PACIFIC
ENVIRONMENTAL
GROUP, INC.

SR
4/22/93
Cn

DEPARTMENT OF ECOLOGY
1642 NWRO/TCP TANK UNIT

INTERIM CLEANUP REPORT	☑
SITE CHARACTERIZATION	☐
FINAL CLEANUP REPORT	☐
OTHER _____	☐
AFFECTED MEDIA: SOIL	☑
OTHER _____ GW	☑
INSPECTOR (INIT.) VSM DATE 4-14-93	

Project 530-05.07
April 5, 1993

Mr. Kyle Christie
ARCO Products Company
P.O. Box 5811
San Mateo, California 94402

ECOLOGY
4-7-93

Re: Quarterly Monitoring Report - March 16, 1993
ARCO Service Station No. 5207
Park Avenue and 4th Street NE
Renton, Washington

Dear Mr. Christie:

The following report presents the results of quarterly groundwater sampling performed by Pacific Environmental Group, Inc. (PACIFIC) at the site referenced above on March 16, 1993 (Figure 1). Monitoring Wells MW-1 through MW-10 were sampled. Quarterly groundwater sampling is being performed to monitor groundwater conditions at the site.

METHODS

The groundwater sampling procedure consisted of measuring the water level in each well using a Slope Indicator Model SI453 electronic water level indicator, and checking for the presence of phase-separate hydrocarbons using a clear polyethylene bailer. During recent environmental activities performed on site, a damaged well box for Well MW-6 was replaced and the top of the casing for Well MW-6 was altered. Until Well MW-6 is resurveyed, an accurate groundwater elevation for this well is not obtainable. Groundwater monitoring Wells MW-1 through MW-10 were then purged of three casing volumes of water using a centrifugal pump. Purge water was placed into a 55-gallon drum and stored on site.

After the water level in each well recovered to within at least 60% of the initial measurement, a sample was collected using a disposable polyethylene bailer and

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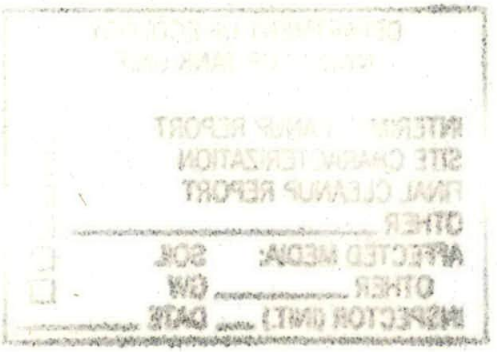

was placed into appropriate EPA-approved containers. Information about each well including purge and recovery data were noted on the monitoring well field sheets presented in Attachment A. The samples were labeled, logged onto a chain-of-custody document, and transported on ice to North Creek Analytical Laboratory in Bothell, Washington for analysis.

Ten groundwater samples were analyzed for total petroleum hydrocarbons calculated as gasoline (TPH-gasoline) by Washington Method WTPH-G, total lead by EPA Method 7421, and benzene, toluene, ethylbenzene, and xylene compounds (BTEX) by EPA Method 8020. The laboratory analytical methods, certified analytical report, and chain-of-custody document are included in Attachment B.

FINDINGS

Groundwater elevation contours could not be accurately interpolated because of the flat groundwater gradient observed on March 16, 1993. The regional groundwater migration direction is westward. A groundwater elevation map is presented on Figure 1.

Phase-separated hydrocarbons were not observed in any wells. Groundwater elevations and analytical results are presented on Table 1. TPH-gasoline and benzene concentrations are presented on Figure 2.

TPH-gasoline concentrations were detected in groundwater samples from Wells MW-1, MW-3, MW-4, MW-6, MW-7, and MW-9 at concentrations ranging from 570 ppb to 7,000 ppb. BTEX compounds concentrations were detected in Wells MW-1, MW-3, MW-4, MW-6, MW-7, and MW-9 at concentrations ranging from 1.6 ppb to 380 ppb. Total lead concentrations were detected in Wells MW-1 through MW-8, and MW-10 at concentrations ranging from 5.3 ppb to 64 ppb.

DISCUSSION

The groundwater gradient on December 30, 1992 was flat with groundwater elevations in Wells MW-1 through MW-7 ranging from 20.31 feet to 20.40 feet (based on arbitrary datum).

The analytical chemistry data indicates that groundwater from Wells MW-1, MW-4, MW-6, MW-7, and MW-9 contained TPH-gasoline concentrations exceeding the MTCA Method A cleanup standards. Groundwater from Wells MW-1, MW-3, MW-4, MW-6, MW-7, and MW-9 contained BTEX compound concentrations exceeding the MTCA Method A groundwater cleanup standards. Groundwater

N

PELLY AVENUE NORTH

PARK AVENUE NORTH

FORMER UNDERGROUND STORAGE TANK LOCATION

RESIDENCE

GARAGE

MW-3 (20.37)

MW-2 (20.39)

APPROACH

RESIDENCE

GARAGE

MW-4 (20.36)

NEW UNDERGROUND STORAGE TANKS

REGULAR

UNLEADED

UNLEADED

SUPREME

EQUIPMENT ENCLOSURE

MW-7 (20.39)

BUILDING

MW-1 (20.37)

RESIDENCE

GARAGE

ALLEY

APPROACH

FUEL ISLANDS

6' HIGH WOOD FENCE

MW-8 (20.40)

MW-9 (20.31)

RESIDENCE

GARAGE

FORMER FUEL ISLAND LOCATION

MW-6 (*)

MW-5 (20.37)

APPROACH

NORTH 4th STREET

MW-10 (20.35)

LEGEND

MW-2 ● GROUNDWATER MONTORING WELL LOCATION AND DESIGNATION

(20.39) GROUNDWATER ELEVATION IN FEET, MEAN SEA-LEVEL, 3-16-93

(*) UNABLE TO OBTAIN ACCURATE GROUNDWATER ELEVATION ON 3-16-93

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE

0 30 60 FEET

ARCO STATION #5207
401 Park Avenue North
Renton, Washington

GROUNDWATER ELEVATION MAP

FIGURE: 1

PROJECT: 530-05.07

N

PELLY AVENUE NORTH

PARK AVENUE NORTH

NORTH 4th STREET

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

GARAGE

GARAGE

GARAGE

GARAGE

ALLEY

6' HIGH WOOD FENCE

FORMER UNDERGROUND STORAGE TANK LOCATION

NEW UNDERGROUND STORAGE TANKS

EQUIPMENT ENCLOSURE

BUILDING

REGULAR

UNLEADED

UNLEADED

SUPREME

APPROACH

APPROACH

APPROACH

FUEL ISLANDS

FORMER FUEL ISLAND LOCATION

MW-1
1,300/5.6

MW-2
ND/ND

MW-3
570/6.5

MW-4
7,000/67

MW-5
ND/ND

MW-6
5,400/140

MW-7
3,300/9.1

MW-8
ND/ND

MW-9
1,100/12

MW-10
ND/ND

LEGEND

MW-2 GROUNDWATER MONTORING WELL LOCATION AND DESIGNATION

ND/ND TPH-GASOLINE/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 3-16-93

ND NOT DETECTED

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 30 60 FEET

ARCO STATION #5207
401 Park Avenue North
Renton, Washington

TPH-GASOLINE/BENZENE CONCENTRATION MAP

FIGURE:
2

PROJECT:
530-05.07

ATTACHMENT A

WELL SAMPLING DATA SHEET

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 530-05.07 LOCATION: 401 Park Avenue North Renton, WA WELL ID #: MW-2

CLIENT/STATION No.: 5207 FIELD TECHNICIAN: LB

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB 11.10 (TOC)
Total depth: _____ TOB 17.90 (TOC)
Date: 3-16-93 Time (2400): 9:00

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☒	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = Calculated Purge 3.4 gal

DATE PURGED: 3-16-93 START: 10:30 END (2400 hr): 10:29 PURGED BY: LB

DATE SAMPLED: 3-16-93 START: 1310 END (2400 hr): 1320 SAMPLED BY: LB

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 11.10 TOB/(TOC) _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal: _____
- ☐ Other: _____
- ☐ Airlift: _____
- ☐ Dedicated: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLE I.D.	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-2	3-16-93		1	500 ml	Plastic	HNO_3	Total Lead
MW-2	3-16-93		2	40 ml	VOA	HCL	TPH-G / BTEX

WELL INTEGRITY: ☒ Good ☐ Fair ☐ Poor

REMARKS: B Bot. Fr. of water

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FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 530-05.07 LOCATION: 401 Park Avenue North Renton, WA WELL ID #: MW-4

CLIENT/STATION No.: 5207 FIELD TECHNICIAN: LB

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB 11.83 (TOC)
Total depth: _____ TOB 17.70 (TOC)
Date: 3-16-93 Time (2400): 9:00

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☒ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = Calculated Purge 3 gal

DATE PURGED: 3-16-93 START: 1025 END (2400 hr): 1040 PURGED BY: LB

DATE SAMPLED: 3-16-93 START: 1325 END (2400 hr): 1335 SAMPLED BY: LB

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 11.90 TOB/(TOC)

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal: _____
- ☐ Other: _____
- ☐ Airlift: _____
- ☐ Dedicated: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLE I.D.	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-4	3-16-93		1	500 ml	Plastic	HNO_3	Total Lead
MW-4	3-16-93		2	40 ml	VOA	HCL	TPH-G / BTEX

WELL INTEGRITY: ☒ Good ☐ Fair ☐ Poor

REMARKS: Box full of water

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 530-05.07 LOCATION: 401 Park Avenue North Renton, WA WELL ID #: MW-3

CLIENT/STATION No.: 5207 FIELD TECHNICIAN: LB

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB 12.06 (TOC)
Total depth: _____ TOB 15.92 (TOC)
Date: 3-16-93 Time (2400): 9:00

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☒ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = Calculated Purge 2

DATE PURGED: 3-16-93 START: 1040 END (2400 hr): 1105 PURGED BY: LB

DATE SAMPLED: 3-16-93 START: 1340 END (2400 hr): 1350 SAMPLED BY: LB

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 12.08 TOB/(TOC) _____ _____ _____ _____ _____ _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal: _____
- ☐ Other: _____
- ☐ Airlift _____
- ☐ Dedicated: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLE I.D.	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-3	3-16-93		1	500 ml	Plastic	HNO_3	Total Lead
MW-3	3-16-93		2	40 ml	VOA	HCL	TPH-G / BTEX

WELL INTEGRITY: ☒ Good ☐ Fair ☐ Poor

REMARKS: Low flow of water

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FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 530-05.07 LOCATION: 401 Park Avenue North Renton, WA WELL ID #: MW-7

CLIENT/STATION No.: 5207 FIELD TECHNICIAN: LB

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB 16.45 (TOC)
Total depth: _____ TOB 16.05 (TOC)
Date: 3-16-93 Time (2400): 9:00

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☒ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = Calculated Purge 4.6

DATE PURGED: 3-16-93 START: 1105 END (2400 hr): 1120 PURGED BY: LB

DATE SAMPLED: 3-16-93 START: 1355 END (2400 hr): 1410 SAMPLED BY: LB

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR

Cobalt 0-100: Clear, Cloudy, Yellow, Brown
NTU 0-200: Heavy, Moderate, Light, Trace
Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 16.45 TOB/(TOC) _____ _____ _____ _____ _____ _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Airlift: _____
- ☒ Centrifugal: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLE I.D.	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-7	3-16-93		1	500 ml	Plastic	HNO_3	(Total) Lead
MW-7	3-16-93		2	40 ml	VOA	HCL	TPH-G / BTEX

WELL INTEGRITY: ☒ Good ☐ Fair ☐ Poor

REMARKS: well box full of water

PACIFC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 530-05.07 LOCATION: 401 Park Avenue North Renton, WA WELL ID #: mw-9

CLIENT/STATION No.: 5207 FIELD TECHNICIAN: LB

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB 9.92 (TOC)
Total depth: _____ TOB 22.60 (TOC)
Date: 3-16-93 Time (2400): 9:00

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☒ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = Calculated Purge 6.34

DATE PURGED: 3-16-93 START: 1120 END (2400 hr): 1135 PURGED BY: LB

DATE SAMPLED: 3-16-93 START: 1415 END (2400 hr): 1425 SAMPLED BY: LB

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR

Color: 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 9.98 TOB/(TOC) _____ _____ _____ _____ _____ _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal: _____
- ☐ Airlift _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLE I.D.	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
mw-9	3-16-93		1	500 ml	Plastic	HNO_3	Total Lead
mw-9	3-16-93		2	40 ml	VOA	HCL	TPH-G / BTEX

WELL INTEGRITY: ☒ Good ☐ Fair ☐ Poor _____

REMARKS: _____

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 530-05.07 LOCATION: 401 Park Avenue North Renton, WA WELL ID #: mw-10

CLIENT/STATION No.: 5207 FIELD TECHNICIAN: LB

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB 10.89 (TOC)
Total depth: _____ TOB 22.67 (TOC)
Date: 3-16-93 Time (2400): 9:00

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☒	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = Calculated Purge 6 gal

DATE PURGED: 3-16-93 START: 1135 END (2400 hr): 1150 PURGED BY: LB

DATE SAMPLED: 3-16-93 START: 1430 END (2400 hr): 1440 SAMPLED BY: LB

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 10.92 TOB/(TOC) _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal: _____
- ☐ Airlift: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLE I.D.	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-10	3-16-93		1	500 ml	Plastic	HNO_3	Total Lead
MW-10	3-16-93		2	40 ml	VOA	HCL	TPH-G / BTEX

WELL INTEGRITY: ☒ Good ☐ Fair ☐ Poor _____

REMARKS: Box full of water

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 530-05.07 LOCATION: 401 Park Avenue North Renton, WA WELL ID #: MW-6

CLIENT/STATION No.: 5207 FIELD TECHNICIAN: LB

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB 11.37 (TOC)
Total depth: _____ TOB 15.50 (TOC)
Date: 3-16-93 Time (2400): 9:00

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☒	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = Calculated Purge 2 gal

DATE PURGED: 3-16-93 START: 1150 END (2400 hr): 1205 PURGED BY: LB

DATE SAMPLED: 3-16-93 START: 1445 END (2400 hr): 1455 SAMPLED BY: LB

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR

Pumped dry Yes / (No)

Color: 0-100 Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200 Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE. AFTER RECHARGE:

DTW: 11.36 TOB/(TOC) _____ _____ _____ _____ _____ _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Airlift: _____
- ☒ Centrifugal: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLE I.D.	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-6	3-16-93		1	500 ml	Plastic	HNO_3	(Pb) Total Lead
MW-6	3-16-93		2	40 ml	VOA	HCL	TPH-G / BTEX

WELL INTEGRITY: ☒ Good ☐ Fair ☐ Poor

REMARKS: Well box replaced. Top of casing altered. Needs to be resurveyed.

Jim Brown

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No. : 530-05.07 LOCATION: 401 Park Avenue North, Renton, WA WELL ID #: MW-5

CLIENT/STATION No. : 5207 FIELD TECHNICIAN: LB

WELL INFORMATION

Depth to Liquid: ______ TOB ______ TOC
Depth to water: ______ TOB 11.56 (TOC)
Total depth: ______ TOB 16.54 (TOC)
Date: 3-16-93 Time (2400): 9:30

Probe Type and I.D. #
☐ Oil/Water interface
☒ Electronic indicator
☐ Other:

CASING DIAMETER	GAL/ LINEAR FT.
☒ 2	0.17
☐ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
☒ Groundwater
☐ Duplicate
☐ Extraction well
☐ Trip blank
☐ Field blank
☐ Equipment blank
☐ Other:

TD ______ - DTW = ______ x Gal/Linear Foot ______ = ______ x Number of Casings ______ = Calculated Purge 2.5 gal

DATE PURGED: 3-16-93 START: 1205 END (2400 hr): 1220 PURGED BY: LB

DATE SAMPLED: 3-16-93 START: 1500 END (2400 hr): 1510 SAMPLED BY: LB

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR

COLOR: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
TURBIDITY: NTU 0-200, Heavy, Moderate, Light, Trace
ODOR: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 11.57 TOB/(TOC)

PURGING EQUIPMENT/I.D. #
☐ Bailer:
☒ Centrifugal:
☐ Other:
☐ Airlift:
☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
☒ Bailer:
☐ Dedicated:
☐ Other:

SAMPLE I.D.	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	3-16-93		1	500 ml	Plastic	HNO_3	Total Lead
MW-5	3-16-93		2	40 ml	VOA	HCL	TPH-G / BTEX

WELL INTEGRITY: ☒ Good ☐ Fair ☐ Poor

REMARKS: ~~[illegible]~~ Box full of water

1 Barr...

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 530-05.07 LOCATION: 401 Park Avenue North Renton, WA WELL ID #: mw-8

CLIENT/STATION No.: 5207 FIELD TECHNICIAN: LB

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB 11.50 (TOC)
Total depth: _____ TOB 23.00 (TOC)
Date: 3-16-93 Time (2400): 9:30

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☒	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = Calculated Purge 5.75 gal

DATE PURGED: 3-16-93 START: 1220 END (2400 hr): 1235 PURGED BY: LB

DATE SAMPLED: 3-16-93 START: 1515 END (2400 hr): 1530 SAMPLED BY: LB

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 11.50 TOB/(TOC) _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal: _____
- ☐ Airlift: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLE I.D.	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-8	3-16-93		1	500 ml	Plastic	HNO_3	Total Lead
MW-8	3-16-93		2	40 ml	VOA	HCL	TPH-G / BTEX

WELL INTEGRITY: ☒ Good ☐ Fair ☐ Poor

REMARKS: Box full of water

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 530-05.07 LOCATION: 401 Park Avenue North Renton, WA WELL ID #: mw-1

CLIENT/STATION No.: 5207 FIELD TECHNICIAN: LB

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB 11.21 (TOC)
Total depth: _____ TOB 15.24 (TOC)
Date: 3-16-93 Time (2400): 9:30

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☒	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = Calculated Purge 2 gal

DATE PURGED: 3-16-93 START: 1235 END (2400 hr): 1250 PURGED BY: LB

DATE SAMPLED: 3-16-93 START: 1535 END (2400 hr): 1545 SAMPLED BY: LB

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
					Colour 0-100 Clear Cloudy Yellow Brown	NTU 0-200 Heavy Moderate Light Trace	Strong Moderate Faint None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE. AFTER RECHARGE:

DTW: 11.21 TOB/(TOC) _____ _____ _____ _____ _____ _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Airlift: _____
- ☒ Centrifugal: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLE I.D.	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-1	3-16-93		1	500 ml	Plastic	HNO_3	Total Lead
MW-1	3-16-93		2	40 ml	VOA	HCL	TPH-G / BTEX

WELL INTEGRITY: ☐ Good ☐ Fair ☐ Poor _____

REMARKS: _____

L Bonner

PACIFIC ENVIRONMENTAL

ATTACHMENT B

LABORATORY ANALYTICAL METHODS AND REPORTS

CHAIN-OF-CUSTODY DOCUMENTATION

ATTACHMENT B

Laboratory Analytical Methods

Analysis for TPH-gasoline was performed according to Washington Method WTPH-G. Benzene, toluene, ethylbenzene, and xylenes analysis was performed in accordance with EPA Method 8020/602. A methanol solvent extraction was used for the TPH analysis with final detection by gas chromatography using a flame-ionization detector. A headspace or purge and trap technique was utilized for BTEX analysis. Final detection was by gas chromatography using a photoionization detector.

Groundwater samples for total lead analysis were analyzed by atomic absorption according to EPA Method 7421.

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

Pacific Environmental Group	Client Project ID:	ARCO Renton, #530-05.07	Sampled:	Mar 16, 1993
4020 148th Avenue NE, #B	Matrix Descript:	Water	Received:	Mar 17, 1993
Redmond, WA 98052	Analysis Method:	WTPH-G	Analyzed:	Mar 18, 1993
Attention: Eric Larsen	First Sample #:	303-0575	Reported:	Mar 24, 1993

TOTAL PETROLEUM FUEL HYDROCARBONS (WTPH-G)

Sample Number	Sample Description	Volatile Hydrocarbons µg/L (ppb)	Surrogate Recovery %
303-0575	MW-1	1,300	120
303-0576	MW-2	N.D.	96
303-0577	MW-3	570	S-3
303-0578	MW-4	7,000	S-3
303-0579	MW-5	N.D.	100
303-0580	MW-6	5,400	S-3
303-0581	MW-7	3,300	S-3
303-0582	MW-8	N.D.	90
303-0583	MW-9	1,100	116
303-0584	MW-10	N.D.	98

Reporting Limits:	**50**

4-Bromofluorobenzene surrogate recovery control limits are 50 - 150 %.
Volatile Hydrocarbons are quantitated as gasoline range organics (toluene - dodecane).
Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL inc

Kimberle Stark
Project Manager

Please Note:
S-3 = Due to coelution with hydrocarbon contamination present in the sample, the Surrogate Recovery for this analysis is >150% and cannot be accurately quantified.

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Phone (206) 481-9200 · FAX (206) 485-2992

Pacific Environmental Group	Client Project ID:	ARCO Renton, #530-05.07		
4020 148th Avenue NE, #B	Matrix Descript:	Method Blank		
Redmond, WA 98052	Analysis Method:	WTPH-G	Analyzed:	Mar 18, 1993
Attention: Eric Larsen	First Sample #:	BLK031893	Reported:	Mar 24, 1993

TOTAL PETROLEUM FUEL HYDROCARBONS (WTPH-G)

Sample Number	Sample Description	Volatile Hydrocarbons µg/L (ppb)	Surrogate Recovery %
BLK031893	Method Blank	N.D.	97

Reporting Limits:	50

4-Bromofluorobenzene surrogate recovery control limits are 50 - 150 %.
Volatile Hydrocarbons are quantitated as gasoline range organics (toluene - dodecane).
Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL inc

Kimberle Stark
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

Pacific Environmental Group	Client Project ID:	ARCO Renton, #530-05.07	Sampled:	Mar 16, 1993
4020 148th Avenue NE, #B	Matrix Descript:	Water	Received:	Mar 17, 1993
Redmond, WA 98052	Analysis Method:	EPA 5030/8020	Analyzed:	Mar 18, 1993
Attention: Eric Larsen	First Sample #:	303-0575	Reported:	Mar 24, 1993

BTEX DISTINCTION

Sample Number	Sample Description	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl Benzene µg/L (ppb)	Xylenes µg/L (ppb)	Surrogate Recovery %
303-0575	MW-1	5.6	N.D.	N.D.	N.D.	101
303-0576	MW-2	N.D.	N.D.	N.D.	N.D.	97
303-0577	MW-3	6.5	1.6	3.0	1.9	114
303-0578	MW-4	67	19	110	64	121
303-0579	MW-5	N.D.	N.D.	N.D.	N.D.	95
303-0580	MW-6	140	19	380	85	135
303-0581	MW-7	9.1	5.3	83	10	142, S-4
303-0582	MW-8	N.D.	N.D.	N.D.	N.D.	98
303-0583	MW-9	12	N.D.	N.D.	3.0	102
303-0584	MW-10	N.D.	N.D.	N.D.	N.D.	95
Reporting Limits:		**0.50**	**0.50**	**0.50**	**1.0**	

4-Bromofluorobenzene surrogate recovery control limits are 74 - 130 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL inc

Kimberle Stark
Project Manager

Please Note:
The Reporting Limit for Toluene, Ethyl Benzene & Xylenes in #303-0575 = 2.0 µg/L.
The Reporting Limit for Toluene & Ethyl Benzene in #303-0583 = 2.0 µg/L.
S-4 = The Surrogate Recovery for #303-0581 is outside of the NCA established control limits.

NORTH CREEK ANALYTICAL

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Pacific Environmental Group	Client Project ID:	ARCO Renton, #530-05.07		
4020 148th Avenue NE, #B	Matrix Descript:	Method Blank		
Redmond, WA 98052	Analysis Method:	EPA 5030/8020	Analyzed:	Mar 18, 1993
Attention: Eric Larsen	First Sample #:	BLK031893	Reported:	Mar 24, 1993

BTEX DISTINCTION

Sample Number	Sample Description	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl Benzene µg/L (ppb)	Xylenes µg/L (ppb)	Surrogate Recovery %
BLK031893	Method Blank	N.D.	N.D.	N.D.	N.D.	97

Reporting Limits:	**0.50**	**0.50**	**0.50**	**1.0**	

4-Bromofluorobenzene surrogate recovery control limits are 74 - 130 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL inc

Kimberle Stark
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

Pacific Environmental Group	Client Project ID:	ARCO Renton, #530-05.07	Sampled:	Mar 16, 1993
4020 148th Avenue NE, #B	Analysis Method:	EPA 7421	Received:	Mar 17, 1993
Redmond, WA 98052	Analysis for:	Total Lead	Digested:	Mar 19, 1993
Attention: Eric Larsen	First Sample #:	303-0575	Analyzed:	Mar 22, 1993
	Matrix:	Water	Reported:	Mar 24, 1993

METALS ANALYSIS FOR: Total Lead

Sample Number	Sample Description	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
303-0575	MW-1	2.0	8.9
303-0576	MW-2	2.0	5.4
303-0577	MW-3	2.0	7.1
303-0578	MW-4	2.0	19
303-0579	MW-5	2.0	8.1
303-0580	MW-6	2.0	64
303-0581	MW-7	2.0	5.3
303-0582	MW-8	2.0	19
303-0583	MW-9	2.0	N.D.
303-0584	MW-10	2.0	5.5
BLK031993	Method Blank	2.0	N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.

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Kimberle Stark
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

Pacific Environmental Group	Client Project ID: ARCO Renton, #530-05.07	Analyst: K. Ackerlund
4020 148th Avenue NE, #B	Sample Matrix : Water	
Redmond, WA 98052	Units: µg/L (ppb)	
Attention: Eric Larsen		Digested: Mar 19, 1993
		Reported: Mar 24, 1993

METALS QUALITY CONTROL DATA REPORT

ANALYTE
Lead

EPA Method: 7421
Date Analyzed: Mar 22, 1993

ACCURACY ASSESSMENT

LCS Spike Conc. Added:	25
LCS Spike Result:	23
LCS Spike % Recovery:	92
Upper Control Limit:	114
Lower Control Limit:	82
Matrix Spike Sample #:	303-0574
Matrix Spike % Recovery:	84

PRECISION ASSESSMENT

Sample #:	303-0574
Original:	20
Duplicate:	20
Relative % Difference:	0.0

NORTH CREEK ANALYTICAL inc

Kimberle Stark
Project Manager

Lab Control Sample % Recovery: $\frac{\text{Conc. of L.C.S.}}{\text{L.C.S. Spike Conc. Added}} \times 100$

Relative % Difference: $\frac{\text{Original Result - Duplicate Result}}{(\text{Original Result + Duplicate Result}) / 2} \times 100$

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Phone (206) 481-9200 · FAX (206) 485-2992

Pacific Environmental Group	Client Project ID: ARCO Renton, #530-05.07	Analyst:	R. Lister
4020 148th Avenue NE, #B	EPA Method: WTPH-G		K. Wilke
Redmond, WA 98052	Sample Matrix: Water		F. Shino
Attention: Eric Larsen	Units: µg/L (ppb)	Analyzed:	Mar 18, 1993
		Reported:	Mar 24, 1993

HYDROCARBON QUALITY CONTROL DATA REPORT

ACCURACY ASSESSMENT
Laboratory Control Sample

Gasoline

Spike Conc. Added:	100
Spike Result:	99
% Recovery:	99
Upper Control Limit %:	120
Lower Control Limit %:	80

PRECISION ASSESSMENT
Sample Duplicate

Volatile Hydrocarbons

Sample Number:	303-0579
Original Result:	N.D.
Duplicate Result:	N.D.
Relative % Difference	Relative Percent Difference values are not reported at sample concentration levels less than 10 times the Detection Limit.
Maximum RPD:	20

NORTH CREEK ANALYTICAL inc

Kimberle Stark
Project Manager

$$\text{\% Recovery:} \quad \frac{\text{Spike Result}}{\text{Spike Concentration Added}} \times 100$$

$$\text{Relative \% Difference:} \quad \frac{\text{Original Result - Duplicate Result}}{(\text{Original Result + Duplicate Result}) / 2} \times 100$$

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

Pacific Environmental Group	Client Project ID: ARCO Renton, #530-05.07	Analyst:	R. Lister
4020 148th Avenue NE, #B	EPA Method: 5030/8020		K. Wilke
Redmond, WA 98052	Sample Matrix: Water		F. Shino
Attention: Eric Larsen	Units: µg/L (ppb)	Analyzed:	Mar 18, 1993
	QC Sample #: 303-0579	Reported:	Mar 24, 1993

MATRIX SPIKE QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Sample Result:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	5.0	5.0	5.0	15
Spike Result:	5.4	5.2	5.3	15
Spike % Recovery:	108%	104%	106%	100%
Spike Dup. Result:	5.4	5.1	5.3	15
Spike Duplicate % Recovery:	108%	102%	106%	100%
Upper Control Limit %:	126	124	134	118
Lower Control Limit %:	66	85	77	88
Relative % Difference:	0.0%	1.9%	0.0%	0.0%
Maximum RPD:	8.0	13	12	11

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Kimberle Stark
Project Manager

% Recovery:	$\frac{\text{Spike Result - Sample Result}}{\text{Spike Conc. Added}}$	x 100
Relative % Difference:	$\frac{\text{Spike Result - Spike Dup. Result}}{\text{(Spike Result + Spike Dup. Result) / 2}}$	x 100

ARCO Products Company Division of AtlanticRichfieldCompany — 530-05.07 — **Task Order No.** 5207-92-5A — **Chain of Custody**

ARCO Facility no. 5207	City (Facility) Renton, WA	Project manager (Consultant) Eric Larsen	Laboratory name NORTH CREEK ANALYTICAL
ARCO engineer Kyle Christie	Telephone no. (ARCO)	Telephone no. (Consultant) (206) 869-5099	Fax no. (Consultant) (206) 869-5639
Consultant name Pacific Enviornmental Group	Address (Consultant) 4020 148th Ave NE, Suite C, Redmond, WA		Contract number

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

Priority Rush 1 Business Day ☐

Rush 2 Business Days ☐

Expedited 5 Business Days ☐

Standard 10 Business Days ☒

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☒
MW-1	3030 575	3		X		X	(2) HCL (1) HNO_3	3-16-93			X									X
MW-2	3030 576								PLR											
MW-3	3030 577								LEAD FLOW											
MW-4	3030 578								3-17-93											
MW-5	3030 579								PLR											
MW-6	3030 580																			
MW-7	3030 581																			
MW-8	3030 582																			
MW-9	3030 583																			
MW-10	3030 584																			

Condition of sample:

Temperature received:

Relinquished by sampler	Date 3/17	Time 11:10	Received by
Relinquished by	Date 3/17	Time 12:03	Received by
Relinquished by	Date	Time	Received by laboratory BETH NEELY NCA — Date 03-17-93 — Time 1203

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

APPC-3292 (2-91)