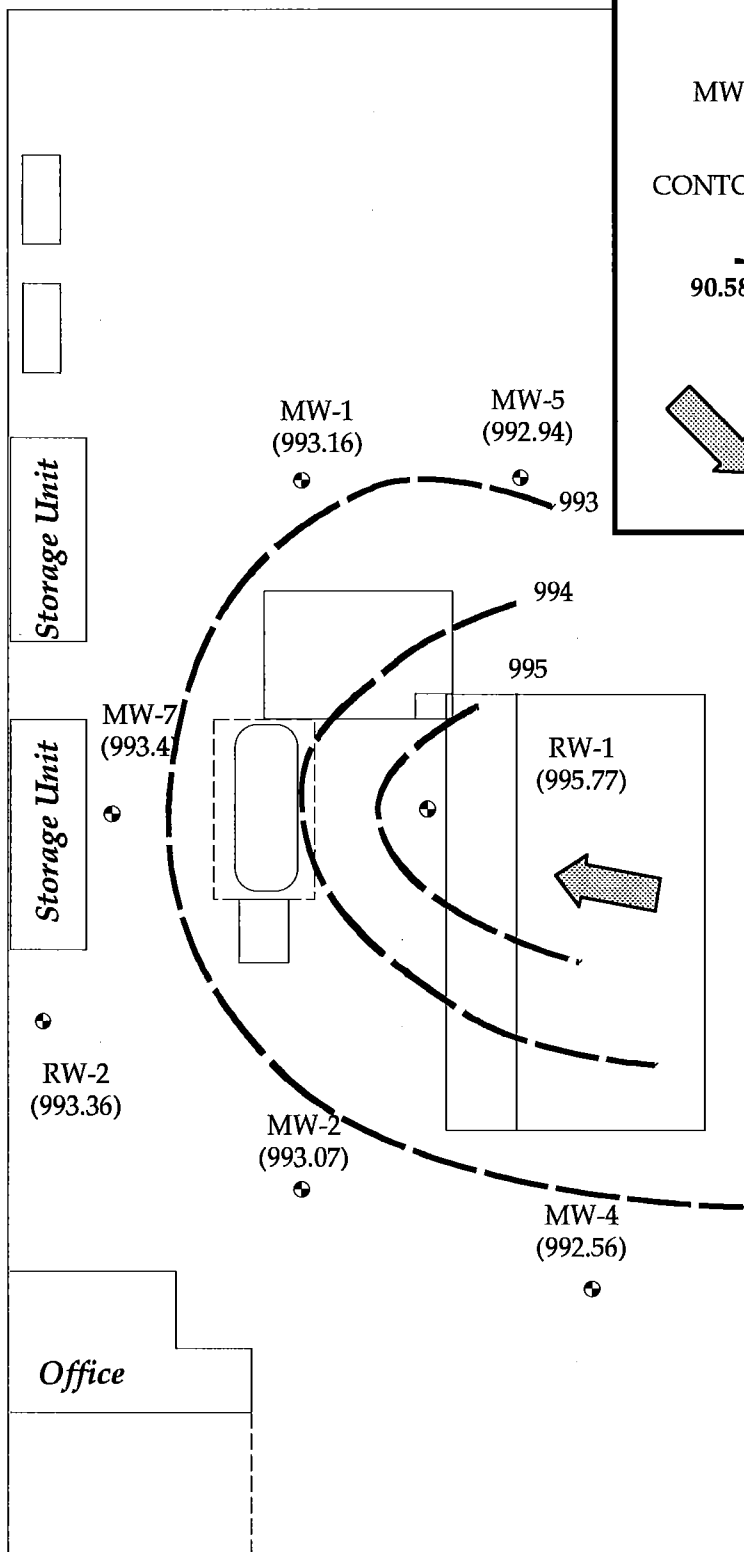
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Generally, trip blanks and field blanks check field handling and transportation procedures. Duplicates check laboratory procedures. The configuration of QC samples is determined by CGI depending on site conditions and regulatory requirements.



*Yakima Brewing
and Malting*



LEGEND

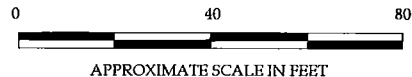
MW-7 MONITORING/RECOVERY WELL

CONTOUR INTERVAL: 1 FT

90.58 GROUNDWATER ELEVATION CONTOUR - IN FEET

APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT

Washington Street



GROUNDWATER GRADIENT MAP (2/10/00)

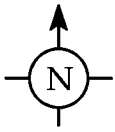
Ryder Truck Rental
19 West Washington Street
Yakima, WA

CLEARWATER GROUP, INC.

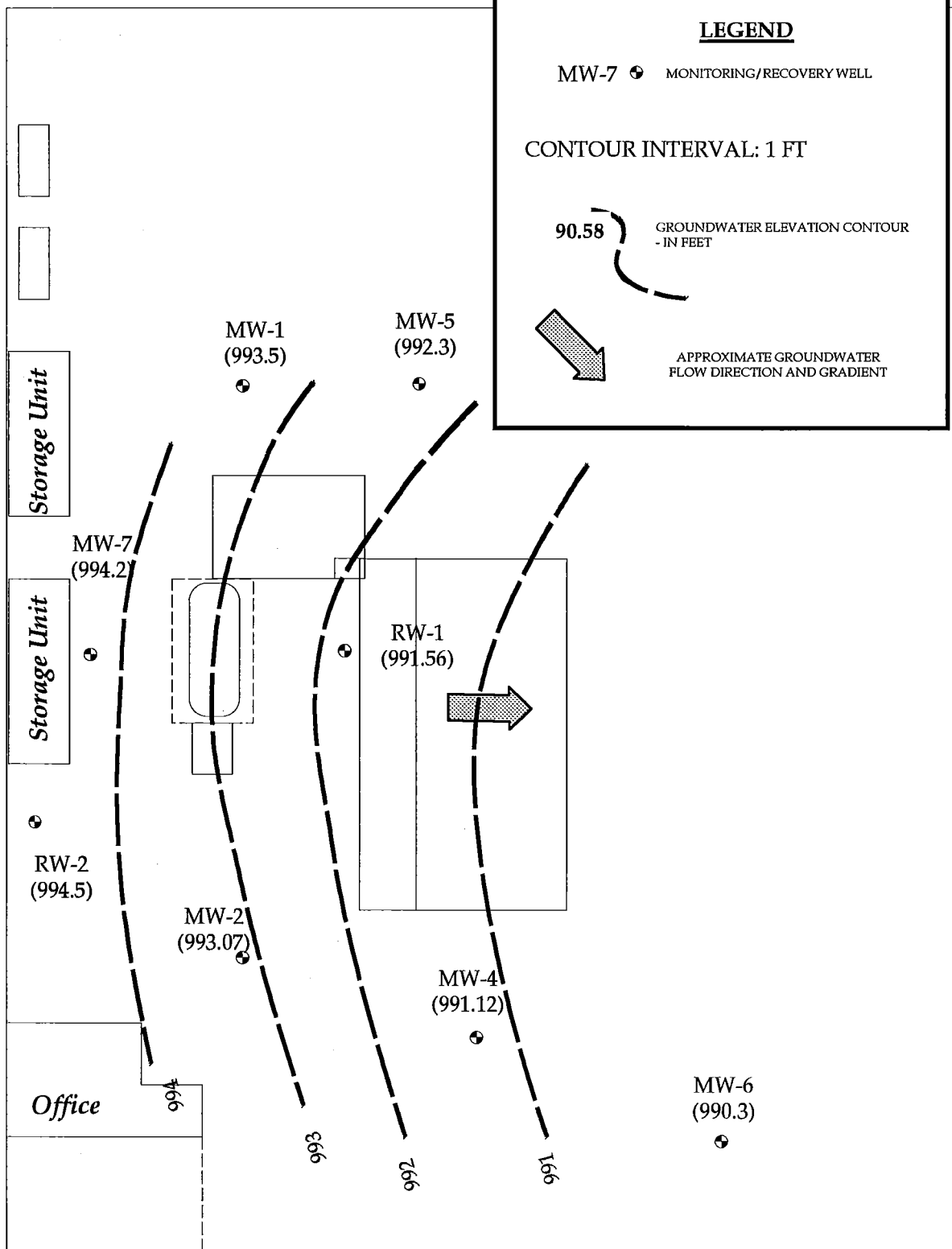
Project No.
OC-130

Report Date
3/00

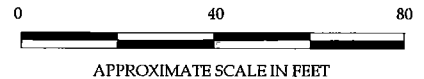
Figure
5



*Yakima Brewing
and Malting*



Washington Street



GROUNDWATER GRADIENT MAP (3/10/00)

Ryder Truck Rental
19 West Washington Street
Yakima, WA

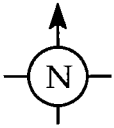
CLEARWATER GROUP, INC.

Project No.
OC-130

Report Date
3/00

Figure
6

S. S. Steiner Company



*Yakima Brewing
and Malting*

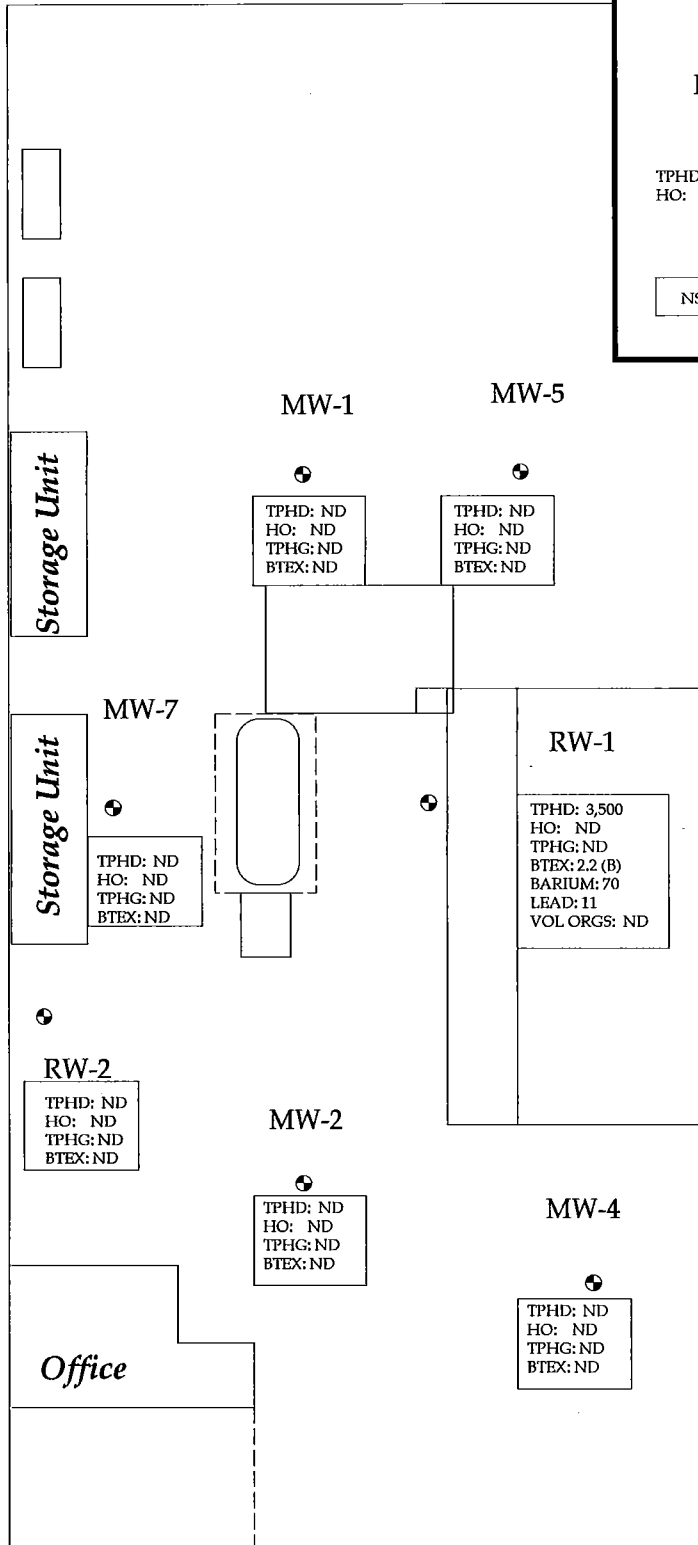
LEGEND

MW-7 MONITORING/RECOVERY WELL

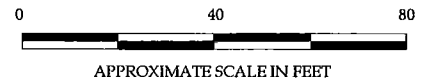
TPHD: ND
HO: ND

DISSED CONCENTRATIONS OF
TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND HEAVY OIL RANGE HYDRO-
CARBONS PER NWTPH-DX METHOD,
NWTPHG, BTEX AND VOL ORGS, AND
METALS PRESENTED IN PPB

NOT SAMPLED



Washington Street



**DISSOLVED HYDROCARBON
DISTRIBUTION MAP (2/10/00)**

Ryder Truck Rental
19 West Washington Street
Yakima, WA

CLEARWATER GROUP, INC.

Project No.
OC-130

Report Date
3/00

Figure
7

APPENDIX A

SITE/LOCATION RYDER/YAKIMA		BEGUN 2/8/00	BORING DIAMETER 10 Inches	ANGLE/BEARING 90 Degrees	BORING NO RW-1
DRILLING CONTRACTOR Geotech		COMPLETED 2/8/00	FIRST ENCOUNTERED WATER DEPTH 5.0 Feet		
OPERATOR Armando et al		LOGGED BY SDT	STATIC WATER DEPTH/DATE 5.0 Feet		
DRILL MAKE & MODEL		SAMPLING METHOD HSA			BOTTOM OF BORING 12 Feet
WELL MATERIAL 4" SCH 40 PVC	SLOT SIZE 0.010	FILTER PACK sil. sand	WELL SEAL Concrete		WELL NO. RW-1

DEPTH	FIELD HEAD-SPACE *	DEPTH	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
1						GRAVEL, silty sand aggregate. Backfill from excavation.
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

<p align="center">CLEARWATER GROUP, INC.</p>	<p>SOIL BORING LOG RW-1 AND WELL CONSTRUCTION RW-1</p>	
	<p>Ryder-Yakima</p>	
<p>DATE: March 2000</p>	<p>JOB NO. OC-130</p>	
<p>APPROVED BY: SDT</p>		

SITE/LOCATION RYDER/YAKIMA		BEGUN 2/8/00	BORING DIAMETER 10 Inches	ANGLE/BEARING 90 Degrees	BORING NO RW-2
DRILLING CONTRACTOR Geotech		COMPLETED 2/8/00	FIRST ENCOUNTERED WATER DEPTH 5.0 Feet		
OPERATOR Armando et al		LOGGED BY SDT	STATIC WATER DEPTH/DATE 5.0 Feet		
DRILL MAKE & MODEL		SAMPLING METHOD HSA			BOTTOM OF BORING 12 Feet
WELL MATERIAL 4" SCH 40 PVC	SLOT SIZE 0.010	FILTER PACK sil. sand	WELL SEAL Concrete		WELL NO. RW-2

DEPTH FOOT	FIELD HEAD- SPACE *	DEPTH FOOT	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
1						GRAVEL, silty sand aggregate. Backfill from excavation.
2						
3						
4						
5						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

<p align="center">CLEARWATER GROUP, INC.</p>	<p>SOIL BORING LOG RW-2 AND WELL CONSTRUCTION RW-2</p>	
	<p>Ryder-Yakima</p>	<p>JOB NO. OC-130</p>
DATE: March 2000		
APPROVED BY: SDT		

SITE/LOCATION RYDER/YAKIMA		BEGUN 2/8/00	BORING DIAMETER 8.25 Inches	ANGLE/BEARING 90 Degrees	BORING NO MW-7
DRILLING CONTRACTOR Geotech		COMPLETED 2/8/00	FIRST ENCOUNTERED WATER DEPTH 5.0 Feet		
OPERATOR Armando et al		LOGGED BY SDT	STATIC WATER DEPTH/DATE 5.0 Feet		
DRILL MAKE & MODEL		SAMPLING METHOD HSA		BOTTOM OF BORING 12 Feet	
WELL MATERIAL 2" SCH 40 PVC		SLOT SIZE 0.010	FILTER PACK sil. sand	WELL SEAL Concrete	
				WELL NO. MW-7	

DEPTH	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
1				GRAVEL, silty sand aggregate. Backfill from excavation.
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				TD @ 12 ft bls.
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

<p>CLEARWATER GROUP, INC.</p>		<p>SOIL BORING LOG MW-7 AND WELL CONSTRUCTION MW-7</p> <p>Ryder-Yakima</p>		<p>JOB NO. OC-130</p>
<p>DATE: March 2000</p>				
<p>APPROVED BY: SDT</p>				

*PID
(ppm)

