

Release 3983
S. Seattle Auto Auction
Kent

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**REPORT OF FINDINGS:
Quarterly Groundwater Monitoring
June 1994**

**South Seattle Auto Auction
19443 77th Avenue South
Kent, Washington**

Conducted for:

**South Seattle Auto Auction
19443 77th Avenue South
Kent, Washington**

Project Number: 572-34-261

August 17, 1994



Professional Service Industries, Inc.

12812 Northeast Marx Street, Portland, Oregon 97230
Phone (503) 254-8418 Fax (503) 252-5608

entered 9/8/95
4/14/03 -cm 4/14/03

INTRODUCTION

General

This report presents the findings of PSI Project # 572-34-261. This project provides for groundwater monitoring services relating to the previous release from the former underground storage tank (UST) system at the South Seattle Auto Auction facility located at 19443 77th Avenue South in Kent, Washington. This report presents the results of the second quarterly monitoring event conducted in February 1994.

Authorization

Authorization to perform the work was given in the form of a signed PSI proposal (572-34-261), dated October 19, 1993 between Professional Service Industries, Inc. and Ms. Linda P. Morris of Manheim Auctions, Inc.

Purpose/Scope of Services

The purpose of the investigation was to perform quarterly groundwater monitoring, sample collection and analysis, and report preparation associated with the previous release of petroleum hydrocarbons to groundwater at the South Seattle Auto Auction facility.

Quality Assurance/Quality Control (QA/QC)

All sampling and testing was performed in general accordance with EPA and State of Washington Department of Ecology approved methodologies. These methods are described in the PSI environmental analytical QA/QC program. This program is in compliance with various environmental regulatory agency policies and guidelines.

Project Background

The Washington Department of Ecology requires periodic monitoring of sites at which groundwater has been impacted by a release of petroleum hydrocarbons from underground storage tanks (USTs). A release of petroleum hydrocarbons was documented in October 1992 during the decommissioning of the former UST system at the South Seattle Auto Auction facility in Kent, Washington. Refer to the UST Closure Report dated February 19, 1993 prepared by PSI for details of UST closure.

The South Seattle Auto Auction site has ten (10) groundwater monitoring wells located adjacent to the auto shop complex at the southern end of the auto auction site. Quarterly groundwater monitoring was performed to assess the current status of hydrocarbon migration, dispersion, and possible decomposition of dissolved-phase petroleum hydrocarbons. A preliminary groundwater monitoring event was conducted in April 1993, immediately following installation of the first seven (7) groundwater monitoring wells. The results of the initial groundwater monitoring event indicated that impacts to groundwater had occurred at the site; petroleum hydrocarbons were detected in all seven site wells. Accordingly, three additional monitoring wells were installed in October 1993 to completely define the extent of the hydrocarbon plume. Details of monitoring well installation and initial groundwater monitoring were presented in the Site Characterization Report of Findings dated December 31, 1993.

JUNE 1994 GROUNDWATER MONITORING EVENT

Groundwater Sampling and Analysis

On June 10, 1994, a representative of PSI obtained fluid-level measurements and collected representative groundwater samples from the ten monitoring wells at the site. Monitoring wells were purged of three well volumes prior to collecting groundwater samples. Water samples were collected with disposable PVC bailers and transferred into zero-headspace 40-ml VOA vials with Teflon septums for BTEX analysis by EPA Method 8020 and Total Petroleum Hydrocarbons - Gasoline Range (TPH-G) using Washington DOE prescribed methods. One-liter amber bottles were used for total dissolved lead analysis using EPA Method 7421. The equipment used to purge the wells was decontaminated between sampling events with an Alconox wash followed by a tap water rinse and a distilled water rinse. The samples were preserved with hydrochloric acid (except the lead samples), chilled, and transported, accompanied by a Chain-of-Custody form, to PSI Laboratories, Inc. The results of the groundwater analysis are summarized in Table 1 below. Refer to the attached Laboratory Reports and Chain-of-Custody Records for the method detection limits. The attached Monitoring Well Summary provides details on groundwater monitoring well construction and sampling for the June 1994 groundwater monitoring event.

Table 1
Analytical Results for Groundwater Samples Collected from Site Monitoring Wells -
June 10, 1994 - South Seattle Auto Auction, Kent, Washington

Sample ID	TPH-G (mg/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	Dissolved Pb (ug/l)
Regulatory Limit	1	5	40	30	20	5
MW-1	2	540	ND	ND	240	9
MW-2	120	21,000	16,000	1,800	9,100	2
MW-3	18	500	260	630	2,200	7
MW-4	ND	9.3	ND	ND	ND	11
MW-5	ND	ND	ND	ND	ND	12
MW-6	470	38,000	59,000	6,400	44,000	7
MW-7	ND	ND	ND	ND	ND	6
MW-8	ND	ND	ND	ND	ND	8
MW-9	ND	ND	ND	ND	ND	6
MW-10	ND	1.3	ND	ND	ND	10

Notes: mg/l = parts per million (ppm).
 ug/l = parts per billion (ppb).
 ND = Sample concentration below the detection limit for this analyte.
 Refer to the laboratory reports for laboratory detection limits and method
 numbers.
 Values in boldface are in excess of applicable regulatory standards.

The above data indicates that the maximum petroleum hydrocarbon concentrations are present in monitoring wells MW-2, MW-3, and MW-6 located immediately northeast of the former UST cavity. The lateral limits of petroleum hydrocarbon impacts to site groundwater are defined; groundwater samples from perimeter monitoring wells (MW-5, MW-8 and MW-9) did not contain detectable concentrations of petroleum concentrations. Low levels of benzene were detected in MW-10 which is the southernmost well at the site. Hydrocarbons were not detected in this well during the November 1993 monitoring event. This indicates migration of the contaminant plume

to the south. Free phase petroleum hydrocarbon were observed in MW-6 prior to purging of well water.

Dissolved lead was detected in the groundwater samples collected from all monitoring wells at the site. Each of these samples with the exception of that taken at MW-9 are in close proximity to the original tank excavation. Previously dissolved lead had only been detected in MW-2, MW-3, MW-5, MW-6 and MW-9. It is currently unknown whether detection of this compound is contaminant related or due to soil chemistry at the site.

TPH-G and benzene isoconcentration contour maps were constructed using data from the June 1994 monitoring event (Figures 1 and 2 respectively). As shown on the figures, groundwater concentrations are highest in monitoring well MW-6 adjacent to the northeast corner of the UST excavation. Groundwater concentrations generally decrease with distance from this point. The elongate plume extends to the northeast from this point. The areal extent and magnitude of the plume has expanded beyond that indicated by the November 1993 and February 1994 monitoring events.

Groundwater elevation data from this and the two previous sampling events suggests that the groundwater gradient in the site vicinity undergoes a seasonal, oscillatory change of direction from the northeast to the northwest and back again. This may be a response to precipitation rates and the proximity of the monitoring wells to the drainage ditch to the west of the site.

Washington Department of Ecology Cleanup Standards

The primary statute governing cleanup of releases from UST sites in Washington is the Model Toxic Control Act (MTCA), Chapter 70.105D of the Revised Code of Washington (RCW). As implemented by Part VII of Chapter 173-340 WAC, three methods are available for establishing cleanup levels for leaking underground storage tank (LUST) sites. Method A Tables provide conservative cleanup standards applicable to most routine soil and groundwater cleanup actions.

Where Method A Cleanup Standards are not appropriate (at large, complex sites or where multiple contaminant types are present), Method B establishes a matrix evaluation procedure which is designed to be protective of site groundwater. At sites where neither Method A or B are technically feasible, a site-specific risk assessment may be performed to establish Method C Cleanup Standards.

For the South Seattle Auto Auction, the Method A Cleanup Standards apply for the following reasons:

- 1) UST system history and data collected during the UST decommissioning and soil excavation phases conducted to date indicate that a single contaminant, gasoline, has been released at the subject site.
- 2) Impacted soil and groundwater appear to be limited to the immediate vicinity of the UST cavity.
- 3) Based on the data collected to date, the site appears well-suited to standard remediation techniques for leaking underground storage tank sites.

The Method A Cleanup Standards for soil and groundwater are presented in Table 2 below.

<p style="text-align: center;">Table 2 Washington Department of Ecology Method A Cleanup Standards</p>			
Hazardous Substance		Cleanup Level	
		Soil	Groundwater
Total Petroleum Hydrocarbons	Gasoline	100 ppm	1 ppm
	Diesel & Heavy Oils	200 ppm	1 ppm
Benzene		500 ppb	5 ppb
Toluene		40,000 ppb	40 ppb
Ethylbenzene		20,000 ppb	30 ppb
Xylenes		20,000 ppb	20 ppb
Total Lead		250 ppm	5 ppb
<p>NOTES: ppm - parts per million (mg/kg or mg/l) ppb - parts per billion (ug/kg or ug/l)</p>			

A comparison of the regulatory limits for petroleum hydrocarbons and related compounds from Table 1 above to the groundwater concentrations in site monitoring wells indicates that five (5)

of the monitoring wells contain hydrocarbon concentrations which exceed the Method A Cleanup Standards for the June 1994 monitoring event. The present extent of groundwater with dissolved-phase petroleum hydrocarbon concentrations above the Method A Cleanup Standards is displayed as the bold contour on Figures 1 and 2 attached. The concentration of lead detected in monitoring wells MW-2, MW-3, MW-5, MW-6 and MW-9 are above the Method A Cleanup Standards.

Groundwater Level Monitoring

Fluid-levels in each well were measured to the nearest 0.01-foot before purging using an electronic probe. Free-phase petroleum hydrocarbons were encountered in MW-6 (approximately 3 inches in depth) prior to purging that well, however no free phase petroleum hydrocarbons were observed after purging. Water-level elevations were calculated using survey data and measurements from the November 1993 fluid-level monitoring. These data did not indicate a consistent groundwater flow direction at the site. The system appears to be quite complex from a hydrogeologic standpoint for the following reasons:

- 1) The presence of the drainage ditch to the west of the UST excavation. Visual observations indicate the level of water flowing within the ditch fluctuates on a daily basis. The ditch has not been observed dry to date.
- 2) The results of the UST Closure and Site Characterization investigations indicate the drainage ditch may be in direct hydrologic connection with the UST excavation due to the position of the sand zone from approximately 2.5 to 6.5 feet below the surface grade at the subject site. This connection was suspected during the excavation of the UST pit due to the fast recharge of groundwater within the excavation.
- 3) The close proximity of some monitoring wells to the UST excavation, the drainage ditch, and subsurface utility lines may be influencing the level of groundwater in the wells. This coupled with the high groundwater levels during groundwater monitoring events (in some cases above the monitoring well screen), indicates that groundwater data collected in the vicinity of the UST excavation may not consistently reflect the regional gradient.

Fluid-level measurements were again collected on February 4, 1994. These data indicated a more consistent groundwater flow direction to the northeast at the subject site. Refer to Figure 3, Groundwater Contour Map, for a graphical representation of the water-level elevation data collected. This direction is in the same general topographic gradient in the vicinity of the subject site and is consistent with the results of the groundwater sample analysis data presented in Figures 1 and 2.

Fluid level measurements were collected in June 1994. These data indicate that the groundwater

gradient undergoes a seasonal direction shift from the northeast to the northwest. This may be in response to the decreased summertime precipitation rates and the proximity of the site to the drainage ditch to the west.

SUMMARY AND CONCLUSIONS

Petroleum hydrocarbons were detected above applicable regulatory limits in seven (7) site monitoring wells during the February 1994 sampling event. The horizontal extent of impacted groundwater is presently defined at the subject site; perimeter wells did not contain detectable concentrations of gasoline-range petroleum hydrocarbons with the exception of MW-10 to the south which contained low benzene concentrations. Dissolved lead was detected at concentrations above applicable regulatory limits in groundwater samples in all but monitoring well MW-2. The groundwater concentration and elevation data indicates a northeast groundwater flow direction.

PSI appreciates the opportunity to provide South Seattle Auto Auction, Inc. with groundwater monitoring services. The fourth quarterly groundwater monitoring event is scheduled for September, 1994. If you have any questions, please do not hesitate to call.

Respectfully submitted,


PROFESSIONAL SERVICE INDUSTRIES, INC.

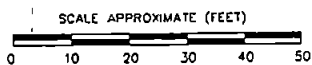
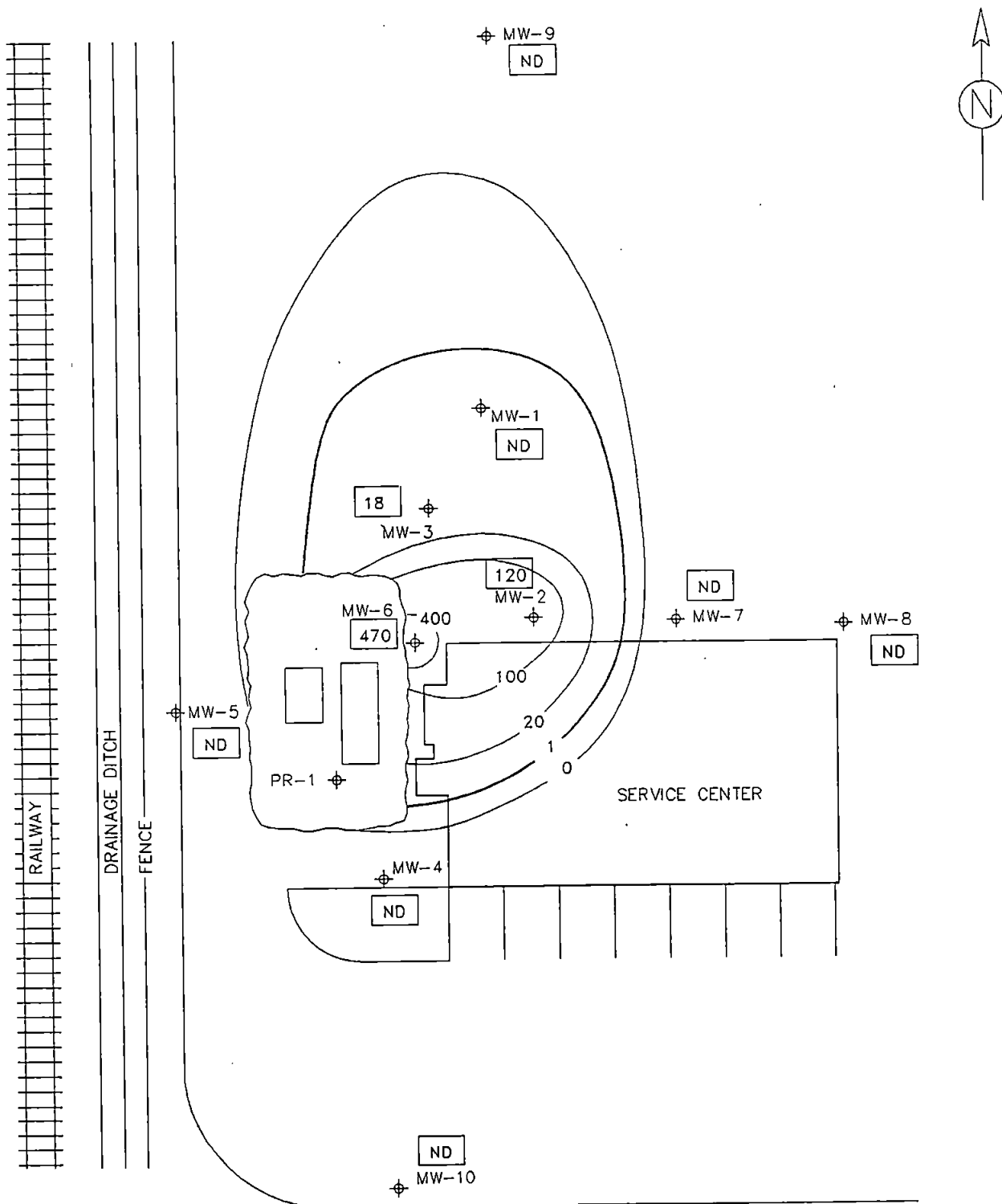
Gil Cobb, R.G.
Project Geologist

Attachments: Figure 1 - TPH-G Isoconcentration Contour Map for Site Monitoring Wells - February 1994

 Figure 2 - Benzene Isoconcentration Contour Map for Site Monitoring Wells - February 1994

 Figure 3 - Site Detail Showing Groundwater Elevations and Contours for Site Monitoring Wells -February 1994

 Laboratory Reports/Chain of Custody Forms



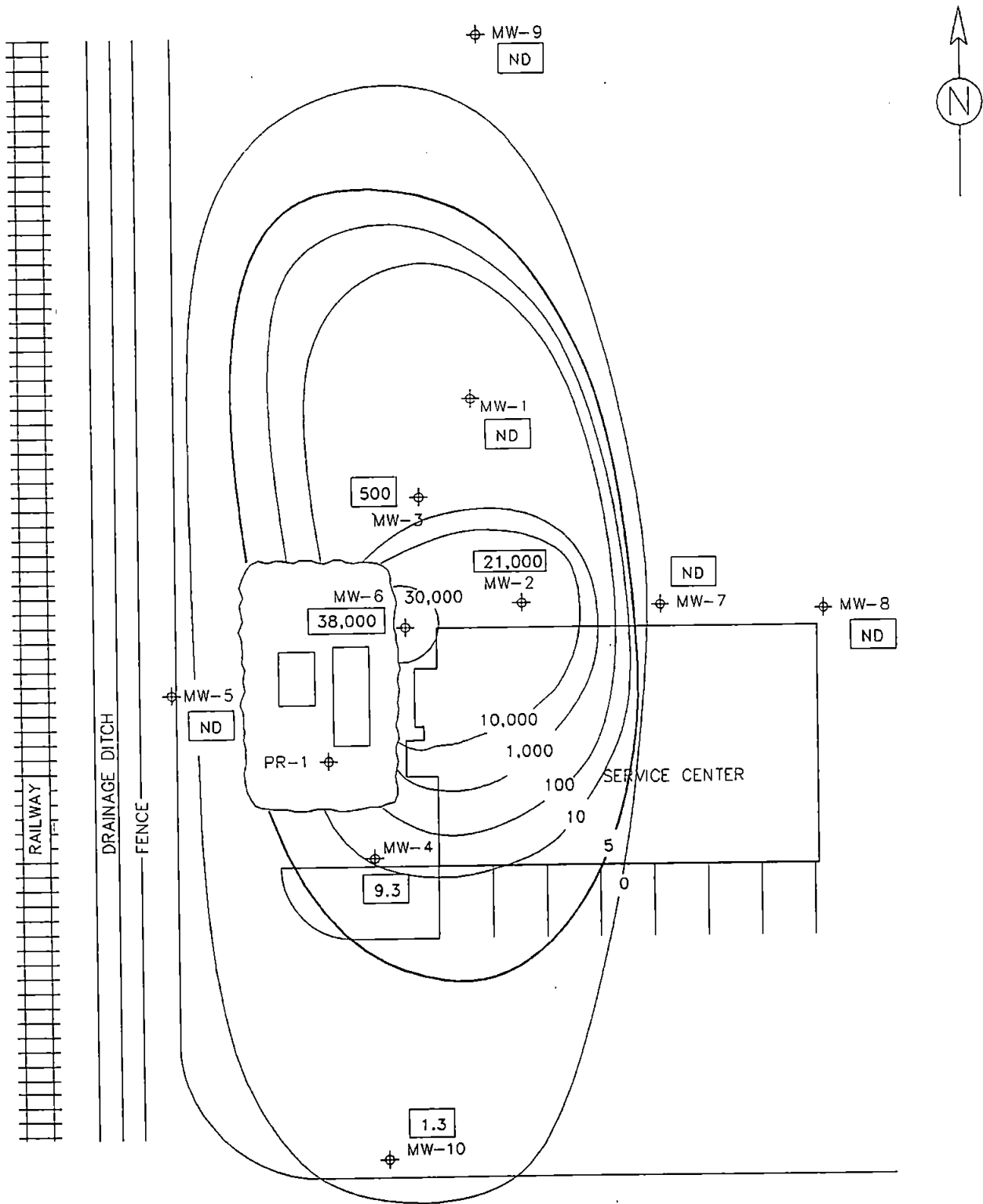
LEGEND	
⊕ MW-1	MONITORING WELL
—20—	TPH-G CONCENTRATION IN ppm
ND	BELOW LABRATORY DETECTION LIMIT

PSI 12812 NE MARX STREET PORTLAND, OREGON 97230	
DESIGNED BY: M. HAUSER	CHECKED BY: M. HAUSER
DRAWN BY: M. JACKSON	DATE: AUGUST 16, 1994

GROUNDWATER TPH-G ISOCONCENTRATION
 CONTOUR MAP FOR SITE MONITORING
 WELLS- JUNE, 1994

SOUTH SEATTLE AUTO AUCTION
 KENT, WASHINGTON

PROJECT NO. 572-34261
FILE: 34261TPH
FIGURE 1



SCALE APPROXIMATE (FEET)

0 10 20 30 40 50

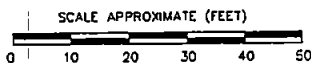
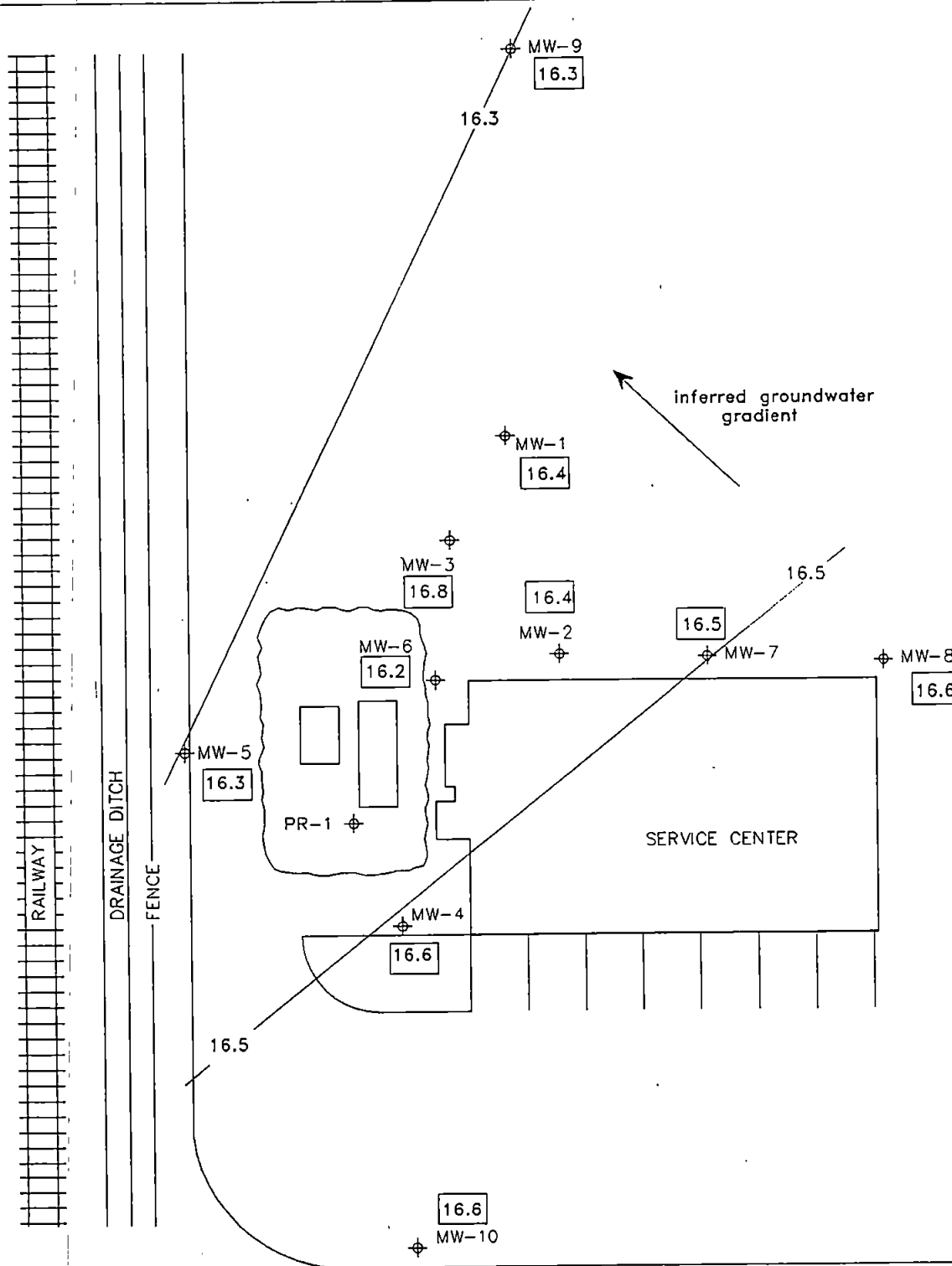
LEGEND	
⊕ MW-1	MONITORING WELL
— 10 —	BENZENE ISO- CONCENTRATION IN PPM
ND	BELOW LABRATORY DETECTION LIMIT

ipsi 12812 NE MARX STREET PORTLAND, OREGON 97230	
DESIGNED BY: M. HAUSER	CHECKED BY: M. HAUSER
DRAWN BY: M. JACKSON	DATE: AUGUST 16, 1994

GROUNDWATER BENZENE
ISOCONCENTRATION CONTOUR MAP
FOR SITE MONITORING WELLS
JUNE, 1994

SOUTH SEATTLE AUTO AUCTION
KENT, WASHINGTON

PROJECT NO. 572-34261
FILE: 34261BEN
FIGURE 2



LEGEND	
	MW-1 MONITORING WELL
	16.5 GROUNDWATER ELEVATION IN FEET

12812 NE MARK STREET PORTLAND, OREGON 97230	
DESIGNED BY: M. HAUSER	CHECKED BY: M. HAUSER
DRAWN BY: M. JACKSON	DATE: AUGUST 16, 1994

SITE DETAIL SHOWING
GROUNDWATER ELEVATION & CONTOURS
FOR SITE MONITORING WELLS
JUNE, 1994

SOUTH SEATTLE AUTO AUCTION
KENT, WASHINGTON

PROJECT NO. 572-34261
FILE: 34261GWC
FIGURE 3



Professional Service Industries, Inc.

ANALYTICAL REPORT

TESTED FOR: Professional Service Industries, Inc.
12812 NE Marx
Portland, OR 97230

PROJECT: South Seattle Auto Auction
PROJECT NUMBER: 572-34-261
PAGE: 1

ATTENTION: Bill McCulloch

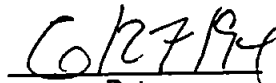
DATE: June 27, 1994

OUR REPORT NUMBER: 5940P572-35708

Attached, please find our analytical report for samples described on the Chain-of-Custody Record. Please reference our report number and direct any questions regarding this report to the individual designated below or to one of our Customer Service Representatives.



Lawrence Environmental
Chemistry Manager



Date

Respectfully Submitted,
Professional Service Industries, Inc.

PROFESSIONAL SERVICE INDUSTRIES, INC.
4820 West 15th St., Lawrence, KS 66049

PROJECT: South Seattle Auto Auction
PROJECT NUMBER: 572-34-261
PAGE: 2

Batch #: 35708
Matrix: Water

Analyte	Results	Units	Method	Analysis Date	Analyst	MDL
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Client Sample #: SSAA/MW-9/6/10/94
Our Sample #: 834838

Lead	0.006	mg/L	239.2	6-21-94	RK	0.001
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BTEX

Benzene	<1.0	ug/L	8020	6-23-94	TS	1.0
Toluene	<1.0	ug/L	8020	6-23-94	TS	1.0
Ethylbenzene	<1.0	ug/L	8020	6-23-94	TS	1.0
Xylenes	<1.0	ug/L	8020	6-23-94	TS	1.0

Surrogate Recovery = 84%

TPH - PURGEABLE

Gasoline Range	<0.1	mg/kg	5030/8015	6-23-94	TS	0.1
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Surrogate Recovery = 76%

Client Sample #: SSAA/MW-1/6/10/94
Our Sample #: 834839

Lead	0.009	mg/L	239.2	6-21-94	RK	0.001
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BTEX

Benzene	540	ug/L	8020	6-24-94	TS	25
Toluene	<12.5	ug/L	8020	6-24-94	TS	12.5
Ethylbenzene	<12.5	ug/L	8020	6-24-94	TS	12.5
Xylenes	240	ug/L	8020	6-24-94	TS	25

Surrogate Recovery = 86%

TPH - PURGEABLE

Gasoline Range	2.0	mg/kg	5030/8015	6-23-94	TS	1.25
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Surrogate Recovery = 90%

PROFESSIONAL SERVICE INDUSTRIES, INC.
4820 West 15th St., Lawrence, KS 66049

PROJECT: South Seattle Auto Auction
PROJECT NUMBER: 572-34-261
PAGE: 3

Batch #: 35708
Matrix: Water

Analyte	Results	Units	Method	Analysis Date	Analyst	MDL
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Client Sample #: SSAA/MW-8/6/10/94
Our Sample #: 834840

Lead	0.008	mg/L	239.2	6-21-94	RK	0.001
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BTEX

Benzene	<1.0	ug/L	8020	6-24-94	TS	1.0
Toluene	<1.0	ug/L	8020	6-24-94	TS	1.0
Ethylbenzene	<1.0	ug/L	8020	6-24-94	TS	1.0
Xylenes	<1.0	ug/L	8020	6-24-94	TS	1.0

Surrogate Recovery = 92%

TPH - PURGEABLE

Gasoline Range	<0.1	mg/kg	5030/8015	6-23-94	TS	0.1
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Surrogate Recovery = 85%

Client Sample #: SSAA/MW-7/6/10/94
Our Sample #: 834841

Lead	0.006	mg/L	239.2	6-21-94	RK	0.001
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BTEX

Benzene	<1.0	ug/L	8020	6-24-94	TS	1.0
Toluene	<1.0	ug/L	8020	6-24-94	TS	1.0
Ethylbenzene	<1.0	ug/L	8020	6-24-94	TS	1.0
Xylenes	<1.0	ug/L	8020	6-24-94	TS	1.0

Surrogate Recovery = 90%

TPH - PURGEABLE

Gasoline Range	<0.1	mg/kg	5030/8015	6-23-94	TS	0.1
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Surrogate Recovery = 93%

PROFESSIONAL SERVICE INDUSTRIES, INC.
4820 West 15th St., Lawrence, KS 66049

PROJECT: South Seattle Auto Auction
PROJECT NUMBER: 572-34-261
PAGE: 4

Batch #: 35708
Matrix: Water

Analyte	Results	Units	Method	Analysis Date	Analyst	MDL
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Client Sample #: SSAA/MW-5/6/10/94
Our Sample #: 834842

Lead	0.012	mg/L	239.2	6-21-94	RK	0.001
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BTEX

Benzene	<1.0	ug/L	8020	6-24-94	TS	1.0
Toluene	<1.0	ug/L	8020	6-24-94	TS	1.0
Ethylbenzene	<1.0	ug/L	8020	6-24-94	TS	1.0
Xylenes	<1.0	ug/L	8020	6-24-94	TS	1.0

Surrogate Recovery = 81%

TPH - PURGEABLE

Gasoline Range	<0.1	mg/kg	5030/8015	6-23-94	TS	0.1
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Surrogate Recovery = 68%

Client Sample #: SSAA/MW-10/6/10/94
Our Sample #: 834843

Lead	0.010	mg/L	239.2	6-21-94	RK	0.001
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BTEX

Benzene	1.3	ug/L	8020	6-24-94	TS	1.0
Toluene	<1.0	ug/L	8020	6-24-94	TS	1.0
Ethylbenzene	<1.0	ug/L	8020	6-24-94	TS	1.0
Xylenes	<1.0	ug/L	8020	6-24-94	TS	1.0

Surrogate Recovery = 97%

TPH - PURGEABLE

Gasoline Range	<0.1	mg/kg	5030/8015	6-23-94	TS	0.1
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Surrogate Recovery = 88%

PROFESSIONAL SERVICE INDUSTRIES, INC.
4820 West 15th St., Lawrence, KS 66049

PROJECT: South Seattle Auto Auction
PROJECT NUMBER: 572-34-261
PAGE: 5

Batch #: 35708
Matrix: Water

Analyte	Results	Units	Method	Analysis Date	Analyst	MDL
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Client Sample #: SSAA/MW-4/6/10/94
Our Sample #: 834844

Lead	0.011	mg/L	239.2	6-21-94	RK	0.001
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BTEX

Benzene	9.3	ug/L	8020	6-24-94	TS	1.0
Toluene	<1.0	ug/L	8020	6-24-94	TS	1.0
Ethylbenzene	<1.0	ug/L	8020	6-24-94	TS	1.0
Xylenes	<1.0	ug/L	8020	6-24-94	TS	1.0

Surrogate Recovery = 81%

TPH - PURGEABLE

Gasoline Range	<0.1	mg/kg	5030/8015	6-23-94	TS	0.1
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Surrogate Recovery = 77%

Client Sample #: SSAA/MW-3/6/10/94
Our Sample #: 834845

Lead	0.007	mg/L	239.2	6-21-94	RK	0.001
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BTEX

Benzene	500	ug/L	8020	6-24-94	TS	50
Toluene	260	ug/L	8020	6-24-94	TS	50
Ethylbenzene	630	ug/L	8020	6-24-94	TS	50
Xylenes	2,200	ug/L	8020	6-24-94	TS	50

Surrogate Recovery = 69%

TPH - PURGEABLE

Gasoline Range	18	mg/kg	5030/8015	6-23-94	TS	5.0
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Surrogate Recovery = 70%

PROFESSIONAL SERVICE INDUSTRIES, INC.
4820 West 15th St., Lawrence, KS 66049

PROJECT: South Seattle Auto Auction
PROJECT NUMBER: 572-34-261
PAGE: 6

Batch #: 35708

Matrix: Water

Analyte	Results	Units	Method	Analysis Date	Analyst	MDL
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Client Sample #: SSAA/MW-2/6/10/94

Our Sample #: 834846

Lead	0.002	mg/L	239.2	6-21-94	RK	0.001
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BTEX

Benzene	21,000	ug/L	8020	6-24-94	TS	1,000
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Toluene	16,000	ug/L	8020	6-24-94	TS	1,000
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Ethylbenzene	1,800	ug/L	8020	6-24-94	TS	1,000
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Xylenes	9,100	ug/L	8020	6-24-94	TS	1,000
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Surrogate Recovery = 75%

TPH - PURGEABLE

Gasoline Range	120	mg/kg	5030/8015	6-24-94	TS	100
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Surrogate Recovery = 75%

Client Sample #: SSAA/MW-6/6/10/94

Our Sample #: 834847

Lead	0.007	mg/L	239.2	6-21-94	RK	0.001
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BTEX

Benzene	38,000	ug/L	8020	6-24-94	TS	2,500
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Toluene	59,000	ug/L	8020	6-24-94	TS	2,500
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Ethylbenzene	6,400	ug/L	8020	6-24-94	TS	2,500
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Xylenes	44,000	ug/L	8020	6-24-94	TS	2,500
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Surrogate Recovery = 82%

TPH - PURGEABLE

Gasoline Range	470	mg/kg	5030/8015	6-24-94	TS	250
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Surrogate Recovery = 88%

4820 West 15th St., Lawrence, KS 66049

PROJECT NUMBER: 572-34-261

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Matrix: Water

Analyte	Results	Units	Method	Analysis Date	Analyst	MDL
Method Blank						
BTEX						
Benzene	<1.0	ug/L	8020	6-23-94	TS	1.0
Toluene	<1.0	ug/L	8020	6-23-94	TS	1.0
Ethylbenzene	<1.0	ug/L	8020	6-23-94	TS	1.0
Xylenes	<1.0	ug/L	8020	6-23-94	TS	1.0
Surrogate Recovery = 100%						
BTEX						
Benzene	<1.0	ug/L	8020	6-24-94	TS	1.0
Toluene	<1.0	ug/L	8020	6-24-94	TS	1.0
Ethylbenzene	<1.0	ug/L	8020	6-24-94	TS	1.0
Xylenes	<1.0	ug/L	8020	6-24-94	TS	1.0
Surrogate Recovery = 96%						
TPH - PURGEABLE						
Gasoline Range	<0.1	mg/kg	5030/8015	6-24-94	TS	0.1
Surrogate Recovery = 97%						

PROFESSIONAL SERVICE INDUSTRIES, INC.
4820 West 15th St., Lawrence, KS 66049

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PAGE: 8

Batch #: 35708
Matrix: Water

CLIENT # (LAB#)	ANALYTE	PERCENT RECOVERY
Quality Control	Benzene	101
	Toluene	112
	Ethylbenzene	109
	Xylenes	108
	Total	108
	Surrogate Recovery = 100%	
	Benzene	99
	Toluene	93
	Ethylbenzene	94
	Xylenes	93
	Total	95
	Surrogate Recovery = 96%	
	TPH - PURGEABLE	
	Gasoline Range	94
	Surrogate Recovery = 98%	

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