FINAL

OUB 38297

LONG-TERM GROUNDWATER MONITORING MARCH 1999 SAMPLING

OPERABLE UNIT B POLELINE ROAD DISPOSAL AREA FORT RICHARDSON, ALASKA

Contract No. DACA-85-94-D-005
Delivery Order No. 21

Prepared for

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
Anchorage, Alaska

June 25, 1999

UNS Greiner Woodward Clyde Federal Services
A Division of UNS Corporation

3601 Denali Street, Suite 101
Anchorage, Alaska 99503

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Appendix A - Laboratory Reports

List of Acronyms

Army	United States Army, Public Works
bgs	below ground surface
mg	milligram
L	Liter
MCL	maximum contaminant level
OUB	Operable Unit B
ppm	parts per million
SPSH	six-phase soil heating
TCE	trichloroethene
URSGWC	URS Greiner Woodward Clyde
VOCs	Volatile Organic Compounds

SECTIONONE Introduction

URS Greiner Woodward Clyde (URSGWC), formerly Woodward-Clyde, was contracted by the United States Army Corps of Engineers on behalf of the United States Army, Public Works (Army) to conduct long-term groundwater monitoring at Operable Unit B (OUB), Poleline Road Disposal Area, Fort Richardson, Alaska. OUB is a former Army disposal area for chemical warfare training materials and has been the subject of several environmental investigations, a feasibility study, and a treatability study.

The objective of the long-term groundwater monitoring is twofold: to collect data on groundwater contaminant trends and to devise an appropriate long-term monitoring plan for the site. According to the *Long-Term Groundwater Monitoring Workplan, Operable Unit B, Poleline Road Disposal Area, Fort Richardson, Alaska* (WC, September 1997), eight rounds of sampling will be performed initially to evaluate groundwater contaminants over time. Four rounds of sampling have been completed. The sampling dates were: November 1997, June 1998, October 1998, and March 1999. This report summarizes the fourth round of sampling conducted in March 1999.

SECTIONTWO Scope Of Work

The tasks to be completed under the *Long-Term Groundwater Monitoring Workplan, Operable Unit B, Poleline Road Disposal Area, Fort Richardson, Alaska* (WC, September 1997) include the following:

- Conduct eight rounds of groundwater sampling for volatile organic compounds (VOCs) in 20 monitoring wells at OUB and sample for natural attenuation parameters during the first two rounds.
- Set up and maintain a database of VOC groundwater data from OUB using Microsoft Access®. Structure the database to accommodate additional data from future long-term monitoring. Enter existing VOC data and update the database after each sampling event.
- Prepare a technical memorandum after each round of sampling that includes the results of the sampling event, a description of changes in contaminant concentrations since the previous sampling event, and recommendations for the next round of sampling.
- Evaluate natural attenuation data after the first two rounds of sampling and revise the sampling plan based on the evaluation.
- Evaluate data after the eight rounds of sampling are complete and provide recommendations for future long-term monitoring needs.

3.1 LOCATION

The Fort Richardson Army Post occupies 61,500 acres of land (Figure 3-1). OUB is located on the Fort Richardson Army Post approximately 10 miles northeast of Anchorage, Alaska, 1 mile south of the Eagle River, and 0.6 miles north of the Anchorage Regional Landfill (Figure 3-2). Access to the area is by Poleline Road, a gravel road that runs northeast-southwest along a power line route and the Eklutna Water Line. OUB is bisected by Barrs Boulevard, a gravel road extending from the Glenn Highway to Poleline Road.

3.2 SITE DESCRIPTION

OUB is a low-lying, relatively flat area which is bordered by a wooded, 80-foot hill to the west, wetlands located directly south and southwest of the main disposal area (Area 3 and Area 4), and low wooded hills on the remaining perimeters (Figure 3-3). The area where buried waste has been detected by geophysical survey is approximately 1.5 acres in size. The main disposal area was cleared of vegetation during a 1994 warfare material removal action. No significant re-vegetation has occurred.

3.3 GEOLOGY

Regional surficial deposits are fluvially reworked glacial sediments and glacial tills. These deposits appear to be up to 30 feet thick at the site and consist of unstratified to poorly stratified clays, silts, sands, gravels, and boulders. A basal till lies below the surficial deposits and overlies an advance moraine/till complex. Underlying the glacial sediments is bedrock composed of a hard black fissile claystone.

The subsurface soils are dense glacial tills and generally silty sands with some gravel. Thin, discontinuous clay lenses were observed rarely. Observations during drilling confirm a typical fluvio-glacial setting; a heterogeneous system of discontinuous, relatively permeable channels with intervening denser, less permeable sediments.

3.4 HYDROGEOLOGY

Four water bearing intervals have been identified at OUB: a perched interval, a shallow interval, an intermediate interval, and a deep aquifer. The detection of contaminants in all four intervals suggests that they are interconnected to some degree. Observations made while drilling indicate that the saturated intervals are separated by zones of very dense, low porosity, compact tills. The compact tills are dry or slightly moist.

The perched interval was observed in borings drilled between Area A-2 and the wetlands, and in Area A-3 (Figure 3-3). The top of the perched interval was encountered at 4 to 10 feet below ground surface (bgs), and the bottom was found at 6 to 12 feet bgs. The average thickness of the perched interval is approximately 5 feet. The perched interval is recharged mainly by surface water from the wetlands, although some recharge also occurs from precipitation. The only monitoring well installed in the perched interval is MW-14 (AP-3746).

The shallow saturated interval is an average of 10 feet thick; the top was encountered at 20 to 25 feet bgs, and the bottom was found at 28 to 36 feet bgs. Groundwater elevations indicate that

shallow groundwater is flowing in a north-northeast direction. Because of the localized nature of water-bearing zones at this site, it is difficult to tell whether the water-bearing units are hydraulically connected between wells. The shallow interval is recharged by water from the discontinuous perched interval and by infiltration of precipitation.

The intermediate interval was observed while drilling monitoring well MW-16 (AP-3748). The saturated portion of the intermediate interval was encountered at approximately 65 to 95 feet bgs in MW-16 (AP-3748). The intermediate saturated interval does not correlate with the other deep wells on site, suggesting that it is an isolated lens with limited continuity. There may be several isolated lenses of saturated material within the intermediate interval.

Five monitoring wells at OUB penetrate the deep aquifer, the top of which was encountered from approximately 80 to 125 feet bgs. The deep aquifer is an advance moraine/till complex with a thickness of between 3 and 40 feet. Groundwater elevations indicate that the flow direction in the deep aquifer is locally to the northeast and regionally to the northwest. Available data indicate that the deep aquifer below the site is not connected with deep aquifers used for drinking water wells in the community of Eagle River (over one mile to the northeast).

The deep aquifer overlies a claystone bedrock unit with unknown thickness. Four of the five deep wells at OUB penetrate the bedrock unit and the well screens extend slightly into the bedrock. The top of bedrock was encountered from 120 to 170 feet beneath the site.

The ultimate discharge area of the water-bearing intervals at OUB is probably the Eagle River, approximately 1 mile north of the site (Figure 3-2). The Eagle River flows into the Knik Arm of Cook Inlet approximately 5 miles northwest of OUB. The river is not used as a drinking water source.

3.5 LAND USE

The land surrounding OUB currently is used for Army training activities and recreational purposes. The Eklutna Water Line, a pipeline which supplies Anchorage and part of the Eagle River community with drinking water from Eklutna Lake (over 15 miles from the site), runs immediately west of the site.

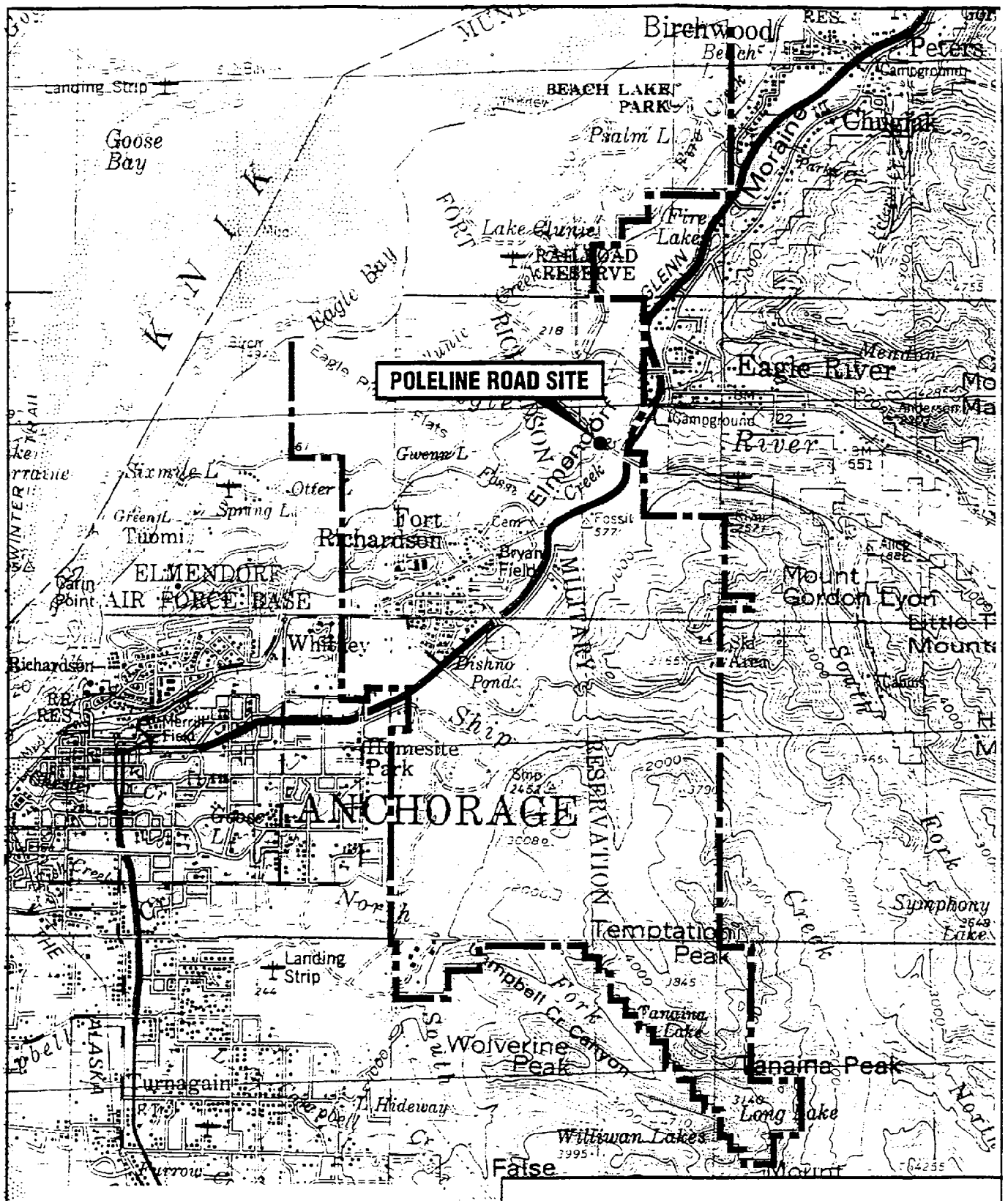
There are no plans for development of the OUB site at the present time. Yield from the perched, shallow, and intermediate saturated intervals may be too low to supply an average household, and installation of septic systems would preclude use of the shallow or perched intervals for drinking water. The deep aquifer may provide sufficient yield for drinking water wells however, future development of the deep aquifer for this purpose is unlikely due to the close proximity of the Eklutna Water Line.

3.6 CURRENT SITE CONDITIONS

A design verification study was conducted in 1997 to evaluate the applicability of six-phase soil heating (SPSH) as an in-situ technology for remediating solvent contaminated soils. The field portion of the study was completed in December 1997.

A pilot study was conducted in 1998 to evaluate the applicability of high vacuum extraction as an in-situ technology for remediating solvent contaminated groundwater and soils. The field portion of the study was completed in October 1998.

During the summer of 1999 three arrays will be installed for additional testing of the SPSH process.



LEGEND:

Ft. Richardson Boundary

SOURCE:
USGS 1:250,000 Series
Anchorage (1985)

0 5

Scale = Statute Miles

AREA VICINITY MAP
POLELINE ROAD DISPOSAL AREA
OUB, FORT RICHARDSON, ALASKA

URS Greiner Woodward Clyde

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Project: E9408U	Date: 3-28-99	

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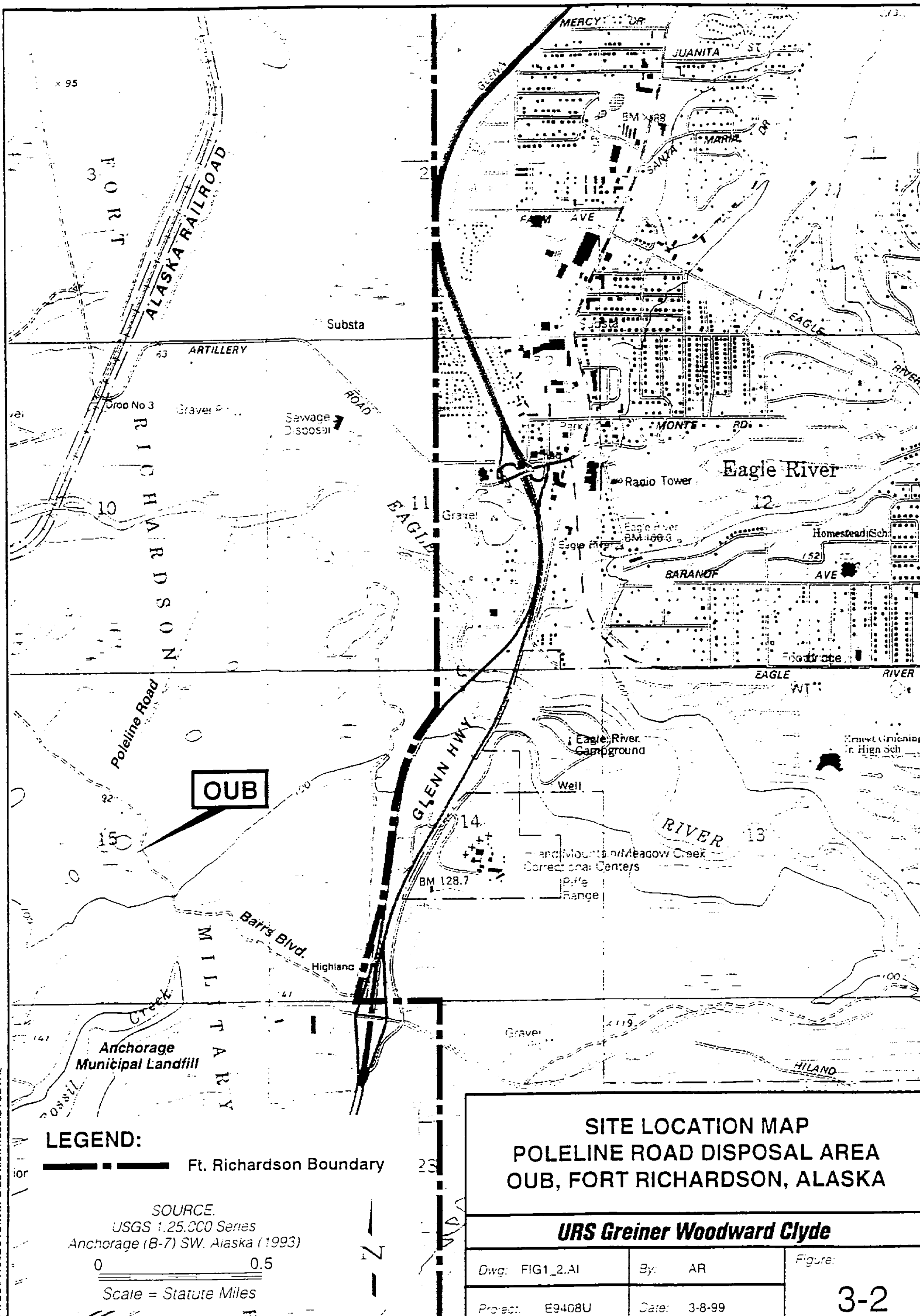

SITE LOCATION MAP
POLELINE ROAD DISPOSAL AREA
OUB, FORT RICHARDSON, ALASKA

URS Greiner Woodward Clyde

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Project:	E9408U	Date:	3-8-99	

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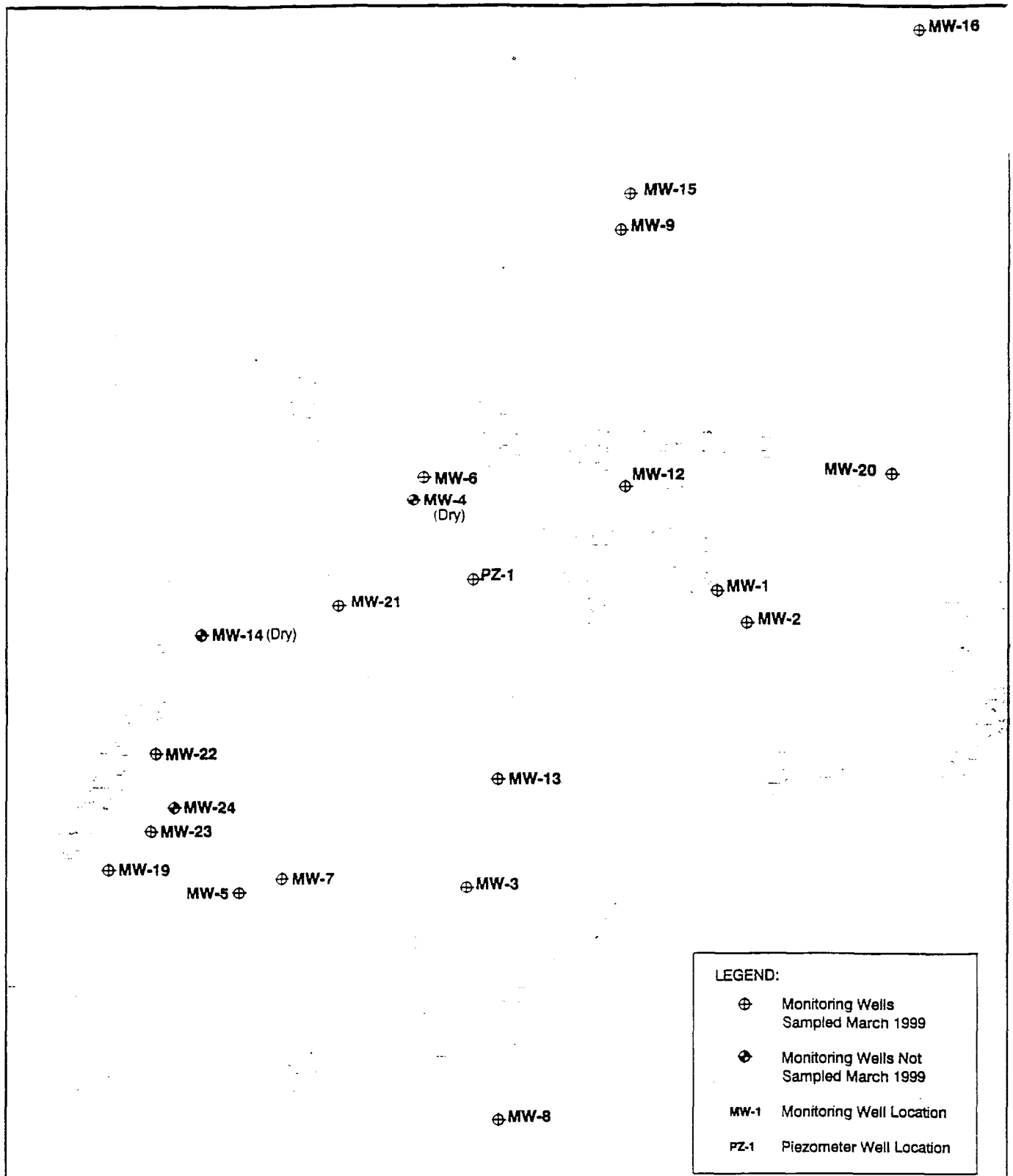


SITE MAP
GROUNDWATER MONITORING WELLS
POLELINE ROAD DISPOSAL AREA
OUB, FORT RICHARDSON, ALASKA

URS Greiner Woodward Clyde

Dwg: 99JUNE3_3	By: AR	Figure: 3-3
Project: 74-F0E9408U.00	Date: 6-28-99	

Monitoring wells selected for sampling during the initial eight rounds of the long-term groundwater monitoring program are shown on the site map (Figure 3-3). The rationale for sampling each well is presented in the *Long-Term Groundwater Monitoring Workplan, Operable Unit B, Poleline Road Disposal Area, Fort Richardson, Alaska* (WC, September 1997) Table 3-1. Field tasks for the fourth round of groundwater monitoring included the following:

- collect headspace readings of vapors in each monitoring well
- measure static water levels
- purge and sample up to 20 monitoring wells for VOCs

Groundwater monitoring was conducted in accordance with procedures and protocols presented in Sections 4 through 7 of the *Long-Term Groundwater Monitoring Workplan* and *Addendum No. 1*. Section 5 is the Quality Assurance Project Plan. Section 6 and *Addendum No. 1* describe the management of investigation derived waste, and Section 7 covers health and safety requirements.

Groundwater sampling, headspace measurements, and groundwater levels were measured in 19 monitoring wells, including the background well MW-17 (AP-3749). Two monitoring wells, MW-4 (AP-4014) and MW-14 (AP-3746), were not sampled because they were dry. Monitoring well MW-23 (AP-3985) was sampled and will be representative of MW-24 (AP-3986) which was not sampled during this round due to sample number limitations. Two quality control duplicate samples were taken, plus one matrix spike/matrix spike duplicate.

5.1 VOLATILE ORGANIC COMPOUNDS

Groundwater samples were collected at OUB in March 1999. Degradation pathways of the chemical of concern are drawn out in Figure 5-1. Tables 5-1 through 5-13 summarize the 1999 and historical analytical results for VOCs detected in OUB groundwater samples. Multichem Analytical Services laboratory reports for the March 1999 groundwater sampling are included in Appendix 1. Sample results for the VOCs detected in 1999 ground water samples are presented in the following sections.

5.1.1 Non-Chlorinated VOCs

Benzene was detected in 1999 groundwater samples from two monitoring wells, MW-21 (AP-3983) and PZ-1 (AP-3989) at concentrations of 0.033 and 0.002 milligram per liter (mg/L) respectively (Table 5-1). The 1999 concentrations are similar to benzene concentrations detected in MW-21 (AP-3983) and PZ-1 (AP-3989) in 1998.

Toluene was not detected in any March 1999 monitoring well groundwater samples (Table 5-2).

5.1.2 Chlorinated VOCs

Bromodichloromethane (Table 5-3) and chlorobenzene (Table 5-4) were not detected in any March 1999 groundwater samples.

Carbon tetrachloride was detected at 0.003 mg/L in the MW-15 (AP-3747) groundwater sample (Table 5-5). Carbon tetrachloride has not been detected in MW-15 (AP-3747) since 1995. In 1998, carbon tetrachloride was detected in MW-22 (AP-3984), however in 1999 carbon tetrachloride was not detected in this monitoring well.

Chloroform was detected in six monitoring wells in concentrations ranging from 0.002 - 0.023 mg/L (Table 5-6). Chloroform has not been detected in MW-3 (AP-4013) since October 1995. In 1999, concentrations of chloroform in MW-15 (AP-3747), MW-21 (AP-3983), PZ-1 (AP-3989), MW-1 (AP-4011), and MW-9 (AP-4017) are similar to concentrations detected in 1998. In 1998 chloroform was detected in MW-22 (AP-39840, MW-23 (AP-3985), and MW-5 (AP-4015), however, in 1999 chloroform was not detected in these monitoring wells.

Tetrachloroethene was detected in eight monitoring wells in concentrations ranging from 0.004-0.160 mg/L (Table 5-7). MW-15 (AP-3747) and MW-5 (AP-4015) tetrachloroethene concentrations were slightly higher in 1999 than concentrations detected in 1998. In 1999, concentrations of tetrachloroethene in MW-19 (AP-3981), MW-21 (AP-3983), MW-22 (AP-3984), MW-23, (AP-3985), PZ-1 (AP-3989), and MW-7 (AP-4017) were similar to concentrations detected in 1998.

1,1,2,2-tetrachloroethane was detected in fifteen monitoring wells in concentrations ranging from 0.001-26 mg/L (Table 5-8). 1,1,2,2-tetrachloroethane was detected in the background monitoring well MW-17 (AP-37-49) at the detection limit of 0.001 mg/L. Concentrations of 1,1,2,2-tetrachloroethane were slightly higher in 1999 at MW-15 (AP-3747) than concentrations detected in 1998. MW-13 (AP-3745), MW-20 (AP-3982), and MW-6 (AP-4016) 1,1,2,2-tetrachloroethane concentrations were lower in 1999 than concentrations detected in 1998. In 1999, 1,1,2,2-tetrachloroethane concentrations in MW-3 (AP-4013), MW-12 (AP-3744), MW-19 (AP-3981), MW-21 (AP-3983), MW-22 (AP-3984), MW-23 (AP-3985), PZ-1 (AP-3989), MW-5 (AP-4015), MW-1 (AP-4011), and MW-7 (AP-4017) were similar to concentrations detected in 1998. In 1998, 1,1,2,2-tetrachloroethane was detected in MW-2 (AP-4012), however in 1999 1,1,2,2-tetrachloroethane was not detected in this monitoring well.

1,1,2-trichloroethane is a breakdown product of 1,1,2,2-tetrachlorethane. 1,1,2-trichloroethane was detected in seven monitoring wells in concentrations of 0.005-0.18 mg/L (Table 5-9). In 1999, concentrations of 1,1,2-trichloroethane in MW-15 (AP-3747), MW-19 (AP-3981), MW-21 (AP-3983), MW-21 (AP-3983), MW-23 (AP3985), PZ-1 (AP-3989), MW-5 (AP-4015), and MW-7 (AP-4017) were similar to concentrations detected in 1998. In 1998, 1,1,2-trichloroethane was detected in MW-22 (AP-3984), however in 1999 1,1,2-trichloroethane was not detected in this monitoring well.

Trichloroethene (TCE) can be a breakdown product of tetrachloroethene or 1,1,2,2-tetrachloroethane. TCE was detected in 14 monitoring wells in concentrations ranging from 0.017 - 5.4 mg/L (Table 5-10). Concentrations of TCE were slightly higher in 1999 at MW-15 (AP-3747), MW-19 (AP-3981), MW-23 (AP-3985), MW-5 (AP-4015), and MW-6 (AP-4016) than concentrations detected in 1998. MW-22 (AP-3984) 1999 TCE concentrations were lower than those detected in 1998. In 1999, concentrations of TCE in MW-3 (AP-4013), MW-12 (AP-3744), MW-13 (AP-3745), MW-20 (AP-3982), MW-21 (AP-3983), PZ-1 (AP-3989), MW-1 (AP-4011), and MW-7 (AP-4017) were similar to concentrations detected in 1998.

The breakdown of TCE produces three analytes: 1,1-dichloroethene, cis 1,2-dichlorothene, and trans 1,2-dichlorothene. 1,1-dichlorothene was detected in three monitoring wells in concentrations ranging from 0.002 - 0.018 mg/L (Table 5-11). Concentrations of 1,1-dichloroethene in MW-21 (AP-3983), PZ-1 (AP-3989), and MW-7 (AP-4017) were similar to concentrations detected in 1998.

Total 1,2-dichlorothene, a combination of the cis and trans forms, was detected in 10 monitoring wells in concentrations ranging from 0.002 - 3.5 mg/L (Table 5-12). Concentrations of total 1,2-dichlorothene in 1999 were slightly higher in MW-15 (AP-3747) and MW-5 (AP-4015) than concentrations detected in 1998. In 1999, concentrations of total 1,2-dichlorothene in MW-12 (AP-3744), MW-19 (AP-3981), MW-21 (AP-3983), MW-22 (AP-3984), MW-23 (AP-3985), PZ-1 (AP-3989), MW-6 (AP-4016), and MW-7 (AP-4017) were similar to concentrations detected in 1998. In 1998, total 1,2-dichlorothene was detected in MW-1 (AP-4011), however in 1999 total 1,2-dichlorothene was not detected in this monitoring well.

Vinyl Chloride is a breakdown product of dichloroethene, 1,1-dichloroethene, and 1,2-dichloroethene (total). Vinyl chloride was detected in one monitoring well, MW-21 (AP-3983),

at a concentration of 0.002 mg/L, which is similar to concentrations detected in 1998 (Table 5-13).

Monitoring well groundwater sample identification numbers are listed in Table 5-14. Groundwater samples from 14 of the 19 monitoring wells sampled in March 1999 contained one or more compounds that exceeded Alaska maximum contaminant levels (MCL). Table 5-15 summarizes the monitoring wells with MCL excedances.

5.2 NATURAL ATTENUATION AT OUB

The conclusions of the Technical Memorandum for the June 1998 sampling (WC, Oct. 1998) was that minimal biodegradation of chlorinated solvents was occurring at the site and that any decreases are likely the result of physical processes such as dilution, dispersion, hydrolysis and volatilization. Based on this conclusion, groundwater samples collected since June 1998 were not analyzed for natural attenuation parameters.

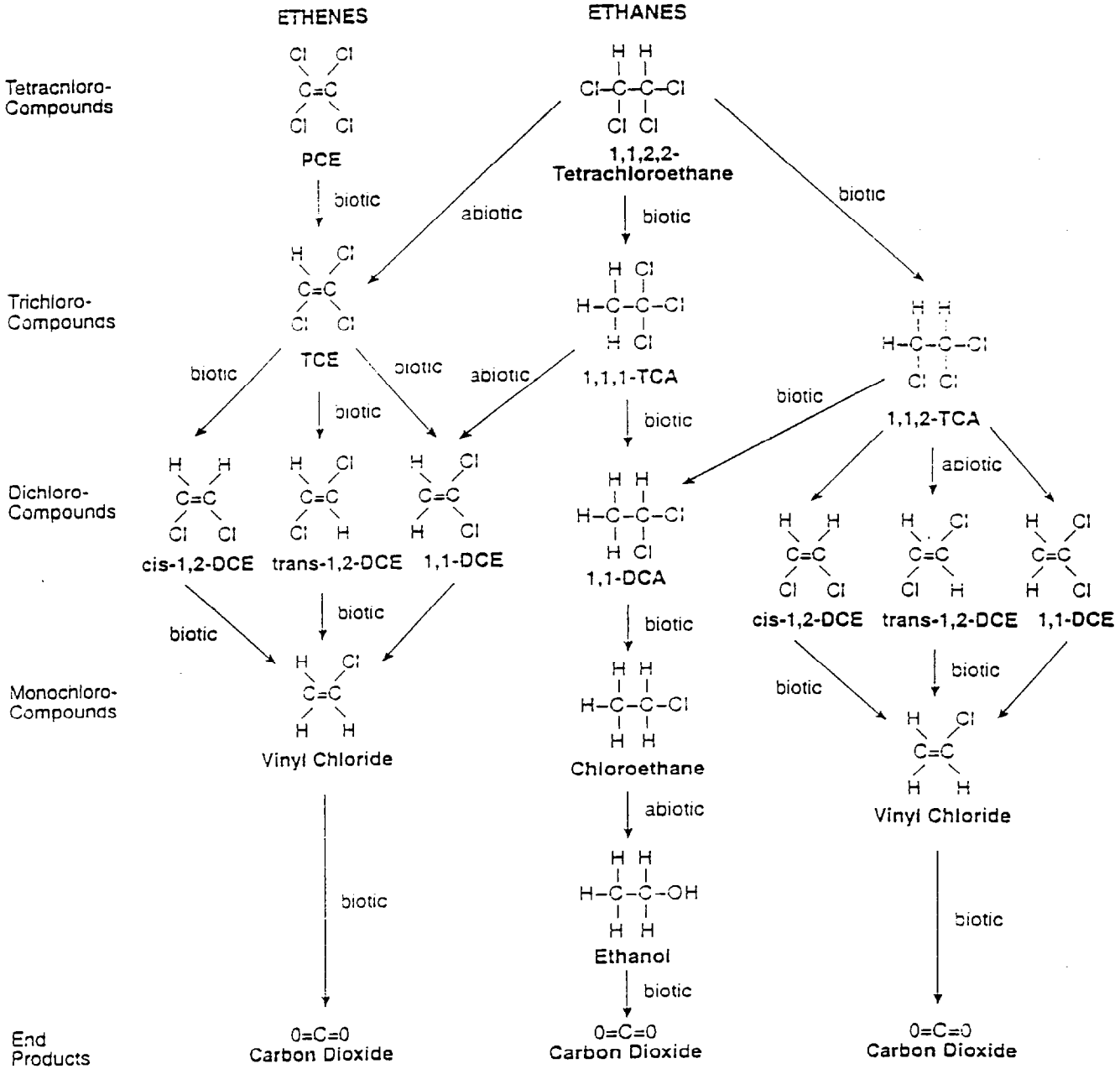
5.3 HEADSPACE MEASUREMENTS

Measurements using an organic vapor monitor showed no volatile organic vapors in the headspace of the majority of monitoring wells. Three monitoring wells had headspace values greater than zero parts per million (ppm): MW-4 (AP-4014) >1558 ppm , MW-5 (AP-4015) 4.2 ppm, and MW-23 (AP-3985) 3.2 ppm.

5.4 GROUNDWATER ELEVATION

Table 5-16 summarizes monitoring well water level measurements collected at OUB. The first groundwater samples were collected November 1995 which was at the end of a wet summer and fall. Groundwater level measurements were collected every month starting November 1, 1995 and ending October 2, 1996. Water level measurements were also collected during each groundwater sampling round.

The concentration of contaminants detected in several of the shallow monitoring wells has decreased from November 1997 to March 1999. One explanation is that the concentrations are varying seasonally. It is also suspected that dilution would be the cause of this concentration change. Spring runoff and summer rains raise the water table, diluting the contaminant concentrations. The frozen ground in the winter prevents surface water infiltration, causing contaminants to concentrate. The sampling dates should be scheduled so that samples are collected in October, after a summer of surface water infiltration, and in April, after a winter of no surface water infiltration.



DEGRADATION PATHWAYS OF CHEMICALS OF CONCERN POLELINE ROAD DISPOSAL AREA OUB, FORT RICHARDSON, ALASKA

URS Greiner Woodward Clyde

Dwg: FIG5-1.AI	By: AR	Figure: 5-1
Project: E9408U	Date: 3/31/99	

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TABLE 5-1

BENZENE
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Organic Compounds Detected (mg/L) In Groundwater Samples Using EPA Method 8260A

		benzene					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0 0002)	ND (0 0010)	ND (0.001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-3	AP-4013	ND (0 0002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-8	AP-4018	ND (0 0002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-12	AP-3744	ND (0 0002)	ND (0 0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-13	AP-3745	0.00034	ND (0 0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-15	AP-3747	ND (0 0002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-17	AP-3749	--	--	ND (0 001)	-	--	ND (0 001)
MW-19	AP-3981	--	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-20	AP-3982	--	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-21	AP-3983	--	--	0.094	0.021	0.021	0.033
MW-22	AP-3984	--	--	0.009	0.004	0.017	ND (0.010)
MW-23	AP-3985	--	--	--	0.001	0.002	ND (0.010)
MW-24	AP-3986	--	--	--	--	0.004	--
PZ-1	AP-3989	--	ND (0.10)	0.022	0.002	0.003	0.002
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	2.9	3.3	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	ND (0 2)	0.0013	0.004	ND (0 001)	ND (0 001)	ND (0 010)
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	ND (0 2)	--	--	0.002	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	ND (0.002)	--	ND (0.001)	ND (0 001)	ND (0.001)	ND (0.001)
MW-6	AP-4016	ND (0.002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-7	AP-4017	ND (0 02)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-9	AP-4019	0.00073	--	ND (0 001)	ND (0.001)	ND (0.001)	ND (0 001)
MW-16	AP-3748	ND (0 0002)	ND (0.0010)	ND (0 001)	ND (0.001)	ND (0.001)	ND (0.001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-2

TOLUENE
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A

		toluene					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0 0002)	ND (0 0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-3	AP-4013	ND (0 0002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-8	AP-4018	ND (0 0002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-12	AP-3744	ND (0.0002)	ND (0.0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-13	AP-3745	**0.00032**	ND (0 0010)	ND (0.001)	ND (0 001)	ND (0 001)	ND (0.001)
MW-15	AP-3747	**0.00018**	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-17	AP-3749	--	--	ND (0 001)	--	--	ND (0 001)
MW-19	AP-3981	--	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-20	AP-3982	--	--	ND (0 001)	ND (0 001)	ND (0.001)	ND (0.001)
MW-21	AP-3983	--	--	ND (0.020)	ND (0 001)	ND (0 001)	ND (0.001)
MW-22	AP-3984	--	--	ND (0.001)	ND (0.001)	ND (0 001)	ND (0.010)
MW-23	AP-3985	--	--	--	ND (0 001)	ND (0.001)	ND (0.010)
MW-24	AP-3986	--	--	--	--	ND (0.001)	--
PZ-1	AP-3989	--	ND (0.10)	ND (0.020)	ND (0.001)	ND (0.001)	ND (0.001)
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	ND (0 5)	ND (1.0)	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	ND (0 2)	ND (0.0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 010)
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	ND (0 2)	--	--	ND (0 001)	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	ND (0.002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-6	AP-4016	ND (0.002)	--	**0.001**	ND (0 001)	ND (0 001)	ND (0.001)
MW-7	AP-4017	ND (0.02)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-9	AP-4019	**0.00073**	--	ND (0.001)	ND (0.001)	ND (0 001)	ND (0 001)
MW-16	AP-3748	ND (0.0002)	ND (0.0010)	ND (0.001)	ND (0 001)	ND (0 001)	ND (0.001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

OUB 38317

TABLE 5-3

BROMODICHLOROMETHANE
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A							
		bromodichloromethane					
Well ID	API No.	Oct 95	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0.0005)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-3	AP-4013	ND (0.0005)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-8	AP-4018	ND (0.0005)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-12	AP-3744	ND (0.0005)	ND (0.0010)	0.002	ND (0.001)	ND (0.001)	ND (0.001)
MW-13	AP-3745	ND (0.0005)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-15	AP-3747	ND (0.0005)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-17	AP-3749	--	--	ND (0.001)	--		ND (0.001)
MW-19	AP-3981	--	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-20	AP-3982	--	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-21	AP-3983	--	--	ND (0.020)	ND (0.001)	ND (0.001)	ND (0.001)
MW-22	AP-3984	--	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.010)
MW-23	AP-3985	--	--	--	ND (0.001)	ND (0.001)	ND (0.010)
MW-24	AP-3986	--	--	--	--	ND (0.001)	--
PZ-1	AP-3989	--	ND (0.10)	ND (0.020)	ND (0.001)	ND (0.001)	ND (0.001)
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	ND (1.3)	ND (1.0)	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	ND (0.50)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.010)
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	ND (0.50)	--	--	ND (0.001)	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	ND (0.005)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-6	AP-4016	ND (0.005)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-7	AP-4017	ND (0.05)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-9	AP-4019	ND (0.0005)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-16	AP-3748	ND (0.0005)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-4

CHLOROBENZENE
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) In Groundwater Samples Using EPA Method 8260A							
		chlorobenzene					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0.0002)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-3	AP-4013	ND (0.0002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-8	AP-4018	ND (0.0002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-12	AP-3744	ND (0.0002)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-13	AP-3745	**0.00038**	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-15	AP-3747	ND (0.0002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-17	AP-3749	--	--	ND (0.001)	--	--	ND (0.001)
MW-19	AP-3981	--	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-20	AP-3982	--	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-21	AP-3983	--	--	ND (0.020)	ND (0.001)	ND (0.001)	ND (0.001)
MW-22	AP-3984	--	--	**0.001**	ND (0.001)	**0.002**	ND (0.010)
MW-23	AP-3985	--	--	--	ND (0.001)	ND (0.001)	ND (0.010)
MW-24	AP-3986	--	--	--	--	ND (0.001)	--
PZ-1	AP-3989	--	ND (0.10)	ND (0.020)	ND (0.001)	ND (0.001)	ND (0.001)
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	ND (0.5)	ND (1.0)	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	ND (0.2)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.010)
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	ND (0.2)	--	--	ND (0.001)	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	ND (0.002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-6	AP-4016	ND (0.002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-7	AP-4017	ND (0.02)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-9	AP-4019	**0.00055**	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-16	AP-3748	ND(0.0002)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-5

CARBON TETRACHLORIDE
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A

		carbon tetrachloride					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0.0002)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-3	AP-4013	ND (0.0002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-8	AP-4018	ND (0.0002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-12	AP-3744	0.022	0.0011	0.002	ND (0.001)	ND (0.001)	ND (0.001)
MW-13	AP-3745	0.00038	ND (0.0010)	0.003	ND (0.001)	ND (0.001)	ND (0.001)
MW-15	AP-3747	0.0014	--	ND (0.001)	ND (0.001)	ND (0.001)	0.003
MW-17	AP-3749	--	--	ND (0.001)	--	--	ND (0.001)
MW-19	AP-3981	--	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-20	AP-3982	--	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-21	AP-3983	--	--	ND (0.020)	ND (0.001)	ND (0.001)	ND (0.001)
MW-22	AP-3984	--	--	0.011	0.010	0.006	ND (0.001)
MW-23	AP-3985	--	--	--	ND (0.001)	ND (0.001)	ND (0.010)
MW-24	AP-3986	--	--	--	--	ND (0.001)	--
PZ-1	AP-3989	--	ND (0.10)	ND (0.020)	ND (0.001)	ND (0.001)	ND (0.001)
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	2.6	2.7	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	ND (0.2)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.010)
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	ND (0.2)	--	--	0.009	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	ND (0.002)	--	ND (0.001)	0.001	ND (0.001)	ND (0.001)
MW-6	AP-4016	ND (0.002)	--	0.001	ND (0.001)	ND (0.001)	ND (0.001)
MW-7	AP-4017	ND (0.02)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-9	AP-4019	ND (0.0002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-16	AP-3748	ND (0.0002)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-6

CHLOROFORM
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A

		chloroform					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0.0002)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-3	AP-4013	0.00053	--	ND (0.001)	ND (0.001)	ND (0.001)	0.013
MW-8	AP-4018	ND (0.0002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-12	AP-3744	ND (0.0002)	ND (0.0010)	0.002	ND (0.001)	ND (0.001)	ND (0.001)
MW-13	AP-3745	0.0011	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-15	AP-3747	0.0016	--	0.002	ND (0.001)	0.001	0.004
MW-17	AP-3749	--	--	ND (0.001)	--	--	ND (0.001)
MW-19	AP-3981	--	--	0.001	ND (0.001)	ND (0.001)	ND (0.001)
MW-20	AP-3982	--	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-21	AP-3983	--	--	0.078	0.028	0.016	0.023
MW-22	AP-3984	--	--	0.012	0.001	0.01	ND (0.010)
MW-23	AP-3985	--	--	--	0.003	0.004	ND (0.010)
MW-24	AP-3986	--	--	--	--	0.006	--
PZ-1	AP-3989	--	ND (0.10)	ND (0.020)	0.003	0.003	0.003
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	1.4	ND (1.0)	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	ND (0.2)	0.0059	0.010	0.003	0.003	ND (0.010)
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	ND (0.2)	--	--	0.009	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	ND (0.002)	--	ND (0.001)	ND (0.001)	0.006	0.004
MW-6	AP-4016	ND (0.002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-7	AP-4017	ND (0.02)	--	0.001	0.002	0.001	0.002
MW-9	AP-4019	ND (0.0002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-16	AP-3748	ND (0.0002)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)

NOTES: MW-14 was dry in 1997, 1998, and 1999

-- = Not Sampled

NA = Not Analyzed

ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-7

TETRACHLOROETHENE
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A							
		tetrachloroethene					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0 0002)	ND (0 0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-3	AP-4013	ND (0 0002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW 8	AP-4018	ND (0 0002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-12	AP-3744	0.00035	ND (0 0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-13	AP-3745	ND (0 0002)	ND (0 0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-15	AP-3747	0.0021	--	0.002	0.001	0 003	0.006
MW-17	AP 3749	--	--	ND (0 001)	-	--	ND (0 001)
MW-19	AP-3981	-	--	0.018	0 002	0 005	0.007
MW-20	AP-3982	--	--	ND (0 001)	0 001	ND (0 001)	ND (0 001)
MW-21	AP-3983	--	--	0.390	0.170	0.140	0.160
MW-22	AP-3984	--	--	0.3	0.084	0.150	0.062
MW-23	AP-3985	--	--	--	0.052	0.086	0.072
MW-24	AP-3986	--	--	--	--	0.150	--
PZ-1	AP-3989	--	ND (0.10)	0.073	0.010	0.010	0.013
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	11	12.3	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	ND (0 2)	0.067	0.130	0.029	0.032	0.060
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	0.310	--	--	0.084	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	ND (0 002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-6	AP-4016	ND (0 002)	--	ND (0.001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-7	AP-4017	ND (0.02)	--	0.004	0.005	0.003	0.004
MW-9	AP-4019	ND (0.0002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0.001)
MW-16	AP3748	ND (0 0002)	ND (0 0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-8

1,1,2,2-TETRACHLOROETHANE
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A

		1,1,2,2-tetrachloroethane					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0.50)	ND (0.0010)	0.003	0.001	0.004	ND (0.001)
MW-3	AP-4013	0.5400	--	0.450	0.035	0.059	0.080
MW-8	AP-4018	ND (0.50)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-12	AP-3744	0.4900	0.024	0.065	0.014	0.130	0.019
MW-13	AP-3745	0.0011	0.0011	0.009	0.058	0.056	0.004
MW-15	AP-3747	0.0063	--	0.004	0.002	0.004	0.012
MW-17	AP-3749	--	--	ND (0.001)	--	--	0.001
MW-19	AP-3981	--	--	1.4	0.340	0.630	0.690
MW-20	AP-3982	--	--	0.010	0.150	0.120	0.059
MW-21	AP-3983	--	--	62	24	3.8	26
MW-22	AP-3984	--	--	11	3.7	15.0	2.8
MW-23	AP-3985	--	--	--	17	18.0	17
MW-24	AP-3986	--	--	--	--	47	--
PZ-1	AP-3989	--	1.4	19	1	3.3	1.8
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	1900	1000	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	21	9.1	19	15	6	10
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	71	--	--	6	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	0.082	--	0.047	0.054	0.029	0.018
MW-6	AP-4016	0.520	--	0.006	0.013	0.019	0.005
MW-7	AP-4017	3.1	--	1.5	1.8	1.500	0.950
MW-9	AP-4019	ND (0.50)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-16	AP-3748	ND (0.002)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-9

1,1,2-TRICHLOROETHANE
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A

		1,1,2-trichloroethane					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0.50)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-3	AP-4013	0.0023	--	0.004	ND (0.001)	ND (0.001)	ND (0.001)
MW-8	AP-4018	ND (0.50)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-12	AP-3744	0.00078	ND (0.0010)	0.002	ND (0.001)	ND (0.0010)	ND (0.0010)
MW-13	AP-3745	ND (0.50)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-15	AP-3747	0.0013	--	0.003	ND (0.001)	0.002	0.005
MW-17	AP-3749	--	--	ND (0.001)	--	--	ND (0.001)
MW-19	AP-3981	--	--	0.014	ND (0.001)	0.003	0.005
MW-20	AP-3982	--	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-21	AP-3983	--	--	0.420	0.19	0.200	0.180
MW-22	AP-3984	--	--	0.043	0.011	0.410	ND (0.010)
MW-23	AP-3985	--	--	--	0.076	0.077	0.070
MW-24	AP-3986	--	--	--	--	0.150	--
PZ-1	AP-3989	--	ND (0.10)	0.120	0.009	0.022	0.015
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	ND (1.3)	1	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	ND (0.50)	0.45	0.100	0.025	0.031	0.059
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	ND (0.50)	--	--	0.036	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	ND (0.005)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-6	AP-4016	ND (0.005)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-7	AP-4017	ND (0.05)	--	0.024	0.028	0.020	0.021
MW-9	AP-4019	ND (0.50)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-16	AP-3748	ND (0.50)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

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TABLE 5-10

TRICHLOROETHENE
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A

		trichloroethene					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0 0002)	ND (0 0010)	0 001	ND (0 001)	ND (0 001)	ND (0 001)
MW-3	AP-4013	0.2600	--	0.270	0.037	0.062	0.110
MW-8	AP-4018	ND (0 0002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-12	AP-3744	0.1600	0.070	0.190	0.058	0.063	0.058
MW-13	AP-3745	0.0067	0.0041	0.018	0.008	0.010	0.007
MW-15	AP-3747	0.2700	--	0.320	0.140	0.260	0.740
MW-17	AP-3749	--	--	ND (0 001)	--	--	ND (0 001)
MW-19	AP-3981	--	--	0.950	0.110	0.17	0 28
MW-20	AP-3982	--	--	0.012	0.018	0.012	0.017
MW-21	AP-3983	--	--	22	12	1.1	12
MW-22	AP-3984	--	--	8.7	2.1	7.8	1.7
MW-23	AP-3985	--	--	--	2.2	3.2	3.1
MW-24	AP-3986	--	--	--	--	3.7	--
PZ-1	AP-3989	--	0.940	5.4	0.930	1.3	0.740
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	220	186	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	4.8	3.1	8.0	3	3.7	5.4
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	14	--	--	4.1	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	0.043	--	0.03	0.034	0.029	0.035
MW-6	AP-4016	0.13	--	0.086	0.025	0.026	0.073
MW-7	AP-4017	1	--	1.3	0.92	0.85	1.1
MW-9	AP-4019	0.00091	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-16	AP3748	0.00031	ND (0 0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-11

1,1-DICHLOROETHENE
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A							
		1,1-dichloroethene					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0.0002)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-3	AP-4013	ND (0.00019)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-8	AP-4018	ND (0.0002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-12	AP-3744	0.00014	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-13	AP-3745	0.00026	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-15	AP-3747	0.00071	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-17	AP-3749	--	--	ND (0.001)	--	--	ND (0.001)
MW-19	AP-3981	--	--	0.002	ND (0.001)	ND (0.001)	ND (0.001)
MW-20	AP-3982	--	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-21	AP-3983	--	--	0.032	0.014	0.019	0.018
MW-22	AP-3984	--	--	0.010	ND (0.001)	0.007	ND (0.010)
MW-23	AP-3985	--	--	--	ND (0.001)	0.004	ND (0.010)
MW-24	AP-3986	--	--	--	--	0.005	--
PZ-1	AP-3989	--	ND (0.10)	ND (0.020)	ND (0.001)	0.003	0.002
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	ND (0.5)	ND (1.0)	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	ND (0.2)	ND (0.0010)	0.010	ND (0.001)	0.005	ND (0.010)
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	ND (0.2)	--	--	0.003	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	ND (0.002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-6	AP-4016	ND (0.002)	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-7	AP-4017	ND (0.02)	--	0.004	0.003	0.005	0.005
MW-9	AP-4019	0.0012	--	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
MW-16	AP-3748	ND (0.0002)	ND (0.0010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-12

1,2-DICHLOROETHENE (TOTAL)
SUMMARY OF ANALYTICAL RESULTS
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1995 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A							
		1,2-dichloroethene (Total)					
Well ID	API No.	Oct 1995	Nov 1996	Nov 1997	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER							
MW-2	AP-4012	ND (0 0002)	ND (0 0010)	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-3	AP-4013	0.012	--	0.046	0.005	ND (0 001)	ND (0 001)
MW-8	AP-4018	ND (0 0002)	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-12	AP-3744	0.001	0.0029	0.015	0.003	ND (0 001)	0.002
MW-13	AP-3745	ND (0 0002)	ND (0 0010)	0.001	ND (0 001)	ND (0 001)	ND (0 001)
MW-15	AP-3747	0.019	--	0.028	0.010	0.021	0.044
MW-17	AP-3749	--	--	ND (0 001)	--	--	ND (0 001)
MW-19	AP-3981	--	--	0.075	0 020	0 016	0.016
MW-20	AP-3982	--	--	ND (0 001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-21	AP-3983	--	--	5.1	1.97	2.92	3.5
MW-22	AP-3984	--	--	0.710	0.208	0.920	0.240
MW-23	AP-3985	--	--	--	0.193	0.208	0.324
MW-24	AP-3986	--	--	--	--	0.307	--
PZ-1	AP-3989	--	0.17	1.1	0.128	0.315	0.220
WELL SCREENED IN PERCHED AQUIFER							
MW-14	AP-3746	49	5.9	--	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER							
MW-5	AP-4015	ND (0 2)	0.330	0.650	0.256	0.500	0.860
WELL SCREENED IN INTERMEDIATE AQUIFER							
MW-4	AP-4014	2	--	--	0.405	--	--
WELL SCREENED IN DEEP AQUIFER							
MW-1	AP-4011	0.0053	--	0.004	0.005	0.006	ND (0 001)
MW-6	AP-4016	0.0035	--	0.004	0.002	0.002	0.003
MW-7	AP-4017	0.3400	--	0.380	0.382	0.384	0.455
MW-9	AP-4019	ND (0.0002)	--	ND (0.001)	ND (0 001)	ND (0 001)	ND (0 001)
MW-16	AP-3748	ND (0.0002)	ND (0 0010)	ND (0.001)	ND (0 001)	ND (0 001)	ND (0 001)

NOTES: MW-14 was dry in 1997, 1998, and 1999

-- = Not Sampled

NA = Not Analyzed

ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-13

VINYL CHLORIDE
SUMMARY OF ANALYTICAL RESULTS FOR
OPERABLE UNIT B, FORT RICHARDSON, ALASKA
1998 THROUGH 1999 GROUNDWATER SAMPLES

Volatile Organic Compounds Detected (mg/L) in Groundwater Samples Using EPA Method 8260A

		vinyl chloride		
Well ID	API No.	June 1998	Oct 1998	Mar 1999
WELLS SCREENED IN SHALLOW AQUIFER				
MW-2	AP-4012	ND (0.001)	ND (0.001)	ND (0.001)
MW-3	AP-4013	ND (0.001)	ND (0.001)	ND (0.001)
MW-8	AP-4018	ND (0.001)	ND (0.001)	ND (0.001)
MW-12	AP-3744	ND (0.001)	ND (0.001)	ND (0.001)
MW-13	AP-3745	ND (0.001)	ND (0.001)	ND (0.001)
MW-15	AP-3747	ND (0.001)	ND (0.001)	ND (0.001)
MW-17	AP-3749	--	--	ND (0.001)
MW-19	AP-3981	ND (0.001)	ND (0.001)	ND (0.001)
MW-20	AP-3982	ND (0.001)	ND (0.001)	ND (0.001)
MW-21	AP-3983	ND (0.001)	0.009	0.002
MW-22	AP-3984	ND (0.001)	ND (0.001)	ND (0.001)
MW-23	AP-3985	ND (0.001)	ND (0.001)	ND (0.001)
MW-24	AP-3986	ND (0.001)	ND (0.001)	--
PZ-1	AP-3989	ND (0.001)	ND (0.100)	ND (0.001)
WELL SCREENED IN PERCHED AQUIFER				
MW-14	AP-3746	--	--	--
WELL SCREENED IN SHALLOW-INTERMEDIATE AQUIFER				
MW-5	AP-4015	ND (0.001)	ND (0.001)	ND (0.001)
WELL SCREENED IN INTERMEDIATE AQUIFER				
MW-4	AP-4014	ND (0.001)	--	--
WELL SCREENED IN DEEP AQUIFER				
MW-1	AP-4011	ND (0.001)	ND (0.001)	ND (0.001)
MW-6	AP-4016	ND (0.001)	ND (0.001)	ND (0.001)
MW-7	AP-4017	ND (0.001)	ND (0.001)	ND (0.001)
MW-9	AP-4019	ND (0.001)	ND (0.001)	ND (0.001)
MW-16	AP-3748	ND (0.001)	ND (0.001)	ND (0.001)

NOTES: MW-14 was dry in 1997, 1998, and 1999
-- = Not Sampled
NA = Not Analyzed
ND = Analyte Not Detected (Detection Limit in Parentheses)

TABLE 5-14

SAMPLE CROSS REFERENCE SHEET
MARCH 1999 GROUNDWATER SAMPLES

OPERABLE UNIT B, POLELINE ROAD DISPOSAL AREA FORT RICHARDSON, ALASKA			
Well ID	**Field Sample ID**	**Laboratory Sample ID**	**Sample Type**
MW-17	99PRDA-001-WA	821684-1	ES
MW-16	99PRDA-002-WA	821684-2	ES
MW-8	99PRDA-003-WA	821684-3	ES
MW-9	99PRDA-004-WA	821684-4	ES
MW-6	99PRDA-005-WA	821684-5	ES
MW-2	99PRDA-006-WA	821684-6	ES
MW-1	99PRDA-007-WA	821689-1	ES
MW-3	99PRDA-008-WA	821689-2	ES
MW-20	99PRDA-009-WA	821689-3	ES
MW-15	99PRDA-010-WA	821689-4	ES
MW-12	99PRDA-011-WA	821689-5	ES
MW-13	99PRDA-012-WA	821689-6	ES
MW-19	99PRDA-013-WA	821689-7	Blind-Dup
MW-19	99PRDA-014-WA	821689-8	ES
MW-7	99PRDA-015-WA	821689-9	ES
PZ-1	99PRDA-016-WA	821689-10	ES
MW-21	99PRDA-017-WA	821689-11	ES
MW-5	99PRDA-018-WA	821689-12	Blind-Dup
MW-5	99PRDA-019-WA	821689-13	ES
MW-22	99PRDA-020-WA	821689-14	ES
MW-22	MS/MSD	821689-15	MS/MSD
MW-23	99PRDA-021-WA	821689-16	ES

Notes: Blind-Dup: Blind duplicate using false sample collection time
ES: Environmental sample
MS/MSD: Matrix spike/matrix spike duplicate

TABLE 5-15

VOLATILE ORGANIC COMPOUNDS THAT EXCEEDED MCLS
MARCH 1999 GROUNDWATER SAMPLES

OPERABLE UNIT B, POLELINE ROAD DISPOSAL AREA FORT RICHARDSON, ALASKA				
Compound	MCL (mg/L)	Monitoring Well ID	API No.	Concentration* (mg/L)
benzene	0.005	MW- 21	AP-3983	0.033
1,2-dichloroethene (total cis and trans)	**	MW-5	AP-4015	0.860
		MW-7	AP-4017	0.455
		MW-21	AP-3983	3.5
		MW-22	AP-3984	0.240
		MW-23	AP-3985	0.324
		PZ-1	AP-3989	0.220
1,1-dichloroethene	0.007	MW-21	AP-3983	0.018
tetrachloroethene	0.005	MW-5	AP-4015	0.060
		MW-15	AP-3747	0.006
		MW-19	AP-3981	0.007
		MW-21	AP-3983	0.160
		MW-22	AP-3984	0.062
		MW-23	AP-3985	0.072
		PZ-1	AP-3989	0.013
trichloroethene	0.005	MW-1	AP-4011	0.035
		MW-3	AP-4013	0.110
		MW-5	AP-4015	5.4
		MW-6	AP-4016	0.073
		MW-7	AP-4017	1.1
		MW-12	AP-3744	0.058
		MW-13	AP-3745	0.007
		MW-15	AP-3747	0.730
		MW-19	AP-3981	0.280
		MW-20	AP-3982	0.017
		MW-21	AP-3983	12
		MW-22	AP-3984	1.7
		MW-23	AP-3985	3.1
		PZ-1	AP-3989	0.740

NOTES:

mg/L = milligram per liter

* Only those concentrations that exceed Maximum Contaminant Levels (MCLs) are shown

** Analysis did not separate cis- and trans-dichloroethene which have MCLs of 0.07 and 0.1 ppm , respectively

TABLE 5-16
GROUNDWATER ELEVATIONS POLELINE ROAD DIPOSAL AREA

OPERABLE UNIT B FORT RICHARDSON, ALASKA			Groundwater Elevation in Feet											
Monitoring Well	Saturated Interval API No.	API No.	11/01/95	12/04/95	01/03/96	02/01/96	03/01/96	04/01/96	05/01/96	06/03/96	07/01/96	08/02/96	09/03/96	10/02/96
MW-2	Shallow	AP-4012	274.11	273.43	272.69	272.30	272.08	271.88	271.62	271.80	271.76	271.61	271.37	271.22
MW-3	Shallow	AP-4013	274.01	272.84	271.55	270.78	269.97	269.49	269.33	269.42	269.41	269.38	269.28	269.26
MW-8	Shallow	AP-4018	276.67	276.04	275.20	274.61	274.15	273.84	273.59	273.65	273.60	273.53	273.45	273.34
MW-12	Shallow	AP-3744	273.75	273.04	272.24	271.76	271.38	271.10	270.70	270.92	270.82	270.57	270.29	270.13
MW-13	Shallow	AP-3745	275.88	275.21	274.46	273.90	273.52	273.22	272.98	273.02	272.99	272.96	272.91	272.83
MW-15	Shallow	AP-3747	271.92	270.83	269.83	269.29	268.36	268.22	267.17	267.20	267.03	266.89	266.21	265.74
MW-17	Shallow	AP-3749	285.40	284.54	283.69	283.06	282.59	282.28	282.36	282.70	282.64	282.37	282.15	281.97
MW-19	Shallow	AP-3981	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-20	Shallow	AP-3982	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-21	Shallow	AP-3983	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-22	Shallow	AP-3984	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-23	Shallow	AP-3985	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-24	Shallow	AP-3986	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PZ-1	Shallow	AP-3989	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-14	Perched	AP-3746	290.93	289.93	289.05	288.37	287.71	287.28	288.80	290.38	289.89	289.37	289.08	288.72
MW-5	Shallow-Intermediate	AP-4015	277.44	276.59	275.33	275.15	274.60	274.24	273.85	274.10	274.16	274.00	273.88	273.76
MW-4	Intermediate	AP-4014	237.77	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	238.33
MW-1	Deep	AP-4011	173.27	173.26	173.22	173.28	173.18	173.32	Dry	173.29	173.18	173.24	173.18	173.32
MW-6	Deep	AP-4016	177.36	177.24	177.40	177.53	177.32	177.68	177.35	177.63	177.33	177.44	177.42	177.71
MW-7	Deep	AP-4017	226.71	226.37	226.30	226.38	226.12	226.40	226.08	226.30	225.97	226.09	226.09	226.33
MW-9	Deep	AP-4019	Dry	160.16	160.13	159.94	Dry	159.09	Dry	Dry	158.08	158.10	158.08	158.02
MW-16	Deep	AP-3748	162.38	162.19	162.11	162.11	161.56	161.39	160.51	160.41	160.00	160.17	160.12	160.30

Notes: Dry - Dry well
NA - Not Available
NS - Not Sampled

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TABLE 5-16 (continued)
GROUNDWATER ELEVATIONS POLELINE ROAD DIPOSAL AREA

OPERABLE UNIT B FORT RICHARDSON, ALASKA			Groundwater Elevation in Feet				
Monitoring Well	API No.	Saturated Interval	11/04/1996	11/10/97	6/8/98	10/21/98	03/11/1999
MW-2	AP-4012	Shallow	271.01	273.31	275.22	273.97	273.48
MW-3	AP-4013	Shallow	NS	272.56	275.05	274.30	271.06
MW-8	AP-4018	Shallow	NS	275.35	277.16	276.45	273.56
MW-12	AP-3744	Shallow	269.94	272.84	274.62	273.62	271.50
MW-13	AP-3745	Shallow	272.73	274.79	276.27	275.72	272.96
MW-15	AP-3747	Shallow	265.03	271.68	274.67	272.12	268.68
MW-17	AP-3749	Shallow	281.80	284.86	281.08	284.97	282.33
MW-19	AP-3981	Shallow	NA	276.82	276.29	277.48	274.64
MW-20	AP-3982	Shallow	NA	272.33	274.44	273.31	271.4
MW-21	AP-3983	Shallow	NA	274.15	275.40	275.09	272.4
MW-22	AP-3984	Shallow	NA	277.27	276.55	277.43	275.51
MW-23	AP-3985	Shallow	NA	NA	276.05	277.44	274.88
MW-24	AP-3986	Shallow	NA	NA	276.13	277.27	NS
PZ-1	AP-3989	Shallow	271.61	273.91	275.07	274.54	272.34
MW-14	AP-3746	Perched	288.91	Dry	Dry	285.07	Dry
MW-5	AP-4015	Shallow-Intermediate	273.64	276.30	276.52	276.93	272.82
MW-4	AP-4014	Intermediate	NS	Dry	243.25	Dry	Dry
MW-1	AP-4011	Deep	NS	173.39	173.35	173.12	173.43
MW-6	AP-4016	Deep	NS	177.54	177.64	177.28	177.76
MW-7	AP-4017	Deep	NS	226.53	226.85	227.09	226.65
MW-9	AP-4019	Deep	NS	NS	157.82	160.21	159.35
MW-16	AP-3748	Deep	160.00	159.46	160.02	162.20	161.47

Notes:
Dry - Dry well
NA - Not Available
NS - Not Sampled

OUB 38332

6.1 CONCLUSIONS

In general, VOC concentrations in groundwater at OUB appear to be slowly decreasing. The decrease in VOC concentrations is probably the result of physical processes, previously discussed in Section 5.2, and the SPSH and high vacuum extraction testing. Several hundred pounds of chlorinated solvents have been removed from the site due to the SPSH and high vacuum processes. Future groundwater sampling will help to identify the impacts of the physical and remediation processes at OUB.

6.2 RECOMMENDATIONS

The recommendations are suggested based upon the results of the first four rounds of long-term groundwater monitoring at OUB:

- Continuation of biannual groundwater sampling for chlorinated solvents.
- Collect groundwater samples in March and October. This schedule would provide data on the affect of surface water infiltration on groundwater VOC concentrations. In March, the aquifer has gone several months without surface water infiltration, potentially increasing the groundwater concentration of VOCs. In October, the aquifer has received its annual surface water recharge, potentially lowering the groundwater concentrations of VOCs via dilution.

Wiedemeier, T.H., M.A. Swanson, D.E. Moutoux, K, Gordon, J.T., Wilson, B.H. Wilson, D.H. Kampbell, J.E. Hansen, P. Haas, and F.H. Chapelle. 1996. "Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater. U.S. Air Force Center for Environmental Excellence, San Antonio.

Wilson, B.H., J.T. Wilson, and D. Luce. 1996 "Design and Interpretation of Microcosm Studies for Chlorinated Compounds" U. S. Environmental Protection Agency. 1996. "Proceedings of the Symposium on Natural Attenuation of Chlorinated Organics in Ground Water, September 11-13, Dallas, Texas.

Woodward-Clyde, *Long-Term Groundwater Monitoring Workplan, Operable Unit B, Poleline Road Disposal Area, Forth Richardson, Alaska* (September 1997).

APPENDIX A

Laboratory Reports

MAS I.D. # 821684

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : URS GREINER/WOODWARD-CLYDE
PROJECT # : 74FOE9408U-5700
PROJECT NAME : OUB GW MONITORING

CASE NARRATIVE: VOLATILE ORGANICS ANALYSIS

The following anomalies were associated with the preparation and/or analysis of the samples in this accession:

The vials for the samples identified as 821684-1 (99PRDA-001-WA) and 821684-(99PRDA-005-WA) contained head space. The vials with the least amount of head space were used for analysis. No further corrective action was performed.

Bromofluorobenzene surrogate percent recovery exceeded the current MultiChem recovery range in the samples identified as 821684-2 (99PRDA-002-WA), 821684 3 (99PRDA-003-WA), 821684-4 (99PRDA-004-WA), 821684-6 (99PRDA-006-WA), 821684-7 (Trip Blank), and in the matrix spike (MS) performed on sample 821684-1 (99PRDA-001-WA). Since this anomaly indicates a potential high bias, reportable concentrations of target compounds were not detected in the associated samples, and all matrix spike (MS) recoveries within current MultiChem recovery ranges, the anomalies were flagged "H" for reporting purposes. No further corrective action was performed.

1,1-Dichloroethene percent difference (%D) of the continuing calibration compound (CCC) exceeded the method specified +/-20% criterion in the daily standard analyzed on March 24, 1999. Since this anomaly indicates a potential high bias, reportable concentrations of 1,1-dichloroethene were nc detected in any of the associated samples, and all associated spike recoveries for 1,1-dichloroethene within current MultiChem recovery ranges, no further corrective action was performed.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

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MAS I.D. # 821684

MultiChem
ANALYTICAL SERVICES

SAMPLE CROSS REFERENCE SHEET

CLIENT : URS GREINER/WOODWARD-CLYDE
PROJECT # : 74FOE9408U-5700
PROJECT NAME : OUB GW MONITORING

MAS #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
821684-1	99PRDA-001-WA	03/15/99	WATER
821684-2	99PRDA-002-WA	03/15/99	WATER
821684-3	99PRDA-003-WA	03/17/99	WATER
821684-4	99PRDA-004-WA	03/17/99	WATER
821684-5	99PRDA-005-WA	03/18/99	WATER
821684-6	99PRDA-006-WA	03/18/99	WATER
821684-7	TRIP BLANK	N/A	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	7

MAS STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

MAS I.D. # 821684

MultiChem
ANALYTICAL SERVICES

ANALYTICAL SCHEDULE

CLIENT : URS GREINER/WOODWARD-CLYDE
PROJECT # : 74FOE9408U-5700
PROJECT NAME : OUB GW MONITORING

ANALYSIS	TECHNIQUE	REFERENCE	LAB
VOLATILE ORGANICS ANALYSIS	GCMS	EPA 8260A	R

R = MAS - Renton
ANC = MAS - Anchorage
SUB = Subcontract

MAS I.D. # 821684

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

MAS I.D. # 821684

MultiChem ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	103	81 - 130
TOLUENE-D8	102	80 - 120
BROMOFLUOROBENZENE	118	75 - 118

MAS I.D. # 821684

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 03/24/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

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MAS I.D. # 821684

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 03/24/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	105	81 - 130
TOLUENE-D8	100	80 - 120
BROMOFLUOROBENZENE	109	75 - 118

MAS I.D. # 821684-1

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/15/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-001-WA	DATE ANALYZED	: 03/24/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	1

MAS I.D. # 821684-1

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/15/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-001-WA	DATE ANALYZED	: 03/24/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	107	81 - 130
TOLUENE-D8	83	80 - 120
BROMOFLUOROBENZENE	109	75 - 118

OUB 38345

MAS I.D. # 321684-2

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/15/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-002-WA	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

MAS I.D. # 821684-2

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/15/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-002-WA	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	105	81 - 130
TOLUENE-D8	102	80 - 120
BROMOFLUOROBENZENE	123 H	75 - 118

H = Out of limits.

MAS I.D. # 821684-3

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/17/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-003-WA	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

MAS I.D. # 821684-3

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/17/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-003-WA	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	108	81 - 130
TOLUENE-D8	102	80 - 120
BROMOFLUOROBENZENE	123 H	75 - 118

H = Out of limits.

MAS I.D. # 821684-4

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/17/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-004-WA	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

MAS I.D. # 321684-4

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/17/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-004-WA	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	109	81 - 130
TOLUENE-D8	104	80 - 120
BROMOFLUOROBENZENE	121 H	75 - 118

H = Out of limits.

MAS I.D. # 821684-5

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/18/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-005-WA	DATE ANALYZED	: 03/24/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	2
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	73
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	5

OUB 38352

MAS I.D. # 821684-5

MultiChem ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/18/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-005-WA	DATE ANALYZED	: 03/24/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	108	81 - 130
TOLUENE-D8	93	80 - 120
BROMOFLUOROBENZENE	109	75 - 118

MAS I.D. # 821684-6

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/18/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-006-WA	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

MAS I.D. # 821684-6

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/18/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-006-WA	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	107	81 - 130
TOLUENE-D8	102	80 - 120
BROMOFLUOROBENZENE	119 H	75 - 118

H = Out of limits.

MAS I.D. # 321684-7

MultiChem ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: TRIP BLANK	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

MAS I.D. # 821684-7

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/22/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: TRIP BLANK	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	103	81 - 130
TOLUENE-D8	101	80 - 120
BROMOFLUOROBENZENE	125 H	75 - 118

H = Out of limits.

MAS I.D. # 821684

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: URS GREINER/WOODWARD-CLYDE	SAMPLE I.D. #	: BLANK
PROJECT #	: 74FOE9408U-5700	DATE EXTRACTED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE ANALYZED	: 03/23/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<1.00	50.0	56.5	113	N/A	N/A	N/A
BENZENE	<1.00	50.0	53.7	107	N/A	N/A	N/A
TRICHLOROETHENE	<1.00	50.0	48.0	96	N/A	N/A	N/A
TOLUENE	<1.00	50.0	54.7	109	N/A	N/A	N/A
CHLOROBENZENE	<1.00	50.0	50.6	101	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
1,1-DICHLOROETHENE	67 - 131	20
BENZENE	80 - 120	20
TRICHLOROETHENE	80 - 120	20
TOLUENE	80 - 125	20
CHLOROBENZENE	80 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
1,2-DICHLOROETHANE-D4	102	N/A	81 - 130
TOLUENE-D8	104	N/A	80 - 120
BROMOFLUOROBENZENE	117	N/A	75 - 118

OUB 38358

MAS I.D. # 821684

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: URS GREINER/WOODWARD-CLYDE	SAMPLE I.D. #	: BLANK
PROJECT #	: 74FOE9408U-5700	DATE EXTRACTED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE ANALYZED	: 03/24/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<1.00	50.0	51.7	103	N/A	N/A	N/A
BENZENE	<1.00	50.0	50.6	101	N/A	N/A	N/A
TRICHLOROETHENE	<1.00	50.0	47.5	95	N/A	N/A	N/A
TOLUENE	<1.00	50.0	54.0	108	N/A	N/A	N/A
CHLOROBENZENE	<1.00	50.0	49.6	99	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
1,1-DICHLOROETHENE	67 - 131	20
BENZENE	80 - 120	20
TRICHLOROETHENE	80 - 120	20
TOLUENE	80 - 125	20
CHLOROBENZENE	80 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
1,2-DICHLOROETHANE-D4	107	N/A	81 - 130
TOLUENE-D8	102	N/A	80 - 120
BROMOFLUOROBENZENE	108	N/A	75 - 118

OUB 38359

MAS I.D. # 821684

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: URS GREINER/WOODWARD-CLYDE	SAMPLE I.D. #	: 821684-1
PROJECT #	: 74FOE9408U-5700	DATE EXTRACTED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE ANALYZED	: 03/24/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<1.00	50.0	58.9	118	58.4	117	1
BENZENE	<1.00	50.0	54.7	109	54.5	109	0
TRICHLOROETHENE	<1.00	50.0	50.3	101	50.8	102	1
TOLUENE	<1.00	50.0	47.4	95	47.8	96	1
CHLOROBENZENE	<1.00	50.0	50.4	101	51.0	102	1

CONTROL LIMITS	% REC.	RPD
1,1-DICHLOROETHENE	72 - 137	20
BENZENE	80 - 133	20
TRICHLOROETHENE	79 - 120	20
TOLUENE	72 - 137	20
CHLOROBENZENE	80 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
1,2-DICHLOROETHANE-D4	104	106	81 - 130
TOLUENE-D8	93	95	80 - 120
BROMOFLUOROBENZENE	122 H	118	75 - 118

H = Out of limits.

OUB 38360

MAS I.D. # 821689

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : URS GREINER/WOODWARD-CLYDE
PROJECT # : 74FOE9408U-5700
PROJECT NAME : OUB GW MONITORING

CASE NARRATIVE: VOLATILE ORGANICS ANALYSIS

The following anomalies were associated with the preparation and/or analysis of the samples in this accession:

1,1-Dichloroethene 42.3 percent difference (%D) of the continuing calibration compound (CCC) exceeded the method stated limit of +/-20% in the continuing calibration standard analyzed on the first shift of April 2, 1999. Since this anomaly indicates a potential high bias, and reportable concentrations of 1,1-dichloroethene were not detected in any of the associated samples, no further corrective action was performed.

1,1-Dichloroethene 41.3%D of the CCC exceeded the method stated limit of +/-20% in the continuing calibration standard analyzed on the second shift of April 2, 1999. Since this anomaly indicates a potential high bias, and reportable concentrations of 1,1-dichloroethene were not detected in any of the associated samples, no further corrective action was performed.

Based upon analyst observation the samples identified as 821689-12 (99PRDA-018-WA) through 821689-15 (99PRDA-021-WA) were analyzed at an initial ten fold dilution. Since high levels of target analytes were detected at this level, the samples were not analyzed at a lesser dilution. No further corrective action was performed.

Trichloroethene percent recoveries in the MS/MSD performed on sample 821689-14 (99PRDA-021-WA) fell below the current MultiChem method 8260 water recovery range of 80-120%. This anomaly is attributed to the high analyte concentrations in the sample native and was flagged "G" for reporting purposes. No further corrective action was performed.

1,2-dichloroethane-d4 surrogate percent recovery exceeded the current MultiChem method 8260 water recovery range of 81-130% in the matrix spike duplicate (MSD) performed on the sample identified as 821689-14 (99PRDA-020-WA), and has been flagged with an "H" for reporting purposes. Since the surrogate recoveries were in control in the sample and matrix spike (MS), and all MS/MSD relative percent differences (RPDs) were in control, no further corrective action was performed.

1,2-dichloroethane-d4 surrogate percent recovery exceeded the current MultiChem method 8260 water recovery range of 81-130% in the sample identified as 821689-16 (TRIP BLANK), and has been flagged with an "H" for reporting purposes. Since this anomaly indicates a potential high bias, and reportable concentrations of target compounds were not detected in the sample, no further corrective action was performed.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

OUB 38361

MAS I.D. # 821689

MultiChem
ANALYTICAL SERVICES

SAMPLE CROSS REFERENCE SHEET

CLIENT : URS GREINER/WOODWARD-CLYDE
PROJECT # : 74FOE9408U-5700
PROJECT NAME : OUB GW MONITORING

MAS #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
821689-1	99PRDA-007-WA	03/19/99	WATER
821689-2	99PRDA-008-WA	03/19/99	WATER
821689-3	99PRDA-009-WA	03/19/99	WATER
821689-4	99PRDA-010-WA	03/19/99	WATER
821689-5	99PRDA-011-WA	03/22/99	WATER
821689-6	99PRDA-012-WA	03/22/99	WATER
821689-7	99PRDA-013-WA	03/22/99	WATER
821689-8	99PRDA-014-WA	03/22/99	WATER
821689-9	99PRDA-015-WA	03/22/99	WATER
821689-10	99PRDA-016-WA	03/22/99	WATER
821689-11	99PRDA-017-WA	03/23/99	WATER
821689-12	99PRDA-018-WA	03/23/99	WATER
821689-13	99PRDA-019-WA	03/23/99	WATER
821689-14	99PRDA-020-WA	03/23/99	WATER
821689-15	99PRDA-021-WA	03/23/99	WATER
821689-16	TRIP BLANK	N/A	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	16

MAS STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

MAS I.D. # 321689

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ANALYTICAL SERVICES

ANALYTICAL SCHEDULE

CLIENT : URS GREINER/WOODWARD-CLYDE
PROJECT # : 74FOE9408U-5700
PROJECT NAME : OUB GW MONITORING

ANALYSIS	TECHNIQUE	REFERENCE	LAB
VOLATILE ORGANICS ANALYSIS	GCMS	EPA 8260A	R

R = MAS - Renton
ANC = MAS - Anchorage
SUB = Subcontract

MAS I.D. # 821689

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ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

MultiChem
ANALYTICAL SERVICES

MAS I.D. # 821689

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	109	81 - 130
TOLUENE-D8	99	80 - 120
BROMOFLUOROBENZENE	106	75 - 118

OUB 38365

MAS I.D. # 821689

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

OUB 38366

MAS I.D. # 821689

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	125	81 - 130
TOLUENE-D8	100	80 - 120
BROMOFLUOROBENZENE	100	75 - 118

MAS I.D. # 821689

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ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

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ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	122	81 - 130
TOLUENE-D8	100	80 - 120
BROMOFLUOROBENZENE	101	75 - 118

MAS I.D. # 821689

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ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 04/05/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

MAS I.D. # 821689

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ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 04/05/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	128	81 - 130
TOLUENE-D8	101	80 - 120
BROMOFLUOROBENZENE	102	75 - 118

MAS I.D. # 321689-1

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/19/99
PROJECT #	: 74F0E9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-007-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	4
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	35
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	18

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ANALYTICAL SERVICES

MAS I.D. # 821689-1

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/19/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-007-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	113	81 - 130
TOLUENE-D8	98	80 - 120
BROMOFLUOROBENZENE	110	75 - 118

MAS I.D. # 821689-2

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/19/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-008-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	2
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	13
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	110
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	80

MAS I.D. # 821689-2

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/19/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-008-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	116	81 - 130
TOLUENE-D8	95	80 - 120
BROMOFLUOROBENZENE	111	75 - 118

MAS I.D. # 821689-3

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/19/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-009-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUORCMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUORCMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	17
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	59

MAS I.D. # 821689-3

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/19/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-009-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	117	81 - 130
TOLUENE-D8	88	80 - 120
BROMOFLUOROBENZENE	108	75 - 118

OUB 38377

MAS I.D. # 921689-4

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/19/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-010-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	
DICHLORODIFLUOROMETHANE	<1	
CHLOROMETHANE	<5	
VINYL CHLORIDE	<1	
BROMOMETHANE	<1	
CHLOROETHANE	<1	
TRICHLOROFLUOROMETHANE	<1	
1,1-DICHLOROETHENE	<1	
METHYLENE CHLORIDE	<5	
TRANS-1,2-DICHLOROETHENE	10	
1,1-DICHLOROETHANE	<1	
CHLOROFORM	4	
CIS-1,2-DICHLOROETHENE	34	
BROMOCHLOROMETHANE	<1	
2,2-DICHLOROPROPANE	<1	
1,1,1-TRICHLOROETHANE	<1	
1,2-DICHLOROETHANE	<1	
1,1-DICHLOROPROPENE	<1	
CARBON TETRACHLORIDE	3	
BENZENE	<1	
DIBROMOMETHANE	<1	
1,2-DICHLOROPROPANE	<1	
TRICHLOROETHENE	730	D5
BROMODICHLOROMETHANE	<1	
CIS-1,3-DICHLOROPROPENE	<3	
TRANS-1,3-DICHLOROPROPENE	<3	
1,1,2-TRICHLOROETHANE	5	
TOLUENE	<1	
1,2-DIBROMOETHANE(EDB)	<1	
1,3-DICHLOROPROPANE	<1	
CHLORODIBROMOMETHANE	<2	
TETRACHLOROETHENE	6	
1,1,1,2-TETRACHLOROETHANE	<1	
CHLOROBENZENE	<1	
ETHYLBENZENE	<1	
BROMOFORM	<3	
STYRENE	<1	
TOTAL XYLENES	<1	
1,1,2,2-TETRACHLOROETHANE	12	

D5 = Value from a 20 fold diluted analysis.

MAS I.D. # 821689-4

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/19/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-010-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	118	81 - 130
TOLUENE-D8	89	80 - 120
BROMOFLUOROBENZENE	109	75 - 118

OUB 38379

MAS I.D. # 821689-5

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-011-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	2
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	58
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	19

MAS I.D. # 321689-5

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-011-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	121	81 - 130
TOLUENE-D8	90	80 - 120
BROMOFLUOROBENZENE	109	75 - 118

MAS I.D. # 321689-6

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-012-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	7
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	4

MAS I.D. # 821689-6

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-012-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	119	81 - 130
TOLUENE-D8	98	80 - 120
BROMOFLUOROBENZENE	109	75 - 118

OUB 38383

MAS I.D. # 321689-7

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-013-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	
DICHLORODIFLUOROMETHANE	<1	
CHLOROMETHANE	<5	
VINYL CHLORIDE	<1	
BROMOMETHANE	<1	
CHLOROETHANE	<1	
TRICHLOROFLUOROMETHANE	<1	
1,1-DICHLOROETHENE	<1	
METHYLENE CHLORIDE	<5	
TRANS-1,2-DICHLOROETHENE	6	
1,1-DICHLOROETHANE	<1	
CHLOROFORM	<1	
CIS-1,2-DICHLOROETHENE	14	
BROMOCHLOROMETHANE	<1	
2,2-DICHLOROPROPANE	<1	
1,1,1-TRICHLOROETHANE	<1	
1,2-DICHLOROETHANE	<1	
1,1-DICHLOROPROPENE	<1	
CARBON TETRACHLORIDE	<1	
BENZENE	<1	
DIBROMOMETHANE	<1	
1,2-DICHLOROPROPANE	<1	
TRICHLOROETHENE	280	D5
BROMODICHLOROMETHANE	<1	
CIS-1,3-DICHLOROPROPENE	<3	
TRANS-1,3-DICHLOROPROPENE	<3	
1,1,2-TRICHLOROETHANE	5	
TOLUENE	<1	
1,2-DIBROMOETHANE(EDB)	<1	
1,3-DICHLOROPROPANE	<1	
CHLORODIBROMOMETHANE	<2	
TETRACHLOROETHENE	7	
1,1,1,2-TETRACHLOROETHANE	<1	
CHLOROBENZENE	<1	
ETHYLBENZENE	<1	
BROMOFORM	<3	
STYRENE	<1	
TOTAL XYLENES	<1	
1,1,2,2-TETRACHLOROETHANE	690	D5

D5 = Value from a 20 fold diluted analysis.

MAS I.D. # 921689-7

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-013-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	120	81 - 130
TOLUENE-D8	92	80 - 120
BROMOFLUOROBENZENE	108	75 - 118

MAS I.D. # 821689-8

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-014-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	
DICHLORODIFLUOROMETHANE	<1	
CHLOROMETHANE	<5	
VINYL CHLORIDE	<1	
BROMOMETHANE	<1	
CHLOROETHANE	<1	
TRICHLOROFLUOROMETHANE	<1	
1,1-DICHLOROETHENE	<1	
METHYLENE CHLORIDE	<5	
TRANS-1,2-DICHLOROETHENE	5	
1,1-DICHLOROETHANE	<1	
CHLOROFORM	<1	
CIS-1,2-DICHLOROETHENE	11	
BROMOCHLOROMETHANE	<1	
2,2-DICHLOROPROPANE	<1	
1,1,1-TRICHLOROETHANE	<1	
1,2-DICHLOROETHANE	<1	
1,1-DICHLOROPROPENE	<1	
CARBON TETRACHLORIDE	<1	
BENZENE	<1	
DIBROMOMETHANE	<1	
1,2-DICHLOROPROPANE	<1	
TRICHLOROETHENE	250	D5
BROMODICHLOROMETHANE	<1	
CIS-1,3-DICHLOROPROPENE	<3	
TRANS-1,3-DICHLOROPROPENE	<3	
1,1,2-TRICHLOROETHANE	4	
TOLUENE	<1	
1,2-DIBROMOETHANE(EDB)	<1	
1,3-DICHLOROPROPANE	<1	
CHLORODIBROMOMETHANE	<2	
TETRACHLOROETHENE	6	
1,1,1,2-TETRACHLOROETHANE	<1	
CHLOROBENZENE	<1	
ETHYLBENZENE	<1	
BROMOFORM	<3	
STYRENE	<1	
TOTAL XYLENES	<1	
1,1,2,2-TETRACHLOROETHANE	680	D5

D5 = Value from a 20 fold diluted analysis.

MAS I.D. # 821689-8

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-014-WA	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	119	81 - 130
TOLUENE-D8	92	80 - 120
BROMOFLUOROBENZENE	109	75 - 118

OUB 38387

MAS I.D. # 821689-9

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-015-WA	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	
DICHLORODIFLUOROMETHANE	<1	
CHLOROMETHANE	<5	
VINYL CHLORIDE	<1	
BROMOMETHANE	<1	
CHLOROETHANE	<1	
TRICHLOROFLUOROMETHANE	<1	
1,1-DICHLOROETHENE	5	
METHYLENE CHLORIDE	<5	
TRANS-1,2-DICHLOROETHENE	75	
1,1-DICHLOROETHANE	<1	
CHLOROFORM	2	
CIS-1,2-DICHLOROETHENE	380	D5
BROMOCHLOROMETHANE	<1	
2,2-DICHLOROPROPANE	<1	
1,1,1-TRICHLOROETHANE	<1	
1,2-DICHLOROETHANE	<1	
1,1-DICHLOROPROPENE	<1	
CARBON TETRACHLORIDE	<1	
BENZENE	<1	
DIBROMOMETHANE	<1	
1,2-DICHLOROPROPANE	<1	
TRICHLOROETHENE	1100	D5
BROMODICHLOROMETHANE	<1	
CIS-1,3-DICHLOROPROPENE	<3	
TRANS-1,3-DICHLOROPROPENE	<3	
1,1,2-TRICHLOROETHANE	21	
TOLUENE	<1	
1,2-DIBROMOETHANE(EDB)	<1	
1,3-DICHLOROPROPANE	<1	
CHLORODIBROMOMETHANE	<2	
TETRACHLOROETHENE	4	
1,1,1,2-TETRACHLOROETHANE	<1	
CHLOROBENZENE	<1	
ETHYLBENZENE	<1	
BROMOFORM	<3	
STYRENE	<1	
TOTAL XYLENES	<1	
1,1,2,2-TETRACHLOROETHANE	950	D5

D5 = Value from a 20 fold diluted analysis.

MAS I.D. # 821689-9

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-015-WA	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	120	81 - 130
TOLUENE-D8	93	80 - 120
BROMOFLUOROBENZENE	109	75 - 118

OUB 38389

MAS I.D. # 821689-10

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-016-WA	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	
DICHLORODIFLUOROMETHANE	<1	
CHLOROMETHANE	<5	
VINYL CHLORIDE	<1	
BROMOMETHANE	<1	
CHLOROETHANE	<1	
TRICHLOROFLUOROMETHANE	<1	
1,1-DICHLOROETHENE	2	
METHYLENE CHLORIDE	<5	
TRANS-1,2-DICHLOROETHENE	60	
1,1-DICHLOROETHANE	<1	
CHLOROFORM	3	
CIS-1,2-DICHLOROETHENE	160	
BROMOCHLOROMETHANE	<1	
2,2-DICHLOROPROPANE	<1	
1,1,1-TRICHLOROETHANE	<1	
1,2-DICHLOROETHANE	<1	
1,1-DICHLOROPROPENE	<1	
CARBON TETRACHLORIDE	<1	
BENZENE	2	
DIBROMOMETHANE	<1	
1,2-DICHLOROPROPANE	<1	
TRICHLOROETHENE	740	D5
BROMODICHLOROMETHANE	<1	
CIS-1,3-DICHLOROPROPENE	<3	
TRANS-1,3-DICHLOROPROPENE	<3	
1,1,2-TRICHLOROETHANE	15	
TOLUENE	<1	
1,2-DIBROMOETHANE(EDB)	<1	
1,3-DICHLOROPROPANE	<1	
CHLORODIBROMOMETHANE	<2	
TETRACHLOROETHENE	13	
1,1,1,2-TETRACHLOROETHANE	<1	
CHLOROBENZENE	<1	
ETHYLBENZENE	<1	
BROMOFORM	<3	
STYRENE	<1	
TOTAL XYLENES	<1	
1,1,2,2-TETRACHLOROETHANE	1800	D5

D5 = Value from a 20 fold diluted analysis.

MultiChem
ANALYTICAL SERVICES

MAS I.D. # 821689-10

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/22/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-016-WA	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	121	81 - 130
TOLUENE-D8	89	80 - 120
BROMOFLUOROBENZENE	110	75 - 118

MAS I.D. # 821689-11

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/23/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-017-WA	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	
DICHLORODIFLUOROMETHANE	<1	
CHLOROMETHANE	<5	
VINYL CHLORIDE	2	
BROMOMETHANE	<1	
CHLOROETHANE	<1	
TRICHLOROFLUOROMETHANE	<1	
1,1-DICHLOROETHENE	18	
METHYLENE CHLORIDE	<5	
TRANS-1,2-DICHLOROETHENE	1100	D6
1,1-DICHLOROETHANE	<1	
CHLOROFORM	23	
CIS-1,2-DICHLOROETHENE	2400	D6
BROMOCHLOROMETHANE	<1	
2,2-DICHLOROPROPANE	<1	
1,1,1-TRICHLOROETHANE	<1	
1,2-DICHLOROETHANE	4	
1,1-DICHLOROPROPENE	<1	
CARBON TETRACHLORIDE	<1	
BENZENE	33	
DIBROMOMETHANE	<1	
1,2-DICHLOROPROPANE	<1	
TRICHLOROETHENE	12000	D0
BROMODICHLOROMETHANE	<1	
CIS-1,3-DICHLOROPROPENE	<3	
TRANS-1,3-DICHLOROPROPENE	<3	
1,1,2-TRICHLOROETHANE	180	D6
TOLUENE	<1	
1,2-DIBROMOETHANE(EDB)	<1	
1,3-DICHLOROPROPANE	<1	
CHLORODIBROMOMETHANE	<2	
TETRACHLOROETHENE	160	D6
1,1,1,2-TETRACHLOROETHANE	<1	
CHLOROBENZENE	<1	
ETHYLBENZENE	<1	
BROMOFORM	<3	
STYRENE	<1	
TOTAL XYLENES	<1	
1,1,2,2-TETRACHLOROETHANE	26000	D0

D6 = Value from a 50 fold diluted analysis.
D0 = Value from a 1000 fold diluted analysis.

MultiChem
ANALYTICAL SERVICES

MAS I.D. # 821689-11

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/23/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-017-WA	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	121	81 - 130
TOLUENE-D8	87	80 - 120
BROMOFLUOROBENZENE	104	75 - 118

MAS I.D. = 321689-12

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/23/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-018-WA	DATE ANALYZED	: 04/03/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 10

COMPOUNDS	RESULTS	
DICHLORODIFLUOROMETHANE	<10	
CHLOROMETHANE	<50	
VINYL CHLORIDE	<10	
BROMOMETHANE	<10	
CHLOROETHANE	<10	
TRICHLOROFLUOROMETHANE	<10	
1,1-DICHLOROETHENE	<10	
METHYLENE CHLORIDE	<50	
TRANS-1,2-DICHLOROETHENE	230	
1,1-DICHLOROETHANE	<10	
CHLOROFORM	<10	
CIS-1,2-DICHLOROETHENE	630	
BROMOCHLOROMETHANE	<10	
2,2-DICHLOROPROPANE	<10	
1,1,1-TRICHLOROETHANE	<10	
1,2-DICHLOROETHANE	<10	
1,1-DICHLOROPROPENE	<10	
CARBON TETRACHLORIDE	<10	
BENZENE	<10	
DIBROMOMETHANE	<10	
1,2-DICHLOROPROPANE	<10	
TRICHLOROETHENE	5400	D7
BROMODICHLOROMETHANE	<10	
CIS-1,3-DICHLOROPROPENE	<30	
TRANS-1,3-DICHLOROPROPENE	<30	
1,1,2-TRICHLOROETHANE	59	
TOLUENE	<10	
1,2-DIBROMOETHANE(EDB)	<10	
1,3-DICHLOROPROPANE	<10	
CHLORODIBROMOMETHANE	<20	
TETRACHLOROETHENE	60	
1,1,1,2-TETRACHLOROETHANE	<10	
CHLOROBENZENE	<10	
ETHYLBENZENE	<10	
BROMOFORM	<30	
STYRENE	<10	
TOTAL XYLENES	<10	
1,1,2,2-TETRACHLOROETHANE	10000	D7

D7 = Value from a 100 fold diluted analysis.

MultiChem
ANALYTICAL SERVICES

MAS I.D. # 821689-12

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/23/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-018-WA	DATE ANALYZED	: 04/03/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 10

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<10
ISOPROPYLBENZENE	<10
BROMOBENZENE	<10
N-PROPYLBENZENE	<10
2-CHLOROTOLUENE	<10
4-CHLOROTOLUENE	<10
1,3,5-TRIMETHYLBENZENE	<10
TERT-BUTYLBENZENE	<10
1,2,4-TRIMETHYLBENZENE	<10
SEC-BUTYLBENZENE	<10
1,3-DICHLOROBENZENE	<20
1,4-DICHLOROBENZENE	<20
P-ISOPROPYLTOLUENE	<20
1,2-DICHLOROBENZENE	<20
N-BUTYLBENZENE	<10
1,2-DIBROMO-3-CHLOROPROPANE	<30
1,2,4-TRICHLOROBENZENE	<50
NAPHTHALENE	<50
HEXACHLOROBUTADIENE	<30
1,2,3-TRICHLOROBENZENE	<50

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	122	81 - 130
TOLUENE-D8	100	80 - 120
BROMOFLUOROBENZENE	106	75 - 118

MAS I.D. # 821689-13

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/23/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-019-WA	DATE ANALYZED	: 04/03/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 10

COMPOUNDS	RESULTS	
DICHLORODIFLUOROMETHANE	<10	
CHLOROMETHANE	<50	
VINYL CHLORIDE	<10	
BROMOMETHANE	<10	
CHLOROETHANE	<10	
TRICHLOROFLUOROMETHANE	<10	
1,1-DICHLOROETHENE	<10	
METHYLENE CHLORIDE	<50	
TRANS-1,2-DICHLOROETHENE	340	
1,1-DICHLOROETHANE	<10	
CHLOROFORM	<10	
CIS-1,2-DICHLOROETHENE	640	
BROMOCHLOROMETHANE	<10	
2,2-DICHLOROPROPANE	<10	
1,1,1-TRICHLOROETHANE	<10	
1,2-DICHLOROETHANE	<10	
1,1-DICHLOROPROPENE	<10	
CARBON TETRACHLORIDE	<10	
BENZENE	<10	
DIBROMOMETHANE	<10	
1,2-DICHLOROPROPANE	<10	
TRICHLOROETHENE	5300	D7
BROMODICHLOROMETHANE	<10	
CIS-1,3-DICHLOROPROPENE	<30	
TRANS-1,3-DICHLOROPROPENE	<30	
1,1,2-TRICHLOROETHANE	59	
TOLUENE	<10	
1,2-DIBROMOETHANE(EDB)	<10	
1,3-DICHLOROPROPANE	<10	
CHLORODIBROMOMETHANE	<20	
TETRACHLOROETHENE	59	
1,1,1,2-TETRACHLOROETHANE	<10	
CHLOROBENZENE	<10	
ETHYLBENZENE	<10	
BROMOFORM	<30	
STYRENE	<10	
TOTAL XYLENES	<10	
1,1,2,2-TETRACHLOROETHANE	9900	D7

D7 = Value from a 100 fold diluted analysis.

MultiChem
ANALYTICAL SERVICES

MAS I.D. # 321689-13

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/23/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-019-WA	DATE ANALYZED	: 04/03/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 10

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<10
ISOPROPYLBENZENE	<10
BROMOBENZENE	<10
N-PROPYLBENZENE	<10
2-CHLOROTOLUENE	<10
4-CHLOROTOLUENE	<10
1,3,5-TRIMETHYLBENZENE	<10
TERT-BUTYLBENZENE	<10
1,2,4-TRIMETHYLBENZENE	<10
SEC-BUTYLBENZENE	<10
1,3-DICHLOROBENZENE	<20
1,4-DICHLOROBENZENE	<20
P-ISOPROPYLTOLUENE	<20
1,2-DICHLOROBENZENE	<20
N-BUTYLBENZENE	<10
1,2-DIBROMO-3-CHLOROPROPANE	<30
1,2,4-TRICHLOROBENZENE	<50
NAPHTHALENE	<50
HEXACHLOROBUTADIENE	<30
1,2,3-TRICHLOROBENZENE	<50

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	122	81 - 130
TOLUENE-D8	99	80 - 120
BROMOFLUOROBENZENE	108	75 - 118

OUB 38397

MAS I.D. # 821689-14

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/23/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-020-WA	DATE ANALYZED	: 04/05/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 10

COMPOUNDS	RESULTS	
DICHLORODIFLUOROMETHANE	<10	
CHLOROMETHANE	<50	
VINYL CHLORIDE	<10	
BROMOMETHANE	<10	
CHLOROETHANE	<10	
TRICHLOROFLUOROMETHANE	<10	
1,1-DICHLOROETHENE	<10	
METHYLENE CHLORIDE	<50	
TRANS-1,2-DICHLOROETHENE	60	
1,1-DICHLOROETHANE	<10	
CHLOROFORM	<10	
CIS-1,2-DICHLOROETHENE	180	
BROMOCHLOROMETHANE	<10	
2,2-DICHLOROPROPANE	<10	
1,1,1-TRICHLOROETHANE	<10	
1,2-DICHLOROETHANE	<10	
1,1-DICHLOROPROPENE	<10	
CARBON TETRACHLORIDE	<10	
BENZENE	<10	
DIBROMOMETHANE	<10	
1,2-DICHLOROPROPANE	<10	
TRICHLOROETHENE	1700	
BROMODICHLOROMETHANE	<10	
CIS-1,3-DICHLOROPROPENE	<30	
TRANS-1,3-DICHLOROPROPENE	<30	
1,1,2-TRICHLOROETHANE	<10	
TOLUENE	<10	
1,2-DIBROMOETHANE(EDB)	<10	
1,3-DICHLOROPROPANE	<10	
CHLORODIBROMOMETHANE	<20	
TETRACHLOROETHENE	62	
1,1,1,2-TETRACHLOROETHANE	<10	
CHLOROBENZENE	<10	
ETHYLBENZENE	<10	
BROMOFORM	<30	
STYRENE	<10	
TOTAL XYLENES	<10	
1,1,2,2-TETRACHLOROETHANE	2800	D7

D7 = Value from a 100 fold diluted analysis.

MAS I.D. # 821689-14

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/23/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-020-WA	DATE ANALYZED	: 04/05/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 10

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<10
ISOPROPYLBENZENE	<10
BROMOBENZENE	<10
N-PROPYLBENZENE	<10
2-CHLOROTOLUENE	<10
4-CHLOROTOLUENE	<10
1,3,5-TRIMETHYLBENZENE	<10
TERT-BUTYLBENZENE	<10
1,2,4-TRIMETHYLBENZENE	<10
SEC-BUTYLBENZENE	<10
1,3-DICHLOROBENZENE	<20
1,4-DICHLOROBENZENE	<20
P-ISOPROPYLTOLUENE	<20
1,2-DICHLOROBENZENE	<20
N-BUTYLBENZENE	<10
1,2-DIBROMO-3-CHLOROPROPANE	<30
1,2,4-TRICHLOROBENZENE	<50
NAPHTHALENE	<50
HEXACHLOROBUTADIENE	<30
1,2,3-TRICHLOROBENZENE	<50

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	130	81 - 130
TOLUENE-D8	101	80 - 120
BROMOFLUOROBENZENE	109	75 - 118

OUB 38399

MAS I.D. # 821689-15

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/23/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-021-WA	DATE ANALYZED	: 04/05/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 10

COMPOUNDS	RESULTS	
DICHLORODIFLUOROMETHANE	<10	
CHLOROMETHANE	<50	
VINYL CHLORIDE	<10	
BROMOMETHANE	<10	
CHLOROETHANE	<10	
TRICHLOROFLUOROMETHANE	<10	
1,1-DICHLOROETHENE	<10	
METHYLENE CHLORIDE	<50	
TRANS-1,2-DICHLOROETHENE	94	
1,1-DICHLOROETHANE	<10	
CHLOROFORM	<10	
CIS-1,2-DICHLOROETHENE	230	
BROMOCHLOROMETHANE	<10	
2,2-DICHLOROPROPANE	<10	
1,1,1-TRICHLOROETHANE	<10	
1,2-DICHLOROETHANE	<10	
1,1-DICHLOROPROPENE	<10	
CARBON TETRACHLORIDE	<10	
BENZENE	<10	
DIBROMOMETHANE	<10	
1,2-DICHLOROPROPANE	<10	
TRICHLOROETHENE	3100	D7
BROMODICHLOROMETHANE	<10	
CIS-1,3-DICHLOROPROPENE	<30	
TRANS-1,3-DICHLOROPROPENE	<30	
1,1,2-TRICHLOROETHANE	70	
TOLUENE	<10	
1,2-DIBROMOETHANE(EDB)	<10	
1,3-DICHLOROPROPANE	<10	
CHLORODIBROMOMETHANE	<20	
TETRACHLOROETHENE	72	
1,1,1,2-TETRACHLOROETHANE	<10	
CHLOROBENZENE	<10	
ETHYLBENZENE	<10	
BROMOFORM	<30	
STYRENE	<10	
TOTAL XYLENES	<10	
1,1,2,2-TETRACHLOROETHANE	17000	D7

D7 = Value from a 100 fold diluted analysis.

MAS I.D. # 821689-15

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: 03/23/99
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: 99PRDA-021-WA	DATE ANALYZED	: 04/05/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 10

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<10
ISOPROPYLBENZENE	<10
BROMOBENZENE	<10
N-PROPYLBENZENE	<10
2-CHLOROTOLUENE	<10
4-CHLOROTOLUENE	<10
1,3,5-TRIMETHYLBENZENE	<10
TERT-BUTYLBENZENE	<10
1,2,4-TRIMETHYLBENZENE	<10
SEC-BUTYLBENZENE	<10
1,3-DICHLOROBENZENE	<20
1,4-DICHLOROBENZENE	<20
P-ISOPROPYLTOLUENE	<20
1,2-DICHLOROBENZENE	<20
N-BUTYLBENZENE	<10
1,2-DIBROMO-3-CHLOROPROPANE	<30
1,2,4-TRICHLOROBENZENE	<50
NAPHTHALENE	<50
HEXACHLOROBUTADIENE	<30
1,2,3-TRICHLOROBENZENE	<50

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	128	81 - 130
TOLUENE-D8	99	80 - 120
BROMOFLUOROBENZENE	108	75 - 118

OUB 38401

MAS I.D. # 821689-16

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: TRIP BLANK	DATE ANALYZED	: 04/05/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<1
CHLOROMETHANE	<5
VINYL CHLORIDE	<1
BROMOMETHANE	<1
CHLOROETHANE	<1
TRICHLOROFLUOROMETHANE	<1
1,1-DICHLOROETHENE	<1
METHYLENE CHLORIDE	<5
TRANS-1,2-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
CHLOROFORM	<1
CIS-1,2-DICHLOROETHENE	<1
BROMOCHLOROMETHANE	<1
2,2-DICHLOROPROPANE	<1
1,1,1-TRICHLOROETHANE	<1
1,2-DICHLOROETHANE	<1
1,1-DICHLOROPROPENE	<1
CARBON TETRACHLORIDE	<1
BENZENE	<1
DIBROMOMETHANE	<1
1,2-DICHLOROPROPANE	<1
TRICHLOROETHENE	<1
BROMODICHLOROMETHANE	<1
CIS-1,3-DICHLOROPROPENE	<3
TRANS-1,3-DICHLOROPROPENE	<3
1,1,2-TRICHLOROETHANE	<1
TOLUENE	<1
1,2-DIBROMOETHANE(EDB)	<1
1,3-DICHLOROPROPANE	<1
CHLORODIBROMOMETHANE	<2
TETRACHLOROETHENE	<1
1,1,1,2-TETRACHLOROETHANE	<1
CHLOROBENZENE	<1
ETHYLBENZENE	<1
BROMOFORM	<3
STYRENE	<1
TOTAL XYLENES	<1
1,1,2,2-TETRACHLOROETHANE	<1

OUB 38402

MAS I.D. # 821689-16

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: URS GREINER/WOODWARD-CLYDE	DATE SAMPLED	: N/A
PROJECT #	: 74FOE9408U-5700	DATE RECEIVED	: 03/25/99
PROJECT NAME	: OUB GW MONITORING	DATE EXTRACTED	: N/A
CLIENT I.D.	: TRIP BLANK	DATE ANALYZED	: 04/05/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
1,2,3-TRICHLOROPROPANE	<1
ISOPROPYLBENZENE	<1
BROMOBENZENE	<1
N-PROPYLBENZENE	<1
2-CHLOROTOLUENE	<1
4-CHLOROTOLUENE	<1
1,3,5-TRIMETHYLBENZENE	<1
TERT-BUTYLBENZENE	<1
1,2,4-TRIMETHYLBENZENE	<1
SEC-BUTYLBENZENE	<1
1,3-DICHLOROBENZENE	<2
1,4-DICHLOROBENZENE	<2
P-ISOPROPYLTOLUENE	<2
1,2-DICHLOROBENZENE	<2
N-BUTYLBENZENE	<1
1,2-DIBROMO-3-CHLOROPROPANE	<3
1,2,4-TRICHLOROBENZENE	<5
NAPHTHALENE	<5
HEXACHLOROBUTADIENE	<3
1,2,3-TRICHLOROBENZENE	<5

SURROGATE PERCENT RECOVERY		LIMITS
1,2-DICHLOROETHANE-D4	132 H	81 - 130
TOLUENE-D8	99	80 - 120
BROMOFLUOROBENZENE	107	75 - 118

H = Out of limits.

OUB 38403

MAS I.D. # 821689

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: URS GREINER/WOODWARD-CLYDE	SAMPLE I.D. #	: BLANK
PROJECT #	: 74FOE9408U-5700	DATE EXTRACTED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE ANALYZED	: 04/01/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<1.00	50.0	49.4	99	N/A	N/A	N/A
BENZENE	<1.00	50.0	52.5	105	N/A	N/A	N/A
TRICHLOROETHENE	<1.00	50.0	46.7	93	N/A	N/A	N/A
TOLUENE	<1.00	50.0	51.3	103	N/A	N/A	N/A
CHLOROBENZENE	<1.00	50.0	51.1	102	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
1,1-DICHLOROETHENE	67 - 131	20
BENZENE	80 - 120	20
TRICHLOROETHENE	80 - 120	20
TOLUENE	80 - 125	20
CHLOROBENZENE	80 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
1,2-DICHLOROETHANE-D4	111	N/A	81 - 130
TOLUENE-D8	98	N/A	80 - 120
BROMOFLUOROBENZENE	105	N/A	75 - 118

MAS I.D. # 321689

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: URS GREINER/WOODWARD-CLYDE	SAMPLE I.D. #	: BLANK
PROJECT #	: 74FOE9408U-5700	DATE EXTRACTED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<1.00	50.0	52.2	104	N/A	N/A	N/A
BENZENE	<1.00	50.0	52.6	105	N/A	N/A	N/A
TRICHLOROETHENE	<1.00	50.0	49.3	99	N/A	N/A	N/A
TOLUENE	<1.00	50.0	52.9	106	N/A	N/A	N/A
CHLOROBENZENE	<1.00	50.0	48.7	97	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
1,1-DICHLOROETHENE	67 - 131	20
BENZENE	80 - 120	20
TRICHLOROETHENE	80 - 120	20
TOLUENE	80 - 125	20
CHLOROBENZENE	80 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
1,2-DICHLOROETHANE-D4	124	N/A	81 - 130
TOLUENE-D8	99	N/A	80 - 120
BROMOFLUOROBENZENE	101	N/A	75 - 118

MAS I.D. # 821689

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: URS GREINER/WOODWARD-CLYDE	SAMPLE I.D. #	: BLANK
PROJECT #	: 74FOE9408U-5700	DATE EXTRACTED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE ANALYZED	: 04/02/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<1.00	50.0	53.3	107	N/A	N/A	N/A
BENZENE	<1.00	50.0	53.6	107	N/A	N/A	N/A
TRICHLOROETHENE	<1.00	50.0	50.5	101	N/A	N/A	N/A
TOLUENE	<1.00	50.0	54.4	109	N/A	N/A	N/A
CHLOROBENZENE	<1.00	50.0	51.1	102	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
1,1-DICHLOROETHENE	67 - 131	20
BENZENE	80 - 120	20
TRICHLOROETHENE	80 - 120	20
TOLUENE	80 - 125	20
CHLOROBENZENE	80 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
1,2-DICHLOROETHANE-D4	121	N/A	81 - 130
TOLUENE-D8	99	N/A	80 - 120
BROMOFLUOROBENZENE	99	N/A	75 - 118

OUB 38406

MAS I.D. # 821689

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: URS GREINER/WOODWARD-CLYDE	SAMPLE I.D. #	: BLANK
PROJECT #	: 74FOE9408U-5700	DATE EXTRACTED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE ANALYZED	: 04/05/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<1.00	50.0	46.9	94	N/A	N/A	N/A
BENZENE	<1.00	50.0	50.4	101	N/A	N/A	N/A
TRICHLOROETHENE	<1.00	50.0	48.1	96	N/A	N/A	N/A
TOLUENE	<1.00	50.0	52.3	105	N/A	N/A	N/A
CHLOROBENZENE	<1.00	50.0	47.1	94	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
1,1-DICHLOROETHENE	67 - 131	20
BENZENE	80 - 120	20
TRICHLOROETHENE	80 - 120	20
TOLUENE	80 - 125	20
CHLOROBENZENE	80 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
1,2-DICHLOROETHANE-D4	129	N/A	81 - 130
TOLUENE-D8	101	N/A	80 - 120
BROMOFLUOROBENZENE	100	N/A	75 - 118

OUB 38407

MAS I.D. # 821689

MultiChem
ANALYTICAL SERVICES

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: URS GREINER/WOODWARD-CLYDE	SAMPLE I.D. #	: 821689-14
PROJECT #	: 74FOE9408U-5700	DATE EXTRACTED	: N/A
PROJECT NAME	: OUB GW MONITORING	DATE ANALYZED	: 04/05/99
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8260A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<10.0	500	412	82	395	79	4
BENZENE	<10.0	500	484	97	480	96	1
TRICHLOROETHENE	1650	500	1750	20G	1720	14G	2
TOLUENE	<10.0	500	488	98	477	95	2
CHLOROBENZENE	<10.0	500	457	91	441	88	4

CONTROL LIMITS	% REC.	RPD
1,1-DICHLOROETHENE	72 - 137	20
BENZENE	80 - 133	20
TRICHLOROETHENE	79 - 120	20
TOLUENE	72 - 137	20
CHLOROBENZENE	80 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
1,2-DICHLOROETHANE-D4	133 H	130	81 - 130
TOLUENE-D8	101	100	80 - 120
BROMOFLUOROBENZENE	106	109	75 - 118

G = Out of limits due to high levels of target analytes in sample.
H = Out of limits.