GW - 001

REPORTS

River Terrace Voluntary Corrective Measures (2)

(2010)

Western Refining

LOGISTICS

WNR LISTED NYSE

April 6, 2016

Leona Tsinnajinnie
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Carl Chavez
NM Energy, Minerals & Natural Resources
Oil Conservation Division, Env Bureau
1220 South St. Francis Drive
Santa Fe, NM 87505

Certified Mail#: 7015 1520 0001 8113 5536 (delivery to NMED)
Certified Mail#: 7015 1520 0001 8113 5543 (delivery to OCD)

RE: Notification for River Terrace Low Flow Sampling Event
Western Refining Southwest, Inc. - Bloomfield Terminal
EPA ID# NMD089416416
GW - 001

Dear Mrs. Tsinnajinnie and Mr. Chavez,

Western Refining Southwest, Inc. – Bloomfield Terminal (Western) is scheduled to conduct the River Terrace Low Flow Sampling Event at the Bloomfield Facility starting the week of April 25, 2016. The Low Flow Sampling Event is conducted during low flow conditions of the San Juan River (i.e. with a flow rate of less than 500 scfm).

If you have any questions or need additional information, please feel free to contact me at (505) 632-4166 at your convenience.

Sincerely,

Kelly Robinson
Environmental Manager-Logistics
Western Refining Southwest, Inc.

Cc: Randy Schmaltz - HSER Director

NEW MEXICO
ENVIRONMENT DEPARTMENT

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

RYAN FLYNN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 21, 2015

Mr. Randy Schmaltz
Health, Safety, Environmental, and
Regulatory Director
Western Refining Southwest, Inc.
Bloomfield Refinery
P.O. Box 159
Bloomfield, New Mexico 87413

RE: APPROVAL WITH MODIFICATIONS
RIVER TERRACE VOLUNTARY CORRECTIVE MEASURES
BIOVENTING SYSTEM ANNUAL REPORT
(JANUARY – DECEMBER 2012), MARCH 2013
WESTERN REFINING SOUTHWEST INC., BLOOMFIELD REFINERY
EPA ID# NMD089416416
HWB-WRB-13-001

Dear Mr. Schmaltz:

The New Mexico Environment Department (NMED) has received Western Refining Southwest, Inc., Bloomfield Refinery's (Western) *River Terrace Voluntary Corrective Measures Bioventing System Annual Report (January – December 2012)* (Report) dated March 2013. NMED has reviewed the Report and hereby issues this Approval with Modifications with the following comments.

Comment 1

In Section 4.3 (Investigation Derived Waste), page 11, Western summarizes information about the investigation derived waste from the investigation. However, page 12 is missing from the

hardcopy and the electronic copy of the report. Provide the missing page of the Report for the both the electronic and hard copies.

Comment 2

Section 5 (Conclusions and Recommendations), pages 13 through 16, summarizes the conclusions and recommendations for the Report. Western presents the analytical data results as averages; however, it is more useful to present the analytical results as ranges. In future reports, present analytical data results as ranges. No response is required.

Comment 3

Figure 8 (River Terrace Area) depicts the upgraded remediation system; however, the scale and north indicator are not legible on the figure. In future work plans and reports, ensure the figures are good quality and that important information is clearly presented. No response is required.

Comment 4

In Appendix A (Regulatory Criteria/Groundwater Clean-up Standards), Western attached NMED's *Risk Assessment Guidance for Site Investigation and Remediation, February 2012* as a reference for screening levels. At the time of the submittal, the most recent guidance document was revised in June 2012 and was subsequently revised in December 2014. Use the most recent guidance document in future work plans and reports and check the NMED website for updates to the guidance document. No revision is necessary.

Comment 5

In Appendix C, Western includes Hall Environmental Analysis Laboratory's *Quality Assurance Plan, Revision 9.5*. NMED does not review or approve subcontracted labroatory Quality Assurance Plans. Approval of this Work Plan does not constitute approval of the Quality Assurance Plan. No revision is necessary.

Western must submit the hard copies for the missing page from Comment 1 as well as a revised electronic copy by **June 12, 2015**. All other comments must be applied to future work plans and reports, as applicable.

If you have any questions regarding this letter, please contact Leona Tsinnajinnie of my staff at (505) 476-6057.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
N. Dhawan, NMED HWB
K. Van Horn, NMED HWB
L. Tsinnajinnie, NMED HWB
C. Chavez, OCD
K. Robinson, Western Refining Southwest, Inc., Bloomfield Refinery

File: HWB-WRB-13-001 and Reading 2015

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

DAVE MARTIN
Secretary

BUTCH TONGATE
Deputy Secretary

JAMES H. DAVIS, Ph.D.
Director
Resource Protection Division

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 17, 2012

Mr. Randy Schmaltz
Environmental Manager
Western Refining, Southwest, Inc.
Bloomfield Refinery
P.O. Box 159
Bloomfield, New Mexico 87413

RE: APPROVAL
RIVER TERRACE VOLUNTARY CORRECTIVE MEASURES
BIOVENTING SYSTEM ANNUAL REPORT
(JANUARY – DECEMBER 2011), MARCH 2012
WESTERN REFINING SOUTHWEST INC., BLOOMFIELD REFINERY
EPA ID# NMD089416416
HWB-WRB-12-001

Dear Mr. Schmaltz:

The New Mexico Environment Department (NMED) has received Western Refining Southwest, Inc., Bloomfield Refinery's (Western) *River Terrace Voluntary Corrective Measures Bioventing System Annual Report (January – December 2011)* (Report) dated March 2012. NMED has reviewed the Report and hereby issues this Approval with the following comments.

Comment 1

The following comments pertain to Table 2 (Groundwater Monitoring Data Summary – 2011):

a. On page 2 of 14 in the "Toluene" column, Western highlighted several data results for TP-2 that are below the screening level, 0.75 mg/L.

b. On page 4 of 14 in the "Ethylbenzene" column, Western highlighted a data result for TP-5 for the High Flow 2011 sampling event that is below the screening level, 0.7 mg/L.

c. On page 5 of 14 in the "Benzene" column, Western did not highlight a data result for TP-6 for the 4th Quarter 2006 sampling event that is above the screening level, 0.005 mg/L.

d. On page 7 of 14 in the "Toluene" column, there is an extra significant digit reported for the data result for the 4th Quarter 2010 sampling event for TP-8.

e. On page 8 of 14 in the "MTBE" and "Lead" columns, Western did not highlight data results for TP-9 for the Baseline and 4th Quarter 2009 sampling events that are above their respective screening levels (0.012 mg/L and 0.015 mg/L).

f. On pages 12 and 13 of 14 in the "Lead" column, Western highlighted data results for TP-13 and DW-1 that are below the screening level, 0.015 mg/L.

g. In several of the data table results, Western has an asterisk next to a data result but does not define it in the "Notes" section of the table.

In future work plans and reports, review data tables to ensure the correct information is highlighted and that all symbols, highlighting, and formatting are defined in the "Notes" section of the data tables.

Comment 2

In Table 4 (GAC Filter Monitoring – 2011), the GAC-Lead analytical results in the "TPH-DRO" column are transposed. According to the analytical results in Appendix D (Analytical Reports), the January 17, 2011 analytical result is ND < 0.2 mg/L and the February 10, 2011 analytical result is 0.4 mg/L. Provide a replacement page for Table 4 and check the data tables to ensure the correct analytical result is provided for the sample event date. If any other data tables are found to be incorrect, provide a replacement page for them as well.

Comment 3

In the Figures section, Western provides Figure 2 (Facility Site Plan) that depicts the entire refinery. In future work plans and reports, Western must highlight the investigation area to help the reader identify its location. No revision is necessary.

Comment 4

In Appendix A (Regulatory Criteria/Groundwater Clean-up Standards), Western has attached NMED's *Risk Assessment Guidance for Site Investigation and Remediation, February 2012* as a reference for screening levels. The guidance document was revised in June 2012. Use the revised guidance document in future work plans and reports and check the NMED website for updates to the guidance document. No revision is necessary.

Comment 5

In Appendix C, Western includes Hall Environmental Analysis Laboratory's *Quality Assurance Plan, Revision 9.4*. Western is reminded that NMED does not review or approve Quality Assurance Plans. Approval of this Work Plan does not constitute approval of the Quality Assurance Plan. No revision is necessary.

If you have any questions regarding this letter, please contact Leona Tsinnajinnie of my staff at (505) 476-6057.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
L. Tsinnajinnie, NMED HWB
C. Chavez, OCD
A. Hains, Western Refining Company, El Paso, Texas
K. Robinson, Western Refining Company, Bloomfield Refinery

File: HWB-WRB-12-001 and Reading 2012

SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

DAVE MARTIN
Secretary

RAJ SOLOMON, P.E.
Deputy Secretary

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

April 15, 2011

Mr. Randy Schmaltz
Environmental Manager
Western Refining, Southwest, Inc.
Bloomfield Refinery
P.O. Box 159
Bloomfield, New Mexico 87413

RE: APPROVAL
RIVER TERRACE VOLUNTARY CORRECTIVE MEASURES
BIOVENTING SYSTEM ANNUAL REPORT (DECEMBER - JANUARY 2010)
WESTERN REFINING COMPANY SOUTHWEST, INC.
BLOOMFIELD REFINERY
EPA ID# NMD089416416
HWB-WRB-11-001

Dear Mr. Schmaltz:

The New Mexico Environment Department (NMED) has completed its review of Western Refining Southwest, Inc., Bloomfield Refinery (Western) *River Terrace Voluntary Corrective Measures Bioventing System Annual Report December – January 2010* (Report), submitted March 2011. NMED hereby approves this Report.

Western must continue to operate the bioventing system in accordance with the monitoring and sampling requirements established in NMED's March 15, 2011 *Proposals to Modify Monitoring at the River Terrace Area*, unless otherwise notified. The annual report is due to NMED on or before March 1, 2012 in accordance with Section V.B.1, item 3 of the July 27, 2007 Order.

If you have any questions regarding this letter, please contact Hope Petrie at (505) 476-6045.

Sincerely,

John E. Kieling
Program Manager
Permits Management Program
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
H. Petrie, NMED HWB
C. Chavez, OCD
K. Robinson, Western
A. Hains, Western
File: WRB 2011 and Reading
HWB-WRB-11-001

SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

NEW MEXICO ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

DAVE MARTIN
Secretary

RAJ SOLOMON, P.E.
Deputy Secretary

Certified Mail - Return Receipt Requested

March 15, 2011

Mr. Randy Schmaltz
Environmental Manager
Western Refining, Southwest, Inc.
Bloomfield Refinery
P.O. Box 159
Bloomfield, New Mexico 87413

RE: PROPOSALS TO MODIFY MONITORING AT THE RIVER TERRACE AREA
WESTERN REFINING COMPANY SOUTHWEST, INC.
BLOOMFIELD REFINERY
EPA ID# NMD089416416
HWB-WRB-11-001

Dear Mr. Schmaltz:

The New Mexico Environment Department (NMED) has completed its review of Western Refining Southwest, Inc., Bloomfield Refinery's (Western) February 25, 2011 letter *Proposal to Modify Monitoring at Bloomfield Refinery River Terrace Area.* Sampling modifications at the River Terrace are identified below.

1. **Soil Gas Monitoring Modifications (Attachment 2, Table 2):**

   a. Collect soil gas samples for laboratory analysis from all Temporary Wells (TP), DW-1, and MW-49 on an annual basis. The samples must be collected during low flow of the San Juan River (corresponding to relatively low groundwater levels).

b. Conduct soil gas monitoring and sampling for TP wells 1, 2, 5, 6, 7, 8, 9, DW-1, and MW-49 on a semi-annual basis. The soil gas monitoring must be collected during high and low flow stages of the San Juan River.

2. **Groundwater Monitoring Modifications (Attachment 1, Table 1):**

a. Conduct groundwater monitoring and sampling of TP wells 3, 10, 11, 12, and 13 on a biennially basis (beginning 2011). Samples must be collected during low flow stages of the San Juan River.

b. Conduct groundwater monitoring and sampling of TP wells 7, 9, and DW-1 biennially (beginning 2011). Samples must be collected during low flow stages of the San Juan River.

c. Discontinue analyses for barium and chromium at all Temporary Wells and wells MW-49 and DW-1.

d. Conduct groundwater monitoring and sampling of TP wells 1, 2, 5, 6, 8, and MW-49 on a semi-annual basis. The samples must be collected during high and low flow stages of the San Juan River.

3. **GAC Filter Modification (Attachment 1, Table 1):**

a. Collect GAC 1 Effluent samples on a quarterly basis.

The sampling requirements for the River Terrace are identified in the updated Table 1 (Groundwater Monitoring) and Table 2 (Soil Vapor Monitoring) in Attachment 1 and 2, respectively. Sampling must be conducted in accordance with these revised Tables.

If you have any questions regarding this letter, please contact Hope Petrie of my staff at (505) 476-6045.

Sincerely,

John E. Kieling
Program Manager
Permits Management Program
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
H. Petrie, NMED HWB
C. Chavez, OCD
A. Hains, Western
File: WRB 2011 and Reading
HWB-WRB-11-001

Attachment 1
River Terrace Bioventing System Monitoring **Revised March 2011**
Table 1 - Groundwater Monitoring

Location	Matrix	DTW/DTP	Temp	pH	Cond	DO	ORP	Sampling
MW-49	GW	SIA	SAI	SIA	SIA	SIA	SIA	SIA -B, GRO, DRO, Pb
DW-1	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA, B, GRO, DRO, Pb, Hg
TP-1	GW	SIA	SIA	SIA	SIA	SIA	SIA	SIA-B, GRO, DRO, Pb
TP-2	GW	SIA	SIA	SIA	SIA	SIA	SIA	SIA-B, GRO, DRO, Pb
TP-3	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
TP-5	GW	SIA	SIA	SIA	SIA	SIA	SIA	SIA-B, GRO, DRO, Pb
TP-6	GW	SIA	SIA	SIA	SIA	SIA	SIA	SIA-B, GRO, DRO, Pb
TP-7	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
TP-8	GW	SIA	SIA	SIA	SIA	SIA	SIA	SIA-B, GRO, DRO, Pb
TP-9	GW	BIA	BIA	BIA	BIA	BIA	BIA	SIA-B, GRO, DRO, Pb
TP-10	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
TP-11	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
TP-12	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
TP-13	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
GAC Inf	EW							Q-B, GRO, DRO
GAC 1 Eff	EW							Q - B, GRO, DRO
GAC 2 Eff	EW							Q-B, GRO, DRO

Field Parameters
DTW - depth to water measurement
DTP - depth to product measurement
T - temperature
Cond - electrical conductivity
DO - dissolved Oxygen
ORP - oxidation Reduction Potential

Analytical Analysis
B - BTEX and MTBE by EPA Method 8021B
GRO - gasoline range organics by EPA Method 8015B
DRO - diesel range organics by EPA Method 8015B
Pb - lead EPA Method 6010
Hg -mercury by EPA Method 7470

Sampling Frequency
Q - quarterly
SIA - Semi -annual (2 x a year during the high and low flows of the San Juan River)
A - annual (collected during low flow stage of the San Juan River)
BIA - Biennially (1 x every two years, collected during low flow stages of the San Juan River)

Matrix
GW - groundwater
EW -extracted groundwater

Attachment 2
River Terrace Bioventing System Monitoring **Revised March 2011**
Table 2 - Soil Vapor Monitoring

Location	Matrix	* Injection Pressure	* Injection Flow Rate	% CO2	%O2	Organic Vapors PID	Pressure	Analytical
MW-49	A			SIA	SIA	SIA	SIA	A-b, GRO
DW-1	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-1	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-2	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-3	A			---	---	---	---	A-b, GRO
TP-5	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-6	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-7	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-8	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-9	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-10	A			---	---	---	---	A-b, GRO
TP-11	A			---	---	---	---	A-b, GRO
TP-12	A			---	---	---	---	A-b, GRO
TP-13	A			---	---	---	---	A-b, GRO
BV-1	A	Q	Q					
BV-2	A	Q	Q					
BV-3	A	Q	Q					
BV-4	A	Q	Q					
BV-5	A	Q	Q					
BV-6	A	Q	Q					
BV-7	A	Q	Q					
BV-8	A	Q	Q					
BV-9	A	Q	Q					
BV-10	A	Q	Q					
BV-11	A	Q	Q					
BV-12	A	Q	Q					
BV-13	A	Q	Q					

Matrix
A - soil gas

Field Parameters
% CO_2 - percent carbon dioxide
% O_2 - percent oxygen
PID - photoionization detector

Analytical Analysis
b - BTEX by EPA Method 8021B
GRO - gasoline range organics by EPA Method 8015B

Sampling Frequency
Q - quarterly **A -** Annual (1 x year, San Juan River low flow) --- No sample collection
SIA- Semi-annual (2 x a year during the high and low flow stages of the San Juan River)

*Pressure - Full system and individual well injection pressures and injection flow rates must be recorded during each monitoring event.

In-SITU RESPIRATION TEST -Suspended
Requirements established in NMED 11-23-2010 letter (Request to Suspend In-Situ Respiration Test)
Must be conducted under similar conditions as the 9/07 respiration test (e.g. similar groundwater levels and river levels)
Shutdown blowers and monitoring oxygen/carbon dioxide levels in TP-1, 2, 5, 6, 8, 9, and each of the 13 BV wells.

Monitor location	Analytes(s)	Frequency	Duration
TP-1, 2 5, 6, 8, 9	O_2, CO_2, VOCs	every 1 hour	first 8 hours
TP-1, 2 5, 6, 8, 9	O_2, CO_2, VOCs	every 12 hours	next 48 hours
All BV wells	O_2	every 12 hours	first 72 hours

TP - Temporary Wells
VOCs - Volatile Organic Carbons
O_2 - Oxygen
CO_2 - Carbon Dioxide

Western Refining

WNR LISTED NYSE

February 25, 2011

Certified Mail: 7010 1870 0000 0709 4815
7010 1870 0000 0709 4808

Hope Monzeglio
New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Bldg 1
Santa Fe, NM 87505

Carl Chavez
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Dr
Santa Fe, NM 87505

Re: River Terrace Voluntary Corrective Measures
Bioventing System Annual Report
January 2010 through December 2010

Dear Hope and Carl,

Western Refining - Bloomfield Refinery submits the River Terrace Voluntary Corrective Measures Bioventing System Annual Report as requested by NMED. This report summarizes monitoring activities and data gathered at the River Terrace throughout 2010.

If you have questions or would like to discuss any aspect of the report, please contact me at (505) 632-4171.

Sincerely,

James R. Schmaltz
Environmental Manager
Bloomfield Refinery

Cc: Laurie King, USEPA – Region VI
Brandon Powell - NMOCD Aztec District Office
Allen Hains – Western Refining – El Paso

Executive Summary

This report is a summary of monitoring activities conducted in 2010 at the River Terrace Bioventing System located at the Bloomfield Refinery. The following is a synopsis of conclusions and recommendations developed from the monitoring activities performed at the River Terrace in 2010.

Western Refining indefinitely suspended refining operations at the Bloomfield Refinery on November 23, 2009. The crude unloading and product loading racks, storage tanks and other supporting equipment remain in operation. The River Terrace Bioventing System continues to operate.

Dewatering System

Operation of the dewatering system is interlocked with the river pumps that pump fresh water up to the refinery. The change in site operation (suspension of refining operations on November 23, 2009) has impacted the operation of the dewatering system of the River Terrace Bioventing System. Although the aeration system continues to operate continuously, operation of the dewatering system has become infrequent due to the lessened demand for fresh water to support current facility operations.

The collection gallery, pump, and piping which were installed in 2009 and came online on October 13, 2009 are also interlocked with the river pumps and also operate infrequently due to current facility operations.

Performance Monitoring

On-going performance monitoring activities continued on a quarterly basis at the River Terrace area in accordance with the approved *Bioventing System Monitoring Plan*, dated October 28, 2006, and in accordance with an NMED comment letter *(Direction to Modify Future Monitoring as reported in the River Terrace Voluntary Corrective Measures Bioventing System Annual Report January 2006 through December 2006)* dated June 13, 2007. Additional revisions to the monitoring plan were stated in the NMED letter dated June 16, 2009 (*Approval with Direction River Terrace Voluntary Corrective Measures Bioventing System Annual Report January 2008 through December 2008).*

Laboratory analysis of groundwater, treated groundwater, and soil gas provides periodic feedback of the remediation operation and GAC filter capability. The on-going performance monitoring program also includes certain field parameter data which are collected using portable gauges and gas meters.

Western has conducted three separate in-situ respiration tests at the River Terrace area in May 2006, September 2007, and October 2009. The suspension

of refining operations causes the dewatering system to operate infrequently which in turn affects exposure of the vadose zone thus affecting the accuracy of the in-situ respiration test. In a November 23, 2010 letter (*Request to Suspend In-Situ Respiration Testing At The River Terrace Area),* New Mexico Environmental Department – Hazardous Waste Bureau (NMED) granted approval to discontinue conducting the in-situ respiration tests. Therefore an in-situ respiration was not performed in 2010. Future respiration tests may be evaluated on an annual basis based on the operation of the dewatering system.

Conclusions

Bloomfield Refinery met all NMED and OCD sampling and monitoring requirements for 2010 with the exception of mercury analysis during the fourth quarter sampling event. Operation of the River Terrace Bioventing System has been affected by current facility operational conditions. Air sparging is continuing however the dewatering system operates infrequently as the plant requires less water.

CONTENTS

Section 1.0 Introduction

INTRODUCTION

Owner:	San Juan Refining Company, a New Mexico Corporation 1250 Washington Street Tempe, AZ 85281
Operator:	Western Refining Southwest, Inc. (formerly known as Giant Industries Arizona, Inc.), an Arizona Corporation 1250 Washington Street Tempe, AZ 85281
Facility Name:	Bloomfield Refinery (physical address) #50 Rd 4990 Bloomfield, New Mexico 87413 Western Refining Southwest, Inc. (postal address) P.O. Box 159 Bloomfield, New Mexico 87413
Facility Status:	Corrective Action/Compliance
US EPA ID:	NMD089416416
SIC Code:	2911
Purpose of Monitoring:	River Terrace Corrective Measures – Assess and Provide Periodic Progress Information
Type of Monitoring:	Periodic Groundwater and Soil Vapor Monitoring

BACKGROUND INFORMATION

SITE LOCATION AND DESCRIPTION

The Bloomfield Refinery is a crude oil refining facility with a crude capacity of 18,000 barrels per day. It is located approximately 1 mile south of Bloomfield, New Mexico, in San Juan County, latitude N36 41' 87", longitude W107 58' 70". It is further located approximately ½ mile east of State Route 550 on County Road 4990 (a.k.a. Sullivan Road).

The refinery is located on a bluff 120 feet above the south side of the San Juan River. The top of the bluff is relatively flat and is at an elevation of 5,540 feet above sea level. The geological units that comprise the site include, in order of increasing depth, San Juan River Alluvium, Quaternary apron deposits, Aeolian sand and silt, Jackson Lake Terrace, and the Tertiary Nacimiento Formation. An unnamed arroyo flows toward the San Juan River on the southern and western edges of the site. East of the site, a well-defined arroyo cuts a small canyon from the bluff to the San Juan River. Hammond Ditch lies on the bluff between the limit of the Jackson Lake Terrace and the refinery.

Refinery offices are on the western end of the facility, along with warehouse space, maintenance areas, and a storage yard containing used material (e.g., pipes, valves). Petroleum processing units, located in the northwest portion of the refinery, include the crude unit, fluidized cracking unit, catalytic polymerization unit, and hydrodesulfurization unit. The API Separator and the aeration lagoons are located in the north central section of the refinery.

In the central portion of the site, aboveground storage tanks (AST's) occupy a large percentage of refinery property. South of the refinery and across Sullivan Road are terminals for loading product and off-loading crude, as well as gas storage and hazardous waste storage.

Western Refining merged with San Juan Refining Company (SJRC) May 31, 2007. The refinery is operated by Western Refining Southwest, Inc. The historical activities conducted at the refinery are petroleum processing, crude and product storage, crude unloading and product loading, waste management (closed and existing facilities), and offices and non-petroleum material storage. Western Refining indefinitely suspended refining operations at the Bloomfield Refinery on November 23, 2009. The crude unloading and product loading racks, storage tanks and other supporting equipment remain in operation.

HISTORY OF THE RIVER TERRACE

1999

Sheet piling was installed along with a bentonite slurry wall adjacent to the San Juan River, at the River Terrace, in order to intercept a small hydrocarbon seep that had been detected in the area.

2004

MW #48 & MW #49 and 8 temporary piezometers were installed to launch a River Terrace Investigation. Several temporary piezometers were drilled on the north side of Hammond Ditch to chart the top of the Naciemento Formation.

2005

The North Boundary Barrier Wall installation was completed March 2005. In April, five more temporary piezometers were installed at the River Terrace. Dewatering Wells #1 and #2 and thirteen bioventing wells were drilled in August at the River Terrace. Construction of the River Terrace Bioventing Project was initiated in August. The system was put on-line in January 2006.

2006

System monitoring began in January abiding by the guidelines from the River Terrace Voluntary Corrective Measures Monitoring Plan approved by OCD and NMED. The In-Situ Respiration test was conducted in May 2006. Quarterly performance monitoring was carried out in March, June, September, and December of 2006.

2007

The dewatering pumps failed and were replaced in February. Breakthrough in the lead GAC (V-612) was detected in April at which time it was taken out of service and V-611 became the lead GAC. V-612 was replaced and back in service in June as the lag filter. Quarterly performance monitoring for the Bioventing System occurred in February, June, August, and October. The In-Situ Respiration Test was conducted in September 2007.

2008

The blower bearings were replaced in February. The dewatering pump at MW #48 failed and was replaced in August. Blower piping was upgraded in October. Quarterly performance monitoring for the Bioventing System occurred in March, May, July, and November.

2009

Quarterly performance monitoring for the Bioventing System occurred in March, April, September, and October.
Modifications to the monitoring plan (TP #3, TP #10, TP #11, TP #12, and TP #13 revised to semi-annual sampling) were employed during the fourth quarter (October) sampling event of 2009.
An In-Situ Respiration Test was conducted during the week of October 26, 2009.
In order to improve and optimize the dewatering system, a collection gallery, pump, and piping system were installed in the southwest portion of the River Terrace and put on service by October 13, 2009.
Western Refining indefinitely suspended refining operations at the Bloomfield Refinery on November 23, 2009. The crude unloading and product loading racks, storage tanks and other supporting equipment remain in operation. The River Terrace Bioventing System will continue to operate.

2010

Quarterly performance monitoring for the Bioventing System occurred in March, April, July, and October.
The change in site operation (suspension of refining operations on November 23, 2009) has impacted the operation of the dewatering system of the River Terrace Bioventing System. Although the aeration system continues to operate consistently, operation of the dewatering system has become infrequent due to the decreased demand for fresh water to support current facility operations.

Section 2.0 Scope of Activities

Scope of Activities

Bloomfield Refinery initiated and constructed the River Terrace Bioventing Project to provide oxygen to the subsurface and support aerobic biodegradation of petroleum hydrocarbons existing in the soil at the River Terrace. The project includes a dewatering system to expand the vadose zone for increased bioremedial activity. The system was put on-line in January 2006 at which time the *Voluntary Corrective Measure Bioventing Monitoring Plan* was followed.

The NMED letter dated June 13, 2007 (*Direction to Modify Future Monitoring as reported in the River Terrace Voluntary Corrective Measures Bioventing System Annual Report January 2006 through December 2006*) revised the monitoring plan to include additional metals analysis and incorporate quarterly sampling of TP-7. The revisions were implemented during the second quarter sampling event of 2007 and continue to be followed.

Additional revisions to the monitoring plan were stated in the NMED letter dated June 16, 2009 (*Approval with Direction River Terrace Voluntary Corrective Measures Bioventing System Annual Report January 2008 through December 2008).* NMED agreed to modify the sampling program at the eastern portion of the River Terrace (TP #3, TP #10, TP #11, TP #12, and TP #13) to semi-annual sampling during the high and low water flows of the San Juan River. These modifications were employed during the fourth quarter sampling event of 2009 and were continued throughout 2010.

Western Refining indefinitely suspended refining operations at the Bloomfield Refinery on November 23, 2009. The crude unloading and product loading racks, storage tanks and other supporting equipment remain in operation.

Performance Monitoring

On-going performance monitoring activities continued on a quarterly basis to assess the progress of the remediation system in reducing fuel hydrocarbons. Laboratory analysis of groundwater, treated groundwater, and soil gas are included in the on-going performance monitoring program. In addition, certain field parameter data were collected using portable gauges and gas meters.

Section 4.0 of this report summarizes the field parameters and analytical data obtained during routine performance monitoring activities performed in 2006, 2007, 2008, 2009, and 2010.

Pressure Readings

During each quarterly sampling event, pressure readings were collected from each of the TP wells, MW #49, and DW #1 using a hand-held magnahelic gauge connected to the sample port at the top of each well. Injection pressure and flow rates were collected from all bioventing wells (BV wells). Overall system pressure measurements were also collected.

This data is available in Section 4.0 Tab 1 and Tab 4 in this report.

Groundwater

First quarter groundwater elevation measurements were collected from each of the TP wells, DW #1, and MW #49 during the week of March 8, 2010. Groundwater samples were not collected from the TPs on the eastern portion of the River Terrace (TP #3, TP #10, TP #11, TP #12, and TP #13). The wells on the western portion of the River Terrace (TP #1, TP #2, TP #5, TP #6, TP, #7, TP #8, TP #9, DW #1, and MW #49 were sampled and analyzed for BTEX and MTBE (EPA Method 8021B), GRO and DRO (EPA Method 8015B), and lead analysis (EPA Method 6010B). DW #1 samples were also analyzed for mercury (EPA Method 7470). Field measurements included temperature, pH, conductivity, DO, and ORP. TP-7 was sampled after a 24 hour recharge time.

Second quarter sampling and groundwater elevation measurements were collected from each of the TP wells, DW #1, and MW #49 during the week of April 19, 2010. TP-7 was sampled after a 24 hour recharge time. Annual analysis of chromium and barium (EPA Method 6010B) were performed during the second quarter event. Lead analysis (EPA Method 6010B) was performed on samples collected from each TP Well, MW #49, and DW#1. DW #1 samples were also analyzed for mercury (EPA Method 7470). In addition, groundwater samples were analyzed for BTEX and MTBE (EPA Method 8021B), GRO and DRO (EPA Method 8015B). Field measurements included temperature, pH, conductivity, DO, and ORP.

Third quarter groundwater elevation measurements were collected from each of the TP wells, DW #1, and MW #49 during the week of July 20, 2010. During this sampling event, groundwater samples were not collected from the TPs on the eastern portion of the River Terrace (TP #3, TP #10, TP #11, TP #12, and TP #13). The wells on the western portion of the River Terrace (TP #1, TP #2, TP #5, TP #6, TP, #7, TP #8, TP #9, DW #1, and MW #49) were sampled and analyzed for BTEX and MTBE (EPA Method 8021B), GRO and DRO (EPA Method 8015B), and lead analysis (EPA Method 6010B). DW #1 samples were also analyzed for mercury (EPA Method 7470). Field measurements included temperature, pH, conductivity, DO, and ORP. TP-7 was sampled after a 24 hour recharge time.

Fourth quarter groundwater samples and groundwater elevation measurements were collected from each of the TP wells, DW #1, and MW #49 during the week of October 18, 2010. TP-7 was sampled after a 24 hour recharge time. Lead analysis (EPA Method 6010B) was performed on samples collected from each TP Well, MW #49, and DW#1. In addition, groundwater samples were analyzed for BTEX and MTBE (EPA Method 8021B), GRO and DRO (EPA Method 8015B). Field measurements included temperature, pH, conductivity, DO, and ORP. Mercury analysis (EPA Method 7470) for DW #1 was inadvertently not marked on the Chain of Custody. There are no mercury results for DW #1 for the fourth quarter 2010 sampling event.

A summary of the groundwater monitoring results can be found in Section 4.0 Tab 2 and Tab 3.

Soil Gas

The first quarter sampling event was conducted during the week of March 8, 2010. Soil gas samples were not collected from the TPs on the eastern portion of the River Terrace (TP #3, TP #10, TP #11, TP #12, and TP #13) due to approved changes in the monitoring plan. Soil gas samples were collected from the wells on the western portion of the River Terrace (TP #1, TP #2, TP #5, TP #6, TP, #7, TP #8, TP #9, DW #1, and MW #49) and analyzed for BTEX (8021B) and GRO (8015B). Field measurements of vapor-phase organics (using a PID) and oxygen and carbon dioxide concentrations (using a multi-gas meter) were collected. Third quarter monitoring events occurred during the week of July 20, 2010 and utilized the same collection sites, and the same methods and parameters.

During the second and fourth quarter sampling events, soil gas samples were collected from each of the TP Wells, DW #1, and MW #49. Soil gas analysis included BTEX (8021B) and GRO (8015B). Field measurements of vapor-phase organics (using a PID) and oxygen and carbon dioxide concentrations (using a multi-gas meter) were collected. Second quarter samples were collected the week of April 19, 2010. Fourth quarter monitoring was conducted during the week of October 18, 2010.

A summary of the soil gas monitoring results can be found in Section 4.0 Tab 1.

Dewatering System

Operation of the dewatering system is interlocked with the river pumps that pump fresh water up to the refinery. The change in site operation (suspension of refining operations on November 23, 2009) has impacted the operation of the dewatering system of the River Terrace Bioventing System. Although the aeration system continues to operate continuously, operation of the dewatering system has become infrequent due to the decreased demand for fresh water to support current facility operations.

The collection gallery, pump, and piping which were installed in 2009 and came online on October 13, 2009 are also interlocked with the river pumps and also operate infrequently due to current facility operations.

Extracted groundwater generated in the operation of the dewatering system and collection gallery is pumped through two GAC filters positioned in series for removal of dissolved-phase hydrocarbons.

In-Situ Respiration Test

Western has conducted three separate in-situ respiration tests at the River Terrace area in May 2006, September 2007, and October 2009. The suspension of refining operations causes the dewatering system to operate intermittently which in turn affects exposure of the vadose zone thus affecting the accuracy of the in-situ respiration test. In a November 23, 2010 letter (*Request To Suspend In-Situ Respiration Testing At The River Terrace Area),* New Mexico Environmental Department – Hazardous Waste Bureau (NMED) granted approval to discontinue conducting the in-situ respiration tests. Therefore an in-situ respiration was not performed in 2010. Future respiration tests may be evaluated on an annual basis based on the operation of the dewatering system.

GAC Filter Monitoring

Extracted groundwater from the dewatering wells and collection gallery is treated prior to discharge to the raw water ponds, located within the east portion of the refinery. Extracted groundwater is pumped through two GAC filters positioned in series for removal of dissolved-phase hydrocarbons.

GAC filter sampling includes influent samples from a sample port located upstream of the GAC filters, and effluent samples collected from ports located after each of the lead and lag GAC filters. Monitoring the performance of the GAC filters is performed as required to estimate GAC filter change-out frequency.

GAC filter influent samples (GAC Inf) and effluent samples collected downstream of the lag GAC filter (GAC 1 Eff – V612) were collected quarterly. Effluent samples from the lead GAC filter (GAC 2 Eff – V-611) were obtained monthly. Samples were analyzed for BTEX by EPA Method 8021B, GRO and DRO by EPA Method 8015B.

A summary of the GAC filter performance monitoring results is presented in Section 4.0 Tab 5 of this report.

Field Data Collection

All water/product levels were measured to an accuracy of 0.01 foot using a Geotech Interface Probe. After determining water levels, purge volumes were calculated.

Soil gas purging and sampling were done before groundwater purging and sampling. After sufficient purging (three well volumes), soil gas samples were collected using the vacuum pump. Field measurements of vapor-phase organics (using a PID meter), oxygen, and carbon dioxide concentrations (using a multi-gas meter) were recorded using portable field instruments.

Prior to soil gas purging, the YSI 550A Dissolved Oxygen Probe was used to determine dissolved oxygen (DO) levels. At least three well volumes were purged from each well prior to groundwater sampling. Electrical conductance (E.C.), pH, temperature, and oxidation reduction potential were monitored during purging using an Ultrameter 6P. The wells were considered satisfactorily purged when the pH, E.C., and temperature values did not vary by more than 10 percent for at least three measurements.

All purged water was collected and disposed of through the refinery wastewater system.

Field data and analytical results can be found in Section 4.0 – Tabs 1, 2, 3, 4 and 5.

Section 3.0 Regulatory Criteria / Groundwater Cleanup Standards

Table of New Mexico and USEPA Groundwater Standards

Metals	**(mg/l)**
Antimony	0.006 [2]
Arsenic	0.01 [2]
Barium	1.0
Beryllium	0.004 [2]
Cadmium	0.005 [2]
Chromium	0.05
Cobalt	0.05
Copper	1.0
Cyanide	0.2
Lead	0.015[2]
Mercury	0.002
Nickel	0.200
Selenium	0.05
Silver	0.05
Uranium	0.03
Vanadium	0.26[3]
Zinc	10.0

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

2 - Federal Maximum Contaminant Level

3 - USEPA Regional Screening Levels (April 2009)

Ne - not established

Table of New Mexico and USEPA Groundwater Standards

Semivolatiles	(ug/l)
1,2,4-Trichlorobenzene	70 [2]
1,2-Dichlorobenzene	600[2]
1,3-Dichlorobenzene	Ne
1,4-Dichlorobenzene	75[2]
2,4,5-Trichlorophenol	3,700 [3]
2,4,6-Trichlorophenol	6.1 [3]
2,4-Dichlorophenol	110 [3]
2,4-Dimethylphenol	730 [3]
2,4-Dinitrophenol	73 [3]
2,4-Dinitrotoluene	0.22[3]
2,6-Dinitrotoluene	37 [3]
2-Chloronaphthalene	2900[3]
2-Chlorophenol	180[3]
2-Methylnaphthalene	150[3]
2-Methylphenol	1,800 [3]
2-Nitroaniline	110 [3]
2-Nitrophenol	Ne
3,3'-Dichlorobenzidine	0.15[3]
3+4-Methylphenol	180 [3]
3-Nitroaniline	Ne
4,6-Dinitro-2-methylphenol	Ne
4-Bromophenyl phenyl ether	Ne
4-Chloro-3-methylphenol	Ne
4-Chloroaniline	0.34[3]
4-Chlorophenyl phenyl ether	Ne
4-Nitroaniline	3.4[3]
4-Nitrophenol	Ne
Acenaphthene	2200[3]
Acenaphthylene	Ne

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

2 - Federal Maximum Contaminant Level

3 - USEPA Regional Screening Levels (April 2009)

Ne - not established

Table of New Mexico and USEPA Groundwater Standards

Semivolatiles	(ug/l)
Aniline	12 [3]
Anthracene	1100[3]
Azobenzene	0.12[3]
Benz(a)anthracene	0.029 [3]
Benzo(a)pyrene	0.2 [2]
Benzo(b)fluoranthene	0.029 [3]
Benzo(g,h,i)perylene	Ne
Benzo(k)fluoranthene	0.29 [3]
Benzoic acid	150,000 [3]
Benzyl alcohol	1800[3]
Bis(2-chloroethoxy)methane	110[3]
Bis(2-chloroethyl)ether	0.012[3]
Bis(2-chloroisopropyl)ether	Ne
Bis(2-ethylhexyl)phthalate	6[2]
Butyl benzyl phthalate	35[3]
Carbazole	Ne
Chrysene	2.9 [3]
Dibenz(a,h)anthracene	0.0029 [3]
Dibenzofuran	Ne
Diethyl phthalate	29,000 [3]
Dimethyl phthalate	Ne
Di-n-butyl phthalate	Ne
Di-n-octyl phthalate	Ne
Fluoranthene	1,500 [3]
Fluorene	1500[3]
Hexachlorobenzene	1.0 [2]
Hexachlorobutadiene	0.86 [3]
Hexachlorocyclopentadiene	50 [2]
Hexachloroethane	4.8 [3]

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

2 - Federal Maximum Contaminant Level

3 - USEPA Regional Screening Levels (April 2009)

Ne - not established

Table of New Mexico and USEPA Groundwater Standards

Semivolatiles	(ug/l)
Indeno(1,2,3-cd)pyrene	0.029 [3]
Isophorone	71[3]
Naphthalene	0.14[3]
Nitrobenzene	0.12[3]
N-Nitrosodimethylamine	0.00042 [3]
N-Nitrosodi-n-propylamine	0.0096 [3]
N-Nitrosodiphenylamine	14 [3]
Pentachlorophenol	1 [2]
Phenanthrene	Ne
Phenol	5[3]
Pyrene	1100[3]
Pyridine	37 [3]

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

2 - Federal Maximum Contaminant Level

3 - USEPA Regional Screening Levels (April 2009)

Ne - not established

Table of New Mexico and USEPA Groundwater Standards

Volatiles	(ug/l)
1,1,1,2-Tetrachloroethane	0.52[3]
1,1,1-Trichloroethane	60
1,1,2,2-Tetrachloroethane	10
1,1,2-Trichloroethane	5[2]
1,1-Dichloroethane	25
1,1-Dichloroethene	5
1,1-Dichloropropene	Ne
1,2,3-Trichlorobenzene	Ne
1,2,3-Trichloropropane	0.0096[3]
1,2,4-Trichlorobenzene	70.0[2]
1,2,4-Trimethylbenzene	15.0 [3]
1,2-Dibromo-3-chloropropane	0.2 [2]
1,2-Dibromoethane (EDB)	0.05[2]
1,2-Dichlorobenzene	600.0 [2]
1,2-Dichloroethane (EDC)	5[2]
1,2-Dichloropropane	5.0 [2]
1,3,5-Trimethylbenzene	12[3]
1,3-Dichlorobenzene	Ne
1,3-Dichloropropane	730 [3]
1,4-Dichlorobenzene	75.0 [2]
1-Methylnaphthalene	2.3[3]
2,2-Dichloropropane	Ne
2-Butanone	710.0 [3]
2-Chlorotoluene	730.0 [3]
2-Hexanone	Ne
2-Methylnaphthalene	150[3]
4-Chlorotoluene	2600[3]
4-Isopropyltoluene	Ne
4-Methyl-2-pentanone	Ne

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

2 - Federal Maximum Contaminant Level

3 - USEPA Regional Screening Levels (April 2009)

Ne - not established

Table of New Mexico and USEPA Groundwater Standards

Volatiles	(ug/l)
Acetone	22000[3]
Benzene	5 [2]
Bromobenzene	20[3]
Bromodichloromethane	0.12[3]
Bromoform	8.5 [3]
Bromomethane	8.7 [3]
Carbon disulfide	1,000 [3]
Carbon Tetrachloride	5[2]
Chlorobenzene	100.0 [2]
Chloroethane	Ne
Chloroform	100
Chloromethane	190 [3]
cis-1,2-DCE	70 [2]
cis-1,3-Dichloropropene	0.4 [3]
Dibromochloromethane	0.15[3]
Dibromomethane	370[3]
Dichlorodifluoromethane	390 [3]
Ethylbenzene	700 [2]
Hexachlorobutadiene	0.86 [3]
Isopropylbenzene	680[3]
Methyl tert-butyl ether (MTBE)	12[3]
Methylene Chloride	5[2]
Naphthalene	0.14[3]
n-Butylbenzene	Ne
n-Propylbenzene	Ne
sec-Butylbenzene	Ne
Styrene	100[2]
tert-Butylbenzene	Ne
Tetrachloroethene (PCE)	5 [2]

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

2 - Federal Maximum Contaminant Level

3 - USEPA Regional Screening Levels (April 2009)

Ne - not established

Table of New Mexico and USEPA Groundwater Standards

Volatiles	(ug/l)
Toluene	750
trans-1,2-DCE	100 [2]
trans-1,3-Dichloropropene	0.4 [3]
Trichloroethene (TCE)	5 [2]
Trichlorofluoromethane	1,300 [3]
Vinyl chloride	1
Xylenes, Total	620

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

2 - Federal Maximum Contaminant Level

3 - USEPA Regional Screening Levels (April 2009)

Ne - not established

Table of New Mexico and USEPA Groundwater Standards

General Chemistry	(mg/l)
Alkalinity, Total (As CaCO3)	Ne
Bicarbonate	Ne
Calcium	Ne
Carbonate	Ne
Chloride	250
Fluoride	1.6
Iron	1
Magnesium	Ne
Manganese	0.2
Nitrogen, Nitrate (As N)	10
Nitrogen, Nitrite (As N)	1[2]
Nitrate (As N)+Nitrite (As N)	10
Potassium	Ne
Sodium	Ne
Sulfate	600

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

2 - Federal Maximum Contaminant Level

3 - USEPA Regional Screening Levels (April 2009)

Ne - not established

20.6.2.3103 STANDARDS FOR GROUND WATER OF 10,000 mg/l TDS CONCENTRATION OR LESS: The following standards are the allowable pH range and the maximum allowable concentration in ground water for the contaminants specified unless the existing condition exceeds the standard or unless otherwise provided in Subsection D of Section 20.6.2.3109 NMAC. Regardless of whether there is one contaminant or more than one contaminant present in ground water, when an existing pH or concentration of any water contaminant exceeds the standard specified in Subsection A, B, or C of this section, the existing pH or concentration shall be the allowable limit, provided that the discharge at such concentrations will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section. These standards shall apply to the dissolved portion of the contaminants specified with a definition of dissolved being that given in the publication "*methods for chemical analysis of water and waste of the U.S. environmental protection agency*," with the exception that standards for mercury, organic compounds and non-aqueous phase liquids shall apply to the total unfiltered concentrations of the contaminants.

A. Human Health Standards-Ground water shall meet the standards of Subsection A and B of this section unless otherwise provided. If more than one water contaminant affecting human health is present, the toxic pollutant criteria as set forth in the definition of toxic pollutant in Section 20.6.2.1101 NMAC for the combination of contaminants, or the Human Health Standard of Subsection A of Section 20.6.2.3103 NMAC for each contaminant shall apply, whichever is more stringent. Non-aqueous phase liquid shall not be present floating atop of or immersed within ground water, as can be reasonably measured.

(1) Arsenic (As).....0.1 mg/l
(2) Barium (Ba).....1.0 mg/l
(3) Cadmium (Cd).....0.01 mg/l
(4) Chromium (Cr).....0.05 mg/l
(5) Cyanide (CN).....0.2 mg/l
(6) Fluoride (F).....1.6 mg/l
(7) Lead (Pb).....0.05 mg/l
(8) Total Mercury (Hg).....0.002 mg/l
(9) Nitrate (NO_3 as N).....10.0 mg/l
(10) Selenium (Se).....0.05 mg/l
(11) Silver (Ag).....0.05 mg/l
(12) Uranium (U).....0.03 mg/l
(13) Radioactivity: Combined Radium-226 & Radium-228.....30 pCi/l
(14) Benzene.....0.01 mg/l
(15) Polychlorinated biphenyls (PCB's).....0.001 mg/l
(16) Toluene.....0.75 mg/l
(17) Carbon Tetrachloride.....0.01 mg/l
(18) 1,2-dichloroethane (EDC).....0.01 mg/l
(19) 1,1-dichloroethylene (1,1-DCE).....0.005 mg/l
(20) 1,1,2,2-tetrachloroethylene (PCE).....0.02 mg/l
(21) 1,1,2-trichloroethylene (TCE).....0.1 mg/l
(22) ethylbenzene.....0.75 mg/l
(23) total xylenes.....0.62 mg/l
(24) methylene chloride.....0.1 mg/l
(25) chloroform.....0.1 mg/l
(26) 1,1-dichloroethane.....0.025 mg/l
(27) ethylene dibromide (EDB).....0.0001 mg/l
(28) 1,1,1-trichloroethane.....0.06 mg/l
(29) 1,1,2-trichloroethane.....0.01 mg/l
(30) 1,1,2,2-tetrachloroethane.....0.01 mg/l
(31) vinyl chloride.....0.001 mg/l
(32) PAHs: total naphthalene plus monomethylnaphthalenes.....0.03 mg/l
(33) benzo-a-pyrene.....0.0007 mg/l

B. Other Standards for Domestic Water Supply

(1) Chloride (Cl).....250.0 mg/l
(2) Copper (Cu).....1.0 mg/l
(3) Iron (Fe).....1.0 mg/l
(4) Manganese (Mn).....0.2 mg/l
(6) Phenols.....0.005 mg/l
(7) Sulfate (SO_4).....600.0 mg/l
(8) Total Dissolved Solids (TDS).....1000.0 mg/l
(9) Zinc (Zn).....10.0 mg/l
(10) pH.....between 6 and 9

C. Standards for Irrigation Use - Ground water shall meet the standards of Subsection A, B, and C of

this section unless otherwise provided.

(1) Aluminum (Al)..... .....5.0 mg/l
(2) Boron (B) .....0.75 mg/l
(3) Cobalt (Co) .....0.05 mg/l
(4) Molybdenum (Mo) .....1.0 mg/l
(5) Nickel (Ni) .....0.2 mg/l

[2-18-77, 1-29-82, 11-17-83, 3-3-86, 12-1-95; 20.6.2.3103 NMAC - Rn, 20 NMAC 6.2.III.3103, 1-15-01; A, 9-26-04]

[Note: For purposes of application of the amended numeric uranium standard to past and current water discharges (as of 9-26-04), the new standard will not become effective until June 1, 2007. For any new water discharges, the uranium standard is effective 9-26-04

In some instances, it may be practical to assess areas of soil contamination that are the result of releases of petroleum products such as jet fuel and diesel, using total petroleum hydrocarbon (TPH) analyses. TPH results may be used to delineate the extent of petroleum-related contamination at these sites and ascertain if the residual level of petroleum products in soil represents an unacceptable risk to future users of the site. Petroleum hydrocarbons represent complex mixtures of compounds, some of which are regulated constituents and some compounds that are not regulated. In addition, the amount and types of the constituent compounds in a petroleum hydrocarbon release differ widely depending on what type of product was spilled and how the spill has weathered. This variability makes it difficult to determine the toxicity of weathered petroleum products in soil solely from TPH results; however, these results can be used to approximate risk in some cases, depending upon the nature of the petroleum product, the release scenario, how well the site has been characterized, and anticipated potential future land uses. In some cases, site clean up cannot be based solely on results of TPH sampling. The New Mexico Environment Department (NMED) will make these determinations on a case by case basis. If NMED determines that additional data are necessary, these TPH guidelines must be used in conjunction with the screening guidelines for individual petroleum-related contaminants in Table 3 and other contaminants, as applicable.

The screening levels for each petroleum carbon range from the Massachusetts Department of Environmental Protection (MADEP) Volatile Petroleum Hydrocarbons/Extractable Petroleum Hydrocarbons (VPH/EPH) approach and the percent composition table below were used to generate screening levels corresponding to total TPH. Except for waste oil, the information in the compositional assumptions table was obtained from the Massachusetts Department of Environmental Protection guidance document *Implementation of the MADEP VPH/EPH Approach* (October 31, 2002). TPH toxicity was based only on the weighted sum of the toxicity of the hydrocarbon fractions listed in Table 1.

Table 1. TPH Compositional Assumptions in Soil

Petroleum Product	C11-C22 Aromatics	C9-C18 Aliphatics	C19-C36 Aliphatics
Diesel #2/ new crankcase oil	60%	40%	0%
#3 and #6 Fuel Oil	70%	30%	0%
Kerosene and jet fuel	30%	70%	0%
Mineral oil dielectric fluid	20%	40%	40%
Unknown oil[a]	100%	0%	0%
Waste Oil[b]	0%	0%	100%

[a] Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

A TPH screening guideline was calculated for each of the types of petroleum product based on the assumed composition from Table 1 for petroleum products and the direct soil standards incorporating ceiling concentrations given in the MADEP VPH/EPH Excel spreadsheet for each of the carbon fractions. Groundwater concentrations are based on the weighted sum of the noncarcinogenic toxicity of the petroleum fractions.

Method 1 from the MADEP VPH/EPH document was applied, which represents generic cleanup standards for soil and groundwater. Method 1 applies if contamination exists in only soil and groundwater. The MADEP VPH/EPH further divides groundwater into standards. Standard GW-1 applies when groundwater may be used for drinking water purposes. GW-1 standards are based upon ingestion and use of groundwater as a potable water supply. The TPH screening guidelines for sites with potable groundwater are presented in Table 2a.

Table 2a. TPH Screening Guidelines for Potable Groundwater (GW-1)

TPH			Concentration in Groundwater (mg/L)
Petroleum Product	**Residential Direct Exposure (mg/kg)**	**Industrial Direct Exposure (mg/kg)**	
Diesel #2/crankcase oil	520	1120	1.72
#3 and #6 Fuel Oil	440	890	1.34
Kerosene and jet fuel	760	1810	2.86
Mineral oil dielectric fluid	1440	3040	3.64
Unknown oil [a]	200	200	0.2
Waste Oil [b]	2500	5000	Petroleum-Related Contaminants
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants

[a] Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

The second standard is GW-2, which is applicable for sites where the depth to groundwater is less than 15 feet from the ground surface and within 30 feet of an occupied structure. The structure may be either residential or industrial. GW-2 standards are based upon "inhalation exposures that could occur to occupants of the building impacted by volatile compounds, which partition from the groundwater" (MADEP 2001). The GW-2 screening guidelines ONLY apply for the evaluation of inhalation exposures. If potential ingestion or contact with contaminated soil and/or

groundwater could occur, then the screening guidelines provided in Table 2.a should be applied. Table 2.b lists the TPH screening guidelines for the inhalation scenario.

Table 2b. TPH Screening Guidelines – Vapor Migration and Inhalation of Groundwater (GW-2)

TPH			Concentration in Groundwater (mg/L)
Petroleum Product	**Residential Direct Exposure (mg/kg)**	**Industrial Direct Exposure (mg/kg)**	
Diesel #2/crankcase oil	880	2200	30.4
#3 and #6 Fuel Oil	860	2150	35.3
Kerosene and jet fuel	940	2350	15.7
Mineral oil dielectric fluid	1560	3400	10.4
Unknown oil [a]	800	2000	50.0
Waste Oil [b]	2500	5000	Petroleum-Related Contaminants
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants

[a] Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

Mineral oil based hydraulic fluids can be evaluated for petroleum fraction toxicity using the screening guidelines from Tables 2a and 2b specified for waste oil, because this type of hydraulic fluid is composed of approximately the same range of carbon fractions as waste oil. However, these hydraulic fluids often contain proprietary additives that may be significantly more toxic than the oil itself; these additives must be considered on a site- and product-specific basis (see ATSDR hydraulic fluids profile reference). **Use of alternate screening guideline values requires prior written approval from the New Mexico Environment Department.** TPH screening guidelines in Tables 2a and 2b must be used in conjunction with the screening levels for petroleum-related contaminants given in Table 3 because the TPH screening levels are NOT designed to be protective of exposure to these individual petroleum-related contaminants. Table 3 petroleum-related contaminants screening levels are based on the *NMED Technical Background Document for Development of Soil Screening Levels, Rev 4.0 (June 2006).*

The list of petroleum-related contaminants does not include polyaromatic hydrocarbons (PAHs) with individual screening levels that would exceed the total TPH screening levels (acenaphthene, anthracene, flouranthene, flourene, and pyrene). In addition, these TPH screening guidelines are based solely on human health, not ecological risk considerations, protection of surface water, or

potential indoor air impacts from soil vapors. Potential soil vapor impacts to structures or utilities are not addressed by these guidelines. Site-specific investigations for potential soil vapor impacts to structures or utilities must be done to assure that screenings are consistently protective of human health, welfare or use of the property. NMED believes that use of these screening guidelines will allow more efficient screenings of petroleum release sites at sites while protecting human health and the environment. Copies of the references cited below are available on the MADEP website at http://www.state.ma.us/dep/bwsc/vph_eph.htm and the NMED website at http://www.nmenv.state.nm.us/HWB/guidance.html.

Revised Table 3. Petroleum-Related Contaminants Screening Guidelines

Petroleum-Related Contaminants	Values for Direct Exposure to Soil		NMED DAF[a] 20 GW Protection (mg/kg in soil)	NMED DAF[b] 1 GW Protection (mg/kg in soil)
	NMED Residential SSL (mg/kg)	NMED Industrial SSL (mg/kg)		
Benzene	1.03E+01	2.58E+01	2.01E-02	1.00E-03
Toluene	2.52E+02	2.52E+02	2.17E+01	1.08E+00
Ethylbenzene	1.28E+02	1.28E+02	2.02E+01	1.01E+00
Xylenes[c]	8.20E+01	8.20E+01	2.06E+00	1.03E-01
Naphthalene	7.95E+01	3.00E+02	3.94E-01	1.97E-02
2-Methyl naphthalene[d]	5.00E+02	1.00E+03	---[e]	---[e]
Benzo(a)anthracene	6.21E+00	2.34E+01	1.09E+01	5.43E-01
Benzo(b)fluoranthene	6.21E+00	2.34E+01	3.35E+01	1.68E+00
Benzo(k)fluoranthene	6.21E+01	2.34E+02	3.35E+02	1.68E+01
Benzo(a)pyrene	6.21E-01	2.34E+00	2.78E+00	1.39E-01
Chrysene	6.15E+02	2.31E+03	3.48E+02	1.74E+01
Dibenz(a,h)anthracene	6.21E-01	2.34E+00	1.04E+01	5.18E-01
Indeno(1,2,3-c,d)pyrene	6.21E+00	2.34E+01	9.46E+01	4.73E+00

[a] DAF - Dilution Attenuation Factor

[b] For contaminated soil in contact with groundwater.

[c] Based upon total xylenes

[d] No NMED value available, value taken from Massachusetts Contingency Plan, 310 CMR 40.0985, 4/3/06.

[e] No NMED value available and leachability-based value for DAF =1 or 20 not established in the Massachusetts Contingency Plan, 310 CMR 40.0985, 4/3/06.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1997. Toxicological Profile for Hydraulic fluids.

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 1994. "Background Documentation for the Development of the MCP Numerical Standards."

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 2002. "Characterizing Risks Posed by Petroleum

Contaminated Sites: Implementation of the MADEP VPH/EPH Approach," Policy, October 31, 2002.

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 2003. "Updated Petroleum Hydrocarbon Fraction Toxicity Values for the VPH/EPH/APH Methodology." November 2003.

New Mexico Environment Department, Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. 2006. "Technical Background Document for Development of Soil Screening Levels." June 2006. Revision 4.0.

Section 4.0 Monitoring Results

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #1	4th Quarter 2010	Week of 10/18/10	11.5	6.30	0.00	0.7	20.2	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	11.0	5.90	0.00	4.3	20.5	0.10	0.14	<0.10	0.39	1.5	17
	2nd Quarter 2010	Week of 4/19/10	12.7	6.96	0.30	56.2	20.3	0.00	<0.10	0.3	0.11	7.4	220
	1st Quarter 2010	Week of 3/08/10	8.0	4.40	0.00	6.2	20.9	0.00	0.70	<0.10	0.62	3.8	34
	4th Quarter 2009	Week of 10-05-09	8.9	4.90	0.00	5.3	20.9	0.00	0.19	<0.10	2.20	12.0	49
	3rd Quarter 2009	Week of 9/10/09	8.9	4.90	0.00	5.1	20.9	0.10	0.62	0.12	94.0	3.3	67
	2nd Quarter 2009	Week of 4/20/09	10.0	5.26	2.00	234.0	20.9	1.10	5.10	<0.10	16.0	100.0	330
	1st Quarter 2009	Week of 3/02/09	8.99	4.91	1.00	37.8	20.9	0.00	0.92	<0.10	3.8	24.0	65
	4th Quarter 2008	Week of 11/10/08	8.0	4.85	0.00	20.4	20.9	0.00	7.70	<0.50	8.0	31.0	210.0
	3rd Quarter 2008	Week of 7/14/08	9.9	5.37	0.00	10.6	20.9	0.00	0.16	0.19	0.2	6.3	48.0
	2nd Quarter 2008	Week of 5/12/08	7.2	3.97	0.00	10.4	20.9	0.00	0.40	<0.10	0.42	1.4	15.0
	1st Quarter 2008	Week of 03/10/08	6.8	3.63	0.00	328.0	20.9	0.40	4.50	<0.10	6.0	11.0	90.0
	4th Quarter 2007	Week of 10/29/07	9.6	5.29	0.00	51.0	19.3	0.70	6.10	<0.10	9.0	12.0	95.0
	3rd Quarter 2007	Week of 8/20/07	11.4	6.24	0.00	3275.0	17.9	4.20	23.00	<0.10	75.0	390.0	1300.0
	2nd Quarter 2007	Week of 6/18/07	10.3	5.67	0.00	301.0	19.0	0.40	<0.10	<0.10	0.28	1.0	7.4
	1st Quarter 2007	Week of 2/26/07	14.2	7.79	0.11	1981.0	20.4	0.30	6.10	8.20	150	1200.0	7300.0
	4th Quarter 2006	Week of 12/04/6	13.5	7.42	0.02	1146.0	20.8	0.30	<5.00	8.30	140.0	1000.0	8000.0
	3rd Quarter 2006	Week of 9/11/06	10.4	5.68	0.01	85.5	20.6	0.10	29.00	<2.0	36.0	170.0	920.0
	2nd Quarter 2006	Week of 6/17/06	12.5	6.8	0.05	1452.0	18.9	0.50	2.60	5.50	<2.0	210.0	3100.0
	1st Quarter 2006	Week of 3/06/06	15.0	8.04	0.30	1534.0	20.7	0.10	22.00	321.00	12.0	2100.0	8500.0
	Pre-Dewater	Week of 1/09/06	9.4	5.14	0.00	1401.0	15.0	1.30	5.80	47.00	3.5	320.0	2800.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #2	4th Quarter 2010	Week of 10/18/10	14.1	7.70	4.00	0.4	20.3	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	13.0	7.29	6.20	0.6	20.5	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2010	Week of 4/19/10	14.9	8.13	8.00	1.3	20.6	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	12.0	6.56	18.00	0.6	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2009	Week of 10-05-09	12.0	6.60	3.10	0.7	20.9	0.00	<0.10	<0.10	<0.10	0.34	<5.0
	3rd Quarter 2009	Week of 9/10/09	11.9	6.52	2.50	0.3	20.9	0.10	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2009	Week of 4/20/09	13.0	6.89	8.30	87.5	20.9	0.00	<0.10	<0.10	<0.10	15.0	290
	1st Quarter 2009	Week of 3/02/09	11.8	6.46	10.50	70.5	20.9	0.00	<0.50	<0.50	1.10	48.0	370
	4th Quarter 2008	Week of 11/10/08	5.8	6.72	6.00	19.5	20.9	0.00	<0.10	<0.10	0.14	1.7	78.0
	3rd Quarter 2008	Week of 7/14/08	12.9	7.06	5.00	71.7	20.9	0.10	<0.50	0.78	1.20	47.0	410.0
	2nd Quarter 2008	Week of 5/12/08	10.0	5.52	1.20	30.3	20.9	0.10	2.80	<1.0	7.10	34.0	310.0
	1st Quarter 2008	Week of 03/10/08	9.7	5.3	1.20	12.5	20.9	0.00	0.57	<0.10	0.36	1.1	18.0
	4th Quarter 2007	Week of 10/29/07	12.5	6.86	0.00	0.7	19.7	0.00	<0.10	<0.10	<0.10	<0.10	<5.0
	3rd Quarter 2007	Week of 8/20/07	14.1	7.73	0.00	13.0	19.9	0.00	<0.10	<0.10	<0.10	<0.10	<5.0
	2nd Quarter 2007	Week of 6/18/07	13.7	7.5	0.10	112.0	20.1	0.10	<0.10	<0.10	<0.10	1.4	10.0
	1st Quarter 2007	Week of 2/26/07	16.2	8.86	0.10	8.8	20.6	0.10	<0.10	<0.10	1.1	17.0	88.0
	4th Quarter 2006	Week of 12/04/6	16.5	9.03	0.08	67.0	20.9	0.00	0.11	<0.10	1.6	18.0	120.0
	3rd Quarter 2006	Week of 9/11/06	13.4	7.37	0.01	5.4	20.9	0.00	<0.10	<0.10	<0.10	<0.10	<5.0
	2nd Quarter 2006	Week of 6/17/06	15.1	8.27	0.15	23.8	20.9	0.00	0.21	0.23	0.12	2.8	25.0
	1st Quarter 2006	Week of 3/06/06	18.0	9.83	0.05	92.7	20.9	0.00	0.36	1.80	1.4	17.0	150.0
	Pre-Dewater	Week of 1/09/06	12.0	6.62	0.00	1589.0	4.0	6.40	7.80	11.00	8.0	88.0	1100.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #3	4th Quarter 2010	Week of 10/18/10	12.9	7.05	0.00	0.1	20.3	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	NR[1]	6.85	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	2nd Quarter 2010	Week of 4/19/10	13.4	7.32	0.00	0.6	20.5	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	NR[1]	6.75	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	4th Quarter 2009	Week of 10-05-09	NR[1]	6.91	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	3rd Quarter 2009	Week of 9/10/09	12.5	6.85	0.00	0.0	20.9	0.10	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2009	Week of 4/20/09	13.0	7.06	0.00	0.3	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2009	Week of 3/02/09	12.6	6.92	0.00	0.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2008	Week of 11/10/08	10.0	6.8	0.00	0.5	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2008	Week of 7/14/08	13.1	7.15	0.00	0.8	20.9	0.00	<0.10	<0.10	<0.10	0.55	5.6
	2nd Quarter 2008	Week of 5/12/08	11.0	5.86	0.00	0.8	20.9	0.00	<0.10	<0.10	0.15	0.52	<5.0
	1st Quarter 2008	Week of 03/10/08	9.0	5.17	0.00	2.1	20.9	0.00	<0.10	<0.10	<0.10	0.42	<5.0
	4th Quarter 2007	Week of 10/29/07	12.7	6.94	0.00	0.4	19.2	0.30	<0.10	<0.10	<0.10	<0.1	<5.0
	3rd Quarter 2007	Week of 8/20/07	13.9	7.62	0.00	16.0	19.6	0.10	<0.10	<0.10	<0.10	1.3	19.0
	2nd Quarter 2007	Week of 6/18/07	12.8	7.02	0.00	19.0	20.5	0.10	<0.10	<0.10	<0.10	1.0	7.6
	1st Quarter 2007	Week of 2/26/07	13.7	7.52	0.00	5.2	20.4	0.10	<0.10	<0.10	0.11	1.2	13.0
	4th Quarter 2006	Week of 12/04/6	14.0	7.77	0.00	1.3	19.7	0.50	<0.10	<0.10	<0.10	<0.3	<5.0
	3rd Quarter 2006	Week of 9/11/06	13.5	7.41	0.00	6.6	20.9	0.10	<0.10	<0.10	<0.10	<0.1	<5.0
	2nd Quarter 2006	Week of 6/17/06	13.2	7.23	0.00	2.9	20.9	1.00	<0.10	<0.10	<0.10	<0.3	<5.0
	1st Quarter 2006	Week of 3/06/06	15.0	8.09	0.00	179.8	18.6	0.60	0.55	2.20	0.53	23.0	1300.0
	Pre-Dewater	Week of 1/09/06	11.8	6.44	0.00	NM	17.80	0.00	<0.05	<0.05	<0.05	0.093	<5.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xytene (ug/L)	GRO (ug/L)
TP - #5	4th Quarter 2010	Week of 10/18/10	10.3	5.65	0.00	2.2	20.3	0.00	<0.10	<0.10	<0.10	0.50	6.0
	3rd Quarter 2010	Week of 7/20/10	9.3	5.11	0.20	0.8	20.3	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2010	Week of 4/19/10	10.9	5.98	0.30	4.2	19.3	0.20	<0.10	<0.10	<0.10	<0.30	12
	1st Quarter 2010	Week of 3/08/10	8.0	4.41	0.00	5.5	20.3	60.00	<0.10	<0.10	0.41	2.4	9.3
	4th Quarter 2009	Week of 10-05-09	8.3	4.57	0.00	63.4	20.9	0.10	<0.20	<0.20	8.10	50.0	140
	3rd Quarter 2009	Week of 9/10/09	8.3	4.54	0.00	284.0	20.9	0.10	<0.10	<0.10	42.00	180.0	730
	2nd Quarter 2009	Week of 4/20/09	9.0	4.96	0.50	34.1	20.9	0.00	<0.10	<0.10	2.00	7.6	18
	1st Quarter 2009	Week of 3/02/09	8.8	4.86	0.20	37.7	20.9	0.00	<0.10	<0.10	0.50	2.4	7.8
	4th Quarter 2008	Week of 11/10/08	7.8	4.54	0.30	86.6	20.9	0.00	<0.50	<0.50	12.00	45.0	190.0
	3rd Quarter 2008	Week of 7/14/08	8.7	4.76	0.40	2.3	18.7	1.40	<0.10	0.12	0.45	2.9	9.8
	2nd Quarter 2008	Week of 5/12/08	6.3	3.43	0.00	2.5	20.9	0.00	0.11	<0.10	1.60	8.8	31.0
	1st Quarter 2008	Week of 03/10/08	5.7	3.15	0.00	115.0	20.9	0.00	<0.10	<0.10	2.60	12.0	55.0
	4th Quarter 2007	Week of 10/29/07	8.7	4.78	0.00	54.1	19.3	0.30	<0.10	<0.10	9.80	46.0	180.0
	3rd Quarter 2007	Week of 8/20/07	12.7	6.97	0.00	9890.0	16.9	2.60	<0.10	<0.10	<0.10	910.0	13000.0
	2nd Quarter 2007	Week of 6/18/07	12.1	6.62	0.00	1100.0	18.6	1.90	<5.00	<5.00	<5.00	1500.0	9000.0
	1st Quarter 2007	Week of 2/26/07	10.2	5.59	0.00	1268.0	19.8	0.60	<5.00	9.80	23.00	1000.0	6100.0
	4th Quarter 2006	Week of 12/04/6	11.0	5.95	0.00	1805.0	19.3	0.90	6.10	15.00	14.00	1400.0	8900.0
	3rd Quarter 2006	Week of 9/11/06	9.7	5.32	0.00	137.0	18.6	1.40	<2.5	<2.5	79.00	380.0	1200.0
	2nd Quarter 2006	Week of 6/17/06	9.6	5.24	0.00	953.0	18.6	1.40	<10	15.00	11.00	130.0	1800.0
	1st Quarter 2006	Week of 3/06/06	14.0	7.81	0.01	1534.0	19.7	0.10	69.00	310.00	55.00	2000.0	34000.0
	Pre-Dewater	Week of 1/09/06	8.6	4.70	0.00	103.5	16.0	1.10	0.13	54.00	0.25	38.0	150.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #6	4th Quarter 2010	Week of 10/18/10	11.9	6.51	0.00	0.5	20.3	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	11.0	5.82	0.20	1.0	20.5	0.00	<0.10	<0.10	<0.10	<0.30	5.0
	2nd Quarter 2010	Week of 4/19/10	12.5	6.84	0.80	2.1	20.7	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	9.6	5.27	0.00	1.3	20.9	0.00	<0.10	<0.10	<0.10	0.41	6.8
	4th Quarter 2009	Week of 10-05-09	10.0	5.49	0.00	134.0	20.9	0.30	0.89	<0.10	1.70	4.00	370
	3rd Quarter 2009	Week of 9/10/09	10.1	5.47	0.00	16.7	20.9	0.20	<0.10	<0.10	4.40	8.00	43
	2nd Quarter 2009	Week of 4/20/09	11.0	5.93	1.00	20.5	20.9	0.00	<0.10	<0.10	5.20	19.00	48
	1st Quarter 2009	Week of 3/02/09	8.9	5.86	0.50	60.1	20.6	0.10	1.70	<0.10	29.00	110.00	620
	4th Quarter 2008	Week of 11/10/08	8.3	5.4	0.00	2.6	20.9	0.00	<0.10	<0.10	0.41	0.35	9.2
	3rd Quarter 2008	Week of 7/14/08	10.4	5.67	0.20	4.5	20.9	0.00	<0.10	0.13	<0.10	3.80	26.0
	2nd Quarter 2008	Week of 5/12/08	7.9	4.33	0.00	2.3	20.9	0.00	0.17	<0.10	0.34	1.10	7.6
	1st Quarter 2008	Week of 03/10/08	7.0	4.02	0.00	16.6	20.9	0.00	<0.10	<0.10	0.49	1.30	9.8
	4th Quarter 2007	Week of 10/29/07	10.4	5.7	0.00	3.6	19.4	0.20	<0.10	<0.10	0.39	2.30	6.6
	3rd Quarter 2007	Week of 8/20/07	14.0	7.65	0.00	14.0	19.1	0.60	<0.10	<0.10	<0.10	0.44	<5.0
	2nd Quarter 2007	Week of 6/18/07	13.4	7.32	0.00	25.0	19.2	0.70	<0.10	<0.10	<0.10	<0.10	<5.0
	1st Quarter 2007	Week of 2/26/07	6.39	6.39	0.00	29.5	20.2	0.30	<0.20	<0.20	1.00	13.0	98.0
	4th Quarter 2006	Week of 12/04/6	12.0	6.61	0.00	160.0	19.4	0.60	<0.50	<0.50	2.30	37.0	320.0
	3rd Quarter 2006	Week of 9/11/06	11.3	6.17	0.00	8.1	26.0	0.60	<0.10	<0.10	0.18	1.0	17.0
	2nd Quarter 2006	Week of 6/17/06	11.3	6.18	0.00	56.9	20.6	0.50	<0.10	0.18	<0.10	3.1	100.0
	1st Quarter 2006	Week of 3/06/06	16.0	8.61	0.00	1534.0	20.0	0.30	7.60	47.00	6.50	950.0	4500.0
	Pre-Dewater	Week of 1/09/06	10.4	5.63	0.00	350.0	16.5	1.40	2.70	41.00	0.36	210.0	570.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #7	4th Quarter 2010	Week of 10/18/10	10.6	5.84	0.00	0.1	19.8	0.40	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	9.9	5.44	0.00	0.6	19.8	0.60	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2010	Week of 4/19/10	11.2	3.12	0.00	1.6	20.5	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	9.7	5.35	0.00	0.7	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2009	Week of 10-05-09	10.0	5.48	0.00	0.1	20.9	0.80	<0.10	<0.10	<0.10	<0.30	103
	3rd Quarter 2009	Week of 9/10/09	9.99	5.46	0.00	3.7	19.4	1.20	<0.10	<0.10	0.16	0.78	15
	2nd Quarter 2009	Week of 4/20/09	10.5	5.78	0.00	0.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2009	Week of 3/02/09	10.1	5.55	0.00	1.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2008	Week of 11/10/08	8.0	5.35	0.00	1.3	20.9	0.20	<0.10	<0.10	<0.10	<0.30	6.4
	3rd Quarter 2008	Week of 7/14/08	9.9	5.43	0.00	7.1	20.9	0.40	<0.10	0.12	<0.10	2.00	17.0
	2nd Quarter 2008	Week of 5/12/08	7.6	4.17	0.00	3.6	20.9	0.00	<0.10	<0.10	0.38	1.50	6.2
	1st Quarter 2008	Week of 03/10/08	6.7	3.63	0.00	9.1	20.9	0.00	0.13	0.10	0.44	2.60	47.0
	4th Quarter 2007	Week of 10/29/07	9.9	5.42	0.00	7.4	19.2	0.70	<0.10	<0.10	<0.10	0.85	9.4
	3rd Quarter 2007	Week of 8/20/07	11.3	6.2	0.00	38.0	19.8	0.10	<0.10	<0.10	<0.10	<0.3	<5.0
	2nd Quarter 2007	Week of 6/18/07	9.9	5.4	0.00	35.0	20.6	0.00	<0.10	<0.10	<0.10	1.00	7.0
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	4th Quarter 2006	Week of 12/04/6	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	3rd Quarter 2006	Week of 9/11/06	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	2nd Quarter 2006	Week of 6/17/06	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	1st Quarter 2006	Week of 3/06/06	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	Pre-Dewater	Week of 1/09/06	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #8	4th Quarter 2010	Week of 10/18/10	12.5	6.83	3.00	0.5	20.3	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	12.0	6.45	2.50	0.9	20.4	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2010	Week of 4/19/10	13.7	7.49	5.10	19.8	20.5	0.00	<0.10	<0.10	<0.10	<0.30	56
	1st Quarter 2010	Week of 3/08/10	9.2	5.05	4.00	0.8	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2009	Week of 10-05-09	10.0	5.48	0.10	24.3	10.9	0.10	0.28	<0.10	4.90	25.00	110
	3rd Quarter 2009	Week of 9/10/09	9.9	5.43	0.00	0.7	20.9	0.10	0.27	<0.10	7.00	35.00	180
	2nd Quarter 2009	Week of 4/20/09	10.1	5.60	4.00	0.3	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2009	Week of 3/02/09	9.9	5.42	5.00	1.3	20.9	0.00	<0.10	<0.10	0.10	0.58	<5.0
	4th Quarter 2008	Week of 11/10/08	10.2	5.35	4.10	1.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	7.0
	3rd Quarter 2008	Week of 7/14/08	10.8	5.88	6.50	0.7	20.9	0.00	<0.10	0.12	0.11	2.00	17.0
	2nd Quarter 2008	Week of 5/12/08	8.1	4.44	0.00	0.9	20.9	0.00	<0.10	<0.10	0.48	2.00	22.0
	1st Quarter 2008	Week of 03/10/08	7.5	4.13	0.00	19.1	20.9	0.00	<0.10	<0.10	0.23	1.20	5.0
	4th Quarter 2007	Week of 10/29/07	10.6	5.81	3.00	3.7	19.7	0.10	<0.10	<0.10	0.11	0.57	<5.0
	3rd Quarter 2007	Week of 8/20/07	12.2	6.67	0.00	91.0	19.7	0.10	<0.10	<0.10	<0.10	0.78	6.2
	2nd Quarter 2007	Week of 6/18/07	11.3	6.22	0.00	59.0	20.1	0.10	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2007	Week of 2/26/07	15.6	8.57	0.05	1775.0	20.4	0.30	<5.00	9.50	130.00	1400.0	7100.0
	4th Quarter 2006	Week of 12/04/6	15.0	8.21	0.02	555.0	20.5	0.40	<5.00	7.40	50.00	710.0	4700.0
	3rd Quarter 2006	Week of 9/11/06	11.3	6.21	0.01	11.2	20.9	0.00	<0.10	<0.10	0.13	0.43	14.0
	2nd Quarter 2006	Week of 6/17/06	13.7	7.5	0.01	1641.0	20.9	0.10	<2.00	6.60	2.20	460.0	3700.0
	1st Quarter 2006	Week of 3/06/06	16.0	8.92	0.05	1534.0	20.7	0.10	8.80	220.00	13.00	1900.0	7700.0
	Pre-Dewater	Week of 1/09/06	10.3	5.61	0.00	1589.0	4.6	8.90	6.90	31.00	2.90	300.0	1800.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #9	4th Quarter 2010	Week of 10/18/10	9.7	5.28	0.00	0.5	20.3	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	9.4	5.13	0.00	0.5	20.6	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2010	Week of 4/19/10	10.5	5.73	0.00	2.1	20.7	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	9.7	5.30	0.00	0.7	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2009	Week of 10-05-09	9.7	5.33	0.00	0.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2009	Week of 9/10/09	9.9	5.43	0.00	0.8	20.9	0.00	<0.10	<0.10	0.11	0.55	<5.0
	2nd Quarter 2009	Week of 4/20/09	10.0	5.49	0.00	0.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2009	Week of 3/02/09	9.7	5.35	0.00	0.6	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2008	Week of 11/10/08	10.4	5.29	0.00	3.2	20.9	0.00	<0.10	<0.10	0.21	1.00	10.0
	3rd Quarter 2008	Week of 7/14/08	9.9	5.4	0.00	0.2	20.9	0.00	<0.10	0.13	<0.10	<0.30	<5.0
	2nd Quarter 2008	Week of 5/12/08	7.4	4.03	0.00	4.4	20.9	0.00	<0.10	<0.10	0.55	2.1	8.8
	1st Quarter 2008	Week of 03/10/08	6.0	3.32	0.00	2.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2007	Week of 10/29/07	9.0	4.94	0.00	8.2	19.7	0.10	<0.10	<0.10	0.56	4.0	49.0
	3rd Quarter 2007	Week of 8/20/07	9.4	5.18	0.00	48.0	19.9	0.00	<0.10	<0.10	<0.10	2.8	65.0
	2nd Quarter 2007	Week of 6/18/07	8.6	4.73	0.00	24.0	20.6	0.10	<0.10	<0.10	<0.10	0.93	6.6
	1st Quarter 2007	Week of 2/26/07	9.2	5.07	0.00	95.1	20.6	0.20	<0.10	0.15	4.30	41.0	290.0
	4th Quarter 2006	Week of 12/04/6	10.0	5.39	0.00	9.6	20.9	0.10	<0.10	<0.10	0.16	3.5	20.0
	3rd Quarter 2006	Week of 9/11/06	10.0	5.48	0.00	18.3	20.3	0.30	<0.10	0.21	0.18	2.5	140.0
	2nd Quarter 2006	Week of 6/17/06	9.0	5.26	0.00	13.9	20.9	0.00	<0.10	<0.10	0.10	0.62	31.0
	1st Quarter 2006	Week of 3/06/06	10.0	5.21	0.00	7.7	20.6	0.10	<0.05	0.09	0.06	0.53	8.0
	Pre-Dewater	Week of 1/09/06	11.3	5.08	0.00	8.5	17.2	0.20	<0.05	0.05	0.18	0.35	31.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #10	4th Quarter 2010	Week of 10/18/10	9.1	4.97	0.00	0.1	20.5	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	NR[1]	4.75	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	2nd Quarter 2010	Week of 4/19/10	9.6	5.24	0.00	0.6	20.6	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	NR[1]	4.77	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	4th Quarter 2009	Week of 10-05-09	NR[1]	4.83	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	3rd Quarter 2009	Week of 9/10/09	8.77	4.79	0.00	0.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2009	Week of 4/20/09	8.9	4.88	0.00	0.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2009	Week of 3/02/09	8.7	4.77	0.00	0.2	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2008	Week of 11/10/08	8.6	5.23	0.00	0.3	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2008	Week of 7/14/08	8.9	4.88	0.00	3.2	20.9	0.00	<0.10	<0.10	<0.10	0.75	7.6
	2nd Quarter 2008	Week of 5/12/08	6.9	3.78	0.00	2.8	20.9	0.00	<0.10	<0.10	0.27	0.82	<5.0
	1st Quarter 2008	Week of 03/10/08	5.0	2.83	0.00	2.4	20.9	0.00	<0.10	<0.10	0.16	0.82	<5.0
	4th Quarter 2007	Week of 10/29/07	8.7	4.74	0.00	0.5	19.4	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2007	Week of 8/20/07	9.7	5.32	0.00	42.0	19.7	0.00	<0.10	<0.10	<0.10	1.0	16.0
	2nd Quarter 2007	Week of 6/18/07	8.5	4.62	0.00	38.0	20.6	0.00	<0.10	<0.10	<0.10	1.0	11.0
	1st Quarter 2007	Week of 2/26/07	9.5	5.23	0.00	3.3	20.4	0.10	<0.10	<0.10	<0.10	0.94	6.0
	4th Quarter 2006	Week of 12/04/6	10.0	5.57	0.00	18.0	14.4	0.70	<0.10	<0.10	0.20	2.7	22.0
	3rd Quarter 2006	Week of 9/11/06	9.6	5.26	0.00	4.7	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2006	Week of 6/17/06	9.6	5.23	0.00	6.7	20.9	0.00	0.11	0.16	<0.10	0.57	14.0
	1st Quarter 2006	Week of 3/06/06	11.0	5.86	0.00	21.9	17.1	1.10	0.07	0.62	0.05	6.1	25.0
	Pre-Dewater	Week of 1/09/06	9.3	5.08	0.00	0.0	17.8	0.00	<0.05	<0.05	<0.05	0.28	<5.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #11	4th Quarter 2010	Week of 10/18/10	9.8	5.38	0.00	0.0	20.4	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	NR[1]	5.22	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	2nd Quarter 2010	Week of 4/19/10	10.3	5.63	0.00	0.7	20.5	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	NR[1]	5.17	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	4th Quarter 2009	Week of 10-05-09	NR[1]	5.28	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	3rd Quarter 2009	Week of 9/10/09	9.6	5.25	0.00	0.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2009	Week of 4/20/09	9.7	5.34	0.00	0.2	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2009	Week of 3/02/09	9.55	5.22	0.00	0.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2008	Week of 11/10/08	6.1	4.64	0.00	0.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2008	Week of 7/14/08	10.0	5.47	0.00	2.2	20.9	0.00	<0.10	<0.10	<0.10	0.74	8.0
	2nd Quarter 2008	Week of 5/12/08	7.6	4.15	0.00	1.7	20.9	0.00	<0.10	<0.10	0.20	0.64	<5.0
	1st Quarter 2008	Week of 03/10/08	6.0	3.43	0.00	0.9	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2007	Week of 10/29/07	9.5	5.18	0.00	0.6	19.4	0.00	<0.10	<0.10	<0.10	<0.3	<5.0
	3rd Quarter 2007	Week of 8/20/07	10.5	5.75	0.00	81.0	14.9	6.20	<0.10	<0.10	<0.10	1.4	39.0
	2nd Quarter 2007	Week of 6/18/07	9.5	5.17	0.00	45.0	20.6	0.00	<0.10	<0.10	<0.10	0.74	7.2
	1st Quarter 2007	Week of 2/26/07	10.4	5.69	0.00	5.9	19.0	1.00	<0.10	<0.10	0.11	1.4	11.0
	4th Quarter 2006	Week of 12/04/6	10.0	6.00	0.00	2.8	14.4	0.70	<0.10	<0.10	<0.10	<0.1	<5.0
	3rd Quarter 2006	Week of 9/11/06	10.3	5.69	0.00	2.8	19.1	1.40	<0.10	<0.10	0.24	1.5	9.0
	2nd Quarter 2006	Week of 6/17/06	10.3	5.61	0.00	2.6	18.8	1.40	<0.10	<0.10	<0.10	<0.3	<5.0
	1st Quarter 2006	Week of 3/06/06	11.0	6.31	0.00	13.2	20.0	0.40	0.06	0.32	0.053	3.3	13.0
	Pre-Dewater	Week of 1/09/06	10.2	5.55	0.00	0.0	17.5	0.30	<0.05	<0.05	<0.05	0.14	<5.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethyiben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #12	4th Quarter 2010	Week of 10/18/10	12.9	7.06	0.00	0.2	20.5	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	NR[1]	6.93	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	2nd Quarter 2010	Week of 4/19/10	13.4	7.32	0.00	0.7	20.4	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	NR[1]	6.94	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	4th Quarter 2009	Week of 10-05-09	NR[1]	7.00	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	3rd Quarter 2009	Week of 9/10/09	12.7	6.97	0.00	0.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2009	Week of 4/20/09	12.9	7.09	0.00	0.4	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2009	Week of 3/02/09	12.7	6.97	0.00	0.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2008	Week of 11/10/08	12.3	5.09	0.00	0.2	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2008	Week of 7/14/08	13.1	7.18	0.00	3.6	20.9	0.00	<0.10	<0.10	<0.10	0.77	8.2
	2nd Quarter 2008	Week of 5/12/08	10.7	5.85	0.00	2.8	20.9	0.00	<0.10	<0.10	0.17	0.56	<5.0
	1st Quarter 2008	Week of 03/10/08	9.0	5.11	0.00	1.6	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2007	Week of 10/29/07	12.7	6.92	0.00	0.7	19.4	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2007	Week of 8/20/07	13.4	7.36	0.00	19.0	19.8	0.00	<0.10	<0.10	<0.10	1.0	14.0
	2nd Quarter 2007	Week of 6/18/07	12.5	6.82	0.00	26.0	20.6	0.10	<0.10	<0.10	<0.10	0.56	6.0
	1st Quarter 2007	Week of 2/26/07	13.5	7.4	0.00	18.10	20.4	0.20	<0.10	<0.10	1.10	11.0	61.0
	4th Quarter 2006	Week of 12/04/6	14.0	7.67	0.00	30.3	18.5	1.60	<0.20	<0.20	0.28	24.0	120.0
	3rd Quarter 2006	Week of 9/11/06	13.6	7.48	0.00	5.7	20.9	0.00	<0.10	<0.10	0.10	<0.3	<5.0
	2nd Quarter 2006	Week of 6/17/06	13.6	7.44	0.00	6.7	20.9	0.00	0.12	0.19	<0.10	0.52	17.0
	1st Quarter 2006	Week of 3/06/06	15.0	7.94	0.00	10.1	18.7	1.40	0.05	0.21	0.06	2.3	9.0
	Pre-Dewater	Week of 1/09/06	13.5	7.38	0.00	0.2	17.8	0.00	<0.05	<0.05	<0.05	0.3	<5.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
TP - #13	4th Quarter 2010	Week of 10/18/10	10.8	5.93	0.00	0.2	20.4	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	NR[1]	5.75	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	2nd Quarter 2010	Week of 4/19/10	11.3	6.17	0.00	0.5	20.6	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	NR[1]	5.83	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	4th Quarter 2009	Week of 10-05-09	NR[1]	5.85	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	3rd Quarter 2009	Week of 9/10/09	10.6	5.80	0.00	0.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2009	Week of 4/20/09	10.9	5.98	0.00	0.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2009	Week of 3/02/09	10.4	5.66	0.00	0.2	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2008	Week of 11/10/08	16.9	6.83	0.00	0.2	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2008	Week of 7/14/08	10.9	5.97	0.00	3.2	20.9	0.00	<0.10	<0.10	<0.10	1.40	11.0
	2nd Quarter 2008	Week of 5/12/08	8.6	4.69	0.00	1.5	20.9	0.00	<0.10	<0.10	0.17	0.54	<5.0
	1st Quarter 2008	Week of 03/10/08	7.0	3.92	0.00	1.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2007	Week of 10/29/07	10.0	5.8	0.00	0.7	19.4	0.10	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2007	Week of 8/20/07	11.0	6.1	0.00	128.0	19.8	0.00	<0.10	<0.10	<0.10	1.3	30.0
	2nd Quarter 2007	Week of 6/18/07	10.3	5.63	0.00	97.0	20.6	0.00	<0.10	<0.10	<0.10	0.60	5.8
	1st Quarter 2007	Week of 2/26/07	11.3	6.16	0.00	4.10	20.2	0.20	<0.10	<0.10	0.20	2.9	24.0
	4th Quarter 2006	Week of 12/04/6	11.9	6.51	0.00	13.8	18.5	1.10	<0.10	<0.10	0.18	2.4	18.0
	3rd Quarter 2006	Week of 9/11/06	11.6	6.33	0.00	1.8	18.6	6.90	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2006	Week of 6/17/06	11.6	6.35	0.00	19.5	18.1	1.00	0.11	0.48	0.11	2.4	27.0
	1st Quarter 2006	Week of 3/06/06	12.0	6.78	0.00	12.6	19.1	1.00	0.05	0.17	0.09	1.6	8.6
	Pre-Dewater	Week of 1/09/06	11.4	6.24	0.00	0.1	17.8	0.00	<0.05	<0.05	<0.05	<0.05	<5.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
DW - #1	4th Quarter 2010	Week of 10/18/10	101.0	3.17	0.00	0.5	20.3	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	95.0	5.82	0.00	0.6	20.5	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2010	Week of 4/19/10	102.0	6.24	0.00	0.9	20.6	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	92.0	5.62	0.00	0.6	20.6	15.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2009	Week of 10-05-09	96.0	5.85	0.00	0.0	20.9	0.10	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2009	Week of 9/10/09	95.0	5.82	0.00	0.0	20.9	0.20	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2009	Week of 4/20/09	99.1	6.02	0.00	0.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2009	Week of 3/02/09	93.0	5.69	0.00	0.8	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2008	Week of 11/10/08	162.0	5.72	0.00	0.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2008	Week of 7/14/08	96.8	5.89	0.00	0.2	20.7	0.60	<0.10	0.11	<0.10	<0.30	<5.0
	2nd Quarter 2008	Week of 5/12/08	76.7	4.66	0.00	0.9	20.9	0.00	<0.10	<0.10	0.12	0.42	<5.0
	1st Quarter 2008	Week of 03/10/08	68.0	4.11	0.00	2.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2007	Week of 10/29/07	95.0	5.8	0.00	0.7	19.3	0.20	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2007	Week of 8/20/07	110.0	6.71	0.00	27.0	18.6	1.10	<0.10	<0.10	<0.10	0.48	9.0
	2nd Quarter 2007	Week of 6/18/07	95.6	5.81	0.00	9.0	18.6	1.80	<0.10	<0.10	<0.10	0.32	<5.0
	1st Quarter 2007	Week of 2/26/07	100.5	6.11	0.00	1.00	19.8	0.50	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2006	Week of 12/04/6	92.0	5.58	0.00	1.1	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2006	Week of 9/11/06	105.0	6.39	0.00	7.8	18.8	1.30	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2006	Week of 6/17/06	150.0	6.49	0.00	5.8	16.6	4.40	<0.10	<0.10	<0.10	0.33	8.6
	1st Quarter 2006	Week of 3/06/06	130.0	7.91	0.00	25.4	9.9	8.70	<0.05	0.61	0.17	5.2	61.0
	Pre-Dewater	Week of 1/09/06	113.0	6.9	0.00	0.0	12.7	7.40	0.09	0.14	0.59	1.2	35.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

RIVER TERRACE

Soil Gas Monitoring

Sample Location	Sampling Activities	DATE	Purge Volume (L)	Depth to Water (ft)	Pressure (Inches of Water)	PID (ppm))	Oxygen (%)	Carbon Dioxide (%)	Benzene (ug/L)	Toluene (ug/L)	Ethylben (ug/L)	Xylene (ug/L)	GRO (ug/L)
MW - #49	4th Quarter 2010	Week of 10/18/10	67.0	9.14	0.00	0.2	19.7	0.30	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2010	Week of 7/20/10	65.0	8.95	0.00	0.6	18.7	1.30	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2010	Week of 4/19/10	70.0	9.59	0.00	1.0	20.1	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2010	Week of 3/08/10	68.0	9.30	0.00	0.6	20.3	55.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2009	Week of 10-05-09	66.0	9.03	0.00	0.0	20.9	1.10	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2009	Week of 9/10/09	65.0	9.02	0.00	0.0	19.1	2.30	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2009	Week of 4/20/09	67.7	9.24	0.00	0.0	20.9	0.20	<0.10	<0.10	<0.10	<0.30	<5.0
	1st Quarter 2009	Week of 3/02/09	65.0	8.96	0.00	0.4	20.5	0.30	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2008	Week of 11/10/08	60.0	8.72	0.00	0.1	20.9	0.60	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2008	Week of 7/14/08	66.2	9.03	0.00	0.2	18.1	2.60	<0.10	0.11	<0.10	<0.30	<5.0
	2nd Quarter 2008	Week of 5/12/08	56.2	7.66	0.00	1.0	20.9	0.00	<0.10	<0.10	<0.10	<0.10	<5.0
	1st Quarter 2008	Week of 03/10/08	50.0	6.9	0.00	2.0	20.9	0.00	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2007	Week of 10/29/07	63.0	8.62	0.00	1.1	18.2	1.60	<0.10	<0.10	<0.10	<0.30	<5.0
	3rd Quarter 2007	Week of 8/20/07	68.0	9.3	0.00	22.0	15.7	5.00	<0.10	<0.10	<0.10	0.39	<5.0
	2nd Quarter 2007	Week of 6/18/07	61.6	8.41	0.00	64.0	17.4	3.00	<0.10	<0.10	<0.10	<0.30	11.0
	1st Quarter 2007	Week of 2/26/07	64.4	8.79	0.00	1.60	19.8	0.60	<0.10	<0.10	<0.10	<0.30	<5.0
	4th Quarter 2006	Week of 12/04/6	67.0	9.16	0.00	2.1	19.0	1.00	<0.10	<0.10	<0.10	0.46	<5.0
	3rd Quarter 2006	Week of 9/11/06	68.0	9.38	0.00	3.5	17.7	2.80	<0.10	<0.10	<0.10	<0.30	<5.0
	2nd Quarter 2006	Week of 6/17/06	73.0	9.98	0.00	16.1	16.8	2.70	<0.10	<0.10	<0.10	1.4	35.0
	1st Quarter 2006	Week of 3/06/06	74.0	10.07	0.00	20.3	19.2	1.00	<0.05	1.00	0.06	8.9	28.0
	Pre-Dewater	Week of 1/09/06	71.1	9.69	0.00	0.0	17.1	1.00	<0.05	<0.05	0.08	0.34	<5.0

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR'= Not Required (Approval With Direction - June 2009)

NM = Not Measured

River Terra

Ground Water Monitoring

Field Measurements

											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	USEPA Regional Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #1	4th Quarter 2010	Week of 10/18/10	6.30	NPP	9.28	1833	6.92	66.5	1.89	-47	0.72	<0.02	2.60	13.00	<0.05	2.30	55.00
	3rd Quarter 2010	Week of 7/20/10	5.90	NPP	9.28	1811	6.58	66.2	0.81	-62	0.83	<0.05	3.20	12.00	<0.13	4.40	40.00
	2nd Quarter 2010	Week of 4/19/10	6.96	NPP	9.28	2654	6.88	51.2	0.94	-193	1.80	<0.05	2.80	14.00	<0.130	9.40	39.00
	1st Quarter 2010	Week of 3/08/10	4.40	NPP	9.28	2198	6.80	45.1	1.62	231	1.50	<0.10	2.70	10.00	<0.25	6.30	34.00
	4th Quarter 2009	Week of 10-05-09	4.90	NPP	9.28	2732	6.79	67.4	1.69	137	0.62	<0.10	3.40	15.00	<0.25	11.00	44.00
	3rd Quarter 2009	Week of 9/10/09	4.90	NPP	9.28	2653	6.93	6.96	1.51	-42	0.81	<0.10	3.20	12.00	<0.25	7.80	39.00
	2nd Quarter 2009	Week of 4/20/09	5.26	NPP	9.28	2684	6.92	54.5	0.83	209	0.43	<0.10	2.50	11.00	<0.25	15.00	59.00
	1st Quarter 2009	Week of 3/02/09	4.91	NPP	9.28	2920	6.91	46.6	10.35	194	0.85	<0.10	3.00	15.00	<0.25	11.00	46.00
	4th Quarter 2008	Week of 11/10/08	4.85	NPP	9.38	3050	6.81	61.1	0.56	241	1.20	<0.25	3.70	15.00	<0.63	17.00	51.00
	3rd Quarter 2008	Week of 7/14/08	5.37	NPP	9.38	4037	6.96	68.6	6.94	123	1.80	<0.05	3.50	17.00	<0.12	7.50	59.00
	2nd Quarter 2008	Week of 5/12/08	3.97	NPP	9.38	3572	6.83	58.6	1.40	262	2.50	<0.05	3.00	15.00	<0.12	2.00	54.00
	1st Quarter 2008	Week of 03/10/08	3.63	NPP	9.38	3533	6.96	49.4	4.55	210	2.40	<0.05	3.40	20.00	<0.12	2.40	62.00
	4th Quarter 2007	Week of 10/29/07	5.29	NPP	9.38	4123	6.78	63.4	0.49	223	1.50	<0.001	3.80	14.00	<0.25	1.80	64.00
	3rd Quarter 2007	Week of 8/20/07	6.24	NPP	9.38	4661	6.93	74.4	4.19	237	1.20	<0.10	4.20	20.00	<0.25	3.30	80.00
	2nd Quarter 2007	Week of 6/18/07	5.67	NPP	9.38	4907	6.93	65.9	0.31	185	1.90	<0.10	4.00	13.00	<0.25	2.10	70.00
	1st Quarter 2007	Week of 2/26/07	7.79	NPP	9.38	3825	6.82	50.3	0.65	134	2.00	<0.10	6.30	32.00	<0.25	3.00	160.00
	4th Quarter 2006	Week of 12/04/06	7.42	NPP	9.38	3631	6.99	57.3	NM	96	1.60	<0.10	3.20	22.00	<0.25	3.50	95.00
	3rd Quarter 2006	Week of 9/11/06	5.68	NPP	9.38	3053	7.00	72.8	0.71	-50	3.20	<0.10	3.60	24.00	<0.25	3.50	98.00
	2nd Quarter 2006	Week of 6/17/06	6.80	NPP	9.38	2372	6.96	67.3	0.56	-15	2.60	<0.25	3.35	18.00	<0.62	4.50	40.00
	1st Quarter 2006	Week of 3/06/06	8.04	NPP	9.38	2233	7.04	52.0	0.83	186	1.50	<0.05	4.10	30.00	<0.12	3.80	72.00
	Baseline	Week of 8/15/05	5.35	NPP	9.38	2034	6.92	70.6	NR	NR	1.40	0.05	3.60	23.00	<0.05	1.90	66.00

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

River Terrace

Ground Water Monitoring

Field Measurements

											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103a	USEPA Regional Screening Levels	TPH Screening Guidance Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #2	4th Quarter 2010	Week of 10/18/10	7.70	NPP	9.92	1222	7.00	62.6	1.78	-153	0.32	0.03	0.20	0.70	<0.013	2.1	45.00
	3rd Quarter 2010	Week of 7/20/10	7.29	NPP	9.92	1546	6.77	63.6	0.62	-72	0.31	0.015	0.20	0.60	<0.013	2.8	32.00
	2nd Quarter 2010	Week of 4/19/10	8.13	NPP	9.92	1952	7.00	53.5	1.17	-64	0.66	0.014	0.40	1.00	<0.013	7.7	45.00
	1st Quarter 2010	Week of 3/08/10	6.56	NPP	9.92	1659	6.73	47.3	1.94	274	0.16	<0.01	0.10	0.60	<0.25	2.7	8.80
	4th Quarter 2009	Week of 10-05-09	6.60	NPP	9.92	1789	6.84	64.6	2.38	157	0.79	0.015	0.16	0.30	<0.025	3.6	16.00
	3rd Quarter 2009	Week of 9/10/09	6.52	NPP	9.92	1926	6.97	66.5	0.75	109	0.65	0.017	0.10	0.30	<0.025	4.0	13.00
	2nd Quarter 2009	Week of 4/20/09	6.89	NPP	9.92	2175	6.90	57.4	0.73	215	0.69	<0.01	0.20	0.40	<0.025	6.2	14.00
	1st Quarter 2009	Week of 3/02/09	6.46	NPP	9.92	2358	7.00	49.8	1.8	207	0.39	<0.0005	0.50	0.58	<0.013	3.0	3.70
	4th Quarter 2008	Week of 11/10/08	6.72	NPP	9.92	2619	6.89	59.9	3.58	174	0.31	<0.01	0.20	0.40	<0.025	7.4	5.80
	3rd Quarter 2008	Week of 7/14/08	7.06	NPP	9.92	3363	6.98	66.4	3.48	162	0.80	<0.02	0.40	2.2	<0.05	6.2	19.00
	2nd Quarter 2008	Week of 5/12/08	5.52	NPP	9.92	2664	6.85	56.7	0.44	118	1.10	<0.02	0.20	0.60	<0.05	1.2	19.00
	1st Quarter 2008	Week of 03/10/08	5.30	NPP	9.92	2748	7.00	51.3	1.89	171	1.20	<0.02	0.30	0.20	<0.05	1.7	18.00
	4th Quarter 2007	Week of 10/29/07	6.86	NPP	9.92	3507	6.96	62.4	0.85	217	1.50	<0.10	0.40	0.70	<0.25	1.4	22.00
	3rd Quarter 2007	Week of 8/20/07	7.73	NPP	9.92	3771	6.97	71.0	1.78	217	0.64	<0.10	0.30	0.50	<0.25	1.00	28.00
	2nd Quarter 2007	Week of 6/18/07	7.50	NPP	9.92	2576	6.87	67.5	0.70	191	1.40	0.32	0.40	0.90	<0.25	*<1.00	47.00
	1st Quarter 2007	Week of 2/26/07	8.86	NPP	9.92	3783	6.82	51.4	1.45	171	4.30	<0.10	0.80	1.00	<0.25	2.1	94.00
	4th Quarter 2006	Week of 12/04/06	9.03	NPP	9.92	3548	6.92	53.5	2.14	177	1.70	<0.10	0.40	0.80	<0.25	<1.0	41.00
	3rd Quarter 2006	Week of 9/11/06	7.37	NPP	9.92	2531	7.03	67.4	0.65	-13	3.50	0.27	0.60	0.90	<0.25	1.00	77.00
	2nd Quarter 2006	Week of 6/17/06	8.27	NPP	9.92	3586	6.93	62.8	0.94	-216	3.60	2.00			<0.12		42.00
	1st Quarter 2006	Week of 3/06/06	9.83	NPP	9.92	1802	7.08	53.2	9.48	184	6.20	1.50	0.51		<0.12		27.00
	Baseline	Week of 8/15/05	6.84	NPP	9.92	2225	6.85	65.2	NR	NR	6.10	3.70			<0.05		84.00

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

Field Measurements

											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	USEPA Regional Screening Levels	TPH Screening Guidelines Table 2	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #3	4th Quarter 2010	Week of 10/18/10	7.05	NPP	12.35	479	6.98	64.7	2.03	309	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	3rd Quarter 2010	Week of 7/20/10	6.85	NPP	12.35	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	2nd Quarter 2010	Week of 4/19/10	7.32	NPP	12.35	524	6.99	52.5	0.93	286	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	1st Quarter 2010	Week of 3/08/10	6.75	NPP	12.35	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	4th Quarter 2009	Week of 10-05-09	6.91	NPP	12.35	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	3rd Quarter 2009	Week of 9/10/09	6.85	NPP	12.35	802	6.85	67.9	5.38	271	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2009	Week of 4/20/09	7.06	NPP	12.35	752	6.91	55.5	3.20	231	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2009	Week of 3/02/09	6.46	NPP	12.35	812	7.07	49.7	3.04	278	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2008	Week of 11/10/08	6.80	NPP	12.35	1096	6.90	60.1	1.75	216	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2008	Week of 7/14/08	7.15	NPP	12.35	867	6.99	64.5	1.56	240	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2008	Week of 5/12/08	5.86	NPP	12.35	775	6.86	55.7	3.95	122	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2008	Week of 03/10/08	5.17	NPP	12.35	602	6.89	48.5	2.87	223	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2007	Week of 10/29/07	6.94	NPP	12.35	806	6.87	62.3	3.40	254	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2007	Week of 8/20/07	7.62	NPP	12.35	815	6.97	66.2	2.67	246	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2007	Week of 6/18/07	7.02	NPP	12.35	560	6.85	60.8	3.12	211	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2007	Week of 2/26/07	7.52	NPP	12.35	839	6.89	47.0	1.65	248	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2006	Week of 12/04/06	7.77	NPP	12.35	673	7.06	54.8	1.32	242	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	3rd Quarter 2006	Week of 9/11/06	7.41	NPP	12.35	779	6.99	68.0	0.33	233	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	2nd Quarter 2006	Week of 6/17/06	7.23	NPP	12.35	856	6.99	62.1	0.98	179	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	1st Quarter 2006	Week of 3/06/06	8.09	NPP	12.35	1050	6.94	47.9	0.21	256	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	Baseline	Week of 8/15/05	6.61	NPP	12.35	1295	6.85	68.4	NR	NR	<0.005	<0.005	<0.005	0.0012	<0.0025	*<1.00	<0.05

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

River Terrace

Ground Water Monitoring

Field Measurements											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	USEPA Residential Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP. (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #5	4th Quarter 2010	Week of 10/18/10	5.65	NPP	8.84	632	7.01	68.2	2.06	71	<0.005	<0.01	0.61	0.60	<0.025	3.10	30
	3rd Quarter 2010	Week of 7/20/10	5.11	NPP	8.84	707	6.79	65.8	1.11	84	<0.005	<0.01	0.31	3.30	<0.025	3.10	26
	2nd Quarter 2010	Week of 4/19/10	5.98	NPP	8.84	590	7.02	54.1	0.58	121	<0.005	<0.010	1.8	13.00	<0.025	9.00	38
	1st Quarter 2010	Week of 3/08/10	4.41	NPP	8.84	807	7.05	48.5	0.67	253	<0.005	0.0078	0.15	1.40	<0.013	9.10	31
	4th Quarter 2009	Week of 10-05-09	4.57	NPP	8.84	759	6.76	67.4	4.57	212	<0.005	<0.01	1.90	15.00	<0.025	7.10	40.00
	3rd Quarter 2009	Week of 9/10/09	4.54	NPP	8.84	794	7.04	72.6	1.12	152	<0.005	<0.01	1.30	13.00	<0.025	5.00	33.00
	2nd Quarter 2009	Week of 4/20/09	4.96	NPP	8.84	1128	6.69	55.2	0.69	106	0.025	0.011	2.60	16.00	<0.025	11.00	49.00
	1st Quarter 2009	Week of 3/02/09	4.86	NPP	8.84	1092	7.07	49.2	3.33	176	0.019	<0.01	1.80	13.00	<0.025	6.200	37.00
	4th Quarter 2008	Week of 11/10/08	4.54	NPP	8.84	981	6.83	61.8	1.23	129	0.02	0.01	2.40	12.00	<0.025	8.50	38.00
	3rd Quarter 2008	Week of 7/14/08	4.76	NPP	8.84	852	6.95	69.8	1.49	159	<0.02	<0.02	1.00	13.00	<0.05	1.10	50.00
	2nd Quarter 2008	Week of 5/12/08	3.43	NPP	8.84	702	6.87	56.8	1.32	54	0.05	<0.02	1.30	13.00	<0.05	*<1.00	46.00
	1st Quarter 2008	Week of 03/10/08	3.15	NPP	8.84	656	6.82	47.4	2.34	216	<0.020	<0.020	1.00	17.00	<0.050	*<1.00	52.00
	4th Quarter 2007	Week of 10/29/07	4.78	NPP	8.84	857	7.04	66.5	0.23	229	<0.001	<0.001	2.00	17.00	<0.0025	1.20	56.00
	3rd Quarter 2007	Week of 8/20/07	6.97	NPP	8.84	911	6.88	69.8	0.17	129	0.30	<0.10	3.00	22.00	<0.25	*<1.00	69.00
	2nd Quarter 2007	Week of 6/18/07	6.62	NPP	8.84	884	6.87	63.9	0.80	148	0.34	<0.10	3.50	21.00	<0.25	*<1.00	78.00
	1st Quarter 2007	Week of 2/26/07	5.59	NPP	8.84	1027	6.87	49.6	0.79	219	<0.01	<0.01	1.30	18.00	<0.025	*<1.00	85.00
	4th Quarter 2006	Week of 12/04/06	5.95	NPP	8.84	1377	6.99	56.0	1.36	229	0.07	<0.050	1.20	10.00	<0.120	*<1.00	50.00
	3rd Quarter 2006	Week of 9/11/06	5.32	NPP	8.84	879	7.09	71.0	0.29	149	<0.01	<0.01	3.10	13.00	<0.025	*<1.00	110.00
	2nd Quarter 2006	Week of 6/17/06	5.24	NPP	8.84	989	6.94	65.3	0.05	39	0.05	<0.001	1.00	16.00	<0.025	*<1.00	34.00
	1st Quarter 2006	Week of 3/06/06	7.81	NPP	8.84	747	7.03	54.1	0.52	-51	0.20	<0.02	0.28	20.20	<0.05	*<1.00	59.00
	Baseline	Week of 8/15/05	5.91	NPP	8.84	923	6.90	68.7	NR	NR	0.35	<0.005	3.60	21.00	<0.05	1.20	56.00

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR'= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated [redacted]pt. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA M[redacted]015B.

Field Measurements

											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	USEPA Regional Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #6	4th Quarter 2010	Week of 10/18/10	6.50	NPP	9.94	870	6.96	66.3	2.29	-499	<0.001	<0.001	0.0094	0.0039	<0.0025	<0.20	0.056
	3rd Quarter 2010	Week of 7/20/10	5.82	NPP	9.94	934	6.63	67.3	1.09	150	<0.001	<0.001	0.0021	0.0089	<0.0025	<0.20	<0.05
	2nd Quarter 2010	Week of 4/19/10	6.84	NPP	9.94	1712	6.91	51.1	6.80	-515	<0.001	<0.001	0.0024	0.0075	<0.0025	0.31	<0.05
	1st Quarter 2010	Week of 3/08/10	5.27	NPP	9.94	1262	6.84	46.5	6.57	214	<0.001	<0.001	0.018	0.09	<0.0025	0.45	0.27
	4th Quarter 2009	Week of 10-05-09	5.49	NPP	9.94	919	6.69	66.0	1.33	278	0.022	<0.02	1.2	3.2	<0.05	3.6	9.8
	3rd Quarter 2009	Week of 9/10/09	5.47	NPP	9.94	934	6.99	69.5	1.71	-5	0.032	<0.02	1.20	3.80	<0.05	3.00	12.00
	2nd Quarter 2009	Week of 4/20/09	5.93	NPP	9.94	1025	6.99	54.2	5.99	141	0.025	<0.02	0.66	3.10	<0.05	2.90	11.00
	1st Quarter 2009	Week of 3/02/09	5.68	NPP	9.94	1126	7.02	48.7	1.63	169	0.025	<0.02	1.00	4.50	<0.05	2.50	12.00
	4th Quarter 2008	Week of 11/10/08	5.40	NPP	9.94	1293	7.07	61.0	0.58	199	0.029	<0.005	0.430	1.20	<0.013	3.10	3.40
	3rd Quarter 2008	Week of 7/14/08	5.67	NPP	9.94	726	7.00	66.3	0.53	70	<0.005	<0.005	0.800	2.70	<0.012	*<1.00	8.60
	2nd Quarter 2008	Week of 5/12/08	4.33	NPP	9.94	997	6.87	58.0	0.77	181	0.020	<0.001	0.180	0.07	<0.0025	*<1.00	1.20
	1st Quarter 2008	Week of 03/10/08	4.02	NPP	9.94	1093	6.93	49.9	1.62	176	0.024	<0.001	0.260	0.30	0.0029	*<1.00	1.90
	4th Quarter 2007	Week of 10/29/07	5.70	NPP	9.94	1502	6.93	63.3	0.53	177	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.07
	3rd Quarter 2007	Week of 8/20/07	7.65	NPP	9.94	1317	6.89	69.0	0.38	145	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.19
	2nd Quarter 2007	Week of 6/18/07	7.32	NPP	9.94	1361	6.89	62.2	1.19	220	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.11
	1st Quarter 2007	Week of 2/26/07	6.39	NPP	9.94	1857	6.83	47.5	0.72	253	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.28
	4th Quarter 2006	Week of 12/04/06	6.61	NPP	9.94	1826	6.95	54.8	1.03	226	0.01	<0.001	<0.001	<0.003	<0.0025	*<1.00	0.48
	3rd Quarter 2006	Week of 9/11/06	6.17	NPP	9.94	2698	7.02	69.4	0.76	45	0.03	<0.01	0.41	0.05	<0.025	*<1.00	5.30
	2nd Quarter 2006	Week of 6/17/06	6.18	NPP	9.94	1216	6.98	66.5	0.38	94	<0.001	<0.001	4.40	0.35	<0.025	*<1.00	1.90
	1st Quarter 2006	Week of 3/06/06	8.61	NPP	9.94	602	7.35	52.3	0.63	153	<0.001	<0.001	0.18	0.73	<0.025	*<1.00	2.70
	Baseline	Week of 8/15/05	5.78	NPP	9.94	1128	6.94	68.2	NR	NR	0.28	<0.01	2.80	7.50	<0.05	4.60	26.00

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR'= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

River Terrace

Ground Water Monitoring

Field Measurements

											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	US EPA Regional Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #7	4th Quarter 2010	Week of 10/18/10	5.84	NPP	9.72	828	7.09	66.0	2.23	275	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	3rd Quarter 2010	Week of 7/20/10	5.44	NPP	9.72	714	6.65	70.0	1.13	108	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	2nd Quarter 2010	Week of 4/19/10	6.12	NPP	9.72	972	6.89	52.2	0.98	309	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	1st Quarter 2010	Week of 3/08/10	5.35	NPP	9.72	944	6.84	45.6	1.11	312	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	4th Quarter 2009	Week of 10-05-09	5.48	NPP	9.72	753	6.93	65.3	0.90	247	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2009	Week of 9/10/09	5.46	NPP	9.72	749	7.04	71.6	1.01	236	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2009	Week of 4/20/09	5.78	NPP	9.72	875	6.96	52.1	0.92	250	<0.001	<0.001	0.001	0.008	<0.0025	*<1.00	<0.05
	1st Quarter 2009	Week of 3/02/09	5.55	NPP	9.72	896	7.05	47.3	2.84	251	<0.001	<0.001	0.002	0.021	<0.0025	*<1.00	0.063
	4th Quarter 2008	Week of 11/10/08	5.35	NPP	9.72	751	7.04	58.1	1.64	221	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2008	Week of 7/14/08	5.43	NPP	9.72	778	6.93	68.0	0.74	229	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2008	Week of 5/12/08	4.17	NPP	9.72	1850	6.89	55.1	1.29	179	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2008	Week of 03/10/08	3.63	NPP	9.72	2022	6.97	45.8	4.67	244	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2007	Week of 10/29/07	5.42	NPP	9.72	1066	6.89	59.7	1.10	253	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2007	Week of 8/20/07	6.20	NPP	9.72	2267	7.09	67.6	1.01	245	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2007	Week of 6/18/07	5.40	NPP	9.72	2795	6.83	59.2	0.39	222	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	4th Quarter 2006	Week of 12/04/06	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	3rd Quarter 2006	Week of 9/11/06	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	2nd Quarter 2006	Week of 6/17/06	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	1st Quarter 2006	Week of 3/06/06	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	Baseline	Week of 8/15/05	5.72	NPP	9.72	1740	6.89	68	NR	NR	<0.0005	<0.0005	0.00065	0.0049	<0.0025	*<1.00	<0.05

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1] = Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

Ground Water Monitoring

Field Measurements

											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	USEPA Regional Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #8	4th Quarter 2010	Week of 10/18/10	6.83	NPP	9.72	1111	6.89	66.9	2.10	137	<0.005	<00.005	0.10	0.42	<0.013	1.0	2.2
	3rd Quarter 2010	Week of 7/20/10	6.45	NPP	9.72	1308	6.59	68.3	1.04	50	<0.005	<0.005	0.13	0.35	<0.013	2.5	2.3
	2nd Quarter 2010	Week of 4/19/10	7.49	NPP	9.72	1507	6.87	58.2	1.21	122	<0.005	<0.005	0.15	0.76	<0.013	4.2	3.5
	1st Quarter 2010	Week of 3/08/10	5.05	NPP	9.72	1779	6.79	45.3	1.54	303	<0.005	<0.005	0.073	0.75	<0.013	3.1	3
	4th Quarter 2009	Week of 10-05-09	5.48	NPP	9.72	1250	6.77	66.7	1.23	226	0.0081	<0.005	0.24	2.1	<0.013	4.9	6.2
	3rd Quarter 2009	Week of 9/10/09	5.43	NPP	9.72	1187	6.98	71.2	1.65	163	0.0059	<0.005	0.22	2.00	<0.013	4.70	5.70
	2nd Quarter 2009	Week of 4/20/09	5.6	NPP	9.72	1581	6.89	52.3	1.09	253	0.014	<0.01	0.35	3.60	<0.025	6.80	18.00
	1st Quarter 2009	Week of 3/02/09	5.42	NPP	9.72	1685	6.78	47.9	4.43	229	0.0089	<0.005	0.29	2.6	<0.013	3.6	9.1
	4th Quarter 2008	Week of 11/10/08	5.29	NPP	9.72	1810	6.96	60.4	4.70	230	<0.005	<0.005	0.27	0.92	<0.013	3.30	9.60
	3rd Quarter 2008	Week of 7/14/08	5.88	NPP	9.72	1627	6.86	68.9	0.49	264	<0.01	<0.01	0.34	2.40	<0.025	1.30	14.00
	2nd Quarter 2008	Week of 5/12/08	4.44	NPP	9.72	1863	6.91	56.6	1.39	175	<0.01	<0.01	0.39	2.40	<0.025	1.10	19.00
	1st Quarter 2008	Week of 03/10/08	4.13	NPP	9.72	1877	6.90	49.0	1.69	214	<0.01	<0.01	0.37	1.80	<0.025	1.40	15.00
	4th Quarter 2007	Week of 10/29/07	5.81	NPP	9.72	2555	6.88	64.1	0.77	185	<0.01	<0.01	0.38	1.60	<0.025	1.60	14.00
	3rd Quarter 2007	Week of 8/20/07	6.67	NPP	9.72	3084	6.89	74.4	0.36	245	<0.01	<0.01	0.48	3.70	<0.025	1.70	31.00
	2nd Quarter 2007	Week of 6/18/07	6.22	NPP	9.72	2704	6.92	66..3	1.21	160	<0.01	<0.01	0.29	8.60	<0.025	1.20	35.00
	1st Quarter 2007	Week of 2/26/07	8.57	NPP	9.72	2964	6.95	50.5	2.45	208	<0.01	<0.01	1.50	13.00	<0.025	2.10	70.00
	4th Quarter 2006	Week of 12/04/06	8.21	NPP	9.72	1855	7.04	57.3	1.56	187	0.04	<0.010	1.36	12.00	<0.025	1.49	79.00
	3rd Quarter 2006	Week of 9/11/06	6.21	NPP	9.72	2977	7.03	74.6	0.43	107	<0.01	<0.010	0.58	1.50	<0.025	3.60	57.00
	2nd Quarter 2006	Week of 6/17/06	7.50	NPP	9.72	2032	7.01	67.6	0.48	143	0.26	<0.100	0.64	6.30	<0.025	6.30	19.00
	1st Quarter 2006	Week of 3/06/06	8.92	NPP	9.72	1613	7.03	52.6	0.61	228	0.35	<0.10	1.00	10.00	<0.025	18.00	37.00
	Baseline	Week of 8/15/05	6.61	NPP	9.72	1934	6.94	72.4	NR	NR	1.10	<0.05	3.20	24.00	<0.25	7.80	84.00

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

River Terrace

Ground Water Monitoring

Field Measurements											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	USEPA Regional Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	1.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #9	4th Quarter 2010	Week of 10/18/10	5.28	NPP	10.97	1993	6.94	64.8	2.48	127	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	3rd Quarter 2010	Week of 7/20/10	5.13	NPP	10.97	2080	6.76	66.7	1.53	194	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	2nd Quarter 2010	Week of 4/19/10	5.73	NPP	10.97	2288	6.96	50.7	0.85	264	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	1st Quarter 2010	Week of 3/08/10	5.30	NPP	10.97	2389	6.76	44.4	1.05	324	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	4th Quarter 2009	Week of 10-05-09	5.33	NPP	10.97	2006	6.81	61.2	1.67	273	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2009	Week of 9/10/09	5.43	NPP	10.97	2034	7.00	67.6	2.38	287	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2009	Week of 4/20/09	5.49	NPP	10.97	2406	6.94	53.2	0.93	275	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2009	Week of 3/02/09	5.34	NPP	10.97	2557	6.93	48.0	1.45	219	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2008	Week of 11/10/08	5.23	NPP	10.97	2074	6.87	57.9	3.72	119	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2008	Week of 7/14/08	5.40	NPP	10.97	1712	6.95	61.6	0.78	216	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2008	Week of 5/12/08	4.03	NPP	10.97	1471	6.87	51.8	1.98	147	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2008	Week of 03/10/08	3.32	NPP	10.97	1559	6.89	45.3	1.66	245	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2007	Week of 10/29/07	4.94	NPP	10.97	875	6.98	61.7	0.41	218	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2007	Week of 8/20/07	5.18	NPP	10.97	1342	7.11	67.5	1.15	136	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2007	Week of 6/18/07	4.73	NPP	10.97	2035	6.90	58.5	0.31	224	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2007	Week of 2/26/07	5.07	NPP	10.97	2379	6.85	46.1	0.85	173	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2006	Week of 12/04/06	5.39	NPP	10.97	2149	7.06	51.9	1.37	254	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	3rd Quarter 2006	Week of 9/11/06	5.48	NPP	10.97	1809	7.04	64.8	1.09	219	<0.001	<0.001	0.001	<0.003	<0.0025	*<1.00	0.72
	2nd Quarter 2006	Week of 6/17/06	5.26	NPP	10.97	1883	7.02	60.6	0.39	169	<0.001	<0.001	0.001	<0.003	<0.0025	*<1.00	<0.05
	1st Quarter 2006	Week of 3/06/06	5.21	NPP	10.97	1944	7.02	47.8	0.75	214	<0.001	<0.001	<0.003	<0.003	<0.0025	*<1.00	0.09
	Baseline	Week of 8/15/05	5.12	NPP	10.97	1968	6.92	62.8	NR	NR	<0.005	<0.001	<0.003	0.02	0.027	*<1.00	1.10

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

Field Measurements

											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	USEPA Regional Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP. (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #10	4th Quarter 2010	Week of 10/18/10	4.97	NPP	9.95	352	6.96	56.2	2.03	282	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	3rd Quarter 2010	Week of 7/20/10	4.75	NPP	9.95	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	2nd Quarter 2010	Week of 4/19/10	5.24	NPP	9.95	461	6.95	48.6	0.92	259	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	1st Quarter 2010	Week of 3/08/10	4.77	NPP	9.95	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	4th Quarter 2009	Week of 10-05-09	4.83	NPP	9.95	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	3rd Quarter 2009	Week of 9/10/09	4.79	NPP	9.95	322	6.92	63.8	1.05	259	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2009	Week of 4/20/09	4.88	NPP	9.95	357	6.95	51.7	1.26	207	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2009	Week of 3/02/09	4.77	NPP	9.95	342	7.06	43.0	1.45	269	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2008	Week of 11/10/08	4.64	NPP	9.95	343	7.06	50.7	1.48	198	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2008	Week of 7/14/08	4.88	NPP	9.95	405	7.11	66.5	1.13	212	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2008	Week of 5/12/08	3.78	NPP	9.95	479	6.88	53.7	0.77	107	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2008	Week of 03/10/08	2.83	NPP	9.95	279	6.94	43.5	2.52	213	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2007	Week of 10/29/07	4.74	NPP	9.95	307	6.90	51.3	2.28	253	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2007	Week of 8/20/07	5.32	NPP	9.95	368	6.98	61.8	1.16	230	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2007	Week of 6/18/07	4.62	NPP	9.95	268	6.86	57.2	7.32	213	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2007	Week of 2/26/07	5.23	NPP	9.95	426	6.85	41.1	3.87	233	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2006	Week of 12/04/06	5.57	NPP	9.95	387	7.00	44.9	1.44	269	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	3rd Quarter 2006	Week of 9/11/06	5.26	NPP	9.95	395	6.97	62.6	0.45	247	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	2nd Quarter 2006	Week of 6/17/06	5.23	NPP	9.95	325	7.01	59.8	1.52	168	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	1st Quarter 2006	Week of 3/06/06	5.86	NPP	9.95	355	6.99	42.8	1.72	224	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	Baseline	Week of 8/15/05	5.10	NPP	9.95	377	6.94	71.2	NR	NR	<0.0005	<0.0005	<0.0005	0.0025	<0.0025	*<1.00	<0.05

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

River Terrace

Ground Water Monitoring

Field Measurements

											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	USEPA Regional Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #11	4th Quarter 2010	Week of 10/18/10	5.38	NPP	7.98	472	6.95	61.9	1.77	299	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	3rd Quarter 2010	Week of 7/20/10	5.22	NPP	7.98	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	2nd Quarter 2010	Week of 4/19/10	5.63	NPP	7.98	442	6.97	50.5	0.82	283	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	1st Quarter 2010	Week of 3/08/10	5.17	NPP	7.98	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	4th Quarter 2009	Week of 10-05-09	5.28	NPP	7.98	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	3rd Quarter 2009	Week of 9/10/09	5.25	NPP	7.98	531	6.87	66.5	0.81	255	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2009	Week of 4/20/09	5.34	NPP	7.98	522	6.94	52.9	0.89	212	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2009	Week of 3/02/09	5.22	NPP	7.98	539	7.05	47.4	1.63	252	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2008	Week of 11/10/08	5.09	NPP	9.98	745	6.95	58.4	0.89	203	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2008	Week of 7/14/08	5.47	NPP	9.98	850	7.03	64.7	0.50	229	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2008	Week of 5/12/08	4.15	NPP	9.98	640	6.87	52.9	0.78	148	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2008	Week of 03/10/08	3.43	NPP	9.98	611	6.94	42.5	3.21	239	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2007	Week of 10/29/07	5.18	NPP	9.98	541	6.93	56.6	0.59	242	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2007	Week of 8/20/07	5.75	NPP	9.98	596	7.02	69.4	1.49	226	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2007	Week of 6/18/07	5.17	NPP	9.98	378	6.84	62.5	1.69	217	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2007	Week of 2/26/07	5.69	NPP	9.98	540	6.87	44.2	1.45	262	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2006	Week of 12/04/06	6.00	NPP	9.98	738	7.07	52.8	0.97	257	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	3rd Quarter 2006	Week of 9/11/06	5.69	NPP	9.98	632	7.06	67.7	0.36	269	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	2nd Quarter 2006	Week of 6/17/06	5.61	NPP	9.98	551	6.98	62.6	1.11	177	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	1st Quarter 2006	Week of 3/06/06	6.31	NPP	9.98	851	6.92	45.4	0.24	243	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	Baseline	Week of 8/15/05	5.67	NPP	9.98	794	6.93	68.2	NR	NR	<0.0005	<0.0005	<0.0005	0.0028	<0.0025	*<1.00	<0.05

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated [redacted]pt. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Me[redacted]015B.

Field Measurements

											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	USEPA Regional Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #12	4th Quarter 2010	Week of 10/18/10	7.06	NPP	11.79	1121	6.88	56.2	1.96	306	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	3rd Quarter 2010	Week of 7/20/10	6.93	NPP	11.79	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	2nd Quarter 2010	Week of 4/19/10	7.32	NPP	11.79	760	6.94	49.9	0.91	290	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	1st Quarter 2010	Week of 3/08/10	6.94	NPP	11.79	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	4th Quarter 2009	Week of 10-05-09	7.00	NPP	11.79	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	3rd Quarter 2009	Week of 9/10/09	6.97	NPP	11.79	1491	6.85	60.1	4.27	282	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2009	Week of 4/20/09	7.09	NPP	11.79	723	6.91	52.6	0.91	237	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2009	Week of 3/02/09	6.97	NPP	11.79	752	7.04	46.9	1.90	248	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2008	Week of 11/10/08	6.83	NPP	11.79	1059	6.87	53.8	1.10	279	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2008	Week of 7/14/08	7.18	NPP	11.79	526	6.97	58.9	0.46	250	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2008	Week of 5/12/08	5.85	NPP	11.79	771	6.85	53.9	0.77	142	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2008	Week of 03/10/08	5.11	NPP	11.79	1197	6.86	47.9	1.75	264	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2007	Week of 10/29/07	6.92	NPP	11.79	1745	6.85	54.3	0.56	271	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2007	Week of 8/20/07	6.36	NPP	11.79	2189	6.97	57.1	1.6	238	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2007	Week of 6/18/07	6.82	NPP	11.79	1750	6.81	56.7	2.04	242	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2007	Week of 2/26/07	7.40	NPP	11.79	952	6.92	48.2	1.73	205	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2006	Week of 12/04/06	7.67	NPP	11.79	855	6.99	52.8	3.11	252	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	3rd Quarter 2006	Week of 9/11/06	7.48	NPP	11.79	1875	6.98	60.0	0.91	237	<0.001	<0.001	<0.001	<0.003	0.0081	*<1.00	<0.05
	2nd Quarter 2006	Week of 6/17/06	7.44	NPP	11.79	1171	7.00	55.9	0.26	157	<0.001	<0.001	<0.001	<0.003	0.0049	*<1.00	<0.05
	1st Quarter 2006	Week of 3/06/06	7.94	NPP	11.79	1234	6.91	48.0	0.19	242	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	Baseline	Week of 8/15/05	7.43	NPP	11.79	2143	6.88	64.1	NR	NR	<0.0005	<0.0005	0.00055	0.0042	0.0028	1.00	<0.05

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9) dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

River Terrace

Ground Water Monitoring

Field Measurements											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 0.2.3103	MCL	WQCC 20NMAC 0.2.3103	USEPA Regional Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP #13	4th Quarter 2010	Week of 10/18/10	5.93	NPP	16.09	343	6.96	60.7	1.86	277	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	3rd Quarter 2010	Week of 7/20/10	5.75	NPP	16.09	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	2nd Quarter 2010	Week of 4/19/10	6.17	NPP	16.09	422	6.95	47.9	0.89	276	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	1st Quarter 2010	Week of 3/08/10	5.83	NPP	16.09	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	4th Quarter 2009	Week of 10-05-09	5.85	NPP	16.09	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]	NR[1]
	3rd Quarter 2009	Week of 9/10/09	5.80	NPP	16.09	336	6.87	64.3	1.21	269	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2009	Week of 4/20/09	5.98	NPP	16.09	460	6.97	51.2	1.08	234	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2009	Week of 3/02/09	5.66	NPP	16.09	471	7.07	46.7	1.61	261	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2008	Week of 11/10/08	5.72	NPP	16.09	422	6.96	57.2	1.21	228	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2008	Week of 7/14/08	5.97	NPP	16.09	584	7.02	56.7	0.53	240	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2008	Week of 5/12/08	4.69	NPP	16.09	500	6.88	52.8	0.77	122	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2008	Week of 03/10/08	3.92	NPP	16.09	478	6.89	45.6	4.58	257	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2007	Week of 10/29/07	5.80	NPP	16.09	342	6.99	58.6	0.74	237	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2007	Week of 8/20/07	6.17	NPP	16.09	472	7.04	58.3	1.29	220	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2007	Week of 6/18/07	5.63	NPP	16.09	563	6.86	56.3	1.43	207	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2007	Week of 2/26/07	6.16	NPP	16.09	449	6.97	46.7	1.86	236	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2006	Week of 12/04/06	6.51	NPP	16.09	515	7.08	53.9	0.97	251	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	3rd Quarter 2006	Week of 9/11/06	6.33	NPP	16.09	554	6.98	63.9	0.54	244	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	2nd Quarter 2006	Week of 6/17/06	6.35	NPP	16.09	526	7.02	58.6	0.28	240	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	1st Quarter 2006	Week of 3/06/06	6.78	NPP	16.09	508	6.90	46.3	0.28	242	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	Baseline	Week of 8/15/05	6.27	NPP	16.09	1226	6.97	58.4	NR	NR	<0.0005	<0.0005	<0.0005	0.0037	<0.0025	*<1.00	<0.05

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

Field Measurements

Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	EPA Method 8021B: Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	EPA Method 8015B: DRO (mg/L)	GRO (mg/L)
											MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	USEPA Regional Screening Level	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
DW #1	4th Quarter 2010	Week of 10/18/10	6.17	NPP	15.62	2352	7.13	66.5	2.35	263	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	3rd Quarter 2010	Week of 7/20/10	5.82	NPP	15.62	2836	6.81	68	1.31	-16	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	2nd Quarter 2010	Week of 4/19/10	6.24	NPP	15.62	2546	7.03	52.1	0.86	270	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	1st Quarter 2010	Week of 3/08/10	5.62	NPP	15.62	2625	6.93	47.7	0.36	286	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	4th Quarter 2009	Week of 10-05-09	5.85	NPP	15.62	2409	6.89	67.4	1.67	-12	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2009	Week of 9/10/09	5.82	NPP	15.62	2443	6.86	69.2	1.96	281	<0.005	<0.01	<0.01	<0.02	<0.025	*<1.00	<0.05
	2nd Quarter 2009	Week of 4/20/09	6.02	NPP	15.62	2512	6.83	51.9	0.85	261	<0.005	<0.01	<0.01	<0.02	<0.025	*<1.00	<0.05
	1st Quarter 2009	Week of 3/02/09	5.69	NPP	15.62	2558	67.4	49.9	1.56	242	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2008	Week of 11/10/08	5.72	NPP	15.62	2462	6.76	59.4	2.06	159	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2008	Week of 7/14/08	5.89	NPP	15.62	2443	6.93	65.5	0.59	160	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2008	Week of 5/12/08	4.66	NPP	15.62	2568	6.87	54.7	2.98	204	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2008	Week of 03/10/08	4.11	NPP	15.62	2804	6.73	44.5	1.58	239	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	4th Quarter 2007	Week of 10/29/07	5.80	NPP	15.62	1990	6.88	62.9	0.62	294	<0.001	<0.001	<0.001	0.01	<0.0025	*<1.00	0.06
	3rd Quarter 2007	Week of 8/20/07	6.71	NPP	15.62	1928	7.05	65.7	0.27	155	<0.001	<0.001	<0.001	0.01	<0.0025	*<1.00	0.29
	2nd Quarter 2007	Week of 6/18/07	5.81	NPP	15.62	2548	6.75	58.6	4.59	257	<0.001	<0.001	<0.001	0.0026	<0.0025	*<1.00	0.15
	1st Quarter 2007	Week of 2/26/07	6.11	NPP	15.62	3126	6.88	48.1	0.65	235	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.29
	4th Quarter 2006	Week of 12/04/06	5.58	NPP	15.62	2789	7.01	52.7	1.24	281	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	0.09
	3rd Quarter 2006	Week of 9/11/06	6.39	NPP	15.62	2067	7.04	66.2	0.30	258	<0.005	<0.005	<0.005	<0.015	<0.012	*<1.00	1.20
	2nd Quarter 2006	Week of 6/17/06	6.49	NPP	15.62	2329	6.96	58.0	0.42	143	<0.001	<0.001	0.016	0.12	<0.0025	1.60	0.90
	1st Quarter 2006	Week of 3/06/06	7.91	NPP	15.62	2118	6.95	50.2	0.75	-64	<0.005	<0.005	0.041	0.23	<0.012	2.20	2.80
	Baseline	Week of 8/15/05	6.43	NPP	15.62	1226	6.97	58.4	NR	NR	<0.001	<0.001	<0.001	0.0031	<0.001	NR	NR

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9) dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

River Terrace

Ground Water Monitoring

Field Measurements											EPA Method 8021B					EPA Method 8015B	
											MCL	WQCC 20NMAC 6.2.5103	MCL	WQCC 20NMAC 6.2.5103	USEPA Regional Screening Levels	TPH Screening Guidelines Table 2a	
											0.005	0.75	0.7	0.62	0.012	0.2	
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH	TEMP (°F)	D.O. (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
MW #49	4th Quarter 2010	Week of 10/18/10	9.14	NPP	16.48	1414	7.12	62.6	2.04	269	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	3rd Quarter 2010	Week of 7/20/10	8.95	NPP	16.48	1546	6.82	60.7	1.11	197	<0.001	<0.001	<0.001	<0.002	<0.0025	<0.20	<0.05
	2nd Quarter 2010	Week of 4/19/10	9.59	NPP	16.48	1498	7.02	52.0	1.01	284	<0.001	<0.001	<0.001	<0.002	<0.0025	0.33	<0.05
	1st Quarter 2010	Week of 3/08/10	9.3	NPP	16.48	1870	7.00	47.7	0.44	206	<0.001	<0.001	<0.001	<0.002	<0.0025	0.27	<0.05
	4th Quarter 2009	Week of 10-05-09	9.03	NPP	16.48	1510	6.95	65.0	1.58	179	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2009	Week of 9/10/09	9.02	NPP	16.48	1574	6.86	61.8	2.39	295	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2009	Week of 4/20/09	9.24	NPP	16.48	1873	6.84	51.6	0.97	284	<0.001	<0.001	0.003	0.002	<0.0025	*<1.00	0.18
	1st Quarter 2009	Week of 3/02/09	8.96	NPP	16.48	1982	6.88	50.9	1.61	223	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.083
	4th Quarter 2008	Week of 11/10/08	8.72	NPP	16.48	2413	7.02	60.0	1.16	237	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	3rd Quarter 2008	Week of 7/14/08	9.03	NPP	16.48	2280	6.98	61.1	0.59	148	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.24
	2nd Quarter 2008	Week of 5/12/08	7.66	NPP	16.48	2831	6.92	52.8	2.61	187	0.0018	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.25
	1st Quarter 2008	Week of 03/10/08	6.95	NPP	16.48	3947	6.75	47.3	1.75	246	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.09
	4th Quarter 2007	Week of 10/29/07	8.62	NPP	16.48	2740	6.95	62.3	0.39	265	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.05
	3rd Quarter 2007	Week of 8/20/07	9.30	NPP	16.48	924	6.86	63.9	0.52	192	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	2nd Quarter 2007	Week of 6/18/07	8.41	NPP	16.48	1217	6.95	57.5	0.49	217	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	<0.05
	1st Quarter 2007	Week of 2/26/07	8.79	NPP	16.48	2568	6.90	48.4	0.73	265	<0.001	<0.001	<0.001	<0.002	<0.0025	*<1.00	0.05
	4th Quarter 2006	Week of 12/04/06	9.16	NPP	16.48	2356	7.07	56.2	0.78	295	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	0.081
	3rd Quarter 2006	Week of 9/11/06	9.38	NPP	16.48	1736	7.04	64.4	0.89	234	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	0.23
	2nd Quarter 2006	Week of 6/17/06	9.98	NPP	16.48	701	7.01	57.9	0.26	181	<0.001	<0.001	<0.001	<0.003	<0.0025	*<1.00	<0.05
	1st Quarter 2006	Week of 3/06/06	10.07	NPP	16.48	961	7.07	51.9	0.33	190	<0.001	<0.001	<0.001	0.0061	<0.0025	*<1.00	0.074
	Baseline	Week of 8/15/05	9.57	NPP	16.48	2393	6.96	59.8	NR	NR	0.093	<0.002	0.015	0.0041	<0.002	NR	NR

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR¹= Not Required (Approval With Direction - June 2009)

NM = Not Measured

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

River Terrace

Groundwater Monitoring

Total Metals			WQCC 20NMAC 6.2.3103		40 CFR 141.62 (MCL)		
			1.00	0.05	0.015	0.002	
Sample Location	Sampling Event	DATE	Ba (mg/L)	Cr (mg/L)	Lead (mg/L)	Mercury (mg/L)	
TP #1	4th Quarter 2010	Week of 10/18/10	NR	NR	0.032	NR	EPA Method 6010 & 7470
	3rd Quarter 2010	Week of 7/20/10	NR	NR	0.19	NR	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.26	0.0089	0.12	NR	
	1st Quarter 2010	Week of 3/08/10	NR	NR	0.044	NR	
	4th Quarter 2009	Week of 10-05-09	NR	NR	0.039	NR	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	0.058	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.075	<0.006	0.042	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	0.04	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	0.042	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	0.085	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.044	<0.006	0.045	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	0.093	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	0.044	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.074	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.14	<0.006	0.240	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	
TP #2	4th Quarter 2010	Week of 10/18/10	NR	NR	0.02	NR	
	3rd Quarter 2010	Week of 7/20/10	NR	NR	0.029	NR	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.23	<0.006	0.032	NR	
	1st Quarter 2010	Week of 3/08/10	NR	NR	0.020	NR	
	4th Quarter 2009	Week of 10-05-09	NR	NR	0.019	NR	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	0.02	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.22	<0.006	0.011	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	0.019	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	0.012	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	0.035	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.13	<0.006	0.020	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	0.019	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	0.007	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.019	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.29	<0.006	0.067	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

River Terrace

Groundwater Monitoring

Total Metals			WQCC 20NMAC 6.2.3103		40 CFR 141.62 (MCL)		
			1.00	0.05	0.015	0.002	
Sample Location	Sampling Event	DATE	Ba (mg/L)	Cr (mg/L)	Lead (mg/L)	Mercury (mg/L)	
TP #3	4th Quarter 2010	Week of 10/18/10	NR[1]	NR[1]	<0.005	NR[1]	EPA Method 6010 & 7470
	3rd Quarter 2010	Week of 7/20/10	NR[1]	NR[1]	NR[1]	NR[1]	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.15	<0.006	<0.005	NR[1]	
	1st Quarter 2010	Week of 3/08/10	NR[1]	NR[1]	NR[1]	NR[1]	
	4th Quarter 2009	Week of 10-05-09	NR[1]	NR[1]	NR[1]	NR[1]	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	0.025	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.1	<0.006	<0.005	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	<0.005	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	<0.005	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	0.005	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.089	<0.006	<0.005	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	<0.005	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	<0.005	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.010	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.2	0.008	0.007	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	
TP #5	4th Quarter 2010	Week of 10/18/10	NR	NR	0.023	NR	
	3rd Quarter 2010	Week of 7/20/10	NR	NR	0.083	NR	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.89	0.041	0.13	NR	
	1st Quarter 2010	Week of 3/08/10	NR	NR	0.043	NR	
	4th Quarter 2009	Week of 10-05-09	NR	NR	0.025	NR	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	0.033	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.47	<0.006	0.026	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	0.026	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	0.029	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	0.043	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.31	<0.006	0.039	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	0.051	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	0.032	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.044	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.21	<0.006	0.09	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

River Terrace

Groundwater Monitoring

Total Metals			WQCC 20NMAC 6.2.3103		40 CFR 141.62 (MCL)		
			1.00	0.05	0.015	0.002	
Sample Location	Sampling Event	DATE	Ba (mg/L)	Cr (mg/L)	Lead (mg/L)	Mercury (mg/L)	
TP #6	4th Quarter 2010	Week of 10/18/10	NR	NR	0.0074	NR	EPA Method 6010 & 7470
	3rd Quarter 2010	Week of 7/20/10	NR	NR	0.026	NR	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.28	<0.006	0.019	NR	
	1st Quarter 2010	Week of 3/08/10	NR	NR	0.031	NR	
	4th Quarter 2009	Week of 10-05-09	NR	NR	0.023	NR	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	0.028	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.34	<0.006	0.036	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	0.019	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	0.018	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	0.051	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.15	<0.006	0.022	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	0.028	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	<0.005	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.009	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.38	<0.006	0.03	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	
TP #7	4th Quarter 2010	Week of 10/18/10	NR	NR	0.0073	NR	
	3rd Quarter 2010	Week of 7/20/10	NR	NR	<0.005	NR	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.5	0.01	0.0078	NR	
	1st Quarter 2010	Week of 3/08/10	NR	NR	<0.005	NR	
	4th Quarter 2009	Week of 10-05-09	NR	NR	0.0085	NR	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	<0.005	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.065	<0.006	<0.005	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	<0.005	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	<0.005	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	<0.005	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.032	<0.006	0.007	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	<0.005	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	<0.005	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.006	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.075	<0.006	<0.005	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

River Terrace

Groundwater Monitoring

Total Metals			WQCC 20NMAC 6.2.3103		40 CFR 141.62 (MCL)		
			1.00	0.05	0.015	0.002	
Sample Location	Sampling Event	DATE	Ba (mg/L)	Cr (mg/L)	Lead (mg/L)	Mercury (mg/L)	
TP #8	4th Quarter 2010	Week of 10/18/10	NR	NR	0.0065	NR	EPA Method 6010 & 7470
	3rd Quarter 2010	Week of 7/20/10	NR	NR	0.039	NR	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.42	0.011	0.065	NR	
	1st Quarter 2010	Week of 3/08/10	NR	NR	0.038	NR	
	4th Quarter 2009	Week of 10-05-09	NR	NR	0.033	NR	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	0.04	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.38	<0.006	0.03	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	0.033	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	0.017	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	0.066	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.07	<0.006	<0.005	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	0.043	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	0.30	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.027	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.44	<0.006	0.054	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	
TP #9	4th Quarter 2010	Week of 10/18/10	NR	NR	0.005	NR	
	3rd Quarter 2010	Week of 7/20/10	NR	NR	0.0098	NR	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.18	<0.006	<0.005	NR	
	1st Quarter 2010	Week of 3/08/10	NR	NR	<0.005	NR	
	4th Quarter 2009	Week of 10-05-09	NR	NR	0.015	NR	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	0.009	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.081	<0.006	0.0089	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	<0.005	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	0.008	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	0.007	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.11	<0.006	0.013	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	0.009	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	<0.005	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.013	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.91	0.018	0.020	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

River Terrace

Groundwater Monitoring

Total Metals			WQCC 20NMAC 6.2.3103		40 CFR 141.62 (MCL)		
			1.00	0.05	0.015	0.002	
Sample Location	Sampling Event	DATE	Ba (mg/L)	Cr (mg/L)	Lead (mg/L)	Mercury (mg/L)	
TP #10	4th Quarter 2010	Week of 10/18/10	NR[1]	NR[1]	<0.005	NR[1]	EPA Method 6010 & 7470
	3rd Quarter 2010	Week of 7/20/10	NR[1]	NR[1]	NR[1]	NR[1]	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.24	0.012	<0.005	NR[1]	
	1st Quarter 2010	Week of 3/08/10	NR[1]	NR[1]	NR[1]	NR[1]	
	4th Quarter 2009	Week of 10-05-09	NR[1]	NR[1]	NR[1]	NR[1]	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	0.007	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.11	<0.006	<0.005	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	<0.005	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	0.006	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	<0.005	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.11	<0.006	<0.005	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	<0.005	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	<0.005	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.006	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.41	0.024	0.009	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	
TP #11	4th Quarter 2010	Week of 10/18/10	NR[1]	NR[1]	<0.005	NR[1]	
	3rd Quarter 2010	Week of 7/20/10	NR[1]	NR[1]	NR[1]	NR[1]	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.1	<0.006	<0.005	NR[1]	
	1st Quarter 2010	Week of 3/08/10	NR[1]	NR[1]	NR[1]	NR[1]	
	4th Quarter 2009	Week of 10-05-09	NR[1]	NR[1]	NR[1]	NR[1]	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	0.007	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.088	<0.006	<0.005	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	<0.005	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	0.006	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	0.008	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.068	<0.006	<0.005	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	<0.005	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	0.006	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.010	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.33	0.013	0.015	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

River Terrace

Groundwater Monitoring

Total Metals			WQCC 20NMAC 6.2.3103		40 CFR 141.62 (MCL)		
			1.00	0.05	0.015	0.002	
Sample Location	Sampling Event	DATE	Ba (mg/L)	Cr (mg/L)	Lead (mg/L)	Mercury (mg/L)	
TP #12	4th Quarter 2010	Week of 10/18/10	NR[1]	NR[1]	0.0095	NR[1]	EPA Method 6010 & 7470
	3rd Quarter 2010	Week of 7/20/10	NR[1]	NR[1]	NR[1]	NR[1]	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.092	<0.006	<0.005	NR[1]	
	1st Quarter 2010	Week of 3/08/10	NR[1]	NR[1]	NR[1]	NR[1]	
	4th Quarter 2009	Week of 10-05-09	NR[1]	NR[1]	NR[1]	NR[1]	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	<0.005	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.047	<0.006	<0.005	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	0.0057	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	<0.005	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	0.005	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.043	<0.006	<0.005	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	0.006	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	0.010	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.021	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.21	0.010	0.016	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	
TP #13	4th Quarter 2010	Week of 10/18/10	NR[1]	NR[1]	0.0051	NR[1]	
	3rd Quarter 2010	Week of 7/20/10	NR[1]	NR[1]	NR[1]	NR[1]	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.024	0.0078	0.0061	NR[1]	
	1st Quarter 2010	Week of 3/08/10	NR[1]	NR[1]	NR[1]	NR[1]	
	4th Quarter 2009	Week of 10-05-09	NR[1]	NR[1]	NR[1]	NR[1]	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	0.009	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.21	<0.006	<0.005	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	<0.005	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	0.007	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	<0.005	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.22	<0.006	<0.005	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	<0.005	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	<0.005	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.012	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.42	0.019	0.011	NR	
	1st Quarter 2007	Week of 2/26/07	NR	NR	NR	NR	

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

River Terrace

Groundwater Monitoring

Total Metals			WQCC 20NMAC 6.2.3103		40 CFR 141.62 (MCL)		
			1.00	0.05	0.015	0.002	
Sample Location	Sampling Event	DATE	Ba (mg/L)	Cr (mg/L)	Lead (mg/L)	Mercury (mg/L)	
DW #1	4th Quarter 2010	Week of 10/18/10	NR	NR	<0.005	No Analysis	EPA Method 6010 & 7470
	3rd Quarter 2010	Week of 7/20/10	NR	NR	0.0063	<0.0002	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.1	<0.006	<0.005	<0.0002	
	1st Quarter 2010	Week of 3/08/10	NR	NR	<0.005	<0.0002	
	4th Quarter 2009	Week of 10-05-09	NR	NR	0.0057	<0.0002	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	<0.005	Laboratory Error No Analysis	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.61	<0.006	<0.005	0.0008	
	1st Quarter 2009	Week of 3/02/09	NR	NR	<0.005	<0.001	
	4th Quarter 2008	Week of 11/10/08	NR	NR	<0.005	No Analysis	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	<0.005	<0.001	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.12	<0.006	<0.005	<0.001	
	1st Quarter 2008	Week of 03/10/08	NR	NR	<0.005	<0.0002	
	4th Quarter 2007	Week of 10/29/07	NR	NR	<0.005	<0.0002	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	0.009	<0.0002	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.93	<0.03	<0.025	<0.0002	
	1st Quarter 2007	Week of 2/26/07	NR	<0.006	<0.005	0.002	
MW #49	4th Quarter 2010	Week of 10/18/10	NR	NR	<0.005	NR	
	3rd Quarter 2010	Week of 7/20/10	NR	NR	<0.005	NR	
	2nd Quarter 2010 (Annual)	Week of 4/19/10	0.12	<0.006	<0.005	NR	
	1st Quarter 2010	Week of 3/08/10	NR	NR	<0.005	NR	
	4th Quarter 2009	Week of 10-05-09	NR	NR	0.0052	NR	
	3rd Quarter 2009	Week of 9/10/09	NR	NR	<0.005	NR	
	2nd Quarter 2009 (Annual)	Week of 4/20/09	0.062	<0.006	<0.005	NR	
	1st Quarter 2009	Week of 3/02/09	NR	NR	<0.005	NR	
	4th Quarter 2008	Week of 11/10/08	NR	NR	0.007	NR	
	3rd Quarter 2008	Week of 7/14/08	NR	NR	<0.005	NR	
	2nd Quarter 2008 (Annual)	Week of 5/12/08	0.066	<0.006	<0.005	NR	
	1st Quarter 2008	Week of 03/10/08	NR	NR	<0.005	NR	
	4th Quarter 2007	Week of 10/29/07	NR	NR	<0.005	NR	
	3rd Quarter 2007	Week of 8/20/07	NR	NR	<0.005	NR	
	2nd Quarter 2007 (Annual)	Week of 6/18/07	0.064	<0.006	<0.005	NR	
	1st Quarter 2007	Week of 2/26/07	NR	<0.006	<0.005	NR	

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

NR[1]= Not Required (Approval With Direction - June 2009)

River Terrace

BV Air Pressure 2010				
Sample Location	Sampling Activities	Date	Velocity (scfm)	Pressure (psi)
BV - 1	4th Quarter	10/19/2010	10.0	2.0
	3rd Quarter	7/20/2010	8.0	2.5
	2nd Quarter	4/19/2010	10.0	2.3
	1st Quarter	3/9/2010	12.0	2.0
BV - 2	4th Quarter	10/19/2010	6.0	2.0
	3rd Quarter	7/20/2010	8.0	2.5
	2nd Quarter	4/19/2010	8.0	2.3
	1st Quarter	3/9/2010	8.0	2.0
BV - 3	4th Quarter	10/19/2010	8.0	2.0
	3rd Quarter	7/20/2010	8.0	2.3
	2nd Quarter	4/19/2010	12.0	2.3
	1st Quarter	3/9/2010	10.0	2.0
BV - 4	4th Quarter	10/19/2010	10.0	2.0
	3rd Quarter	7/20/2010	10.0	2.5
	2nd Quarter	4/19/2010	10.0	2.3
	1st Quarter	3/9/2010	12.0	2.0
BV - 5	4th Quarter	10/19/2010	10.0	2.0
	3rd Quarter	7/20/2010	8.0	2.0
	2nd Quarter	4/19/2010	12.0	2.3
	1st Quarter	3/9/2010	12.0	2.0
BV - 6	4th Quarter	10/19/2010	10.0	2.0
	3rd Quarter	7/20/2010	12.0	2.5
	2nd Quarter	4/19/2010	12.0	2.3
	1st Quarter	3/9/2010	12.0	2.0
BV - 7	4th Quarter	10/19/2010	10.0	2.0
	3rd Quarter	7/20/2010	10.0	2.5
	2nd Quarter	4/19/2010	14.0	2.3
	1st Quarter	3/9/2010	10.0	2.0

River Terrace

BV Air Pressure 2010				
Sample Location	Sampling Activities	Date	Velocity (scfm)	Pressure (psi)
BV - 8	4th Quarter	10/19/2010	10.0	2.0
	3rd Quarter	7/20/2010	12.0	2.5
	2nd Quarter	4/19/2010	10.0	2.3
	1st Quarter	3/9/2010	10.0	2.0
BV - 9	4th Quarter	10/19/2010	10.0	2.0
	3rd Quarter	7/20/2010	12.0	2.5
	2nd Quarter	4/19/2010	10.0	2.3
	1st Quarter	3/9/2010	10.0	2.0
BV - 10	4th Quarter	10/19/2010	10.0	2.0
	3rd Quarter	7/20/2010	10.0	2.5
	2nd Quarter	4/19/2010	12.0	2.3
	1st Quarter	3/9/2010	12.0	2.0
BV - 11	4th Quarter	10/19/2010	14.0	2.0
	3rd Quarter	7/20/2010	8.0	2.5
	2nd Quarter	4/19/2010	10.0	2.3
	1st Quarter	3/9/2010	12.0	2.0
BV - 12	4th Quarter	10/19/2010	10.0	2.0
	3rd Quarter	7/20/2010	12.0	2.5
	2nd Quarter	4/19/2010	14.0	2.3
	1st Quarter	3/9/2010	12.0	2.0
BV - 13	4th Quarter	10/19/2010	6.0	2.0
	3rd Quarter	7/20/2010	8.0	2.5
	2nd Quarter	4/19/2010	10.0	2.3
	1st Quarter	3/9/2010	10.0	2.0
Overall System Pressure	4th Quarter	10/19/2010		2.5
	3rd Quarter	7/20/2010		2.7
	2nd Quarter	4/19/2010		3.3
	1st Quarter	3/9/2010		3.2

GAC Filter Monitoring 2010 Annual Report

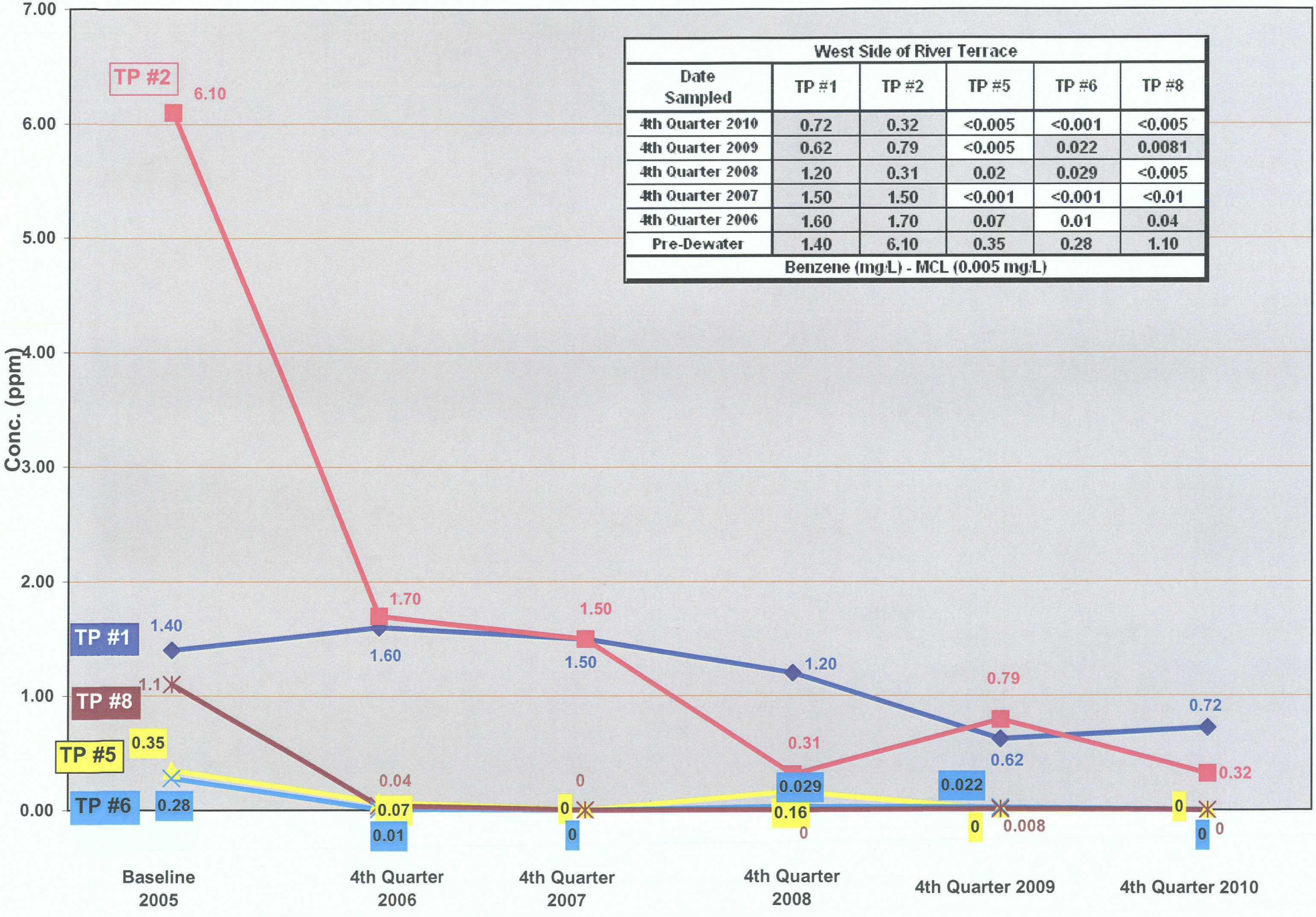
Sample Location	Sampling Event	DATE	EPA Method 8021B				EPA Method 8015B	
			MCL	WQCC 20NMAC 6.2.3103	MCL	WQCC 20NMAC 6.2.3103	TPH Screening Guidelines Table 2a	
			0.005	0.75	0.70	0.62	0.2	
			Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	DRO (mg/L)	GRO (mg/L)
GAC INLET	*4th Quarter*	10/19/10	0.069	<0.005	0.630	2.30	0.9	8.60
	3rd Quarter	07/20/10	0.03	<0.01	0.48	1.30	0.61	5.2
	2nd Quarter	04/20/10	0.100	<0.010	0.790	3.00	4.1	9.30
	1st Quarter	01/04/10	<0.005	<0.01	0.049	0.63.	1.6	2.00
Lead Filter (V-611) North Filter		12/13/10	<0.001	<0.001	<0.001	<0.002	**<0.80	<0.05
		11/30/10	<0.001	<0.001	<0.001	<0.002	0.76	<0.05
	4th Quarter	10/19/10	<0.001	<0.001	<0.001	<0.002	<0.20	<0.05
		09/27/10	<0.001	<0.001	<0.001	<0.002	**<0.80	<0.05
		08/10/10	<0.001	<0.001	<0.001	<0.002	<0.20	<0.05
	3rd Quarter	07/20/10	<0.001	<0.001	<0.001	<0.002	<0.20	<0.05
		06/01/10	<0.001	<0.001	<0.001	<0.002	<0.20	<0.05
		05/03/10	<0.001	<0.001	<0.001	<0.002	<0.20	<0.05
	2nd Quarter	04/20/10	<0.001	<0.001	<0.001	<0.002	<0.20	<0.05
		03/09/10	<0.001	<0.001	<0.001	<0.002	<0.20	<0.05
		02/02/10	<0.001	<0.001	<0.001	<0.002	*<1.0	<0.05
	1st Quarter	01/04/10	<0.001	<0.001	<0.001	<0.002	*<1.0	<0.05
GAC (Lag) (V-612) South Filter	*4th Quarter*	10/19/10	<0.001	<0.001	<0.001	<0.002	<0.20	<0.05
	3rd Quarter	7/202010	<0.001	<0.001	<0.001	<0.002	<0.20	<0.05
	2nd Quarter	04/20/10	<0.001	<0.001	<0.001	<0.002	<0.20	<0.05
	1st Quarter	01/04/10	<0.001	<0.001	<0.001	<0.002	*<1.0	<0.05

*Per NMED letter *Approval with Direction 2008 Groundwater Remediation and Monitoring Annual Report (Comment 9)* dated Sept. 1, 2009 all future DRO analysis will be analyzed at a lower detection level of 0.2mg/L by EPA Method 8015B.

** Laboratory Error - Sample was not analyzed by the 0.20 mg/L reporting limit as requested.

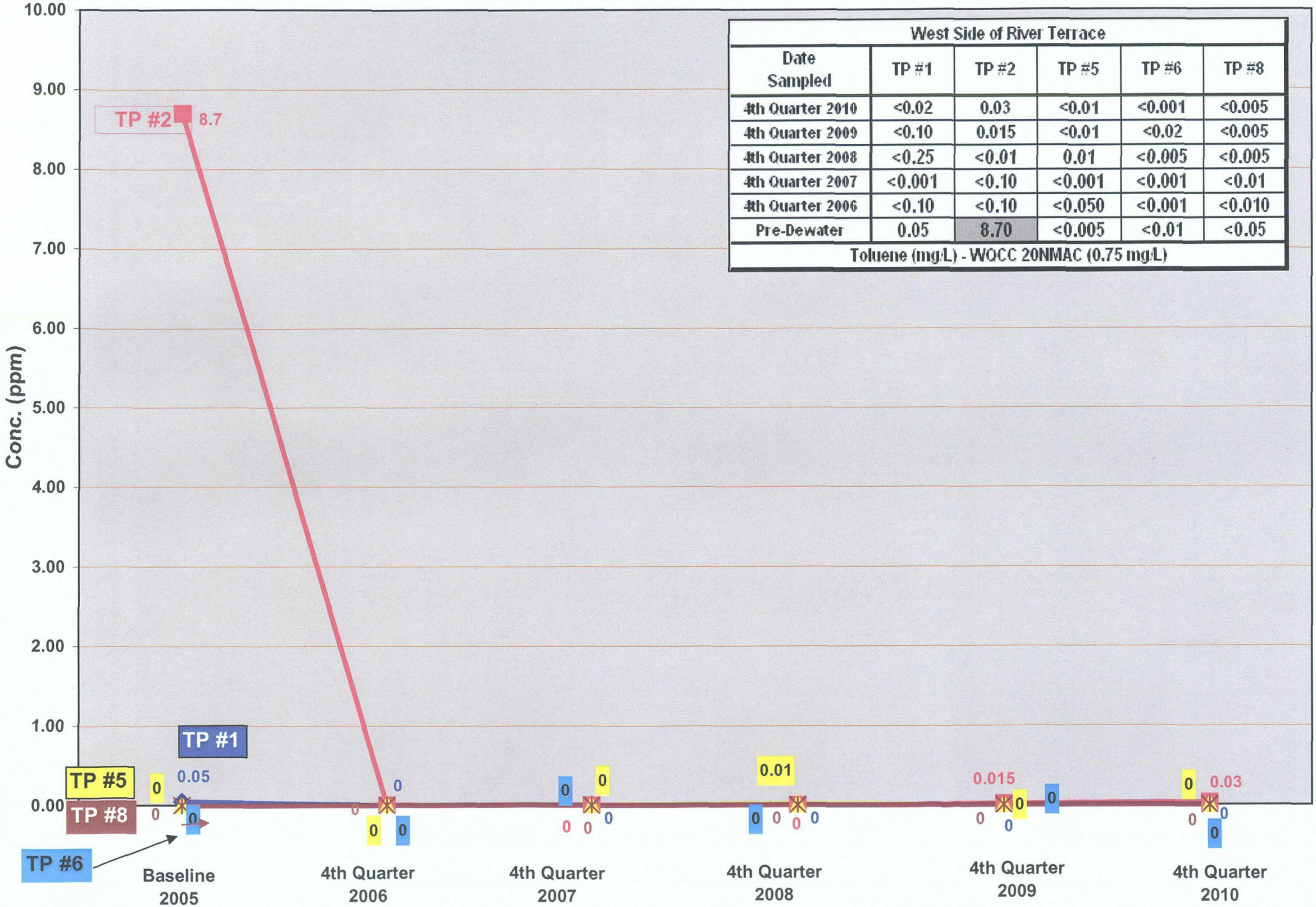
Section 5.0 Concentration VS Time Charts

Benzene in Groundwater on West Side of River Terrace



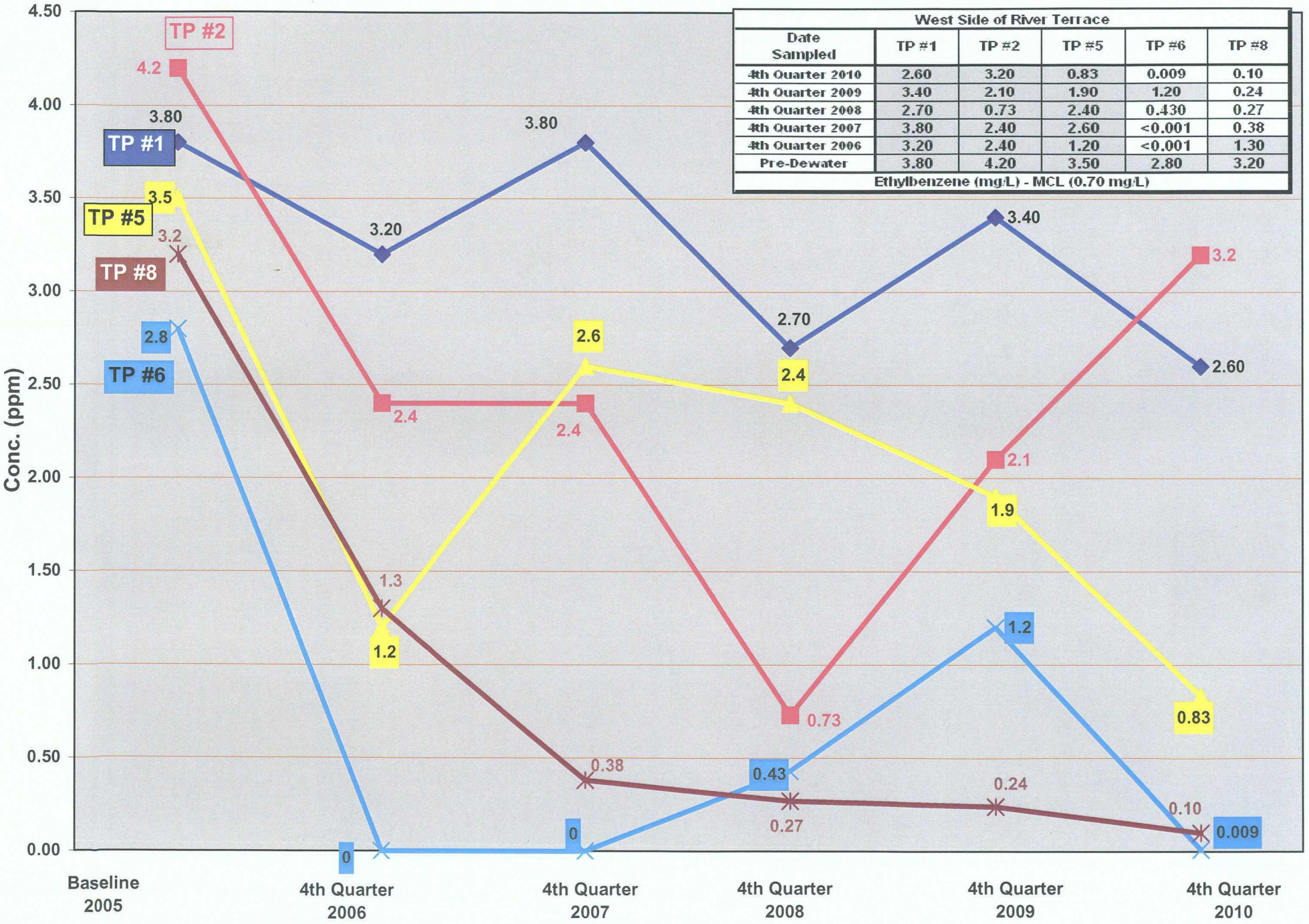
West Side of River Terrace					
Date Sampled	TP #1	TP #2	TP #5	TP #6	TP #8
4th Quarter 2010	0.72	0.32	<0.005	<0.001	<0.005
4th Quarter 2009	0.62	0.79	<0.005	0.022	0.0081
4th Quarter 2008	1.20	0.31	0.02	0.029	<0.005
4th Quarter 2007	1.50	1.50	<0.001	<0.001	<0.01
4th Quarter 2006	1.60	1.70	0.07	0.01	0.04
Pre-Dewater	1.40	6.10	0.35	0.28	1.10
Benzene (mg/L) - MCL (0.005 mg/L)					

Toluene in Groundwater on West Side of River Terrace



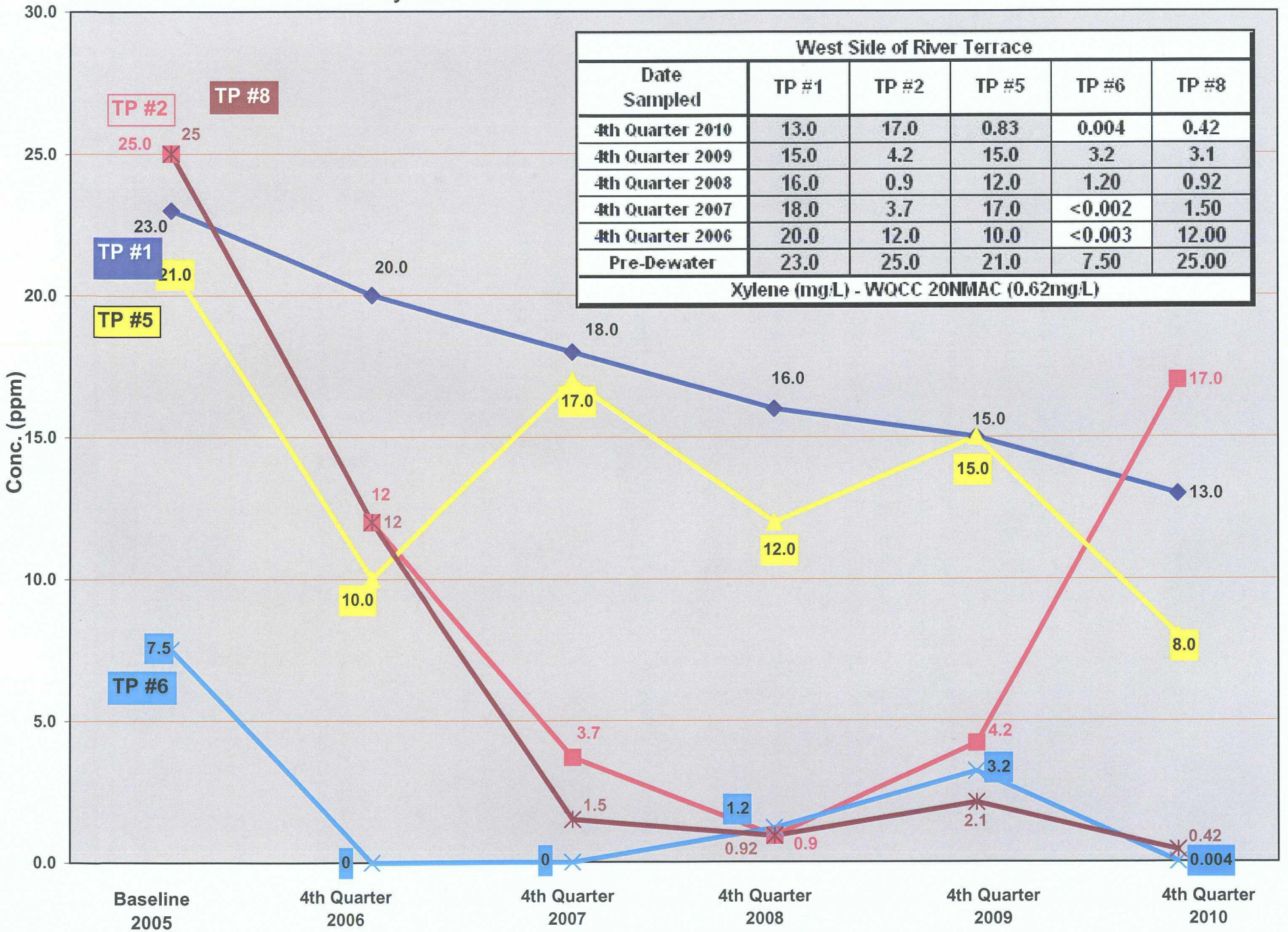
West Side of River Terrace					
Date Sampled	TP #1	TP #2	TP #5	TP #6	TP #8
4th Quarter 2010	<0.02	0.03	<0.01	<0.001	<0.005
4th Quarter 2009	<0.10	0.015	<0.01	<0.02	<0.005
4th Quarter 2008	<0.25	<0.01	0.01	<0.005	<0.005
4th Quarter 2007	<0.001	<0.10	<0.001	<0.001	<0.01
4th Quarter 2006	<0.10	<0.10	<0.050	<0.001	<0.010
Pre-Dewater	0.05	8.70	<0.005	<0.01	<0.05
Toluene (mg/L) - WQCC 20NMAC (0.75 mg/L)					

Ethylbenzene in Groundwater on West Side of River Terrace



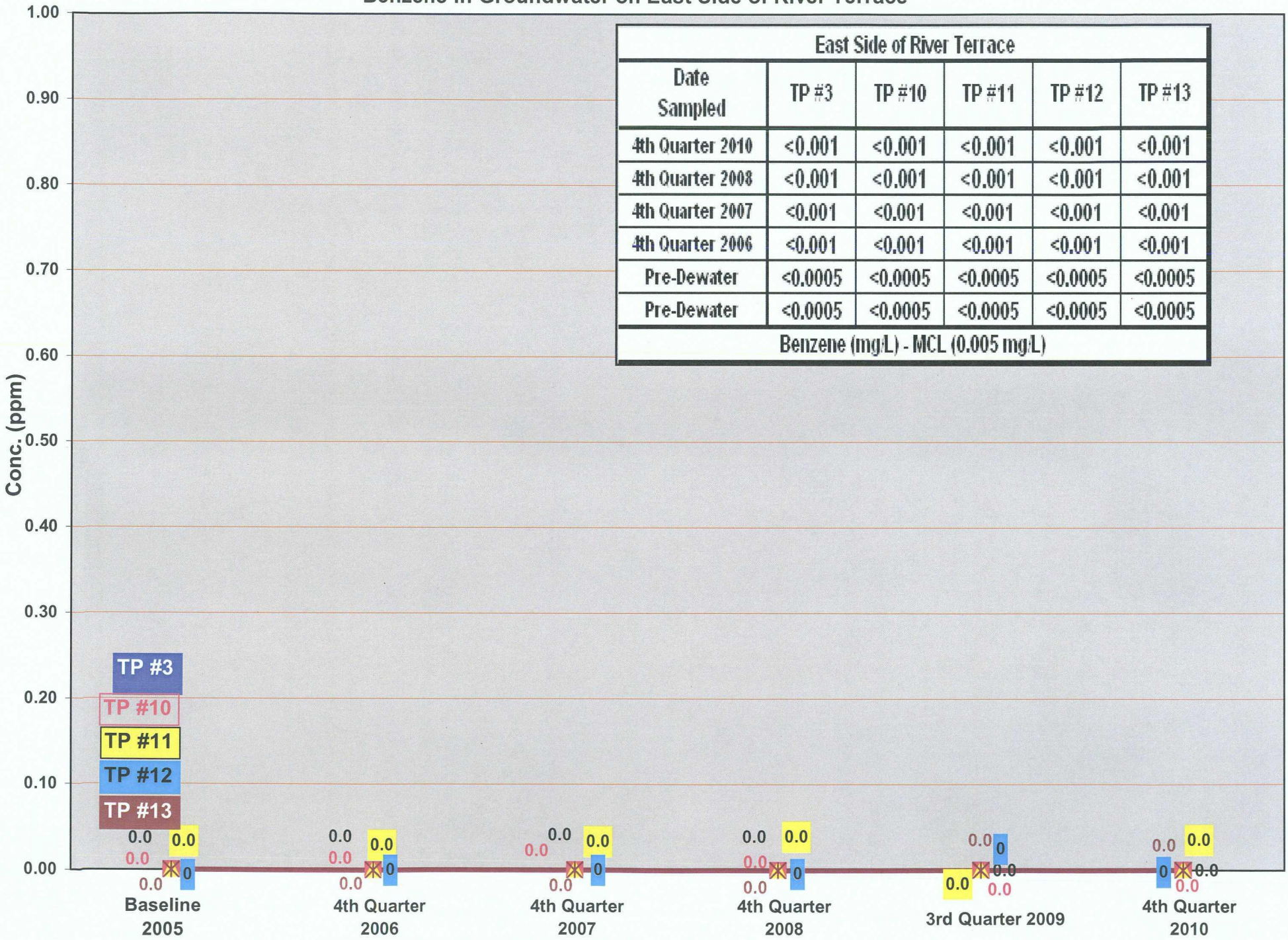
West Side of River Terrace					
Date Sampled	TP #1	TP #2	TP #5	TP #6	TP #8
4th Quarter 2010	2.60	3.20	0.83	0.009	0.10
4th Quarter 2009	3.40	2.10	1.90	1.20	0.24
4th Quarter 2008	2.70	0.73	2.40	0.430	0.27
4th Quarter 2007	3.80	2.40	2.60	<0.001	0.38
4th Quarter 2006	3.20	2.40	1.20	<0.001	1.30
Pre-Dewater	3.80	4.20	3.50	2.80	3.20
Ethylbenzene (mg/L) - MCL (0.70 mg/L)					

Xylene in Groundwater on West Side of River Terrace



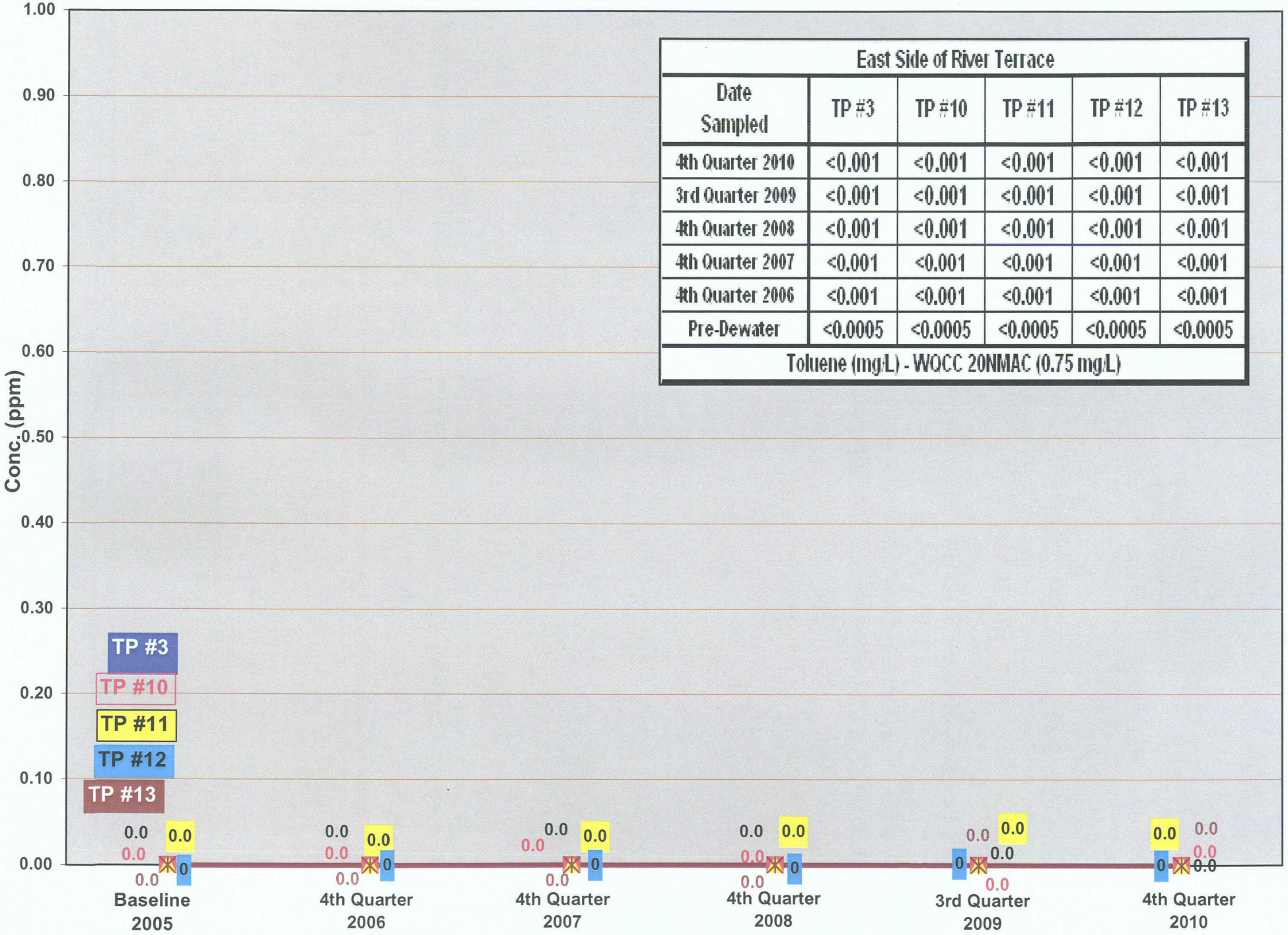
West Side of River Terrace					
Date Sampled	TP #1	TP #2	TP #5	TP #6	TP #8
4th Quarter 2010	13.0	17.0	0.83	0.004	0.42
4th Quarter 2009	15.0	4.2	15.0	3.2	3.1
4th Quarter 2008	16.0	0.9	12.0	1.20	0.92
4th Quarter 2007	18.0	3.7	17.0	<0.002	1.50
4th Quarter 2006	20.0	12.0	10.0	<0.003	12.00
Pre-Dewater	23.0	25.0	21.0	7.50	25.00
Xylene (mg/L) - WQCC 20NMAC (0.62mg/L)					

Benzene in Groundwater on East Side of River Terrace



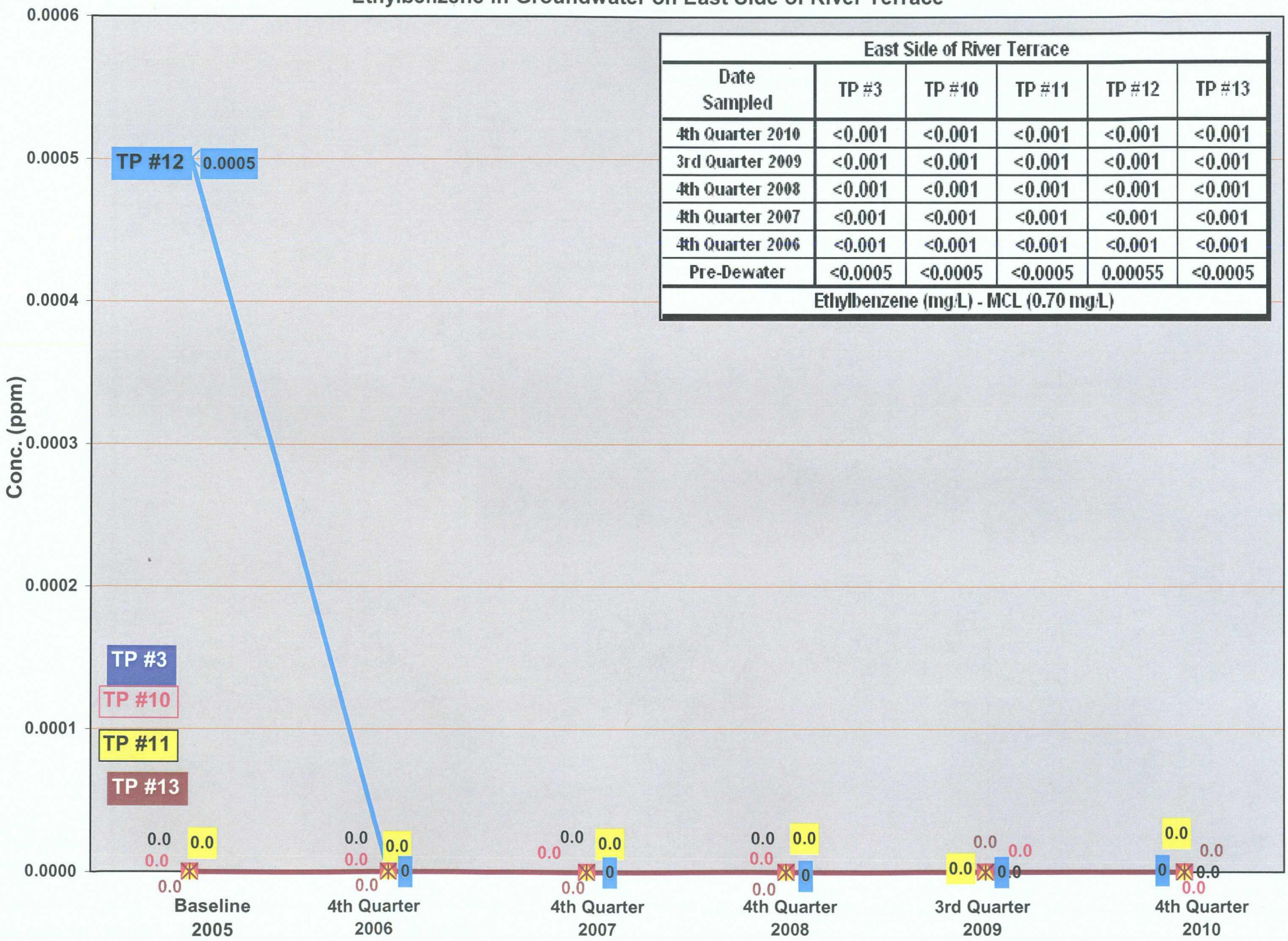
East Side of River Terrace					
Date Sampled	TP #3	TP #10	TP #11	TP #12	TP #13
4th Quarter 2010	<0.001	<0.001	<0.001	<0.001	<0.001
4th Quarter 2008	<0.001	<0.001	<0.001	<0.001	<0.001
4th Quarter 2007	<0.001	<0.001	<0.001	<0.001	<0.001
4th Quarter 2006	<0.001	<0.001	<0.001	<0.001	<0.001
Pre-Dewater	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Pre-Dewater	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Benzene (mg/L) - MCL (0.005 mg/L)					

Toluene in Groundwater on East Side of River Terrace



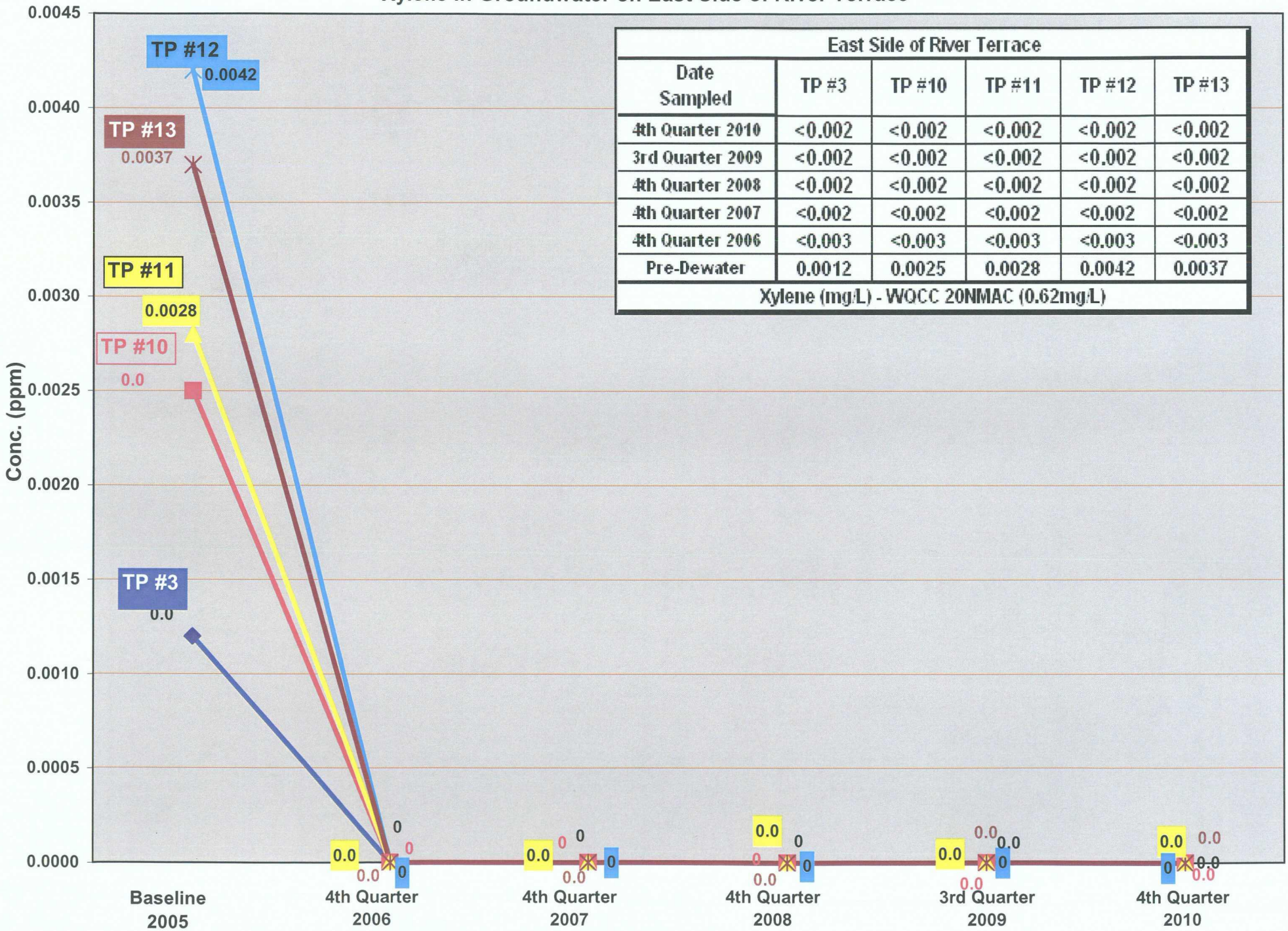
East Side of River Terrace					
Date Sampled	TP #3	TP #10	TP #11	TP #12	TP #13
4th Quarter 2010	<0.001	<0.001	<0.001	<0.001	<0.001
3rd Quarter 2009	<0.001	<0.001	<0.001	<0.001	<0.001
4th Quarter 2008	<0.001	<0.001	<0.001	<0.001	<0.001
4th Quarter 2007	<0.001	<0.001	<0.001	<0.001	<0.001
4th Quarter 2006	<0.001	<0.001	<0.001	<0.001	<0.001
Pre-Dewater	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Toluene (mg/L) - WQCC 20NMAC (0.75 mg/L)					

Ethylbenzene in Groundwater on East Side of River Terrace



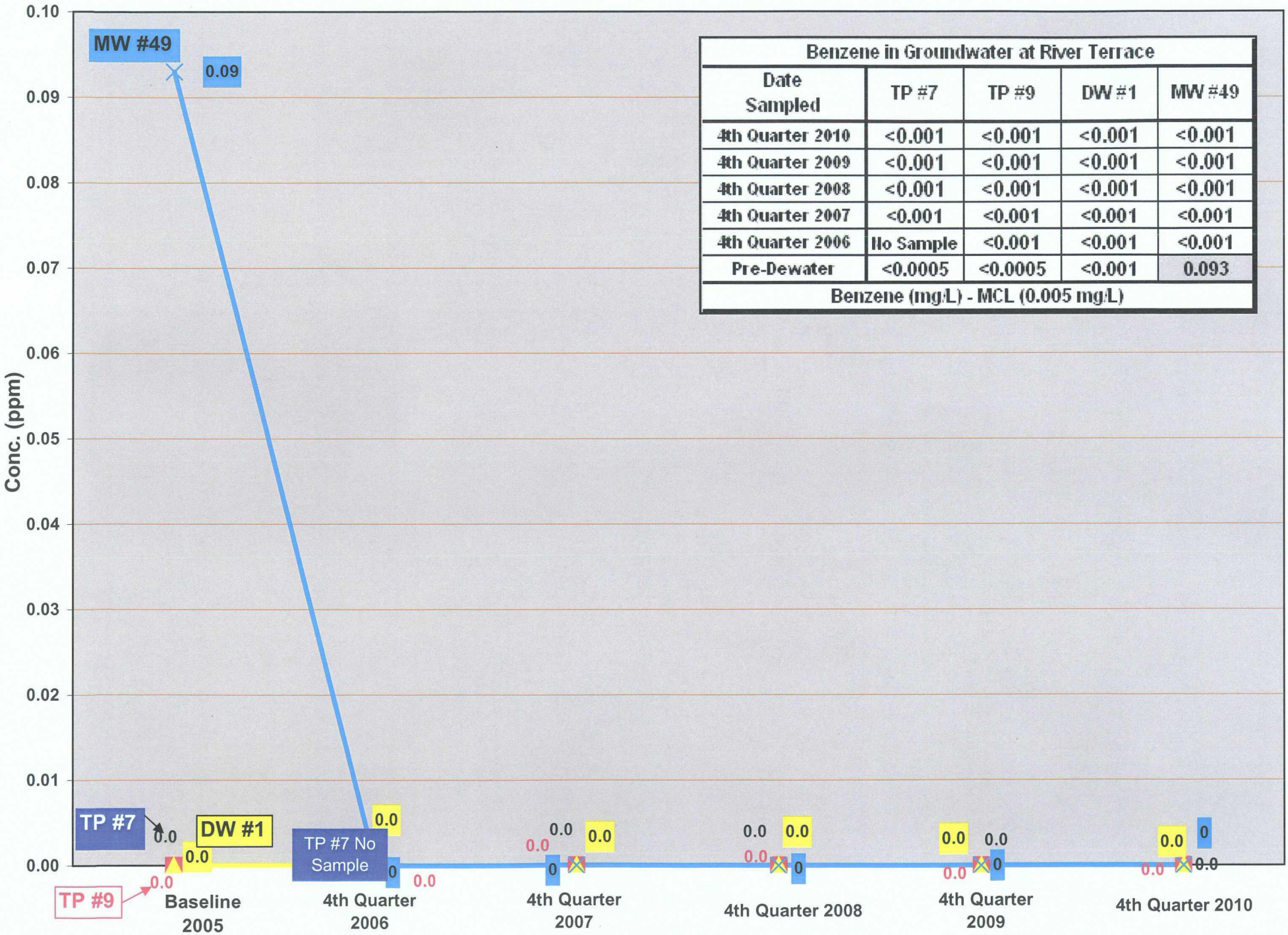
East Side of River Terrace					
Date Sampled	TP #3	TP #10	TP #11	TP #12	TP #13
4th Quarter 2010	<0.001	<0.001	<0.001	<0.001	<0.001
3rd Quarter 2009	<0.001	<0.001	<0.001	<0.001	<0.001
4th Quarter 2008	<0.001	<0.001	<0.001	<0.001	<0.001
4th Quarter 2007	<0.001	<0.001	<0.001	<0.001	<0.001
4th Quarter 2006	<0.001	<0.001	<0.001	<0.001	<0.001
Pre-Dewater	<0.0005	<0.0005	<0.0005	0.00055	<0.0005
Ethylbenzene (mg/L) - MCL (0.70 mg/L)					

Xylene in Groundwater on East Side of River Terrace



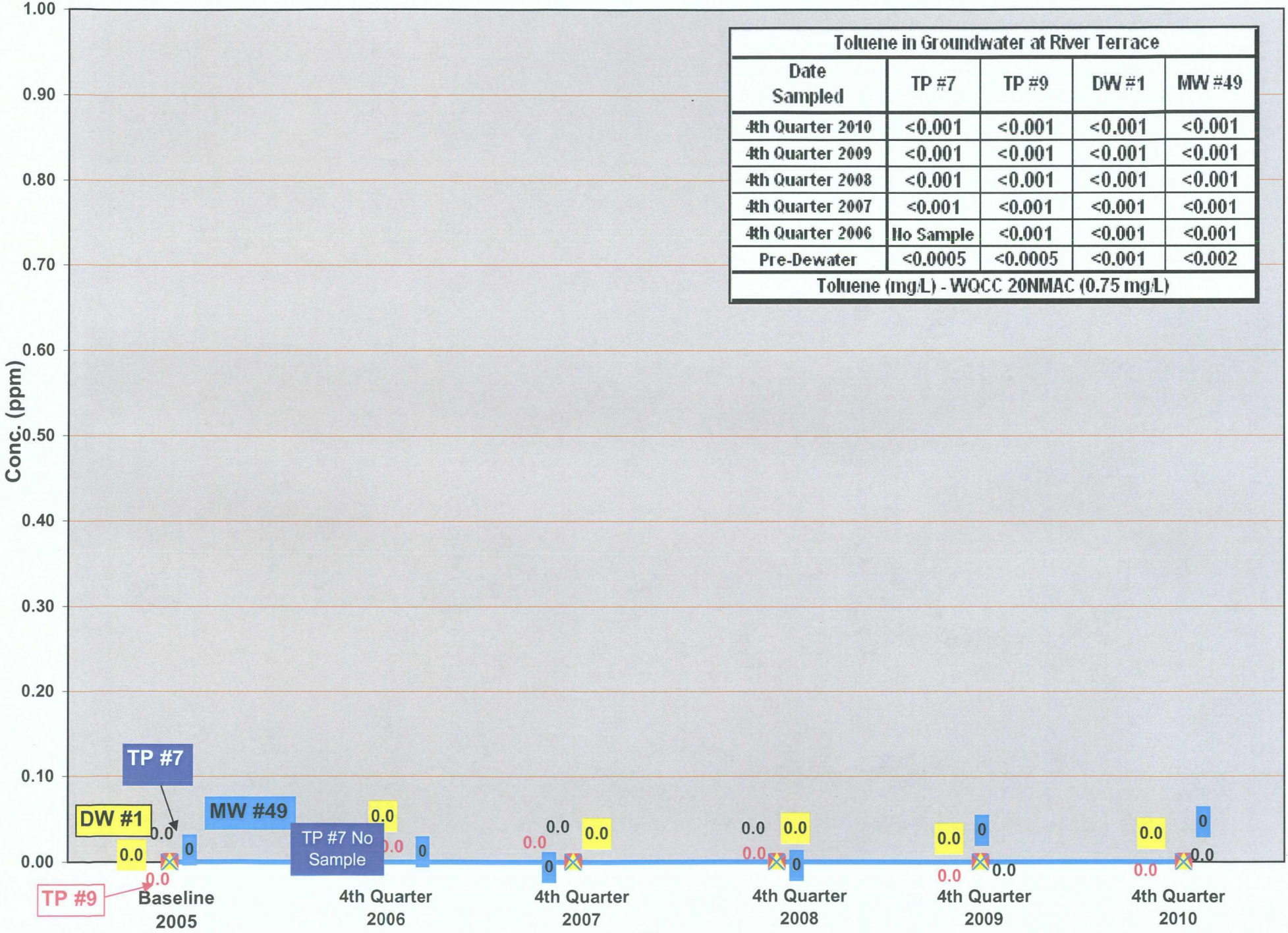
East Side of River Terrace					
Date Sampled	TP #3	TP #10	TP #11	TP #12	TP #13
4th Quarter 2010	<0.002	<0.002	<0.002	<0.002	<0.002
3rd Quarter 2009	<0.002	<0.002	<0.002	<0.002	<0.002
4th Quarter 2008	<0.002	<0.002	<0.002	<0.002	<0.002
4th Quarter 2007	<0.002	<0.002	<0.002	<0.002	<0.002
4th Quarter 2006	<0.003	<0.003	<0.003	<0.003	<0.003
Pre-Dewater	0.0012	0.0025	0.0028	0.0042	0.0037
Xylene (mg/L) - WQCC 20NMAC (0.62mg/L)					

Benzene in Groundwater at River Terrace



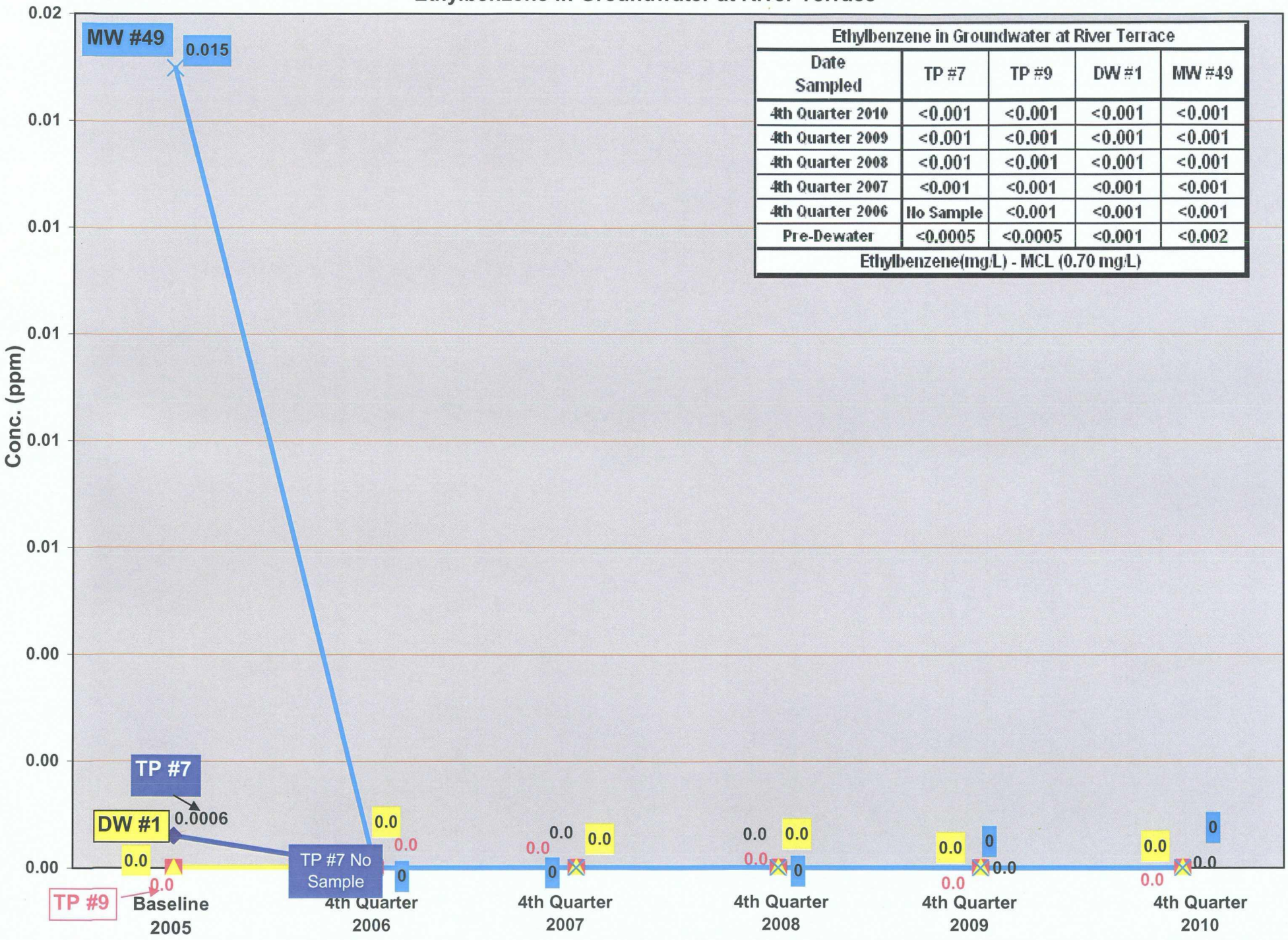
Benzene in Groundwater at River Terrace				
Date Sampled	TP #7	TP #9	DW #1	MW #49
4th Quarter 2010	<0.001	<0.001	<0.001	<0.001
4th Quarter 2009	<0.001	<0.001	<0.001	<0.001
4th Quarter 2008	<0.001	<0.001	<0.001	<0.001
4th Quarter 2007	<0.001	<0.001	<0.001	<0.001
4th Quarter 2006	No Sample	<0.001	<0.001	<0.001
Pre-Dewater	<0.0005	<0.0005	<0.001	0.093
Benzene (mg/L) - MCL (0.005 mg/L)				

Toluene in Groundwater at River Terrace



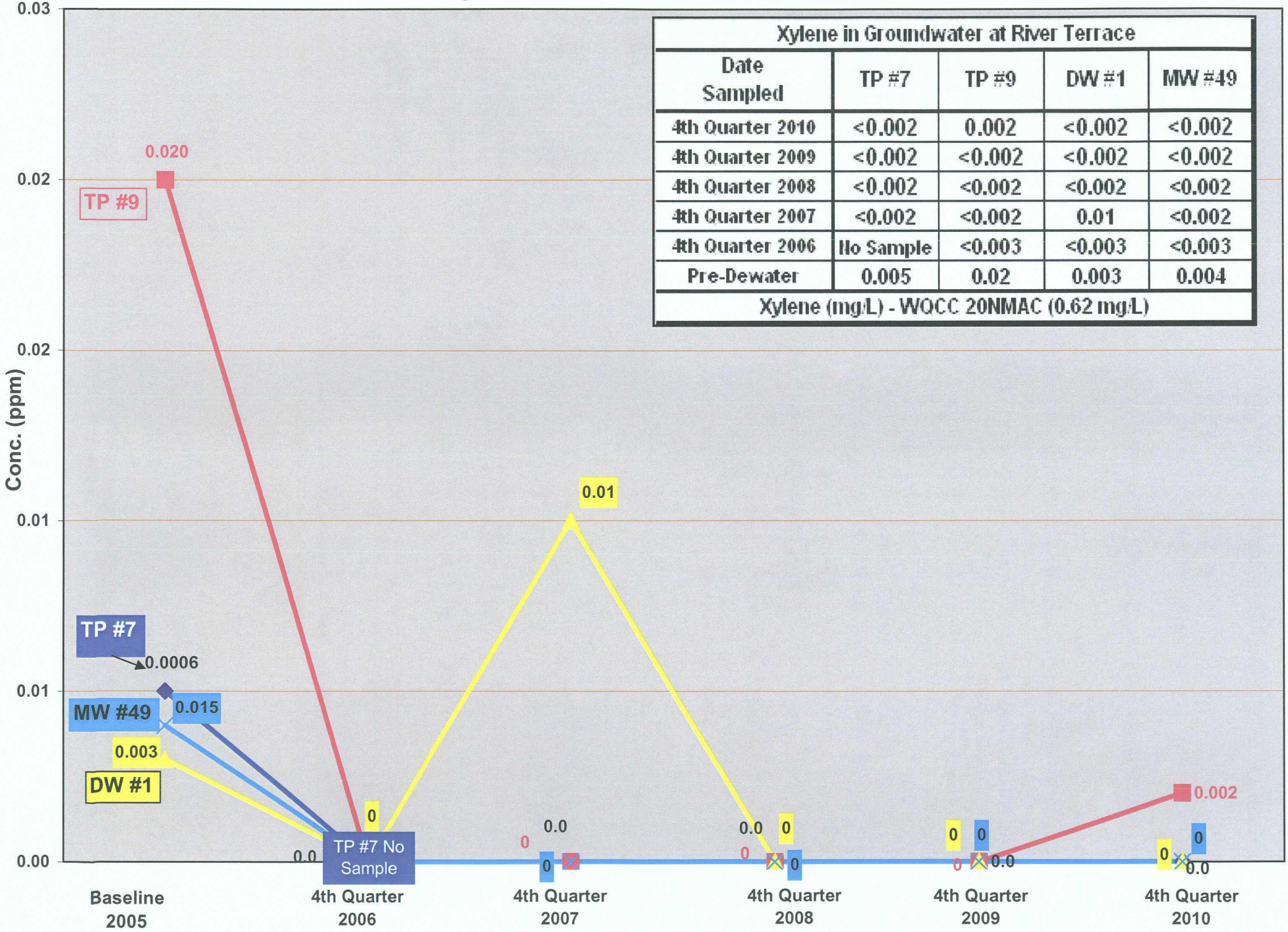
Toluene in Groundwater at River Terrace				
Date Sampled	TP #7	TP #9	DW #1	MW #49
4th Quarter 2010	<0.001	<0.001	<0.001	<0.001
4th Quarter 2009	<0.001	<0.001	<0.001	<0.001
4th Quarter 2008	<0.001	<0.001	<0.001	<0.001
4th Quarter 2007	<0.001	<0.001	<0.001	<0.001
4th Quarter 2006	No Sample	<0.001	<0.001	<0.001
Pre-Dewater	<0.0005	<0.0005	<0.001	<0.002
Toluene (mg/L) - WQCC 20NMAC (0.75 mg/L)				

Ethylbenzene in Groundwater at River Terrace



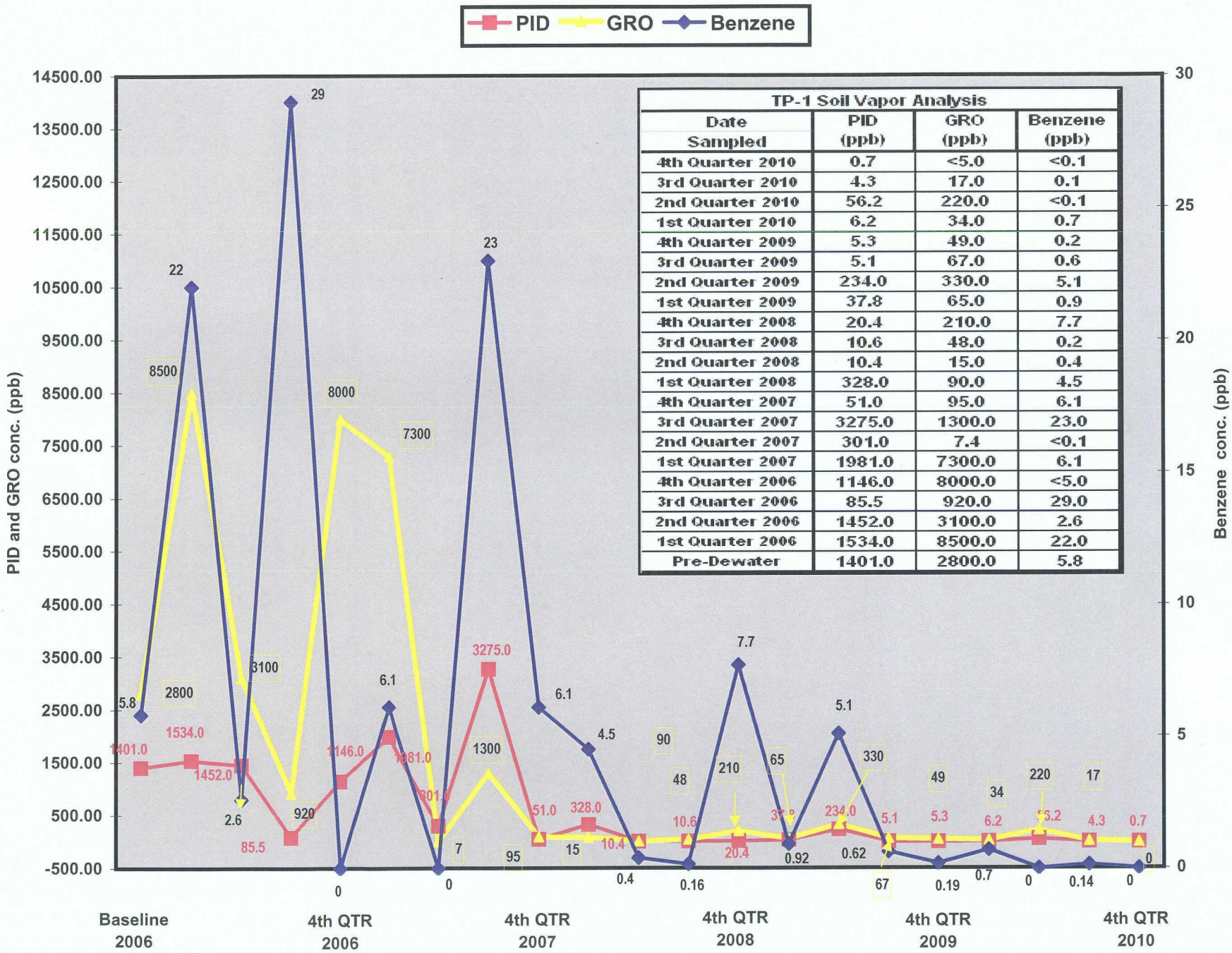
Ethylbenzene in Groundwater at River Terrace				
Date Sampled	TP #7	TP #9	DW #1	MW #49
4th Quarter 2010	<0.001	<0.001	<0.001	<0.001
4th Quarter 2009	<0.001	<0.001	<0.001	<0.001
4th Quarter 2008	<0.001	<0.001	<0.001	<0.001
4th Quarter 2007	<0.001	<0.001	<0.001	<0.001
4th Quarter 2006	No Sample	<0.001	<0.001	<0.001
Pre-Dewater	<0.0005	<0.0005	<0.001	<0.002
Ethylbenzene(mg/L) - MCL (0.70 mg/L)				

Xylene in Groundwater at River Terrace



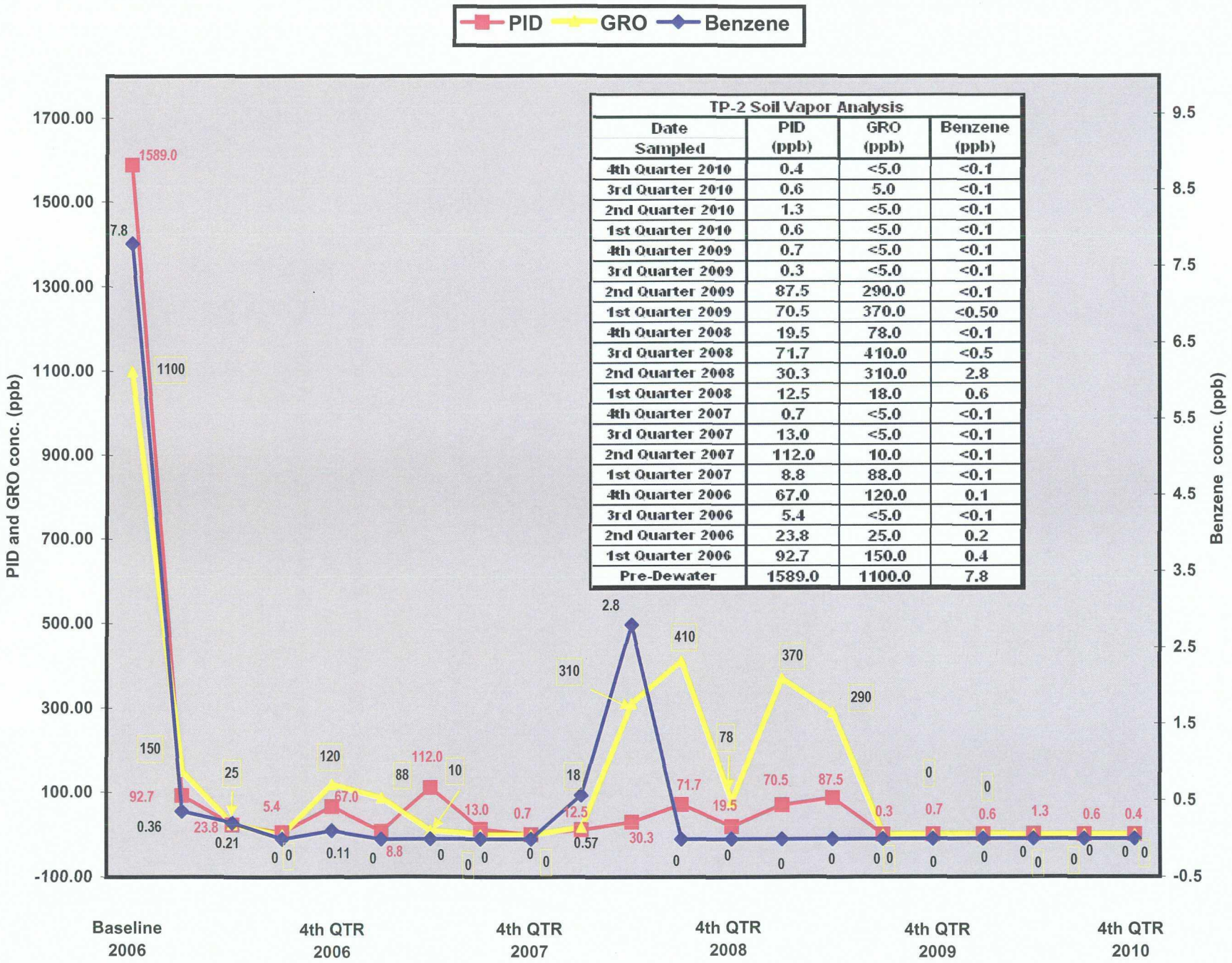
Xylene in Groundwater at River Terrace				
Date Sampled	TP #7	TP #9	DW #1	MW #49
4th Quarter 2010	<0.002	0.002	<0.002	<0.002
4th Quarter 2009	<0.002	<0.002	<0.002	<0.002
4th Quarter 2008	<0.002	<0.002	<0.002	<0.002
4th Quarter 2007	<0.002	<0.002	0.01	<0.002
4th Quarter 2006	No Sample	<0.003	<0.003	<0.003
Pre-Dewater	0.005	0.02	0.003	0.004
Xylene (mg/L) - WQCC 20NMAC (0.62 mg/L)				

TP- 1 Vapor



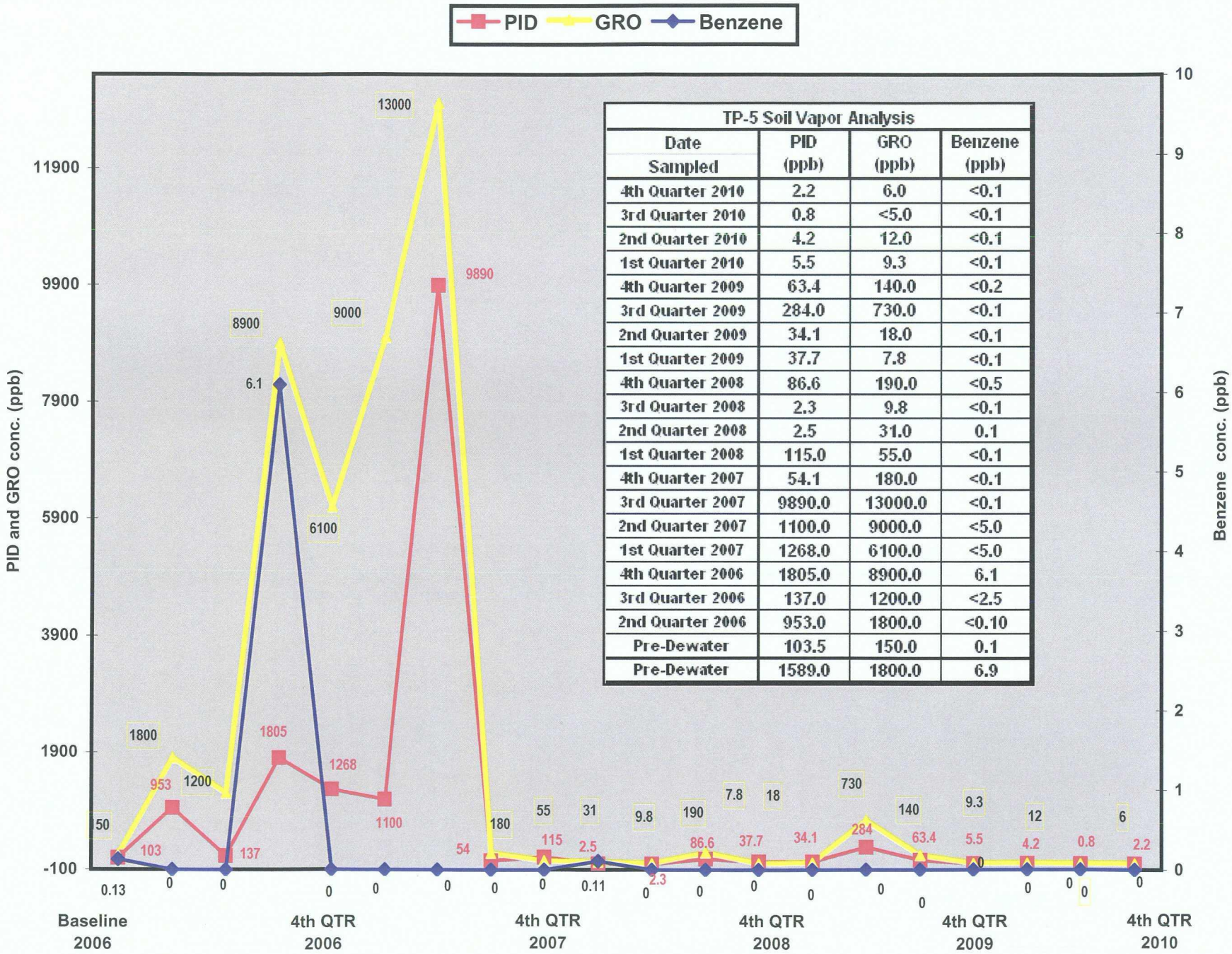
TP-1 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.7	<5.0	<0.1
3rd Quarter 2010	4.3	17.0	0.1
2nd Quarter 2010	56.2	220.0	<0.1
1st Quarter 2010	6.2	34.0	0.7
4th Quarter 2009	5.3	49.0	0.2
3rd Quarter 2009	5.1	67.0	0.6
2nd Quarter 2009	234.0	330.0	5.1
1st Quarter 2009	37.8	65.0	0.9
4th Quarter 2008	20.4	210.0	7.7
3rd Quarter 2008	10.6	48.0	0.2
2nd Quarter 2008	10.4	15.0	0.4
1st Quarter 2008	328.0	90.0	4.5
4th Quarter 2007	51.0	95.0	6.1
3rd Quarter 2007	3275.0	1300.0	23.0
2nd Quarter 2007	301.0	7.4	<0.1
1st Quarter 2007	1981.0	7300.0	6.1
4th Quarter 2006	1146.0	8000.0	<5.0
3rd Quarter 2006	85.5	920.0	29.0
2nd Quarter 2006	1452.0	3100.0	2.6
1st Quarter 2006	1534.0	8500.0	22.0
Pre-Dewater	1401.0	2800.0	5.8

TP- 2 Vapor



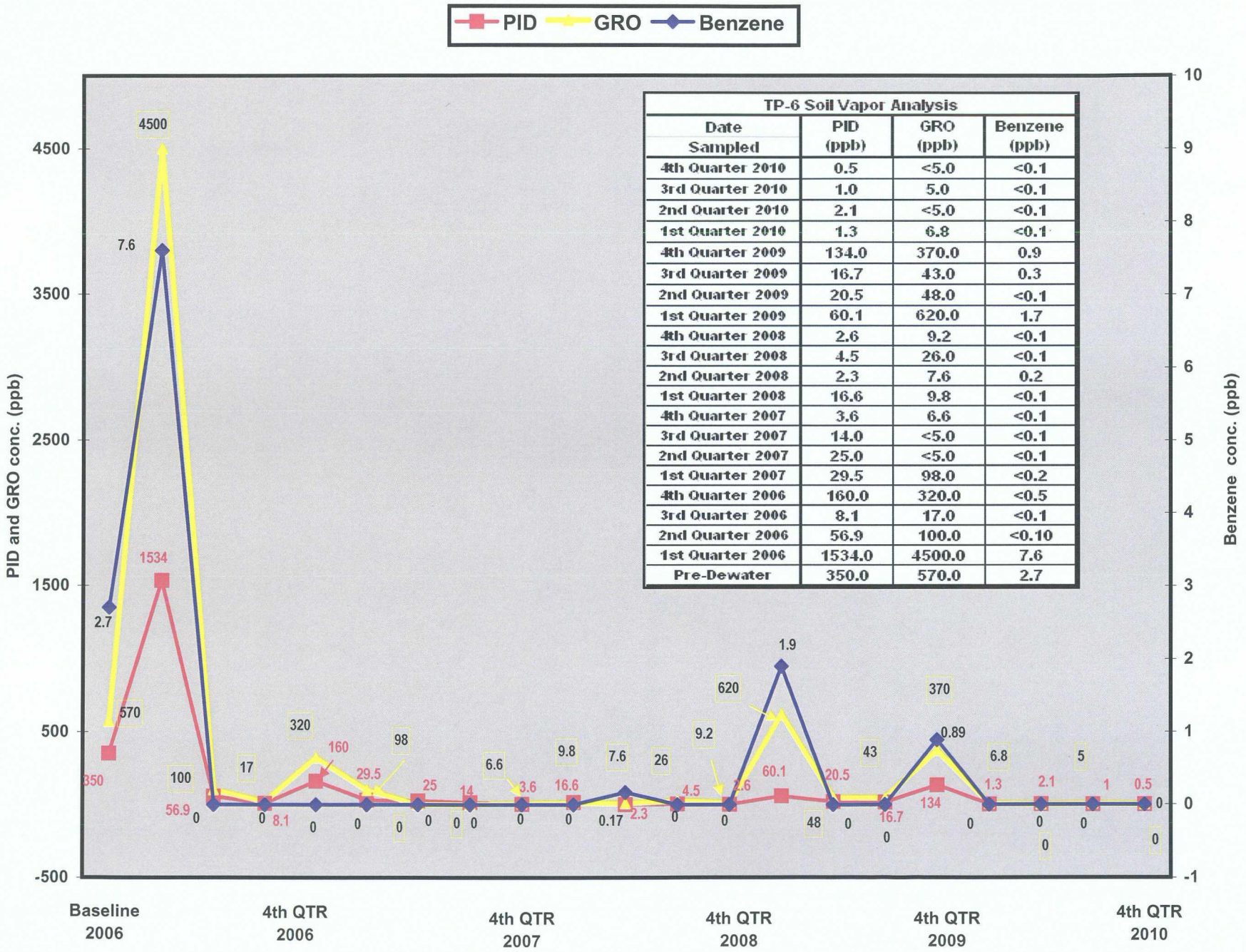
TP-2 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.4	<5.0	<0.1
3rd Quarter 2010	0.6	5.0	<0.1
2nd Quarter 2010	1.3	<5.0	<0.1
1st Quarter 2010	0.6	<5.0	<0.1
4th Quarter 2009	0.7	<5.0	<0.1
3rd Quarter 2009	0.3	<5.0	<0.1
2nd Quarter 2009	87.5	290.0	<0.1
1st Quarter 2009	70.5	370.0	<0.50
4th Quarter 2008	19.5	78.0	<0.1
3rd Quarter 2008	71.7	410.0	<0.5
2nd Quarter 2008	30.3	310.0	2.8
1st Quarter 2008	12.5	18.0	0.6
4th Quarter 2007	0.7	<5.0	<0.1
3rd Quarter 2007	13.0	<5.0	<0.1
2nd Quarter 2007	112.0	10.0	<0.1
1st Quarter 2007	8.8	88.0	<0.1
4th Quarter 2006	67.0	120.0	0.1
3rd Quarter 2006	5.4	<5.0	<0.1
2nd Quarter 2006	23.8	25.0	0.2
1st Quarter 2006	92.7	150.0	0.4
Pre-Dewater	1589.0	1100.0	7.8

TP- 5 Vapor



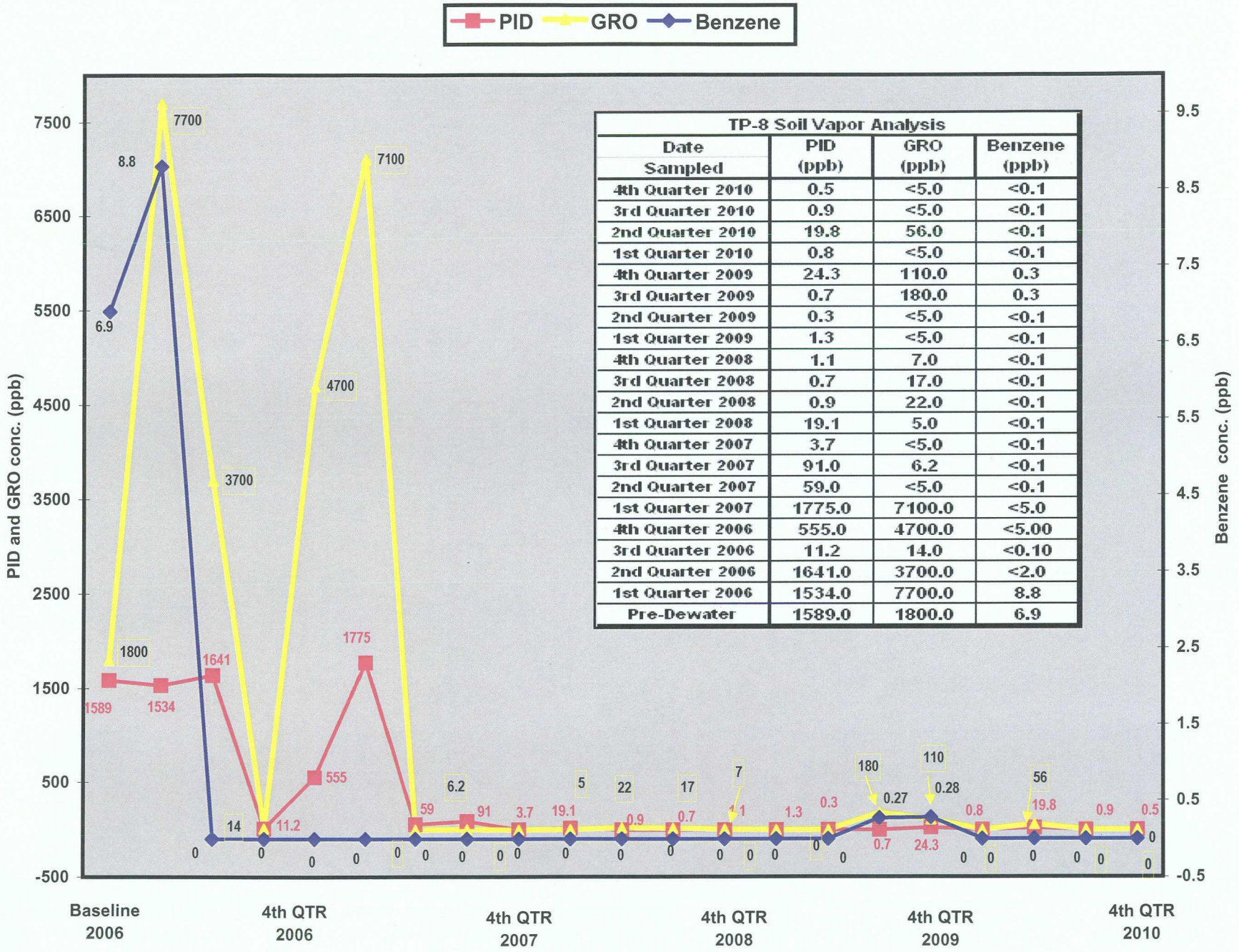
TP-5 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	2.2	6.0	<0.1
3rd Quarter 2010	0.8	<5.0	<0.1
2nd Quarter 2010	4.2	12.0	<0.1
1st Quarter 2010	5.5	9.3	<0.1
4th Quarter 2009	63.4	140.0	<0.2
3rd Quarter 2009	284.0	730.0	<0.1
2nd Quarter 2009	34.1	18.0	<0.1
1st Quarter 2009	37.7	7.8	<0.1
4th Quarter 2008	86.6	190.0	<0.5
3rd Quarter 2008	2.3	9.8	<0.1
2nd Quarter 2008	2.5	31.0	0.1
1st Quarter 2008	115.0	55.0	<0.1
4th Quarter 2007	54.1	180.0	<0.1
3rd Quarter 2007	9890.0	13000.0	<0.1
2nd Quarter 2007	1100.0	9000.0	<5.0
1st Quarter 2007	1268.0	6100.0	<5.0
4th Quarter 2006	1805.0	8900.0	6.1
3rd Quarter 2006	137.0	1200.0	<2.5
2nd Quarter 2006	953.0	1800.0	<0.10
Pre-Dewater	103.5	150.0	0.1
Pre-Dewater	1589.0	1800.0	6.9

TP- 6 Vapor



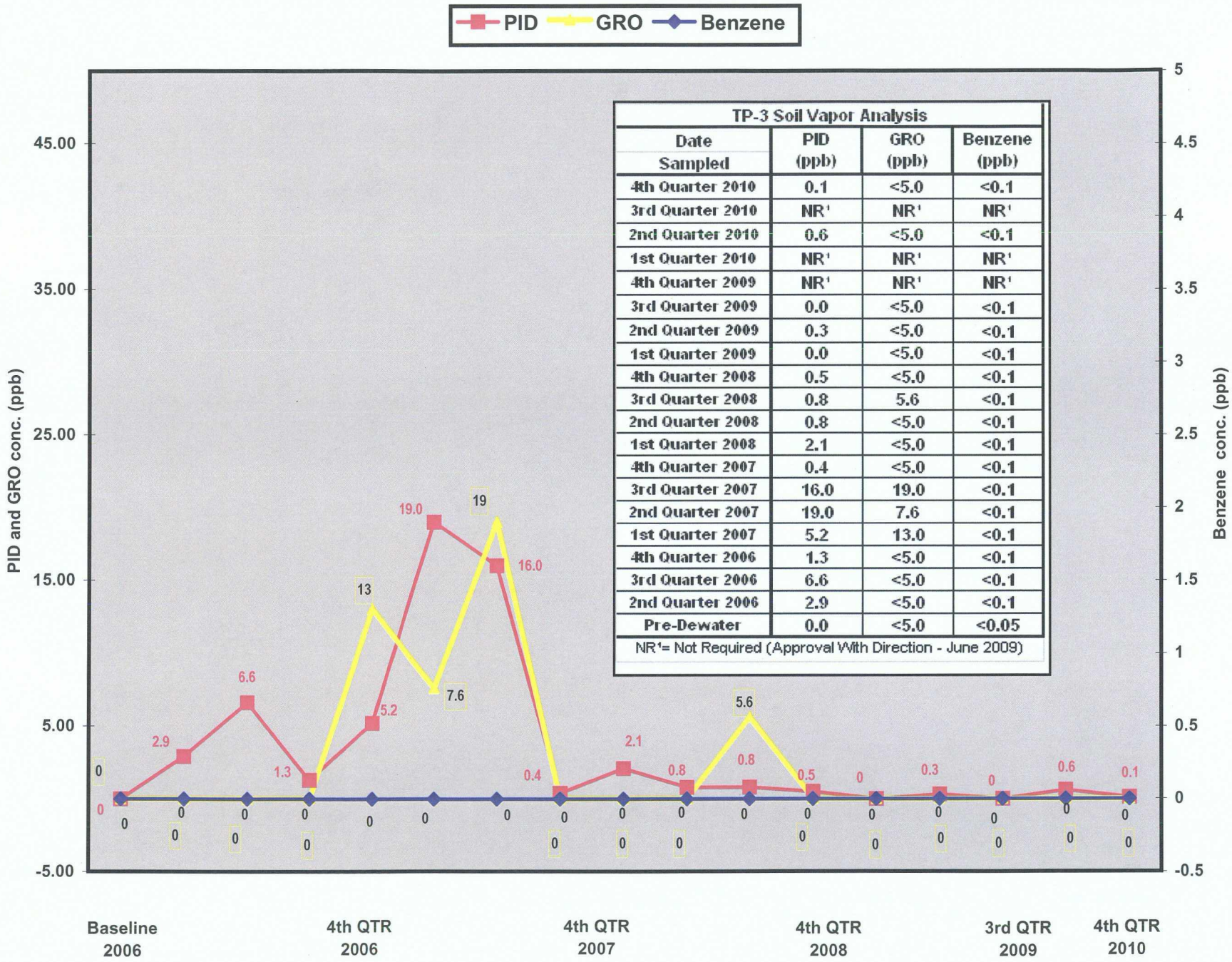
TP-6 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.5	<5.0	<0.1
3rd Quarter 2010	1.0	5.0	<0.1
2nd Quarter 2010	2.1	<5.0	<0.1
1st Quarter 2010	1.3	6.8	<0.1
4th Quarter 2009	134.0	370.0	0.9
3rd Quarter 2009	16.7	43.0	0.3
2nd Quarter 2009	20.5	48.0	<0.1
1st Quarter 2009	60.1	620.0	1.7
4th Quarter 2008	2.6	9.2	<0.1
3rd Quarter 2008	4.5	26.0	<0.1
2nd Quarter 2008	2.3	7.6	0.2
1st Quarter 2008	16.6	9.8	<0.1
4th Quarter 2007	3.6	6.6	<0.1
3rd Quarter 2007	14.0	<5.0	<0.1
2nd Quarter 2007	25.0	<5.0	<0.1
1st Quarter 2007	29.5	98.0	<0.2
4th Quarter 2006	160.0	320.0	<0.5
3rd Quarter 2006	8.1	17.0	<0.1
2nd Quarter 2006	56.9	100.0	<0.10
1st Quarter 2006	1534.0	4500.0	7.6
Pre-Dewater	350.0	570.0	2.7

TP- 8 Vapor



TP-8 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.5	<5.0	<0.1
3rd Quarter 2010	0.9	<5.0	<0.1
2nd Quarter 2010	19.8	56.0	<0.1
1st Quarter 2010	0.8	<5.0	<0.1
4th Quarter 2009	24.3	110.0	0.3
3rd Quarter 2009	0.7	180.0	0.3
2nd Quarter 2009	0.3	<5.0	<0.1
1st Quarter 2009	1.3	<5.0	<0.1
4th Quarter 2008	1.1	7.0	<0.1
3rd Quarter 2008	0.7	17.0	<0.1
2nd Quarter 2008	0.9	22.0	<0.1
1st Quarter 2008	19.1	5.0	<0.1
4th Quarter 2007	3.7	<5.0	<0.1
3rd Quarter 2007	91.0	6.2	<0.1
2nd Quarter 2007	59.0	<5.0	<0.1
1st Quarter 2007	1775.0	7100.0	<5.0
4th Quarter 2006	555.0	4700.0	<5.00
3rd Quarter 2006	11.2	14.0	<0.10
2nd Quarter 2006	1641.0	3700.0	<2.0
1st Quarter 2006	1534.0	7700.0	8.8
Pre-Dewater	1589.0	1800.0	6.9

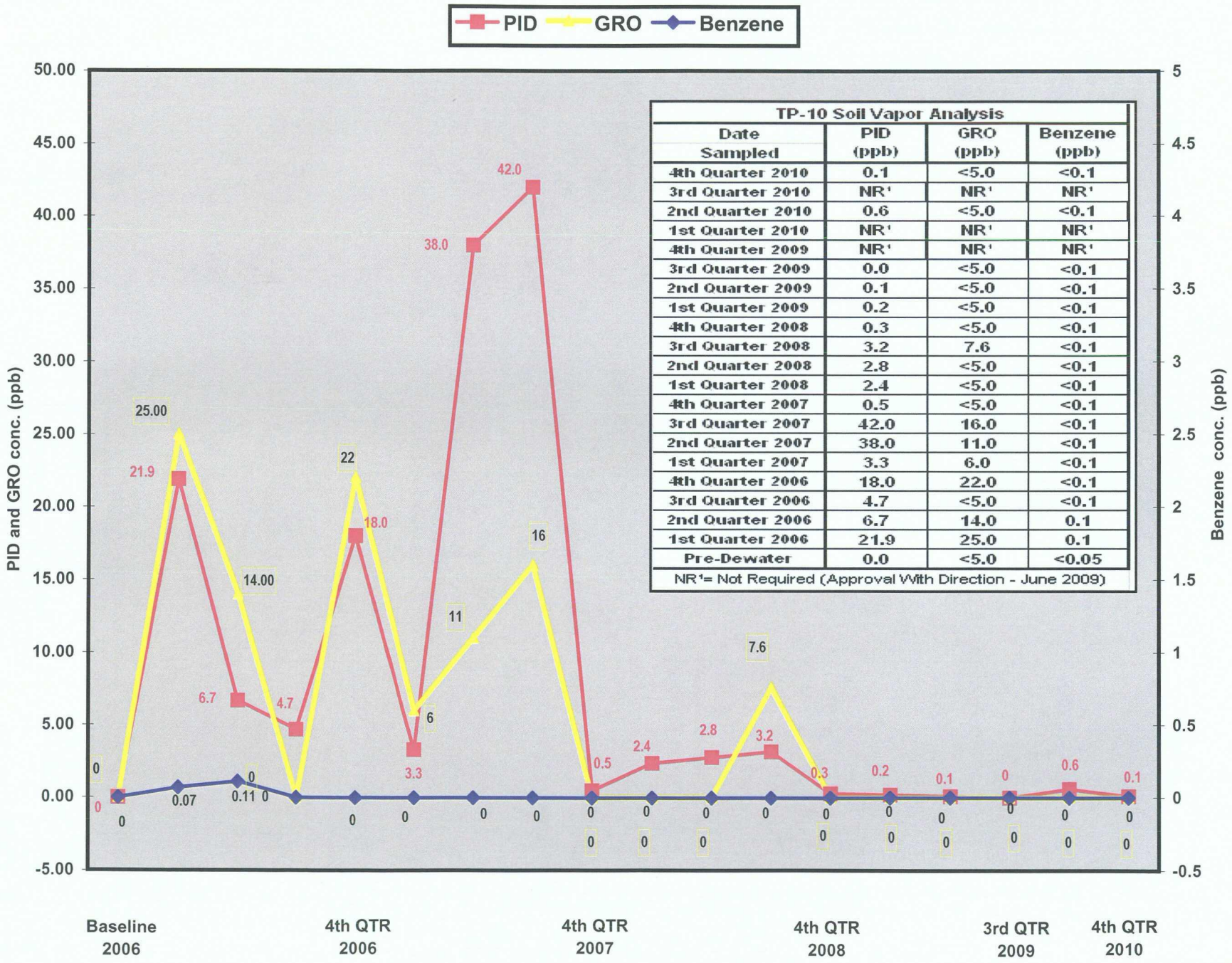
TP- 3 Vapor



TP-3 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.1	<5.0	<0.1
3rd Quarter 2010	NR[1]	NR[1]	NR[1]
2nd Quarter 2010	0.6	<5.0	<0.1
1st Quarter 2010	NR[1]	NR[1]	NR[1]
4th Quarter 2009	NR[1]	NR[1]	NR[1]
3rd Quarter 2009	0.0	<5.0	<0.1
2nd Quarter 2009	0.3	<5.0	<0.1
1st Quarter 2009	0.0	<5.0	<0.1
4th Quarter 2008	0.5	<5.0	<0.1
3rd Quarter 2008	0.8	5.6	<0.1
2nd Quarter 2008	0.8	<5.0	<0.1
1st Quarter 2008	2.1	<5.0	<0.1
4th Quarter 2007	0.4	<5.0	<0.1
3rd Quarter 2007	16.0	19.0	<0.1
2nd Quarter 2007	19.0	7.6	<0.1
1st Quarter 2007	5.2	13.0	<0.1
4th Quarter 2006	1.3	<5.0	<0.1
3rd Quarter 2006	6.6	<5.0	<0.1
2nd Quarter 2006	2.9	<5.0	<0.1
Pre-Dewater	0.0	<5.0	<0.05

NR[1]= Not Required (Approval With Direction - June 2009)

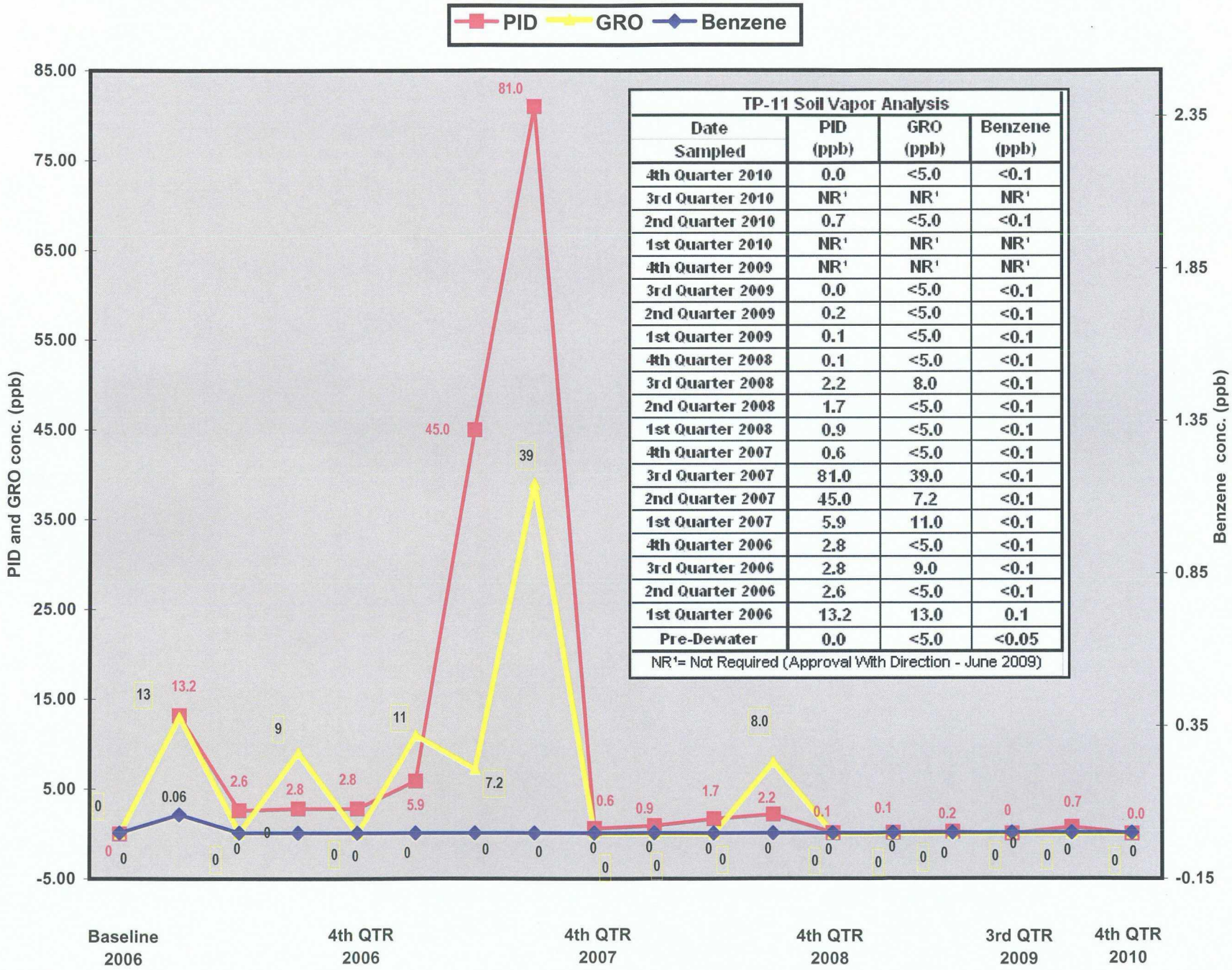
TP- 10 Vapor



TP-10 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.1	<5.0	<0.1
3rd Quarter 2010	NR[1]	NR[1]	NR[1]
2nd Quarter 2010	0.6	<5.0	<0.1
1st Quarter 2010	NR[1]	NR[1]	NR[1]
4th Quarter 2009	NR[1]	NR[1]	NR[1]
3rd Quarter 2009	0.0	<5.0	<0.1
2nd Quarter 2009	0.1	<5.0	<0.1
1st Quarter 2009	0.2	<5.0	<0.1
4th Quarter 2008	0.3	<5.0	<0.1
3rd Quarter 2008	3.2	7.6	<0.1
2nd Quarter 2008	2.8	<5.0	<0.1
1st Quarter 2008	2.4	<5.0	<0.1
4th Quarter 2007	0.5	<5.0	<0.1
3rd Quarter 2007	42.0	16.0	<0.1
2nd Quarter 2007	38.0	11.0	<0.1
1st Quarter 2007	3.3	6.0	<0.1
4th Quarter 2006	18.0	22.0	<0.1
3rd Quarter 2006	4.7	<5.0	<0.1
2nd Quarter 2006	6.7	14.0	0.1
1st Quarter 2006	21.9	25.0	0.1
Pre-Dewater	0.0	<5.0	<0.05

NR[1]= Not Required (Approval With Direction - June 2009)

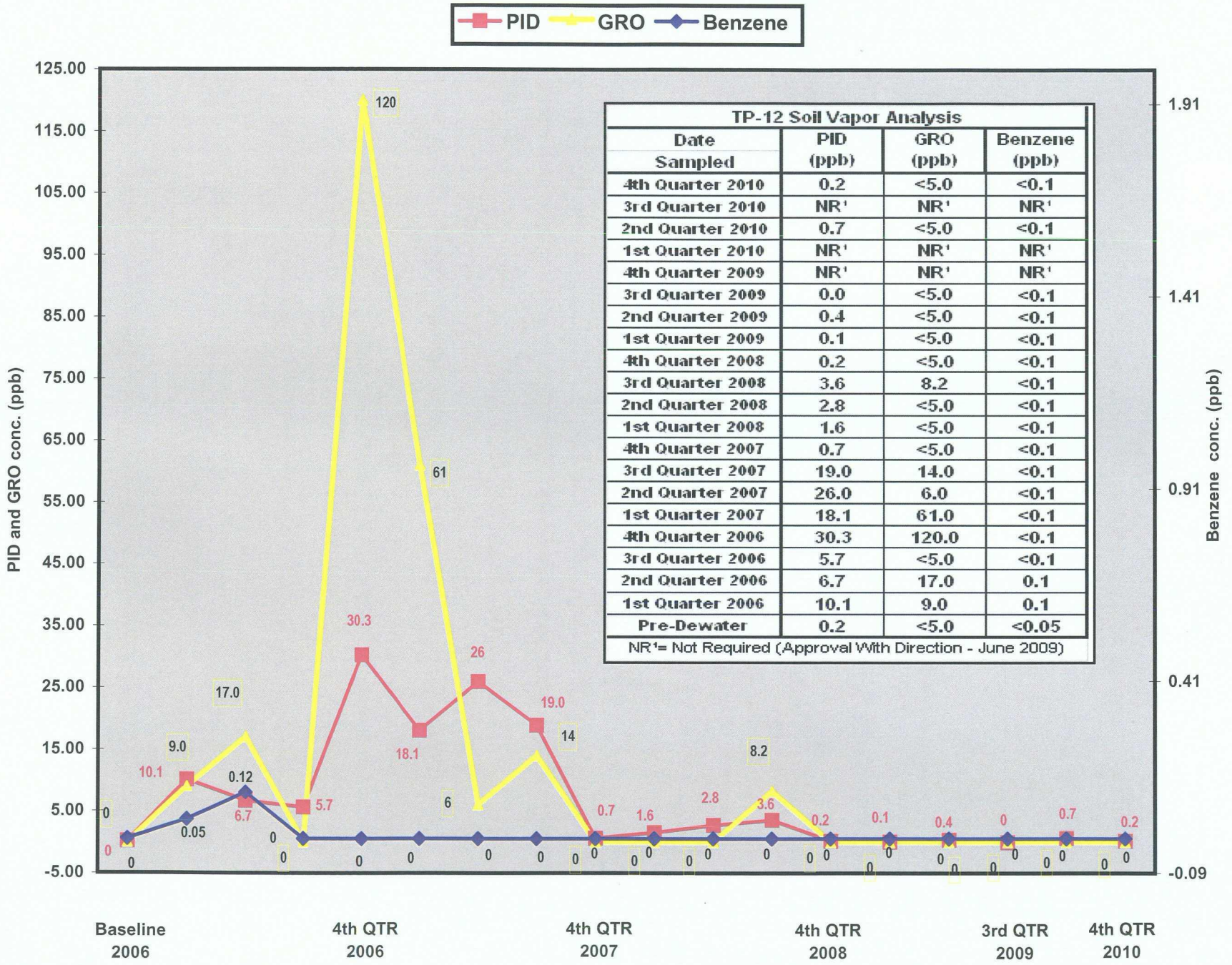
TP- 11 Vapor



TP-11 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.0	<5.0	<0.1
3rd Quarter 2010	NR[1]	NR[1]	NR[1]
2nd Quarter 2010	0.7	<5.0	<0.1
1st Quarter 2010	NR[1]	NR[1]	NR[1]
4th Quarter 2009	NR[1]	NR[1]	NR[1]
3rd Quarter 2009	0.0	<5.0	<0.1
2nd Quarter 2009	0.2	<5.0	<0.1
1st Quarter 2009	0.1	<5.0	<0.1
4th Quarter 2008	0.1	<5.0	<0.1
3rd Quarter 2008	2.2	8.0	<0.1
2nd Quarter 2008	1.7	<5.0	<0.1
1st Quarter 2008	0.9	<5.0	<0.1
4th Quarter 2007	0.6	<5.0	<0.1
3rd Quarter 2007	81.0	39.0	<0.1
2nd Quarter 2007	45.0	7.2	<0.1
1st Quarter 2007	5.9	11.0	<0.1
4th Quarter 2006	2.8	<5.0	<0.1
3rd Quarter 2006	2.8	9.0	<0.1
2nd Quarter 2006	2.6	<5.0	<0.1
1st Quarter 2006	13.2	13.0	0.1
Pre-Dewater	0.0	<5.0	<0.05

NR[1]= Not Required (Approval With Direction - June 2009)

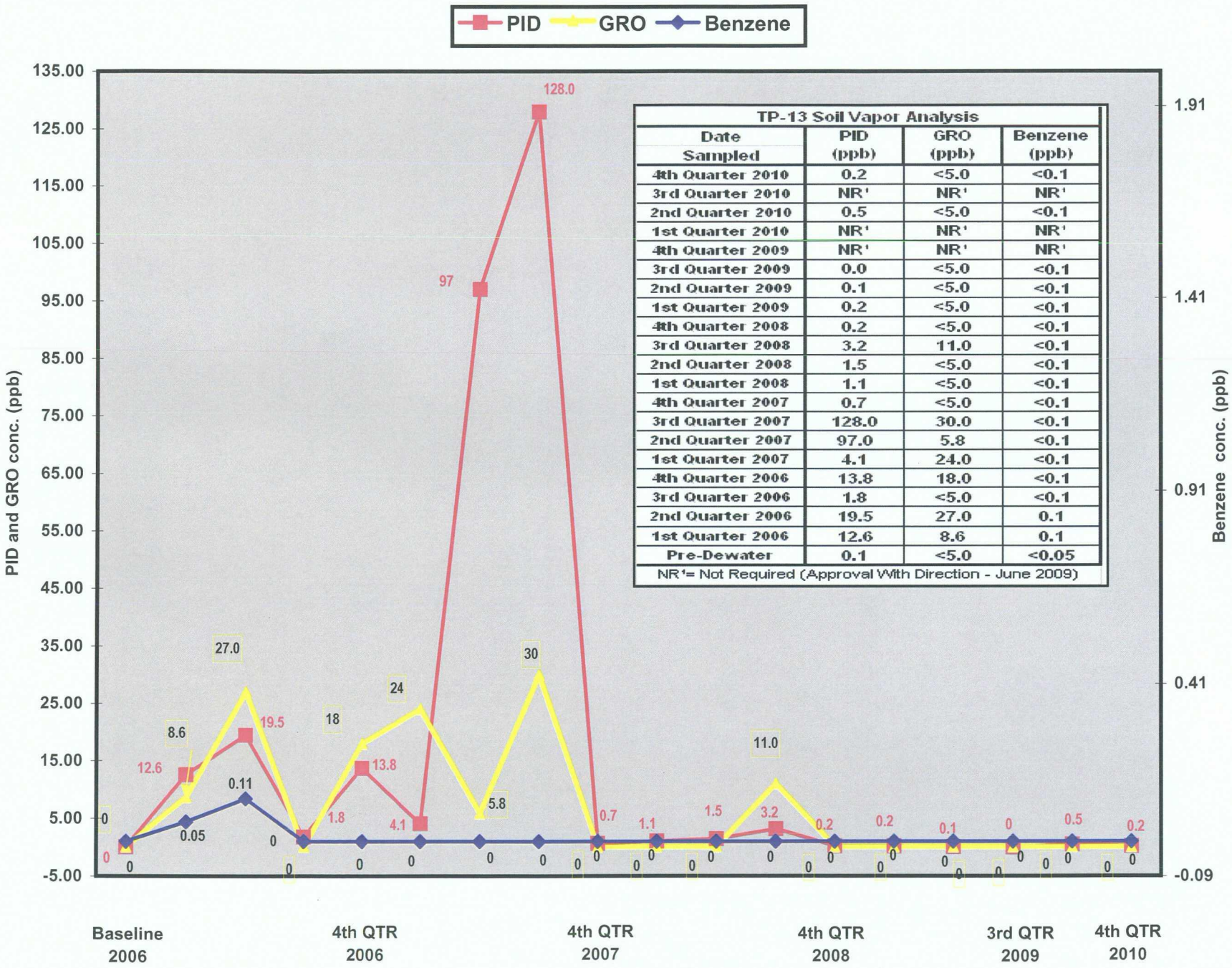
TP- 12 Vapor



TP-12 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.2	<5.0	<0.1
3rd Quarter 2010	NR¹	NR¹	NR¹
2nd Quarter 2010	0.7	<5.0	<0.1
1st Quarter 2010	NR¹	NR¹	NR¹
4th Quarter 2009	NR¹	NR¹	NR¹
3rd Quarter 2009	0.0	<5.0	<0.1
2nd Quarter 2009	0.4	<5.0	<0.1
1st Quarter 2009	0.1	<5.0	<0.1
4th Quarter 2008	0.2	<5.0	<0.1
3rd Quarter 2008	3.6	8.2	<0.1
2nd Quarter 2008	2.8	<5.0	<0.1
1st Quarter 2008	1.6	<5.0	<0.1
4th Quarter 2007	0.7	<5.0	<0.1
3rd Quarter 2007	19.0	14.0	<0.1
2nd Quarter 2007	26.0	6.0	<0.1
1st Quarter 2007	18.1	61.0	<0.1
4th Quarter 2006	30.3	120.0	<0.1
3rd Quarter 2006	5.7	<5.0	<0.1
2nd Quarter 2006	6.7	17.0	0.1
1st Quarter 2006	10.1	9.0	0.1
Pre-Dewater	0.2	<5.0	<0.05

NR¹= Not Required (Approval With Direction - June 2009)

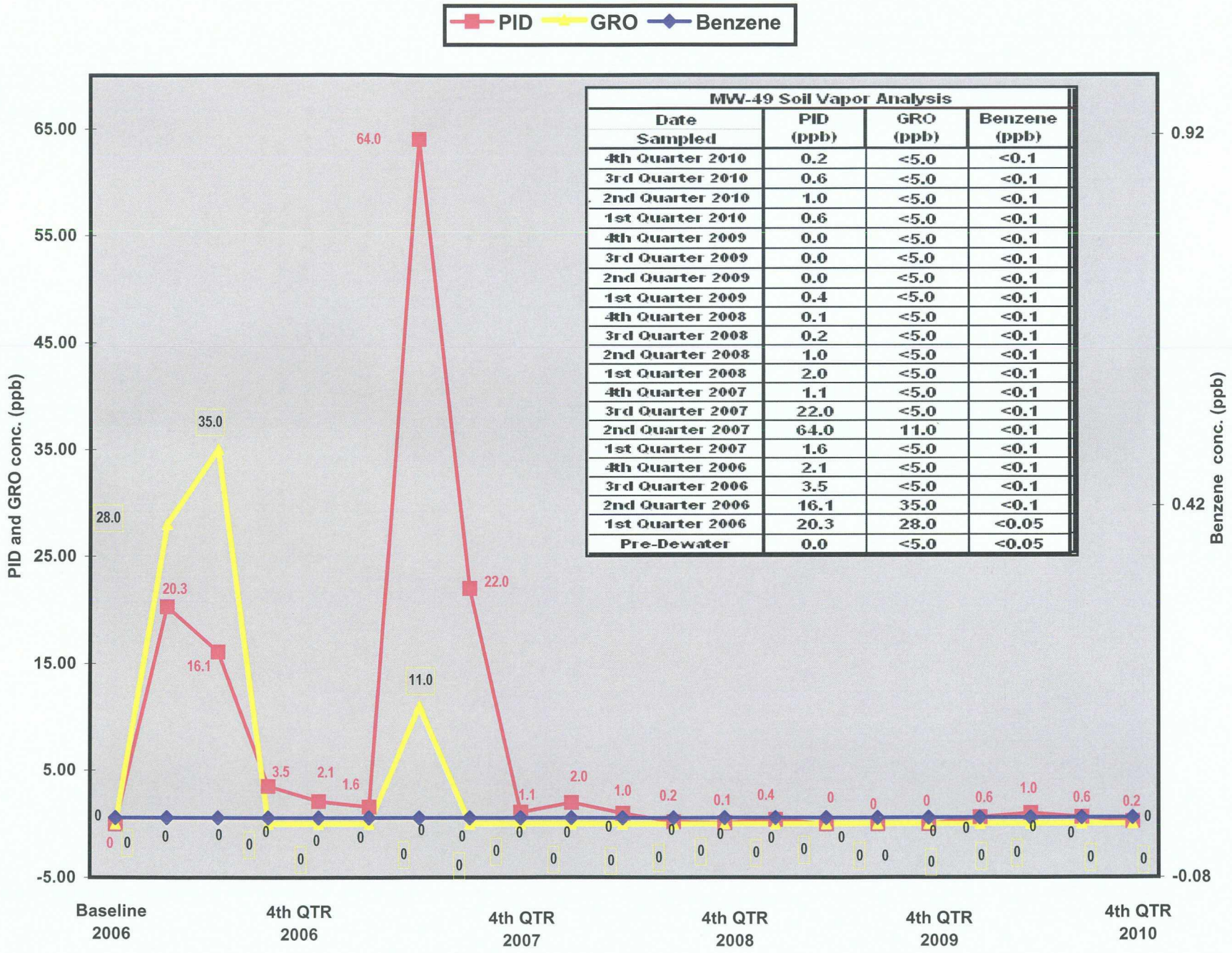
TP- 13 Vapor



TP-13 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.2	<5.0	<0.1
3rd Quarter 2010	NR¹	NR¹	NR¹
2nd Quarter 2010	0.5	<5.0	<0.1
1st Quarter 2010	NR¹	NR¹	NR¹
4th Quarter 2009	NR¹	NR¹	NR¹
3rd Quarter 2009	0.0	<5.0	<0.1
2nd Quarter 2009	0.1	<5.0	<0.1
1st Quarter 2009	0.2	<5.0	<0.1
4th Quarter 2008	0.2	<5.0	<0.1
3rd Quarter 2008	3.2	11.0	<0.1
2nd Quarter 2008	1.5	<5.0	<0.1
1st Quarter 2008	1.1	<5.0	<0.1
4th Quarter 2007	0.7	<5.0	<0.1
3rd Quarter 2007	128.0	30.0	<0.1
2nd Quarter 2007	97.0	5.8	<0.1
1st Quarter 2007	4.1	24.0	<0.1
4th Quarter 2006	13.8	18.0	<0.1
3rd Quarter 2006	1.8	<5.0	<0.1
2nd Quarter 2006	19.5	27.0	0.1
1st Quarter 2006	12.6	8.6	0.1
Pre-Dewater	0.1	<5.0	<0.05

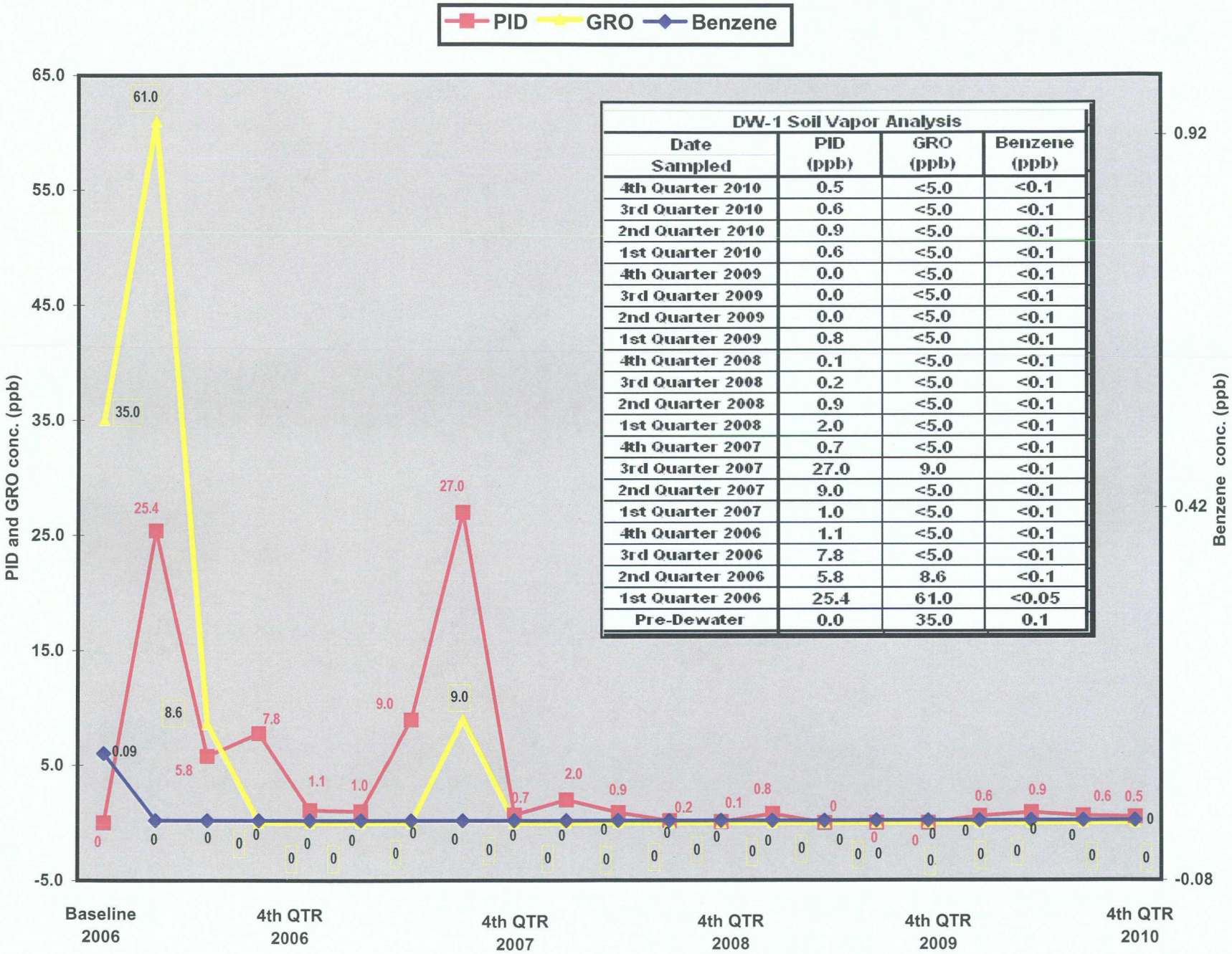
NR¹= Not Required (Approval With Direction - June 2009)

MW-49 Vapor



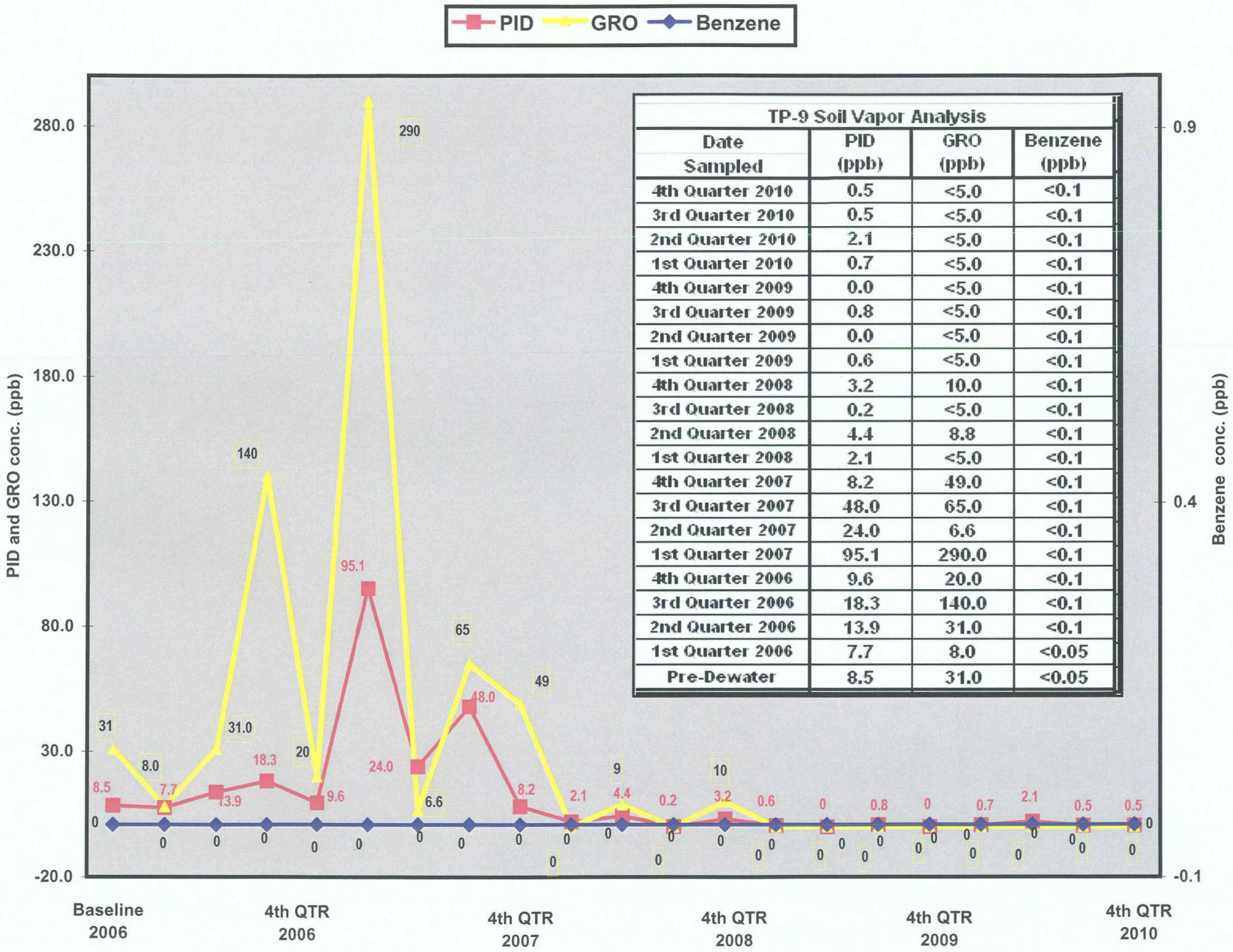
MW-49 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.2	<5.0	<0.1
3rd Quarter 2010	0.6	<5.0	<0.1
2nd Quarter 2010	1.0	<5.0	<0.1
1st Quarter 2010	0.6	<5.0	<0.1
4th Quarter 2009	0.0	<5.0	<0.1
3rd Quarter 2009	0.0	<5.0	<0.1
2nd Quarter 2009	0.0	<5.0	<0.1
1st Quarter 2009	0.4	<5.0	<0.1
4th Quarter 2008	0.1	<5.0	<0.1
3rd Quarter 2008	0.2	<5.0	<0.1
2nd Quarter 2008	1.0	<5.0	<0.1
1st Quarter 2008	2.0	<5.0	<0.1
4th Quarter 2007	1.1	<5.0	<0.1
3rd Quarter 2007	22.0	<5.0	<0.1
2nd Quarter 2007	64.0	11.0	<0.1
1st Quarter 2007	1.6	<5.0	<0.1
4th Quarter 2006	2.1	<5.0	<0.1
3rd Quarter 2006	3.5	<5.0	<0.1
2nd Quarter 2006	16.1	35.0	<0.1
1st Quarter 2006	20.3	28.0	<0.05
Pre-Dewater	0.0	<5.0	<0.05

DW-1 Vapor



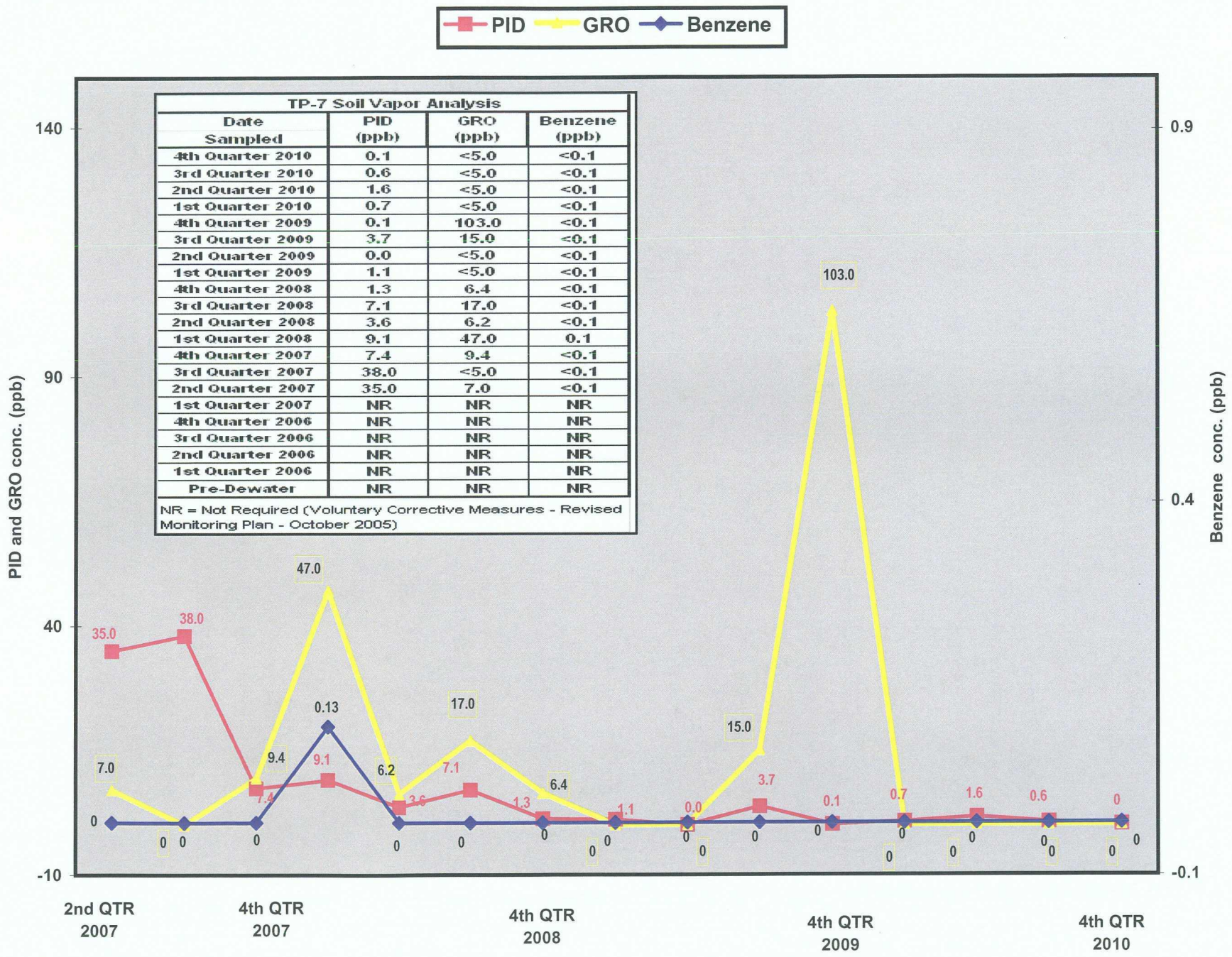
DW-1 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.5	<5.0	<0.1
3rd Quarter 2010	0.6	<5.0	<0.1
2nd Quarter 2010	0.9	<5.0	<0.1
1st Quarter 2010	0.6	<5.0	<0.1
4th Quarter 2009	0.0	<5.0	<0.1
3rd Quarter 2009	0.0	<5.0	<0.1
2nd Quarter 2009	0.0	<5.0	<0.1
1st Quarter 2009	0.8	<5.0	<0.1
4th Quarter 2008	0.1	<5.0	<0.1
3rd Quarter 2008	0.2	<5.0	<0.1
2nd Quarter 2008	0.9	<5.0	<0.1
1st Quarter 2008	2.0	<5.0	<0.1
4th Quarter 2007	0.7	<5.0	<0.1
3rd Quarter 2007	27.0	9.0	<0.1
2nd Quarter 2007	9.0	<5.0	<0.1
1st Quarter 2007	1.0	<5.0	<0.1
4th Quarter 2006	1.1	<5.0	<0.1
3rd Quarter 2006	7.8	<5.0	<0.1
2nd Quarter 2006	5.8	8.6	<0.1
1st Quarter 2006	25.4	61.0	<0.05
Pre-Dewater	0.0	35.0	0.1

TP- 9 Vapor



TP-9 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.5	<5.0	<0.1
3rd Quarter 2010	0.5	<5.0	<0.1
2nd Quarter 2010	2.1	<5.0	<0.1
1st Quarter 2010	0.7	<5.0	<0.1
4th Quarter 2009	0.0	<5.0	<0.1
3rd Quarter 2009	0.8	<5.0	<0.1
2nd Quarter 2009	0.0	<5.0	<0.1
1st Quarter 2009	0.6	<5.0	<0.1
4th Quarter 2008	3.2	10.0	<0.1
3rd Quarter 2008	0.2	<5.0	<0.1
2nd Quarter 2008	4.4	8.8	<0.1
1st Quarter 2008	2.1	<5.0	<0.1
4th Quarter 2007	8.2	49.0	<0.1
3rd Quarter 2007	48.0	65.0	<0.1
2nd Quarter 2007	24.0	6.6	<0.1
1st Quarter 2007	95.1	290.0	<0.1
4th Quarter 2006	9.6	20.0	<0.1
3rd Quarter 2006	18.3	140.0	<0.1
2nd Quarter 2006	13.9	31.0	<0.1
1st Quarter 2006	7.7	8.0	<0.05
Pre-Dewater	8.5	31.0	<0.05

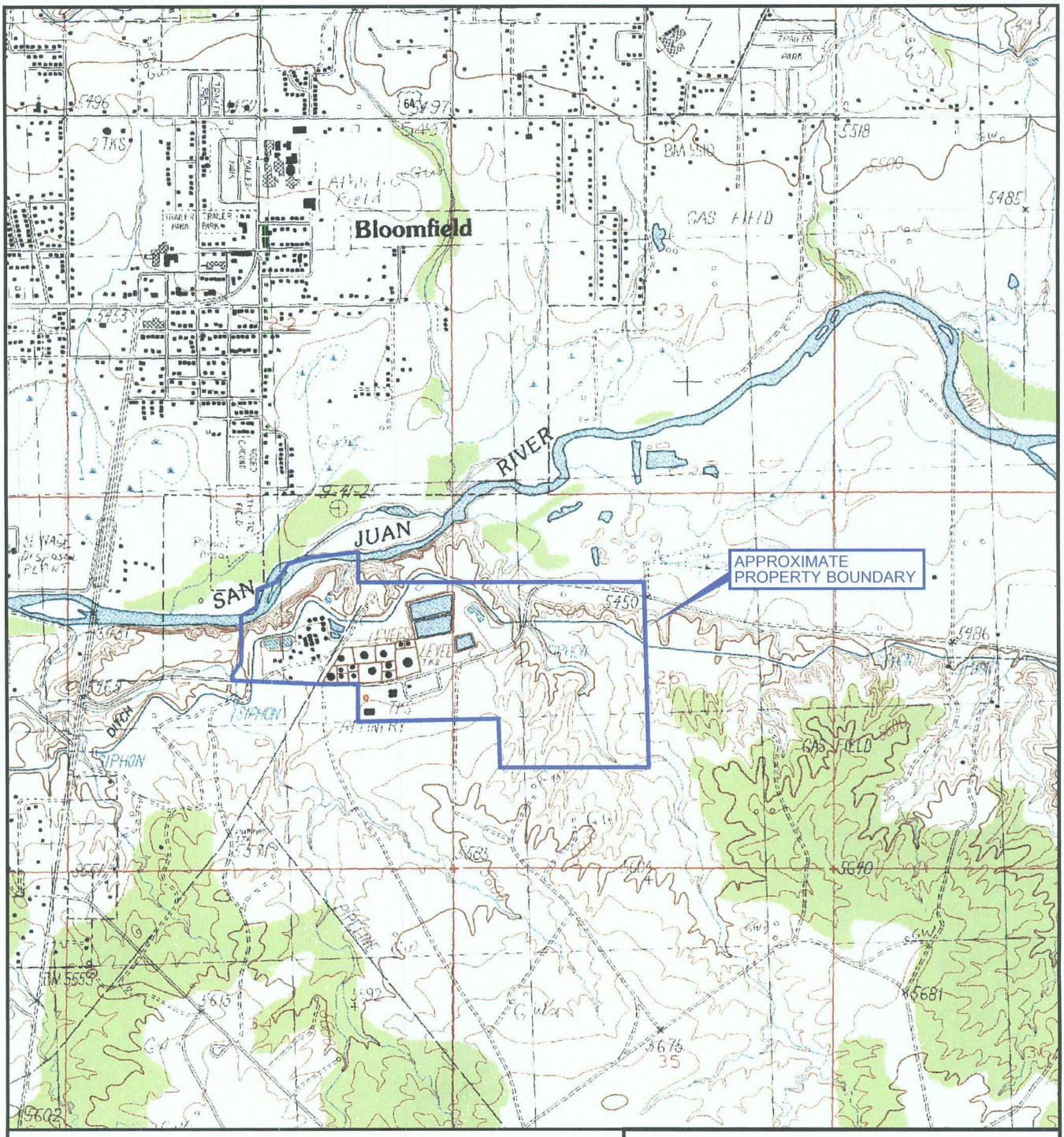
TP- 7 Vapor



TP-7 Soil Vapor Analysis			
Date Sampled	PID (ppb)	GRO (ppb)	Benzene (ppb)
4th Quarter 2010	0.1	<5.0	<0.1
3rd Quarter 2010	0.6	<5.0	<0.1
2nd Quarter 2010	1.6	<5.0	<0.1
1st Quarter 2010	0.7	<5.0	<0.1
4th Quarter 2009	0.1	103.0	<0.1
3rd Quarter 2009	3.7	15.0	<0.1
2nd Quarter 2009	0.0	<5.0	<0.1
1st Quarter 2009	1.1	<5.0	<0.1
4th Quarter 2008	1.3	6.4	<0.1
3rd Quarter 2008	7.1	17.0	<0.1
2nd Quarter 2008	3.6	6.2	<0.1
1st Quarter 2008	9.1	47.0	0.1
4th Quarter 2007	7.4	9.4	<0.1
3rd Quarter 2007	38.0	<5.0	<0.1
2nd Quarter 2007	35.0	7.0	<0.1
1st Quarter 2007	NR	NR	NR
4th Quarter 2006	NR	NR	NR
3rd Quarter 2006	NR	NR	NR
2nd Quarter 2006	NR	NR	NR
1st Quarter 2006	NR	NR	NR
Pre-Dewater	NR	NR	NR

NR = Not Required (Voluntary Corrective Measures - Revised Monitoring Plan - October 2005)

Section 6.0 Maps



Map Source: USGS 7.5 Min. Quad Sheet BLOOMFIELD, NM., 1985.

0 2000
SCALE IN FEET

NEW MEXICO
QUADRANGLE LOCATION

Western Refining
WESTERN REFINING SOUTHWEST

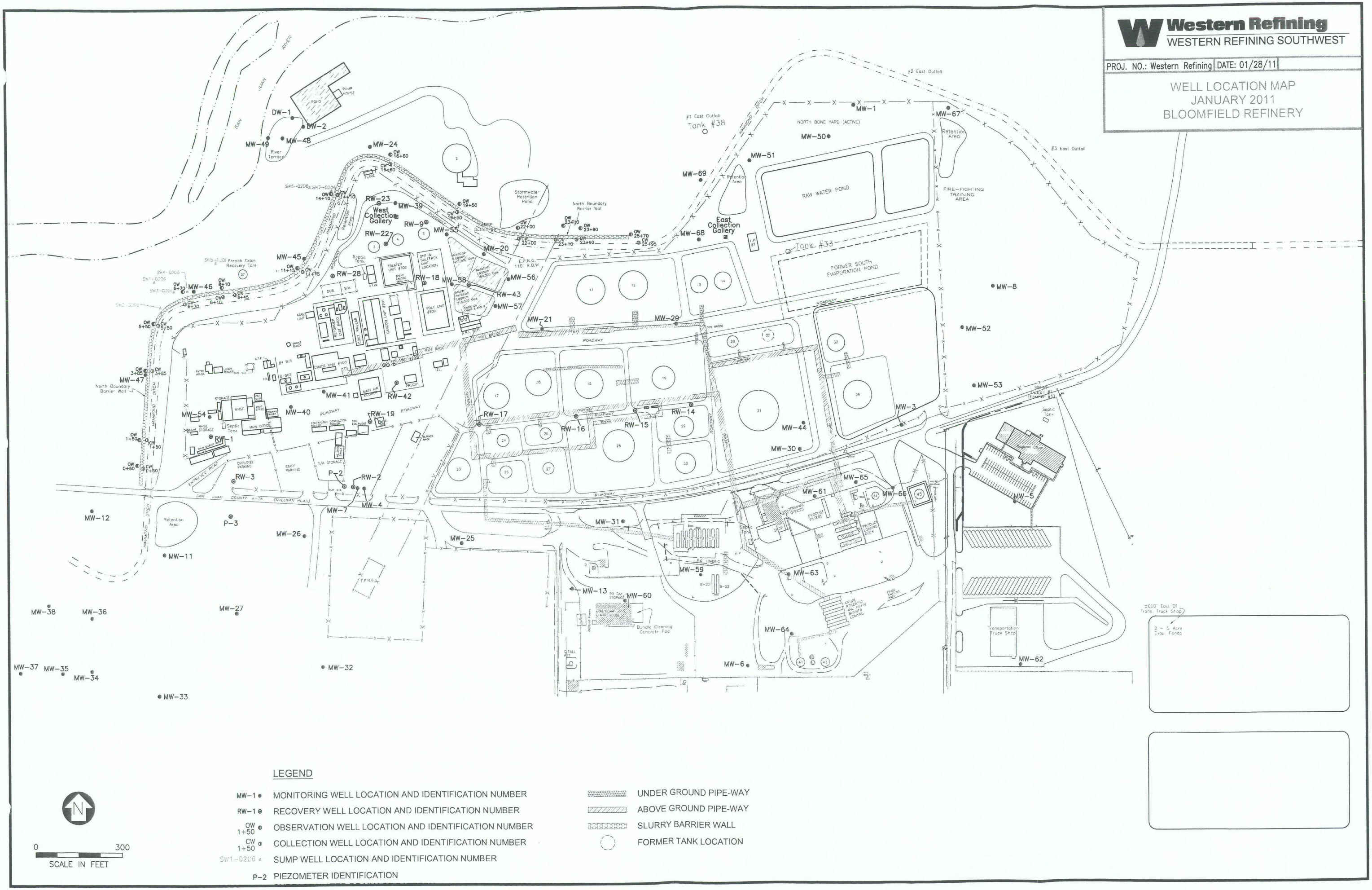
PROJ. NO.: Western Refining	DATE: 01/06/10	FILE: WestRef-A25

FIGURE 1
SITE LOCATION MAP
BLOOMFIELD REFINERY

Western Refining
WESTERN REFINING SOUTHWEST

PROJ. NO.: Western Refining | DATE: 01/28/11

WELL LOCATION MAP
JANUARY 2011
BLOOMFIELD REFINERY



LEGEND

- MW-1 ● MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- RW-1 ◎ RECOVERY WELL LOCATION AND IDENTIFICATION NUMBER
- OW 1+50 ◐ OBSERVATION WELL LOCATION AND IDENTIFICATION NUMBER
- CW 1+50 ◑ COLLECTION WELL LOCATION AND IDENTIFICATION NUMBER
- SW1-0206 ▲ SUMP WELL LOCATION AND IDENTIFICATION NUMBER
- P-2 PIEZOMETER IDENTIFICATION
- UNDER GROUND PIPE-WAY
- ABOVE GROUND PIPE-WAY
- SLURRY BARRIER WALL
- FORMER TANK LOCATION

N

0 300
SCALE IN FEET

NOTES

Reference Drawings:
B-500-900-022
B-500-900-023

NO.	REVISION	JOB No.	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
3	Revised To Depict As-built		TAG	12/08				
2	Drawing Title Block Revision As Requested From Enviro. Dept. (Bob)		NHB	2/08				
1	Removal Of "TP-4" As Per Instruction From Enviro. Dept.		NHB	6/07				
A	Drawn As Per Sketch From Enviro. Dept.							

REFERENCE DWGS.

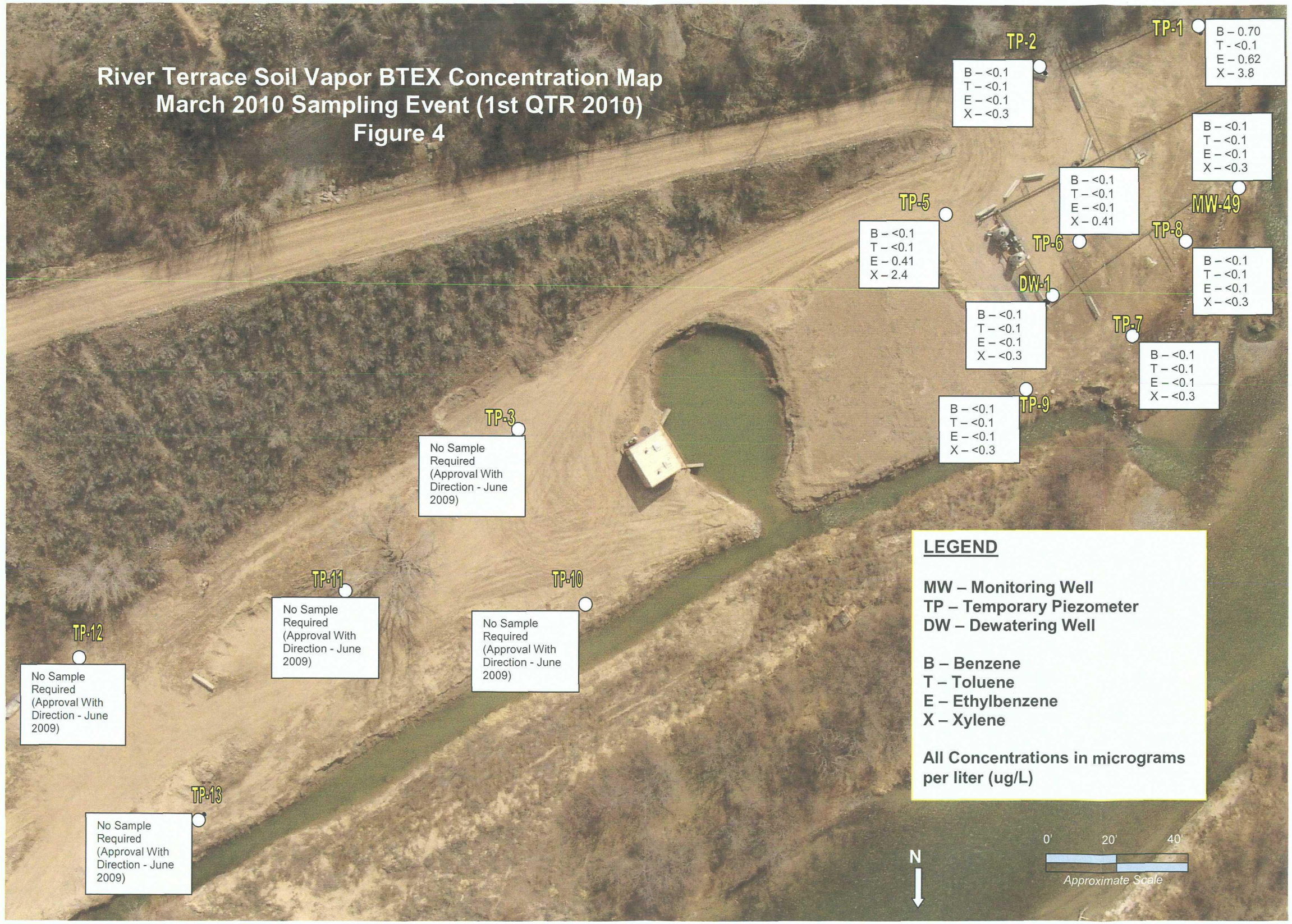
SCALE	As Noted
DRAWN BY	NHB
DATE	1/3/07
INITIAL CHK.	
FINAL CHK.	
ENGR.	
APPR. BY	
AFE/WO No.	NONE

River Terrace Project
Bioventing & Temporary-Well Location Plot Plan

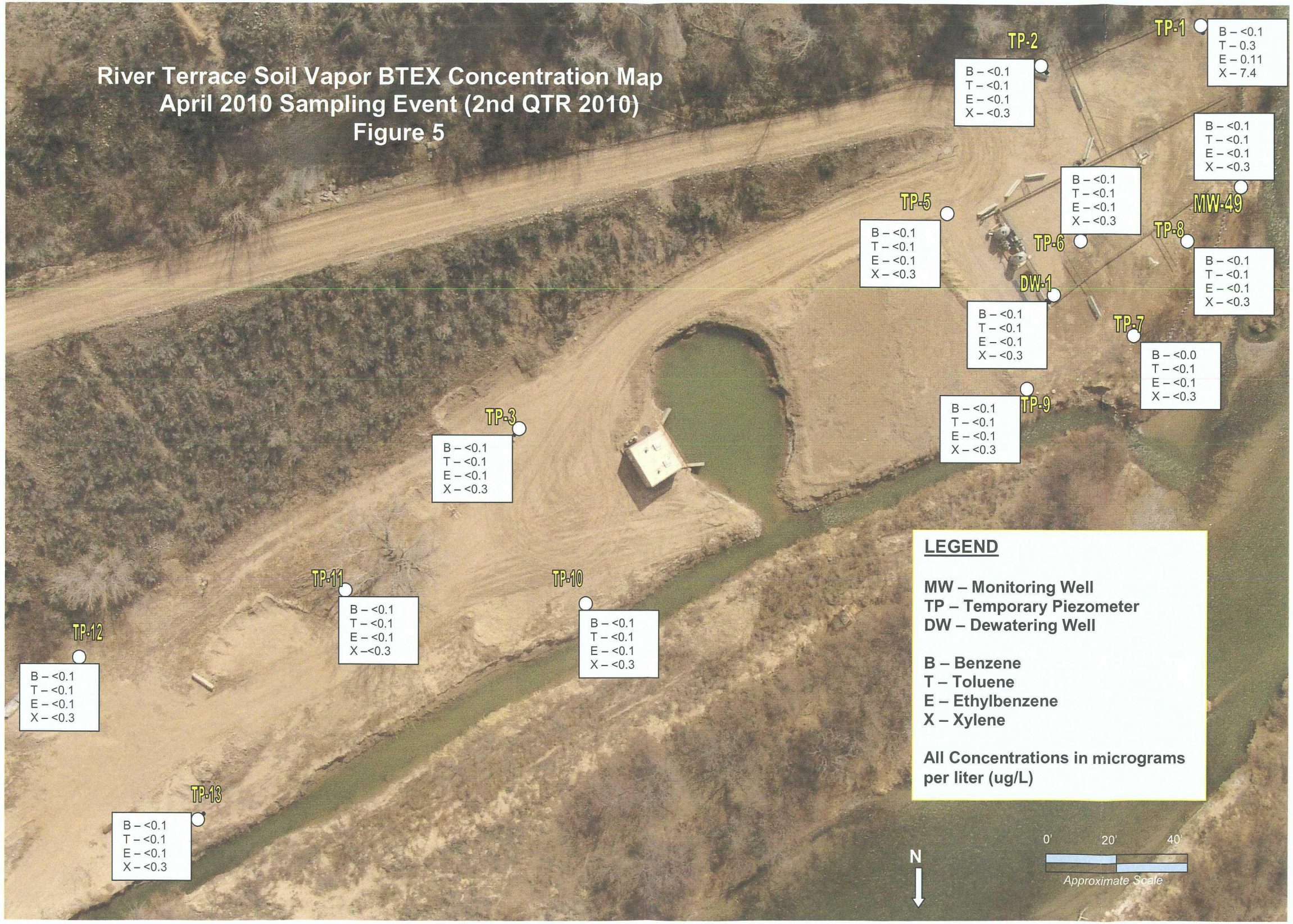
Western Refining
BLOOMFIELD REFINERY — BLOOMFIELD NEW MEXICO

DWG. NO. B-500-900-024 — REV. 3

River Terrace Soil Vapor BTEX Concentration Map
March 2010 Sampling Event (1st QTR 2010)
Figure 4

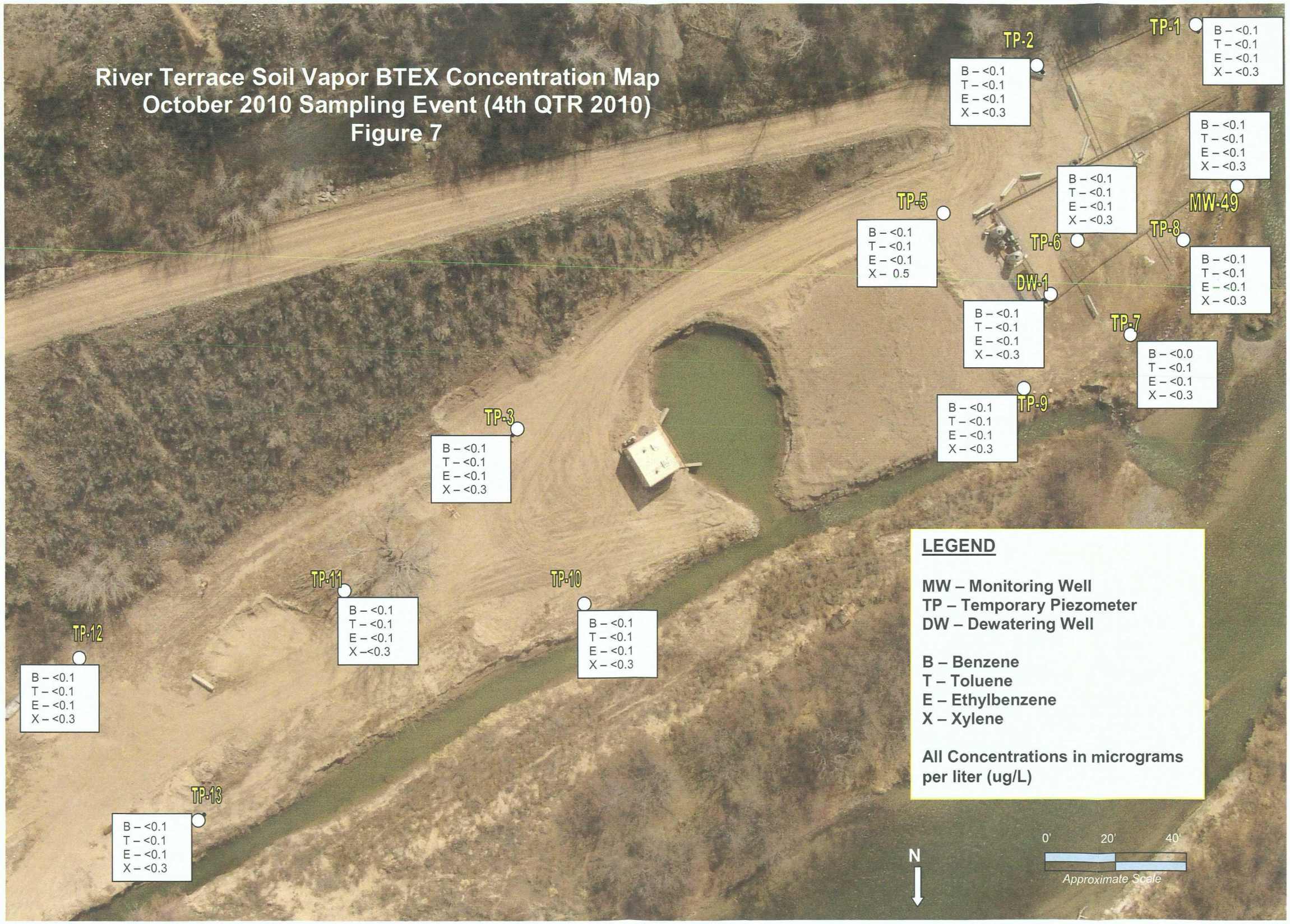


River Terrace Soil Vapor BTEX Concentration Map
April 2010 Sampling Event (2nd QTR 2010)
Figure 5

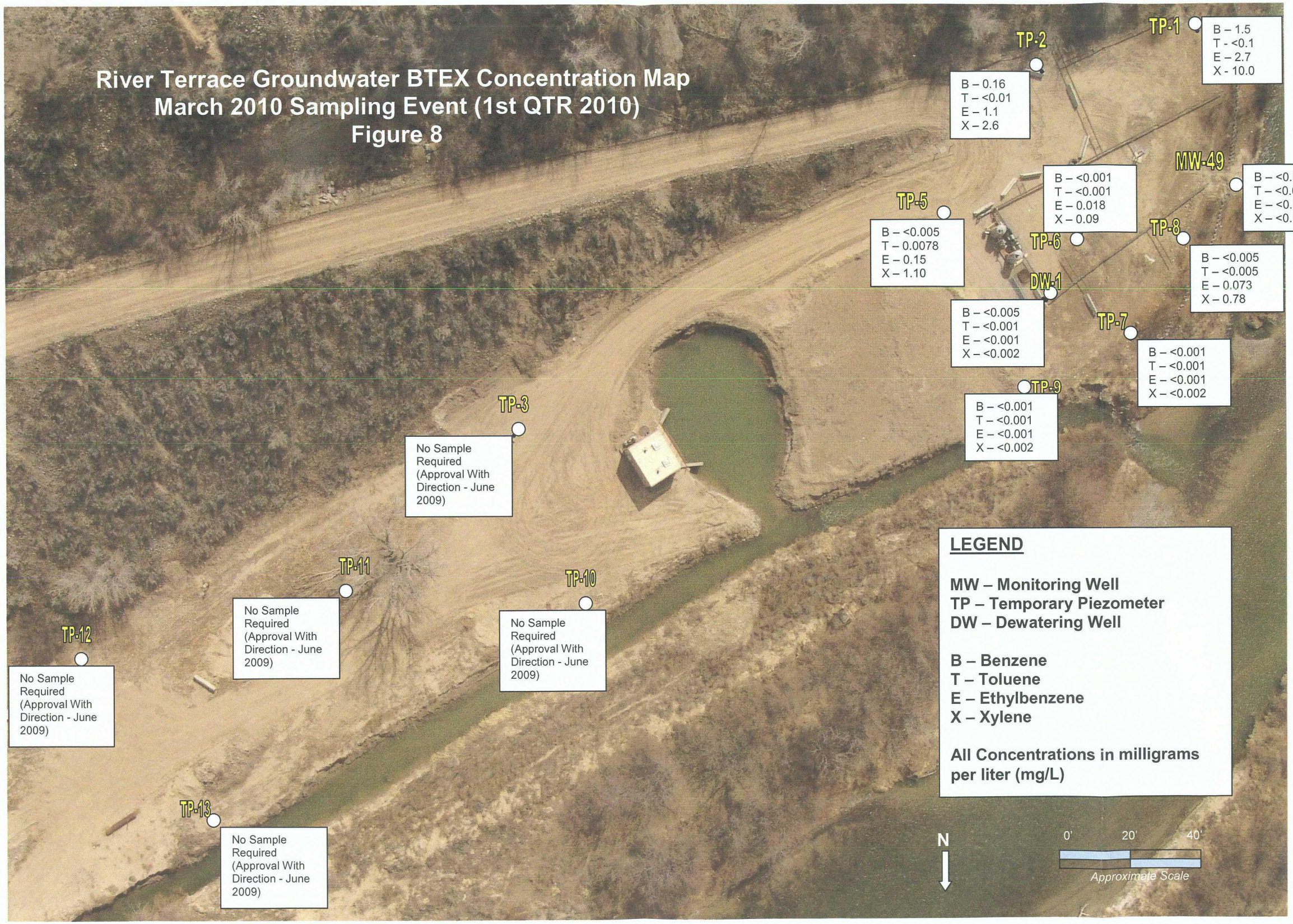


River Terrace Soil Vapor BTEX Concentration Map
July 2010 Sampling Event (3rd QTR 2010)
Figure 6

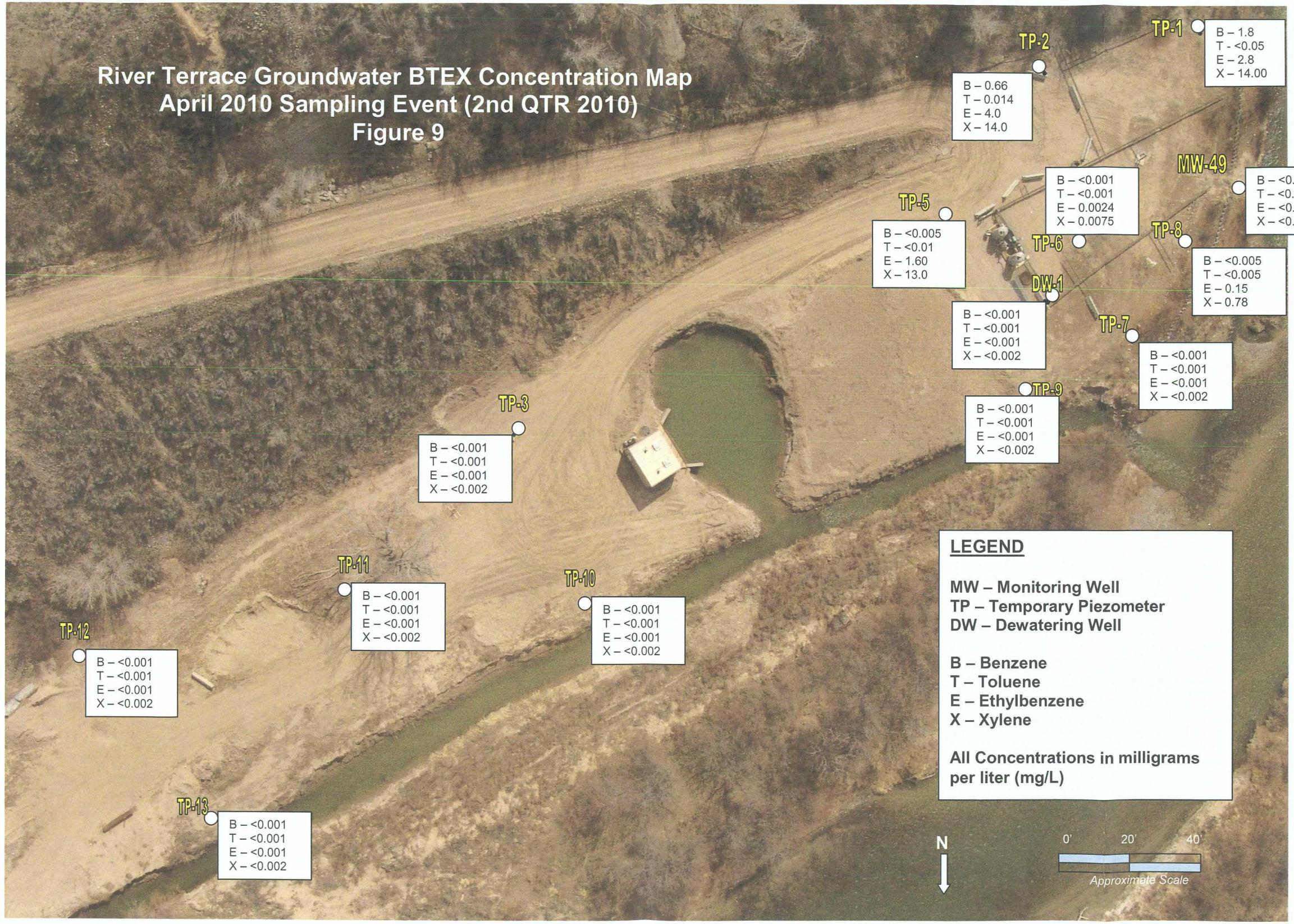
River Terrace Soil Vapor BTEX Concentration Map
October 2010 Sampling Event (4th QTR 2010)
Figure 7



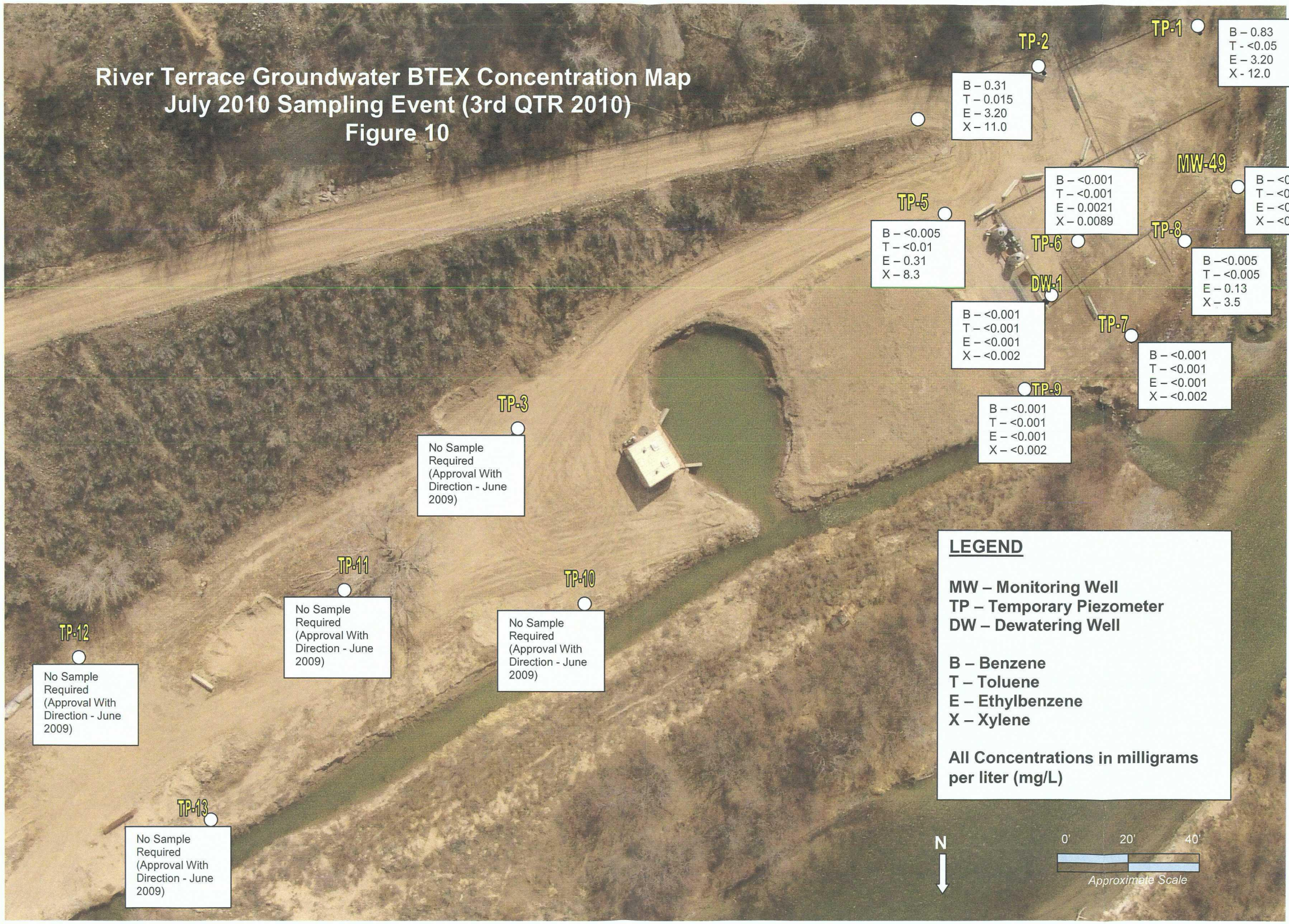
River Terrace Groundwater BTEX Concentration Map
March 2010 Sampling Event (1st QTR 2010)
Figure 8



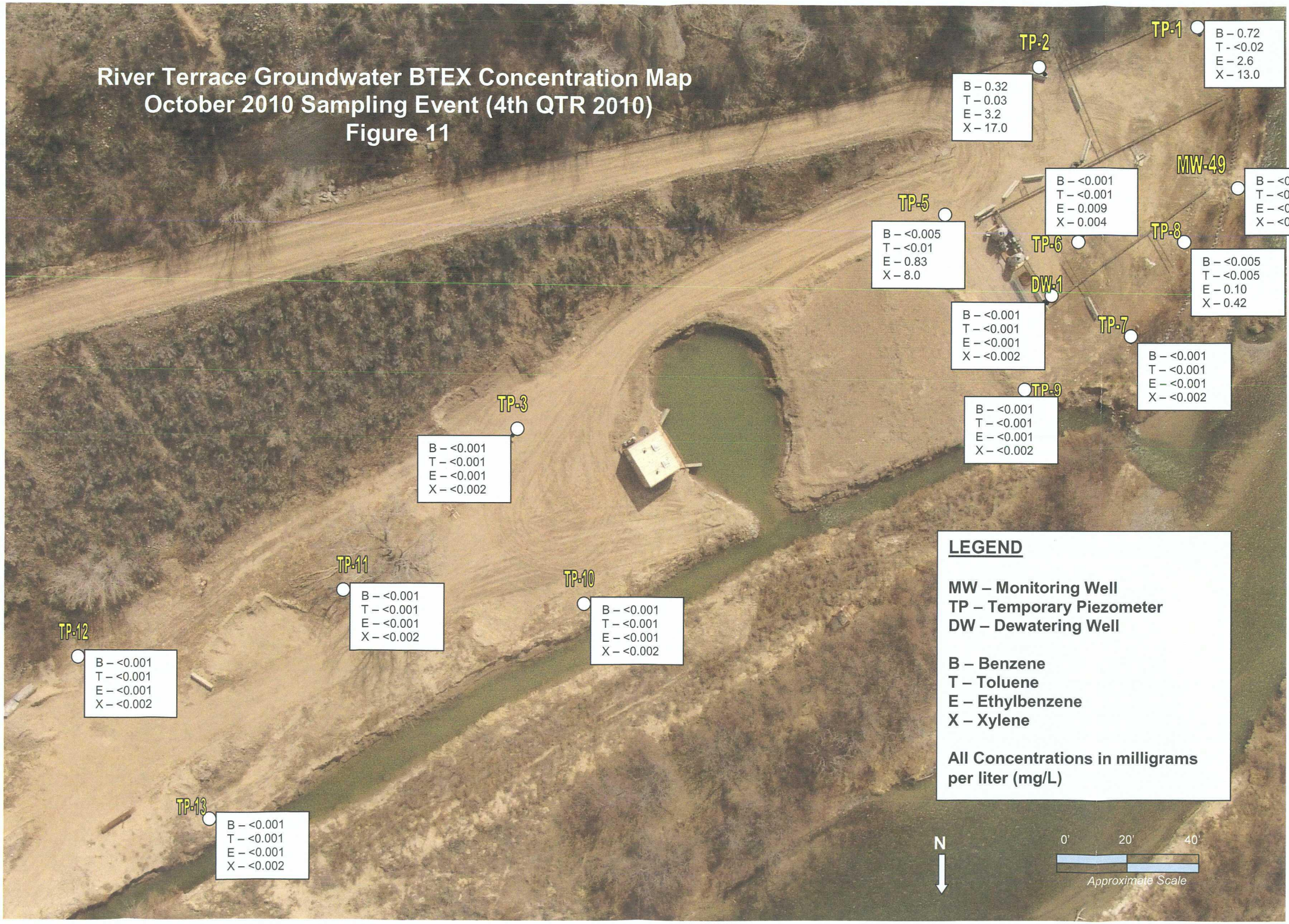
River Terrace Groundwater BTEX Concentration Map
April 2010 Sampling Event (2nd QTR 2010)
Figure 9



River Terrace Groundwater BTEX Concentration Map
July 2010 Sampling Event (3rd QTR 2010)
Figure 10



River Terrace Groundwater BTEX Concentration Map
October 2010 Sampling Event (4th QTR 2010)
Figure 11



Section 7.0 Summary

Summary

Construction of the River Terrace Bioventing Project was initiated in August 2005. The system was put on-line in January 2006. On-going sampling at the River Terrace is conducted in accordance with the approved Bioventing System Monitoring Plan, dated October 28, 2006, and in accordance with an NMED comment letter *(Direction to Modify Future Monitoring as reported in the River Terrace Voluntary Corrective Measures Bioventing System Annual Report January 2006 through December 2006)* dated June 13, 2007. These revisions were implemented during the second quarter sampling event of 2007 and continue to be utilized. Additional revisions to the monitoring plan were stated in the NMED letter dated June 16, 2009 (*Approval with Direction River Terrace Voluntary Corrective Measures Bioventing System Annual Report January 2008 through December 2008).* NMED agreed to modify the sampling at the eastern portion of the River Terrace (TP #3, TP #10, TP #11, TP #12, and TP #13) to semi-annual sampling during the high and low water flows of the San Juan River. These modifications were employed during the fourth quarter sampling event of 2009 and were applied throughout 2010.

Data Collection

Western Refining indefinitely suspended refining operations at the Bloomfield Refinery on November 23, 2009. The crude unloading and product loading racks, storage tanks and other supporting equipment remain in operation. The change in site operation has impacted the operation of the dewatering system of the River Terrace Bioventing System. Although the aeration system operates continuously, operation of the dewatering system has become infrequent due to the lessened demand for fresh water to support current facility operations.

Groundwater Monitoring

First quarter groundwater elevation measurements were collected from each of the TP wells, DW #1, and MW #49 during the week of March 8, 2010. Groundwater samples were not collected from the TPs on the eastern portion of the River Terrace (TP #3, TP #10, TP #11, TP #12, and TP #13). The wells on the western portion of the River Terrace (TP #1, TP #2, TP #5, TP #6, TP, #7, TP #8, TP #9, DW #1, and MW #49) were sampled and analyzed for BTEX and MTBE (EPA Method 8021B), GRO and DRO (EPA Method 8015B), and lead analysis (EPA Method 6010B). Field measurements included temperature, pH, conductivity, DO, and ORP. TP-7 was sampled after a 24 hour recharge time. DW #1 was also analyzed for Mercury (EPA Method 7470). The third quarter monitoring event (the week of July 20, 2010) included the same collection sites and the same methods.

Second quarter sampling and groundwater elevation measurements were collected from each of the TP wells, DW #1, and MW #49 during the week of April 19, 2010. TP-7 was sampled after a 24 hour recharge time. Annual analysis

of chromium and barium (EPA Method 6010B) were performed during the second quarter event. Lead analysis (EPA Method 6010B) was performed on samples collected from each TP Well, MW #49, and DW#1. DW #1 samples were also analyzed for mercury (EPA Method 7470). In addition, groundwater samples were analyzed for BTEX and MTBE (EPA Method 8021B), GRO and DRO (EPA Method 8015B). Field measurements included temperature, pH, conductivity, DO, and ORP. The fourth quarter monitoring event (the week of October 18, 2010) included the same collection sites and the same methods except there were no annual analysis of chromium and barium. Mercury analysis (EPA Method 7470) for DW #1 was inadvertently not marked on the Chain of Custody. There are no mercury results for DW #1 for the fourth quarter 2010 sampling event.

Analytical results for TP #1 and TP #2 groundwater samples indicate regulatory standards were exceeded for benzene, ethylbenzene, xylene, DRO (Diesel Range Organics), and total lead in all four sampling events. TP-5 surpassed xylene, DRO, and total lead screening guidelines in all four quarters and ethylbenzene standards in the first and third quarters. TP-6 surpassed regulatory limits for total lead in the first, second, and third quarter and exceeded DRO guidelines in the first and second quarter of 2010.TP-8 topped DRO guidelines (all four quarters), total lead standards (first, second, and third quarter), and xylene limits (first and second quarter) in 2010. MW #49 exceeded DRO standards in the first and second quarter of 2010. Analytical results for all remaining samples were below the applicable screening levels.

Since August 2005, BTEX concentrations in groundwater show a decreasing trend over time at wells within the western portion of the River Terrace (TP-#1, #2, #5, #6 and #8). BTEX concentration vs time graphs located in Section 5.0, Tabs 6, 7, and 8 demonstrate this decreasing trend over the last five years. Analytical results of the groundwater monitoring continue to indicate that the contaminants of concern are primarily benzene, ethylbenzene, xylene, and total lead for these wells.

Analytical results of samples collected from the wells on the eastern portion of the River Terrace (TP-3, 10, 11, 12, and 13) continue to be below method detection limits. BTEX concentration vs time graphs in Section 5.0 illustrate that non-detect results have consistently occurred in the eastern portion of the River Terrace since 2006. BTEX results are still below WQCC Standards at wells located on the eastern most side of the bioventing area (TP #7, TP #9, DW #1).

TP #3, TP #7, TP #9, TP #10, TP #11, TP #12, TP #13, and DW #1 did not exceed regulatory standards in groundwater for BTEX, DRO, or total lead in 2010. Barium and chromium regulatory limits have not been surpassed at any well location at the River Terrace since 2006. TP-8 baseline results in January 2006 exceeded barium limits (2.0 ppm) with a result of 2.2 ppm.

Mercury was detected at DW-1 during the February 2007 sampling event (0.002 mg/L) and again during the April 2009 sampling event (0.0008 mg/L). Due to laboratory error, mercury was not analyzed during the 4th quarter of 2008 and again during the 3rd quarter of 2009 and was inadvertently not analyzed in the 4th quarter of 2010. Mercury results have been below detection levels for the other eleven sampling events.

Soil Gas Monitoring

The first quarter soil gas sampling event was conducted during the week of March 8, 2010. Samples were not collected from the TPs on the eastern portion of the River Terrace (TP #3, TP #10, TP #11, TP #12, and TP #13) due to approved changes in the monitoring plan. Soil gas samples were collected from the wells on the western portion of the River Terrace (TP #1, TP #2, TP #5, TP #6, TP, #7, TP #8, TP #9, DW #1, and MW #48) and analyzed for BTEX (8021B) and GRO (8015B). Field measurements of vapor-phase organics (using a PID) and oxygen and carbon dioxide concentrations (using a multi-gas meter) were collected. Third quarter monitoring events occurred during the week of July 20, 2010 and utilized the same collection sites, and the same methods and parameters.

During the second and fourth quarter sampling events, soil gas samples were collected from each of the TP Wells, DW #1, and MW #49. Soil gas analysis included BTEX (8021B) and GRO (8015B). Field measurements of vapor-phase organics (using a PID) and oxygen and carbon dioxide concentrations (using a multi-gas meter) were collected. Second quarter samples were collected the week of April 19, 2010. Fourth quarter monitoring was conducted during the week of October 18, 2010.

Soil vapor concentration vs time comparisons (Section 5.0, Tabs 9, 10, and 11) indicate a significant downward trend from 2006 benzene, GRO, and PID analysis when compared to current results from 2010.

GAC Monitoring

GAC filter influent samples (GAC Inf) and effluent samples collected downstream of the lag GAC filter (GAC 1 Eff – V-612) were collected quarterly. Effluent samples from the lead GAC filter (GAC 2 Eff – V-611) were obtained every month. Samples were analyzed for BTEX by EPA Method 8021B, GRO and DRO by EPA Method 8015B. Break through in the GAC did not occur in 2010.

Analysis and Conclusions

Bloomfield Refinery met all NMED and OCD sampling and monitoring requirements for 2010 with the exception of mercury analysis during the fourth quarter sampling event. Operation of the River Terrace Bioventing System has been affected by current facility operational conditions. Air sparging is continuing however the dewatering system operates infrequently as the plant requires less water.

Section 8.0 Field Methods

Section 9.0 Chemical Analytical Program

Hall Environmental Analysis Laboratory

QUALITY ASSURANCE PLAN

Effective Date: February 2nd 2010

Revision 9.2

www.hallenvironmental.com

Control Number: 0000095

Approved By:

Andy Freeman — Date: 12/2/10
Laboratory Manager

Approved By:

Carolyn Swanson — Date
Quality Assurance/Quality Control Officer

Table of Contents

Appendix C TCEQ Accreditation
Full list of approved analytes, methods, analytical techniques and fields of testing
Reserved, available upon request

Appendix D Utah ELCP Accreditation
Full list of approved analytes, methods, analytical techniques and fields of testing
Reserved, available upon request

Appendix E ADHS Accreditation
Full list of approved analytes, methods, analytical techniques and fields of testing
Reserved, available upon request

Appendix F NMED-DWB Certification
Reserved, available upon request

Appendix G NM DOH Certification
Reserved, available upon request

Appendix H Terms and Definitions
Reserved, available upon request

Appendix I Chain of Custody Record
Reserved, available upon request

Appendix J HEAL Forms
Analyst Ethics and Data Integrity Agreement
IDOC Certificate
ADOCP Certificate
Training Forms
Corrective Action Report
Reserved, available upon request

3.0 Introduction

Purpose of Document

The purpose of this Quality Assurance Plan is to formally document the quality assurance policies and procedures of Hall Environmental Analysis Laboratory, Inc. (HEAL), for the benefit of its employees, clients, and accrediting organizations. HEAL continually implements all aspects of this plan as an essential and integral part of laboratory operations in order to ensure that high quality data is produced in an efficient and effective manner.

Objectives

The objective of HEAL is to achieve and maintain excellence in environmental testing. This is accomplished by developing, incorporating and documenting the procedures and policies specified by each of our accrediting authorities and outlined in this plan. A laboratory staff that is analytically competent, well qualified, and highly trained carries out these activities. An experienced management team, knowledgeable in their area of expertise, monitors them. Finally, a comprehensive quality assurance program governs laboratory practices and ensures that the analytical results are valid, defensible, reproducible, reconstructable and of the highest quality.

HEAL establishes and thoroughly documents its activities to ensure that all data generated and processed will be scientifically valid and of known and documented quality. Routine laboratory activities are detailed in method specific standard operating procedures (SOP). All data reported meets the applicable requirements for the specific method that is referenced, ORELAP, TCEQ, EPA, client specific requirements and/or State Bureaus. In the event that these requirements are ever in contention with each other, it is HEAL's policy to always follow the most prudent requirement available. For specific method requirements refer to HEAL's Standard Operating Procedures (SOP's), EPA methods, Standard Methods 20th edition, ASTM methods or state specific methods.

HEAL management ensures that this document is correct in terms of required accuracy, data reproducibility, and that the procedures contain proper quality control measures. HEAL management additionally ensures that all equipment is reliable, well maintained and appropriately calibrated. The procedures and practices of the laboratory are geared towards not only strictly following our regulatory requirements but also allowing the flexibility to conform to client specific specifications. Meticulous records are maintained for all samples and their respective analyses so that results are well documented and defensible in a court of law.

The HEAL Quality Assurance/Quality Control Officer (QA/QCO) and upper management are responsible for supervising and administering this quality assurance program, and ensuring each individual is responsible for its proper implementation. All HEAL management remains committed to the encouragement of excellence in analytical testing and will continue to provide the necessary resources and environment conducive to its achievement.

Policies

Understanding that quality cannot be mandated, it is the policy of this laboratory to provide an environment that encourages all staff members to take pride in the quality of their work. In addition to furnishing proper equipment and supplies, HEAL stresses the importance of continued training and professional development. Further, HEAL recognizes the time required for data interpretation. Therefore, no analyst should feel pressure to sacrifice data quality for data quantity. Each staff member must perform with the highest level of integrity and professional competence, always being alert to problems that could compromise the quality of their technical work.

Management and senior personnel supervise analysts closely in all operations. Under no circumstance is the willful act or fraudulent manipulation of analytical data condoned. Such acts must be reported immediately to HEAL management. Reported acts will be assessed on an individual basis and resulting actions could result in dismissal. The laboratory staff is encouraged to speak with lab managers or senior management if they feel that there are any undo commercial, financial, or other pressures, which might adversely affect the quality of their work; or in the event that they suspect that data quality has been compromised in any way. HEAL's Quality Assurance/Quality Control Officer is available if any analyst and/or manager wishes to anonymously report any suspected or known breaches in data integrity.

All proprietary rights and client information at HEAL (including national security concerns) are considered confidential. No information will be given out without the express verbal or written permission of the client. All reports generated will be held in the strictest of confidence.

This is a controlled document. Each copy is assigned a unique tracking number and when released to a client or accrediting agency the QA/QCO keeps the tracking number on file. This document is reviewed on an annual basis to ensure that it is valid and representative of current practices at HEAL.

4.0 Organization and Responsibility

Company

HEAL is accredited in accordance with the 2003 NELAC standard (see NELAC accredited analysis list in the appendix), through ORELAP and TCEQ and by the Arizona Department of Health Services. Additionally, HEAL is qualified as defined under the State of New Mexico Water Quality Control Commission regulations and the New Mexico State Drinking Water Bureau. HEAL is a locally owned small business that was established in 1991. HEAL is a full service environmental analysis laboratory with analytical capabilities that include both organic and inorganic methodologies and has performed analyses of soil, water, air as well as various other matrices for many sites in the region. HEAL's client base includes local, state and federal agencies, private consultants, commercial industries as well as individual homeowners. HEAL has performed as a subcontractor to the state of New Mexico and to the New Mexico Department of Transportation. HEAL has been acclaimed by its customers as producing quality results and as being adaptive to client-specific needs.

The laboratory is divided into an organic section, and an inorganic section. Each section has a designated manager/technical director. The technical directors report directly to the laboratory manager, who oversees all operations.

Certifications

ORELAP – NELAC Oregon Primary accrediting authority.

TCEQ – NELAC Texas Secondary accrediting authority.

The Arizona Department of Health Services

The New Mexico Drinking Water Bureau

The New Mexico Department of Health

See appendix B-E for copies of current licenses and licensed parameters, or refer to our current list of certifications online at www.hallenvironmental.com.

In the event of a certification being revoked or suspended HEAL will notify, in writing, those clients that require the effected certification.

Personnel

HEAL management ensures the competence of all who operate equipment, perform environmental tests, evaluate results, and sign test reports. Personnel performing specific tasks shall be qualified on the basis of appropriate education, training, experience and /or demonstrated skills.

All personnel shall be responsible for complying with HEAL's quality assurance/quality control requirements that pertain to their technical function. Each technical staff member must have a combination of experience and education to adequately demonstrate specific knowledge of their particular function and a general knowledge of laboratory operations, test methods, quality assurance/quality control procedures and records management.
All employees training certificates and diplomas are kept on file with demonstrations of capability for each method they perform. An Organizational Chart can be found in Appendix A.

Laboratory Director

The Laboratory Director is responsible for overall technical direction and business leadership of HEAL. The Laboratory Manager, the Project Manager and Quality Assurance/Quality Control Officer report directly to the Laboratory Director. Someone with a minimum of 7 years of directly related experience and a bachelor's degree in a scientific or engineering discipline should fill this position.

Laboratory Manager/Lead Technical Director

The Laboratory Manager shall exercise day–to-day supervision of laboratory operations for the appropriate fields of accreditation and reporting of results. The Laboratory Manager shall be experienced in the fields of accreditation for which the laboratory is approved or seeking accreditation. The Laboratory Manager shall certify that personnel with appropriate educational and/or technical background perform all tests for which HEAL is accredited. Such certification shall be documented.

The Laboratory Manager shall monitor standards of performance in quality control and quality assurance and monitor the validity of the analyses performed and data generated at HEAL to assure reliable data.

The Laboratory Manager is responsible for the daily operations of the laboratory. The Laboratory Manager is the lead technical director of the laboratory and in conjunction with the section technical directors is responsible for coordinating activities within the laboratory with the overall goal of efficiently producing high quality data with in a reasonable time frame.

In events where employee scheduling or current workload is such that new work cannot be incorporated, with out missing hold times, the Laboratory Manager has authority to modify employee scheduling, re-schedule projects or, when appropriate, allocate the work to approved subcontracting laboratories.

Additionally, the laboratory manager reviews and approves new analytical procedures and methods, and performs a final review of most analytical results. The Laboratory Manager provides technical support to both customers and HEAL staff.

The Laboratory Manager also observes the performance of supervisors to ensure good laboratory practices and proper techniques are being taught and utilized, assisting in overall quality control implementation, and strategic planning for the future of the company. Other duties include assisting in establishing laboratory policies which lead to the fulfillment of requirements for various certification programs, assuring that all Quality Assurance and Quality Control documents are reviewed and approved, and assisting in conducting Quality Assurance Audits.

The laboratory manager addresses questions or complaints that cannot be answered by the section managers.

The Laboratory Manager shall have a bachelor's degree in a chemical, environmental, biological sciences, physical sciences or engineering field, and at least five years of experience in the environmental analysis of representative inorganic and organic analytes for which the laboratory seeks or maintains accreditation.

Quality Assurance Quality Control Officer

The Quality Assurance/Quality Control Officer (QA/QCO) serves as the focal point for QA/QC and shall be responsible for the oversight and/or review of quality control data. The QA/QCO functions independently from laboratory operations and shall be empowered to halt unsatisfactory work and/or prevent the reporting of results generated from an out-of-control measurement system. The QA/QCO shall objectively evaluate data and perform assessments without any outside/managerial influence. The QA/QCO shall have direct access to the highest level of management at which decisions are made on laboratory policy and/or resources. The QA/QCO shall notify laboratory management of deficiencies in the quality system in periodic, independent reports.

The QA/QCO shall have general knowledge of the analytical test methods, for which data review is performed, have documented training and/or experience in QA/QC procedures and in the laboratory's quality system. The QA/QCO will have a minimum of a BS in a scientific or related field and a minimum of three years of related experience.

The QA/QCO shall schedule and conduct internal audits as per the Internal Audit SOP at least annually, monitor and trend Corrective Action Reports as per the Data Validation SOP, periodically review control charts for out of control conditions and initiate any appropriate corrective actions.

The QA/QCO shall oversee the analysis of proficiency testing in accordance with our standards and monitor any corrective actions issued as a result of this testing.

The QA/QCO reviews all standard operating procedures and statements of work in order to assure their accuracy and compliance to method and regulatory requirements.

The QA/QCO shall be responsible for maintaining and updating this quality manual.

Business/Project Manager

The role of the business/project manager is to act as a liaison between HEAL and our clients. The project manager reviews reports, updates clients on the status of projects in-house, prepares quotations for new work, and is responsible for HEAL's marketing effort.

All new work is assessed by the project manager and reviewed with the other managers so as to not exceed the laboratories capacity. In events where employee scheduling or current workload is such that new work cannot be incorporated with out missing hold times, the Project Manager has authority to re-schedule projects.

It is also the duty of the project manager to work with the Laboratory Manager and QA/QCO to insure that before new work is undertaken the resources required and accreditations requested are available to meet the client's specific needs.

Additionally, the Project Manager can initiate the review of the need for new analytical procedures and methods, and performs a final review of some analytical results. The Project Manager provides technical support to customers. Someone with a minimum of 2 years of directly related experience and a bachelor's degree in a scientific or engineering discipline should fill this position.

Section Manager/Technical Directors

The Section Manager/Technical Directors are full-time members of the staff at HEAL who exercise day-to-day supervision of laboratory operations for the appropriate fields of accreditation and reporting of results for their department within HEAL. A Technical Director's duties shall include, but not be limited to, monitoring standards of performance in quality control and quality assurance; monitoring the validity of the analyses performed and the data generated in their sections to ensure reliable data, overseeing training and supervising departmental staff, schedule incoming work for their sections and monitor laboratory personnel to ensure that proper procedures and techniques are being utilized. They supervise and implement new Quality Control procedures as directed by the QA/QCO, update and maintain quality control records including, but not limited to, training forms, IDOCs, ADOCPs, MDLs and evaluate laboratory personnel in their Quality Control activities. In addition technical directors are responsible for upholding the spirit and intent of HEAL's data integrity procedures.

They are the technical director of the associated section and review analytical data to acknowledge that data meets all criteria set forth for good Quality Assurance practices. Someone with a minimum of 2 years of experience in the environmental analysis of

representative analytes for which HEAL seeks or maintains accreditation and a bachelor's degree in a scientific or related discipline should fill this position.

Health and Safety / Chemical Hygiene Officer

Refer to the most recent version of the Health and Safety and Chemical Hygiene Plans for the rolls, responsibilities and basic requirements of the Health and Safety Officer (H&SO) and the Chemical Hygiene Officer (CHO). These jobs can be executed by the same employee.

Chemist I, II and III

Chemists are responsible for the analysis of various sample matrices including, but not limited to, solid, aqueous, and air as well as the generation of high quality data in accordance with the HEAL SOPs and QA/QC guidelines in a reasonable time as prescribed by standard turnaround schedules or as directed by the Section Manager or Laboratory Manager.

Chemists are responsible for making sure all data generated is entered in the database in the correct manner and the raw data is reviewed, signed and delivered to the appropriate peer for review. A Chemist reports daily to the section manager and will inform them as to material needs of the section specifically pertaining to the analyses performed by the chemist. Additional duties may include preparation of samples for analysis, maintenance of lab instruments or equipment, cleaning and providing technical assistance to lower level laboratory staff.

The senior chemist in the section may be asked to perform supervisory duties as related to operational aspects of the section. The chemist may perform all duties of a lab technician.

The position of Chemist is a full or part time hourly position and is divided into three levels, Chemist I, II, and III. All employees hired into a Chemist position at HEAL must begin as a Chemist I and remain there at a minimum of three months regardless of their education and experience. Chemist I must have a minimum of an AA in a related field or equivalent experience (equivalent experience means years of related experience can be substituted for the education requirement). A Chemist I is responsible for analysis, instrument operation and data reduction. Chemist II must have a minimum of an AA in a related field or equivalent experience and must have documented and demonstrated aptitude to perform all functions of a Chemist II. A Chemist II is responsible for the full analysis of their test methods, routine instrument maintenance, purchase of consumables as dictated by their Technical Director, advanced data reduction and basic data review. Chemist II may also assist Chemist III in method development and, as dictated by their Technical Director, may be responsible for the review and/or revision of their method specific SOPs. Chemist III must have Bachelors degree or equivalent experience and must have documented and demonstrated aptitude to perform all functions of a Chemist III. A Chemist III is responsible for all tasks completed by a Chemist I and II as well as advanced

data review, non-routine instrument maintenance, assisting their technical director in basic supervisory duties and method development.

Laboratory Technician

A laboratory technician is responsible for providing support in the form of sample preparation, basic analysis, general laboratory maintenance, glassware washing, chemical inventories and sample kit preparation. This position can be filled by someone without the education and experience necessary to obtain a position as a chemist.

Sample Control Manager

The sample control manager is responsible for receiving samples and reviewing the sample login information after it has been entered into the computer. The sample control manager also checks the samples against the chain-of-custody for any sample and/or labeling discrepancies prior to distribution.

The sample control manager is responsible for sending out samples to the sub-contractors along with the review and shipping of field sampling bottle kits. The sample control manager acts as a liaison between the laboratory and field sampling crew to ensure that the appropriate analytical test is assigned. If a discrepancy is noted the sample control manager or sample custodian will contact the customer to resolve any questions or problems. The sample control manager is an integral part of the customer service team.

This position should be filled by someone with a high school diploma and a minimum of 2 years of related experience and can also be filled by a senior manager.

Sample Custodians

Sample Custodians work directly under the Sample Control Manager. They are responsible for sample intake into the laboratory and into the LIMS. Sample Custodians take orders from our clients and prepare appropriate bottle kits to meet the client's needs. Sample Custodians work directly with the clients in properly labeling and identifying samples as well as properly filling out legal COCs. When necessary, Sample Custodians contact clients to resolve any questions or problems associated with their samples. Sample Custodians are responsible for distributing samples throughout the laboratory and are responsible for notifying analysts of special circumstances such as short holding times or improper sample preservation upon receipt.

Delegations in the Absence of Key Personnel

Planned absences shall be preceded by notification to the Laboratory Manager. The appropriate staff members shall be informed of the absence. In the case of unplanned absences, the organizational superior shall either assume the responsibilities and duties or delegate the responsibilities and duties to another appropriately qualified employee.

In the event that the Laboratory Manager is absent for a period of time exceeding fifteen consecutive calendar days, another full-time staff member meeting the basic qualifications and competent to temporarily perform this function will be designated. If this absence exceeds thirty-five consecutive calendar days, HEAL will notify ORELAP in writing of the absence and the pertinent qualifications of the temporary laboratory manager.

Laboratory Personnel Qualification and Training

All personnel joining HEAL shall undergo orientation and training. During this period the new personnel shall be introduced to the organization and their responsibilities, as well as the policies and procedures of the company. They shall also undergo on the job training and shall work with trained staff. They will be shown required tasks and be observed while performing them.

When utilizing staff undergoing training, appropriate supervision shall be dictated and overseen by the appropriate section technical director. Prior to analyzing client samples, a new employee, or an employee new to a procedure, must meet the following basic requirements. The SOP and Method for the analysis must be read and signed by the employee indicating that they read, understood and intend to comply with the requirements of the documents. The employee must undergo documented training. Training is conducted by a senior analyst familiar with the procedure and overseen by the section Technical Director. This training is documented by any means deemed appropriate by the trainer and section Technical Director, and kept on file in the employees file located in the QA/QCO's office. The employee must perform a successful Initial Demonstration of Proficiency (IDOC). See Appendix H for the training documents and checklists utilized at HEAL to ensure that all of these requirements are met. Once all of the above requirements are met it is incumbent upon the section Technical Director to determine at which point the employee can begin to perform the test unsupervised. A Certification to Complete Work Unsupervised (see Appendix H) is them filled out by the employee and technical director.

All IDOCs shall be documented through the use of the certification form which can be found in Appendix H. IDOCs are performed by analyzing four Laboratory Control Spikes (LCSs). Using the results of the LCSs the mean recovery is calculated in the appropriate reporting units and the standard deviations of the population sample (n-1) (in the same units) as well as the relative percent difference for each parameter of interest. When it is not possible or pertinent to determine mean and standard deviations HEAL assesses performance against establish and documented criteria dictated in the method SOP. The mean and standard deviation are compared to the corresponding acceptance criteria for

precision and accuracy in the test method (if applicable) or in laboratory-generated acceptance criteria. In the event that the HEAL SOP or test method fail to establish the pass/fail criteria the default limits of +/- 20% for calculated recovery and <20% relative percent difference based on the standard deviation will be utilized. If all parameters meet the acceptance criteria, the IDOC is successfully completed. If any one of the parameters do not meet the acceptance criteria, the performance is unacceptable for that parameter and the analyst must either locate and correct the source of the problem and repeat the test for all parameters of interest or repeat the test for all parameters that failed to meet criteria. Repeat failure, however, confirms a general problem with the measurement system. If this occurs the source of the problem must be identified and the test repeated for all parameters of interest.

New employees that do not have prior analysis experience will not be allowed to perform analysis until they have demonstrated attention to detail with minimal errors in the assigned tasks. To ensure a sustained level of quality performance among staff members, continuing demonstration of capability shall be performed at least once a year. These are as an Annual Documentation of Continued Proficiency (ADOCP).

At least once per year an ADOCP must be completed by: the acceptable performance of a blind sample (this is typically done using a PT sample but can be a single blind sample to the analyst), by performing another IDOC, or by summarizing the data of four consecutive laboratory control samples with acceptable levels of precision and accuracy (these limits are those currently listed in the LIMS for an LCS using the indicated test method.) ADOCPs are documented using a standard form and are kept on file in each analysts employee folder.

Each new employee shall be provided with data integrity training as a formal part of their new employee orientation. Each new employee will sign an ethics and data integrity agreement to ensure that they understand that data quality is our main objective. Every HEAL employee recognizes that although turn around time is important, quality is put above any pressure to complete the task expediently. Analysts are not compensated for passing QC parameters nor are incentives given for the quantity of work produced. Data Integrity and Ethics training are performed on an annual basis in order to remind all employees of HEAL's policy on data quality. Employees are required to understand that any infractions of the laboratory data integrity procedures will result in a detailed investigation that could lead to very serious consequences including immediate termination, debarment or civil/criminal prosecution.

Training for each member of HEAL's technical staff is further established and maintained through documentation that each employee has read, understood, and is using the latest version of this Quality Assurance Manual. Training courses or workshops on specific equipment, analytical techniques or laboratory procedures are documented through attendance sheets, certificates of attendance, training forms or quizzes. This training documentation is located in either analyst specific employee folders in the QA/QCO Office or in the current years group training folder, also located in the QA/QCO Office. On the front of all methods, SOPs and procedures for HEAL there is a signoff sheet that is signed by all pertinent employees, indicating that they have read, understood and agreed to perform the most recent version of the document.

0 Receipt and Handling of Samples

Sampling

Procedures

HEAL does not provide field sampling for any projects. Sample kits are prepared and provided for clients upon request. The sample kits contain the appropriate sampling containers (with a preservative when necessary), labels, blue ice (The use of "blue ice" by anyone except HEAL personnel is discouraged because it generally does not maintain the appropriate temperature of the sample. If blue ice is used, it should be completely frozen at the time of use, the sample should be chilled before packing, and special notice taken at sample receipt to be certain the required temperature has been maintained.), a cooler, chain-of-custody forms, plastic bags, bubble wrap, and any special sampling instructions. Sample kits are reviewed prior to shipment for accuracy and completeness.

Containers

Containers which are sent out for sampling are purchased by HEAL from a commercial source. Glass containers are certified "EPA Cleaned" QA level 1. Plastic containers are certified clean when required. These containers are received with a Certificate of Analysis verifying that the containers have been cleaned according to the EPA wash procedure. Containers are used once and discarded. If the samples are collected and stored in inappropriate containers the laboratory may not be able to accurately quantify the amount of the desired components. In this case re-sampling may be required.

Preservation

If sampling for an analyte(s) requires preservation, the sample custodians fortify the containers prior to shipment to the field, or provide the preservative for the sampler to add in the field. The required preservative is introduced into the vials in uniform amounts and done so rapidly to minimize the risk of contamination. Vials that contain a preservative are labeled appropriately. If the samples are stored with inappropriate preservatives the laboratory may not be able to accurately quantify the amount of the desired components. In this case re-sampling may be required.

Refer to the current Login SOP and/or the current price book for detailed sample receipt and handling procedures, appropriate preservation and holding time requirements.

Sample Custody

Chain-of-Custody Form

A Chain-of-Custody (COC) form is used to provide a record of sample chronology from the field to receipt at the laboratory. HEAL's COC contains the client's name, address, phone and fax numbers, the project name and number, the project manager's name, and the field sampler's name. It also identifies the date and time of sample collection, sample matrix, field sample ID number, number/volume of sample containers, sample temperature upon receipt, and any sample preservative information.

There is also a space to record the HEAL ID number assigned to samples after they are received. Next to the sample information is a space for the client to indicate the desired analyses to be performed. There is a section for the client to indicate the data package level as well as any accreditation requirements. Finally, there is a section to track the actual custody of the samples. The custody section contains lines for signatures, dates and times when samples are relinquished and received. The COC form also includes a space to record special sample related instructions, sampling anomalies, time constraints, and any sample disposal considerations.

It is paramount that all COCs arrive at HEAL complete and accurate so that the samples can be processed and allocated for testing in a timely and efficient manor. A sample chain-of-custody form can be found in Appendix G or on line at www.hallenvironmental.com.

Receiving Samples

Samples are received by authorized HEAL personnel. Upon arrival, the COC is compared to the respective samples. After the samples and COC have been determined to be complete and accurate, the sampler signs over the COC. The HEAL staff member in turn signs the chain-of-custody, also noting the current date, time and sample temperature. This relinquishes custody of the samples from the sampler and delegates sample custody to HEAL. The third (pink) copy of the COC form is given to the person who has relinquished custody of the samples.

Logging in Samples and Storage

Standard Operating Procedures have been established for the receiving and tracking of all samples (refer to the current HEAL Login SOP). These procedures ensure that samples are received and properly logged into the laboratory, and that all associated documentation, including chain of custody forms, are complete and consistent with the samples received. Each sample set is given a unique HEAL tracking ID number. Individual sample locations within a defined sample set are given a unique sample ID suffix-number. Labels with the HEAL numbers, and tests requested, are generated and

placed on their respective containers. The pH of preserved, non-volatile samples is checked and noted if out of compliance. Due to the nature of the samples, the pHs of volatiles samples are checked after analysis. Samples are reviewed prior to being distributed for analysis.

Samples are distributed for analysis based upon the requested tests. In the event that sample volume is limited and different departments at HEAL are required to share the sample, volatile work takes precedence and will always be analyzed first before the sample is sent to any other department for analysis.

Each project (sample set) is entered into the Laboratory Information Management System (LIMS) with a unique ID that will be identified on every container. The ID tag includes the Lab ID, Client ID, date and time of collection, and the analysis/analyses to be performed. The LIMS continually updates throughout the lab. Therefore, at any time, an analyst or manager may inquire about a project and/or samples status. For more information about the login procedures, refer to the Sample Login SOP.

Disposal of Samples

Samples are held at HEAL for a minimum of thirty days and then transferred to the HEAL warehouse for disposal. Analytical results are used to characterize their respective sample contamination level(s) so that the proper disposal can be performed. These wastes will be disposed of according to their hazard as well as their type and level of contamination. Refer to the Hall Environmental Analysis Laboratory Chemical Hygiene Plan and current Sample Disposal SOP for details regarding waste disposal.

Waste drums are provided by an outside agency. These drums are removed by the outside agency and disposed of in a proper manner.

The wastes that are determined to be non-hazardous are disposed of as non-hazardous waste in accordance with the Chemical Hygiene Plan and Sample Disposal SOP.

6.0 Analytical Procedures

All analytical methods used at HEAL incorporate necessary and sufficient Quality Assurance and Quality Control practices. A Standard Operating Procedure (SOP) is used for each method to provide the necessary criteria to yield acceptable results. These procedures are reviewed at least annually and revised as necessary and are attached as a pdf file in the Laboratory Information Management System (LIMS) for easy access by each analyst. The sample is often consumed or altered during the analytical process. Therefore, it is important that each step in the analytical process be correctly followed in order to yield valid data.

When unforeseen problems arise, the analyst, technical director, and, when necessary, laboratory manager meet to discuss the factors involved. The analytical requirements are evaluated and a suitable corrective action or resolution is established. The client is notified in the case narrative with the final report or before, if the validity of their result is in question.

List of Procedures Used

Typically, the procedures used by HEAL are EPA approved methodologies or 20th edition Standard Methods. However, proprietary methods for client specific samples are sometimes used. The following tables list EPA and Standard Methods Method numbers with their corresponding analytes and/or instrument classification.

Methods Utilized at HEAL

Drinking Water(DW) Non-Potable Water (NPW) Solids (S)

Methodology	Matrix	Title of Method
120.1	DW NPW	"Conductance(Specific Conductance, uohms at 25 ° C)"
180.1	DW NPW	"Turbidity (Nephelometric)"
200.2	DW NPW	"Sample Preparation Procedure For Spectrochemical Determination of Total Recoverable Elements"
200.7	DW NPW	"Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry"
200.8	DW NPW	"Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma-Mass Spectrometry."
245.1	DW NPW	"Mercury (Manual Cold Vapor Technique)"
300.0	DW NPW S	"Determination of Inorganic Anions by Ion Chromatography"
413.2	NPW S	"Oil and Grease"
418.1	NPW S	"Petroleum Hydrocarbons (Spectrophotometric, Infrared)"
504.1	DW	"EDB, DBCP and 123TCP in Water by Microextraction and Gas Chromatography"

505	DW	"Analysis of Organohalide Pesticides and Commercial Polychlorinated Biphenyl (PCB) Products in Water by Microextraction and Gas Chromatography"
515.1	DW	"Determination of Chlorinated Acids in Water by Gas Chromatography with an Electron Capture Detector"
524.2	DW	"Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry"
531.1	DW	"Measurement of N-Methylcarbomoyloximes and N-Methylcarbamates in Water by Direct Aqueous Injection HPLC with Post Column Dervivatization"
547	DW	"Determination of Glyphosate in Drinking Water by Direct-Aqueous Injection HPLC, Post-Column Derivatization, and Fluorescence Detection"
552.1	DW	"Determination of Haloacetic Acids and Dalapon in Drinking Water by Ion-Exchange Liquid-Solid Extraction and Gas Chromatography with an Electron Capture Detector"
1311	S	"Toxicity Characteristic Leaching Procedure"
1311ZHE	S	"Toxicity Characteristic Leaching Procedure"
3005A	NPW	"Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by FLAA or ICP Spectroscopy"
3010A	S	"Acid Digestion of Aqueous Samples and Extracts for Total Metals for Analysis by FLAA or ICP Spectroscopy"
3050B	S	"Acid Digestion of Sediment, Sludge, and Soils"
3510C	DW NPW	"Separatory Funnel Liquid-Liquid Extraction"
3540	S	"Soxhlet Extraction"
3545	S	"Pressurized Fluid Extraction(PFE)"
3665	NPW S	"Sulfuric Acid/Permanganate Cleanup"
5030B	NPW	"Purge-and-Trap for Aqueous Samples"
5035	S	"Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples"
6010B	NPW S	"Inductively Coupled Plasma-Atomic Emission Spectrometry"
6020	NPW S	"Inductively Coupled Plasma-Mass Spectrometry"
7470A	NPW	"Mercury in Liquid Waste (Manual Cold-Vapor Technique)"
7471A	S	"Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)"
8021B	NPW S	"Aromatic and Halogenated Volatiles By Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors"
8015B	NPW S	"Nonhalogenated Volatile Organics by Gas Chromatography" (Gasoline Range and Diesel Range Organics)

8015AZ	S	"C10-C32 Hydrocarbons in Soil-8015AZ"
8081A	NPW S	"Organochlorine Pesticides by Gas Chromatography"
8082	NPW S	"Polychlorinated Biphenyls (PCBs) by Gas Chromatography"
8260B	NPW S	"Volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS)"
8270C	NPW S	"Semivolatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS)"
8310	NPW S	"Polynuclear Aromatic Hydrocarbons"
9045C	S	"Soil and Waste pH"
9060	NPW	"Total Organic Carbon"
9067	NPW S	"Phenolics (Spectrophotometric, MBTH With Distillation)"
9095	S	Paint Filter
Walkley/Black	S	FOC/TOC WB
SM2320 B	DW NPW	"Alkalinity"
SM2540 B	NPW	"Total Solids Dried at 103-105° C"
SM2540 C	DW NPW	"Total Dissolved Solids Dried at 180° C"
SM2540 D	NPW	"Total Suspended Solids Dried at 103-105° C"
SM4500-H+B	DW NPW	"pH Value"
SM4500-NH3 C	NPW S	"4500-NH3" Ammonia
SM4500-Norg C	NPW S	"4500-Norg" Total Kjeldahl Nitrogen (TKN)
SM5310 B	DW	"5310" Total Organic Carbon (TOC)
8000B	NPW S	"Determinative Chromatographic Separations"
8000C	NPW S	"Determinative Chromatographic Separations"

Criteria for Standard Operating Procedures

HEAL has Standard Operating Procedures (SOPs) for each of the test methods listed above. These SOPs are based upon the listed methods and detail the specific procedure and equipment utilized as well as the quality requirements necessary to prove the integrity of the data. SOPs are reviewed or revised every twelve months or sooner if necessary. The review/revision is documented in the Master SOP Logbook filed in the QA/QC Office. All SOPs are available in the LIMS linked under the specific test method. Administrative SOPs, which are not linked in the LIMS, are available on desktops throughout the laboratory in the link to administrative SOPs folder.

Each HEAL test method SOP shall include or reference the following topics where applicable:

Identification of the test method;
Applicable matrix or matrices;
Limits of detection and quantitation;
Scope and application, including parameters to be analyzed;
Summary of the test method;
Definitions;
Interferences;
Safety;
Equipment and supplies;
Reagents and standards;
Sample collection, preservation, shipment and storage;
Quality control parameters;
Calibration and standardization;
Procedure;
Data analysis and calculations;
Method performance;
Pollution prevention;
Data assessment and acceptance criteria for quality control measures;
Corrective actions for out-of-control data;
Contingencies for handling out-of-control or unacceptable data;
Waste management;
References; and
Any tables, diagrams, flowcharts and validation data.

7.0 Calibration

All equipment and instrumentation used at HEAL are operated, maintained and calibrated according to manufacturers guidelines, as well as criteria set forth in applicable analytical methodology. Personnel who have been properly trained in their procedures perform operation and calibration. Brief descriptions of the calibration processes for our major laboratory equipment and instruments are found below.

Thermometers

The thermometers in the laboratory are used to measure the temperatures of the refrigerators/freezers, ovens, water baths, hot blocks, ambient laboratory conditions, TCLP Extractions, digestion blocks and samples at the time of log-in. All NIST traceable thermometers are either removed from use upon their documented expiration date or they are checked annually with a NIST certified thermometer and a correction factor is noted on each thermometer log. See the most current Login SOP for detailed procedures on this calibration procedure.

Dickson Data Loggers are used to record sample and standard storage refrigerators over the weekend when the appropriate staff is not available to record the temperatures. These data loggers are shipped back to the manufacturer once a year to be re-calibrated.

Refrigerators/Freezers

Each laboratory refrigerator or freezer contains a thermometer capable of measuring to a minimum precision of 1°C. The thermometers are kept with the bulb immersed in liquid. Each workday, the temperatures of the refrigerators are recorded in a designated logbook to insure that the refrigerators are within the required designated range. Samples are stored separately from the standards to reduce the risk of contamination.

See the current catastrophic Failure SOP for the procedure regarding how to handle failed refrigerators or freezers.

Ovens

The ovens contain thermometers graduated by 1° C. The ovens are calibrated quarterly against NIST thermometers and checked daily as required and in which ever way is dictated by or appropriate for the method in use.

Analytical and Table Top Balances

The table top balances are capable of weighing to a minimum precision of 0.01 grams. The analytical balances are capable of weighing to a minimum precision of 0.0001 grams. Records are kept of daily calibration checks for the balances in use. Working weights are used in these checks. The balances are annually certified by an outside source and the certifications are on file with the QA/QCO.

Balances, unless otherwise indicated by method specific SOPs, will be checked daily with at least two weights that will bracket the working range of the balance for the day. Daily balance checks will be done using working weights that are calibrated annually against Class S weights. Class S weights are calibrated as required by an external provider. The Class S weights are used once a year or more frequently if required, to assign values to the Working Weights. During the daily balance checks the working weights are compared to their assigned values and must pass in order to validate the calibration of the balance. The assigned values for the working weights, as well as the daily checks, are recorded in the balance logbook for each balance.

Instrument Calibration

An instrument calibration is the relationship between the known concentrations of a set of calibration standards introduced into an analytical instrument and the measured response they produce. Calibration curve standards are a prepared series of aliquots at various known concentrations levels from a primary source reference standard. Specific mathematical types of calibration techniques are outlined in SW-846 8000B and/or 8000C. The entire initial calibration must be performed prior to sample analyses.

The lowest standard in the calibration curve must be at or below the required reporting limit.

Refer to the current SOP to determine the minimum requirement for calibration points.

Most compounds tend to be linear and a linear approach should be favored when linearity is suggested by the calibration data. Non-linear calibration should be considered only when a linear approach cannot be applied. It is not acceptable to use an alternate calibration procedure when a compound fails to perform in the usual manner. When this occurs it is indicative of instrument issues or operator error.

If a non-linear calibration curve fit is employed, a minimum of six calibration levels must be used for second-order (quadratic) curves.

When more than 5 levels of standards are analyzed in anticipation of using second-order calibration curves, all calibration points MUST be used regardless of the calibration option employed. The highest or lowest calibration point may be excluded for the purpose of

narrowing the calibration range, and meeting the requirements for a specific calibration option. Otherwise, unjustified exclusion of calibration data is expressly forbidden.

Analytical methods vary in QC acceptance criteria. HEAL follows the method specific guidelines for QC acceptance. The specific acceptance criteria are outlined in the analytical methods and its corresponding SOP.

pH Meter

The pH meter measures to a precision of 0.01 pH units. The pH calibration logbook contains the calibration before each use, or each day, if used more than once per day. It is calibrated using a minimum of 3 certified buffers. Also available with the pH meter is a magnetic stirrer with a temperature sensor. See the current pH SOP (SM4500 H+ B) for specific details regarding calibration of the pH probe.

Other Analytical Instrumentation and Equipment

The conductivity probe is calibrated as needed and checked daily when in use.

Eppendorf (or equivalent brands) pipettes are checked gravimetrically prior to use.

Standards

All of the source reference standards used are ordered from a reliable commercial vendor. A Certificate of Analysis (CoA), which verifies the quality of the standard, accompanies the standards from the vendor. The Certificates of Analysis are dated and stored on file by the Technical Directors or their designee. These standards are traceable to the National Institute of Standards (NIST). When salts are purchased and used as standards the certificate of purity must be obtained from the vendor and filed with the CoAs.

All standard solutions, calibration curve preparations, and all other quality control solutions are labeled in a manner that can be traced back to the original source reference standard. All source reference standards are entered into the LIMS with an appropriate description of the standard. Dilutions of the source reference standard (or any mixes of the source standards) are fully tracked in the LIMS. Standards are labeled with the date opened for use, and an expiration date.

As part of the quality assurance procedures at HEAL, analysts strictly adhere to manufacture recommendations for storage times/expiration dates and policies of analytical standards and quality control solutions.

Reagents

HEAL ensures that the reagents used are of acceptable quality for their intended purpose. This is accomplished by ordering high quality reagents and adhering to good laboratory practices so as to minimize contamination or chemical degradation. All reagents must meet any specifications noted in the analytical method. Refer to the current Purchase of Consumables SOP for details on how this is accomplished and documented.

Upon receipt, all reagents are assigned a separate ID number, and logged into the LIMS. All reagents shall be labeled with the date received into the laboratory and again with the date opened for use. Recommended shelf life shall be documented and controlled. Dilutions or solutions prepared shall be clearly labeled, dated, and initialed. These solutions are traceable back to their primary reagents.

All gases used with an instrument shall meet specifications of the manufacturer. All safety requirements that relate to maximum and/or minimum allowed pressure, fitting types, and leak test frequency, shall be followed. When a new tank of gas is placed in use, it shall be checked for leaks and the date put in use will be written in the instrument maintenance logbook.

HEAL continuously monitors the quality of the reagent water and provides the necessary indicators for maintenance of the purification systems in order to assure that the quality of laboratory reagent water meets established criteria for all analytical methods.

Reagent blank samples are also analyzed to ensure that no contamination is present at detectable levels. The frequency of reagent blank analysis is typically the same as calibration verification samples. Refrigerator storage blanks are stored in the volatiles refrigerator for a period of one week and analyzed and replaced once a week.

8.0 Maintenance

Maintenance logbooks are kept for each major instrument and all support equipment in order to document all repair and maintenance. In the front of the logbook, the following information is included:

Unique name of the item or equipment
Manufacturer
Type of Instrument
Model Number
Serial Number
Date received and date placed into service
Location of Instrument
Condition of instrument upon receipt

For routine maintenance, the following information shall be included in the log:

Maintenance Date
Maintenance Description
Maintenance Performed by Initials

A manufacturer service agreement (or equivalent) covers most major instrumentation to assure prompt and reliable response to maintenance needs beyond HEAL instrument operator capabilities.

Refer to the current Maintenance and Troubleshooting SOP for each section in the laboratory for further information.

9.0 Data Integrity

For HEAL's policy on ethics and data integrity see section 3.0 of this document. Upon being hired and annually there after, all employees at HEAL undergo documented data integrity training. All new employees sign an Ethics and Data Integrity Agreement, documenting their understanding of the high standards of integrity required at HEAL and outlining their responsibilities in regards to ethics and data integrity. See Appendix H for a copy of this agreement.

In instances of ethical concern analysts are required to report the known or suspected concern to their Technical Director, the Laboratory Manager or the QA/QCO. This will be done in a confidential and receptive environment, allowing all employees to privately discuss ethical issues or report items of ethical concern.

Once reported and documented the ethical concern will be immediately elevated to the Laboratory Manager and the need for an investigation, analyst remediation or termination will be determined on a case by case basis.

All reported instances of ethical concern will be thoroughly documented and handled in a manner sufficient to rectify any breaches in data integrity with an emphasis on preventing similar incidences from happening in the future.

10.0 Quality Control

Internal Quality Control Checks

HEAL utilizes various internal quality control checks, including duplicates, matrix spikes, matrix spike duplicates, method blanks, laboratory control spikes, laboratory control spike duplicates, surrogates, internal standards, calibration standards, quality control charts, proficiency tests and calculated measurement uncertainty.

Refer to the current method SOP to determine the frequency and requirements of all quality controls. In the event that the frequency of analysis is not indicated in the method specific SOP, duplicate samples, laboratory control spikes (LCS), Method Blanks (MB) and matrix spikes and matrix spike duplicates (MS/MSD) are analyzed for every batch of twenty samples.

When sample volume is limited on a test that requires an MS/MSD an LCSD shall be analyzed to demonstrate precision and accuracy and when possible a sample duplicate will be analyzed.

Duplicates are identical tests repeated for the same sample or matrix spike in order to determine the precision of the test method. A Relative Percent Difference (RPD) is calculated as a measure of this precision. Unless indicated in the SOP, the default acceptance limit is </= 20%.

Matrix Spikes and Matrix Spike Duplicates are spiked samples (MS/MSD) that are evaluated with a known added quantity of a target compound. This is to help determine the accuracy of the analyses and to determine the matrix affects on analyte recovery. A percent recovery is calculated to assess the quality of the accuracy. In the event that the acceptance criteria is not outlined in the SOP, a default limits of 70-130% will be utilized. When an MSD is employed an RPD is calculated and when not indicated in the SOP shall be acceptable at </= 30%.

When appropriate for the method, a Method Blank should be analyzed with each batch of samples processed to assess contamination levels in the laboratory. MBs consist of all the reagents measured and treated as they are with samples, except without the samples. This enables the laboratory to ensure clean reagents and procedures. Guidelines should be in place for accepting or rejecting data based on the level of contamination in the blank. In the event that these guidelines are not dictated by the SOP or in client specific work plans, the MB should be less than the MDL reported for the analyte being reported.

A Laboratory Control Spike and Laboratory Control Spike Duplicate (LCS/LCSD) are reagent blanks, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. It is generally used to establish intra-laboratory or analyst-specific precision and bias or to assess the performance of all or a portion of the measurement system. Guidelines are outlined in each

SOP for the frequency and pass fail requirements for LCS and LCSDs. These limits can be set utilizing control charts as discussed below.

Surrogates are utilized when dictated by method and are substances with properties that mimic the analytes of interest. The surrogate is an analyte that is unlikely to be found in environmental samples. Refer to the appropriate Method and SOP for guidelines on pass/fail requirements for surrogates.

Internal Standards are utilized when dictated by the method and are known amounts of standard added to a test portion of a sample as a reference for evaluating and controlling the precision and bias of the applied analytical method. Refer to the appropriate Method and SOP for guidelines on pass/fail requirements for Internal Standards.

Proficiency Test (PT) Samples are samples provided by an unbiased third party. They are typically analyzed twice a year, or at any other interval defined in the method SOP. They contain a pre-determined concentration of the target compound, which is unknown to HEAL. HEAL's management and all analysts shall ensure that all PT samples are handled in the same manner as real environmental samples utilizing the same staff, methods, procedures, equipment, facilities and frequency of analysis as used for routine analysis of that analyte. When analyzing a PT, HEAL shall employ the same calibration, laboratory quality control and acceptance criteria, sequence of analytical steps, number of replicates and other procedures as used when analyzing routine samples.

With regards to analyzing PT Samples HEAL shall not send any PT sample, or portion of a PT sample, to another laboratory for any analysis for which we seek accreditation, or are accredited. HEAL shall not knowingly receive any PT sample or portion of a PT sample from another laboratory for any analysis for which the sending laboratory seeks accreditation, or is accredited. Laboratory management or staff will not communicate with any individual at another laboratory concerning the PT sample. Laboratory management or staff shall not attempt to obtain the assigned value of any PT sample from the PT Provider.

Calibration standards are standards run to calibrate. Once the calibration is established the same standards can be analyzed as Continuing Calibration Verifications (CCV), used to confirm the consistency of the instrumentation. Calibration standards can be utilized at the beginning and end of each batch, or more frequently as required. Typically Continuing Calibration Blanks (CCB) are run in conjunction with CCVs. Refer to the current method SOP for frequency and pass/fail requirements of CCVs and CCBs.

Control Limits are limits of acceptable ranges of the values of quality control checks. If a value falls outside the appropriate range, immediate evaluation and assessment of the procedure is required. Data generated with laboratory control samples that fall outside of the established control limits are judged to be generated during an "out-of-control" situation. These data are considered suspect and shall be repeated or reported with qualifiers.

Control limits should be established and updated according to the requirements of the method being utilized. When the method does not specify, and control limits are to be generated or updated for a test, the following guidelines shall be utilized.

Control Limits should be updated periodically and at least annually. The Limits should be generated utilizing the most recent 20-40 data values and Control Charts should be printed when these limits are updated in the LIMS. The data values used shall not reuse values that were included in the previous Control Limit update. The data values shall also be reviewed by the LIMS for any Grubbs Outliers, and if identified, the outliers must be removed prior to generating new limits. Once new Control Limits have been established and updated in the LIMS, the printed Control Chart shall be reviewed by the appropriate technical director and primary analyst performing the analysis for possible trends and compared to the previous Control Charts. The technical director initials the control charts, indicating that they have reviewed and determined the updated Limits to be accurate and appropriate. These initialed charts are then filed in the QA/QCO office.

Calculated Measurement Uncertainty is calculated annually using LCSs in order to determine the laboratory specific uncertainty associated with each test method. These uncertainty values are available to our clients upon request and are utilized as a trending tool internally to determine the effectiveness of new variables introduced into the procedure over time.

Precision, Accuracy, Detection Levels

Precision

The laboratory uses sample duplicates, laboratory control spike duplicates and matrix spike duplicates to assess precision in terms of relative percent difference (RPD). HEAL requires the RPD to fall within the 99% confidence interval of established control charts or an RPD of less than 30% if control charts are not available. RPD's greater than these limits are considered out-of-control and require an appropriate response.

$$RPD = \frac{2 \times (\text{Sample Result} - \text{Duplicate Result})}{(\text{Sample Result} + \text{Duplicate Result})} \times 100$$

Accuracy

The accuracy of an analysis refers to the difference between the calculated value and the actual value of a measurement. The accuracy of a laboratory result is evaluated by comparing the measured amount of QC reference material recovered from a sample and the known amount added. Control limits can be established for each analytical method and sample matrix. Recoveries are assessed to determine the method efficiency and/or the matrix effect.

Analytical accuracy is expressed as the percent recovery (%R) of an analyte or parameter. A known amount of analyte is added to an environmental sample before the sample is prepared and subsequently analyzed. The equation used to calculate percent recovery is:

%Recovery = {(concentration* recovered)/(concentration* added)} X 100

*or amount

HEAL requires that the Percent Recovery to fall within the 99 % confidence interval of established control limits. A value that falls outside of the confidence interval requires a warning and process evaluation. The confidence intervals are calculated by determining the mean and sample standard deviation. If control limits are not available, the range of 70 to 130% is used unless the specific method dictates otherwise. Percent Recoveries outside of this range mandate additional action such as analyses by Method of Standard Additions, additional sample preparation(s) where applicable, method changes, out-of-control action or data qualification.

Detection Limit

Current practices at HEAL define the Detection Limit (DL) as the smallest amount that can be detected above the baseline noise in a procedure within a stated confidence level.

HEAL presently utilizes an Instrument Detection Limit (IDL), a Method Detection Limit (MDL), and a Practical Quantitation Limit (PQL). The relationship between these levels is approximately
IDL: MDL: PQL = 1:5:5.

The IDL is a measure of the sensitivity of an analytical instrument. The IDL is the amount which, when injected, produces a detectable signal in 99% of the analyses at that concentration. An IDL can be considered the minimum level of analyte concentration that is detectable above random baseline noise.

The MDL is a measure of the sensitivity of an analytical method. An MDL determination (as required in 40CFR part 136 Appendix B) consists of replicate spiked samples carried through all necessary preparation steps. The spike concentration is three times the standard deviation of three replicates of spikes. At least seven replicates are spiked and analyzed and their standard deviation (s) calculated. Routine variability is critical in passing the 10 times rule and is best achieved by running the MDLs over different days and when possible over several calibration events. The method detection limit (MDL) can be calculated using the standard deviation according to the formula:

$$MDL = s * t\ (99\%)$$

Where t (99%) is the student's t value for the 99% confidence interval. It depends on the number of trials used in calculating the sample standard deviation, so choose the appropriate value according to the number of trials.

Number of Trials	t(99%)
6	3.36
7	3.14
8	3.00
9	2.90

The calculated MDL must not be less than 10 times the spiked amount or the study must be performed again with a lower concentration.

The PQL is significant because different laboratories can produce different MDLs although they may employ the same analytical procedures, instruments and sample matrices. The PQL is about two to five times the MDL and represents a practical, and routinely achievable, reporting level with a good certainty that the reported value is reliable. It is often determined by regulatory limits. The reported PQL for a sample is dependent on the dilution factor utilized during sample analysis.

Quality Control Parameter Calculations

Mean

The sample mean is also known as the arithmetic average. It can be calculated by adding all of the appropriate values together, and dividing this sum by the number of values.

$$Average = (\Sigma x_i) / n$$

x_i = the value x in the i^{th} trial
n = the number of trials

Standard Deviation

The sample standard deviation, represented by s, is a measure of dispersion. The dispersion is considered to be the difference between the average and each of the values x_i. The variance, s^2, can be calculated by summing the squares of the

differences and dividing by the number of differences. The sample standard deviation, s, can be found by taking the square root of the variance.

$$\text{Standard deviation} = s = [\Sigma (x_i - \text{average})^2 / (n - 1)]^{1/2}$$

Percent Recovery (MS, MSD, LCS and LCSD)

$$\text{Percent Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{(\text{Spike Added})} \times 100$$

Control Limits

Control Limits are calculated by the LIMS using the average percent recovery (x), and the standard deviation (s).

Upper Control Limit = x + 3s
Lower Control Limit = x – 3s

These control limits approximate a 99% confidence interval around the mean recovery.

RPD (Relative Percent Difference)

Analytical precision is expressed as a percentage of the difference between the results of duplicate samples for a given analyst. Relative percent difference (RPD) is calculated as follows:

$$RPD = \frac{2 \times (\text{Sample Result} - \text{Duplicate Result})}{(\text{Sample Result} + \text{Duplicate Result})} \times 100$$

Uncertainty Measurements

Uncertainty, as defined by ISO, is the parameter associated with the result of a measurement that characterizes the dispersion of the values that could reasonably be attributed to the measurement. Ultimately uncertainty measurements are used to state how good a test result is and to allow the end user of data to properly interpret their reported data. All procedures allow for some uncertainty. For most analyses the components and estimates of uncertainty are reduced by following well established test methods. To further reduce uncertainty, results are generally not reported below

the lowest calibration point (PQL) or above the highest calibration point (UQL). Understanding that there are many influence quantities affecting a measurement result, so many in fact that it is impossible to identify all of them, HEAL calculates measurement uncertainty at least annually using LCSs. These estimations of measurement uncertainty are kept on file in the method folders in the QA/QC office.

Measurement Uncertainty contributors are those that may be determined statistically. These shall be generated by estimating the overall uncertainty in the entire analytical process by measuring the dispersion of values obtained from laboratory control samples over time. At least 20 of the most recent LCS data points are gathered. The standard deviation (s) is calculated using these LCSs data points. Since it can be assumed that the possible estimated values of the spikes are approximately normally distributed with approximate standard deviation (s), the unknown value of the spike is believed to lie in 95% confidence interval, corresponding to an uncertainty range of +/- 2(s).

Calculate standard deviation (s) and 95% confidence interval according to the following formulae:

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{(n-1)}}$$

Where: s = standard deviation
x = number in series
$\bar{x}$ = calculated mean of series
n = number of samples taken

$95\%\ confidence = 2 \times s$

Example: Assuming that after gathering 20 of the most recent LCS results for Bromide, we have calculated the standard deviations of the values and achieved a result of 0.0326, our measurement uncertainty for Bromide (at 95% confidence = 2 x s) is 0.0652.

Calibration Calculations

1. Response Factor or Calibration Factor:

$$RF= ((A_x)(C_{is}))/((A_{is})(C_x)) \qquad CF=(A_x)/(C_x)$$

a. Average RF or CF

$$RF_{AVE} = \Sigma RF_i / n$$

b. Standard Deviation

$$s = SQRT \{ [\Sigma (RF_i - RF_{AVE})^2] / (n-1) \}$$

c. Relative Standard Deviation

$$RSD = s / RF_{AVE}$$

Where:
A_x = Area of the compound
C_x = Concentration of the compound
A_{is} = Area of the internal standard
C_{is} = Concentration of the internal standard
n = number of pairs of data
RF_i = Response Factor (or other determined value)
RF_{AVE} = Average of all the response factors
Σ = the sum of all the individual values

2. Linear Regression

$$y=mx+b$$

a. Slope (m)

$$m =(n\Sigma x_i y_i - (n\Sigma x_i)*(n\Sigma y_i)) / (n\Sigma x_i^2 - (\Sigma x_i)^2)$$

b. Intercept (b)

$$b =y_{AVE} - m*(x_{AVE})$$

c. Correlation Coefficient (cc)

$$CC (r) =\{ \Sigma((x_i-x_{ave})*(y_i-y_{ave})) \} / \{ SQRT((\Sigma(x_i-x_{ave})^2)*(\Sigma(y_i-y_{ave})^2)) \}$$

Or

$$CC\ (r) = [(\Sigma w * \Sigma wxy) - (\Sigma wx * \Sigma wy)] / (sqrt(([(\Sigma w * \Sigma wx^2) - (\Sigma wx * \Sigma wx)] * [(\Sigma w * \Sigma wy^2) - (\Sigma wy * \Sigma wy)])))]$$

d. Coefficient of Determination

$$COD\ (r^2) = CC*CC$$

Where:
y = Response (Area) Ratio A_x/A_{is}
x = Concentration Ratio C_x/C_{is}
m = slope
b = intercept
n = number of replicate x,y pairs
x_i = individual values for independent variable
y_i = individual values for dependent variable
Σ = the sum of all the individual values
x_{ave} = average of the x values
y_{ave} = average of the y values
w = weighting factor, for equal weighting w=1

3. Quadratic Regression

$$y = ax^2 + bx + c$$

a. Coefficient of Determination

$$COD\ (r^2) = (\Sigma(y_i-y_{ave})^2 - \{[(n-1)/(n-p)] * [\Sigma(y_i-Y_i)^2]\}) / \Sigma(y_i-y_{ave})^2$$

Where:
y = Response (Area) Ratio A_x/A_{is}
x = Concentration Ratio C_x/C_{is}
a = x^2 coefficient
b = x coefficient
c = intercept
y_i = individual values for each dependent variable
x_i = individual values for each independent variable
y_{ave} = average of the y values
n = number of pairs of data
p = number of parameters in the polynomial equation (I.e., 3 for third order, 2 for second order)
Yi = ((2*a*(Cx/Cis)^2)-b^2+b+(4*a*c))/(4a)

b. Coefficients (a,b,c) of a Quadratic Regression

$$a = S_{(x2y)}S_{(xx)}-S_{(xy)}S_{(xx2)} / S_{(xx)}S_{(x2x2)}-[S_{(xx2)}]^2$$

$$b = S_{(xy)}S_{(x2x2)}-S_{(x2y)}S_{(xx2)} / S_{(xx)}S_{(x2x2)}-[S_{(xx2)}]^2$$

$$c = [(\Sigma yw)/n] - b*[(\Sigma xw)/n] - a*[\Sigma(x^2w)/n]$$

Where:
n = number of replicate x,y pairs
x = x values
y = y values
$w = S^{-2} / (\Sigma S^{-2}/n)$
$S_{(xx)} = (\Sigma x^2w) - [(\Sigma xw)^2 / n]$
$S_{(xy)} = (\Sigma xyw) - [(\Sigma xw)*(\Sigma yw) / n]$
$S_{(xx2)} = (\Sigma x^3w) - [(\Sigma xw)*(\Sigma x^2w) / n]$
$S_{(x2y)} = (\Sigma x^2yw) - [(\Sigma x^2w)*(\Sigma yw) / n]$
$S_{(x2x2)} = (\Sigma x^4w) - [(\Sigma x^2w)^2 / n]$
Or If unweighted calibration, w=1
S(xx) = (Sx2) - [(Sx)2 / n]
S(xy) = (Sxy) - [(Sx)*(Sy) / n]
S(xx2) = (Sx3) - [(Sx)*(Sx2) / n]
S(x2y) = (Sx2y) - [(Sx2)*(Sy) / n]
S(x2x2) = (Sx4) - [(Sx2)2 / n]

11.0 Data Reduction, Validation, Reporting, and Record Keeping

All data reported must be of the highest possible accuracy and quality. During the processes of data reduction, validation, and report generation, all work is thoroughly checked to insure that error is minimized.

Data Reduction

The analyst who generated the data usually performs the data reduction. The calculations include evaluation of surrogate recoveries (where applicable), and other miscellaneous calculations related to the sample quantitation.

If the results are computer generated, then the formulas must be confirmed by hand calculations, at minimum, one per batch.

See the current Data Validation SOP for details regarding data reduction.

Validation

A senior analyst, most often the section supervisor, validates the data. All data undergoes peer review. If an error is detected it is brought to the analyst attention to rectify and further checks ensure that all data for that batch is sound. Previous and/or common mistakes are stringently monitored throughout the validation process. Data is reported using appropriate significant figure criteria. In most cases, two significant digits are utilized, but three significant digits can be used in QC calculations. Significant digits are not rounded until after the last step of a sample calculation. All final reports undergo a review by the laboratory manager, or the project manager or their designee, to provide a logical review of all results before they are released to the client.

If data is to be manually transferred from one medium to another, the transcribed data is checked by a peer. This includes data typing, computer data entry, chromatographic data transfer, data table inclusion to a cover letter, or when data results are combined with other data fields.

All hand written data from run logs, analytical standard logbooks, hand entered data logbooks, or on instrument generated chromatograms, are systematically archived should the need for future retrieval arise.

See the current Data Validation SOP for detail regarding data validation.

Reports and Records

All records at HEAL are retained and maintained through the procedures outlined in the most recent version of the Records Control SOP.

The reports are compiled by the Laboratory Information Management System (LIMS). Most data is transferred directly from the instruments to the LIMS. After being processed by the analyst and reviewed by a data reviewer, final reports are approved and signed by the senior laboratory management. A comparative analysis of the data is performed at this point. For example, if TKN and NH3 are analyzed on the same sample the NH3 result should never be greater than the TKN result. Lab results and reports are released only to appropriately designated individuals. Release of the data can be by fax, email, electronic deliverables or mailed hard copy.

When a project is completed, the project file folder is stored with a hard copy of the report, relevant supporting data, and the quality assurance/control worksheets. These folders are kept on file and are arranged by project number. Additionally, all electronic data is backed up daily on the HEAL main server. The backup includes raw data, chromatograms and report documents. Hard copies of chromatograms are stored separately according to the instrument and the analysis date. All records and analytical data reports are retained in a secure location as permanent records for a minimum period of five years (unless specified otherwise in a client contract). Access to archived information shall be documented with an access log. Access to archived electronic reports and data will be protected by a project manager password. In the event that HEAL transfers ownership or terminates business practices, complete records will be maintained or transferred according to the client's instructions.

After issuance, the original report shall remain unchanged. If a correction to the report is necessary, then an additional document shall be issued. This document shall have a title of "Addendum to Test Report or Correction to Original Report", or equivalent. Demonstration of original report integrity comes in two forms. First, the report date is included on each page of the final report. Second, each page is numbered in sequential order, making the addition or omission of any data page(s) readily detectable.

12.0 Corrective Action

Refer to the most recent version of the Data Validation SOP for the procedure utilized in filling out a Corrective Action Report. A blank copy of the corrective action report is available in the Appendix.

The limits that have been defined for data acceptability also form the basis for corrective action initiation. Initiation of corrective action occurs when the data generated from continuing calibration standard, sample surrogate recovery, laboratory control spike, matrix spike or sample duplicates exceed acceptance criteria. If corrective action is necessary, the analyst or the section supervisor will coordinate to take the following steps to determine and correct the measurement system deficiency:

Check all calculations and data measurements systems (Calibrations, reagents, instrument performance checks etc.).

Assure that proper procedures were followed.

Unforeseen problems that arise during sample preparation and/or sample analysis that lead to treating a sample differently from documented procedures shall be documented with a corrective action report. The section supervisor and laboratory manager shall be made aware of the problem at the time of the occurrence. See the appropriate SOP regarding departures from documented procedures.

Continuing calibration standards below acceptance criteria can not be used for reporting analytical data unless method specific criteria states otherwise.

Continuing calibration standards above acceptance criteria can be used to report data so long as the failure is isolated to a single standard and the corresponding samples are non-detect for the failing analyte.

Samples with non-compliant surrogate recoveries should be reanalyzed unless deemed un-necessary by the supervisor for matrix, historical data or other analysis related anomalies.

Laboratory and Matrix Spike acceptance criteria vary significantly depending on method and matrix. Analysts and supervisors meet and discuss appropriate corrective action measures as spike failures occur.

Sample duplicates with RPD values outside control limits require supervisor evaluation and possible reanalysis.

A second mechanism for initiation of corrective action is that resulting from Quality Assurance performance audits, system audits, inter and intra-laboratory comparison studies. Corrective Actions initiated through this mechanism will be monitored and coordinated by the laboratory QA/QCO.

All corrective action forms are entered in the LIMS and included with the raw data for peer review, signed by the technical director of the section and included in the case narrative to the client whose samples were affected. All Corrective action forms in the LIMS are reviewed by the QA/QCO.

13.0 Quality Assurance Audits, Reports and Complaints

Internal/External Systems' Audits, Performance Evaluations, and Complaints

Several procedures are used to assess the effectiveness of the quality control system. One of these methods includes internal performance evaluations, which are conducted by the use of control samples, replicate measurements and control charts. Another method is external performance audits, which are conducted by the use of inter-laboratory checks, such as participation in laboratory evaluation programs and performance evaluation samples available from a NELAC accredited Proficiency Standard Vendor.

Proficiency samples will be obtained twice per year from an appropriate vendor for all tests and matrices for which we are accredited and for which there are PTs available. HEAL participates in soil, waste water, drinking water and underground storage tank PT studies. Copies of results are available upon request. HEAL's management and all analysts shall ensure that all PT samples are handled in the same manner as real environmental samples utilizing the same staff, methods, procedures, equipment, facilities and frequency of analysis as used for routine analysis of that analyte. When analyzing a PT, HEAL shall employ the same calibration, laboratory quality control and acceptance criteria, sequence of analytical steps, number of replicates and other procedures as used when analyzing routine samples.

With regards to analyzing PT Samples HEAL shall not send any PT sample, or portion of a PT sample, to another laboratory for any analysis for which we seeks accreditation, or are accredited. HEAL shall not knowingly receive any PT sample or portion of a PT sample from another laboratory for any analysis for which the sending laboratory seeks accreditation, or is accredited. Laboratory management or staff will not communicate with any individual at another laboratory concerning the PT sample. Laboratory management or staff shall no attempt to obtain the assigned value of any PT sample from the PT Provider.

Internal Audits are performed annually by the QA/QCO in accordance with the current Internal Audit SOP. They are performed using the guidelines outlined below:

The system audit consists of a qualitative inspection of the QA system in the laboratory and an assessment of the adequacy of the physical facilities for sampling, calibration, and measurement. This audit includes a careful evaluation and review of laboratory quality control procedures. Including but not limited to:

1. Review of staff qualifications, demonstration of capability, and personnel training programs
2. Storage and handling of reagents, standards and samples
3. Standard preparation logbook and LIMS procedures
4. Extraction logbooks
5. Raw data logbooks
6. Analytical logbooks or batch printouts and instrument maintenance logbooks

7. Data review procedures
8. Corrective action procedures
9. Review of data packages is performed regularly by the lab manager/QA Officer.

The QA/QCO will conduct these audits on an annual basis.

Management Reviews

HEAL management shall periodically, and at least annually, conduct a review of the laboratory's quality system and environmental testing activities to ensure their continuing suitability and effectiveness, and to introduce necessary changes or improvements. The review shall take account of:

1. the suitability and implementation of policies and procedures
2. reports from managerial and supervisory personnel
3. the outcome of recent internal audits
4. corrective and preventive actions
5. assessments by external bodies
6. the results of inter-laboratory comparisons or proficiency tests
7. changes in volume and type of work
8. client feed back
9. complaints
10. other relevant factors, such as laboratory health and safety, QC activities, resources and staff training.

Findings from management reviews and the actions that arise from them shall be recorded and any corrective actions that arise shall be completed in an appropriate and agreed upon timescale.

Complaints

Complaints from clients are documented and given to the laboratory manager. The lab manager shall review the information and contact the client. If doubt is raised concerning the laboratories policies or procedures, then an audit of the section or sections may be performed. All records of complaints and subsequent actions shall be maintained in the client compliant logbook for 5 years unless otherwise stated.

Internal and External Reports

The QA/QCO is responsible for preparation and submission of quality assurance reports to the appropriate management personnel as problems and issues arise. These reports include the assessment of measurement systems, data precision and accuracy, and the results of performance and system audits. Additionally, they also include significant QA

problems, corrective actions, and recommended resolution measures. Reports of these Quality Assurance Audits describe the particular activities audited, procedures utilized in the examination and evaluation of laboratory records, and data validation procedures. Finally, there are procedures for evaluating the performance of Quality Control and Quality Assurance activities, and laboratory deficiencies and the implementation of corrective actions with the review requirements.

References (Analytical Protocols Utilized at HEAL)

1. Standard Methods for the Examination of Water and Wastewater: AOHA, AWWA, and WPCG; 20th Edition, 1999.

2. Methods for Chemical Analysis of Water and Wastes, USEPA, EPA-600/4-79-020, March 1979 and as amended December, 1982 (EPA-600/4-82-055)

3. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, USEPA SW-846, 3rd Edition, Updates I, II, IIA, IIB, III, December, 1996.

4. Methods of Soil Analysis: Parts 1 & 2, 2nd Edition, Agronomy Society of America, Monograph 9

5. Diagnosis & Improvement of Saline & Alkali Soils, Agriculture Handbook No. 60, USDA, 1954

6. Handbook on Reference Methods for Soil Testing, The Council on Soil Testing & Plant Analysis, 1980 and 1992

7. Field and Laboratory Methods Applicable to Overburdens and Mine Soils, USEPA, EPA-600/2-78-054, March 1978

8. Laboratory Procedures for Analyses of Oilfield Waste. Department of Natural Resources, Office of Conservation, Injection and Mining Division, Louisiana, August 1988

9. Soil Testing Methods Used at Colorado State University for the Evaluation of Fertility, Salinity and Trace Element Toxicity, Technical Bulletin LT B88-2 January, 1988

10. Manual of Operating Procedures for the Analysis of Selected Soil, Water, Plant Tissue and Wastes Chemical and physical Parameter. Soil, Water, and Plant Analysis Laboratory, Dept. of Soil and Water Science, The University of Arizona, August 1989

11. Sampling Procedures and Chemical Methods in Use at the U.S. Salinity Laboratory for Characterizing Salt-Affected Soils and Water. USDA Salinity Laboratory.

12. Procedures for Collecting Soil Samples and Methods of Analysis for Soil Survey. USDA Soil Conservation Service, SSIR No. 1.

13. Soil Survey Laboratory Methods Manual. Soil Survey Laboratory Staff. Soil Survey Investigations Report No. 42, version 2.0, August 1992.

14. Methods for the Determination of Metals in Environmental Samples, USEPA, EPA-600/4-91-010, June 1991

15. The Merck Index, Eleventh Edition, Merck & Co., Inc. 1989.

16. Handbook of Chemistry and Physics, 62nd Edition, CRC Press, Inc. 1981-1982.

17. Analytical Chemistry of PCB's. Erickson, Mitchell D., CRC Press, Inc. 1992.

18. Environmental Perspective on the Emerging Oil Shale Industry, EPA Oil & Shale Research Group.

19. Polycyclic Aromatic Hydrocarbons in Water Systems, CRC Press, Inc.

20. Quality Systems for Analytical Services, Revision 2.2, U.S. Department of Energy, October 2006.

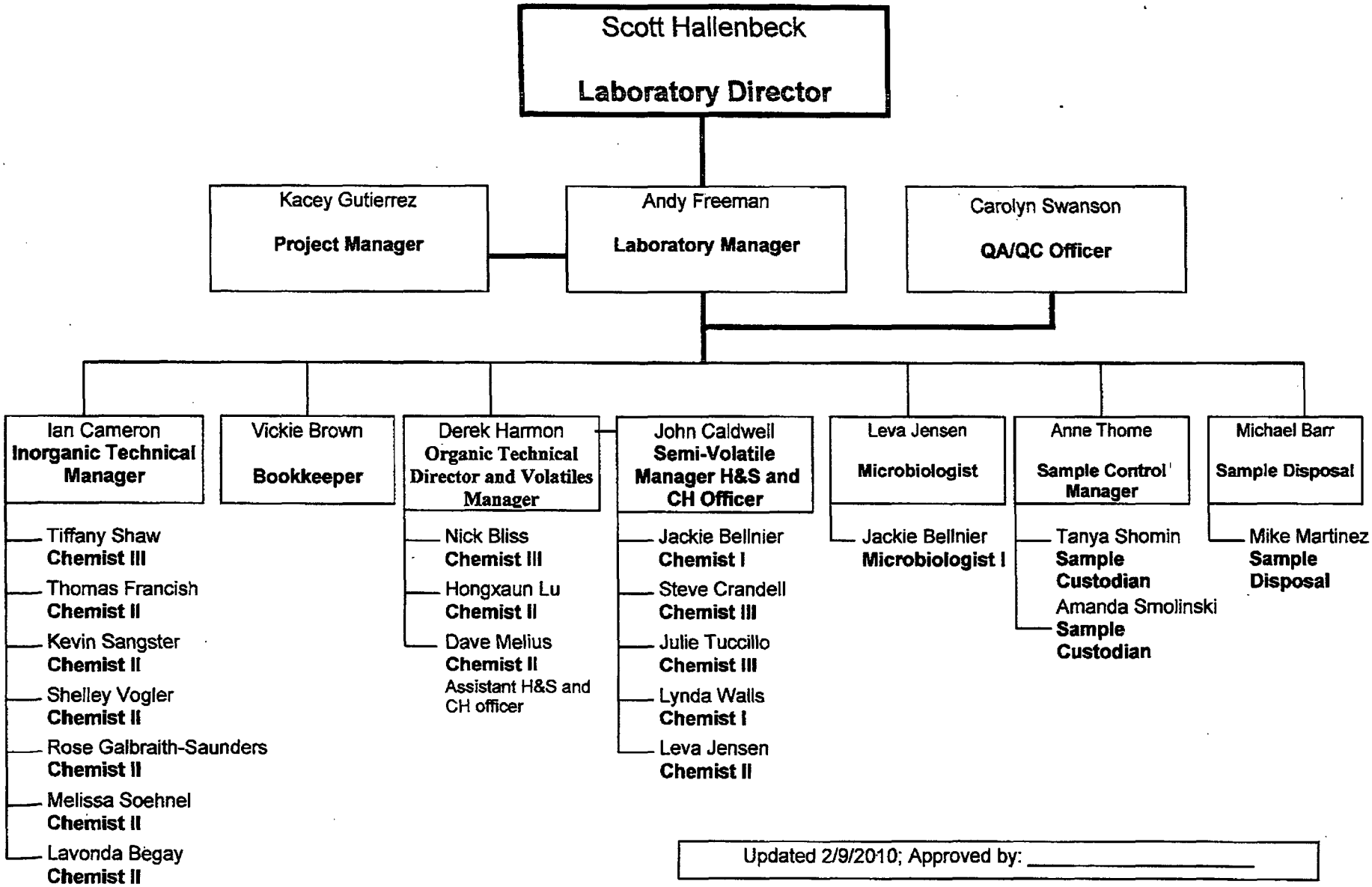
21. Manual for the Certification of Laboratories Analyzing Drinking Water, Criteria and procedures Quality Assurance Fifth Edition, U.S. Environmental Protection Agency, January 2005.

22. Technical Notes on Drinking Water Methods, U.S. Environmental Protection Agency, October 1994.

Appendix A

Personnel Chart / Organizational Structure

Diagram of Organizational Structure



Updated 2/9/2010; Approved by: _____

OREGON

Environmental Laboratory Accreditation Program

NELAP Recognized

Hall Environmental Analysis Laboratory, Inc.

NM100001

4901 Hawkins Rd. NE, Suite D

Albuquerque,NM 87109

IS GRANTED APPROVAL BY ORELAP UNDER THE 2003 NELAC STANDARDS, TO PERFORM ANALYSES ON ENVIRONMENTAL SAMPLES IN MATRICES AS LISTED BELOW:

Air	*Drinking Water*	*Non Potable Water*	*Solids and Chem. Waste*	*Tissue*
	Chemistry	Chemistry	Chemistry	

AND AS RECORDED IN THE LIST OF APPROVED ANALYTES, METHODS, ANALYTIC TECHNIQUES, AND FIELDS OF TESTING ISSUED CONCURRENTLY WITH THIS CERTIFICATE AND REVISED AS NECESSARY.

ACCREDITED STATUS DEPENDS ON SUCCESSFUL ONGOING PARTICIPATION IN THE PROGRAM AND CONTINUED COMPLIANCE WITH THE STANDARDS.

CUSTOMERS ARE URGED TO VERIFY THE LABORATORY'S CURRENT ACCREDITATION STATUS

Irene E. Ronning Ph.D.
Oregon State Public Health Laboratory
ORELAP Administrator
3150 NW. 229th Ave, Suite 100
Hillsboro, OR 97124

ISSUE DATE: 03/01/2010

EXPIRATION DATE: 02/28/2011

Certificate No: NM100001 - 007

Oregon

Environmental Laboratory Accreditation Program

Department of Agriculture, Laboratory Division
Department of Environmental Quality, Laboratory Division
Department of Human Services, Public Health Laboratory

NELAP Recognized

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 *Expiration Date:* 02/28/2011

As of 03/01/2010 *this list supercedes all previous lists for this certificate number.*
Customers, PLease verify the current accreditation standing with ORELAP.

MATRIX: Drinking Water

Reference	Code	Description
√ EPA 200.7 5	10014008	ICP - metals

Analyte Code	Analyte
1000	Aluminum
1015	Barium
1020	Beryllium
1025	Boron
1030	Cadmium
1035	Calcium
1040	Chromium
1055	Copper
1070	Iron
1075	Lead
1085	Magnesium
1090	Manganese
1100	Molybdenum
1105	Nickel
1125	Potassium
1990	Silica as SiO2
1150	Silver
1155	Sodium
1175	Tin
1180	Titanium
1185	Vanadium
1190	Zinc

√ EPA 245.1 3	10036609	Mercury by Cold Vapor Atomic Absorption

Analyte Code	Analyte
1095	Mercury

√ EPA 300.0	10053006	Ion chromatography - anions.

Analyte Code	Analyte
1575	Chloride
1730	Fluoride
1810	Nitrate as N
1870	Orthophosphate as P
2000	Sulfate

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number.***
Customers. PLease verify the current accreditation standing with ORELAP.

√EPA 5030B — 10163409 — Purge and trap for aqueous samples

Analyte Code	*Analyte*
125	Extraction/Preparation

√EPA 504.1 — 10083008 — EDB/DBCP/TCP micro-extraction, GC/ECD

Analyte Code	*Analyte*
4570	1,2-Dibromo-3-chloropropane (DBCP)
4585	1,2-Dibromoethane (EDB, Ethylene dibromide)

√EPA 524.2 4.1 — 10088809 — Volatile Organic Compounds GC/MS Capillary Column

Analyte Code	*Analyte*
5105	1,1,1,2-Tetrachloroethane
5160	1,1,1-Trichloroethane
5110	1,1,2,2-Tetrachloroethane
5165	1,1,2-Trichloroethane
4630	1,1-Dichloroethane
4640	1,1-Dichloroethylene
4670	1,1-Dichloropropene
5150	1,2,3-Trichlorobenzene
5180	1,2,3-Trichloropropane
5155	1,2,4-Trichlorobenzene
5210	1,2,4-Trimethylbenzene
4610	1,2-Dichlorobenzene
4635	1,2-Dichloroethane (Ethylene dichloride)
4655	1,2-Dichloropropane
5215	1,3,5-Trimethylbenzene
4615	1,3-Dichlorobenzene
4660	1,3-Dichloropropane
4620	1,4-Dichlorobenzene
4535	2-Chlorotoluene
4540	4-Chlorotoluene
4375	Benzene
4385	Bromobenzene
4390	Bromochloromethane
4395	Bromodichloromethane
4400	Bromoform
4465	Carbon tetrachloride
4475	Chlorobenzene
4575	Chlorodibromomethane
4485	Chloroethane (Ethyl chloride)
4505	Chloroform
4645	cis-1,2-Dichloroethylene
4680	cis-1,3-Dichloropropene
4595	Dibromomethane (Methylene bromide)
4765	Ethylbenzene
4835	Hexachlorobutadiene
4900	Isopropylbenzene
4950	Methyl bromide (Bromomethane)
4960	Methyl chloride (Chloromethane)
5000	Methyl tert-butyl ether (MTBE)
4975	Methylene chloride (Dichloromethane)
4435	n-Butylbenzene
5090	n-Propylbenzene
4440	sec-Butylbenzene
5100	Styrene
4445	tert-Butylbenzene
5115	Tetrachloroethylene (Perchloroethylene)
5140	Toluene

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number. Customers. PLease verify the current accreditation standing with ORELAP.***

Analyte Code	Analyte
4700	trans-1,2-Dichloroethylene
4685	trans-1,3-Dichloropropylene
5170	Trichloroethene (Trichloroethylene)
5175	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)
5235	Vinyl chloride
5260	Xylene (total)

√ SM 2320 B 20th ED 20045209 Alkalinity by Titration

Analyte Code	Analyte
1505	Alkalinity as CaCO3

√SM 2540 C 20th ED 20050004 Total Dissolved Solids

Analyte Code	Analyte
1955	Residue-filterable (TDS)

√SM 4500-H+ B 20th ED 20104807 pH by Probe

Analyte Code	Analyte
1900	pH

√SM 5310 B 20th ED 20137400 Total Organic Carbon by Combustion Infra-red Method

Analyte Code	Analyte
2040	Total organic carbon

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number.***
Customers. PLease verify the current accreditation standing with ORELAP.

MATRIX: Non-Potable Water

Reference	Code	Description
√EPA 300.0	10053006	Ion chromatography - anions.

Analyte Code	*Analyte*
1640	Bromide
1575	Chloride
1730	Fluoride
1810	Nitrate as N
1820	Nitrate-nitrite
1840	Nitrite as N
1870	Orthophosphate as P
2000	Sulfate

√EPA 3005A	10133207	Acid Digestion of waters for Total Recoverable or Dissolved Metals

Analyte Code	*Analyte*
125	Extraction/Preparation

√EPA 3510C	10138202	Separatory Funnel Liquid-liquid extraction

Analyte Code	*Analyte*
125	Extraction/Preparation

√EPA 5030B	10153409	Purge and Trap for aqueous samples

Analyte Code	*Analyte*
125	Extraction/Preparation

√EPA 6010B	10155609	ICP - AES

Analyte Code	*Analyte*
1000	Aluminum
1005	Antimony
1010	Arsenic
1015	Barium
1020	Beryllium
1025	Boron
1030	Cadmium
1035	Calcium
1040	Chromium
1050	Cobalt
1070	Iron
1075	Lead
1085	Magnesium
1090	Manganese
1100	Molybdenum
1105	Nickel
1125	Potassium
1140	Selenium
1150	Silver
1155	Sodium
1165	Thallium
1175	Tin
1180	Titanium
3035	Uranium
1185	Vanadium
1190	Zinc

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number.***
Customers. PLease verify the current accreditation standing with ORELAP.

✓EPA 7470A — 10165807 — Mercury In Liquid Waste by Cold Vapor Atomic Absorption

Analyte Code	Analyte
1095	Mercury

✓EPA 8015B — 10173601 — Non-halogenated organics using GC/FID

Analyte Code	Analyte
9369	Diesel range organics (DRO)
9408	Gasoline range organics (GRO)
9499	Motor Oil

✓EPA 8021B — 10174808 — Aromatic and Halogenated Volatiles by GC with PID and/or ECD Purge & Trap

Analyte Code	Analyte
5210	1,2,4-Trimethylbenzene
5215	1,3,5-Trimethylbenzene
4375	Benzene
4765	Ethylbenzene
5240	m+p-xylene
6000	Methyl tert-butyl ether (MTBE)
5250	o-Xylene
6140	Toluene
5260	Xylenes (total)

✓EPA 8081A — 10178606 — Organochlorine Pesticides by GC/ECD

Analyte Code	Analyte
7355	4,4'-DDD
7360	4,4'-DDE
7365	4,4'-DDT
7025	Aldrin
7110	alpha-BHC (alpha-Hexachlorocyclohexane)
7115	beta-BHC (beta-Hexachlorocyclohexane)
7105	delta-BHC
7470	Dieldrin
7610	Endosulfan I
7615	Endosulfan II
7620	Endosulfan sulfate
7540	Endrin
7530	Endrin aldehyde
7120	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)
7665	Heptachlor
7690	Heptachlor epoxide
7810	Methoxychlor

✓EPA 8082 — 10179007 — Polychlorinated Biphenyls (PCBs) by GC/ECD

Analyte Code	Analyte
8880	Aroclor-1016 (PCB-1016)
8885	Aroclor-1221 (PCB-1221)
8890	Aroclor-1232 (PCB-1232)
8895	Aroclor-1242 (PCB-1242)
8900	Aroclor-1248 (PCB-1248)
8905	Aroclor-1254 (PCB-1254)
8910	Aroclor-1260 (PCB-1260)

✓EPA 8260B — 10184602 — Volatile Organic Compounds by purge and trap GC/MS

Analyte Code	Analyte
5105	1,1,1,2-Tetrachloroethane

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number.***
Customers. PLease verify the current accreditation standing with ORELAP.

Analyte Code	Analyte
5160	1,1,1-Trichloroethane
5110	1,1,2,2-Tetrachloroethane
5165	1,1,2-Trichloroethane
4630	1,1-Dichloroethane
4640	1,1-Dichloroethylene
4670	1,1-Dichloropropene
5150	1,2,3-Trichlorobenzene
5180	1,2,3-Trichloropropane
5155	1,2,4-Trichlorobenzene
5210	1,2,4-Trimethylbenzene
4570	1,2-Dibromo-3-chloropropane (DBCP)
4585	1,2-Dibromoethane (EDB, Ethylene dibromide)
4610	1,2-Dichlorobenzene
4635	1,2-Dichloroethane (Ethylene dichloride)
4655	1,2-Dichloropropane
5215	1,3,5-Trimethylbenzene
4615	1,3-Dichlorobenzene
4660	1,3-Dichloropropane
4620	1,4-Dichlorobenzene
6380	1-Methylnaphthalene
4665	2,2-Dichloropropane
4410	2-Butanone (Methyl ethyl ketone, MEK)
4535	2-Chlorotoluene
4880	2-Hexanone
6385	2-Methylnaphthalene
4540	4-Chlorotoluene
4910	4-Isopropyltoluene (p-Cymene)
4995	4-Methyl-2-pentanone (MIBK)
4315	Acetone
4375	Benzene
4385	Bromobenzene
4390	Bromochloromethane
4395	Bromodichloromethane
4400	Bromoform
4450	Carbon disulfide
4455	Carbon tetrachloride
4475	Chlorobenzene
4576	Chlorodibromomethane
4485	Chloroethane (Ethyl chloride)
4505	Chloroform
4645	cis-1,2-Dichloroethylene
4660	cis-1,3-Dichloropropene
4595	Dibromomethane (Methylene bromide)
4625	Dichlorodifluoromethane (Freon-12)
4765	Ethylbenzene
4835	Hexachlorobutadiene
4900	Isopropylbenzene
5240	m+p-xylene
4950	Methyl bromide (Bromomethane)
4960	Methyl chloride (Chloromethane)
5000	Methyl tert-butyl ether (MTBE)
4975	Methylene chloride (Dichloromethane)
5005	Naphthalene
4435	n-Butylbenzene
5080	n-Propylbenzene
5250	o-Xylene
4440	sec-Butylbenzene
5100	Styrene
4445	tert-Butylbenzene
5115	Tetrachloroethylene (Perchloroethylene)
5140	Toluene

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number.***
Customers. PLease verify the current accreditation standing with ORELAP.

Analyte Code	*Analyte*
4700	trans-1,2-Dichloroethylene
4665	trans-1,3-Dichloropropylene
5170	Trichloroethene (Trichloroethylene)
5175	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)
5235	Vinyl chloride
5260	Xylene (total)

✓EPA 8270C 10185805 Semivolatile Organic compounds by GC/MS

Analyte Code	*Analyte*
5155	1,2,4-Trichlorobenzene
4610	1,2-Dichlorobenzene
4615	1,3-Dichlorobenzene
4620	1,4-Dichlorobenzene
6835	2,4,5-Trichlorophenol
6840	2,4,6-Trichlorophenol
6000	2,4-Dichlorophenol
6130	2,4-Dimethylphenol
6175	2,4-Dinitrophenol
6185	2,4-Dinitrotoluene (2,4-DNT)
6190	2,6-Dinitrotoluene (2,6-DNT)
5795	2-Chloronaphthalene
5800	2-Chlorophenol
6360	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)
6385	2-Methylnaphthalene
6400	2-Methylphenol (o-Cresol)
6460	2-Nitroaniline
6490	2-Nitrophenol
6412	3 & 4 Methylphenol
5945	3,3'-Dichlorobenzidine
6465	3-Nitroaniline
5660	4-Bromophenyl phenyl ether
5700	4-Chloro-3-methylphenol
5745	4-Chloroaniline
5825	4-Chlorophenyl phenylether
6470	4-Nitroaniline
6500	4-Nitrophenol
5500	Acenaphthene
5505	Acenaphthylene
5545	Aniline
5555	Anthracene
5562	Azobenzene
5575	*Benzo(a)anthracene*
5580	Benzo(a)pyrene
5590	Benzo(g,h,i)perylene
5600	Benzo(k)fluoranthene
5585	Benzo[b]fluoranthene
5587	Benzofluoranthene
5810	Benzoic acid
5830	Benzyl alcohol
5760	bis(2-Chloroethoxy)methane
5765	bis(2-Chloroethyl) ether
5780	bis(2-Chloroisopropyl) ether
5870	Butyl benzyl phthalate
5880	Carbazole
5885	Chrysene
6085	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)
5895	Dibenz(a,h) anthracene
5905	Dibenzofuran
6070	Diethyl phthalate
6135	Dimethyl phthalate

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number. Customers. PLease verify the current accreditation standing with ORELAP.***

Analyte Code	Analyte
5925	Di-n-butyl phthalate
6200	Di-n-octyl phthalate
6265	Fluoranthene
6270	Fluorene
6275	Hexachlorobenzene
4835	Hexachlorobutadiene
6285	Hexachlorocyclopentadiene
4840	Hexachloroethane
6315	Indeno(1,2,3-cd) pyrene
6320	Isophorone
5005	Naphthalene
5015	Nitrobenzene
6545	n-Nitrosodi-n-propylamine
6535	n-Nitrosodiphenylamine
6605	Pentachlorophenol
6615	Phenanthrene
6625	Phenol
6665	Pyrene
5095	Pyridine

✓ EPA 8310 — 10187607 — Polynuclear Aromatic Hydrocarbons by HPLC/UV/VIS

Analyte Code	Analyte
6380	1-Methylnaphthalene
5500	Acenaphthene
5505	Acenaphthylene
5555	Anthracene
5575	Benzo(a)anthracene
5580	Benzo(e)pyrene
5590	Benzo(g,h,i)perylene
5600	Benzo(k)fluoranthene
5585	Benzo[b]fluoranthene
5595	Chrysene
5895	Dibenz(a,h)anthracene
6265	Fluoranthene
6270	Fluorene
6315	Indeno(1,2,3-cd) pyrene
5005	Naphthalene
6615	Phenanthrene
6665	Pyrene

✓ EPA 9060A — 10244801 — Total Organic Carbon

Analyte Code	Analyte
2040	Total organic carbon

✓ SM 2540 C 20th ED — 20050004 — Total Dissolved Solids

Analyte Code	Analyte
1955	Residue-filterable (TDS)

✓ SM 4500-H+ B 20th ED — 20104807 — pH by Probe

Analyte Code	Analyte
1900	pH

✓ SM 4500-NH3 C 20th ED — 20106405 — Ammonia Nitrogen by Titration

Analyte Code	Analyte
1515	Ammonia as N

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

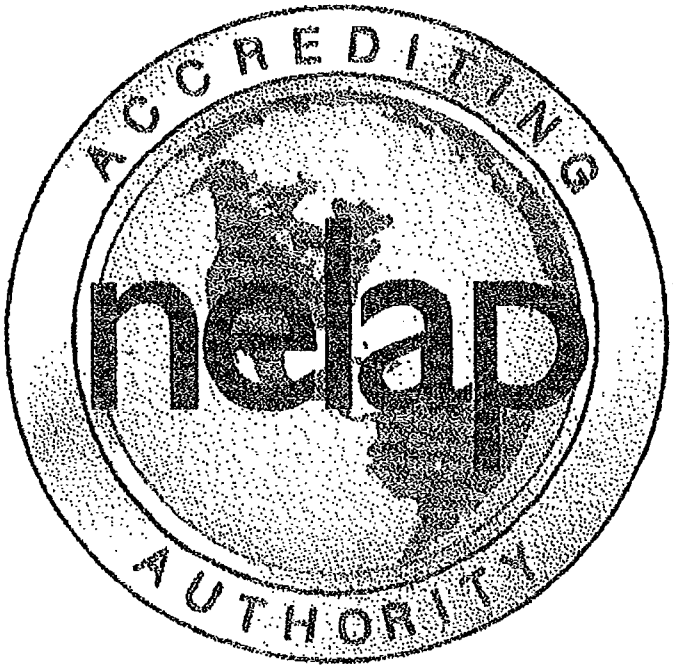
Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 *Expiration Date:* 02/28/2011

As of 03/01/2010 *this list supercedes all previous lists for this certificate number.*
Customers. PLease verify the current accreditation standing with ORELAP.

SM 4500-Norg C 20th ED	20119602	Nitrogen (Organic) by Semi-micro Kjeldahl Method

Analyte Code	*Analyte*
1795	Kjeldahl nitrogen - total



ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number.***
Customers. PLease verify the current accreditation standing with ORELAP.

MATRIX : Solids

Reference	Code	Description
√EPA 3050B	10135601	Acid Digestion of Sediments, Sludges, and soils

Analyte Code	Analyte
125	Extraction/Preparation

Reference	Code	Description
√EPA 3540C	10140202	Soxhlet Extraction

Analyte Code	Analyte
125	Extraction/Preparation

Reference	Code	Description
√EPA 3546A	10141001	Pressurized Fluid Extraction (PFE)

Analyte Code	Analyte
125	Extraction/Preparation

Reference	Code	Description
√EPA 5035	10154004	Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples

Analyte Code	Analyte
125	Extraction/Preparation

Reference	Code	Description
√EPA 6010B	10163809	ICP - AES

Analyte Code	Analyte
1000	Aluminum
1005	Antimony
1010	Arsenic
1015	Barium
1020	Beryllium
1025	Boron
1030	Cadmium
1035	Calcium
1040	Chromium
1050	Cobalt
1055	Copper
1070	Iron
1075	Lead
1085	Magnesium
1090	Manganese
1100	Molybdenum
1105	Nickel
1125	Potassium
1140	Selenium
1150	Silver
1155	Sodium
1165	Thallium
1175	Tin
1180	Titanium
3035	Uranium
1185	Vanadium
1190	Zinc

Reference	Code	Description
√EPA 7471A	10166208	Mercury in Solid Waste by Cold Vapor Atomic Absorption

Analyte Code	Analyte
1095	Mercury

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number.***
Customers. PLease verify the current accreditation standing with ORELAP.

✓ EPA 8015B — 10173601 — Non-halogenated organics using GC/FID

Analyte Code	Analyte
9369	Diesel range organics (DRO)
9408	Gasoline range organics (GRO)
9469	Motor Oil

✓ EPA 8021B — 10174808 — Aromatic and Halogenated Volatiles by GC with PID and/or ECD Purge & Trap

Analyte Code	Analyte
4375	Benzene
4765	Ethylbenzene
5240	m+p-xylene
5000	Methyl tert-butyl ether (MTBE)
5250	o-Xylene
5140	Toluene
5260	Xylenes (total)

✓ EPA 8081A — 10178606 — Organochlorine Pesticides by GC/ECD

Analyte Code	Analyte
7355	4,4'-DDD
7360	4,4'-DDE
7365	4,4'-DDT
7025	Aldrin
7110	alpha-BHC (alpha-Hexachlorocyclohexane)
7115	beta-BHC (beta-Hexachlorocyclohexane)
7105	delta-BHC
7470	Dieldrin
7510	Endosulfan I
7515	Endosulfan II
7520	Endosulfan sulfate
7540	Endrin
7530	Endrin aldehyde
7120	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)
7685	Heptachlor
7690	Heptachlor epoxide
7810	Methoxychlor

✓ EPA 8082 — 10179007 — Polychlorinated Biphenyls (PCBs) by GC/ECD

Analyte Code	Analyte
8860	Aroclor-1016 (PCB-1016)
8885	Aroclor-1221 (PCB-1221)
8890	Aroclor-1232 (PCB-1232)
8895	Aroclor-1242 (PCB-1242)
8900	Aroclor-1248 (PCB-1248)
8905	Aroclor-1254 (PCB-1254)
8910	Aroclor-1260 (PCB-1260)

✓ EPA 8260B — 10184802 — Volatile Organic Compounds by purge and trap GC/MS

Analyte Code	Analyte
5105	1,1,1,2-Tetrachloroethane
5160	1,1,1-Trichloroethane
5110	1,1,2,2-Tetrachloroethane
5165	1,1,2-Trichloroethane
4830	1,1-Dichloroethene
4840	1,1-Dichloroethylene
4870	1,1-Dichloropropene
5150	1,2,3-Trichlorobenzene

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number.***
Customers. PLease verify the current accreditation standing with ORELAP.

Analyte Code	Analyte
5160	1,2,3-Trichloropropane
5155	1,2,4-Trichlorobenzene
5210	1,2,4-Trimethylbenzene
4570	1,2-Dibromo-3-chloropropane (DBCP)
4585	1,2-Dibromoethane (EDB, Ethylene dibromide)
4610	1,2-Dichlorobenzene
4635	1,2-Dichloroethane (Ethylene dichloride)
4655	1,2-Dichloropropane
5215	1,3,5-Trimethylbenzene
4615	1,3-Dichlorobenzene
4660	1,3-Dichloropropane
4620	1,4-Dichlorobenzene
6380	1-Methylnaphthalene
4665	2,2-Dichloropropane
4410	2-Butanone (Methyl ethyl ketone, MEK)
4535	2-Chlorotoluene
4860	2-Hexanone
6385	2-Methylnaphthalene
4540	4-Chlorotoluene
4910	4-Isopropyltoluene (p-Cymene)
4995	4-Methyl-2-pentanone (MIBK)
4315	Acetone
4375	Benzene
4385	Bromobenzene
4390	Bromochloromethane
4395	Bromodichloromethane
4400	Bromoform
4450	Carbon disulfide
4455	Carbon tetrachloride
4475	Chlorobenzene
4575	Chlorodibromomethane
4485	Chloroethane (Ethyl chloride)
4505	Chloroform
4645	cis-1,2-Dichloroethylene
4660	cis-1,3-Dichloropropene
4595	Dibromomethane (Methylene bromide)
4625	Dichlorodifluoromethane (Freon 12)
4765	Ethylbenzene
4835	Hexachlorobutadiene
4900	Isopropylbenzene
5240	m+p-xylene
4950	Methyl bromide (Bromomethane)
4960	Methyl chloride (Chloromethane)
5000	Methyl tert-butyl ether (MTBE)
4975	Methylene chloride (Dichloromethane)
5005	Naphthalene
4435	n-Butylbenzene
5090	n-Propylbenzene
5250	o-Xylene
4440	sec-Butylbenzene
5100	Styrene
4445	tert-Butylbenzene
5115	Tetrachloroethylene (Perchloroethylene)
5140	Toluene
4700	trans-1,2-Dichloroethylene
4665	trans-1,3-Dichloropropylene
5170	Trichloroethene (Trichloroethylene)
5175	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)
5235	Vinyl chloride
5260	Xylene (total)

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number.***
Customers. PLease verify the current accreditation standing with ORELAP.

✓EPA 8270C 10185805 Semivolatile Organic compounds by GC/MS

Analyte Code	Analyte
5155	1,2,4-Trichlorobenzene
4610	1,2-Dichlorobenzene
4615	1,3-Dichlorobenzene
4620	1,4-Dichlorobenzene
6835	2,4,5-Trichlorophenol
6840	2,4,6-Trichlorophenol
6000	2,4-Dichlorophenol
6130	2,4-Dimethylphenol
6175	2,4-Dinitrophenol
6185	2,4-Dinitrotoluene (2,4-DNT)
6190	2,6-Dinitrotoluene (2,6-DNT)
5795	2-Chloronaphthalene
5800	2-Chlorophenol
6360	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)
6385	2-Methylnaphthalene
6400	2-Methylphenol (o-Cresol)
6460	2-Nitroaniline
6490	2-Nitrophenol
6412	3 & 4 Methylphenol
5945	3,3'-Dichlorobenzidine
6465	3-Nitroaniline
5660	4-Bromophenyl phenylether
5700	4-Chloro-3-methylphenol
5745	4-Chloroaniline
5625	4-Chlorophenyl phenylether
6470	4-Nitroaniline
6500	4-Nitrophenol
5500	Acenaphthene
5505	Acenaphthylene
5545	Aniline
5555	Anthracene
5562	Azobenzene
5575	Benzo(a)anthracene
5580	Benzo(a)pyrene
5590	Benzo(g,h,i)perylene
5600	Benzo(k)fluoranthene
5585	Benzo[b]fluoranthene
5610	Benzoic acid
5630	Benzyl alcohol
5760	bis(2-Chloroethoxy)methane
5765	bis(2-Chloroethyl) ether
5780	bis(2-Chloroisopropyl) ether
5670	Butyl benzyl phthalate
5680	Carbazole
5855	Chrysene
6065	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)
5895	Dibenz(a,h) anthracene
5905	Dibenzofuran
6070	Diethyl phthalate
6135	Dimethyl phthalate
5925	Di-n-butyl phthalate
6200	Di-n-octyl phthalate
6285	Fluoranthene
6270	Fluorene
6275	Hexachlorobenzene
4835	Hexachlorobutadiene
6285	Hexachlorocyclopentadiene
4840	Hexachloroethane

ORELAP Fields of Accreditation

ORELAP ID: NM100001
EPA CODE: NM00035
Certificate: NM100001 - 007

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D
Albuquerque NM 87109

Issue Date: 03/01/2010 ***Expiration Date:*** 02/28/2011

As of 03/01/2010 ***this list supercedes all previous lists for this certificate number.***
Customers. PLease verify the current accreditation standing with ORELAP.

Analyte Code	*Analyte*
6315	Indeno(1,2,3-cd) pyrene
6320	Isophorone
5005	Naphthalene
6015	Nitrobenzene
6530	n-Nitrosodimethylamine
6545	n-Nitrosodi-n-propylamine
6535	n-Nitrosodiphenylamine
6605	Pentachlorophenol
6615	Phenanthrene
6625	Phenol
6665	Pyrene
5095	Pyridine

√EPA 8310 — 10187607 — Polynuclear Aromatic Hydrocarbons by HPLC/UV-VIS

Analyte Code	*Analyte*
6380	1-Methylnaphthalene
6385	2-Methylnaphthalene
5500	Acenaphthene
5505	Acenaphthylene
5555	Anthracene
5575	Benzo(a)anthracene
5580	Benzo(a)pyrene
5590	Benzo(g,h,i)perylene
5600	Benzo(k)fluoranthene
5585	Benzo(b)fluoranthene
5855	Chrysene
5895	Dibenz(a,h) anthracene
6265	Fluoranthene
6270	Fluorene
6315	Indeno(1,2,3-cd) pyrene
5005	Naphthalene
6615	Phenanthrene
6665	Pyrene

BILL RICHARDSON
Governor

State of New Mexico
ENVIRONMENT DEPARTMENT
Water & Wastewater Infrastructure
Development Division
DRINKING WATER BUREAU
525 Camino de Los Marquez, Suite 4
Santa Fe, New Mexico 87505
Phone (505) 476-8620 • Fax (505) 476-8656
Toll Free 1-877-654-8720
www.nmenv.state.nm.us/dwb

RON CURRY
Secretary

Sarah Cottrell
Deputy Secretary

Karen E. Gallegos
Director

June 17, 2010

Andy Freeman
Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109

Dear Mr. Freeman:

The Drinking Water Bureau of the New Mexico Environment Department (NMED-DWB) has received and reviewed your NELAP certification /accreditation information from the state of Oregon. The documentation is acceptable and your New Mexico certification is now valid through February 28, 2011.

This certification is to perform drinking water analysis in compliance with the Federal Safe Drinking Water Act, pursuant to 40CFR Part 141, and the New Mexico Environment Department Drinking Water Regulations for the Primary Regulated contaminants, including contaminants as listed in your Oregon Scope Accreditation.

You must advise NMED-DWB of any change in your accreditation by the State of Oregon and continue to provide this office with performance evaluation results. You are also required to provide evidence of renewal of accreditation by the state of Oregon to continue certification past February 28, 2011.

Laboratories certified by New Mexico can be purged from the list if there is no evidence that they are performing drinking water compliance sample analysis for public water supply systems in New Mexico.

If you have any questions or require additional information, please contact me at 505-476-8648.

Sincerely,

Oneva Rivera
Data/ Lab Coordinator
oneva.rivera@state.nm.us

State of Utah
GARY R HERBERT
Governor
GREGORY S BELL
Lieutenant Governor

Utah Department of Health
David N. Sundwall, MD
Executive Director

Disease Control and Prevention
Patrick F. Luedtke, MD, MPH.
Director Unified State Labs: Public Health

Bureau of Laboratory Improvement
David B Mendenhall, MPA, MT (ASCP)
Bureau Director

STATE OF UTAH
DEPARTMENT OF HEALTH

ENVIRONMENTAL LABORATORY CERTIFICATION PROGRAM

CERTIFICATION

is hereby granted to

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE
Albuquerque NM 87109-4337

Scope of accreditiation is limited to the
State of Utah Accredited Fields of Accreditiation
Which accompanies this Certificate

Continued accredited status depends on successful
Ongoing particitpation in the program

EPA Number: NM00035
Expiration Date: 2/28/2011

Patrick F. Luedtke, MD, MPH.
Director Unified State Laboratories: Public Health

State of Utah
GARY R HERBERT
Governor
GREGORY S BELL
Lieutenant Governor

Utah Department of Health
David N. Sundwall, MD
Executive Director

Disease Control and Prevention
Patrick F. Luedtke, MD, MPH.
Director Unified State Laboratories: Public Health

Bureau of Laboratory Improvement
David B Mendenhall, MPA, MT (ASCP)
Bureau Director

3/11/2010

Hall Environmental Analysis Laboratory, Inc.
Andy Freeman
4901 Hawkins Rd. NE
Albuquerque NM 87109-4337

ID # HEAL
EPA ID: NM00035

Director,

In recognition of your NELAP accreditation and in compliance with the ELCP requirements, the laboratory listed is certified for environmental monitoring under the Clean Water Act and authorized to perform the following methods, for the analytes and matrix listed:

Non-Potable Water

Inorganics and Metals

300.0 [1993]	Bromide
300.0 [1993]	Chloride
300.0 [1993]	Fluoride
300.0 [1993]	Nitrate
300.0 [1993]	Nitrite
300.0 [1993]	ortho-Phosphate
300.0 [1993]	Sulfate
300.0 [1993]	Nitrate/Nitrite

The effective date of this certificate letter is: 3/1/2010.

The analytes by method which a laboratory is authorized to perform at any given time will be those indicated in the most recent certificate letter. The most recent certification letter supersedes all previous certification or authorization letters. It is the certified laboratory's responsibility to review this letter for discrepancies. The certified laboratory must document any discrepancies in this letter and send notice to this bureau within 15 days of receipt. This certificate letter will be recalled in the event your laboratory's certification is revoked.

Respectfully,

Patrick F. Luedtke, MD, MPH.
Director Unified State Laboratories: Public Health

Utah Department of Health
David N. Sundwall, MD
Executive Director

Disease Control and Prevention
Patrick F. Luedtke, MD, MPH.
Director Unified State Labs: Public Health

Bureau of Laboratory Improvement
David B Mendenhall, MPA, MT (ASCP)
Bureau Director

State of Utah
GARY R HERBERT
Governor
GREGORY S BELL
Lieutenant Governor

3/11/2010

Hall Environmental Analysis Laboratory, Inc.
Andy Freeman
4901 Hawkins Rd. NE
Albuquerque NM 87109-4337

ID # HEAL
EPA ID: NM00035

Director,

In recognition of your NELAP accreditation and in compliance with the ELCP requirements, the laboratory listed is certified for environmental monitoring under the Resource Conservation and Recovery Act and authorized to perform the following methods, for the analytes and matrix listed:

Metal Digestion

	Solid	Non-Potable Water	
3005 A	☐	☑	Acid Digestion Total Recoverable or Dissolved Metals

Metals

	Solid	Non-Potable Water	
6010 B	☐	☑	Aluminum
6010 B	☐	☑	Antimony
6010 B	☐	☑	Arsenic
6010 B	☐	☑	Barium
6010 B	☐	☑	Beryllium
6010 B	☐	☑	Boron
6010 B	☐	☑	Cadmium
6010 B	☐	☑	Calcium
6010 B	☐	☑	Chromium
6010 B	☐	☑	Cobalt
6010 B	☐	☑	Iron
6010 B	☐	☑	Lead
6010 B	☐	☑	Magnesium
6010 B	☐	☑	Manganese
6010 B	☐	☑	Molybdenum
6010 B	☐	☑	Nickel
6010 B	☐	☑	Potassium
6010 B	☐	☑	Selenium
6010 B	☐	☑	Silver
6010 B	☐	☑	Sodium
6010 B	☐	☑	Thallium
6010 B	☐	☑	Tin
6010 B	☐	☑	Titanium
6010 B	☐	☑	Vanadium

The expiration for the laboratory's certification is 2/28/2011. The Utah Environmental Laboratory Certification Program (ELCP) encourages clients and data users to verify the most current certification letter for the authorized method.

Metals

	Solid	Non-Potable Water	
6010 B	☐	☑	Zinc

Organic Extraction

	Solid	Non-Potable Water	
3510 C	☐	☑	Separatory Funnel Liquid-Liquid Extractions

Organic Instrumentation

	Solid	Non-Potable Water	
8015 B	☐	☑	Diesel Range Organics (DROs)
8015 B	☐	☑	Gasoline Range Organics (GROs)
8260 B	☐	☑	1,1,1,2-Tetrachloroethane
8260 B	☐	☑	1,1,1-Trichloroethane
8260 B	☐	☑	1,1,2,2-Tetrachloroethane
8260 B	☐	☑	1,1,2-Trichloroethane
8260 B	☐	☑	1,1-Dichloroethane
8260 B	☐	☑	1,1-Dichloroethylene (-ethene)
8260 B	☐	☑	1,1-Dichloropropene
8260 B	☐	☑	1,2,3-Trichlorobenzene
8260 B	☐	☑	1,2,3-Trichloropropane
8260 B	☐	☑	1,2,4-Trichlorobenzene
8260 B	☐	☑	1,2,4-Trimethylbenzene
8260 B	☐	☑	1,2-Dibromo-3-chloropropane (DBCP, Dibromochloropropane)
8260 B	☐	☑	1,2-Dibromoethane (EDB, Ethylene dibromide)
8260 B	☐	☑	1,2-Dichlorobenzene
8260 B	☐	☑	1,2-Dichloroethane
8260 B	☐	☑	1,2-Dichloropropane
8260 B	☐	☑	1,3,5-Trimethylbenzene
8260 B	☐	☑	1,3-Dichlorobenzene
8260 B	☐	☑	1,3-Dichloropropane
8260 B	☐	☑	1,4-Dichlorobenzene
8260 B	☐	☑	2,2-Dichloropropane
8260 B	☐	☑	2-Chlorotoluene
8260 B	☐	☑	2-Hexanone
8260 B	☐	☑	2-Methylnaphthalene
8260 B	☐	☑	4-Chlorotoluene
8260 B	☐	☑	4-Methyl-2-pentanone (MIBK, Isopropylacetone, Hexone)
8260 B	☐	☑	Acetone
8260 B	☐	☑	Benzene
8260 B	☐	☑	Bromobenzene
8260 B	☐	☑	Bromochloromethane
8260 B	☐	☑	Bromodichloromethane
8260 B	☐	☑	Bromoform
8260 B	☐	☑	Carbon Disulfide
8260 B	☐	☑	Carbon Tetrachloride
8260 B	☐	☑	Chlorobenzene
8260 B	☐	☑	Chlorodibromomethane [Dibromochloromethane]
8260 B	☐	☑	Chloroethane
8260 B	☐	☑	Chloroform
8260 B	☐	☑	cis-1,2-Dichloroethene (-ethylene)
8260 B	☐	☑	cis-1,3-dichloropropene

Organic Instrumentation

	Solid	Non-Potable Water	
8260 B	☐	☑	Dibromomethane
8260 B	☐	☑	Dichlorodifluoromethane
8260 B	☐	☑	Dichloromethane (DCM, Methylene chloride)
8260 B	☐	☑	Ethylbenzene
8260 B	☐	☑	Hexachlorobutadiene
8260 B	☐	☑	Isopropylbenzene
8260 B	☐	☑	Methyl bromide [Bromomethane]
8260 B	☐	☑	Methyl chloride [Chloromethane]
8260 B	☐	☑	Methyl Ethyl Ketone (MEK, 2-Butanone)
8260 B	☐	☑	Methyl-t-Butyl Ether (MTBE)
8260 B	☐	☑	Naphthalene
8260 B	☐	☑	n-Butylbenzene
8260 B	☐	☑	n-Propylbenzene
8260 B	☐	☑	ortho-Xylene
8260 B	☐	☑	p-Isopropyltoluene
8260 B	☐	☑	sec-Butylbenzene
8260 B	☐	☑	Styrene
8260 B	☐	☑	tert-Butylbenzene
8260 B	☐	☑	Tetrachloroethylene (Perchloroethylene -ethene)
8260 B	☐	☑	Toluene
8260 B	☐	☑	trans-1,2-Dichloroethylene (-ethene)
8260 B	☐	☑	trans-1,3-Dichloropropylene (-propene)
8260 B	☐	☑	Trichloroethene (Trichloroethylene)
8260 B	☐	☑	Trichlorofluoromethane
8260 B	☐	☑	Vinyl Chloride
8260 B	☐	☑	Volatile Organic Compounds
8260 B	☐	☑	Xylenes, Total
8270 C	☐	☑	1,2,4-Trichlorobenzene
8270 C	☐	☑	1,2-Dichlorobenzene
8270 C	☐	☑	1,3-Dichlorobenzene
8270 C	☐	☑	1,4-Dichlorobenzene
8270 C	☐	☑	2,4,5-Trichlorophenol
8270 C	☐	☑	2,4,6-Trichlorophenol
8270 C	☐	☑	2,4-Dichlorophenol
8270 C	☐	☑	2,4-Dimethylphenol
8270 C	☐	☑	2,4-Dinitrophenol
8270 C	☐	☑	2,4-Dinitrotoluene (2,4-DNT)
8270 C	☐	☑	2,6-Dinitrotoluene (2,6-DNT)
8270 C	☐	☑	2-Chloronaphthalene
8270 C	☐	☑	2-Chlorophenol
8270 C	☐	☑	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)
8270 C	☐	☑	2-Methylnaphthalene
8270 C	☐	☑	2-Methylphenol (o-cresol, 2-Hydroxytoluene)
8270 C	☐	☑	2-Nitroaniline
8270 C	☐	☑	2-Nitrophenol
8270 C	☐	☑	3,3'-Dichlorobenzidine
8270 C	☐	☑	3-Nitroaniline
8270 C	☐	☑	4-Bromophenyl Phenyl Ether
8270 C	☐	☑	4-Chloro-3-methylphenol
8270 C	☐	☑	4-Chloroaniline
8270 C	☐	☑	4-Chlorophenyl Phenyl Ether

Organic Instrumentation

	Solid	Non-Potable Water	
8270 C	☐	☑	4-Nitroaniline
8270 C	☐	☑	4-Nitrophenol
8270 C	☐	☑	Acenaphthene
8270 C	☐	☑	Acenaphthylene
8270 C	☐	☑	Aniline
8270 C	☐	☑	Anthracene
8270 C	☐	☑	Azobenzene
8270 C	☐	☑	Benzo(a)anthracene
8270 C	☐	☑	Benzo(a)pyrene
8270 C	☐	☑	Benzo(b)fluoranthene
8270 C	☐	☑	Benzo(g,h,i)perylene
8270 C	☐	☑	Benzo(k)fluoranthene
8270 C	☐	☑	Benzoic Acid
8270 C	☐	☑	Benzyl alcohol
8270 C	☐	☑	bis(2-chloroethoxy)methane
8270 C	☐	☑	bis(2-Chloroethyl)ether
8270 C	☐	☑	bis(2-chloroisopropyl)ether
8270 C	☐	☑	bis(2-Ethylhexyl) phthalate (DEHP)
8270 C	☐	☑	Butyl Benzyl Phthalate
8270 C	☐	☑	Carbazole
8270 C	☐	☑	Chrysene
8270 C	☐	☑	Dibenzo(a,h)anthracene
8270 C	☐	☑	Dibenzofuran
8270 C	☐	☑	Diethyl Phthalate
8270 C	☐	☑	Dimethyl Phthalate
8270 C	☐	☑	Di-n-butyl phthalate
8270 C	☐	☑	Di-n-octyl Phthalate
8270 C	☐	☑	Fluoranthene
8270 C	☐	☑	Fluorene
8270 C	☐	☑	Hexachlorobenzene
8270 C	☐	☑	Hexachlorobutadiene
8270 C	☐	☑	Hexachlorocyclopentadiene
8270 C	☐	☑	Hexachloroethane
8270 C	☐	☑	Indeno(1,2,3-cd)pyrene
8270 C	☐	☑	Isophorone
8270 C	☐	☑	Naphthalene
8270 C	☐	☑	Nitrobenzene
8270 C	☐	☑	n-Nitroso-di-n-Propylamine
8270 C	☐	☑	n-Nitrosodiphenylamine
8270 C	☐	☑	Pentachlorophenol
8270 C	☐	☑	Phenanthrene
8270 C	☐	☑	Phenol
8270 C	☐	☑	Pyrene
8270 C	☐	☑	Pyridine
8270 C	☐	☑	Semivolatile Organic Compounds

Volatile Organic Preparation

	Solid	Non-Potable Water	
5030 B	☐	☑	Purge-and-Trap for Aqueous Samples

The effective date of this certificate letter is: 3/1/2010.

The analytes by method which a laboratory is authorized to perform at any given time will be those indicated in the most recent certificate letter. The most recent certification letter supersedes all previous certification or authorization letters. It is the certified laboratory's responsibility to review this letter for discrepancies. The certified laboratory must document any discrepancies in this letter and send notice to this bureau within 15 days of receipt. This certificate letter will be recalled in the event your laboratory's certification is revoked.

Respectfully,

Patrick F. Luedtke, MD, MPH.
Director Unified State Laboratories: Public Health

The expiration for the laboratory's certification is 2/28/2011. The Utah Environmental Laboratory Certification Program (ELCP) encourages clients and data users to verify the most current certification letter for the authorized method.

UTAH DEPARTMENT OF HEALTH

4431 South 2700 West • Taylorsville, UT 84119 • phone (801)965-2400 • fax (801)965-2544
www.health.utah.gov/els/labimp/

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 30, 2010

CERTIFIED MAIL 91 7108 2133 3935 2006 9293

Ms. Carolyn Swanson
Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

Dear Ms. Swanson:

I am writing to congratulate you and the staff of Hall Environmental Analysis Laboratory, Inc. Based on your application and primary NELAP accreditation from the State of Oregon, pursuant to authorization from the Executive Director of the Texas Commission on Environmental Quality, the Program Manager of the Quality Assurance Section has issued your laboratory secondary NELAP accreditation according to the attached Fields of Accreditation.

I am enclosing the accreditation certificate and Fields of Accreditation listing. Please review the enclosures for accuracy and completeness. Your laboratory's accreditation is valid for one year, contingent on continued compliance with the requirements of the State of Texas as well as those of your primary Accreditation Authority.

If I may be of further assistance, please contact me at (512) 239–3754 or e-mail at fjamison@tceq.state.tx.us.

Sincerely,

Frank Jamison
Records Specialist

Enclosures

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

in accordance with Texas Water Code Chapter 5, Subchapter R, Title 30 Texas Administrative Code Chapter 25, and the National Environmental Laboratory Accreditation Program.

The laboratory's scope of accreditation includes the fields of accreditation that accompany this certificate. Continued accreditation depends upon successful ongoing participation in the program. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Certificate Number: T104704424-10-1
Effective Date: 7/1/2010
Expiration Date: 6/30/2011

Executive Director Texas Commission on Environmental Quality

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	OR	1000	10013806
Barium	OR	1015	10013806
Beryllium	OR	1020	10013806
Boron	OR	1025	10013806
Cadmium	OR	1030	10013806
Calcium	OR	1035	10013806
Chromium	OR	1040	10013806
Copper	OR	1055	10013806
Iron	OR	1070	10013806
Lead	OR	1075	10013806
Magnesium	OR	1085	10013806
Manganese	OR	1090	10013806
Molybdenum	OR	1100	10013806
Nickel	OR	1105	10013806
Potassium	OR	1125	10013806
Silver	OR	1150	10013806
Sodium	OR	1155	10013806
Tin	OR	1175	10013806
Titanium	OR	1180	10013806
Vanadium	OR	1185	10013806
Zinc	OR	1190	10013806

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	OR	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Chloride	OR	1575	10053006
Fluoride	OR	1730	10053006
Nitrate as N	OR	1810	10053006

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Nitrite as N	OR	1840	10053006
Orthophosphate as P	OR	1870	10053006
Sulfate	OR	2000	10053006

Method EPA 504.1

Analyte	AB	Analyte ID	Method ID
1,2-Dibromo-3-chloropropane (DBCP)	OR	4570	10082801
1,2-Dibromoethane (EDB, Ethylene dibromide)	OR	4585	10082801

Method EPA 524.2

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	OR	5160	10089006
1,1,2-Trichloroethane	OR	5165	10089006
1,1-Dichloroethylene (1,1-Dichloroethene)	OR	4640	10089006
1,2,4-Trichlorobenzene	OR	5155	10089006
1,2-Dichlorobenzene	OR	4610	10089006
1,2-Dichloroethane	OR	4635	10089006
1,2-Dichloropropane	OR	4655	10089006
1,4-Dichlorobenzene	OR	4620	10089006
Benzene	OR	4375	10089006
Carbon tetrachloride	OR	4455	10089006
Chlorobenzene	OR	4475	10089006
cis-1,2-Dichloroethylene	OR	4645	10089006
Dichloromethane (DCM, Methylene chloride)	OR	4650	10089006
Ethylbenzene	OR	4765	10089006
Styrene	OR	5100	10089006
Tetrachloroethylene (Perchloroethylene)	OR	5115	10089006
Toluene	OR	5140	10089006
trans-1,2-Dichloroethylene	OR	4700	10089006
Trichloroethene (Trichloroethylene)	OR	5170	10089006
Vinyl chloride	OR	5235	10089006
Xylene (total)	OR	5260	10089006

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

Expiration Date: 6/30/2011
Issue Date: 7/1/2010

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Method SM 2540 C

Analyte	AB	Analyte ID	Method ID
Residue-filterable (TDS)	OR	1955	20004404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non Potable Water***

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	OR	1540	10053006
Chloride	OR	1575	10053006
Fluoride	OR	1730	10053006
Nitrate as N	OR	1810	10053006
Nitrite as N	OR	1840	10053006
Orthophosphate as P	OR	1870	10053006
Sulfate	OR	2000	10053006

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	OR	1000	10155201
Antimony	OR	1005	10155201
Arsenic	OR	1010	10155201
Barium	OR	1015	10155201
Beryllium	OR	1020	10155201
Boron	OR	1025	10155201
Cadmium	OR	1030	10155201
Calcium	OR	1035	10155201
Chromium	OR	1040	10155201
Cobalt	OR	1050	10155201
Iron	OR	1070	10155201
Lead	OR	1075	10155201
Magnesium	OR	1085	10155201
Manganese	OR	1090	10155201
Molybdenum	OR	1100	10155201
Nickel	OR	1105	10155201
Potassium	OR	1125	10155201
Selenium	OR	1140	10155201
Silver	OR	1150	10155201
Sodium	OR	1155	10155201

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non Potable Water***

Thallium	OR	1165	10155201
Tin	OR	1175	10155201
Titanium	OR	1180	10155201
Vanadium	OR	1185	10155201
Zinc	OR	1190	10155201

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	OR	1095	10165603

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Diesel range organics (DRO)	OR	9369	10173203
Gasoline range organics (GRO)	OR	9408	10173203

Method EPA 8021

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4-Trimethylbenzene	OR	5210	10174400
1,3,5-Trimethylbenzene	OR	5215	10174400
Benzene	OR	4375	10174400
Ethylbenzene	OR	4765	10174400
m+p-xylene	OR	5240	10174400
Methyl tert-butyl ether (MTBE)	OR	5000	10174400
o-Xylene	OR	5250	10174400
Toluene	OR	5140	10174400
Xylene (total)	OR	5260	10174400

Method EPA 8081

Analyte	**AB**	**Analyte ID**	**Method ID**
4,4'-DDD	OR	7355	10178402
4,4'-DDE	OR	7360	10178402
4,4'-DDT	OR	7365	10178402
Aldrin	OR	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	OR	7110	10178402
beta-BHC (beta-Hexachlorocyclohexane)	OR	7115	10178402

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previoue fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non Potable Water***

delta-BHC (delta-Hexachlorocyclohexane)	OR	7105	10178402
Dieldrin	OR	7470	10178402
Endosulfan I	OR	7510	10178402
Endosulfan II	OR	7515	10178402
Endosulfan sulfate	OR	7520	10178402
Endrin	OR	7540	10178402
Endrin aldehyde	OR	7530	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	OR	7120	10178402
Heptachlor	OR	7685	10178402
Heptachlor epoxide	OR	7690	10178402
Methoxychlor	OR	7810	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	OR	8880	10179007
Aroclor-1221 (PCB-1221)	OR	8885	10179007
Aroclor-1232 (PCB-1232)	OR	8890	10179007
Aroclor-1242 (PCB-1242)	OR	8895	10179007
Aroclor-1248 (PCB-1248)	OR	8900	10179007
Aroclor-1254 (PCB-1254)	OR	8905	10179007
Aroclor-1260 (PCB-1260)	OR	8910	10179007

Method EPA 8260

Analyte	**AB**	**Analyte ID**	**Method ID**
1,1,1,2-Tetrachloroethane	OR	5105	10184404
1,1,1-Trichloroethane	OR	5160	10184404
1,1,2,2-Tetrachloroethane	OR	5110	10184404
1,1,2-Trichloroethane	OR	5165	10184404
1,1-Dichloroethane	OR	4630	10184404
1,1-Dichloroethylene (1,1-Dichloroethene)	OR	4640	10184404
1,1-Dichloropropene	OR	4670	10184404
1,2,3-Trichlorobenzene	OR	5150	10184404
1,2,3-Trichloropropane	OR	5180	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non Potable Water***

1,2,4-Trichlorobenzene	OR	5155	10184404
1,2,4-Trimethylbenzene	OR	5210	10184404
1,2-Dibromo-3-chloropropane (DBCP)	OR	4570	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	OR	4585	10184404
1,2-Dichlorobenzene	OR	4610	10184404
1,2-Dichloroethane	OR	4635	10184404
1,2-Dichloropropane	OR	4655	10184404
1,3,5-Trimethylbenzene	OR	5215	10184404
1,3-Dichlorobenzene	OR	4615	10184404
1,3-Dichloropropane	OR	4660	10184404
1,4-Dichlorobenzene	OR	4620	10184404
2,2-Dichloropropane	OR	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	OR	4410	10184404
2-Chlorotoluene	OR	4535	10184404
2-Hexanone	OR	4860	10184404
4-Chlorotoluene	OR	4540	10184404
4-Isopropyltoluene	OR	4915	10184404
4-Methyl-2-pentanone (MIBK)	OR	4995	10184404
Acetone	OR	4315	10184404
Benzene	OR	4375	10184404
Bromobenzene	OR	4385	10184404
Bromochloromethane	OR	4390	10184404
Bromodichloromethane	OR	4395	10184404
Bromoform	OR	4400	10184404
Bromomethane (Methyl bromide)	OR	4950	10184404
Carbon disulfide	OR	4450	10184404
Carbon tetrachloride	OR	4455	10184404
Chlorobenzene	OR	4475	10184404
Chloroethane	OR	4485	10184404
Chloroform	OR	4505	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non Potable Water***

Chloromethane (Methyl chloride)	OR	4960	10184404
cis-1,2-Dichloroethylene	OR	4645	10184404
cis-1,3-Dichloropropylene	OR	4680	10184404
Dibromochloromethane	OR	4575	10184404
Dibromomethane	OR	4595	10184404
Dichlorodifluoromethane	OR	4625	10184404
Ethylbenzene	OR	4765	10184404
Hexachlorobutadiene	OR	4835	10184404
Isopropylbenzene	OR	4900	10184404
m+p-xylene	OR	5240	10184404
Methyl tert-butyl ether (MTBE)	OR	5000	10184404
Methylene chloride	OR	4975	10184404
Naphthalene	OR	5005	10184404
n-Butylbenzene	OR	4435	10184404
n-Propylbenzene	OR	5090	10184404
o-Xylene	OR	5250	10184404
sec-Butylbenzene	OR	4440	10184404
Styrene	OR	5100	10184404
tert-Butylbenzene	OR	4445	10184404
Tetrachloroethylene (Perchloroethylene)	OR	5115	10184404
Toluene	OR	5140	10184404
trans-1,2-Dichloroethylene	OR	4700	10184404
trans-1,3-Dichloropropylene	OR	4685	10184404
Trichloroethene (Trichloroethylene)	OR	5170	10184404
Trichlorofluoromethane	OR	5175	10184404
Vinyl chloride	OR	5235	10184404
Xylene (total)	OR	5260	10184404

Method EPA 8270

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4-Trichlorobenzene	OR	5155	10185203
1,2-Dichlorobenzene	OR	4610	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non Potable Water***

1,3-Dichlorobenzene	OR	4615	10185203
1,4-Dichlorobenzene	OR	4620	10185203
2,4,5-Trichlorophenol	OR	6835	10185203
2,4,6-Trichlorophenol	OR	6840	10185203
2,4-Dichlorophenol	OR	6000	10185203
2,4-Dimethylphenol	OR	6130	10185203
2,4-Dinitrophenol	OR	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	OR	6185	10185203
2,6-Dinitrotoluene (2,6-DNT)	OR	6190	10185203
2-Chloronaphthalene	OR	5795	10185203
2-Chlorophenol	OR	5800	10185203
2-Methyl-4,6-dinitrophenol	OR	6360	10185203
2-Methylnaphthalene	OR	6385	10185203
2-Methylphenol (o-Cresol)	OR	6400	10185203
2-Nitroaniline	OR	6460	10185203
2-Nitrophenol	OR	6490	10185203
3,3'-Dichlorobenzidine	OR	5945	10185203
3-Methylphenol (m-Cresol)	OR	6405	10185203
3-Nitroaniline	OR	6465	10185203
4-Bromophenyl phenyl ether	OR	5660	10185203
4-Chloro-3-methylphenol	OR	5700	10185203
4-Chloroaniline	OR	5745	10185203
4-Chlorophenyl phenylether	OR	5825	10185203
4-Methylphenol (p-Cresol)	OR	6410	10185203
4-Nitroaniline	OR	6470	10185203
4-Nitrophenol	OR	6500	10185203
Acenaphthene	OR	5500	10185203
Acenaphthylene	OR	5505	10185203
Aniline	OR	5545	10185203
Anthracene	OR	5555	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non Potable Water***

Azobenzene	OR	5562	10185203
Benzo(a)anthracene	OR	5575	10185203
Benzo(a)pyrene	OR	5580	10185203
Benzo(b)fluoranthene	OR	5585	10185203
Benzo(g,h,i)perylene	OR	5590	10185203
Benzo(k)fluoranthene	OR	5600	10185203
Benzoic acid	OR	5610	10185203
Benzyl alcohol	OR	5630	10185203
bis(2-Chloroethoxy)methane	OR	5760	10185203
bis(2-Chloroethyl) ether	OR	5765	10185203
bis(2-Chloroisopropyl) ether	OR	5780	10185203
bis(2-Ethylhexyl) phthalate (DEHP)	OR	6255	10185203
Butyl benzyl phthalate	OR	5670	10185203
Carbazole	OR	5680	10185203
Chrysene	OR	5855	10185203
Dibenz(a,h) anthracene	OR	5895	10185203
Dibenzofuran	OR	5905	10185203
Diethyl phthalate	OR	6070	10185203
Dimethyl phthalate	OR	6135	10185203
Di-n-butyl phthalate	OR	5925	10185203
Di-n-octyl phthalate	OR	6200	10185203
Fluoranthene	OR	6265	10185203
Fluorene	OR	6270	10185203
Hexachlorobenzene	OR	6275	10185203
Hexachlorobutadiene	OR	4835	10185203
Hexachlorocyclopentadiene	OR	6285	10185203
Hexachloroethane	OR	4840	10185203
Indeno(1,2,3-cd) pyrene	OR	6315	10185203
Isophorone	OR	6320	10185203
Naphthalene	OR	5005	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

Expiration Date: 6/30/2011
Issue Date: 7/1/2010

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non Potable Water***

Nitrobenzene	OR	5015	10185203
n-Nitrosodi-n-propylamine	OR	6545	10185203
n-Nitrosodiphenylamine	OR	6535	10185203
Pentachlorophenol	OR	6605	10185203
Phenanthrene	OR	6615	10185203
Phenol	OR	6625	10185203
Pyrene	OR	6665	10185203
Pyridine	OR	5095	10185203

od EPA 8310

alyte	**AB**	**Analyte ID**	**Method ID**
Acenaphthene	OR	5500	10187607
Acenaphthylene	OR	5505	10187607
Anthracene	OR	5555	10187607
Benzo(a)anthracene	OR	5575	10187607
Benzo(a)pyrene	OR	5580	10187607
Benzo(b)fluoranthene	OR	5585	10187607
Benzo(g,h,i)perylene	OR	5590	10187607
Benzo(k)fluoranthene	OR	5600	10187607
Chrysene	OR	5855	10187607
Dibenz(a,h) anthracene	OR	5895	10187607
Fluoranthene	OR	6265	10187607
Fluorene	OR	6270	10187607
Indeno(1,2,3-cd) pyrene	OR	6315	10187607
Naphthalene	OR	5005	10187607
Phenanthrene	OR	6615	10187607
Pyrene	OR	6665	10187607

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Hazardous Material***

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	OR	1000	10155201
Antimony	OR	1005	10155201
Arsenic	OR	1010	10155201
Barium	OR	1015	10155201
Beryllium	OR	1020	10155201
Boron	OR	1025	10155201
Cadmium	OR	1030	10155201
Calcium	OR	1035	10155201
Chromium	OR	1040	10155201
Cobalt	OR	1050	10155201
Copper	OR	1055	10155201
Iron	OR	1070	10155201
Lead	OR	1075	10155201
Magnesium	OR	1085	10155201
Manganese	OR	1090	10155201
Molybdenum	OR	1100	10155201
Nickel	OR	1105	10155201
Potassium	OR	1125	10155201
Selenium	OR	1140	10155201
Silver	OR	1150	10155201
Sodium	OR	1155	10155201
Thallium	OR	1165	10155201
Tin	OR	1175	10155201
Titanium	OR	1180	10155201
Vanadium	OR	1185	10155201
Zinc	OR	1190	10155201

Method EPA 7471

Analyte	AB	Analyte ID	Method ID
Mercury	OR	1095	10166004

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Hazardous Material***

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	OR	9369	10173203
Gasoline range organics (GRO)	OR	9408	10173203

Method EPA 8021

Analyte	AB	Analyte ID	Method ID
Benzene	OR	4375	10174400
Ethylbenzene	OR	4765	10174400
m+p-xylene	OR	5240	10174400
Methyl tert-butyl ether (MTBE)	OR	5000	10174400
o-Xylene	OR	5250	10174400
Toluene	OR	5140	10174400
Xylene (total)	OR	5260	10174400

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	OR	7355	10178402
4,4'-DDE	OR	7360	10178402
4,4'-DDT	OR	7365	10178402
Aldrin	OR	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	OR	7110	10178402
beta-BHC (beta-Hexachlorocyclohexane)	OR	7115	10178402
delta-BHC (delta-Hexachlorocyclohexane)	OR	7105	10178402
Dieldrin	OR	7470	10178402
Endosulfan I	OR	7510	10178402
Endosulfan II	OR	7515	10178402
Endosulfan sulfate	OR	7520	10178402
Endrin	OR	7540	10178402
Endrin aldehyde	OR	7530	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	OR	7120	10178402
Heptachlor	OR	7685	10178402
Heptachlor epoxide	OR	7690	10178402

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Hazardous Material***

Methoxychlor	OR	7810	10178402

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	OR	8880	10179007
Aroclor-1221 (PCB-1221)	OR	8885	10179007
Aroclor-1232 (PCB-1232)	OR	8890	10179007
Aroclor-1242 (PCB-1242)	OR	8895	10179007
Aroclor-1248 (PCB-1248)	OR	8900	10179007
Aroclor-1254 (PCB-1254)	OR	8905	10179007
Aroclor-1260 (PCB-1260)	OR	8910	10179007

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	OR	5105	10184404
1,1,1-Trichloroethane	OR	5160	10184404
1,1,2,2-Tetrachloroethane	OR	5110	10184404
1,1,2-Trichloroethane	OR	5165	10184404
1,1-Dichloroethane	OR	4630	10184404
1,1-Dichloroethylene (1,1-Dichloroethene)	OR	4640	10184404
1,1-Dichloropropene	OR	4670	10184404
1,2,3-Trichlorobenzene	OR	5150	10184404
1,2,3-Trichloropropane	OR	5180	10184404
1,2,4-Trichlorobenzene	OR	5155	10184404
1,2,4-Trimethylbenzene	OR	5210	10184404
1,2-Dibromo-3-chloropropane (DBCP)	OR	4570	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	OR	4585	10184404
1,2-Dichlorobenzene	OR	4610	10184404
1,2-Dichloroethane	OR	4635	10184404
1,2-Dichloropropane	OR	4655	10184404
1,3,5-Trimethylbenzene	OR	5215	10184404
1,3-Dichlorobenzene	OR	4615	10184404
1,3-Dichloropropane	OR	4660	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: *Solid & Hazardous Material*

1,4-Dichlorobenzene	OR	4620	10184404
2,2-Dichloropropane	OR	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	OR	4410	10184404
2-Chlorotoluene	OR	4535	10184404
2-Hexanone	OR	4860	10184404
4-Chlorotoluene	OR	4540	10184404
4-Isopropyltoluene	OR	4915	10184404
4-Methyl-2-pentanone (MIBK)	OR	4995	10184404
Acetone	OR	4315	10184404
Benzene	OR	4375	10184404
Bromobenzene	OR	4385	10184404
Bromochloromethane	OR	4390	10184404
Bromodichloromethane	OR	4395	10184404
Bromoform	OR	4400	10184404
Bromomethane (Methyl bromide)	OR	4950	10184404
Carbon disulfide	OR	4450	10184404
Carbon tetrachloride	OR	4455	10184404
Chlorobenzene	OR	4475	10184404
Chloroethane	OR	4485	10184404
Chloroform	OR	4505	10184404
Chloromethane (Methyl chloride)	OR	4960	10184404
cis-1,2-Dichloroethylene	OR	4645	10184404
cis-1,3-Dichloropropylene	OR	4680	10184404
Dibromochloromethane	OR	4575	10184404
Dibromomethane	OR	4595	10184404
Dichlorodifluoromethane	OR	4625	10184404
Ethylbenzene	OR	4765	10184404
Hexachlorobutadiene	OR	4835	10184404
Isopropylbenzene	OR	4900	10184404
m+p-xylene	OR	5240	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to *verify the laboratory's current accreditation status for particular methods and analyses.*

Matrix: *Solid & Hazardous Material*

Methyl tert-butyl ether (MTBE)	OR	5000	10184404
Methylene chloride	OR	4975	10184404
Naphthalene	OR	5005	10184404
n-Butylbenzene	OR	4435	10184404
n-Propylbenzene	OR	5090	10184404
o-Xylene	OR	5250	10184404
sec-Butylbenzene	OR	4440	10184404
Styrene	OR	5100	10184404
tert-Butylbenzene	OR	4445	10184404
Tetrachloroethylene (Perchloroethylene)	OR	5115	10184404
Toluene	OR	5140	10184404
trans-1,2-Dichloroethylene	OR	4700	10184404
trans-1,3-Dichloropropylene	OR	4685	10184404
Trichloroethene (Trichloroethylene)	OR	5170	10184404
Trichlorofluoromethane	OR	5175	10184404
Vinyl chloride	OR	5235	10184404
Xylene (total)	OR	5260	10184404

Method EPA 8270

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4-Trichlorobenzene	OR	5155	10185203
1,2-Dichlorobenzene	OR	4610	10185203
1,3-Dichlorobenzene	OR	4615	10185203
1,4-Dichlorobenzene	OR	4620	10185203
2,4,5-Trichlorophenol	OR	6835	10185203
2,4,6-Trichlorophenol	OR	6840	10185203
2,4-Dichlorophenol	OR	6000	10185203
2,4-Dimethylphenol	OR	6130	10185203
2,4-Dinitrophenol	OR	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	OR	6185	10185203
2,6-Dinitrotoluene (2,6-DNT)	OR	6190	10185203
2-Chloronaphthalene	OR	5795	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: *Solid & Hazardous Material*

2-Chlorophenol	OR	5800	10185203
2-Methyl-4,6-dinitrophenol	OR	6360	10185203
2-Methylnaphthalene	OR	6385	10185203
2-Methylphenol (o-Cresol)	OR	6400	10185203
2-Nitroaniline	OR	6460	10185203
2-Nitrophenol	OR	6490	10185203
3,3'-Dichlorobenzidine	OR	5945	10185203
3-Methylphenol (m-Cresol)	OR	6405	10185203
3-Nitroaniline	OR	6465	10185203
[redacted]-Bromophenyl phenyl ether	OR	5660	10185203
4-Chloro-3-methylphenol	OR	5700	10185203
4-Chloroaniline	OR	5745	10185203
4-Chlorophenyl phenylether	OR	5825	10185203
4-Methylphenol (p-Cresol)	OR	6410	10185203
4-Nitroaniline	OR	6470	10185203
4-Nitrophenol	OR	6500	10185203
Acenaphthene	OR	5500	10185203
Acenaphthylene	OR	5505	10185203
Aniline	OR	5545	10185203
Anthracene	OR	5555	10185203
Azobenzene	OR	5562	10185203
Benzo(a)anthracene	OR	5575	10185203
Benzo(a)pyrene	OR	5580	10185203
Benzo(b)fluoranthene	OR	5585	10185203
Benzo(g,h,i)perylene	OR	5590	10185203
Benzo(k)fluoranthene	OR	5600	10185203
Benzoic acid	OR	5610	10185203
Benzyl alcohol	OR	5630	10185203
[redacted]s(2-Chloroethoxy)methane	OR	5760	10185203
bis(2-Chloroethyl) ether	OR	5765	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: *Solid & Hazardous Material*

bis(2-Chloroisopropyl) ether	OR	5780	10185203
bis(2-Ethylhexyl) phthalate (DEHP)	OR	6255	10185203
Butyl benzyl phthalate	OR	5670	10185203
Carbazole	OR	5680	10185203
Chrysene	OR	5855	10185203
Dibenz(a,h) anthracene	OR	5895	10185203
Dibenzofuran	OR	5905	10185203
Diethyl phthalate	OR	6070	10185203
Dimethyl phthalate	OR	6135	10185203
Di-n-butyl phthalate	OR	5925	10185203
Di-n-octyl phthalate	OR	6200	10185203
Fluoranthene	OR	6265	10185203
Fluorene	OR	6270	10185203
Hexachlorobenzene	OR	6275	10185203
Hexachlorobutadiene	OR	4835	10185203
Hexachlorocyclopentadiene	OR	6285	10185203
Hexachloroethane	OR	4840	10185203
Indeno(1,2,3-cd) pyrene	OR	6315	10185203
Isophorone	OR	6320	10185203
Naphthalene	OR	5005	10185203
Nitrobenzene	OR	5015	10185203
n-Nitrosodimethylamine	OR	6530	10185203
n-Nitrosodi-n-propylamine	OR	6545	10185203
n-Nitrosodiphenylamine	OR	6535	10185203
Pentachlorophenol	OR	6605	10185203
Phenanthrene	OR	6615	10185203
Phenol	OR	6625	10185203
Pyrene	OR	6665	10185203
Pyridine	OR	5095	10185203

Method EPA 8310

Analyte	**AB**	**Analyte ID**	**Method ID**

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Hall Environmental Analysis Laboratory, Inc.
4901 Hawkins Road NE, Suite D
Albuquerque, NM 87109-4337

Certificate: T104704424-10-1
Expiration Date: 6/30/2011
Issue Date: 7/1/2010

These fields of accreditation supercedeall previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Hazardous Material***

Acenaphthene	OR	5500	10187607
Acenaphthylene	OR	5505	10187607
Anthracene	OR	5555	10187607
Benzo(a)anthracene	OR	5575	10187607
Benzo(a)pyrene	OR	5580	10187607
Benzo(b)fluoranthene	OR	5585	10187607
Benzo(g,h,i)perylene	OR	5590	10187607
Benzo(k)fluoranthene	OR	5600	10187607
Chrysene	OR	5855	10187607
Dibenz(a,h) anthracene	OR	5895	10187607
Fluoranthene	OR	6265	10187607
Fluorene	OR	6270	10187607
Indeno(1,2,3-cd) pyrene	OR	6315	10187607
Naphthalene	OR	5005	10187607
Phenanthrene	OR	6615	10187607
Pyrene	OR	6665	10187607

Arizona Department of Health Services

ENVIRONMENTAL LABORATORY LICENSE

Issued to:

Laboratory Director: **Scott Hallenbeck**
Owner/Representative: **Andy Freeman**

Hall Environmental Analysis Laboratory
AZ0682

is in compliance with Environmental Laboratory's applicable standards for the State of Arizona and maintains on file a List of Parameters for which the laboratory is certified to perform analysis.

PERIOD OF LICENSURE FROM: 10/20/2010 TO: 10/19/2011

Steven D. Baker, Chief
Office of Laboratory Services
Bureau of State Laboratory Services

Arizona Department of Health Services
Office of Laboratory Licensure, Certification & Training
250 North 17th Avenue, Phoenix, AZ 85007

Wednesday, September 22 2010

AZ License: AZ0682

Lab Director: Mr. Scott Hallenbeck

Lab Name: Hall Environmental Analysis Laboratory,
Phone: (505) 345-3975
Fax: (505) 345-4107

Program HW

Parameter	EPA Method	Billing Code	Cert Date
Aluminum	EPA 6010B	MTL3	10/20/05
Aromatic & Halogenated Vocs By Gc	EPA 8021B	OC8	10/20/05
Arsenic	EPA 6010B	MTL3	10/20/05
Barium	EPA 6010B	MTL3	10/20/05
Beryllium	EPA 6010B	MTL3	10/20/05
C10-C32 Hydrocarbons	8015AZ1	OC4	03/21/07
Cadmium	EPA 6010B	MTL3	10/20/05
Calcium	EPA 6010B	MTL3	10/20/05
Chromium, Total	EPA 6010B	MTL3	10/20/05
Closed System Purge And Trap Extract. Vocs	EPA 5035A	PREP2	12/05/06
Copper	EPA 6010B	MTL3	10/20/05
Dissolved In Water	EPA 3005A	PREP1	08/21/08
Iron	EPA 6010B	MTL3	10/20/05
Lead	EPA 6010B	MTL3	10/20/05
Magnesium	EPA 6010B	MTL3	10/20/05
Manganese	EPA 6010B	MTL3	10/20/05
Mercury	EPA 7470A	MTL5	10/20/05
Mercury	EPA 7471A	MTL5	10/20/05
Nickel	EPA 6010B	MTL3	10/20/05
Pahs	EPA 8310	OC13	03/21/07
Pcbs By Gc	EPA 8082	OC9	03/21/07
Potassium	EPA 6010B	MTL3	10/20/05
Pressurized Fluid Extraction	EPA 3545	PREP2	12/05/06
Purge And Trap For Aqueous Samples	EPA 5030C	PREP2	12/05/06
Sediments, Sludges And Soils	EPA 3050B	PREP1	06/05/07
Selenium	EPA 6010B	MTL3	09/06/06
Semivolatile Compounds By Gc/Ms	EPA 8270C	OC16	07/26/07
Separatory Funnel Liquid-Liquid Extraction	EPA 3510C	PREP2	06/05/07
Silver	EPA 6010B	MTL3	10/20/05
Sodium	EPA 6010B	MTL3	10/20/05
Vocs By Gc/Ms	EPA 8260B	OC8	10/20/05
Zinc	EPA 6010B	MTL3	10/20/05

Total Licensed Parameters in this Program: 32

Program SDW

Parameter	EPA Method	Billing Code	Cert Date
Alkalinity	SM 2320B	NIA1	02/26/08
Antimony	EPA 200.8	MTL7	09/22/10
Arsenic	EPA 200.8	MTL7	09/22/10

License: AZ0682 **Lab Name: Hall Environmental Analysis Laboratory,**

Program SDW

Parameter	EPA Method	Billing Code	Cert Date
Copper	EPA 200.8	MTL7	09/22/10
Edb/Dbcp	EPA 504.1 (1.1)	OC4	06/20/08
Edb/Dbcp - Additional	EPA 504.1 (1.1)	OC34	06/20/08
Lead	EPA 200.8	MTL7	09/22/10
Selenium	EPA 200.8	MTL7	09/22/10
Thallium	EPA 200.8	MTL7	09/22/10
Uranium	EPA 200.8	MTL7	09/22/10

Total Licensed Parameters in this Program: 10

Program WW

Parameter	EPA Method	Billing Code	Cert Date
Alkalinity, Total	SM 2320B	NIA1	07/26/07
Chloride	EPA 300.0	NIIIA1	07/26/07
Fluoride	EPA 300.0	NIIIA1	07/26/07
Nitrate (As N)	EPA 300.0	NIIIA1	07/26/07
Nitrite (As N)	EPA 300.0	NIIIA1	07/26/07
Orthophosphate	EPA 300.0	NIIIA1	07/26/07
Residue, Filterable	SM 2540C	NIA8	07/26/07
Specific Conductance	EPA 120.1	NIA7	02/27/09
Sulfate	EPA 300.0	NIIIA1	07/26/07

Total Licensed Parameters in this Program: 9

Instruments	Quantity	Date
GAS CHROMATOGRAPH/MASS SPECTROMETER	3	08/11/08
GAS CHROMATOGRAPH	2	09/06/06
HIGH PERFORMANCE LIQUID CHROMATOGRAPH	2	08/11/08
ION CHROMATOGRAPH	2	08/11/08
INDUCTIVELY COUPLED PLASMA SPECTROMETER	1	08/11/05
INDUCTIVELY COUPLED PLASMA/MASS SPECTROMETER	1	09/15/10
MERCURY ANALYZER	1	08/11/05

Softwares

VARIAN STAR - GCMS
PERKIN ELMER - ICP
PERKIN ELMER - ICP/MS
VARIAN GALAXIE AND CUSTOM WRITTEN-GC

Section 10.0 Chemical Analytical Reports

Chain-of-Custody Record

Client: Western Refining Southwest, Inc
Bloomfield Refinery
Mailing Address: #50 Rd 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: River Terrace / 1st QTR 2010 -
Project #:
Project Manager:
Sampler: CA / RMK
On Ice: ☐ Yes ☐ No
Sample Temperature: 6.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1003242	BTEX + MTBE + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Total Pb	Total Pb & Hg			Air Bubbles (Y or N)
3/9/10	1005	H2O	TP-5	4-VOA	HCL	1	X															
				1-liter Amber		1			X													
				1-500ml	HNO3	1											X					
	1045		MW #4	4-VOA	HCL	2	X		X													
				1 Liter Amber		2																
				1-500ml	HNO3	2											X					
	1130		DW #1	4-VOA	HCL	3	X		[illegible]													
				1-liter Amber		3			X													
				1-500ml	HNO3	3											[illegible]		X			
	1135		Field Blank	2-VOA	HCL	4	X															

Remarks:

Date	Time	Relinquished by	Received by	Date	Time
3/09/10	105pm	Cindy Hurtado			
				10:15 3/10/10	
Date:	Time:	Relinquished by:	Received by:	Date	Time

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining Southwest
Bloomfield Refinery
Mailing Address: #50 Road 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: River Terrace 1st QTR-2010
Project #:
Project Manager:
Sampler: CK / RML
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1003214	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Total Pb				Air Bubbles (Y or N)
3/8/10	1455	H2O	TP-9	4-VOA	HCL	1	X															
				1-Liter Amber		1			X													
				1-500ml	HNO_3	1											X					
	2255		TP-8	4-VOA	HCL	2	X															
				1-Liter Amber		2			X													
				1-500ml	HNO_3	2											X					
	2405		TP-8 FD	4-VOA	HCL	3	X															
				1-Liter Amber		3			X													
				1-500ml	HNO_3	3											X					
			Trip blank TB			4																

Date	Time	Relinquished by:	Received by:	Date	Time
3/8/10	305pm	Cindy Hurtado			
				3/9/10	1030

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining Southwest, Inc
Bloomfield Refinery
Mailing Address: #50 Road 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: River Terrace 1st QTR-2010
Project #:
Project Manager:
Sampler: CM / PMC
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1003284	BTEX + MTBE + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Total Pb				Air Bubbles (Y or N)
3/08/10	1040	H_2O	TP-2	4-VOA	HCL	5	X		X													
				1-liter Amber		5			X													
				1-500ml	HNO_3	5												X				
	1115A	H_2O	TP-1	4-VOA	HCL	6	X															
				1-liter Amber		6			X													
				1-500ml	HNO_3	6												X				
	1145A		TP-6	4-VOA	HCL	7	X															
				1-liter Amber		7			X													
				1-500ml	HNO_3	7												X				
	115PM		TP-7	4-VOA	HCL	8	X															
				1 liter Amber		8			X													
				1-500ml	HNO_3	8												X				

Date: 3/8/10 Time: 315pm Relinquished by: Cindy Hurtado
Received by: [signature] Date: 3/9/10 Time: 1030
Date: Time: Relinquished by:
Received by: [signature] Date: Time:

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
River Terrace 2nd QTR 2010 water

Project #:

Project Manager:

Sampler: CT RML

On Ice: ☒ Yes ☐ No

Sample Temperature: 3

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1004175
4-20-10	830A	H2O	TP-2	3-VOA	HCl	1
				1-500ml	amber	1
				1-500ml	HNO_3	1
	835		TP-1	3-VOA	HCl	2
				1-500ml	amber	2
				1-500ml	HNO_3	2
	920		TP-6	3-VOA	HCl	3
				1-500ml	amber	3
				1-500ml	HNO_3	3
	935		TP-8	3-VOA	HCl	4
				1-500ml	amber	4
				1-500m	HNO_3	4

Date	Time	Relinquished by:	Received by:	Date	Time
4-20-10	240PM	Cindy Hurtado			
Date:	Time:	Relinquished by:	Received by:	4/21/10	1025

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	TBTAL Pb, Cr, Ba	DRO 8015			Air Bubbles (Y or N)
X		X													
												X			
											X				
X		X													
												X			
											X				
X		X													
												X			
											X				
X		X													
												X			
											X				

Remarks: page 1 of 2

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 Road 4990
Bloomfield NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: River Terrace 2nd QTR-2010- Water

Project #:

Project Manager:

Sampler: CH RMK

On Ice: ☒ Yes ☐ No

Sample Temperature: 4/3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1002057	BTEX + MTBE + ~~TMB~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO- 8015	Total Pb, Cr, Ba			Air Bubbles (Y or N)
4-2015	1015	H_2O	TP-7	3-VOA	HCl	5	X		X													
				1-500ml		5												X				
				1-500ml	HNO_3	5													X			
	1040		TP-9	3-VOA	HCl	6	X		X													
				1-500ml		6												X				
				1-500ml	HNO_3	6													X			
	2pm		Field Blank	3-VOA	HCl	7	X		X													
			Trip Blank			8																

Remarks: page 2 of 2

Date	Time	Relinquished by:	Received by:	Date	Time
4-20-10	2:40pm	Cindy Hurtado		4/21/10	9:02
Date:	Time:	Relinquished by:	Received by:	Date	Time

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
River Terrace 2nd Qtr-water

Project #:

Project Manager:

Sampler: RMK

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.7

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 100412
4-20-10	11am	H_2O	TP-5	3-VOA	HCl	1
				1-500ml	Amber	1
				1-500ml	HNO_3	1
	1105		TP-5/FD	3-VOA	HCl	2
				1-500ml	Amber	2
				1-500ml	HNO_3	2
	115		MW-49	3-VOA	HCl	3
				1-500ml	Amber	3
				1-500ml	HNO_3	3
	210		DW #1	3-VOA	HCl	4
				1-500ml	Amber	4
				1-500ml	HNO_3	4

Date	Time	Relinquished by:	Received by:	Date	Time
4-20-10	245	Cindy Hurtado			
				4/21/10	1030
Date	Time	Relinquished by:	Received by:	Date	Time

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	TOTAL Pb, Cr, Ba	DRO 8015	Total Pb, Cr, Ba, Hg		Air Bubbles (Y or N)
X		X													
												X			
											X				
X		X													
												X			
											X				
X		X													
												X			
											X				
X		X													
												X			
													X		

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
River Terrace 2nd QTR 2010-water

Project #:

Project Manager:

Sampler: GH RMK

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1004501-	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Total Pb, Cr, Ba	DRO 8015			Air Bubbles (Y or N)
4-21-10	910A	H_2O	TP-3	3-VOA	HCl	1	X		X													
				1-500ml	Amber	1													X			
				1-500 ml	HNO_3	1												X				
	930A		TP-11	3-VOA	HCl	2	X		X													
				1-500ml	Amber	2													X			
				1-500ml	HNO_3	2												X				
	955		TP-12	3-VOA	HCl	3	X		X													
				1-500ml	Amber	3													X			
				1-500ml	HNO_3	3												X				
	1015		TP-13	3-VOA	HCl	4	X		X													
				1-500ml		4													X			
				1-500ml	HNO_3	4												X				

Date: 4-21-10 Time: 1215 Relinquished by: Cindy Hurtado

Received by: Date: 4/22/10 Time: 1005

Date: Time: Relinquished by:

Received by: Date: Time:

Remarks: Page 1 of 2

Chain-of-Custody Record

Client: Western Refining
Bloomfield Refinery
Mailing Address: #50 CR4990
Bloomfield NM 87410
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: River Terrace 2nd QTR 2010-water
Project #:
Project Manager:
Sampler: CH RMK
On Ice: ☒ Yes ☐ No
Sample Temperature: 3.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1004504	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO-8015	Total Pb, Cr, Ba			Air Bubbles (Y or N)
4/21/10	1045	H2O	TP-10	3-VOA	HCL	5	X		X													
4/21/10	1310			1-500ml		5												X				
				1-500ml	HNO3	5													X			
	1040		Field Blank	3-VOA	HCL	6	X		X													

Date: 4-21-10 Time: 1215 Relinquished by: Cindy Hurtado
Received by: [signature] Date: 4/22/10 Time: 1005
Date: Time: Relinquished by:
Received by: Date: Time:

Remarks: page 2 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining Southwest, Inc
Bloomfield Refinery
Mailing Address: #50 Rd 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: River Terrace 3rd Qtr-2010-water
Project #:
Project Manager:
Sampler: CH RMK
On Ice: ☒ Yes ☐ No
Sample Temperature: 3.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	LAB NO 100736	BTEX + MTBE + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Total Pb	D20-8015			Air Bubbles (Y or N)
7-20-10	730	H2O	TP-2	3-VOA	HCL	1	X		X													
	/		/	1-500ml	HNO3	1												X				
				1-500ml Amber		1													X			
	735		TP-1	3-VOA	HCL	2	X		X													
	/		/	1-500ml	HNO3	2												X				
				1-500ml Amber		2													X			
	820		TP-6	3-VOA	HCL	3	X		X													
	/		/	1-500ml	HNO3	3												X				
				1-500ml Amber		3													X			
	840		TP-8	3-VOA	HCL	4	X		X													
	/		/	1-500ml	HNO3	4												X				
				1-500ml		4													X			

Date: 7-20-10 Time: 215p Relinquished by: Cindy Hurtado
Received by: Date 7/21/10 Time 10:40
Date: Time: Relinquished by:
Received by: Date Time

Remarks: pg 1 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining Southwest, Inc
Bloomfield Refinery
Mailing Address: #50 Rd 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: River Terrace 3rd Qtr-2010-Water
Project #:
Project Manager:
Sampler: GH RMC
On Ice: ☒ Yes ☐ No
Sample Temperature: 3.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1008135	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Total Pb	DRO - 8015			Air Bubbles (Y or N)
7-20-10	845	H2O	TP-8FD	3-VOA	HCL	9	X		X													
				1-500ml	HNO3	01												X				
				1-500ml		5													X			
	910		TP-7	3-VOA	HCL	6	X		X													
				1-500ml	HNO3	6												X				
				1-500ml		6													X			
	1135		Field Blank	3-VOA	HCL	7	X		X													
			Trip Blank 7/21			8																

Date:	Time:	Relinquished by:	Received by:	Date	Time
7-20-10	215p	Cindy Hurtado			
				7/21/10	10:40
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: pg 2 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining Southwest Inc
Bloomfield Refinery

Mailing Address:
#50 Road 4990

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
River Terrace 3rd QTR-2010-WATER

Project #:

Project Manager:

Sampler: Cindy / Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.5°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Total Pb	Dro - 8015	Total Pb, Hg		Air Bubbles (Y or N)
7-20-10	950	H2O	MW #4	3-VOA	HCL	1	X		X													
				1-500ml	HNO3	1												X				
				1-500ml		1													X			
	1010		TP-9	3-VOA	HCL	2	X		X													
				1-500ml	HNO3	2												X				
				1-500ml		2													X			
	1040		TP-5	3-VOA	HCL	3	X		X													
				1-500ml	HNO3	3												X				
				1-500ml		3													X			
	1125		DW #1	3-VOA	HCL	4	X			X												
				1-500ml	HNO3	4														X		
				1-500ml		4													X			

Date: 7-20-10 Time: 2250 Relinquished by: Cindy Hurtado
Received by: [signature] Date: 7/21/10 Time: 10:40

Date: Time: Relinquished by:
Received by: Date: Time:

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
River Terrace 4th QTR 2010

Project #:

Project Manager:

Sampler: Cindy & Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + ~~MTBE~~ + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)	Total Pb	DRO - 8015			Air Bubbles (Y or N)
10-18-10	1245	H2O	TP-2	3-VOA	HCl	1	X		X													
				1-500ml	HNO3	1												X				
				1-500ml	Amber	1													X			
	1250		TP-2 FD	3-VOA	HCL	2	X		X													
				1-500ml	HNO3	2												X				
				1-500ml	Amber	2													X			
	125		TP-1	3-VOA	HCl	3	X		X													
				1-500ml	HNO3	3												X				
				1-500ml	Amber	3													X			
	145		TP-6	3-VOA	HCl	4	X		X													
				1-500ml	HNO3	4												X				
				1-500ml	Amber	4													X			

Date: 10/18/10 Time: 315 Relinquished by: Cindy Hurtado

Received by: Melissa Montano Date: 10/19/10 Time: 1130

Date: Time: Relinquished by:

Received by: Date: Time:

Remarks: pg 1 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining
Bloomfield Refinery
Mailing Address: #50 Rd4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☑ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: River Terrace 4th RTK - 2010
Project #:
Project Manager:
Sampler: CH RM
On Ice: Yes No
Sample Temperature: °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1010865	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Total Pb	DRO - 8015			Air Bubbles (Y or N)
10-18-10	240	H2O	TP-8	3-VOA	HCL	5	X		X													
	/		/	1-500ml	HNO3	5												X				
				1-500ml	Amber	5													X			
	235		TP-9	3 VOA	HCL	6	X		X													
	/		/	1-500ml	HNO3	6												X				
				1-500ml	Amber	6													X			
	345		TP-5	3-VOA	HCL	7	X		X													
	/		/	1-500ml	HNO3	7												X				
				1-500ml	Amber	7													X			
	305		Field Blank	3-VOA	HCL	8	X		X													

Date: 10-18-10 Time: 315 Relinquished by: Cindy Hurtado
Received by: M Waltens Date: 10/19/10 Time: 1130
Date: Time: Relinquished by:
Received by: Date: Time:

Remarks: pg 2 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
River Terrace - 4th QTR - 2010

Project #:

Project Manager:

Sampler: CH RMK

On Ice: ☒ Yes ☐ No

Sample Temperature: 5

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1010813	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 8015	Total Pb			Air Bubbles (Y or N)
10-19-10	1245	H2O	TP-7	3-VOA	HCl	-1	X		X													
				1-500ml	Amber	-1												X				
				1-500ml	HNO3	-1													X			
	150		MW 49	3-VOA	HCl	-2	X		X													
				1-500ml	Amber	-2												X				
				1-500ml	HNO3	-2													X			
	240		DW-1	3-VOA	HCl	-3	X		X													
				1-500ml	Amber	-3												X				
				1-500ml	HNO3	-3													X			
	245		Field Blank	3-VOA	HCl	-4	X		X													

Date	Time	Relinquished by:	Received by:	Date	Time
10-19-10	320	Cindy Hurtado			
			Cindy Hurtado	10/20	10:30

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
River Terrace - 4th QTR-2010

Project #:

Project Manager:

Sampler: RMK

On Ice: ☒ Yes ☐ No

Sample Temperature: 2 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 8015	Total Pb			Air Bubbles (Y or N)
10-19-10	905	H2O	TP-3	3-VOA	HCL	1010864-1	X		X													
				1-500ml	Amber													X				
				1-500ml	HNO3														X			
	930		TP-11	3-VOA	HCL	-2	X		X													
				1-500ml	Amber													X				
				1-500ml	HNO3														X			
	950		TP-12	3-VOA	HCL	-3	X		X													
				1-500ml	Amber												X	X				
				1-500ml	HNO3														X			
	1025		TP-13	3-VOA	HCL	-4	X		X													
				1-500ml	Amber													X				
				1-500ml	HNO3														X			

Date: 10-19-10 Time: 325 Relinquished by: Cindy Hurtado Received by: _____ Date Time

Date: _____ Time: _____ Relinquished by: _____ Received by: _____ Date 10/20 Time 10:30A

Remarks: page 1 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-4911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
River Terrace 4th Qtr 2010

Project #:

Project Manager:

Sampler: A Pink

On Ice: ☒ YES ☐ NO

Sample Temperature: 4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 8015	Total Pb			Air Bubbles (Y or N)
10-19-10	1050	H2O	TP-10	3-VOA	HCl	1010864-5	X		X													
/	/	/	/	1-500mL	Amber													X				
				1-500mL	HNO3														X			
			Trip Blanks MW	3	HCL	-6																

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
10-19-10	325	Cindy Hurtado			
Date:	Time:	Relinquished by:	Received by:	Date	Time
				10/20	10:30

Remarks: pg 2 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining Southwest, Inc
Bloomfield Refinery
Mailing Address: #50 Rd 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: Vapor River Terrace 1st QTR-2010
Project #:
Project Manager:
Sampler: ST - RMK
On Ice: ☒ Yes ☐ No
Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1003217	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/08/10	1030	Vapor	TP-2	1-tedlar		1	X		X													
	11AM		TP-1			2	X		X													
	1135		TP-6			3	X		X													
	1pm		TP-7			4	X		X													
	130p		TP-9			5	X		X													
	2PM		TP-8			6	X		X													
	210		TP-8 FD			7	X		X													

Date: 3/08/10 Time: 3pm Relinquished by: Cindy Hurtado
Received by: 3/9/10 Date Time: 1030
Date: Time: Relinquished by:
Received by: Date Time:

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining Southwest, Inc
Bloomfield Refinery
Mailing Address: #50 Rd 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: River Terrace - 1st Qtr 2010 VS
Project #:
Project Manager:
Sampler: CT / Rmk
On Ice: ☐ Yes ☐ No
Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1003249	BTEX + MTBE + TPH (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/9/10	951A	Vapor	TP-5	1-tedlar		1	X		X													
	1020		MW #49			2	X		X													
	11Am		DW #1			3	X		X													
	1105A		Field Blank			4	X		X													

Date: 3/9/10 Time: 1102 Relinquished by: Cindy Hurtado
Received by: Date 3/10/10 Time 1015
Date: Time: Relinquished by:
Received by: Date Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
River Terraced 2nd Qtr-VS

Project #:

Project Manager:

Sampler: GT/RMK

On Ice: ☒ Yes ☐ No

Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1005010	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
4-20-10	820A	VAPOR	TP-2	1-Tedlar		1	X		X													
	840A		TP-1			2	X		X													
	910A		TP-6			3	X		X													
	935A		TP-8			4	X		X													
	955A		TP-7			5	X		X													
	1025		TP-9			6	X		X													
	1055		TP-5			7	X		X													
	1057		TP-5 FD			8	X		X													
	1250		MW 49			9	X		X													
	135		Dup #1			10	X		X													
	145		Field Blank			11	X		X													

Date	Time	Relinquished by:	Received by:	Date	Time
4-20-10	247pm	[signature]	[signature]	4/21/10	1025
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: River Terraced 2nd Qtr 2010-VS

Project #:

Project Manager:

Sampler: Cliff Rush

On Ice: ☒ Yes ☐ No

Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1004505	BTEX + MTBE + TMB (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
4-21-10	9AM	VAPOR	TP-3	1-Tedlar		1	X		X													
	920A		TP-11			2	X		X													
	940A		TP-12			3	X		X													
	1005		TP-13			4	X		X													
	1030		TP-10			5	X		X													
	1035		Field Blank			6	X		X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-21-10	12N	Cindy Hurtado		4/22/10	1000
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining Southwest, Inc
Bloomfield Refinery
Mailing Address: #50 Rd 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: River Terrace 3rd QTR-2010-VS
Project #:
Project Manager:
Sampler: CH RMK
On Ice: ☐ Yes ☐ No
Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1007737
7-20-10	725A	VAPOR	TP-2	1-Tedlar		1
	750A		TP-1			2
	815		TP-6			3
	830		TP-8			4
	837		TP-8FD			5
	9AM		TP-7			6
	930A		MW#4			7
	10AM		TP-9			8
	1030A		TP-5			9
	11AM		DW#1			10
	1115		Field Blank			11

Analysis Request

BTEX + MTBE + TMB's (8021) (TEX)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
X		X													
X		X													
X		X													
X		X													
X		X													
X		X													
X		X													
X		X													
X		X													
X		X													
X		X													

Remarks:

Date:	Time:	Relinquished by:	Received by:	Date	Time
7-20-10	220	Cindy Hurtado			
Date:	Time:	Relinquished by:	Received by:	7/21/10	10:40

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining
Bloomfield Refinery
Mailing Address: #50 Rd 4990
Bloomfield NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: River Terrace - 4th QTR. 2010 VS
Project #:
Project Manager:
Sampler: KA pmk
On Ice: ☐ Yes ☒ No
Sample Temperature: 3.0 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1010869	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
10-18-10	1230	Vapor	TP-2	1-Tedlar		1	X		X													
	1233		TP-2FD			2	X		X													
	115		TP-1			3	X		X													
	140		TP-6			4	X		X													
	2pm		TP-8			5	X		X													
	230		TP-9			6	X		X													
	250		TP-5			7	X		X													
	255		Field Blank			8	X		X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
10-18-10	320	Cindy Hurtado	M. Walters	10/19/10	1135
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
River Terrace 4th QTR 2010 - VS

Project #:

Project Manager:

Sampler: CH Rink

On Ice: ☐ Yes ☐ No

Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
10/9/10	835	Vapor	TP-7	1-Tedlar		1010862-1	X		X													
	855		TP-3			-2	X		X													
	920		TP-11			-3	X		X													
	945		TP-12			-4	X		X													
	1015		TP-13			-5	X		X													
	1040		TP-10			-6	X		X													
	120		MW49			-7	X		X													
	205		DW #1			-8	X		X													
	215		Field Blank			-9	X		X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/9/10	315	Cindy Hurtado			
Date:	Time:	Relinquished by:	Received by:	Date	Time
				10/8	10:50A

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 Rd 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: GAC - 1st Qtr. 2010

Project #:

Project Manager:

Sampler: Cindy Hurtado

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
1/4/10	230P	H2O	GAC Inlet	3-VOA	HCL	1	X		X									
↓	245P	1	GAC lead	1	1	2	X		X									
↓	2pm	1	GAC lag	1	1	3	X		X									

Date: 1-04-2010 Time: 302pm Relinquished by: Cindy Hurtado

Received by: Date 1/5/10 Time 10:00

Date: Time: Relinquished by:

Received by: Date Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 Rd 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
GAC - 02-2010

Project #:

Project Manager:

Sampler: Cindy

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.9

HEAL No. 1002089

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	BTEX + MTBE + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2-2-10	1115A	H_2O	GAC - Lead	3-VOA	HCl	-1	X		X												

Date: 2-2-10 Time: 107p Relinquished by: Cindy Hurtado

Received by: [signature] Date: 2/3/10 Time: 958

Date: Time: Relinquished by:

Received by: Date: Time:

Remarks:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Chain-of-Custody Record

Client: Western Refining
Bloomfield Refinery
Mailing Address: #50 Rd 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: GAC 3-2010
Project #:
Project Manager:
Sampler: CH/RM
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1003913	BTEX + MTBE + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/9/10	1145	H2O	GAC-LEAD	3-VOA	HCl	1	X		X													
				250ml-JAR					X													

Date: 3/9/10 Time: 1Pm Relinquished by: Cindy Hurtado
Date: Time: Relinquished by:

Received by:
Received by: 10:15 Date: 3/10/10 Time:

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining Southwest, Inc
Bloomfield Refinery
Mailing Address: #50 Rd 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: GAC 2nd QTR- 2010
Project #:
Project Manager:
Sampler: CH RMK
On Ice: ☒ Yes ☐ No
Sample Temperature: 2.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1003610	BTEX + MTBE + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/~~Diesel~~)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 8015				Air Bubbles (Y or N)
4-20-10	1125	~~H2O~~	GAC INLET	4-VOA	HCl	1	X		X													
	/		/	1-500ml Amber		1												X				
	1120	~~H2O~~	GAC Lead	4-VOA		2	X		X													
	/		/	1-500ml Amber		2												X				
	1115	~~H2O~~	GAC LAG	4-VOA		3	X		X													
	/	H_2O	/	1500ml		3												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-20-10	2440	Cindy Hurtado			
Date:	Time:	Relinquished by:	Received by:	4/21/10	1030
				Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
GAC 5-3-10

Project #:

Project Manager:

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 100541	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (GRO/DRO/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
5-3-10	1020	H2O	GAC - Lead	3-VOA	HCl	1	X		X									
5-3-10	1020	H2O	GAC - Lead	500ml	✓	1			X									

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
5-3-10	2:30	Robert Krakow			
				5/4/10	9:55
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
GAC Monthly 6-1-10

Project #:

Project Manager:

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1005075	BTEX + MTBE + TMB (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
6-1-10	9:00	H2O	GAC Lead	3-VOA	HCl	1	X	X														
6-1-10	9:00	H2O	GAC Lead	500 ml	—	02		X														

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
6-1-10	3:00	Robert Krabow			
Date:	Time:	Relinquished by:	Received by:	6/2/10	10:25

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining Southwest, Inc
Bloomfield Refinery
Mailing Address: #50 Rd 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
email or Fax#: 505-632-3911
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: GAC 3rd QTR-2010
Project #:
Project Manager:
Sampler: GH Rmk

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + ~~TMB~~'s (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 8015				Air Bubbles (Y or N)
7-20-10	115	H_2O	GAC Inlet	4-VOA	HCl	5	X		X													
"	"	"	"	1-500ml Amber		5												X				
"	1330	"	GAC Lead	4-VOA	HCl	6	X		X													
"	"	"	"	1-500ml Amber		6												X				
"	1345	"	GAC LAG	4-VOA	HCl	7	X		X													
"	"	"	"	1-500ml Amber		7												X				
			Trip blank TB 7/21/10			8																

Date	Time	Relinquished by	Received by	Date	Time
7-20-10	1728	Cindy Hurtado			
				7/21/10	10:40

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
GAC Monthly 8-10-10

Project #:

Project Manager:

Sampler: Bob & Cindy

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1008327	BTEX + MTBE + TMB (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
8-10-10	9:45	H_2O	GAC-Lead	3-VOA	HCl	1	X		X													
8-10-10	9:45	H_2O	" "	500ml	—	1			X													

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-10-10	3:00	Robert Knakow			
Date:	Time:	Relinquished by:	Received by:	8/11/10	1028

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
GAC Monthly 9-27-10

Project #:

Project Manager:

Sampler: Bob

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	[redacted]	BTEX + MTBE + [redacted] (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
9-27-10	1040	H_2O	GAC Lead	3-VOA	HCl	1009C52-1	X		X													
9-27-10	1040	H_2O	" "	1-500ml	amber	-1			X													

Date: 9-27-10 Time: 3:00 Relinquished by: Robert Krakow

Received by: Melissa Morton Date: 9/28/10 Time: 1045

Date: Time: Relinquished by:

Received by: Date: Time:

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: WESTERN REFINING

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 4TR QRT
GAC - [redacted] 10-19-10

Project #:

Project Manager:

Sampler: Bob + Cindy

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1010X-13	Analysis Request: BTEX + MTBE + [redacted]s (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	8015B DRO				Air Bubbles (Y or N)
10-19-10	1210	H_2O	GAC-Lead	3-VOA	HCl	-1	X		X													
	1210	H_2O	GAC-Lead	1-500ml	amber	-1												X				
	12N	H_2O	GAC-LAG	3-VOA	HCl	-2	X		X													
	12N	H_2O	GAC-LAG	1-500ml	amber	-2												X				
	1220	H_2O	GAC-inlet	3-VOA	HCl	-3	X		X													
	122D	H_2O	GAC-inlet	1-500ml	amber	-3												X				
		H_2O	TRIP BLANK	2-VOA	HCl	-4	X															

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/19/10	318	Cindy Hurtado			
Date:	Time:	Relinquished by:	Received by:	Date	Time
				10/20	10:35

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
GAC-Lead Monthly Nov. 2010

Project #:

Project Manager:

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.4°

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1012077	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	8015B DRO				Air Bubbles (Y or N)
11-30-10	2:55	H_2O	GAC-Lead	3-VOA	HCl	-1	X		X													
11-30-10	2:55	H_2O	GAC-Lead	1-500ml	Amber	-2												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
12-1-10	3:00	Robert Krahn	Mitchell Cpris	12/1/10	10:15
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
GAC-Monthly Dec. 2010

Project #:

Project Manager:

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1035511	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO 8015B				Air Bubbles (Y or N)
12-13-10	10:10	H_2O	GAC-Lead	3-VOA	HCl	1	X		X													
12-13-0	10:10	H_2O	GAC-Lead	1-500ml	Amber	1												X				

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
12-13-10	3:00	Robert Krakow				
Date:	Time:	Relinquished by:	Received by:	12/14	1:30	

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.