Mark Vishnefske

From: Mark Vishnefske
Sent: Thursday, July 05, 2012 3:35 PM
To: 'Epperson, Brenda'
Cc: 'Jay Mednick'
Subject: KSD087418695 - MRP Properties, Arkansas City - Part B Permit Application

Brenda,

KDHE has determined that the Part B Permit Application is complete and requires no further changes. The draft Part I and Part II Permits are currently undergoing concurrence at KDHE and EPA. I will forward copies to you as soon as possible. The tentative date for the public comment period is July 23rd thru September 5th, 2012 which is very optimistic. We will be conducting an availability session and public hearing for the renewal permit. I will begin scheduling a time and location for the availability session and hearing as soon as the concurrence process is finished. I will keep you updated.

Mark Vishnefske, P.G.
Environmental Scientist II
Kansas Department of Health and Environment
Bureau of Waste Management
Hazardous Waste Permits Section
1000 SW Jackson Suite 320
Topeka, Kansas 66612-1366
Office: 785-291-3760
Fax: 785-296-1592
Email: mvishnefske@kdheks.gov

MWH

BUILDING A BETTER WORLD

April 24, 2012

1012425

Chief of the Hazardous Waste Permits Section
Attn: Mostafa Kamal, PE, CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

VIA FEDERAL EXPRESS
TRK# 7934 8872 0978

Re: Quarterly Corrective Action Progress Report First Quarter 2012
Quarterly Progress Report No. 1 – RW-80A 180 Day Temporary Authorization
MRP Properties Company, LLC – Arkansas City Refinery
Facility ID: KSD 087418695

Dear Mr. Kamal:

This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit (September 20, 2001). This report provides a discussion of the permit related tasks and the tasks that MRP has implemented on a voluntary basis. Specifically, the discussion of the groundwater pumping and product recovery is presented as it relates to 1) the RCRA groundwater corrective action at the waste management area (WMA) and 2) the voluntary corrective actions section for the product recovery from the rest of the site. In addition, Section 3 contains the monthly demonstration of the reverse hydraulic gradient for the first quarter of the 180 day temporary authorization to discontinue operation of recovery well RW-80A. An electronic copy of this report is included on the attached CD-ROM.

SECTION 1: PERMIT RELATED TASKS

Description of Work Completed:

- Groundwater Corrective Action – the groundwater corrective action system downgradient of the WMA operated normally during this reporting period.
- The fourth quarter 2011 Corrective Action Progress Report was submitted to KDHE and EPA on January 24, 2012.
- MRP submitted a request for a 180 day temporary authorization to discontinue operation of recovery well RW-80A to KDHE on January 31, 2012.
- MRP submitted notification of the request to KDHE for the 180 day temporary authorization to the facility mailing list on February 1, 2012.
- The annual wellbore siltation evaluation to assess down well siltation and well screen occlusion in the 20 corrective action monitoring wells was performed on February 17, 2012.
- The 2011 Annual Groundwater Corrective Action Report was submitted to KDHE and EPA on February 28, 2012.

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- The 2011 Annual Groundwater Corrective Action Report was submitted to KDHE and EPA on February 28, 2012.
- Quarterly Bioreactor Sampling – the first quarter 2012 bioreactor influent water sampling was performed on March 8, 2012. MRP collected a bioreactor effluent water sample on the same day.
- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on March 8, 2012 in conjunction with the site-wide groundwater level monitoring. Additionally, monthly capture zone operational monitoring and site-wide groundwater level monitoring were conducted on January 19, 2012 and February 17, 2012.
- Land Treatment Unit (LTU) Corrective Action – the LTU soil vapor extraction (SVE) system run time was 77 percent during the first quarter. The SVE system was down for 18 days in February due to a failure of the moisture knock-out tank water transfer pump. MRP notified KDHE when the system was turned off and restarted. The air sparge (AS) system operated 99 percent of the time during the first quarter. The LTU air sparge system quarterly air flow balancing was conducted on March 23, 2012 and the first quarter SVE inlet air sample was collected on March 26, 2012.

Summaries of all Findings and Summaries of Laboratory Data:

- Approximately 2,287 gallons of product were recovered from the WMA recovery wells (RW-35 to RW-80A) during the first quarter. The WMA groundwater pumping rates and product recovery volumes for each month of the first quarter are summarized on Table 1. Table 1 also includes the product recovery totals from recovery wells outside the WMA and the combined totals for the entire site.
- During the first quarter of 2012, approximately 90 percent of the product recovered from the WMA was recovered from recovery well RW-35, 5 percent was recovered from recovery well RW-75, 3 percent was recovered from recovery well RW-45, and 2 percent was recovered from recovery well RW-40.
- The average monthly groundwater pumping rate from the WMA during the first quarter ranged between 975 and 995 gallons per minute (gpm) and averaged 987 gpm.
- The total well depths were measured at each of the 20 corrective action monitoring wells on February 17, 2012. The RCRA Permit requires wells to be redeveloped to remove sediment when more than 10% of the screened length is occluded. None of the monitor wells exhibited more than 7.2 percent screen occlusion. The total depth measurements are included on the field form located in Attachment 1. The calculated percent screen occlusion data are presented on a summary table included in Attachment 1.
- The March 8, 2012 bioreactor influent and effluent sample laboratory analytical results are summarized on Table 2. The results are consistent with previous monitoring events. The laboratory report summary pages are included in Attachment 2.
- The groundwater capture zone monitoring conducted during the first quarter demonstrated continued compliance with the facility permit requirement; the monitoring data are summarized on Table 3 and the field forms are included in Attachment 1.
- Site-wide groundwater level measurement data for the first quarter are presented on Table 4. Groundwater potentiometric surface contour and free product extent maps for the same period are presented on Figures 1 to 3.
- Land Treatment Unit (LTU) Corrective Action – the first quarter (March 26, 2012) LTU

SVE inlet air sample laboratory analytical results are summarized on Table 5. The laboratory report summary pages are included in Attachment 2. The laboratory results are consistent with previous SVE system air sample results; there were no detections of benzene, toluene, ethylbenzene, xylenes (BTEX), methyl tert-butyl ether (MTBE), or total petroleum hydrocarbons – gasoline range organics (TPH-GRO) in the inlet air sample.

Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems:
No problems were encountered during the reporting period.

Projected Work for the Next Quarter:

- Submit this first quarter 2012 corrective action progress report to KDHE and EPA by April 30, 2012.
- Respond to KDHE and EPA comments dated March 15, 2012 pertaining to the Exposure Unit Supplemental Soil Investigation Report.
- Conduct quarterly capture zone monitoring and bioreactor influent monitoring.
- Conduct quarterly air sampling at the LTU SVE system and air flow balancing at the LTU AS system.
- Conduct semiannual groundwater monitoring; tentatively scheduled for the first week in May.

Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II R:
There are no instances of noncompliance to report under Part II.R of the permit.

SECTION 2: VOLUNTARY CORRECTIVE ACTIONS

This section of the report presents information on the groundwater and product recovery wells located outside the WMA and the closed surface impoundment (CSI) soil vapor extraction and air sparging (SVE/AS) system.

Product Recovery System (PRS) Overview:
The PRS consists of the product recovery wells located outside the WMA. The wells extract groundwater developing a groundwater cone of depression to induce free product to flow toward the recovery well where it is extracted via a product pump. The PRS groundwater pumping rates and product recovery data for the first quarter are summarized on Table 1. Table 1 includes the pumping rates from the WMA wells and the combined pumping rates for the entire site for comparison.

- Approximately 9,845 gallons of product were recovered from the PRS recovery wells (RW-10, RW-11, RW-21, RW-30, RW-31, RW-33, PARW-1, PARW-2, NARW-1, NARW-2, and NARW-3) during the first quarter. The groundwater pumping rates and product recovery volumes for January, February, and March are summarized on Table 1.
- During the first quarter of 2012, the majority of the product was recovered from PRS recovery wells PARW-2 (36 percent), RW-21 (20 percent), PARW-1 (19 percent), and RW-

31 (9 percent). The remaining 16 percent, in decreasing production order, was recovered from NARW-1, NARW-3, RW-33, and RW-30.

- The average monthly groundwater pumping rate from the PRS ranged between 365 and 405 gallons per minute (gpm) during the first quarter with an average pumping rate for the first quarter of 382 gpm.

Closed Surface Impoundment Soil Vapor Extraction and Air Sparge System Overview:
The CSI SVE/AS system was turned off December 27, 2011 following completion of a SVE system rebound test conducted between September 6 and December 27, 2011.

Projected Work for the Next Quarter:

- Perform routine maintenance and monitoring of the PRS.
- Provide a report summarizing the CSI SVE system rebound test.

SECTION 3: QUARTERLY PROGRESS REPORT – RW-80A 180 DAY TEMPORARY AUTHORIZATION

KDHE approved MRP's request for a 180 day temporary authorization to discontinue operation of recovery well RW-80A on February 24, 2012. The approval stipulated that MRP must submit quarterly progress reports including monthly water level measurements, demonstration of reverse hydraulic gradient between the operating recovery wells and the Walnut River, and any other related information.

In accordance with the KDHE approval, the monthly water level measurements are presented on Table 4. The monthly demonstration of reverse hydraulic gradient between the operating recovery wells and the Walnut River is presented on Table 3 and the field forms containing the monthly gradient demonstration monitoring data are included in Attachment 1.

If you have any questions or comments regarding this information, please contact Brenda Epperson, MRP at (210) 345-4619 or Jay Mednick, MWH at (303) 291-2262.

Sincerely,
MWH Americas, Inc.

Joseph Mednick, P.G.
Principal Hydrogeologist

Enclosed: Tables 1-5, Figures 1-3, Attachments 1 and 2, CD-ROM

cc: Kent Biggerstaff, MRP w/enc.
Brenda Epperson, MRP w/enc.
Brad Roberts, EPA Region 7, WRAP/AWMD w/enc. (2 copies)
Mark Vishnefske, KDHE BWM w/enc.

Mark Vishnefske

From: Jay Mednick [Joseph.F.Mednick@us.mwhglobal.com]
Sent: Wednesday, February 29, 2012 1:11 PM
To: Mark Vishnefske
Cc: 'Epperson, Brenda'; Everett Spellman
Subject: RE: MRP Properties Company - Arkansas City - LTU Soil Vapor Extraction System - Temporary Shutdown - KO Tank Water Transfer Pump

Mark,

The purpose of this e-mail is to notify KDHE that the LTU soil vapor extraction system has resumed operation as of today, 2/29/12.

Jay

Jay Mednick, P.G
Principal Hydrogeologist
MWH Americas, Inc.
1801 California Street, Suite 2900
Denver, CO, 80202

Direct. 303 291 2262
Main. 303 291-2222
Cell. 303 885-5069
Fax. 303 291-2221
Email: jay.mednick@mwhglobal.com
MWH Website: http://www.mwhglobal.com

From: Mark Vishnefske [mailto:MVishnefske@kdheks.gov]
Sent: Tuesday, February 21, 2012 2:59 PM
To: Jay Mednick
Cc: 'Epperson, Brenda'; Everett Spellman
Subject: RE: MRP Properties Company - Arkansas City - LTU Soil Vapor Extraction System - Temporary Shutdown - KO Tank Water Transfer Pump

Jay,

Thank you for the notification of the LTU SVE system failure. Please inform us as soon as the problem has been fixed and the system has returned to operation.

Mark Vishnefske
Environmental Scientist II
Kansas Department of Health and Environment
Bureau of Waste Management
Hazardous Waste Permits Section
1000 SW Jackson Suite 320
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BUREAU OF WASTE MANAGEMENT

1012425

February 28, 2012

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7981 1130 6553

Re: 2011 Annual Groundwater Monitoring Report
Arkansas City, Kansas
MRP Properties Company, LLC
EPA ID No.: KSD087418695

Dear Mr. Kamal,

Please find enclosed the 2011 Annual Groundwater Monitoring Report for the former Arkansas City Refinery site located in Arkansas City, Kansas. MWH Americas Inc. is submitting this report on behalf of MRP Properties Company, LLC (MRP). An electronic copy of the report is included on the CD-ROM included in Appendix E. This report has been prepared in accordance with the above referenced RCRA permit.

If you have any questions regarding this report, please contact Brenda Epperson, MRP at (210) 345-4619 or me at (303) 291-2262

Sincerely,

MWH Americas, Inc.

Joseph Mednick, P.G.
Principal Hydrogeologist

Enclosure: 2011 Annual Groundwater Monitoring Report

cc: Brenda Epperson, MRP w/enc.
Kent Biggerstaff, MRP w/enc.
Everett Spellman, KDHE HWPS w/o enc.
Mark Vishnefeske, KDHE HWPS w/o enc.
Bradley Roberts, EPA Region 7, WRAP/AWMD w/enc. (2 copies)

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Robert Moser, MD, Secretary.

Kansas
Department of Health & Environment

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Sam Brownback, Governor

February 24, 2012

Brenda B. Epperson
Environmental Manager
MRP Properties Company, LLC
P.O. Box 696000
San Antonio, TX 78269-6000

RE: Temporary Authorization to Discontinue Operation of Recovery Well RW-80A
MRP Properties Company, LLC
Former Total Petroleum, Inc. Refinery
1400 South M Street, Arkansas City, Kansas
RCRA ID# KSD087418695

Dear Ms. Epperson,

The Kansas Department of Health and Environment (KDHE) received a January 31, 2012 letter from MRP Properties Company, LLC (MRP) requesting a temporary authorization to discontinue operation of recovery well RW-80A. Recovery well RW-80A is one of 10 recovery wells associated with the groundwater containment and recovery system. The purpose of these recovery wells is to prevent groundwater releases to the Walnut River. KDHE is approving this request in accordance with 40 CFR 270.42(e). Approval is based on groundwater hydraulic gradient data that indicates that recovery well RW-80A is interfering with the capture zone created by recovery well RW-75. Suspension of the operation of recovery well RW-80A will allow for time to assess the effect of this well on the efficiency of the groundwater containment and recovery system.

The duration of this authorization is limited to 180 days from the initiation of the proposed activity. During this time period, MRP is required to meet all applicable permit conditions and any applicable state, federal, and/or local requirements. MRP must maintain hydraulic containment of the contaminant plume by continual operation of the groundwater containment and recovery system, excluding recovery well RW-80A, to prevent any groundwater releases to the Walnut River. MRP must submit quarterly progress reports including monthly water level measurements, demonstration of a reverse hydraulic gradient between the operating recovery wells and the Walnut River, and any other related information.

In accordance with 40 CFR 270.42(e)(2)(iii), the permittee is required to send notice of the authorization request to all persons on the facility mailing list within seven calendar days of the request. If you have any questions or concerns regarding this letter, you may contact me by phone at (785)-291-3760 or e-mail me at (mvishnefske@kdheks.gov).

Sincerely,

Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions

cc: Jay Mednick – MWH Americas, Inc.
Brad Roberts – EPA Region 7/AWMD/RCAP
Allison Herring – DEA/SCDO/Waste Programs
Bill Bider – KDHE/BWM

Mark Vishnefske

From: Jay Mednick [Joseph.F.Mednick@us.mwhglobal.com]
Sent: Tuesday, February 21, 2012 3:36 PM
To: Mark Vishnefske
Cc: Brenda Epperson; Everett Spellman
Subject: MRP Properties Company - Arkansas City - LTU Soil Vapor Extraction System - Temporary Shutdown - KO Tank Water Transfer Pump

Mark,

The purpose of this e-mail is to notify KDHE that the Land Treatment Unit (LTU) soil vapor extraction system at the MRP Properties Company Arkansas City site is temporarily shut down. The SVE system water knock-out (KO) tank water transfer pump failed on 2/11/12 preventing the removal of water from the KO tank. A replacement pump has been ordered and we anticipate the system will resume operation next week. We will notify KDHE if the schedule is longer. The air sparge component of the LTU SVE/AS continues to operate.

KDHE will be notified when the LTU SVE system operation is resumed.

Please contact me or Brenda Epperson if you have any questions about this matter.

Thank you.

Jay

Jay Mednick, P.G
Principal Hydrogeologist
MWH Americas, Inc.
1801 California Street, Suite 2900
Denver, CO, 80202

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Cell. 303 885-5069
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MWH Website: http://www.mwhglobal.com

MRP Properties Company, LLC
Post Office Box 696000 • San Antonio, Texas 78269-6000 • Telephone (210) 345-2000

Brenda B. Epperson
Manager, Environmental

January 31, 2012

RECEIVED
FEB 06 2012
BUREAU OF WASTE MANAGEMENT

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Request for Temporary Authorization to Discontinue Operation of Recovery Well RW-80A
MRP Properties Company, LLC Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Kamal:

MRP Properties Company, LLC (MRP) is submitting this request for a 180 day temporary authorization to discontinue the operation of recovery well RW-80A. The purpose of this request is to demonstrate that the groundwater corrective action system will meet the applicable parts of the facility's hazardous waste management permit without recovery well RW-80A while improving the efficiency of the groundwater corrective action system. The Part B permit renewal application submitted to KDHE in June 2011 reflects this permit modification.

This modification request is made in accordance with 40 CFR 270.42 for the above referenced facility and in accordance with Section IV.C.5 of the facility's post-closure care permit (Permit). MRP is requesting the Kansas Department of Health and Environment (KDHE) Bureau of Waste Management (BWM) issue a temporary authorization to discontinue the operation of recovery well RW-80A. This request for temporary authorization contains:

- *Background information related to the groundwater corrective action system;*
- *A description of the activities to be conducted under the temporary authorization;*
- *An explanation of why the temporary authorization is necessary;*
- *Information to ensure compliance with 40 CFR part 264 standards; and,*
- *Notification of the temporary authorization request.*

Background

The groundwater corrective action system for the waste management area in the original Permit (September 20, 2001) consisted of six recovery wells (RW-35, RW-40. RW-50, RW-60, RW-70, and RW-80A). A request for a temporary authorization to implement a Class 2 permit modification was submitted to KDHE (November 7, 2001) for the installation of four additional corrective action groundwater recovery wells (RW-45, RW-55, RW-65, and RW-75). The purpose of these additional wells was to improve the efficiency and effectiveness of the waste management area groundwater corrective action system. The temporary authorization was approved on November 16, 2001 and a Class 2 permit modification was completed on July 22, 2002. The addition of the four new recovery wells reduced the

spacing between the original six recovery wells. However, the improved spacing between recovery wells conflicted with recovery well RW-80A as described in the explanation section of this letter.

Description of Activities
MRP is requesting to discontinue operation of recovery well RW-80A during the temporary authorization period. MRP will monitor the water level and product thickness in RW-80A monthly during the temporary authorization period. The RW-80A water level and product thickness measurements will be submitted to KDHE via e-mail within 14 days of the monthly measurements. In addition, MRP will include the monthly water level measurements, groundwater gradient reversal data, and product thickness observations and conclusions in a temporary authorization subsection of quarterly corrective action progress reports during the term of the temporary authorization. Free product corrective action in this area will be addressed in the site corrective measures study (CMS).

Explanation
Recovery well RW-80A is one of 10 groundwater recovery wells (Permit Section IV.C.1.) located along the downgradient boundary of the waste management area. The purpose of these recovery wells is to prevent groundwater releases to the Walnut River. The prevention of releases to the Walnut River is achieved by maintaining a reverse groundwater hydraulic gradient between the recovery wells and the Walnut River (Permit Section IV.C.2).

Recovery well RW-80A is located directly downgradient of recovery well RW-75 (see background discussion above) and adjacent to capture zone monitoring well CMW-04. Groundwater withdrawal from recovery well RW-80A interferes with the capture zone in the vicinity of recovery well RW-75 resulting in a reduction of the efficiency of the groundwater corrective action system.

Compliance with Permit Section IV.C.2 – Prevention of Releases to the Walnut River
The facility will maintain compliance with this permit requirement and operate the recovery wells listed in Permit Section IV.C.1 (Table 4) with the exception of recovery well RW-80A.

Notification
MRP will notify the mailing list within seven days of submission of this request to KDHE-BWM.

If you have any questions or comments, please contact me at 210/345-4619 or Jay Mednick at 303/291-2262.

Sincerely,

Brenda B. Epperson

cc: Everett Spellman, KDHE, BWM
Mark Vishnefske, KDHE, BWM
Brad Roberts, EPA Region 7, WRAP/AWMD
Kent Biggerstaff, MRP
Jay Mednick, MWH

MWH

BUILDING A BETTER WORLD

January 24, 2012

1012425

Chief of the Hazardous Waste Permits Section
ATTN: Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

VIA *FEDERAL* EXPRESS
TRK# 7931 5127 8297

Re: Quarterly Corrective Action Progress Report Fourth Quarter 2011
MRP Properties Company, LLC – Arkansas City Refinery
Facility ID: KSD 087418695

Dear Mr. Kamal:

This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit (September 20, 2001). The format of this report has been revised, providing a discussion of the permit related tasks and the tasks that MRP has implemented on a voluntary basis. Specifically, the discussion of the groundwater pumping and product recovery has been presented as related to 1) the RCRA groundwater corrective action at the waste management area (WMA) and 2) in the voluntary corrective actions section for the product recovery from the rest of the site. An electronic copy of this report is included on the attached CD-ROM.

PERMIT RELATED TASKS

Description of Work Completed:

- Groundwater Corrective Action – the groundwater corrective action system downgradient of the WMA operated normally during this reporting period.
- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on October 17, 2011. Additionally, monthly operational monitoring was conducted on November 23, 2011 and December 12, 2011. The capture zone monitoring data are presented on Table 1.
- The third quarter 2011 Corrective Action Progress Report was submitted to KDHE and EPA on October 19, 2011.
- Quarterly Bioreactor Sampling – the fourth quarter bioreactor influent water sampling was performed on October 20, 2011. MRP collected a sample of the bioreactor effluent on the same day. The laboratory results are summarized on Table 2.
- Land Treatment Unit (LTU) Corrective Action – the LTU soil vapor extraction (SVE) system run time was 85 percent during the fourth quarter. The SVE system was down for six days in November due to an equipment failure. The air sparge (AS) system operated 91 percent of the time during the fourth quarter. The fourth quarter SVE inlet air sample was collected on

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November 30, 2011. The laboratory results are summarized on Table 3.

- Groundwater level measurement data for the fourth quarter are presented on Table 4. Groundwater potentiometric surface contour and free product extent maps for the same period are presented on Figures 1 to 3.

Summaries of all Findings and Summaries of Laboratory Data:

- The Bioreactor influent and effluent data (October 20, 2011) are summarized on the attached Table 2. The results are consistent with previous monitoring events. The laboratory report summary pages are included in Attachment 1.
- Land Treatment Unit (LTU) Corrective Action – the fourth quarter (November 30, 2011) LTU SVE inlet air sample laboratory analytical results are summarized on Table 3. The laboratory report summary pages are included in Attachment 1. The results are consistent with previous results; there were no detections of benzene, toluene, ethylbenzene, xylenes (BTEX) or methyl tert-butyl ether (MTBE) in the inlet air sample and the total petroleum hydrocarbons – gasoline range organics concentration (TPH-GRO) was 180 milligrams per cubic meter (mg/m3).
- The groundwater capture zone monitoring conducted during the fourth quarter demonstrated continued compliance with the facility permit requirement and the data are summarized on the attached Table 1 and the field forms are included in Attachment 2.
- Approximately 1,547 gallons of product were recovered from the WMA recovery wells (RW-35 to RW-80A) during the fourth quarter. The WMA groundwater pumping rates and product recovery volumes for each month of the fourth quarter are summarized on Table 5. Table 5 also includes the product recovery totals from recovery wells outside the WMA and the combined totals for the entire site.
- During the fourth quarter of 2011, approximately 72 percent of the recovered product was recovered from WMA recovery well RW-35, 15 percent was recovered from recovery well RW-40, 10 percent was recovered from WMA recovery well RW-75, and 3 percent was recovered from recovery well RW-45.
- The average monthly groundwater pumping rate from the WMA during the fourth quarter ranged between 811 and 927 gallons per minute (gpm) and averaged 873 gpm.

Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems:

No problems were encountered during the reporting period.

Projected Work for the Next Quarter:

- Submit a request for temporary authorization to discontinue operation of recovery well RW-80A to KDHE, with a notification to the facility mailing list.
- Submit this fourth quarter 2011 corrective action progress report to KDHE and EPA by January 30, 2012.
- Conduct quarterly capture zone monitoring and bioreactor influent monitoring.
- Conduct quarterly air sampling at the LTU SVE system and air flow balancing at the LTU

AS system.

- Prepare and submit the 2011 Annual Groundwater Corrective Action Report to KDHE by March 1, 2012.
- Conduct the annual wellbore siltation evaluation to assess downwell siltation and well screen occlusion in the 20 corrective action monitoring wells.

Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II R:
There are no instances of noncompliance to report under Part II.R of the permit.

VOLUNTARY CORRECTIVE ACTIONS
This section of the report presents information on the groundwater and product recovery wells located outside the WMA and the closed surface impoundment (CSI) soil vapor extraction and air sparging (SVE-AS) system.

Product Recovery System (PRS) Overview:
The PRS consists of the product recovery wells located outside the WMA. The wells extract groundwater developing a groundwater cone of depression to induce free product to flow toward the recovery well where it is extracted via a product pump. The PRS groundwater pumping rates and product recovery data for the fourth quarter are summarized on Table 5. Table 5 includes the pumping rates from the WMA wells and the combined pumping rates for the entire site for comparison.

- Approximately 17,304 gallons of product were recovered from the PRS recovery wells (RW-10, RW-11, RW-21, RW-30, RW-31, RW-33, PARW-1, PARW-2, NARW-1, NARW-2, and NARW-3) during the fourth quarter. The groundwater pumping rates and product recovery volumes for October, November, and December are summarized on Table 5.
- During the fourth quarter of 2011, the majority of the product was recovered from PRS recovery wells PARW-2 (54 percent), NARW1 and RW-21 (each 13 percent), and PARW-1 (11 percent). The remaining 9 percent, in decreasing production order, was recovered from RW-33, NARW-3, NARW-2, RW-30, RW-31, and RW-11.
- The average monthly groundwater pumping rate from the PRS ranged between 473 and 508 gallons per minute (gpm) during the fourth quarter with an average pumping rate for the fourth quarter of 486 gpm.

Closed Surface Impoundment Soil Vapor Extraction and Air Sparge System Overview:

- The CSI SVE system was turned off between September 6 and November 30 to monitor potential rebound of soil vapor concentrations. The SVE system was restarted on November 30 for the start of the SVE rebound test.
- The CSI SVE system inlet air stream was sampled on November 30, 2011. The air sample was analyzed by the TestAmerica laboratory in Pensacola, Florida for BTEX, MTBE, and TPH-GRO. There were no detections of BTEX or MTBE. The TPH-GRO concentration was 110 mg/m3. The TPH-GRO concentration in the last inlet air sample collected before the September system shutdown was 150 mg/m3. The laboratory results are presented on Table 6 and the laboratory report summary pages are included in Attachment 1.

Projected Work for the Next Quarter:

- Perform routine maintenance and monitoring of the PRS.
- Prepare a report summarizing the CSI SVE system rebound test.

If you have any questions or comments regarding this information, please contact Brenda Epperson, MRP at (210) 345-4619 or Jay Mednick, MWH at (303) 291-2262.

Sincerely,
MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Enclosed: Tables 1- 6, Figures 1-3, Attachments 1 and 2, CD-ROM

cc: Kent Biggerstaff, MRP w/enc.
Brenda Epperson, MRP w/enc.
Brad Roberts, EPA Region 7, WRAP/AWMD w/enc. (2 copies)
Everett Spellman, KDHE BWM w/o enc.
Mark Vishnefske, KDHE BWM w/o enc.

MWH

BUILDING A BETTER WORLD

October 19, 2011

1010417

Chief of the Hazardous Waste Permits Section
ATTN: Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

VIA FEDERAL EXPRESS
TRK# 7976 3925 4736

Re: Quarterly Corrective Action Progress Report Third Quarter 2011
MRP Properties Company, LLC – Arkansas City Refinery
Facility ID: KSD 087418695

Dear Mr. Kamal:
This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit (September 20, 2001). The format of this report has been revised, providing a discussion of the permit related tasks and the tasks that MRP has implemented on a voluntary basis. Specifically, the discussion of the groundwater pumping and product recovery has been presented as related to 1) the RCRA groundwater corrective action at the waste management area (WMA) and 2) in the voluntary corrective actions section for the product recovery from the rest of the site. This expanded format quarterly corrective action progress report will replace the semiannual ICM report. An electronic copy of this report is included on the attached CD-ROM.

PERMIT RELATED TASKS

Description of Work Completed:

- Groundwater Corrective Action – the groundwater corrective action system downgradient of the WMA operated normally during this reporting period.
- The second quarter 2011 Corrective Action Progress Report was submitted to KDHE and EPA on July 20, 2011.
- Quarterly Bioreactor Sampling – the third quarter bioreactor influent water sampling was performed on July 25, 2011. MRP collected a sample of the bioreactor effluent on the same day. The laboratory results are summarized on Table 1.
- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on July 25, 2011. Additionally, monthly operational monitoring was conducted on August 19, 2011 and September 27, 2011. The capture zone monitoring data are presented on Table 2.

  Land Treatment Unit (LTU) Corrective Action – the LTU soil vapor extraction (SVE) and air sparge (AS) system was turned off on January 17, 2011 in accordance with the KDHE 180 temporary authorization and the system was restarted on July 11, 2011. SVE inlet air samples were collected on July 11, 2011 and August 4, 2011. The laboratory results are summarized on Table 3.

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- Groundwater level measurement data for the second and third quarters are presented on Table 4. Groundwater potentiometric surface contour and free product extent maps for the same period are presented on Figures 1 to 6.
- The 2011 semiannual groundwater corrective action report was submitted to KDHE and EPA on August 16, 2011.
- On August 29, 2011, MRP responded to KDHE's Post-Closure Permit Renewal Application – Determination of Completeness comments dated July 25, 2011. The response included Part B replacement pages; an updated Operation and Maintenance Plan for the groundwater corrective action, and Addendum 2 to the Engineering Feasibility Plan.
- Two technical reports were submitted to KDHE and EPA on September 9, 2011. These reports contained evaluations of the LTU and CSI soil vapor extraction and air sparge systems. These reports were submitted in response to KDHE's comments in their July 25, 2011 permit renewal completeness determination.
- On September 16, 2011 MRP responded to a second set of comments pertaining to the KDHE completeness determination of the post-closure permit renewal application comments dated September 13, 2011. The response included submitting a copy of Addendum 1 to the Engineering Feasibility Plan (EFP); submitting revised pages for the Part A application, and replacing a figure from Addendum 2 to the EFP containing an image that was inadvertently truncated during reproduction.
- KDHE notified MRP on September 26, 2011 that KDHE has concluded the completeness review of the RCRA permit application and has initiated the technical review of the Part A and Part B applications.

Summaries of all Findings and Summaries of Laboratory Data:

- The Bioreactor influent and effluent data (July 25, 2011) are summarized on the attached Table 1. The results are consistent with previous monitoring events. The laboratory report summary pages are included in Attachment 1.
- Land Treatment Unit (LTU) Corrective Action – the LTU SVE inlet air samples (July 11, 2011 and August 4, 2011) are summarized on Table 3. The laboratory report summary pages are included in Attachment 1.
- The groundwater capture zone monitoring conducted during the third quarter demonstrated continued compliance with the facility permit requirement and the data are summarized on attached Table 2 and the field forms are included in Attachment 2.
- Approximately 3,108 and 2,580 gallons of product were recovered from the WMA recovery wells (RW-35 to RW-80A) in the second and third quarters, respectively. The WMA groundwater pumping rates and product recovery volumes for each month in the second and third quarters are summarized on Table 5 in addition to the product recovery totals outside the WMA and the combined totals for the entire site.
- During the first three quarters of 2011 75 percent of the recovered product was recovered from WMA recovery well RW-35, 22 percent was recovered from recovery well RW-40, and 3 percent was recovered from WMA recovery well RW-75.
- The average monthly groundwater pumping rate from the WMA ranged between 874 and 899 gallons per minute (gpm) during the second quarter and ranged between 799 and 858 gpm in the third quarter, with a average pumping rates of 886 and 822 gpm in the second and third quarters, respectively.

Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems:
No problems were encountered during the reporting period.

Projected Work for the Next Quarter:
- Conduct semiannual groundwater sampling (October 2011).
- Conduct quarterly capture zone monitoring and bioreactor influent monitoring.
- Conduct quarterly air sampling at the LTU SVE system and air flow balancing at the LTU AS system.

Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II R:
There are no instances of noncompliance to report under Part II.R of the permit.

VOLUNTARY CORRECTIVE ACTIONS
This section of the report presents information on the groundwater and product recovery wells located outside the WMA and the closed surface impoundment (CSI) soil vapor extraction and air sparging (SVE-AS) system.

Product Recovery System (PRS) Overview:
The PRS consists of the product recovery wells located outside the WMA. The wells extract groundwater developing a groundwater cone of depression to induce free product to flow toward the recovery well where it is extracted via a product pump. The PRS groundwater pumping rates and product recovery data for the second and third quarters are summarized on Table 5. Table 5 includes the pumping rates from the WMA wells and the combined pumping rates for the entire site for comparison.
- Approximately 21,240 and 12,064 gallons of product were recovered from the PRS recovery wells (RW-10, RW-11, RW-21, RW-30, RW-31, RW-33, PARW-1, PARW-2, NARW-1, NARW-2, NARW-3, and NARW-4) in the second and third quarters, respectively. The groundwater pumping rates and product recovery volumes for each month in the second and third quarters are summarized on Table 5.
- During the first three quarters of 2011 the majority of the product was recovered from PRS recovery wells PARW-2, 26 percent; NARW-1, 22 percent; and RW-21, 21 percent. Product was also recovered from PRS recovery wells PARW-1, 13 percent; NARW-2, 7 percent; NARW-3, 4 percent; RW-33, 3 percent; and 2 percent each from recovery wells RW-11 and RW-30.
- The average monthly groundwater pumping rate from the PRS ranged between 431 and 455 gallons per minute (gpm) during the second quarter and ranged between 477 and 549 gpm in the third quarter, with an average pumping rate of 444 and 513 gpm in the second and third quarters, respectively.

Closed Surface Impoundment Soil Vapor Extraction and Air Sparge System Overview:
- The CSI SVE system operated normally during the second quarter and the first two months of the third quarter; the system was turned off on September 6, 2011 to conduct a rebound test.
- The CSI SVE system inlet air stream was sampled on May 3, 2011 and August 4, 2011. The

air samples were analyzed by the TestAmerica laboratory in Pensacola, Florida for benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether (May sample only), and total petroleum hydrocarbons-gasoline range organics (TPH-GRO). There were no detections of BTEX or MTBE results. The TPH-GRO concentrations were 150 milligrams per cubic meter (mg/m3) and 260 mg/m3 in the May and September samples, respectively; these concentrations are slightly above the laboratory's reporting level (100 mg/m3) The laboratory results are presented on Table 6 and the laboratory report summary pages are included in Attachment 1.

- The CSI SVE system vapor concentrations exhibit the typical exponential decay curve since the startup in 2000. The vapor concentrations indicate the system is operating at an asymptotically minimal rate.
- The CSI AS system operated normally between April 1, 2011 and September 6, 2011. The air sparge system was turned off with the SVE system on September 6 to conduct a rebound test. The average system airflow rate during this reporting period was 66 SCFM and averaged 10.6 SCFM per air sparge well.

Projected Work for the Next Quarter:

- Perform Routine maintenance and monitoring of the PRS.
- Conduct a rebound monitoring test for the CSI SVE system by resuming the SVE system operation and monitoring the influent air vapor concentrations.

If you have any questions or comments regarding this information, please contact Brenda Epperson, MRP at (210) 345-4619 or Jay Mednick, MWH at (303) 291-2262.

Sincerely,
MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Enclosed: Tables 1- 6, Figures 1-6, Attachment 1, CD-ROM

cc: Kent Biggerstaff, MRP w/enc.
Brenda Epperson, MRP w/enc.
Mike Dandurand, USEPA w/enc. (2 copies)
Everett Spellman, KDHE BWM w/o enc.

Bureau of Waste Management
Curtis State Office Building
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Topeka, KS 66612-1366

Robert Moser, MD, Secretary

Kansas
Department of Health & Environment

phone: 785-296-1600
fax: 785-296-1592
email: bwmweb@kdheks.gov
www.kdheks.gov/waste

Sam Brownback, Governor

September 26, 2011

Brenda B. Epperson
Environmental Manager
MRP Properties Company, LLC
P.O. Box 696000
San Antonio, TX 78269-6000

RE: RCRA Post-Closure Permit Renewal Application – Determination of Completeness
MRP Properties Company, LLC
Former Total Petroleum, Inc. Refinery
1400 South M Street, Arkansas City, Kansas
RCRA ID# KSD087418695

Dear Ms. Epperson,

The Kansas Department of Health and Environment (KDHE) reviewed Part A and Part B of the RCRA Post-Closure Permit application and subsequent corrections that were submitted by MWH Americas, Inc. (MWH) on behalf of MRP Properties Company, LLC (MRP). These documents comprise the renewal application for the EPA permit number KSD087418695 issued to the Former Total Petroleum Refinery in Arkansas City. The review process for approval of a RCRA permit application consists of two parts. The first part is a completeness review to determine if the applicant has submitted sufficient information as defined in federal regulations 40 CFR 270.10 thru 270.14. The second part is a detailed technical review to determine whether the information provided in the application is accurate and includes regulatory requirements for closure, post-closure care, corrective action, and groundwater monitoring activities. KDHE has concluded the completeness review of the RCRA permit application and has initiated the technical review of the Part A and Part B applications.

If you have any questions, please contact me by phone at (785)-291-3760 or e-mail me at (mvishnefske@kdheks.gov).

Sincerely,

Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions

cc: Jay Mednick – MWH Americas, Inc.
Mike Dandurand – EPA Region 7/AWMD/RCAP
Allison Herring – DEA/SCDO/Waste Programs
Bill Bider – KDHE/BWM

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September 16, 2011

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Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson Street, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK # 7975 2794 3499

RE: Response to KDHE September 13, 2011 Comments
RCRA Post-Closure Permit Renewal Application – Determination of Completeness
MRP Properties Company, LLC - Arkansas City, Kansas
EPA ID# KSD087418695

Dear Mr. Vishnefske,

On behalf of MRP Properties Company, LLC (MRP) MWH Americas Inc. (MWH) is submitting the response to the above referenced comments from the Kansas Department of Health and Environment (KDHE). The KDHE comments were included in a letter to MRP dated September 13, 2011. Provided below are the KDHE comments in italics followed by the MRP response.

KDHE Comment 1:

The Engineering Feasibility Plan was revised on January 25, 2010 with the addition of Addendum 1. The current copy of the Engineering Feasibility Plan on file at KDHE does not include Addendum 1. KDHE requests that MWH submit a copy of Addendum 1 to update KDHE's copy of the Engineering Feasibility Plan.

Response:

Addendum 1 to the Engineering Feasibility Plan was included in the letter requesting the permit modification dated January 25, 2010. A copy of Addendum 1 is attached to this letter.

KDHE Comment 2:

Section 2, Part A Application - Item 8 on page 6 of the Part A application needs to be revised. The process code for the # 1 and # 2 closed surface impoundments and the closed #3A aerated lagoon needs to be coded as D80 because they were closed as landfills. The unit of measure for the Land Treatment Unit needs to be coded as B (Acres) and the unit of measure for the #1 and # 2 closed surface impoundments and the closed #3A aerated lagoon needs to be coded as A (Acre-ft). Please submit an updated Part A application.

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Response:

We have revised the Part A page 6 and included the revised page in double-sided format to insert into the Part A application in Section 2 of the RCRA Permit Renewal Application.

KDHE Comment 3:

Part of Figure A2:6-1 that was submitted with Addendum 2 of the Engineering Feasibility Plan is missing as a result of improper reduction of the original figure. Please resubmit Figure A2:6-1.

Response:

A replacement Figure A2:6-1 is attached to this letter to replace the figure submitted in Addendum 2 to the Engineering Feasibility Plan.

Please contact either Brenda Epperson, MRP at 210/345-4619 or me at 303/291-2262 if you have any questions regarding this information.

Sincerely,

MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.

Principal Hydrogeologist
Enclosures:
Engineering Feasibility Plan Addendum No. 1
Revised Part A Application Page 6,
Engineering Feasibility Plan Addendum No. 2 Figure A2:6-1

cc: Brenda Epperson, MRP w/enc.
Kent Biggerstaff, MRP w/enc.
Everett Spellman, KDHE BWM wo/enc.
Mike Dandurand, EPA Region 7 w/enc. (2 copies)

Engineering Feasibility Plan

Addendum No. 1

ENGINEERING FEASIBILITY PLAN

MRP Properties Company, LLC

ARKANSAS CITY, KANSAS

RECEIVED
SEP 19 2011
BUREAU OF WASTE MANAGEMENT

U.S. EPA ID No.: KSD087418695

Prepared for:

MRP Properties Company, LLC
San Antonio, Texas

Prepared by:

EnecoTech Inc.
Denver, Colorado

Revision: 1, August 3, 2000
Revision: 2, October 20, 2000
Revision: 3, March 19, 2001
Revision: 4, April 23, 2002
Revision: 5, December 20, 2002
Revision: 6, January 25, 2010 (MWH)

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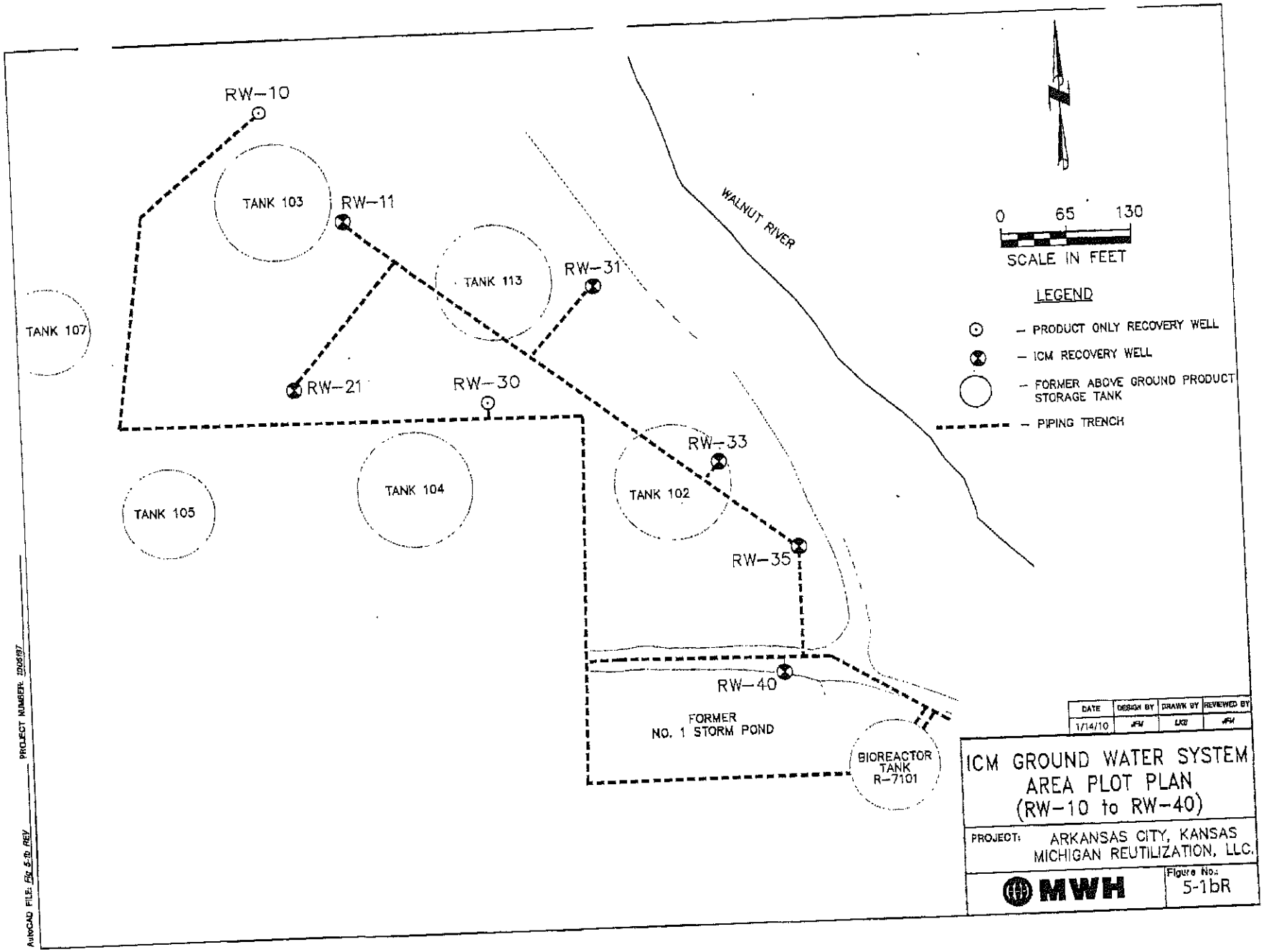
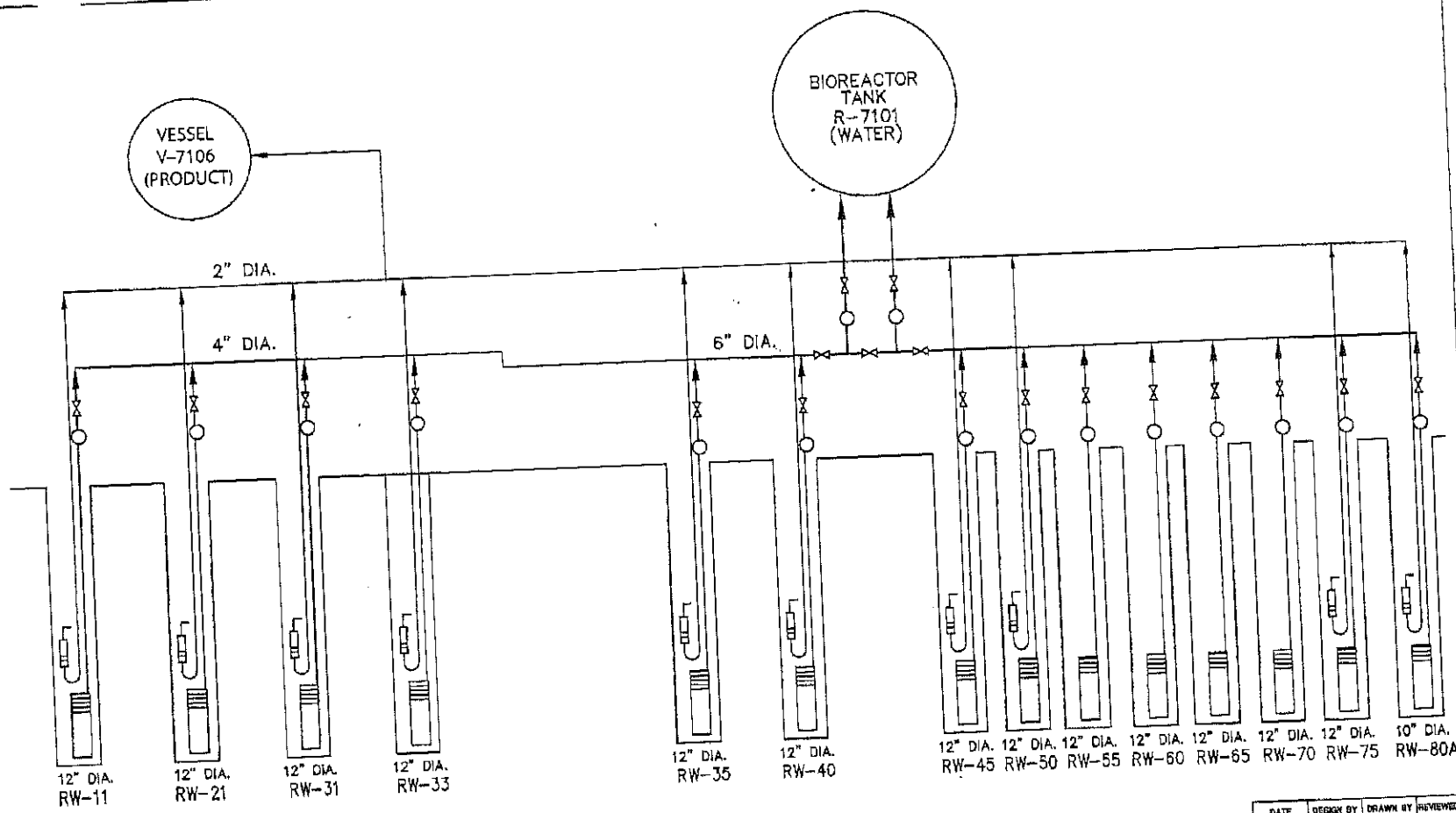
Addendum 1 Class 1A Permit Modification for the Replacement of Recovered Product Temporary Storage Tank 7132 with Vessel V-7106

ADDENDUM 1

Class 1A Permit Modification

for the Replacement of Recovered Product Temporary Storage Tank 7132 with Vessel V-7106


RW-10
TANK 103
RW-11
TANK 113
RW-31
TANK 107
RW-21
RW-30
TANK 104
TANK 105
RW-33
TANK 102
RW-35
RW-40
FORMER
NO. 1 STORM POND
BIOREACTOR
TANK
R-7101
WALNUT RIVER
0 65 130
SCALE IN FEET
LEGEND
– PRODUCT ONLY RECOVERY WELL
– ICM RECOVERY WELL
– FORMER ABOVE GROUND PRODUCT STORAGE TANK
– PIPING TRENCH
DATE 1/14/10
DESIGN BY JFH
DRAWN BY LKB
REVIEWED BY JFH
ICM GROUND WATER SYSTEM
AREA PLOT PLAN
(RW-10 to RW-40)
PROJECT: ARKANSAS CITY, KANSAS
MICHIGAN REUTILIZATION, LLC.
MWH
Figure No.
5-1bR
AutoCAD FILE: Fig 5-1b REV
PROJECT NUMBER: 1005197



EXPLANATION

- FLOW VALVE
- FLOW METER
- PRODUCT PUMP
- ELECTRIC SUBMERSIBLE PUMP

DATE	DESIGN BY	DRAWN BY	REVIEWED BY
12/99	JFM	LKK	JFM

GROUNDWATER RECOVERY PROCESS FLOW DIAGRAM

PROJECT: ARKANSAS CITY, KANSAS
MRP PROPERTIES COMPANY, LLC

MWH

Figure No.: 5-8R

PROJECT NUMBER: 1005197

AutoCAD FILE: efplg 5-8

KSD 087418695

8. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 8 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number		A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. (2) Unit of Measure (Enter code)	C. Process Total Number of Units	For Official Use Only
X	1	S 0 2	5 3 3 . 7 8 8	G	0 0 1	
	1	D 8 0	0	A	003	
	2	D 8 1	0	B	001	
	3					
	4					
	5					
	6					
	7					
	8					
	9					
1	0					
1	1					
1	2					
1	3					

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item 9.

9. Other Processes (See instructions on page 18 and follow instructions from Item 8 for D99, S99, T04 and X99 process codes)

Line Number (Enter #s in sequence with Item 8)		A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. (2) Unit of Measure (Enter code)	C. Process Total Number of Units	D. Description of Process
X	1	T 0 4				In-situ Vitrification
	1					
	2					
	3					
	4					

KSD087418695

10. Description of Hazardous Wastes (See instructions on page 18)

A. EPA HAZARDOUS WASTE NUMBER - *Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR Part 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.*

B. ESTIMATED ANNUAL QUANTITY - *For each listed waste entered in column A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.*

C. UNIT OF MEASURE - *For each quantity entered in column B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:*

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Items 8A and 9A on page 3 to indicate the waste will be stored, treated, and/or disposed at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Items 8A and 9A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. *Enter the first two as described above.*
2. *Enter "000" in the extreme right box of Item 10.D(1).*
3. *Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 10.E.*

2. PROCESS DESCRIPTION: *If a code is not listed for a process that will be used, describe the process in Item 10.D(2) or in Item 10.E(2).*

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

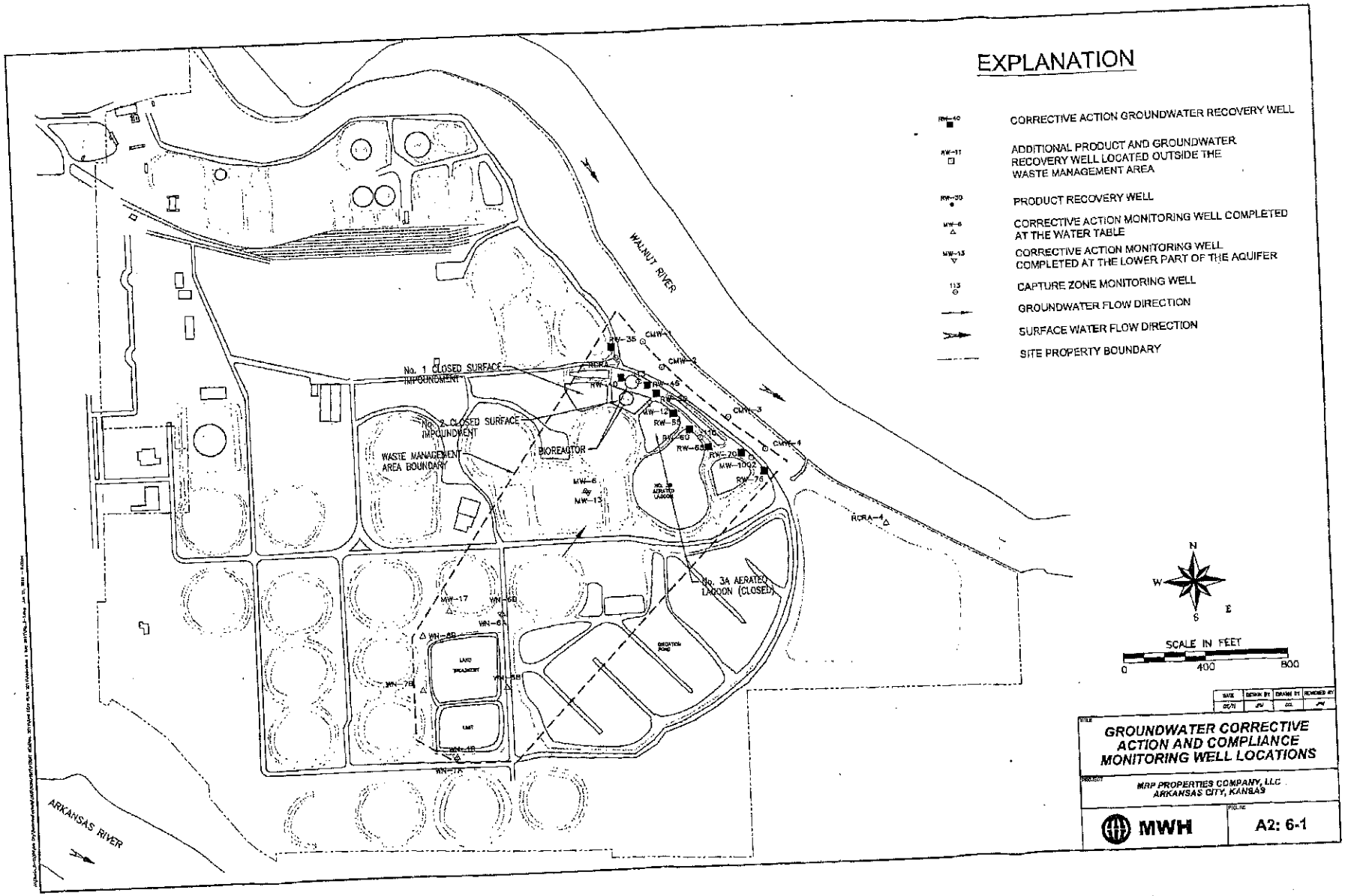
1. *Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.*
2. *In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.*
3. *Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.*

EXAMPLE FOR COMPLETING Item 10 (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)									D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
X	1	K	0	5	4	900	P	T	0	3	D	8	0				
X	2	D	0	0	2	400	P	T	0	3	D	8	0				
X	3	D	0	0	1	100	P	T	0	3	D	8	0				Included With Above
X	4	D	0	0	2												

Engineering Feasibility Plan

Addendum No. 2 – Figure A2: 6-1


EXPLANATION
CORRECTIVE ACTION GROUNDWATER RECOVERY WELL
ADDITIONAL PRODUCT AND GROUNDWATER RECOVERY WELL LOCATED OUTSIDE THE WASTE MANAGEMENT AREA
PRODUCT RECOVERY WELL
CORRECTIVE ACTION MONITORING WELL COMPLETED AT THE WATER TABLE
CORRECTIVE ACTION MONITORING WELL COMPLETED AT THE LOWER PART OF THE AQUIFER
CAPTURE ZONE MONITORING WELL
GROUNDWATER FLOW DIRECTION
SURFACE WATER FLOW DIRECTION
SITE PROPERTY BOUNDARY
WALNUT RIVER
ARKANSAS RIVER
No. 1 CLOSED SURFACE IMPOUNDMENT
No. 2 CLOSED SURFACE IMPOUNDMENT
WASTE MANAGEMENT AREA BOUNDARY
BIOREACTOR
No. 3A AERATED LAGOON (CLOSED)
RCRA
CMW-1
CMW-2
CMW-3
CMW-4
RW-35
RW-40
RW-45
RW-50
RW-55
RW-60
RW-65
RW-70
RW-75
MW-10D2
MW-12
MW-6
MW-13
MW-17
MW-6B
MW-8B
MW-7B
MW-5B
MW-4B
MW-7A
N
W
E
S
SCALE IN FEET
0
400
800
GROUNDWATER CORRECTIVE ACTION AND COMPLIANCE MONITORING WELL LOCATIONS
MRP PROPERTIES COMPANY, LLC
ARKANSAS CITY, KANSAS
MWH
A2: 6-1

Bureau of Waste Management
Curtis State Office Building
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

Robert Moser, MD, Secretary.

Kansas
Department of Health & Environment

phone: 785-296-1600
fax: 785-296-1592
email: bwmweb@kdheks.gov
www.kdheks.gov/waste

Sam Brownback, Governor

September 13, 2011

Brenda B. Epperson
Environmental Manager
MRP Properties Company, LLC
P.O. Box 696000
San Antonio, TX 78269-6000

RE: RCRA Post-Closure Permit Renewal Application – Determination of Completeness
MRP Properties Company, LLC
Former Total Petroleum, Inc. Refinery
1400 South M Street, Arkansas City, Kansas
RCRA ID# KSD087418695

Dear Ms. Epperson,

The Kansas Department of Health and Environment (KDHE) reviewed the corrections to Part A and Part B of the RCRA Post-Closure Permit application that were submitted on August 29, 2011 by MWH Americas, Inc. (MWH) on behalf of MRP Properties Company, LLC (MRP). These corrections were submitted in response to a letter from KDHE dated July 25, 2011 identifying deficiencies discovered during the Determination of Completeness review of Part A and Part B of the RCRA Post-Closure Permit application. These documents comprise the renewal application for the EPA permit number KSD087418695 issued to the Former Total Petroleum Refinery in Arkansas City. KDHE has identified the following deficiencies with the corrections submitted for the Part B application:

1. The Engineering Feasibility Plan was revised on January 25, 2010 with the addition of Addendum 1. The current copy of the Engineering Feasibility Plan on file at KDHE does not include Addendum 1. KDHE requests that MWH submit a copy of Addendum 1 to update KDHE's copy of the Engineering Feasibility Plan.

2. Section 2, Part A Application – Item 8 on page 6 of the Part A application needs to be revised. The process code for the #1 and # 2 closed surface impoundments and the closed #3A aerated lagoon needs to be coded as D80 because they were closed as landfills. The unit of measure for the Land Treatment Unit needs to be coded as B (Acres) and the unit of measure for the #1 and # 2 closed surface impoundments and the closed #3A aerated lagoon needs to be coded as A (Acre-ft). Please submit an updated Part A application.

3. Part of Figure A2:6-1 that was submitted with Addendum 2 of the Engineering Feasibility Plan is missing as a result of improper reduction of the original figure. Please resubmit Figure A2:6-1.

Please submit the requested information by October 3, 2011. If you have any questions, please contact me by phone at (785)-291-3760 or e-mail me at (mvishnefske@kdheks.gov).

Sincerely,

Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions

cc: Jay Mednick – MWH Americas, Inc.
Mike Dandurand – EPA Region 7/AWMD/RCAP
Allison Herring – DEA/SCDO/Waste Programs
Bill Bider – KDHE/BWM

MWH

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BUREAU OF WASTE MANAGEMENT

September 9, 2011

1010417

Mr. Mark Vishnefske
Environmental Scientist II
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7951 7133 6600

Re: Evaluation of LTU Soil Vapor Extraction and Air Sparge System
Arkansas City, Kansas
MRP Properties Company, LLC
EPA ID No.: KSD087418695

Dear Mr. Vishnefske,

MWH Americas Inc. (MWH) is submitting this technical report on behalf of MRP Properties Company, LLC (MRP). This report contains the evaluation of the Land Treatment Unit (LTU) soil vapor extraction (SVE) and air sparge (AS) system at the MRP Arkansas City site (Figure 1) as required by the Kansas Department of Health and Environment (KDHE) Bureau of Waste Management (BWM) in their July 25, 2011 letter with comments on the completeness of the RCRA Post-Closure Permit renewal application.

The Part B permit application proposes to discontinue operation of the LTU SVE-AS system and remove this corrective action system from the permit. This technical report provides an evaluation of the system performance since the startup in October 2002 to the present, incorporating the data collected during the temporary 180-day shutdown approved by KDHE beginning in January 2011 and after the system restart in July 2011.

The key indicator used to evaluate the performance of the SVE system is the concentration versus time plot. The performance of an SVE system with a petroleum hydrocarbon source is typically characterized by exponential hydrocarbon concentration decay in the process air (inlet air stream) over time. At some point, the concentration versus time plot becomes asymptotic and no additional benefit is realized from continued operation of the SVE system. A rebound test can be performed to demonstrate this case. An additional indicator or metric used at the Arkansas City site is the absence of free product in the groundwater monitoring wells. The following discussion presents an overview of the system operational monitoring, test results, and conclusions.

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SVE-AS System Description

The LTU soil vapor extraction and air sparge corrective action system was activated on October 22, 2002 in accordance with the facility's hazardous waste management permit. The SVE system consists of 11 SVE wells and 21 AS wells and two blowers; one configured for pressure service (AS) and the other for vacuum service (SVE). Figure 2 shows the location of the SVE/AS wells, groundwater monitoring wells, SVE/AS header pipe and equipment building locations. Well construction logs for monitor wells MW-17, WN-6B, WN-7B, and WN-8B associated with the LTU SVE/AS system are included in Attachment 1.

SVE-AS Operational Monitoring

System operational monitoring was conducted weekly. The weekly monitoring parameters included air flow, vacuum, inlet air lower explosive limit (LEL on a pentane basis). Air samples were collected on a quarterly schedule and tested for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by USEPA SW-846 Method 8021 and for total petroleum hydrocarbons – gasoline range organics (TPH-GRO) by Method 8015. STL (subsequently TestAmerica) Labs in Pensacola, Florida performed the laboratory analytical testing on the inlet air samples.

The weekly SVE system monitoring results are presented in Table 1. This Table includes the SVE system run time hour meter readings, inlet air stream LEL measurements, and calculated mass of volatile organic compounds based on the analyses of air samples submitted to the laboratory for TPH-GRO tests. Table 2 contains a summary of the TPH-GRO and BTEX laboratory test results on the quarterly inlet air samples. The TPH-GRO mass is calculated using the air flow rates, run time, and laboratory test results. Figure 3 contains a plot of percent LEL and TPH-GRO concentration versus time. Figure 3 also presents a plot of cumulative hydrocarbon mass removed versus time. As can be seen from the plots of percent LEL and TPH-GRO, the concentrations decay exponentially over time; the majority of the mass reduction was seen in the first six months of operation.

Table 3 contains the AS system monitoring data. The data include the runtime hour meter readings, air flow rate, and calculated mass of oxygen injected into the groundwater. Since the system startup in October 2002, approximately 1245 tons of oxygen has been injected into the groundwater.

Groundwater Level and Free Product Monitoring

Groundwater levels were monitored in monitoring wells MW-17, WN-6B, WN-7B, and WN-8B on a monthly frequency. The results of the groundwater level monitoring are presented in Table 4. The data on Table 4 illustrate nine detections of free product in monitor wells MW-17 until 2006, one trace detection of free product in monitor well WN-6B on October 15, 2002, one week before the SVE-AS system was started; one detection of free product in monitor well WN-7B on February 20, 2003; and five detections of free product in monitor well WN-8B between the SVE-

AS system startup on October 22, 2002 and October 2003. There have been no subsequent detections of free product in monitoring wells WN-6B, WN-7B, and WN-8B after the first year of operation of the SVE-AS system and no detections of free product in monitor well MW-17 since December 15, 2006.

180-Day Shutdown

Starting on January 17, 2011 in accordance with KDHE's 180-day temporary authorization, the LTU SVE-AS system was turned off. The system was restarted on July 11, 2011.

Groundwater Monitoring: During the shutdown period, two quarterly groundwater sampling events (February and May 2011) were conducted utilizing monitoring wells WN-6B, WN-7B, WN-8B, and MW-17. The groundwater samples were tested for BTEX. The results of the BTEX testing are summarized on Table 5 and include BTEX test results since May 2008 for comparison.

System Startup Monitoring: Air samples collected from the SVE system inlet air stream were screened for hydrocarbons with a combustible gas meter measuring lower explosive limit (LEL) on a pentane basis following the system startup on July 11, 2011. Air samples were collected for field screening during the day the SVE-AS system was restarted, at startup, 2 hours, and 4 hours after startup, and then on a weekly basis. The measurements are included in Table 1.

Air samples for laboratory analysis of TPH-GRO and BTEX were collected on July 11, 2011 and August 4, 2011 and submitted to TestAmerica Laboratory in Pensacola, Florida. The July 11, 2011 air sample contained 150 milligrams per cubic meter (mg/m^3) of TPH-GRO, there were no detections of the BTEX constituents. There were no detections of TPH-GRO or BTEX in the subsequent air sample collected on August 4, 2011. The laboratory results are included on Table 2 and the laboratory reports are included in Attachment 2. The AS operational data are presented on Table 3.

Mass Removed

Approximately 30 tons of hydrocarbon mass measured as TPH-GRO has been removed by the SVE system since October 22, 2002. However, no measurable hydrocarbon mass has been removed since September, 2006.

Summary

The SVE system operation began in October 2002. Through August 12, 2011, TPH-GRO mass removal has been approximately 30 tons. Approximately 75 percent of the hydrocarbon mass removed had been recovered by June 2005 after 2.5 years of operation. Greater than 99 percent of the mass recovery had occurred by October 2006, after four years of system operation. In the approximately five years since that time, an estimated 44 pounds (0.022 tons) of hydrocarbon

have been recovered. As can be observed in Figure 3, which depicts inlet air concentrations as percent LEL and TPH-GRO and cumulative mass removal versus time, the SVE system air sample concentrations have exhibited an exponential decay typical of SVE system performance.

The system VOC mass removal rate was over 25 pounds/hour initially. The current mass removal rate is estimated at 0 pounds/hour, based on non-detect gas concentrations (as indicated both by field screening and laboratory data). The current mass removal rate has been constant since September, 2006.

During the 180 day shutdown period, groundwater levels and free product measurements were performed monthly at monitor wells WN-6B, WN-7B, WN-8B, and MW-17. Table 4 presents the historic water levels for these monitor wells through July 2011.

Groundwater samples were collected from monitor wells WN-6B, WN-7B, WN-8B, and MW-17 on February 15, 2011 during the first quarter of 2011 and on May 10 and 16, 2011 during the second quarter of 2011. The groundwater samples were analyzed for BTEX constituents during both sampling events. Table 5 presents the BTEX in groundwater results for these wells over the period May 2008 through May 2011. The analytical results indicate the groundwater concentrations of the BTEX constituents are consistent with previous groundwater analytical data from these groundwater monitoring locations obtained while the LTU SVE/AS system was in operation.

Conclusions

As evidenced by the reduction in TPH-GRO concentration in the inlet air stream, the SVE system was very effective in removing petroleum hydrocarbons from the soil.

As can be seen from the data plots on Figure 3, the TPH-GRO concentrations and percent LEL measurements decay exponentially over time; the largest reductions were seen in the first six months of operation. Table 2 shows the concentration of the BTEX constituents measured in the inlet air stream over time. The data demonstrates that the concentrations of the BTEX constituents also decreased over time with no BTEX detections since March 2006.

There have been no detections of free product in the monitoring wells associated with the LTU system since 2003 in monitor wells WN-6B, WN-7B, and WN-8B and since 2006 in monitor well MW-17.

Continued operation of the SVE-AS system will not yield additional benefit. There have been no detections of TPH-GRO except for four detections near the method detection limit since 2005 and no detections of BTEX constituents since 2006. The observations are clearly demonstrated by the asymptotic concentration trend in the inlet air stream monitoring data and the cumulative

mass removed plots on Figure 3. Evaluation of rebound of soil gas concentrations following the 180 day temporary shutdown indicated a minor rebound of similar magnitude to an air sample collected on October 25, 2010.

Typically SVE systems are operated between 3 to 7 years with most averaging 4 to 5 years. Evaluation of the LTU SVE results show that the objective stated in the facility's hazardous waste management permit has been met. The groundwater point of compliance remains at the downgradient boundary of the Waste Management Area. Residual impacts in the soil will be addressed in the Corrective Measures Study.

If you have any questions or comments about this information, please contact Brenda Epperson, MRP by phone at (210)-345-4619 or Jay Mednick, MWH by phone at (303)-291-2262.

Sincerely,

MWH Americas, Inc.

Joseph Mednick, PG

Attachments

Cc: Mike Dandurand, EPA
Brenda Epperson, MRP
Kent Biggerstaff, MRP

MWH

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BUREAU OF WASTE MANAGEMENT

September 9, 2011

1010417

Mr. Mark Vishnefske
Environmental Scientist II
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7951 7133 6600

Re: Evaluation of CSI Soil Vapor Extraction and Air Sparge System
Arkansas City, Kansas
MRP Properties Company, LLC
EPA ID No.: KSD087418695

Dear Mr. Vishnefske,

MWH Americas Inc. (MWH) is submitting this technical report on behalf of MRP Properties Company, LLC (MRP). This report contains the evaluation of the Closed Surface Impoundments (CSI) soil vapor extraction (SVE) and air sparge (AS) system at the MRP Arkansas City site (Figure 1) as required by the Kansas Department of Health and Environment (KDHE) Bureau of Waste Management (BWM) in its July 25, 2011 letter with comments on the completeness of the RCRA Post-Closure Permit renewal application.

This technical report provides an evaluation of the system performance and provides rationale for excluding the system from the facility's hazardous waste management permit. The key indicator used to evaluate the performance of the SVE system is the concentration versus time plot. The performance of an SVE system with a petroleum hydrocarbon source is typically characterized by exponential hydrocarbon concentration decay in the process air (inlet air stream) over time. At some point, the concentration versus time plot becomes asymptotic and minimal additional benefit is realized from continued operation of the SVE system. The following discussion presents an overview of the system operational monitoring, test results, and conclusions.

SVE-AS System Description

The CSI soil vapor extraction and air sparge corrective action system was activated on March 27, 2000 as a voluntary interim action. The SVE system, as originally designed and constructed, consisted of 17 SVE wells and 28 AS wells. The system consists of two blowers; one configured for pressure service (AS) and the other for vacuum service (SVE). In 2005, the original 28 AS

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wells were replaced with 20 new AS wells due to fouling of the specialized sparge points in the original AS wells. Figure 2 shows the location of the SVE/AS wells, groundwater monitoring wells, SVE/AS header pipe and equipment building locations. Soon after startup the SVE system was turned off to evaluate elevated hydrocarbon concentrations in the inlet air stream. The system remained off for approximately 6 months while a catalytic oxidizer off-gas treatment system was procured and installed to control emissions.

SVE Operational Monitoring and Performance

System operational monitoring was conducted weekly. The weekly monitoring parameters included air flow, vacuum, inlet air lower explosive limit (LEL on a pentane basis). Air samples were collected at various intervals. Initially at startup air samples were collected approximately twice a week for the first three weeks, thereafter the interval increased to weekly, biweekly, monthly and eventually quarterly as described on Table 2. Initially the air samples were tested for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by USEPA method T0-14 by Southwest Laboratory of Oklahoma Inc. After May 21, 2001 the air samples were analyzed by STL (subsequently TestAmerica) Labs in Pensacola, Florida using USEPA SW-846 Method 8021 for the BTEX constituents and Method 8015 for total petroleum hydrocarbons – gasoline range organics (TPH-GRO).

The weekly SVE system monitoring results are presented in Table 1. This table includes the SVE system run time hour meter readings, inlet air stream LEL measurements, and calculated mass removal for volatile organic compounds Table 2 contains a summary of the TPH-GRO and BTEX laboratory test results. The TPH-GRO mass removal is calculated using the air flow rates, run time, and laboratory test results. Figure 3 contains a plot of percent LEL and TPH-GRO concentration versus time. Figure 3 also presents a plot of cumulative hydrocarbon mass removed versus time. As can be seen from the plots of percent LEL and TPH-GRO, the concentrations decay exponentially over time; approximately 99 percent of the VOC mass (462 tons) had been recovered by June 2009. In the approximately 2.2 years since that time, an estimated 1 percent of the VOCs have been recovered.

AS Operational Monitoring and Performance

Table 3 contains the AS system monitoring data. The data include the runtime hour meter readings, air flow rate, and calculated mass of oxygen injected into the groundwater. Since the system startup in March 2000, approximately 3,354 tons of oxygen has been injected into the groundwater.

As described above, the air sparge wells were replaced in 2005 due to plugging of the sparge points. The plugging was a result of oxidation and precipitation of dissolved iron. The original sparge points were the KVA micropore design. The new sparge wells utilized machine slotted casing to minimize the effects of iron precipitation. The air sparge well locations are shown on Figure 2.

In June 2009 three air sparge wells (S22-AS, S23-AS, and S24-AS) were shut in to control biofouling at recovery well RW-50. In December 2010, an additional five air sparge wells, S19-AS, S20-AS, S21-AS, S25-AS, and S26-AS, were shut in to control biofouling in recovery wells RW-55 and RW-60. As a result, the majority of the air sparge wells at the #3A aerated lagoon were taken out of service to prevent interference with the performance of the groundwater corrective action recovery wells.

Groundwater samples were collected from monitor wells MW-11, MW-12, and RCRA-MW-2 to evaluate the effect of the air sparging on the dissolved phase BTEX concentrations in the groundwater at the closed surface impoundments. Sampling at monitor wells MW-11 and RCRA-MW-2 was discontinued in 2009. Monitor well MW-12 is part of the corrective action groundwater monitoring network and continues to be sampled on a semiannual frequency according to the corrective action groundwater monitoring plan. Plots of dissolved phase benzene versus time for the three wells are included in Figure 4. The startup of the CSI SVE-AS system is indicated on each of the plots for reference. The construction logs for monitor wells MW-11, MW-12, and RCRA-MW-2 are included in Attachment 1. Figure 2 shows the monitor well locations.

The benzene versus time graphs illustrate a decrease in benzene concentration after the SVE-AS system startup. The dissolved phase hydrocarbon constituents are volatilized by the air sparging and the vapors are collected by the SVE system.

Combined SVE-AS Mass Removal Performance

Approximately 466 tons of hydrocarbon mass measured as TPH-GRO has been directly removed from the subsurface by the SVE-AS system since March 27, 2000. The majority of the toluene, ethylbenzene, and total xylenes mass was removed by May 2002. Benzene continued to be detected at progressively lower concentrations until November 2008. Sampling since 2009 has indicated an asymptotic removal rate of approximately 12 pounds per day. This slow, steady mass removal rate suggests ongoing hydrocarbon volatilization from the groundwater plume by the air sparge system.

Conclusions

1. *The SVE-AS has been very effective but is now recovering hydrocarbon mass at an asymptotically minimal rate.* This 11-year long voluntary remedial action has removed 466 tons of VOC mass from the subsurface to date. It has clearly been effective at remediating the vadose and smear zone hydrocarbons. Accordingly, as can be seen from the data plots on Figure 3, the inlet process air TPH-GRO concentrations and percent LEL measurements have decayed exponentially over time and are now asymptotically low; the largest reductions were seen in the first three years of operation.

2. Approximately 99 percent of the TPH-GRO mass (462 tons) had been recovered by June

2009. In the roughly 2.2 years since that time, an estimated 1 percent of the TPH-GRO has been recovered.

3. *BTEX constituents are no longer being quantifiably recovered.* The SVE inlet air sampling data indicate that the concentrations of the BTEX constituents decreased over time, with the majority of the toluene, ethylbenzene, and total xylenes being rapidly removed by May 2002 and benzene being progressively removed until November 2008. The BTEX constituents are no longer detectable in the SVE inlet air stream.

4. The majority of the ongoing hydrocarbon mass removed by the SVE system is a result of the air sparge system treating groundwater. Typically SVE systems are operated between 3 to 7 years with most averaging 4 to 5 years. As depicted on Figure 3, this SVE system has been asymptotic for quite some time. The steady, slow-rate SVE system mass recovery is primarily due to volatilization of hydrocarbons from impacted groundwater continually flowing into the AS system zone of influence. It is noted that the groundwater being treated by the air sparge system is ultimately also captured and treated by the RCRA groundwater corrective action system. Pre-treatment via in-situ air sparging is unnecessary.

5. *Evaluation of the CSI SVE-AS system shows that the benefit from continued operation of the SVE system is low.* Ongoing mass recovery rates after 11 years of SVE-AS system operation will remain asymptotically low. Impacted groundwater beneath the closed surface impoundments will be captured by the groundwater corrective action recovery wells and treated in the wastewater treatment system. Additionally, operation of the east leg of the AS system interferes with the operation of the groundwater corrective action recovery wells and consequently has been taken out of service.

Based on the evaluation presented in this technical report, MRP does not recommend including this system in the Part B permit application or the Engineering Feasibility Plan.

If you have any questions or comments about this information, please contact Brenda Epperson, MRP by phone at (210)-345-4619 or Jay Mednick, MWH by phone at (303)-291-2262.

Sincerely,

MWH Americas, Inc.

Joseph Mednick, PG

Attachments

Cc: Mike Dandurand, EPA
Brenda Epperson, MRP
Kent Biggerstaff, MRP

Note: This checklist may be used for review of a permit application for a postclosure facility with no active hazardous waste management units. It provides a guideline to the basic requirements of a Part B postclosure permit application. Optional elements (contingency plan and personnel training) are indicated by italics. If a postclosure unit is present at a facility seeking a permit for active hazardous waste management units, the postclosure unit must be incorporated in the permit application like an operating unit in all appropriate sections. For elements that may repeat for both operating units and postclosure units, this checklist references elements of the general checklist in parenthesis.

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-1	General Part A Information Requirements		(Section A)		
P-1a	Description of Activities Conducted which Require Facility to Obtain a Permit under the Resource Conservation and Recovery Act (RCRA) and Brief Description of Nature of the Business	270.13(a),(m)	(A-1) #1 Surface Impoundment #2 Surface Impoundment #3 A Lagoon Land Treatment Unit	Sect. 2 Part A Page 4 #7	Need to complete Nature of Business
P-1b	Name, Mailing Address, and Location of Facility for which the Application is Submitted, including a Topographic Map	270.13(b),(l)	(A-2)	Sect. 2 Part A Page 1 #3 & 4 Fig. 3-1 Plate 3-1	
P-1c	Up to four Standard Industrial Classification Codes which Best Reflect the Products or Services Provided by the Facility	270.13(c)	(A-3)	Sect. 2 Part A Page 1 #6	
P-1d	Operator/Owner's Name, Address, Telephone Number, and Ownership Status	270.13(d),(e)	(A-4) Ownership status must include status as federal, state, private, public, or other entity.	Sect 2 Part A Page 1 #9 Page 4 #3	

Reviewer: [signature] 7/22/11

Checklist Revision Date (December 1997)

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-1e	Facility is New, Existing, or Located on Indian Lands	270.13(f),(g)	(A-5) Description must include information on whether this is a first or revised application with date of last signed permit application.	SECT. 2 PART A PAGE 1 #5 PAGE 4 #5	
P-1f	Description of Processes to be Used for Treating, Storing, and Disposing of Hazardous Waste	270.13(i)	(A-6) Description must include design capacity for these items.	SECT 2 PART A PAGE 6 #8 PAGE 10 #14	PROCESS CODES FOR UNITS NEEDS TO BE COMPLETED
P-1g	Specification of the Hazardous Wastes Listed or Designated Under 261	270.13(j)	(A-7) Specifications must include estimate on quantity of waste to be treated, stored, or disposed of.	SECT. 2 PART A PAGE 3 #11	
P-1h	Listing of all Permits or Construction Approvals Received or Applied for	270.13(k) NPDES RCRA COL	(A-8) Permits include the following programs: Hazardous Waste Management under RCRA; Underground Injection Control under Solid Waste Disposal Act; Prevention of Significant Deterioration, Nonattainment Program, and National Emissions Standards for Hazardous Pollutants under the Clean Air Act; ocean dumping permits under the Marine Protection Research and Sanctuaries Act; dredge and fill permits under Section 404 of the Clean Water Act; or other relevant environmental permits including state permits.	SECT 2 PART A PAGE 4 #6	
P-2	Part B General Description	270.14(b)(1)	(Section B)	SECT 3	
P-3	General Requirements	270.14	(B-1)		

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-3a	Topographic Map	270.14(b)(19)	(B-2a) Show distance of 1,000 feet around unit at a scale of 1 inch to not more than 200 feet (multiple maps may be submitted at this scale), and should be similar to Part A topographic map.	PLATE 3-1 1"=200' PLATE 3-2 1"=1000'	
	Scale and Date	270.14(b)(19)(i)	Other scales may be used if justified.	PLATES 3-1 3-2	
	The 100-Year Flood Plain Area	270.14(b)(19)(ii)		SECT 10.3 FIG 15-2	
	Surface Waters	270.14(b)(19)(iii)		PLATES 3-1 3-2	
	Surrounding Land Use	270.14(b)(19)(iv)		PLATE 3-2	
	Wind Rose	270.14(b)(19)(v)		PLATE 3-1	
	Map Orientation	270.14(b)(19)(vi)		PLATES 3-1 3-2	
	Legal Boundaries	270.14(b)(19)(vii)		PLATES 3-1 3-2	
	Access Control	270.14(b)(19)(viii)		Sect. 5	
	Injection and Withdrawal Wells (on site and off site)	270.14(b)(19)(ix)		TABLE 15-1 FIS 15-6 PLATE 3-1	
	Buildings and Other Structures	270.14(b)(19)(x)		PLATE 3-1	
	Drainage and Flood Control Barriers	270.14(b)(19)(xi)		PLATE 3-1	
P-3b	Additional Information on the Topographic Map for Land Disposal Facilities	270.14(c)(3)	(B-2b) Waste Management Area Point of Compliance Property Boundary GW Monitoring Wells	PLATE 3-1 FIS 15-14	
	Uppermost Aquifer and Hydraulically Connected Aquifers Beneath Facility Property	270.14(c)(2)		Sect 15 FIS 15-7 thru 15-10	
	Groundwater Flow Direction	270.14(c)(2)		FIS 15-12	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
	Waste Management Areas	270.14(c)(3)		PLATE 3-1	
	Property Boundaries	270.14(c)(3)		PLATE 3-1	
	Location of Groundwater Monitoring Wells	270.14(c)(3); 264.97		PLATE 3-1 FIG 15-14	
	Extent of any Groundwater Contaminant Plume	270.14(c)(4)(i)		SECT 15.1.9 FIG 15-12	
P-3c	Facility Location Information	270.14(b)(11); 264.18	(B-3)	SECT 10-1	
P-3c(1)	Political Jurisdiction in which Facility is Located	270.14(b)(11)(i)	(B-3a)	SECT 10-1	
P-3c(2)	Flood Plain Requirements	270.14(b)(11)(iii), (iv); 264.18(b)	(B-3b) Flood plain requirements applicable if facility is located in 100-year flood plain.	SECT 10-3	
	Copy of Federal Insurance Administration or other Flood Map	270.14(b)(11)(iii)	Reference source used to determine whether facility is located in 100-year flood plain.	FIG 15-2 MAP - APPX H	
	Concentration of Hazardous Constituents Remaining in the Unit that Would Potentially Affect Surface Waters as a Result of Washout	270.14(b)(11); 264.18(b)(ii)(B)	Flood plain requirements applicable if facility is located in 100-year flood plain.	SECT 10-3	
	Impact of such Concentration on Current or Potential uses of, and Water Quality Standards Established for, the Affected Surface Waters	270.14(b)(11); 264.18(b)(ii)(C)	Flood plain requirements applicable if facility is located in 100-year flood plain.	SECT 10-3	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
	Impact of Hazardous Constituents on the Sediments of Affected Surface Waters, or the Soils of the 100-Year Flood Plain, that could Result from Washout	270.14(b)(11); 264.18(b)(ii)(D)	Flood plain requirements applicable if facility is located in 100-year flood plain.	SECT 10-3	
	Plan and Schedule for Future Compliance	270.14(b)(11)(v)	Flood plain requirements applicable if facility is located in 100-year flood plain and not in compliance with 264.18(b).	SECT 10-3	
P-4a	*Chemical and Physical Analyses*	*270.14(b)(2); 264.13(a)*	*(C-1) Data generated by testing the waste, published data on the waste, or data gathered from similar processes may be used.*	SECT 4	
P-4b	*Waste Analysis Plan*	*270.14(b)(3); 264.13(b),(c) 266.102(a)(2)(ii); 266.104(a); (2), 268.7*	*(C-2) Address how for closed units/facilities, a waste analysis plan is not applicable. Discuss previous waste stream and/or current management of the waste, if applicable. Discuss whether or not leachate or runoff collection and analysis are necessary.*	SECT. 4	
P-5	General Hydrogeologic Information	270.14(c)(2)	(E-3) Include description of the regional and site-specific geologic and hydrogeological setting.	SECT. 15.1 thru 15.1.8.4	
P-5a	Topographic Map Requirements	270.14(c)(2), (3), (4)(i)	(E-4)	PLATES 3-1 3-2	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-5b	Contaminant Plume Description	270.14(c)(2), (4), (7); Part 261, Appendix VIII	(E-5) In some cases, contaminant plumes may be defined under groundwater quality assessment programs carried out during the interim status period which may not address the complete list of Appendix VIII constituents as required under 270.14(c)(4). Additional monitoring may be required to identify the concentration of each Appendix VIII constituent in the plume.	SECT. 15.1.9	
P-5c	General Monitoring Program Requirements	270.14(c)(5); 264.90(b)(4); 264.97	(E-6) Describe the monitoring to be conducted during the post-closure care period, including as applicable, the procedures for conducting the following operations and evaluating the data gathered: groundwater monitoring; and leachate collection/detection and removal.	SECT. 15	
P-5d	Description of Wells	270.14(c)(6)(ii); 264.97(a), (b), (c)	(E-6a) Identify the number, location, and depth of each well, and describe the well construction materials to be used.	APPX N TABLE 15-3 FIS 15-13	
P-5e	Proposed Sampling and Statistical Analysis Procedures for Groundwater Data	270.14(c)(7)(vi); 264.97(d), (e), (f); 264.99(c) - (g)	(E-6b)	APPX. P SECT. 4	
P-5f	Corrective Action Program	270.14(c)(8); 264.99(j); 264.100	(E-a) If hazardous constituents have been detected in the groundwater, an owner or operator must submit sufficient information, supporting data, etc., to establish a corrective action program that meets the requirements of 264.100.	EFP PART B 15.1.10 15.1.11 APPX P SECT 2	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-5g	Characterization of Contaminated Groundwater	270.14(c)(8)(i)	(E-9a) For each well at point of compliance and for each background well, provide concentrations of each constituent in 261 Appendix VIII, major cations and anions, and constituents listed in Table 1 of 264.94, if not already determined by the above.	TABLE 15-6 TABLE 15-9	
P-5h	Concentration Limits	270.14(c)(8)(ii); 264.94; 264.100(a)(2)	(E-9b) Specify the proposed concentration limits for each hazardous constituent in groundwater.	TABLE 15-4 TABLE 15-8	
P-5i	Alternate Concentration Limits	270.14(c)(8)(ii); 264.94(b); 264.100(a)(2)	(E-9c) Provide a justification for establishing alternate concentration limits. This justification must address each of the following two factors.	N/A	
P-5j	Corrective Action Plan	270.14(c)(8)(iii); 264.100(b); 264.101	(E-9d) Provide detailed plans on the corrective actions proposed for the facility, including maps of engineered structures, construction details, plans for removing waste, description of treatment technologies, effectiveness of correction program, operation and maintenance plans, closure and post-closure plans, and a schedule for corrective action requirements. Also, include plan for corrective action at solid waste management units (SWMU).	SECT. 15.1.10 15.1.11 EFP SECT. 16	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-6	Security	270.14(b)(4); 264.14	(F-1) Indicate whether hazardous waste remains exposed after completion of partial or final closure or access by the public or domestic livestock may pose a hazard to human health. Demonstrate that this type of property post-closure use must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring system.	SECT. 5	
P-6a	Security Procedures and Equipment	270.14(b)(4); 264.14	(F-1a) Unless waiver is granted, facility must have surveillance system or barrier or other means to control entry.	SECT. 5	
P-6a(1)	Warning Signs	270.14(b)(4); 264.14(c)	(F-1a(3)) Signs in English must be posted at each entrance, and be legible from 25 feet.	SECT. 5	
P-6b	Inspection Schedule	270.14(b)(5); 264.15	(F-2) Include where applicable, as part of the post-closure inspection schedule, specific requirements for each type of treatment, storage, and disposal facility. These specific requirements and the schedule should be included as part of the post-closure plan.	SECT. 6	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-6b(1)	General Inspection Requirements	270.14(b)(5); 264.15(a), (b); 264.33	(F-2a) Describe the inspections to be conducted during the post-closure care period, their frequency, the inspection procedure, and the logs to be kept. Inspection is required for monitoring equipment, safety emergency equipment, communication and alarm systems, decontamination equipment, security devices, and operating and structural equipment. Should be included as part of post-closure plan.	SECT. 6.0 THRU 6.2 TABLES 6-1 6-2 O&M SECT. 3.0 4.0 APPX E	?
	Types of Problems	270.14(b)(5); 264.15(b)(3)	Inspection checklist should be included as part of post-closure plan and must identify types of problem.	TABLES 6-1 6-2	
	Frequency of Inspections	270.14(b)(5); 264.15(b)(4)	The rationale for determining the length of time between inspections should be provided as part of the post-closure plan.	SECT. 6.0	
	Schedule of Remedial Action	264.15(c)	Owner/operator must immediately remedy any deterioration or malfunction of equipment or structures to ensure problem does not lead to environmental or human health hazard.	SECT. 6.0	
	Inspection Log	264.15(d)	Provide example log or summary. Should be included as part of the post-closure plan.	TABLES 6-1 6-2	
P-7a	Waiver or Documentation of Preparedness and Prevention Requirements	270.14(b)(6) 264.32(a) - (d)	(F-3) Facility must submit justification for any waiver to requirements of this section.	N/A	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-7b	Emergency Equipment	270.14(a); 264.32(c)	(F-3(a)(3)) Demonstrate that portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment are available.	APPX. G TABLE 1	
P-7c	Water and Fire Control	270.14(a); 264.32(d)	(F-3(a)(4)) Demonstrate facility has adequate fire control systems, water volume and pressure, foaming equipment, automatic sprinklers, etc.	APPX G SECT. 1.6.1	
P-7d	Testing and Maintenance of Equipment	270.14(a); 264.33	(F-3(a)(5)) Demonstrate communication, alarm, fire control equipment, spill control equipment, and decontamination equipment are tested and maintained.	APPX G SECT 1.7	
P-7e	Documentation of Arrangements with Emergency Agencies	270.14(a); 264.37	(F-3(c)) Owner/operator must make arrangements, as appropriate, with type of waste and hazard potential, for the potential need for services.	APPX G ATTACH. 1	
P-7f	Document Agreement Refusal	270.14(a); 264.37(b)	(F-3(c)(4)) Document refusal to enter into a coordination agreement.	N/A	
P-7g	Equipment and Power Failure	270.14(b)(8)(iv)	(F-4(d)) Describe procedure used to mitigate the effects of equipment failure and power outages.	EFP SECT. 5.1.6	
P-8	*Contingency Plan General Information*	*270.14(b)(7); 264.52*	*(G-1) Provide facility name and location, operator, site plan, and describe facility operations.*	APPX G	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
	Actions to Take in Case of Emergency	*270.14(b)(7); 264.52(a)*	*(G-4(d)) Describe actions to be taken in response to any unplanned release of hazardous waste to air, soil, or surface water.*	APPX G SECT. 1.6	
P-8a	*Emergency Coordinators*	*270.14(b)(7); 264.52(d); 264.55*	*(G-2) There must at least be one primary emergency coordinator available at all times.*	APPX G SECT. 1.5 TABLE 2	
P-8b	*Implementation*	*270.14(b)(7); 264.52(a); 264.56(d)*	*(G-3) Emergency coordinator to determine that facility has had a release, fire, or explosion that could threaten human health or the environment outside facility.*	APPX G SECT. 1.6	
P-8c	*Emergency Actions*	*270.14(b)(7); 264.56*	*(G-4)*	APPX G 1.6	
P-8c(1)	*Notification*	*270.14(b)(7); 264.56(a)*	*(G-4a) Describe the method for immediate notification of facility personnel and necessary state and local agencies.*	APPX G SECT. 1.6 1.10	
P-8c(2)	*Identification of Hazardous Materials*	*270.14(b)(7); 264.56(b)*	*(G-4b) Observation, records or manifest, or chemical analysis may be used by emergency coordinator.*	APPX G SECT. 1.5 1.6	
P-8c(3)	*Assessment*	*270.14(b)(7); 264.56(c),(d)*	*(G-4c) Direct and indirect effects must be considered.*	APPX G	
P-8c(4)	*Control Procedures*	*270.14(b)(7); 264.52(a)*	*(G-4d) Contingency plan must describe actions facility personnel must take in response to fires, explosions, or any unplanned release of hazardous waste to air, soil, or surface water.*	APPX. G SECT. 1.6	
P-8c(5)	*Storage, Treatment, and Disposal of Released Material*	*270.14(b)(7); 264.56(g)*	*(G-4f) After emergency, emergency coordinator must provide for treating, storing, and disposing of recovered waste.*	APPX. G SECT. 1.6	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-8c(6)	*Incompatible Waste*	*270.14(b)(7); 264.56(h)(1)*	*(G-4g) Until cleanup is complete, assure that incompatible waste is not stored together.*	N/A	
P-8c(7)	*Post-Emergency Equipment Management*	*270.14(b)(7); 264.56(h)(2)*	*(G-4h) Decontamination is required for emergency equipment.*	Appx. G Sect. 1.6	
P-8d	*Evacuation Plan for Facility Personnel*	*270.14(b)(7); 264.52(f)*	*Evacuation plans must include evacuation signals and primary and alternate evacuation routes.*	Appx. G Sect 1.4	
P-8e	*Notification of federal, State and Local Authorities before Resuming Post-Closure Care*	*270.14(b)(7); 264.56(i)*	*Federal or state authorities must be notified within 15 days of occurrence.*	Appx. G Sect. 1.10	
P-8f	*Notification Reports*	*270.14(b)(7); 264.196(d)*	*Demonstrate that any release to the environment will be reported to regional administrator within 24 hours of detection.*	Appx G	
P-9	*Outline of Introductory and Continuing Training Programs*	*270.14(b)(12); 264.16(a)(1)*	*(H-1) Facility personnel must successfully complete classroom or on-the-job training which will allow them to responsibly perform in their positions for post-closure care. The training program is limited to post-closure activities.*	Sect 11	
P-9a	*Job Title/Job Description*	*270.14(b)(12); 264.16(d)1), (d)(2)*	*(H-1a) Owner or operator must maintain records of job titles, names of employees, job descriptions, and types and amounts of training given to employees.*	Sect. 11.5	
P-9b	*Description of How Training will be Designed to Meet Actual Job Tasks*	*270.14(b)(12); 264.16(c),(d)(3)*	*(H-1b) Training must be conducted by a qualified person; there must also be an annual review of the training.*	Sect. 11	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-9c	*Training Director*	*270.14(b)(12); 264.16(a)(2)*	*(H-1c) Program must be directed by person trained in hazardous waste procedures.*	SECT. 11.4	
P-9d	*Relevance of Training to Job Position*	*270.14(b)(12); 264.16(a)(2)*	*(H-1d) Training must include instruction on hazardous waste procedures relevant to each employee's position.*	SECT. 11.1.3	
P-9e	*Training for Emergency Response*	*270.14(b)(12); 264.16(a)(3)*	*(H-1e) Personnel must minimally be familiar with emergency procedures, emergency equipment, and emergency systems.*	SECT. 11.1.2	
P-9f	*Maintenance of Training Records/Copy of Personnel Training Documents*	*270.14(b)(12); 264.16(b),(d)(4),(e)*	*(H-1f) Training records on current personnel must be kept until the post-closure care period is completed. Training must be completed within 6 months after date of employment or assignment to the facility, whichever is later.*	SECT. 11.2 SECT. 11.5	
P-10	Closure Plans	270.14(b)(13); 264.112(a)(1),(2)	(I-1) Include an approved closure plan consistent with the requirements of 264.112. This plan is included for post-closure facilities as a description of how the facility was closed.	Appx B Appx I	
P-11	Post-Closure Plan	270.14(b)(13)	(I-2) Submit a copy of the approved post-closure plan.	Appx J Appx K	
P-11a	Post-Closure Care Contact	270.14(b)(13); 264.118(b)(3)	(I-2g) Provide the name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.	Appx J SECT 8.0 Appx K SECT. 8.0	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-12	Notices Required for Disposal Facilities	270.14(b)(14)	(I-3a through d) Provide a certification of closure, a survey plat, and a post-closure certification. Also include a statement that the post-closure notices required by 270.149(b)(14) will be filed and submitted appropriately.	Appx B Appx C Appx I	
P-13	Post-Closure Cost Estimate	270.14(b)(16) 264.144	(I-6) Provide a copy of the most recent post-closure cost estimate, calculated to cover the cost, in current dollars, of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure plan. Estimate must be based on third party performing the post-closure activities. The cost estimate must be adjusted annually for inflation pursuant to 264.144(b).	Appx L SI #1 SI #2 3A Lagoon LTU	
P-14	Financial Assurance Mechanism for Post-Closure Care	270.14(b)(16); 264.145; 264.151	(I-7) Provide a copy of the established financial assurance mechanism for post-closure care of the facility. The mechanism must be one of the following: • trust fund • surety bond • letter of credit • insurance • financial test and corporate guarantee for post-closure care • use of multiple financial mechanisms • use of financial mechanism for multiple facilities.	Sect 14.4 Sect 14.5	Need Copies of Financial Assurance and Liability Insurance

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-15	Use of State Required Mechanisms	270.14(b)(18); 264.149	(I-9) When state has regulations equivalent or greater liability requirements for financial assurance for closure post-closure submit copy of state-required financial mechanism.	N/A	
P-16	State Assumption of Responsibility	270.14(b)(18); 264.150	(I-9b) If state assumes legal responsibility for compliance with closure, post-closure, or liability requirements there must be a letter submitted from state specifying assumption of responsibilities and amounts of liability coverage assured by state.	N/A	
P-17	SWMUs	270.14(d)(1); 264.101	(J-1) Identify all SWMUs at the facility including hazardous and nonhazardous waste units, as well as active and inactive units, if known.	SECT. 16 PLATE 16-1	
P-17a	Characterize the SWMU	270.14(d)(1)	(J-1) Submit SWMU information including: type of each unit; location on a topographic map; engineering drawings, if available, dimensions; dates of operation; description of wastes in each unit; and quantity or volume of waste, if known.	SECT. 16	
P-17b	No SWMUs		(J-1) Describe methodology used to determine that no existing or former SWMUs exist at the facility.	N/A	
P-17c	Releases	270.14(d)(2)	(J-2)	SECT 15; 1, 9 PLATE 15-1	

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-17c(1)	Characterize Releases	270.14(d)(3)	(J-2) Provide following information concerning releases: date of release; type, quantity, and nature of release; groundwater monitoring and other analytical data; physical evidence of stressed vegetation; historical evidence of releases; any state, local, or federal enforcement action that may address releases; any public citizen complaints that indicate a release; and any other information showing the migration of the release.	PLATE 15-1 SECT. 15.1.9	
P-17c(2)	No Releases		(J-1) Describe methodology used to determine that releases from SWMUs are not present.	N/A	
P-18	Part B Certification	270.11	(L-1)	SECTION 1	
P-19	Information on the Potential for the Public to be Exposed to Releases. At a Minimum, this must include: • reasonably foreseeable potential releases • potential pathways of human exposure • potential magnitude and nature of exposure	270.10(j)	(Q-1) The federal requirement is for surface impoundments and land disposal units.	SECT. 5 SECT 10.3	

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

MWH

BUILDING A BETTER WORLD

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JUN 13 2011
BUREAU OF WASTE MANAGEMENT

June 10, 2011

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

1010417

VIA FEDERAL EXPRESS
TRK# 7948 5429 5136

Re: RCRA Permit Renewal Part A and Part B
Arkansas City, Kansas
MRP Properties Company, LLC
EPA ID No.: KSD087418695

Dear Mr. Kamal,

MWH is submitting the enclosed RCRA Permit renewal application for the MRP Properties Company, LLC (MRP) facility located in Arkansas City, Kansas on behalf of MRP. The Part B application contains the groundwater sampling and analysis plan. In the previous application this plan was submitted under separate cover.

If you have any questions regarding this report, please contact Brenda Epperson, MRP at (210) 345-4619 or me at (303) 291-2262

Sincerely,

MWH Americas, Inc.

Joseph Mednick, P.G.
Principal Hydrogeologist

Enclosure: 2010 Annual Groundwater Monitoring Report

cc: Brenda Epperson, MRP, LLC w/enc.
Kent Biggerstaff, MRP, LLC w/enc.
Everett Spellman, KDHE w/o enc.
David Garrett, EPA Region 7 w/enc. (2 copies)

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BUREAU OF WASTE MANAGEMENT

1010417

May 6, 2011

Chief of the Hazardous Waste Permits Section
ATTN: Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

VIA FEDERAL EXPRESS
TRK# 7970 6969 8560

Re: Combined Quarterly Corrective Action Progress Report First Quarter 2011, and Semiannual ICM Report: Fourth Quarter 2010 and First Quarter 2011
MRP Properties Company, LLC – Arkansas City Refinery
Facility ID: KSD 087418695

Dear Mr. Kamal:

This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit (September 20, 2001), and the reporting outlined in the Interim Corrective Measures Addendum (March 3, 1995).

1.0 CORRECTIVE ACTION PROGRESS REPORT (1ST QUARTER 2011)

This section of the report contains a summary of the corrective action elements pursuant to Parts I and II of the Hazardous Waste Management Facility Permit.

1.1 Description of Work Completed:

- Groundwater Corrective Action – the groundwater corrective action system downgradient of the waste management area operated normally during this reporting period.
- The fourth quarter 2010 Corrective Action Progress Report was submitted to KDHE and EPA on January 25, 2011.
- Quarterly Bioreactor Sampling – the first quarter bioreactor influent water sampling was performed on February 16, 2011. The laboratory results are summarized on Table 1.
- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on February 14, 2011. Additionally, monthly operational monitoring was conducted on January 13, 2011 and March 11, 2011. The capture zone monitoring data are presented on Table 2.
- Land Treatment Unit (LTU) Corrective Action – the LTU soil vapor extraction and air sparge system was turned off on January 17, 2011 in accordance with the KDHE 180 temporary authorization. A SVE inlet air sample was collected on January 17 before the system was turned off. The laboratory results are summarized on Table 3.
- Groundwater samples were collected from monitor wells WN-6B, WN-7B, WN-8B, and MW-

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17 on February 15, 2011 as required by the 180 day temporary authorization. The groundwater samples were analyzed for BTEX, MTBE, and TBA. The results were submitted to KDHE and EPA on April 21, 2011.

- The 2010 annual groundwater monitoring report was submitted to KDHE and EPA on March 1, 2011.

1.2 Summaries of all Findings and Summaries of Laboratory Data:

- The Bioreactor influent data (February 16, 2011) are summarized on the attached Table 1. The results are consistent with previous monitoring events. The laboratory report summary pages are included in Attachment 1.
- The groundwater capture zone monitoring conducted during this quarter demonstrated continued compliance with the facility permit requirement and the data are summarized on attached Table 2.

1.3 Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems:

No problems were encountered during the reporting period.

1.4 Projected Work for the Next Quarter:

- Submit the Exposure Unit Supplemental Soil Investigation report to KDHE and EPA.
- Conduct semiannual groundwater sampling (May 2011).
- Conduct quarterly capture zone monitoring and bioreactor influent monitoring.
- Conduct second quarterly groundwater sampling in accordance with the 180 day temporary authorization to idle the LTU SVE/AS system.

1.5 Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II R:

There are no instances of noncompliance to report under Part II.R of the permit.

2.0 Semiannual Interim Corrective Measures (4TH Quarter 2011 and 1ST Quarter 2011)

This section of the report presents information on the groundwater and product recovery wells and the Closed Surface Impoundment (CSI) soil vapor extraction and air sparging (SVE-AS) system collected during the fourth quarter 2010 and first quarter of 2011 (reporting period).

The groundwater level and phase-separated hydrocarbon monitoring data collected during the reporting period (October 2010 through March 2011) are presented on Table 4. Groundwater potentiometric surface contour maps for the six month reporting period are presented on Figures 1 through 6. These maps also show the inferred extent of measurable phase-separated hydrocarbons. The recovery well system groundwater pumping rates and product recovery data for the reporting period are summarized on Table 5. Tables 6, 7, 8, 9, 10 and 11 summarize the Walnut River visual inspections performed during this six month reporting period.

2.1 Summaries of all Findings and Summaries of Laboratory Data:

- The average monthly groundwater pumping rates ranged between 1,405 and 1,543 gallons per minute (gpm) during the reporting period, with an overall average rate of 1,478 gpm

compared with 2,022 gpm during the previous six month reporting period.

- Approximately 52,457 gallons of petroleum product was recovered during this reporting period compared with 34,975 gallons during the previous six-month reporting period.
- Recovery well maintenance during this reporting period consisted of routine maintenance on water and product recovery pumps.
- The Closed Surface Impoundment (CSI) Soil Vapor Extraction (SVE) system operated normally during the reporting period. The average airflow rate during this reporting period was approximately 622 standard cubic feet per minute (SCFM), resulting in the removal of approximately 1429 pounds (lbs) of hydrocarbon mass from the soil compared with 2,712 lbs in the previous six-month reporting period.
- The CSI SVE system inlet air stream was sampled on January 12, 2011. The air sample was analyzed by the TestAmerica laboratory in Pensacola, Florida for benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether, and total petroleum hydrocarbons-gasoline range organics (TPH-GRO), the BTEX and MTBE results were all reported as non-detect; the TPH-GRO concentration was 240 milligrams per cubic meter (mg/m^3). The laboratory results summary page is included in Attachment 1.
- The CSI SVE system continues to operate consistently and BTEX and TPH-GRO concentrations are consistent with previous samples and continue to show an overall decreasing concentration trend.
- The CSI Air Sparge (AS) system operated normally during this reporting period. The average system airflow rate during this reporting period was 70 SCFM and averaged 9.9 SCFM per air sparge well. The average daily oxygen injection rate into the groundwater during this reporting period was approximately 3,369 pounds (lbs). Approximately 308 tons of oxygen has been injected into the groundwater over the same six-month period.

2.2 Projected Work for the Next Quarter:

- Sample the CSI SVE system inlet air stream and balance air sparge system air flows.
- Perform Routine maintenance and monitoring of the CSI and ICM systems.

If you have any questions or comments regarding this information, please contact Brenda Epperson, MRP at (210) 345-4619 or Jay Mednick, MWH at (303) 291-2262.

Sincerely,
MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Attachments: Tables 1- 11, Figures 1-6, Attachments, CD-ROM

cc: Kent Biggerstaff, MRP w/enc.
Brenda Epperson, MRP w/enc.
David Garrett, USEPA w/enc.
Everett Spellman, KDHE BWM w/enc.

Table 1 Summary of First Quarter 2011
Bioreactor Influent Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	1ST Quarter 2011		
		Bioreactor Influent A	Bioreactor Influent B	Bioreactor Influent C
Field Measurements				
Sample Date		02/16/11	02/16/11	02/16/11
Flow (gpm)		850	240	70
pH (SU)		6.92	7.04	6.90
Temperature °C		17.4	16.9	17.6
Conductivity (µS/cm)		1076	945	962
Dissolved Oxygen (mg/L)		5.4	1.5	2.3
Laboratory Analyses				
Benzene (µg/L)	5	1.8	**5.9**	3.5
Toluene (µg/L)	1000	1 U	0.37 J	1 U
Ethylbenzene (µg/L)	700	1 U	1.9	0.86 J
Xylenes, total (µg/L)	10000	0.95 J	2.3	1.1 J
MTBE (µg/L)*	262	5.0 U	5.0 U	5.0 U

Notes:

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL)

BOLD sample results indicate detection equal to or above the groundwater protection standard

* KDHE Tier 2 Non-Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, October 2010)

gpm = gallons per minute

µS/cm = microsiemens per centimeter

mg/L = milligrams per liter

µg/L = micrograms per liter

°C = degrees Celsius

Bioreactor Influent A = Recovery wells RW-11 through RW-80A

Bioreactor Influent B & C = Recovery wells PARW-1, PARW-2, NARW-1, NARW-2, and NARW-3

Table 2 Monthly Groundwater Capture Zone Monitoring Results
First Quarter 2011
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Operational Monitoring - January 13, 2011					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water[2]	Water Elevation	Elevation Difference[3]
1	RCRA-7	1063.72	28.58	1035.14	0.61
	CMW-1	1059.71	23.96	1035.75	
2	113	1072.23	37.26	1034.97	0.55
	CMW-2	1061.75	26.23	1035.52	
3	118	1070.70	34.40	1036.30	0.56
	CMW-3	1061.47	24.61	1036.86	
4	MW-1002	1072.11	33.23	1038.88	0.28
	CMW-4	1061.93	22.77	1039.16	

Capture Zone Compliance Monitoring -February 14, 2011					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water[2]	Water Elevation	Elevation Difference[3]
1	RCRA-7	1063.72	28.11	1035.61	0.67
	CMW-1	1059.71	23.43	1036.28	
2	113	1072.23	36.67	1035.56	0.57
	CMW-2	1061.75	25.62	1036.13	
3	118	1070.70	33.56	1037.14	0.52
	CMW-3	1061.47	23.81	1037.66	
4	MW-1002	1072.11	32.59	1039.52	0.22
	CMW-4	1061.93	22.19	1039.74	

Capture Zone Operational Monitoring - March 11, 2011					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water[2]	Water Elevation	Elevation Difference[3]
1	RCRA-7	1063.72	28.21	1035.51	0.53
	CMW-1	1059.71	23.67	1036.04	
2	113	1072.23	37.10	1035.13	0.62
	CMW-2	1061.75	26.00	1035.75	
3	118	1070.70	33.55	1037.15	0.43
	CMW-3	1061.47	23.89	1037.58	
4	MW-1002	1072.11	32.49	1039.62	0.25
	CMW-4	1061.93	22.06	1039.87	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on April 23, 2010 survey data information.
2. Depth to water in feet below the top of casing surveyed measuring point
3. Elevation difference in feet. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 3 LTU First Quarter 2011 SVE Inlet Air Sample Analytical Results
MRP Properties Company, LLC - Arkansas City, Kansas

Analyte	Date Sampled
	1/12/2011
Benzene (mg/m^3)	<1.0
Ethylbenzene (mg/m^3)	<1.0
Toluene (mg/m^3)	<5.0
Xylenes, (total) (mg/m^3)	<5.0
Methyl tert-butyl ether (mg/m^3)	<5.0
Gasoline Range Organics (C_6-C_{10}) (mg/m^3)	<100

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April 25, 2011

1010417

Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7970 2961 0719

Re: Exposure Unit Supplemental Soil Investigation Report
Arkansas City, Kansas
MRP Properties Company, LLC
EPA ID No.: KSD087418695

Dear Mr. Vishnefske,

Please find enclosed the Exposure Unit Supplemental Soil Investigation Report for the former Arkansas City Refinery site located in Arkansas City, Kansas. MWH Americas Inc. is submitting this report on behalf of MRP Properties Company, LLC (MRP). An electronic copy of the report is included on the CD-ROM included. This report has been prepared in accordance with the Work Plan approved by KDHE.

If you have any questions regarding this report, please contact Brenda Epperson, MRP at (210) 345-4619 or me at (303) 291-2262.

Sincerely,
MWH Americas, Inc.

Joseph Mednick, P.G.
Principal Hydrogeologist

Enclosure: Exposure Unit Supplemental Soil Investigation Report

cc: Brenda Epperson, MRP, LLC w/enc.
Kent Biggerstaff, MRP, LLC w/enc.
Everett Spellman, KDHE w/o enc.
David Garrett, EPA Region 7 w/enc. (2 copies)

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April 21, 2011

1010417

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7970 1569 6497

Re: LTU Corrective Action – Quarterly Groundwater Monitoring Report
Arkansas City, Kansas
MRP Properties Company, LLC
EPA ID No.: KSD087418695

Dear Mr. Kamal,

MWH Americas Inc. (MWH) is submitting this report on behalf of MRP Properties Company, LLC (MRP). This report contains the results of the quarterly groundwater monitoring in accordance with the approved 180 day temporary authorization associated with the shut down the LTU soil vapor extraction/air sparge (SVE/AS) system at the MRP Arkansas City site.

Groundwater samples were collected from monitor wells WN-6B, WN-7B, WN-8B, and MW-17 on February 15, 2011. The groundwater samples were analyzed for BTEX, MTBE, and TBA by the Kansas approved TestAmerica Laboratory in Arvada, Colorado. The laboratory analytical results for the groundwater samples, a sample trip blank, and a field blank are summarized on Table 1. Table 2 contains a summary of the BTEX results from 2008 to the present for comparison.

Groundwater sampling field forms, the field log book records, and chain-of-custody forms are included in Attachment 1. The groundwater sampling field forms include the measurements of depth to groundwater and free product (if present) and the field measurements of pH, temperature, electrical conductivity, and turbidity. The format of the groundwater sampling form prevents the recording of all of the field measurements and the expanded field parameters (dissolved oxygen and oxidation reduction potential) collected during the sampling event; consequently, the full field data set is included in the field log book. The laboratory results Form 1s are included in Attachment 2.

The analytical results indicate the groundwater concentrations of the BTEX constituents are consistent with previous groundwater analytical data from these groundwater monitoring locations obtained while the LTU SVE/AS system was in operation as shown on Table 2.

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If you have any questions regarding this report, please contact Brenda Epperson, MRP at (210) 345-4619 or me at (303) 291-2262

Sincerely,

MWH Americas, Inc.

Joseph Mednick, P.G.
Principal Hydrogeologist

Enclosure: Tables 1 and 2, Attachments 1 and 2

cc: Brenda Epperson, MRP, LLC w/enc.
Kent Biggerstaff, MRP, LLC w/enc.
Everett Spellman, KDHE w/ enc.
David Garrett, EPA Region 7 w/enc. (2 copies)

Table 1 February 2011 Quarterly Groundwater Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

Location Identification	MW-17	WN-6B	WN-7B	WN-8B	WN-8B	FIELD BLANK[2]	TRIP BLANK
Sample Name	MW-17	WN-6B	WN-7B	WN-8B	RCRA-MW-5[1]	FIELD BLANK(2/16/11)	TRIP BLANK(2/15/11)
Sample Date	2/15/2011	2/15/2011	2/15/2011	2/15/2011	2/15/2011	2/16/2011	2/15/2011
Field and Laboratory Analytes (Units)							
Field Parameters (Units)							
Depth to Water (ft btoc)	19.39	18.90	17.44	17.81	--	--	--
Specific Conductance (uS/cm)	1624	1372	1390	1404	--	--	--
pH	7.69	7.32	7.17	7.28	--	--	--
Temperature (°C)	16.6	15.94	16.67	16.82	--	--	--
Dissolved Oxygen (mg/L)	0.46	0.16	0.15	0.11	--	--	--
Oxidation Reduction Potential (mV)	-159.2	-121.9	-168.9	-148.3	--	--	--
Turbidity (NTU)	0.63	0.47	0.75	0.44	--	--	--
Volatile Organic Compounds (ug/L)							
Benzene	1 U	1 U	190	36	35	1 U	1 U
Ethylbenzene	1 U	1 U	2.3	1.1	1.1	1 U	1 U
Methyl tert-butyl ether	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tert-butyl alcohol	40 U	40 U	40	40 U	40 U	40 U	40 U
Toluene	1 U	1 U	24	2.9	2.8	1 U	1 U
Xylenes (total)	2 U	2 U	60	7.5	7.1	2 U	2 U

Notes:

ft btoc	Feet below top of casing
uS/cm	Microsiemens per centimeter
°C	Degrees Celsius
mV	Millivolts
NTU	Nephelometric turbidity units
µg/L	Micrograms per liter
--	Not analyzed
Bold	Bolded result indicates a detected result.
U	Not detected above the reporting level shown.
J	Estimated value; used when the analyte was detected between the minimum detection level and the reporting level.
1	RCRA-MW-5 is a duplicate of the groundwater sampled collected from monitor well WN-8B
2	The field blank was collected on 2/16/11 was associated with the quarterly bioreactor influent sampling

Table 2 Summary of Recent LTU Area Groundwater Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

Well	Sample Date[1]	Benzene	Toluene	Ethyl-benzene	Xylenes (total)
		(µg/L)			
MW-17	05/07/08	1U	1U	1U	2U
MW-17	08/06/08	0.26J	1U	1U	2U
MW-17	10/08/08	1U	1U	0.18J	0.51J
MW-17	03/05/09	1U	1U	1U	2U
MW-17	05/21/09	1.6	0.41J	0.29J	1.5J
MW-17	08/20/09	1U	1U	1U	2U
MW-17	10/26/09	0.19J	1U	1U	0.6J
MW-17	05/17/10	1U	1U	1U	2U
MW-17	10/12/10	1U	1U	1U	2U
MW-17	02/15/11	1U	1U	1U	2U
WN-6B	05/07/08	1U	1.4	0.37J	3.7
WN-6B	10/09/08	1U	1U	1U	2U
WN-6B	05/19/09	1U	1U	1U	2U
WN-6B	10/27/09	35	2.6	0.47J	5.2
WN-6B	05/18/10	1.1	0.48J	1U	0.72J
WN-6B	10/12/10	5.2	0.51J	1U	1.3J
WN-6B	02/15/11	1U	1U	1U	2U
WN-7B	05/07/08	160	14	1.5	26
WN-7B	08/06/08	160	15	1.7	32
WN-7B	10/08/08	370	26	2.6	46
WN-7B	03/05/09	270	18	2	35
WN-7B	05/21/09	110	6.7	1	11
WN-7B	08/20/09	170	14	2.1	42
WN-7B	10/26/09	220	17	2J	37
WN-7B	05/18/10	140	15	2	36
WN-7B	10/13/10	180	17	2.3	46
WN-7B	02/15/11	190	24	2.3	60
WN-8B	05/07/08	52	3.2	2.3	8.4
WN-8B	08/06/08	97	6.2	2.6	15
WN-8B	10/08/08	32	2.2	1.5	6
WN-8B	03/05/09	32	2.2	1.3	6.2
WN-8B	05/19/09	36	2.8	1.6	7.3
WN-8B	08/20/09	27	2.1	0.97J	5.5
WN-8B	10/27/09	33J	2.9	1.4	7.9
WN-8B	05/18/10	33	2.1	1	6
WN-8B	10/13/10	32	2.7	1.1	8.4
WN-8B	02/15/11	36	2.9	1.1	7.5

Notes:

1 Monitor wells MW-17, WN-7B and WN-8B incude quarterly sampling results. Monitor well WN-6B was sampled semiannually.

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Robert Moser, MD, Secretary.

Kansas
Department of Health & Environment

Sam Brownback, Governor

April 14, 2011

Brenda B. Epperson
Environmental Manager
MRP Properties Company, LLC
P.O. Box 696000
San Antonio, TX 78269-6000

RE: Response to KDHE Comments on the 2010 Annual Groundwater Monitoring Report
MRP Properties Company, LLC
Former Total Petroleum, Inc. Refinery
1400 South M Street, Arkansas City, Kansas
RCRA ID# KSD087418695

Dear Ms. Epperson,

The Kansas Department of Health and Environment (KDHE) received the Response to KDHE Comments letter, which was submitted by MWH Americas, Inc. on behalf of MRP Properties Company, LLC. The letter was sent in response to comments made by the KDHE on the 2010 Annual Groundwater Monitoring Report

KDHE has reviewed the response letter along with the replacement pages and find them acceptable. Thank you for your prompt response to our comments letter. If you have any questions, please contact me by phone at (785)-291-3760 or e-mail me at (mvishnefske@kdheks.gov).

Sincerely,

Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions

cc: Jay Mednick – MWH Americas, Inc.
David Garrett – EPA Region 7/AWMD/RCAP
Allison Herring – DEA/SCDO/Waste Programs
Bill Bider – KDHE/BWM

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Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: KDHE Comments on the 2010 Annual Groundwater Monitoring Report
MRP Properties Company, LLC
Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Vishnefske,

Please find enclosed the field forms containing the quarterly groundwater level measurements corresponding to the groundwater level measurements presented in Table 8 of the annual groundwater monitoring report. These forms include the depth to groundwater measurements from the surveyed measuring point for the background, corrective action performance, and supplemental information monitoring wells. These forms were inadvertently omitted from the 2010 annual report.

Please contact either Brenda Epperson of MRP at 210-345-4619 or me at 303-291-2262 if you have any questions regarding this information.

Sincerely,

MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Enclosure:

Cc: Brenda Epperson, MRP w/enc.
Kent Biggerstaff, MRP w/enc.
David Garrett, EPA w/enc. (2 copies) w/enc.
Allison Herring, KDHE w/o enc.
Bill Bider, KDHE w/o enc.

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Robert Moser, MD, Secretary.

Kansas
Department of Health & Environment

Sam Brownback, Governor

March 24, 2011

Brenda B. Epperson
Environmental Manager
MRP Properties Company, LLC
P.O. Box 696000
San Antonio, TX 78269-6000

RE: Comments on the 2010 Annual Groundwater Monitoring Report
MRP Properties Company, LLC
Former Total Petroleum, Inc. Refinery
1400 South M Street, Arkansas City, Kansas
RCRA ID# KSD087418695

Dear Ms. Epperson,

The Kansas Department of Health and Environment (KDHE) reviewed the 2010 Annual Groundwater Monitoring Report for the Former Total Petroleum, Inc. refinery in Arkansas City. The report provides a review of the groundwater monitoring program and on-going corrective action. KDHE's comment on the report is listed below:

1. Appendix B – KDHE is unable to locate field notes for the quarterly groundwater measurements in the background, corrective action performance, and supplemental information monitoring wells. Please include these field notes to document the depth to water measurements collected in the above noted monitoring wells detailed in Table 8.

Please respond to this comment by April 25, 2011 and submit revised pages as necessary. If you have any questions, please contact me by phone at (785)-291-3760 or e-mail me at (mvishnefske@kdheks.gov).

Sincerely,

Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions

cc: David Garrett – EPA Region 7/AWMD/RCAP
Allison Herring – DEA/SCDO/Waste Programs
Bill Bider – KDHE/BWM

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March 4, 2011

Eric Staab, P.E.
Bureau of Water, Industrial Program Section
1000 SW Jackson Boulevard, Suite 420
Topeka, KS 66612-1367

Re: Comments to NPDES Permit Renewal
Pollution Control Permit Renewal Application
MRP Properties Company, LLC, - Arkansas City, Kansas
KS Water Pollution Control Permit No. I-WA18-PO02

Mr. Staab,

On behalf of MRP Properties Company, LLC and with assistance from MWH Americas Inc. (MWH), the BWR Division of Lochner Engineering Corp. (Lochner-BWR) has prepared this letter in response to the questions within your 1/14/2011 email message with regard to the application for renewal of KS Water Pollution Control Permit No. I-WA18-PO02.

Your questions and comments are italicized below with the responses following each.

Please provide a more detailed drawing/schematic of the wastewater and stormwater flows including estimated existing and proposed flow rates, showing how the wastewater and stormwater is delivered through the system. Show pump stations and tanks used in the system for oil/water separation, equalization, storage, etc. Include product recovery systems. We need more detail than the sketch provided. Please provide a copy of the SWP2 Plan Industrial Activities site map.

The Figure 2 Water Flow Diagram has been revised to include estimated flow rates as well as the pump stations and storage systems. The attached Site Map and Flow Process Plan also identifies the major flow control systems for recovered groundwater and stormwater on the Site. The SWP2 Plan is being amended to include the attached Site Map and Flow Process Plan.

Please describe the operation and efficiency of the bio-reactor tanks. It is unclear how they are maintaining biological activity and appear they may be used mostly for air stripping. Is there any evidence biological activity is taking place in the tank(s) or is the name a remnant from when the refinery was operating?

Monitoring data indicate the removal efficiency of the bioreactor tank (R-7101) is quite high. Benzene removal is generally above 90 percent. The removal efficiency of total petroleum hydrocarbon (TPH) as gasoline range organic (GRO) constituents (C6-C10) is similar to benzene. The bioreactor tank removal efficiency for TPH as diesel range organic (DRO) constituents (C10-C36) is approximately 50 percent. The oxidation pond treatment system provides polishing for the benzene and TPH-GRO, and raises the overall removal of TPH-DRO by the system to approximately 90 percent.

With regard to the aeration of recovered groundwater and runoff from select areas, the original blowers on the bioreactor tanks were equipped with 250 horsepower (HP) motors. These blowers were significantly over designed for groundwater treatment purposes and consequently, were replaced with 75 HP blower systems after refinery operations were discontinued. Even with the 75 HP blower systems, oxygen is likely being provided in excess. However, the increased dissolved oxygen in the bioreactor discharge promotes continued biological degradation of the remaining hydrocarbons during the 15-day travel period as water passes through the treatment pond system. Evidence for biological activity can be inferred from the carbon : nitrogen (N) : phosphate (P) : oxygen ratio. N and P as bionutrients appear to be available in reasonable proportion to the carbon load based on laboratory analyses of groundwater collected from recovery wells. As additional evidence of ongoing biological activity, in August 2006 during which the blowers used for aeration within bioreactor tank R7101 were non-operational for several weeks, benzene concentrations continued to be reduced through the treatment system with a minimal drop in treatment system performance.

What is the volume/detention time of the tank(s) as currently operated?

The average volume of the water in Bioreactor Tank R-7101 is 695,574 gallons. The influent flow rate under typical operating conditions is approximately 2,000 gallons/minute. Based on the average tank volume and normal flow rate, the retention time is approximately 5.8 hours.

Approximately how much stormwater is directed to the bio-reactor tanks and what portion is diverted around the tanks and how is the diverted stormwater treated?

Stormwater runoff occurs in response to precipitation events. The frequency and magnitude of the precipitation events as well as the surface permeability and gradients determine the quantity of stormwater runoff. The precipitation events are by nature intermittent. Based on rainfall data for Cowley County, KS, a 25-year 24-hour storm event would yield an average of 0.27 inches/hour of precipitation over a 24 hour period (6.48 inches/day). Using the Rational Method, storm water runoff calculations were developed based on the 25-year, 24-hour storm event, and based on standard surface runoff coefficients as published by the Kansas Department of Transportation for the 25 year storm.

An estimated volume of 14.0 million gallons (MG) of stormwater will flow from the facility from a 6.48 inch rain event. Of the 14.0 MG of runoff, approximately 3.31 MG (23.6%) of the runoff is expected to flow to the lift station where it is then pumped into the influent line to the bioreactors. An estimated 4.40 MG (31.5%) of the runoff is expected to flow to the stormwater pond from which the runoff is pumped to the south bioreactor tank (R7102) and discharged to the treatment pond system. Another 2.20 MG (15.8%) of runoff will flow naturally to the central drainage canal. An additional 4.0 MG (29.1%) of precipitation falls directly into the treatment ponds where it commingles with the Bioreactor Tank R7101 effluent prior to discharge from outfall 001 to the Walnut River.

With the exception of stormwater collected from the heat exchanger bundle (HEB) cleaning slab and from the Tank 7111 and 7112 containment area which is diverted to the lift station, stormwater runoff from the asphalt terminal located on the northern portion of the former refinery, flows to the stormwater pond (see attached Site Map and Flow Process Plan). The stormwater collected within the stormwater pond is pumped through the south bioreactor tank (R7102) and discharges to the treatment pond system.

Stormwater from the former refinery's main process area and the above ground storage tanks east of the main process area flows to a series of collection drains from which it is diverted to the lift station and commingled with runoff from the HEB and the Tank 7111 and 7112 containment area. Runoff reaching the lift station is pumped to the north bioreactor treatment tank (R7101) and aerated prior to discharge to the treatment pond system.

Stormwater runoff from the former tank farm area and from the general area of the office, laboratory and warehouse is directed to the east west trending central drainage canal. Discharge from this canal is controlled by a gate valve which remains in the "closed" position.

What is the volume/storage capacity of each of the ponds currently in the pond treatment system?

The volume of each pond within the treatment pond system is listed below along with the total system capacity.

Pond	Average Volume (Gallons)
No. 3B Aerated Lagoon	8,200,000
No. 1A Oxidation Pond	807,000
No. 1B Oxidation Pond	560,000
No. 2 Oxidation Pond	1,300,000
No. 3 Oxidation Pond	17,800,000
No. 4 Oxidation Pond	11,000,000
Stormwater Pond	750,000
No. 1 Evaporation Pond	560,000
No. 2 Evaporation Pond	940,000
No. 3 Evaporation Pond	3,500,000
Average Total Volume	45,417,000

What is the projected schedule for clean-out and or closure of these ponds?

The treatment ponds are an integral part of the RCRA groundwater corrective action at this facility. The US Environmental Protection Agency (USEPA) and the Kansas Department of Health and Environment (KDHE) Bureau of Waste Management (BWM) have identified the treatment ponds as solid waste management units (SWMUs). The facility's hazardous waste management permit requires the permittee to conduct a RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) to support decisions regarding corrective action at these SWMUs. In addition to the RFI and CMS, the facility's hazardous waste management permit has established a Post-Closure Care (PCC) period for the four hazardous waste management units: #1 Surface Impoundment, #2 Surface Impoundment, #3A Aerated Lagoon, and Land Treatment Unit. The PCC period continues for 30 years after the date of closure certification. The Land Treatment Unit has not been certified as closed at the present time. The projected schedule for closure of these ponds is approximately 30 years after the Land Treatment Unit is certified as closed unless otherwise specified by KDHE-BWM. There has not been a need to date to clean these ponds.

LOCHNER
BWR Division

If you have questions regarding the above information or require additional information to process the permit application , please contact either of the following:

Lochner-BWR
Scott Nelson
972-293-6722
snelson@hwlochner.com

MRP Properties Company, LLC
Brenda Epperson
210-345-4619
brenda.epperson@valero.com

Sincerely,

R. Scott Nelson
Environmental Scientist
Lochner-BWR Division

Enclosures: Figure 2 – Water Flow Diagram (revised from original application)
Site Map and Flow Process Plan

cc: Brenda Epperson, MRP
Jay Mednick, MWH
Mark Vishnefske, KDHE-BWM

MWH

BUILDING A BETTER WORLD

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MAR 01 2011
BUREAU OF WASTE MANAGEMENT

February 28, 2011

1010417

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7968 1345 5288

Re: 2010 Annual Groundwater Monitoring Report
Arkansas City, Kansas
MRP Properties Company, LLC
EPA ID No.: KSD087418695

Dear Mr. Kamal,

Please find enclosed the 2010 Annual Groundwater Monitoring Report for the former Arkansas City Refinery site located in Arkansas City, Kansas. MWH Americas Inc. is submitting this report on behalf of MRP Properties Company, LLC (MRP). An electronic copy of the report is included on the CD-ROM included in Appendix E. This report has been prepared in accordance with the above referenced RCRA permit.

If you have any questions regarding this report, please contact Brenda Epperson, MRP at (210) 345-4619 or me at (303) 291-2262

Sincerely,

MWH Americas, Inc.

Joseph Mednick, P.G.
Principal Hydrogeologist

Enclosure: 2010 Annual Groundwater Monitoring Report

cc: Brenda Epperson, MRP, LLC w/enc.
Kent Biggerstaff, MRP, LLC w/enc.
Everett Spellman, KDHE w/o enc.
David Garrett, EPA Region 7 w/enc. (2 copies)

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Denver, Colorado 80202

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FAX 303 291 2221
www.mwhglobal.com

Bureau of Waste Management
Curtis State Office Building
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

Kansas

Phone: 785-296-1600
Fax: 785-296-1592
bwmweb@kdheks.gov
www.kdheks.gov

Robert Moser, MD, Acting Secretary | Department of Health & Environment | Sam Brownback, Governor

February 10, 2011

Brenda Epperson
Environmental Manager
MRP Properties Company, LLC
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Response to O&M Deficiencies
MRP Properties Company, LLC, Arkansas City
EPA ID# KSD 087418695

Dear Ms. Epperson:

The Kansas Department of Health and Environment (KDHE) received your January 26, 2011 letter responding to the deficiencies identified in the 2010 Operations and Maintenance (O&M) Inspection Report for the MRP Properties Company, LLC (MRP) facility in Arkansas City. Your responses to these deficiencies are acceptable. Thank you for your attention to these items. If you have any questions, please contact me at espellman@kdheks.gov or at (785) 296-1616.

Sincerely,

Everett Spellman

Everett Spellman
Professional Geologist
Hazardous Waste Permitting Section

Cc: David Garrett - EPA Region 7/RCAP Branch
Allison Herring - DEA/KDHE/SCDO/Waste Programs
William Bider- Director BWM
Jay Mednick - MWH

green

MWH

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JAN 27 2011

BUREAU OF WASTE MANAGEMENT

January 26, 2011

1010417

Everett Spellman
Chief, Corrective Action Unit
Hazardous Waste Corrective Actions
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson Street, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK # 7966 9787 4400

RE: KDHE Operations and Maintenance Inspection Report
MRP Properties Company Arkansas City, Kansas
RCRA ID# KSD087418695

Dear Mr. Spellman,

On behalf of MRP Properties Company, LLC (MRP) MWH Americas is submitting this letter in response to the Kansas Department of Health and Environment (KDHE) Operations and Maintenance (O&M) Inspection Report. The O&M inspections were conducted in May 2007, October 2007, and May 2009. As a result of these inspections KDHE identified three recommendations and deficiencies which were transmitted to MRP on September 24, 2010. The following section contains the KDHE comments in italics followed by the MRP responses.

KDHE Comment 1:

Although the sampling team used several pairs of new and clean gloves during groundwater sampling activities as specified in Section 4.4 of the SAP, the gloves were not always changed immediately prior to sample collection. To ensure sample integrity, KDHE recommends field personnel change gloves immediately prior to the collection of groundwater samples.

Response:

The sampling personnel followed the procedures they believed were in compliance with the approved groundwater sampling plan. Collection of representative groundwater samples are extremely important MRP and KDHE. Therefore, we note your comment and have reviewed the sampling procedures to ensure that we continue to collect representative groundwater samples. We have informed the sampling personnel of this matter to ensure that they follow the sampling protocols established in the approved groundwater sampling plan.

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KDHE Comment 2:

MRP does not submit copies of the field data sheets for static water level and total well depth measurements. MRP is directed to include these data sheets in future submittals of the annual groundwater monitoring reports.

Response:

All future reports containing static water level and well total depth measurements will include the associated field data sheets.

KDHE Comment 3:

As explained in Section 6.0, well purging was not conducted in accordance with the procedures specified in the SAP. MRP must ensure the purge conditions are satisfied before collecting groundwater samples. [K.A.R. 264-97(d)].

Response:

We note your comment and have reviewed the sampling procedures and have informed the sampling personnel of this matter to ensure that they follow the sampling protocols established in the approved groundwater sampling plan.

The groundwater sampling field form includes space for only four sets of field parameter measurements. We have reviewed the field sampling procedures and directed the sampling personnel to begin recording all field parameter measurements in the field logbook beginning with the October 2010 semiannual groundwater sampling event to document that the purging and stabilization requirements established in the sampling plan are achieved. Copies of the field logbook will be included in future reports to KDHE.

Please contact either Brenda Epperson, MRP at 210/345-4619 or me at 303/291-2262 if you have any questions regarding this information.

Sincerely,

MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.

Principal Hydrogeologist

cc: Brenda Epperson, MRP Properties Company
Mark Vishnefske, KDHE BWM
David Garrett, EPA Region 7 (2 copies)

MWH

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JAN 27 2011

BUREAU OF WASTE MANAGEMENT

January 25, 2011

1010417

Chief of the Hazardous Waste Permits Section
ATTN: Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

VIA FEDERAL EXPRESS
TRK 7943 5289 3729

Re: Quarterly Corrective Action Progress Report - Fourth Quarter 2010
MRP Properties Company, LLC – Arkansas City Refinery
Facility ID: KSD 087418695

Dear Mr. Kamal:

This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the quarterly corrective action reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit for the subject facility in Arkansas City, Kansas (formerly the Total Petroleum Inc. Arkansas City Refinery).

Description of Work Completed:

- The supplemental soil investigation quality assurance project plan (QAPP) was completed on October 11, 2010 and approved by KDHE on October 26, 2010
- The soil investigation field sampling plan completed on October 14, 2010 and approved by KDHE on October 26, 2010
- The exposure unit supplemental soil investigation work plan completed on October 18, 2010 and approved by KDHE on October 26, 2010
- The combined semiannual (second quarter 2010 and third quarter 2010) ICM and third quarter 2010 Corrective Action Progress Report was submitted to KDHE and EPA on October 29, 2010.
- Capture Zone Monitoring – quarterly groundwater capture zone compliance monitoring was conducted on October 11, 2010.
- Semiannual groundwater sampling was conducted between October 12 and 14, 2010. The groundwater samples were analyzed for the BTEX constituents (Permit Attachment B List) during this sampling event. The analytical results from this monitoring event will be provided in the annual groundwater monitoring report.

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- MRP initiated the exposure unit supplemental soil investigation according to the approved QAPP, field sampling plan, and work plan on October 25 and the field work was completed on November 22. KDHE representatives visited the site on October 27 and 28 and November 4 and 5 to observe the soil sampling. MRP collected 336 soil samples, not including field QA/QC samples, from 152 borehole locations. The soil samples were submitted to the TestAmerica Laboratory located in Arvada, Colorado. The final laboratory analyses were completed in December 2010 and the data validation process was started in December.
- Land Treatment Unit (LTU) Corrective Action – the soil vapor extraction and air sparge system operated normally during the majority of this reporting period. The air sparge blower failed in November. KDHE was notified by phone (December 2), e-mail (December 6), and in a 15-day notification letter dated December 16. MRP indicated in the 15-day notification letter that a replacement air sparge blower would be installed and operational by January 7, 2011. The new air sparge blower was installed and operational on December 29, 2010. As a result of the air sparge blower failure, the quarterly air sparge system flow monitoring and balancing was not conducted during the fourth quarter. The soil vapor extraction system inlet air stream was sampled on October 25 and on December 6, 2010. The laboratory data from the LTU – SVE system sampling is attached to this report.
- MRP submitted a request to KDHE on December 21, 2010 for a 180 day temporary authorization to suspend operation of the LTU soil vapor extraction and air sparge system. Notification of the request was issued to the facility mailing list on December 22, 2010.
- Recovery wells RW-35, RW-40, RW-45, RW-50, RW-55, RW-60, RW-65, RW-70, and RW-75, were chemically treated in October, 2010 to maintain well efficiency.
- Groundwater Corrective Action – the groundwater corrective action system downgradient of the waste management area operated normally during this reporting period.

Summaries of all Findings and Summaries of Laboratory Data:

- The monthly groundwater capture zone monitoring conducted during the fourth quarter 2010 demonstrated continued compliance with the facility permit requirement. The data is summarized within the attached Table 1.
- Quarterly bioreactor sample results are included on Table 2.
- The LTU SVE system inlet air sample (October 25, and December 6, 2010) BTEX, MTBE results are all non-detect. The TPH-GRO result for the October 25, 2010 air sample was also non-detect. The TPH-GRO result for the December 6, 2010 air sample was 160 milligrams per cubic meter (mg/m^3), just above the 100 mg/m^3 method reporting level. The summary pages corresponding to the two laboratory reports are included in Attachment 1 to this report.

Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems:

- No problems were encountered during the reporting period.

Projected Work for the first quarter 2011:

- Shutdown the LTU SVE/AS system according to the approved 180 day temporary authorization.
- Complete the validation of the soil investigation laboratory results and prepare the exposure unit supplemental soil investigation report.
- Conduct quarterly bioreactor influent sampling, groundwater sampling, and capture zone groundwater level monitoring.
- Conduct additional groundwater sampling associated with the 180 day temporary authorization to suspend the operation of the LTU SVE/AS system.
- Prepare and submit 2011 semiannual groundwater monitoring report (due by March 1, 2011).
- Prepare the facility's hazardous waste permit renewal application (due by April 27, 2011).

Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II.R:

- There are no instances of noncompliance to report under Part II.R of the permit.

If you have any questions or comments regarding this information, please contact Brenda Epperson, MRP at (210) 345-4619 or Jay Mednick, MWH at (303) 291-2262.

Sincerely,
MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Attachments: Tables 1 and 2, and Attachment 1: LTU Air Sample Laboratory Results

Cc: Kent Biggerstaff, MRP w/enc.
Brenda Epperson, MRP w/enc.
David Garrett, USEPA w/enc. – 2 copies
Everett Spellman, KDHE w/enc.
Mark Vishnefske, KDHE w/enc.

TABLES

Table 1 Monthly Groundwater Capture Zone Monitoring Results
Fourth Quarter 2010
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Operational Monitoring - October 11, 2010					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water[2]	Water Elevation	Elevation Difference[3]
1	RCRA-7	1063.72	26.99	1036.73	1.94
	CMW-1	1059.71	21.04	1038.67	
2	113	1072.23	35.34	1036.89	1.61
	CMW-2	1061.75	23.25	1038.50	
3	118	1070.70	31.31	1039.39	0.56
	CMW-3	1061.47	21.52	1039.95	
4	MW-1002	1072.11	31.35	1040.76	0.27
	CMW-4	1061.93	20.90	1041.03	

Capture Zone Compliance Monitoring - November 24, 2010					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water[2]	Water Elevation	Elevation Difference[3]
1	RCRA-7	1063.72	29.32	1034.40	1.18
	CMW-1	1059.71	24.13	1035.58	
2	113	1072.23	37.68	1034.55	0.80
	CMW-2	1061.75	26.40	1035.35	
3	118	1070.70	34.49	1036.21	0.64
	CMW-3	1061.47	24.62	1036.85	
4	MW-1002	1072.11	33.28	1038.83	0.30
	CMW-4	1061.93	22.80	1039.13	

Capture Zone Operational Monitoring - December 20, 2010					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water[2]	Water Elevation	Elevation Difference[3]
1	RCRA-7	1063.72	28.56	1035.16	0.66
	CMW-1	1059.71	23.89	1035.82	
2	113	1072.23	37.26	1034.97	0.62
	CMW-2	1061.75	26.16	1035.59	
3	118	1070.70	34.42	1036.28	0.61
	CMW-3	1061.47	24.58	1036.89	
4	MW-1002	1072.11	33.27	1038.84	0.30
	CMW-4	1061.93	22.79	1039.14	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on April 23, 2010 survey data information.
2. Depth to water in feet below the top of casing surveyed measuring point
3. Elevation difference in feet. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 2 Summary of Fourth Quarter 2010
Bioreactor Influent Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	4th Quarter 2010	
		Bioreactor Influent A	Bioreactor Influent A (duplicate)
Field Measurements			
Sample Date		10/14/10	--
Flow (gpm)		1300	--
pH (SU)		7.15	--
Temperature °C		17.31	--
Conductivity (µS/cm)		1012	--
Turbidity		3.78	--
Dissolved Oxygen (mg/L)		1.18	--
Laboratory Analyses			
Benzene (µg/L)	5	2.2	2.0
Toluene (µg/L)	1000	0.28 J	0.27 J
Ethylbenzene (µg/L)	700	0.21 J	0.18 J
Xylenes, total (µg/L)	10000	0.94 J	0.83 J
MTBE (µg/L)*	262	5.0 U	5.0 U

Notes:

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between

BOLD sample results indicate detection equal to or above the groundwater

* KDHE Tier 2 Non-Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, October 2010)

gpm = gallons per minute

µS/cm = microsiemens per centimeter

mg/L = milligrams per liter

µg/L = micrograms per liter

°C = degrees Celsius

All groundwater was routed through Bioreactor Influent A for this sampling event.

ATTACHMENT 1

Client: MWH Americas Inc

Job Number: 400-51442-1

Client Sample ID: LTU

Lab Sample ID: 400-51442-2
Client Matrix: Air - Tedlar Bag

Date Sampled: 10/25/2010 0745
Date Received: 10/26/2010 0935

8021/8015 Volatiles & GRO

Method: 8021/8015
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 10/28/2010 2230
Date Prepared: 10/28/2010 2230

Analysis Batch: 400-119614

Instrument ID: CH_CAROL
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Result Type: PRIMARY

Analyte	Result (mg/m3)	Qualifier	RL
Benzene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Toluene	<5.0		5.0
Xylenes, Total	<5.0		5.0
Methyl tert-butyl ether	<5.0		5.0
Gasoline Range Organics (GRO) C6--C10	160		100

Surrogate	%Rec	Qualifier	Acceptance Limits
a,a,a-Trifluorotoluene (pid)	120		76 - 127
a,a,a-Trifluorotoluene (fid)	132		67 - 139

Client: MWH Americas Inc

Job Number: 400-52454-1

Client Sample ID: **LTU**

Lab Sample ID: 400-52454-1
Client Matrix: Air - Tedlar Bag

Date Sampled: 12/06/2010 0900
Date Received: 12/07/2010 1030

8021/8015 Volatiles & GRO

Method:	8021/8015	Analysis Batch: 400-121992	Instrument ID:	CH_CAROL
Preparation:	5030B		Initial Weight/Volume:	5 mL
Dilution:	1.0		Final Weight/Volume:	5 mL
Date Analyzed:	12/07/2010 2123		Injection Volume:	
Date Prepared:	12/07/2010 2123		Result Type:	PRIMARY

Analyte	Result (mg/m3)	Qualifier	RL
Benzene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Toluene	<5.0		5.0
Xylenes, Total	<5.0		5.0
Methyl tert-butyl ether	<5.0		5.0
Gasoline Range Organics (GRO)-C6-C10	<100		100

Surrogate	%Rec	Qualifier	Acceptance Limits
a,a,a-Trifluorotoluene (pid)	116		76 - 127
a,a,a-Trifluorotoluene (fid)	132		67 - 139

KANSAS
DEPARTMENT OF HEALTH
AND ENVIRONMENT

Mark Parkinson, Governor
John W. Mitchell, Acting Secretary

www.kdheks.gov

January 4, 2011

Brenda Epperson
Environmental Manager
MRP Properties Company, LLC
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Temporary Authorization to Suspend the LTU Groundwater Corrective Action System
MRP Properties Company, LLC, Arkansas City
EPA ID# KSD 087418695

Dear Ms. Epperson:

The Kansas Department of Health and Environment (KDHE) received a December 21, 2010 letter from MRP Properties Company, LLC (MRP) requesting temporary authorization to turn off the soil vapor extraction and air sparge (SVE/AS) corrective action system for the land treatment unit (LTU). KDHE is approving this request in accordance with 40 CFR 270.42 (e). Approval is based on monitoring data which indicates the system has achieved its maximum effect on the groundwater contamination. Suspension of the system will also provide information to assess the system's effectiveness for the upcoming permit renewal process.

The duration of this authorization is limited to 180 days from the initiation of the proposed activity. During this time period, MRP is required to meet all applicable permit conditions and any applicable state, federal, and/or local requirements. In particular, MRP must maintain hydraulic control of the contaminant plume by continually operating the groundwater containment and recovery system located downgradient of the LTU to ensure that any groundwater that passes the LTU untreated is captured prior to leaving the facility. Should this goal not be achieved, MRP must take appropriate measures, up to and including the resumed operation of SVE/AS system as specified in Section IV of the facility Permit. Following the completion of the system suspension, MRP must submit a technical report describing the scope of the activity, the findings, and other related information.

In accordance with 40 CFR 270.42 (e)(2)(iii), the permittee is required to send notice of the authorization request to all persons on the facility mailing list within seven calendar days of the request. On December 21, 2010, KDHE received a notice from MRP that fulfills this requirement.

If you have any questions or concerns regarding this letter, you may contact me via e-mail at espellma@kdhe.state.ks.us or by phone at (785) 296-1616.

Sincerely,

Everett Spellman

Everett Spellman
Corrective Action Unit
Hazardous Waste Permits Section

Cc: David Garrett - EPA Region 7/RCAP Branch
Allison Herring - DEA/KDHE/SCDO/Waste Programs
William Bider- Director BWM
Jay Mednick - MWH

MRP Properties Company, LLC

Post Office Box 696000 • San Antonio, Texas 78269-6000 • Telephone (210) 345-2000

Brenda B. Epperson
Manager, Environmental

December 22, 2010

RECEIVED

DEC 27 2010

BUREAU OF WASTE MANAGEMENT

Mostafa Kamal, PE
Chief, Hazardous Waste Permits Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Notice of Request for a 180 Day Temporary Authorization to Suspend Operation of the Land Treatment Unit Corrective Action System
MRP Properties Company, LLC – Arkansas City, Kansas
U.S. EPA ID No. KSD087418695

Dear Sir or Madam:

MRP Properties Company, LLC (MRP) submitted a request for a 180 day temporary authorization to the Kansas Department of Health and Environment (KDHE), Bureau of Waste Management (BWM) to suspend the operation of the Land Treatment Unit (LTU) corrective action system at their Arkansas City, Kansas facility. The request for temporary authorization was submitted to the KDHE BWM on December 21, 2010.

This notification was made pursuant to Title 40 of the US Code of Federal Regulations part 270.42 and the facility's Hazardous Waste Management Permit. The purpose of this temporary authorization is to discontinue the operation of the LTU soil vapor extraction and air sparge system for 180 days to allow for monitoring to verify the completion of the LTU corrective action.

A separate groundwater corrective action located at the downgradient boundary of the facility's Waste Management Area (WMA) continues to operate in accordance with the Groundwater Corrective Action requirements of the Permit ensuring compliance with 40 CFR part 264 standards. Groundwater beneath the LTU is captured and addressed by the WMA groundwater corrective action system.

This is a courtesy notification. No action is required on your part. You are being sent this notice because you are listed on the facility's mailing list maintained by the KDHE. If you wish to be removed from this list, you may contact Mr. Everett Spellman of the KDHE at (785) 296-1616.

If you have any questions regarding this notification, please contact Brenda Epperson of MRP Properties Company, LLC (210) 345-4619.

Sincerely,

BB Epperson

Brenda B. Epperson
MRP Properties Company, LLC

Cc: Everett Spellman – KDHE BWM/HWPS
David Garrett - EPA Region 7IRCAP Branch
Allison Herring - DEAlKDHE/SCDOlWaste Programs
William Bider- Director KDHE BWM

Everett Spellman

From: Jay Mednick [Joseph.F.Mednick@us.mwhglobal.com]
Sent: Tuesday, December 21, 2010 11:36 AM
To: Everett Spellman
Cc: Epperson, Brenda
Subject: RE: ArkCity - Current Mailing List

Everett,

I'll let you know if anything is returned.

Thank you.

Jay

Jay Mednick, P.G
Principal Hydrogeologist
MWH Americas, Inc.
1801 California Street, Suite 2900
Denver, CO, 80202

Direct. 303 291 2262
Main. 303 291-2222
Cell. 303 885-5069
Fax. 303 291-2221
Email: jay.mednick@mwhglobal.com
MWH Website: http://www.mwhglobal.com

From: Everett Spellman [mailto:espellman@kdheks.gov]
Sent: Tuesday, December 21, 2010 10:35 AM
To: Jay Mednick
Cc: Epperson, Brenda
Subject: RE: ArkCity - Current Mailing List

Jay,

A copy of the most current mailing list is attached. Please notify me of any returned mail.

Everett Spellman
Professional Geologist
Bureau of Waste Management
Kansas Department of Health & Environment
Phone: (785) 296-1616
Fax: (785) 296-1592

From: Jay Mednick [mailto:Joseph.F.Mednick@us.mwhglobal.com]
Sent: Tuesday, December 21, 2010 10:29 AM
To: Everett Spellman

Cc: Epperson, Brenda
Subject: ArkCity - Current Mailing List

Everett,

We are going to send you the official request for the 180 day temporary authorization today. MRP will be issuing the notification to the facility's mailing list probably tomorrow. We discussed the mailing list yesterday and you mentioned you were going to send out KDHE's current list. Do you think you would be able to send me the list later today?

Thanks

Jay

Jay Mednick, P.G
Principal Hydrogeologist
MWH Americas, Inc.
1801 California Street, Suite 2900
Denver, CO, 80202

Direct. 303 291 2262
Main. 303 291-2222
Cell. 303 885-5069
Fax. 303 291-2221
Email: jay.mednick@mwhglobal.com
MWH Website: http://www.mwhglobal.com

LISTNAME	SALUTATION	FIRSTNAME	MIDNAME	LASTNAME	ISOFFICIAL	ADDRESSEETITLE	ORG	ADDRESS1	ADDRESS2	CITY	STATE	ZIP	POSITION	EMAIL	PHONE	FAX	DELIVERY	MAILCAT
HWP-MichiganReutil-KSD087418695		William (Bill)	A	Anderson	JR			5739 Reinhardt Dr		Fairway	KS	66205					T	BWM
HWP-MichiganReutil-KSD087418695		W. R.		Brocheisen			Kansas Furharvesters Association	24685 Lyon Rd		Chanute	KS	66720					T	BWM
HWP-MichiganReutil-KSD087418695	Hon.	Sam		Brownback			U.S. Senate	612 S. Kansas		Topeka	KS	66603					T	BWM
HWP-MichiganReutil-KSD087418695		William	R.	Browning	M.D.			RR 1, Box 645		Madison	KS	66860					T	BWM
HWP-MichiganReutil-KSD087418695		Ronald		Dubach				6342 314th Dr		Arkansas City	KS	67005					T	BWM
HWP-MichiganReutil-KSD087418695		Brenda		Epperson			MRP Properties Company, LLC	PO Box 696000		San Antonio	TX	78269-6000	T					BWM
HWP-MichiganReutil-KSD087418695		Mike		Givens				11500 312th Rd		Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695	Hon.	Greta	H.	Goodwin		Member	Kansas Senate (District 32)	420 E 12th Ave		Winfield	KS	67156	T					BWM
HWP-MichiganReutil-KSD087418695		Kelly		Johnston	Esq	C/O James Johnston	The Johnston Law Offices	800 N Market St	PO Box 3089	Wichita	KS	67201-3089	T					BWM
HWP-MichiganReutil-KSD087418695	Mr.	Mostafa		Kamal	PE	Chief/HW Permit Section	KDHE/Bureau of Waste Management	1000 SW Jackson, Suite 320		Topeka	KS	66612-1366	T					BWM
HWP-MichiganReutil-KSD087418695	Hon.	Kasha		Kelley		Member	Kansas House of Representatives (District 79)	PO Box 1111		Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695		Ralph	J.	Kieffer				834 SW Fillmore		Topeka	KS	66608	T					BWM
HWP-MichiganReutil-KSD087418695		Amanda		Maltby				112 N Iowa		Winfield	KS	67156	T					BWM
HWP-MichiganReutil-KSD087418695		Carl		Mills				901 N Centennial Rd		Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695		Alan		Paton				12 Crestwood		Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695		Larry		Riggs				1024 North A		Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695		John & Nola		Riggs				2518 Valley View Dr		Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695	Hon.	Pat		Roberts			U.S. Senate	100 Military Plaza	PO Box 550	Dodge City	KS	67801	T					BWM
HWP-MichiganReutil-KSD087418695		Mary	R.	Savela				224 Kandon Rd		Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695		Keith	L.	Stultz				2635 Southwood Ct		Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695	Hon.	Todd		Tiahrt		Member	U.S. House of Representatives	155 N Market St, Suite 400		Wichita	KS	67202	T					BWM
HWP-MichiganReutil-KSD087418695	Hon.	Ed		Trimmer		Member	Kansas House of Representatives (District 75)	1402 E 9th		Winfield	KS	67156	T					BWM
HWP-MichiganReutil-KSD087418695		Ronald	A.	Vire				14017 Fairway Circle		Overland Park	KS	66224-4809	T					BWM
HWP-MichiganReutil-KSD087418695		Theresa		Waite			Cowley County Appraiser	PO Box 641		Winfield	KS	67156	T					BWM
HWP-MichiganReutil-KSD087418695						Secretary	Kansas Department of Wildlife & Parks	Environmental Services Section	1020 S. Kansas	Topeka	KS	66612-1249	T					BWM
HWP-MichiganReutil-KSD087418695						Chairman, City Planning Commissi	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695						Mayor	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695						City Clerk	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695						City Manager	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695							Cowley County Health Department	320 E 9th Suite B		Winfield	KS	67156	T					BWM
HWP-MichiganReutil-KSD087418695							The Arkansas City Traveler	200 E Fifth Ave		Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695						News Director	Winfield Daily Courier	201 E 9th	PO Box 543	Winfield	KS	67156	T					BWM
HWP-MichiganReutil-KSD087418695						News Director	KSOK FM Radio	334 E Radio Ln	PO Box 1014	Arkansas City	KS	67005	T					BWM
HWP-MichiganReutil-KSD087418695							Greenpeace USA	702 H St NW	Suite 300	Washington	DC	20001	T					BWM
HWP-MichiganReutil-KSD087418695						Executive Vice President	Kansas Livestock Association/Kansas Beef Council	6031 SW 37th St		Topeka	KS	66614	T					BWM
HWP-MichiganReutil-KSD087418695						President	Kansas Wildlife Federation	PO Box 771282		Wichita	KS	67277-1282	T					BWM
HWP-MichiganReutil-KSD087418695						President	Kansas Section Society for Range Management	PO Box 303		Manhattan	KS	66505	T					BWM
HWP-MichiganReutil-KSD087418695						Chairman	The Land Institute	2440 E Water Well Rd		Salina	KS	67401	T					BWM
HWP-MichiganReutil-KSD087418695						Executive Director	Kansas State Historical Society	6425 SW 6th Ave		Topeka	KS	66615-1099	T					BWM
HWP-MichiganReutil-KSD087418695						President	Kansas Natural Resource Council	PO Box 2635		Topeka	KS	66601	T					BWM
HWP-MichiganReutil-KSD087418695						President	Kansas Herpetological Society	Museum of Natural History	University of Kansas	Lawrence	KS	66045	T					BWM
HWP-MichiganReutil-KSD087418695						Director	Kansas Water Office	901 S Kansas Ave, Ste. 300		Topeka	KS	66612	T					BWM
HWP-MichiganReutil-KSD087418695						Executive Director	Kansas Conservation Commission	109 SW 9th St	Mills Bldg., Suite 500	Topeka	KS	66612	T					BWM
HWP-MichiganReutil-KSD087418695						Director, Air, RCRA, Toxics Div.	US Environmental Protection Agency	Region VII - RCAP/ARTD	901 N 5th St	Kansas City	KS	66101	T					BWM
HWP-MichiganReutil-KSD087418695						Director	U.S. Fish & Wildlife Services	Ecological Services/Partners for Fish & Wildlife	2609 Anderson	Manhattan	KS	66502-2801	T					BWM
HWP-MichiganReutil-KSD087418695						Secretary	Kansas Furharvesters Associatin	11816 Highway K16		Valley Falls	KS	66088	T					BWM
HWP-MichiganReutil-KSD087418695						President	Kansas Ornithological Society	Baker University, Dept. of Biology	PO Box 65	Baldwin City	KS	66006	T					BWM
HWP-MichiganReutil-KSD087418695						Chief Engineer	Kansat Department of Agriculture	Division of Water Resources	109 SW 9th, 2nd Floor	Topeka	KS	66612-1283	T					BWM
HWP-MichiganReutil-KSD087418695						President	Kansas Chapter of the Wildlife Society	PO Box 1525		Emporia	KS	66801	T					BWM
HWP-MichiganReutil-KSD087418695						COMMANDER (de)	8th Coast Guard District External Affairs	500 Poydras Stm Suite 1324		New Orleans	LA	70130	T					BWM
HWP-MichiganReutil-KSD087418695																		

MRP Properties Company, LLC

Post Office Box 696000 • San Antonio, Texas 78269-6000 • Telephone (210) 345-2000

December 21, 2010

RECEIVED
DEC 27 2010
BUREAU OF WASTE MANAGEMENT

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: **Request for 180 Day Temporary Authorization**
LTU Groundwater Corrective Action
MRP Properties Company, LLC Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Kamal:

MRP Properties Company, LLC (MRP) is submitting this request for a 180 day temporary authorization to turn off the land treatment unit (LTU) corrective action system. This temporary authorization request is made in accordance with 40 CFR 270.42 for the above referenced facility and in accordance with Section IV.C.3.e of the facility's post-closure care permit (Permit). MRP is requesting that the Kansas Department of Health and Environment (KDHE) Bureau of Waste Management (BWM) issue MRP temporary authorization to discontinue the operation of the LTU soil vapor extraction and air sparge (SVE/AS) system for 180 days to allow for monitoring to verify the completion of the LTU corrective action.

This request for temporary authorization contains:

- Background information related to the LTU groundwater corrective action system;
- A description of the activities to be conducted under the temporary authorization;
- An explanation of why the temporary authorization is necessary;
- Information to ensure compliance with 40 CFR part 264 standards; and,
- Notification of the facility mailing list of this request for temporary authorization.

Background

In September 2001, the Kansas Department of Health and Environment (KDHE) issued a Hazardous Waste Management Facility Permit (Permit No. KSD087418695) for the former Arkansas City refinery for post-closure care, groundwater corrective action, and monitoring (Permit). The new Permit prescribed groundwater corrective action requirements for the LTU, which is in the post-closure care phase. In accordance with the Permit, the LTU corrective action system was started on October 22, 2002.

The LTU groundwater corrective action system is located on the upgradient side of the facility's Waste Management Area (WMA) and consists of a SVE and AS system. A separate groundwater corrective action located at the downgradient boundary of the WMA continues to operate in accordance with the Groundwater Corrective Action requirements of the Permit ensuring compliance with 40 CFR part 264 standards. Groundwater beneath the LTU is captured and addressed by the WMA groundwater corrective action system. The Permit establishes groundwater protection standards and the point of compliance at the downgradient boundary of the WMA.

The objectives of the LTU SVE/AS system are described in the Engineering Feasibility Plan and summarized below.

- Remove source material from soils and groundwater in the immediate vicinity of LTU lo cated adjacent to monitor wells WN-8A/B. Free-phase hydrocarbons had been observed in shallow monitor well WN-8B; and samples from this well exhibited elevated concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX).
- Treat groundwater in the LTU area that would flow downgradient through the larger Waste Management Area (WMA). Though the RCRA point of compliance is the downgradient boundary of the WMA, one goal of the LTU groundwater corrective action was to improve groundwater quality at the LTU with respect to any potential source material associated with the LTU.

The LTU SVE/AS system was focused around the west/northwest sides of the LTU in order to remediate the groundwater region delineated by monitor wells WN-6B, WN-7B, and WN-8B.

Free phase hydrocarbons had historically been detected in monitor well WN-8B at thicknesses of up to 1.28 feet. In 2002 prior to system start-up, free phase hydrocarbons were detected in monitor well WN-8B during each monthly event, ranging from 0.08 to 0.85 feet. After the first two months of system operation, free phase hydrocarbon thicknesses in monitor well WN-8B had been reduced to 0.01 feet, despite seasonal low groundwater conditions that normally correspond with greater free-phase layer thicknesses. Subsequent monthly gauging has not detected free phase in monitor well WN-8B since October 2003.

As can be observed in Figure 1, which depicts long-term vapor concentrations and mass removal, the SVE system air sample concentrations have exhibited a typical logarithmic type decay, and have now been non-detect (less than approximately 100 mg/m^3) with the exception of three quarterly samples (two samples (12/18/07 and 11/5/09) at 110 mg/m^3 and one sample at 160 mg/m^3 (10/29/10) since 2006. Weekly field screening with a combustible gas meter has not exhibited detectable hydrocarbon concentrations since September 2006 except once on December 7, 2007 when the meter measured 1 percent lower explosive limit (LEL) on a pentane basis.

This is an expected pattern for a source zone flushing technology such as SVE/AS, particularly for a system that has had 89% up-time for 8 years while treating a predominantly sandy/gravelly soil. The system appears to be far into, and most likely past, the so-called "diffusion-limited" phase of operation. Additional remedial benefit is now extremely limited. In-situ SVE projects are typically completed in approximately three years.

The system VOC mass removal rate was over 25 pounds/hour initially. The current mass removal rate is estimated at 0 pounds/hour, based on non-detect gas concentrations (as indicated both by field screening and laboratory data).

Semiannual groundwater monitoring results from wells situated at the LTU have shown significant improvements since the October 22, 2002 LTU SVE/AS system start-up. Significant decreases in dissolved phase BTEX concentrations have been achieved in downgradient monitor wells WN-6B and MW-17, while nearby monitor wells WN-7B and WN-8B have shown greater stability as they attenuate over time. Since 2004, BTEX concentrations in monitor wells WN-7B and WN-8B have remained at levels corresponding to the low end of their historic sample data range. The stability and gradual decline of BTEX concentrations in these wells indicate that the LTU SVE-AS system has done all it can to remediate the groundwater observed in these two wells. The residual BTEX concentrations in these wells likely reflect petroleum hydrocarbon impacts upgradient of the LTU/WMA.

Description of Activities

The Permit requires continuous operation of the LTU SVE/AS system. MRP is requesting to discontinue operation of the SVE/AS system during the temporary authorization period. MRP requests to stop the system operation in January 2011. MRP proposes to monitor groundwater quality (BTEX) and monitor groundwater levels for the presence of free phase product on the water table. The monitoring during the

temporary authorization period will coincide with the winter and spring months when extremes of groundwater levels tend to occur.

Temporary Authorization Period Monitoring and Reporting

- Groundwater samples will be collected from monitor wells WN-6B, WN-7B, WN-8B, and MW-17 quarterly and analyzed for BTEX constituents (over two quarters, winter and spring).
- Groundwater levels and free product measurements will be performed monthly at monitor wells WN-6B, WN-7B, WN-8B, and MW-17.
- Groundwater sampling and water level monitoring will be conducted in accordance with the approved sampling and analysis plan.
- Quarterly reports will be submitted to KDHE within 45 days after the completion of each quarterly monitoring event. The quarterly reports will contain:
  - Monitoring well gauging data; water levels and free product observations;
  - Results of BTEX tests on groundwater samples; copies of field forms, log book entries, chain-of-custody forms and laboratory reports;
  - BTEX data will be compared with historic data to determine variations in water quality; and
  - Conclusions regarding the quarterly monitoring data
- Air samples will be collected from the SVE system when the system is turned on at the end of the 180 day period. An air sample will be collected within the first four hours of operation, then after two days, one week, and one month of operation. This information will be reported to KDHE in a separate air sampling report.

Explanation

Based on the LTU corrective action system operational monitoring data, MRP has determined there are no additional corrective action benefits from continued operation of the system. Therefore, MRP is requesting this temporary authorization to turn off the LTU corrective action system to evaluate the groundwater impacts in the vicinity of the system while the system is off. This data will be used in conjunction with the operational monitoring data to evaluate the performance of the corrective action.

Compliance with (40 CFR 264) Permit Section IV.C.2 – Prevention of Releases to the Walnut River

A separate groundwater corrective action located at the downgradient boundary of the WMA continues to operate in accordance with the Groundwater Corrective Action requirements of the Permit ensuring compliance with 40 CFR part 264 standards. Groundwater beneath the LTU is captured and addressed by the WMA groundwater corrective action system. The Permit establishes groundwater protection standards and the point of compliance at the downgradient boundary of the WMA.

Notification

MRP will notify the facility mailing list within seven days of submission of this request to KDHE-BWM.

If you have any questions regarding this request, please contact me at (210) 345-4619, or Jay Mednick, MWH at (303) 291-2262.

Sincerely,

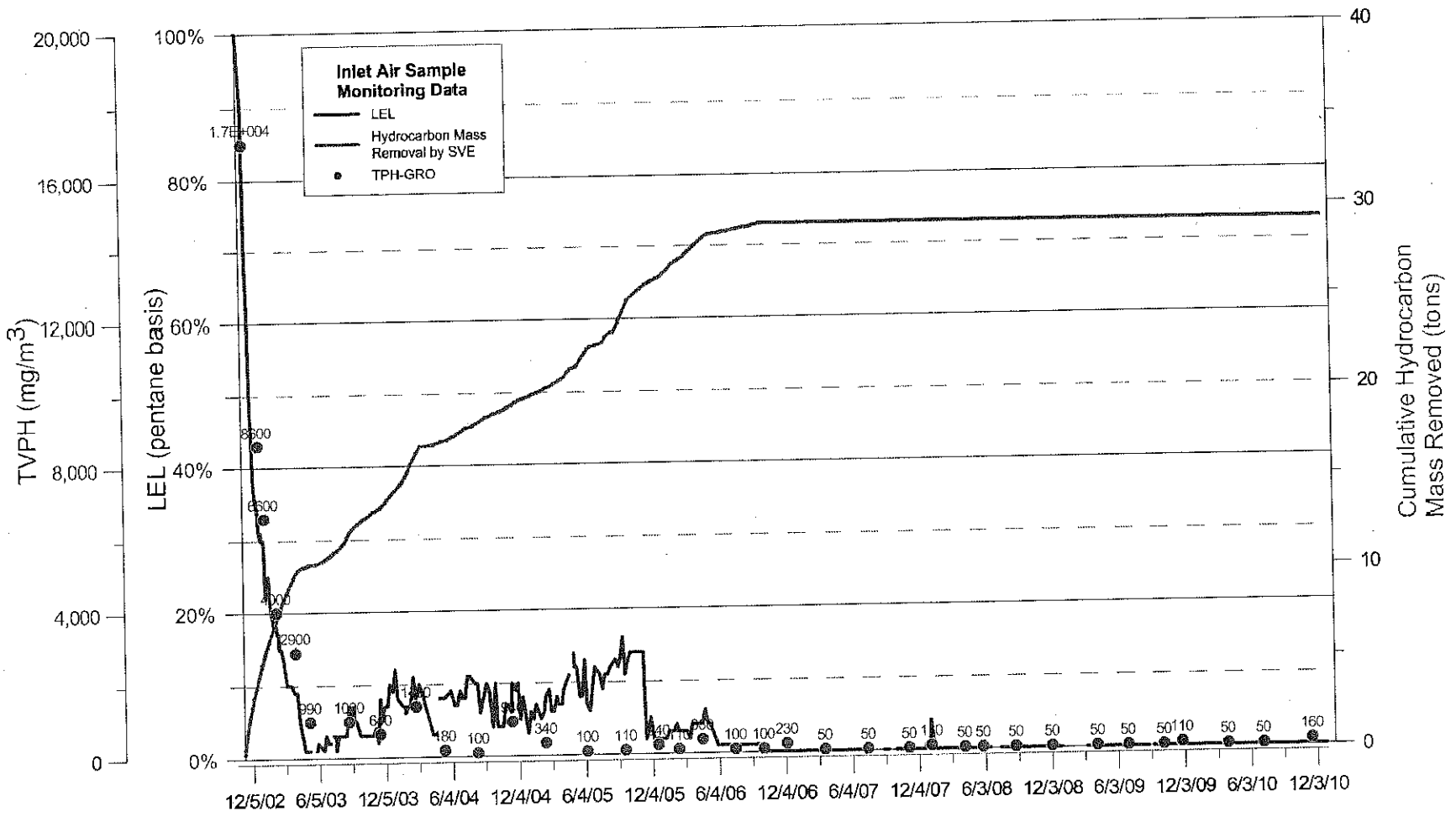
Brenda B. Epperson

MRP Properties Company, LLC

Cc: Everett Spellman – KDHE BWM/HWPS

David Garrett - EPA Region 7IRCAP Branch
Kent Biggerstaff – MRP, Arkansas City
Jay Mednick – MWH

FILENAME: LTU_SVE_OperationsChart.pptx DATE: 12/16/2010



EXPLANATION

TPH-GRO reporting level is generally 100 mg/m³; 50 mg/m³ value plotted when the laboratory reports a non-detect.

TITLE:

LTU Soil Vapor Extraction System Monitoring Data

PROJECT:

MRP PROPERTIES COMPANY, LLC
ARKANSAS CITY, KANSAS

MWH

Figure No.: **1**

KANSAS
DEPARTMENT OF HEALTH
AND ENVIRONMENT

Mark Parkinson, Governor
John W. Mitchell, Acting Secretary

www.kdheks.gov

December 20, 2010

To: MRP Properties Company, LLC – Arkansas City KSD087418695

From: Mark Vishnefske

Re: Meeting to Discuss CMS Work Plan and Report
Former Total Petroleum Refinery – Arkansas City
EPA ID KSD 087418695

This memo summarizes the discussion from the phone conference held on December 20, 2010 between representatives of the Kansas Department of Health and Environment (KDHE), United States Environmental Protection Agency (EPA), MRP Properties Company, LLC (MRP), and MRP's consultant, MWH Americas, Inc (MWH). The following individuals were present at the meeting: David Garrett (EPA), Mostafa Kamal (KDHE), Everett Spellman (KDHE), Mark Vishnefske (KDHE), Brenda Epperson (MRP), and Jay Mednick (MWH). The purpose of the meeting was to discuss with MRP whether the current CMS Work Plan was acceptable to KDHE and EPA and to present issues that need to be addressed in the CMS Report.

The attached agenda was used as a template for the discussions. The meeting began at 10:00A.M. Mr. Vishnefske initiated discussion by discussing the current CMS Work Plan that had been approved by EPA (Jeff Robichaud, former EPA project manager)) in 2002. The new EPA project manager, David Garrett has some disagreements with the lack of detail in the document. The current work plan is not very detailed but does address all applicable issues that are described in the EPA "RCRA Corrective Action Plan" guidance document. KDHE's opinion is that the CMS Work Plan is acceptable and that MRP may proceed to the CMS Report as soon as EPA and KDHE have reviewed and approved the latest soil investigation report from MRP that will be completed in March 2011. EPA agreed with KDHE that it is important to keep up the momentum on this project. MRP and MWH were in complete agreement with the decision to accept the current work plan.

The next issue that was discussed was the CMS Report which would describe remediation methods that could be applied to the site for cleanup of soil, sediments, and groundwater. KDHE asked if MRP was planning to combine soils, sediments, and groundwater remediation alternatives into one CMS report or use a phased approach in which they would be addressed in different CMS reports. All parties agreed that a phased approach would be

preferred due to the timing of the implementation of the final remedies and the sheer size of a combined report. KDHE then presented MRP with suggestions on what KDHE would like to see addressed in the CMS Report. MRP indicated that groundwater remediation remedies were already in place, would probably remain the same, and that there was no need to discuss alternative methods. KDHE indicated to MRP that current groundwater remediation outside of the Waste Management Area was covered under Part II of the permit and that all ongoing measures relating to Part II are regarded as Interim Corrective Measures and as such are regarded as temporary corrective measures. Groundwater remediation alternatives would have to be discussed in the CMS report so that KDHE and EPA could issue a Statement of Basis which would define the final remedies for groundwater remediation. The next issue discussed was soil remediation. KDHE (Mark) questioned MRP on how they planned to define cleanup standards for SWMU #52 (Tank Farm) because different soil sampling analysis methods were used for different areas within the Tank Farm. Soil samples collected inside each tank berm consisted of four shallow samples (6-12 inches) and four deep samples (3-4 feet) with only one shallow and one deep sample chosen for analysis based on PID readings. These samples were only analyzed for TPH and Lead. SWMU's within the Tank Farm consisted of multiple shallow and deep soil samples that were analyzed for Skinner's list and metals. KDHE suggested that each tank berm and each SWMU within the Tank Farm area could be classified as a separate exposure unit and that additional sampling maybe necessary for the tank berm exposure units. EPA was in agreement with this idea. MRP indicated that they would study the issue. The final issue discussed dealt with sediment remediation in the settling and oxidation ponds. These ponds are a part of the current waste water treatment system for groundwater remediation. These ponds will not be closed until groundwater cleanup standards have been achieved which may take decades. These ponds were sampled during the Phase II investigation and were not considered a problem based on EPA RSL's and KDHE RSB's from that time. Current standards are much lower and the ponds exceed standards for chromium and other metals. Further sampling maybe warranted. KDHE, EPA, and MRP decided that this could pose problems but it could be addressed it using a phased CMS Report. We agreed to discuss at a later date.

David Garrett proposed that we have a group meeting after MRP issues the report on the current soil investigation to discuss the results of the investigation and the further define the CMS Report. All parties were agreeable to this suggestion. MWH indicated that they hoped to have the report ready for EPA and KDHE in March. MRP and MWH both indicated that they would do their best to meet this deadline but indicated that the annual groundwater report and updated Part B for the permit renewal were all happening at the same time. All parties agreed to keep in touch. The phone conference adjourned around 11:30A.M.

Phone Conference
MRP Properties Company, LLC – Arkansas City Refinery
EPA ID# KSD981720923
Agenda

Participants: Jay Mednick (MWH)
Brenda Epperson (MRP)
Kansas Department of Health and Environment
United States Environmental Protection Agency

Date: December 20, 2010

Time: 10:00 A.M. to 11:00

1. CMS Work Plan
   A. Is February 2002 work plan viable?

2. CMS Report
   A. Will CMS report address soil, sediment, and groundwater remediation alternatives together in one report or will we use a phased approach?

   B. Groundwater remediation
      a) Interim corrective measures are short-term.
      b) Require final decision (Statement of Basis)
      c) Define compliance wells

   C. How will cleanup standards for the Tank Farm (SWMU #52) be defined?
      a) Sampling parameters for SWMU's are different than Tank Storage berms.

   D. How will sediments be addressed for SWMU's #3 thru 11

3. EPA Permit Renewal
   a) Permit Expires - October 24, 2011
   b) Changes to Part B submittal

4. Summary

MRP Properties Company, LLC
Post Office Box 696000 • San Antonio, Texas 78269-6000 • Telephone (210) 345-2000

Brenda B. Epperson
Manager, Environmental

RECEIVED
DEC 20 2010
BUREAU OF WASTE MANAGEMENT

December 16, 2010

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Notice of Failure of LTU Air Sparge System Blower – 15 Day Notification Letter
MRP Properties Company, LLC Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Kamal:

MRP is submitting this notification letter as a follow-up to a phone call (December 2, 2010) and e-mail (December 6, 2010) notice to Mr. Everett Spellman, Kansas Department of Health and Environment (KDHE) Bureau of Waste Management (BWM). As stated in the previous communications, the air sparge component of the Land Treatment Unit (LTU) corrective action system ceased operation following a failure of the air sparge blower. There were no injuries or property damage associated with this incident.

The LTU corrective action consists of a soil vapor extraction (SVE) system and an air sparge (AS) system. The SVE system component of the corrective action was not affected by the AS blower failure; the SVE system continues to operate.

The air sparge system stopped operating as a result of an equipment failure with the air blower. The failure of the air blower did not result in the release of hazardous constituents to the environment and will not endanger human health. The LTU corrective action system is located within the waste management area (WMA). The system's location is hydraulically upgradient of the groundwater corrective action system that is located at the downgradient boundary of the WMA. The groundwater corrective action system is designed to capture groundwater and prevent release of impacted groundwater from the site. The groundwater corrective action system is operating in accordance with the requirements of the Hazardous Waste Management Facility Permit (Permit) preventing release of hazardous constituents in the groundwater from leaving the site. Therefore, associated groundwater not treated by the AS system as a result of the blower failure has been and will continue to be captured and addressed by the WMA corrective action system.

A replacement blower has been ordered and delivery is expected by December 30. It is anticipated that the blower will be installed and operating by January 7, 2011. MRP is also reviewing maintenance practices and blower life cycle expectations.

If you have any questions regarding this notification, please contact me at (210) 345-4619, or Jay Mednick, MWH at (303) 291-2262.

Sincerely,

Brenda B. Epperson
MRP Properties Company, LLC

Cc: Everett Spellman – KDHE BWM/HWPS
David Garrett - EPA Region 7IRCAP Branch
Kent Biggerstaff – MRP, Arkansas City
Jay Mednick, MWH

Everett Spellman

From: Everett Spellman
Sent: Tuesday, December 07, 2010 1:40 PM
To: 'Jay Mednick'
Cc: 'Epperson, Brenda'; Biggerstaff, Kent; 'Garrett.David@epamail.epa.gov'; Mostafa Kamal; Mark Vishnefske
Subject: RE: MRP Properties Company: Arkansas City - re: LTU SVE/AS System Intent to Submitt Request for 180 Day Temporary Authorization

Jay,

Thank you for your response. Your initial email and phone call last week satisfies the twenty-four hour reporting requirements specified in Section I.E.13.a. of Part I of the Permit. As we discussed during our phone conversation this morning, to comply with Section I.E.13.c. of Part I of the Permit, KDHE requests that MRP provide a written report within fifteen days of the event that resulted in non-compliance with the permit. We agreed that the deadline for this report will be December 17, 2010. Also, MRP's request for a temporary authorization will be treated as a separate issue.

Everett Spellman
Professional Geologist
Bureau of Waste Management
Kansas Department of Health & Environment
Phone: (785) 296-1616
Fax: (785) 296-1592

From: Jay Mednick [mailto:Joseph.F.Mednick@us.mwhglobal.com]
Sent: Monday, December 06, 2010 3:00 PM
To: Everett Spellman
Cc: Mark Vishnefske; 'Epperson, Brenda'; Biggerstaff, Kent
Subject: MRP Properties Company: Arkansas City - re: LTU SVE/AS System Intent to Submitt Request for 180 Day Temporary Authorization

Everett,

To follow up on our telephone discussion on Thursday (12/2/10) regarding the MRP Properties Company, Arkansas City LTU air sparge system blower, please accept this e-mail as notification of MRP's intent to submit a request for a 180 day temporary authorization to turn off the LTU soil vapor extraction and air sparge systems. The request for the temporary authorization will be submitted to KDHE by December 21, 2010. We will send a draft request for your review first. MRP will also send a notice to persons on the facility mailing list within seven days of submission of the temporary authorization request.

As we discussed, the air sparge system is currently out of service due to the blower failure. The soil vapor extraction system continues to operate.

Please contact either me or Brenda Epperson, MRP (210-345-4619) if you have any questions or suggestions regarding this matter.

Thank you.

Jay

Jay Mednick, P.G
Principal Hydrogeologist
MWH Americas, Inc.
1801 California Street, Suite 2900
Denver, CO, 80202

Direct. 303 291 2262
Main. 303 291-2222
Cell. 303 885-5069
Fax. 303 291-2221
Email: jay.mednick@mwhglobal.com
MWH Website: http://www.mwhglobal.com

Everett Spellman

From: Jay Mednick [Joseph.F.Mednick@us.mwhglobal.com]
Sent: Thursday, December 02, 2010 12:17 PM
To: Everett Spellman
Cc: Mark Vishnefske
Subject: MRP Properties Company, Arkansas City: LTU Air Sparge Blower

Everett,

The purpose of this e-mail is to notify KDHE that the air sparge blower associated with the LTU corrective action system has failed after eight years of continuous service. The blower is not repairable. The soil vapor extraction component of the system is unaffected by the air sparge blower failure and continues to operate.

MRP is evaluating alternatives for the replacement of this blower including considering future uses in other areas of the facility. The installation of a different blower will require modifications to the air sparge system piping and controls inside the equipment building. We expect to have the air sparge component of the system back in service before the end of the first quarter 2011.

Please contact me or Brenda Epperson, MRP at (210)-345-4619 if you have any questions about this.

Thank you.

Jay

Jay Mednick, P.G
Principal Hydrogeologist
MWH Americas, Inc.
1801 California Street, Suite 2900
Denver, CO, 80202

Direct. 303 291 2262
Main. 303 291-2222
Cell. 303 885-5069
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Email: jay.mednick@mwhglobal.com
MWH Website: http://www.mwhglobal.com

KANSAS
DEPARTMENT OF HEALTH
AND ENVIRONMENT

Mark Parkinson, Governor
Roderick L. Bremby, Secretary

www.kdheks.gov

MEMORANDUM

TO: MRP file – KSD 087418695

FROM: Mark Vishnefske

DATE: November 1, 2010

RE: Site Visit to Observe Soil Sampling for Exposure Unit Supplemental Soil Investigation

Mark Vishnefske (KDHE) traveled to the former Total Refinery in Arkansas City on October 27th and 28th to observe soil sampling being conducted for the Exposure Unit Supplemental Soil Investigation Work Plan. Mr. Vishnefske met with Brenda Epperson (MRP), Jay Mednick (MWH), Kent Biggerstaff (Site Operator), and Dale (Asst. Site Operator). Issues that were discussed included Land Treatment Unit (LTU) closure, CMS Work Plan, progress on current Exposure Unit Supplemental Soil Investigation sampling event, and historical information about SWMU's 13 and 14. Brenda and Jay were not sure of the status of the Land Closure Unit but thought it could be addressed in permit renewal. Mark provided Jay and Brenda with a hand drawn map of locations of SWMU 13 and SWMU 14 as drawn by KDHE regional inspector while the SWMU's were still active. Neither Brenda nor Jay was aware of the map or the historical locations. Mark indicated that the CMS Work Plan would have to be revised when the results of the soil investigation were finished. Brenda and Jay both questioned the necessity of revising the CMS Work Plan since it had already been accepted by EPA and that the new information would just supplement existing information and not result in a change in COC's or other objectives stated in the existing plan. Mark indicated that he would have to study the issue in further detail. All individuals were present to observe soil sampling and geo-probing in both the Process Area and Junk Storage Area. The soil sampling crew from MWH was very professional in their collection of soil samples and soil logging. Mark also visited the LTU to observe its condition and took photographs. Photographs were also taken of the Junk Storage Area and the Construction Debris Landfill (CDL) Area.

MWH

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BUREAU OF WASTE MANAGEMENT

October 29, 2010

1005686

Chief of the Hazardous Waste Permits Section
ATTN: Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

VIA FEDERAL EXPRESS
TRK# 7963 9863 3836

Re: Combined Quarterly Corrective Action Progress Report Third Quarter 2010, and Semiannual ICM Report: Second Quarter 2010 and Third Quarter 2010
MRP Properties Company, LLC – Arkansas City Refinery
Facility ID: KSD 087418695

Dear Mr. Kamal:

This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit (September 20, 2001), and the reporting outlined in the Interim Corrective Measures Addendum (March 3, 1995).

1.0 CORRECTIVE ACTION PROGRESS REPORT (3RD QUARTER 2010)

This section of the report contains a summary of the corrective action elements pursuant to Parts I and II of the Hazardous Waste Management Facility Permit.

1.1 Description of Work Completed:

- Groundwater Corrective Action – the groundwater corrective action system downgradient of the waste management area operated normally during this reporting period.
- The second quarter 2010 Corrective Action Progress Report was submitted to KDHE and EPA on July 22, 2010.
- MRP submitted the Quality Assurance Project Plan (QAPP) and Field Sampling Plan associated with the Exposure Unit Supplemental Soil Investigation Work Plan to KDHE and EPA on July 23, 2010.
- MRP submitted the response to the KDHE comments on the Exposure Unit Supplement Soil Investigation Work Plan on July 28, 2010.
- Quarterly Bioreactor Sampling – the third quarter bioreactor influent water sampling was performed on August 19, 2010. The laboratory results are summarized on Table 1.
- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on August 19, 2010. Additionally, monthly operational monitoring was conducted on July 22, 2010 and September 21, 2010. The capture zone monitoring data are presented on Table 2.

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- Land Treatment Unit (LTU) Corrective Action – the quarterly air sparge system flow monitoring and balancing was conducted on August 26, 2010.
- The semiannual groundwater monitoring report was submitted to KDHE and EPA on August 31, 2010.
- MRP, KDHE, and EPA conducted a telephone conference call on September 22 to review the KDHE and EPA comments on the FSP, QAPP, and Work Plan received on September 14, 2010.

1.2 Summaries of all Findings and Summaries of Laboratory Data:

- The Bioreactor influent data (August 19, 2010) are summarized on the attached Table 1. The results are consistent with previous monitoring events. The laboratory report summary pages are included in Attachment 1.
- The groundwater capture zone monitoring conducted during this quarter demonstrated continued compliance with the facility permit requirement and the data are summarized on attached Table 2.
- The LTU Soil Vapor Extraction (SVE) system average airflow rate for the third quarter 2010 was maintained at approximately 60 standard cubic feet per minute (SCFM).
- The LTU Air Sparge (AS) system operated normally during this reporting period. The average airflow rate during this reporting period was 11 SCFM. The average oxygen injection rate into the groundwater during the third quarter of 2010 was approximately 250 pounds per day. Approximately 12 tons of oxygen has been injected into the groundwater during the third quarter of 2010.

1.3 Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems:

No problems were encountered during the reporting period.

1.4 Projected Work for the Next Quarter:

- MRP will respond to the comments in the KDHE Operation and Maintenance Inspection Report issued on September 24, 2010 covering KDHE inspections in May 2007, October 2007, and May 2009. The response to the KDHE comments is due November 26, 2010.
- Conduct semiannual groundwater sampling (October 2010).
- Conduct quarterly capture zone monitoring and bioreactor influent monitoring.
- Conduct routine monitoring and maintenance of the LTU SVE and AS system.
- Conduct the soil sampling associated with the approved QAPP, FSP and Work Plan.

1.5 Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II R:

There are no instances of noncompliance to report under Part II.R of the permit.

2.0 Semiannual Interim Corrective Measures (2nd and 3rd Quarters 2010)

This section of the report presents information on the groundwater and product recovery wells

and the Closed Surface Impoundment (CSI) soil vapor extraction and air sparging (SVE-AS) system collected during the second and third quarters of 2010 (reporting period).

The groundwater level and phase-separated hydrocarbon monitoring data collected during the reporting period (April 2010 through September 2010) are presented on Table 3. Groundwater potentiometric surface contour maps for the six month reporting period are presented on Figures 1 through 6. These maps also show the inferred extent of measurable phase-separated hydrocarbons. The recovery well system groundwater pumping rates and product recovery data for the reporting period are summarized on Table 4. Tables 5, 6, 7, 8, 9, and 10 summarize the Walnut River visual inspections performed during this six month reporting period.

2.1 Summaries of all Findings and Summaries of Laboratory Data:

- The average monthly groundwater pumping rates ranged between 1,764 and 2,116 gallons per minute (gpm) during the reporting period, with an overall average rate of 2,022 gpm compared with 1,862 gpm during the previous six month reporting period.
- Approximately 34,975 gallons of petroleum product was recovered during this reporting period compared with 36,100 gallons during the previous six-month reporting period.
- Recovery well maintenance during this reporting period consisted of routine maintenance on water and product recovery pumps, and well treatment in April to maintain specific capacity.
- The Closed Surface Impoundment (CSI) Soil Vapor Extraction (SVE) system operated normally during the reporting period. The average airflow rate during this reporting period was approximately 633 standard cubic feet per minute (SCFM), resulting in the removal of approximately 2,712 pounds (lbs) of hydrocarbon mass from the soil compared with 3,119 lbs in the previous six-month reporting period.
- The CSI SVE system inlet air stream was sampled on June 15, 2010. The air sample was analyzed by the TestAmerica laboratory in Pensacola, Florida for benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether, and total petroleum hydrocarbons, the results were all reported as non-detect. The laboratory results summary page is included in Attachment 1.
- The SVE system continues to operate consistently and BTEX and TPH-GRO concentrations are consistent with previous samples and continue to show an overall decreasing concentration trend.
- The CSI Air Sparge (AS) system operated normally during this reporting period. The average system airflow rate during this reporting period was 73 SCFM and averaged 8.8 SCFM per air sparge well. The average daily oxygen injection rate into the groundwater during this reporting period was approximately 3,676 pounds (lbs). Approximately 335 tons of oxygen has been injected into the groundwater over the same six-month period.

2.2 Projected Work for the Next Quarter:

- Conduct recovery well treatment in October 2010 at recovery wells: RW-35, RW-40, RW-45, RW-50, RW-55, RW-60, RW-65, RW-70, and RW-75.
- Sample the CSI SVE system inlet air stream and balance air sparge system air flows.
- Perform Routine maintenance and monitoring of the CSI and ICM systems.

If you have any questions or comments regarding this information, please contact Brenda Epperson, MRP at (210) 345-4619 or Jay Mednick, MWH at (303) 291-2262.

Sincerely,
MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Attachments: Tables 1- 10, Figures 1-6, Attachments, CD-ROM

cc: Kent Biggerstaff, MRP w/enc.
Brenda Epperson, MRP w/enc.
David Garrett, USEPA w/enc.
Everett Spellman, KDHE BWM w/enc.

Table 1 Summary of Third Quarter 2010
Bioreactor Influent Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	3rd Quarter 2010		
		Bioreactor Influent A	Bioreactor Influent B	Bioreactor Influent C
Field Measurements				
Sample Date		08/19/10	08/19/10	08/19/10
Flow (gpm)		1650	450	100
pH (SU)		7.26	7.01	7.01
Temperature °C		19.76	20.57	21.65
Conductivity (µS/cm)		972	983	984
Dissolved Oxygen (mg/L)		1.98	1.70	1.82
Laboratory Analyses				
Benzene (µg/L)	5	1.0 U	12	12
Toluene (µg/L)	1000	0.26 J	0.63 J	0.71 J
Ethylbenzene (µg/L)	700	0.25 J	1.1	1.7
Xylenes, total (µg/L)	10000	0.57 J	2.1	2.5
MTBE (µg/L)*	262	5.0 U	5.0 U	5.0 U

Notes:

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL)

* KDHE Tier 2 Non-Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, October 2010)

gpm = gallons per minute

µS/cm = microsiemens per centimeter

mg/L = milligrams per liter

µg/L = micrograms per liter

°C = degrees Celsius

Bioreactor Influent A = Recovery wells RW-11 through RW-80A

Bioreactor Influent B & C = Recovery wells PARW-1, PARW-2, NARW-1, NARW-2, and NARW-3

Table 2 Monthly Groundwater Capture Zone Monitoring Results
Third Quarter 2010
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Operational Monitoring - July 22, 2010					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water[2]	Water Elevation	Elevation Difference[3]
1	RCRA-7	1063.72	25.77	1037.95	0.97
	CMW-1	1059.71	20.79	1038.92	
2	113	1072.23	34.70	1037.53	0.99
	CMW-2	1061.75	23.23	1038.52	
3	118	1070.70	31.12	1039.58	0.48
	CMW-3	1061.47	21.41	1040.06	
4	MW-1002	1072.11	30.53	1041.58	0.27
	CMW-4	1061.93	20.08	1041.85	

Capture Zone Compliance Monitoring - August 19, 2010					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water[2]	Water Elevation	Elevation Difference[3]
1	RCRA-7	1063.72	26.85	1036.87	0.93
	CMW-1	1059.71	21.91	1037.80	
2	113	1072.23	35.71	1036.52	1.00
	CMW-2	1061.75	24.23	1037.52	
3	118	1070.70	35.22	1035.48	3.55
	CMW-3	1061.47	22.44	1039.03	
4	MW-1002	1072.11	31.72	1040.39	0.29
	CMW-4	1061.93	21.25	1040.68	

Capture Zone Operational Monitoring - September 21, 2010					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water[2]	Water Elevation	Elevation Difference[3]
1	RCRA-7	1063.72	28.37	1035.35	0.92
	CMW-1	1059.71	23.44	1036.27	
2	113	1072.23	37.22	1035.01	0.85
	CMW-2	1061.75	25.89	1035.86	
3	118	1070.70	33.70	1037.00	0.38
	CMW-3	1061.47	24.09	1037.38	
4	MW-1002	1072.11	33.16	1038.95	0.28
	CMW-4	1061.93	22.70	1039.23	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on April 23, 2010 survey data information.
2. Depth to water in feet below the top of casing surveyed measuring point
3. Elevation difference in feet. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
Division of Environment
Bureau of Waste Management

MEMORANDUM

TO: Michigan Reutilization Properties, LLC Facility File

FROM: Everett Spellman ES

DATE: September 28, 2010

RE: O&M Inspection Documentation

KDHE conducted an Operation and Maintenance Inspection (O&M) at the Michigan Reutilization Properties, LLC (MRP) facility during a semi-annual groundwater sampling event conducted on May 7-9, 2007. KDHE performed a follow-up inspection on October 16-18, 2007 to observe the installation and performance of new and refurbished dedicated groundwater sampling pumps. KDHE staff resignation and subsequent hiring freeze prior to the completion of the inspection report prompted another inspection which occurred on May 18-19, 2009.

Groundwater samples were collected from monitoring wells MW-6, WN-6B and MW-12 during the May 2007 sampling event and from WN-6B and WN-8B during the May 2009 sampling event. The analytical results for these samples are attached to this memo, along with the completed inspection checklist. Also attached are thumbnail images and associated description logs for the photographs acquired during each site visit. The photographer of the images acquired in October 2007 did not complete a log prior to his resignation from KDHE.

KANSAS

DEPARTMENT OF HEALTH
AND ENVIRONMENT
Division of Environment

Kathleen Sebelius, Governor
Roderick L. Bremby, Secretary

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September 24, 2010

Brenda Epperson
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Operations and Maintenance Inspection Report
MRP Properties Company LLC, Arkansas City
EPA ID# KSD 087418695

Dear Ms. Epperson:

The Kansas Department of Health and Environment (KDHE) appreciates the cooperation of MRP Properties Company, LLC (MRP) personnel during the Resource Conservation Recovery Act (RCRA) Operations and Maintenance (O&M) Inspections performed in May 2007, October 2007, and May 2009 on the groundwater monitoring systems at the former Arkansas City refinery. A copy of the O&M Inspection Report is enclosed for your files. As a result of these inspections, KDHE identified the following recommendations and deficiencies:

1. Although the sampling team used several pairs of new and clean gloves during groundwater sampling activities as specified in Section 4.4 of the SAP, the gloves were not always changed immediately prior to sample collection. To ensure sample integrity, KDHE recommends field personnel change gloves immediately prior to the collection of groundwater samples.

2. MRP does not submit copies of the field data sheets for static water level and total well depth measurements. MRP is directed to include these data sheets in future submittals of the annual groundwater monitoring reports.

3. As explained in Section 6.0, well purging was not conducted in accordance with the procedures specified in the SAP. MRP must ensure the purge conditions are satisfied before collecting groundwater samples. [K.A.R. 264-97(d)]

Please submit a response to these deficiencies by November 26, 2010. If you have any questions regarding this report, you may contact me at espellma@kdhe.state.ks.us or at (785) 296-1616.

Sincerely,

Everett Spellman

Everett Spellman
Environmental Geologist
Hazardous Waste Permitting Section

Enclosure: O&M Inspection Report

Cc: David Garrett - EPA Region 7/RCAP Branch (w/enclosures)
Allison Herring - DEA/KDHE/SCDO/Waste Programs (w/enclosures)
William Bider- Director BWM (w/o enclosures)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

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SEP 0 9 2010

BUREAU OF WASTE MANAGEMENT

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
Article Number: 7006 2760 0000 8648 0422

Mr. Mostafa Kamal
Chief, Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

RE: Response to EPA & KDHE Comments
Exposure Unit Supplemental Soil Investigation Work Plan
MRP Properties Company, LLC
Former Total Petroleum, Inc. Refinery
1400 South Main St., Arkansas City, Kansas
RCRA ID #KSD087418695

Dear Mr. Kamal:

The Environmental Protection Agency (EPA) Region 7 has reviewed the Responses to both EPA and KDHE comments on the Exposure Unit Soil Investigation Work Plan, dated July 28, 2010, submitted to the Kansas Department of Health and Environment by MWH Americas, Inc. on behalf of MRP Properties Company (MRP). This Work Plan's focus is to conduct a soil investigation in both the Process and Junk Storage Areas and to determine whether additional corrective action is required in these two areas at the former Total Petroleum, Inc. Refinery site (site), located in Arkansas City, Kansas.

General Comment

1. Please provide EPA two copies of the revised Exposure Unit Supplemental Soil Investigation Work Plan that includes both EPA and KDHE comments.

Specific Comments

1. Comment #1, Page 3 of 9. The 3rd response paragraph states that twenty-five borings will be advanced and that based on field screening criteria (PID & visual observation) that two surface and two subsurface soil samples will be collected and analyzed for arsenic, chromium, lead, Skinner List VOCs and Poly Aromatic Hydrocarbons (PAHs).

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- The response does not indicate how it will be determined from which of the 25 borings the 4 soil samples will be taken for laboratory analysis. MRP must provide additional information on how this decision will be made.

- Using a PID as a field screening tool for PAHs seems to be limiting. Since PAHs are major Contaminants of Concern (CoC) at the facility, strong consideration should be given to other field screening tools such as Fiber Optics Synchronous Fluorescence Spectrometer for Quantification of Field Samples for Aromatic and Polycyclic Aromatic Hydrocarbons which may be superior to utilization of a PID alone.

- EPA is unsure how MRP will screen for arsenic, chromium and lead visually. MRP must employ an x-ray fluorescence (XRF) as a field screening tool for these metals during this soil investigation.

2. Comment #7, Page 6 of 9. EPA and KDHE commented that MRP must collect soil samples at the depth of 6-8 feet below ground surface (bgs) because underground piping in the Process Area was removed to a depth of 6 feet bgs during decommissioning. MRP's current response is that they will collect soil samples at the 6-8 foot depth for approximately half of the exposure units in the Process Area (exposure units 5, 6, 7, NE corner of 8, northern half of 9 and 10, and the NW corner of 11). MRP's proposal is inadequate in absence of any justification for excluding exposure units 1, 2, 3, 4, 12 and the large sections of exposure units 8, 9, 10, and 11. EPA's review of MRP's historical data indicates areas of subsurface soils with elevated detections of arsenic, chromium, benzene, and PAHs in both the Junk Storage Area and the Process Area. All exposure units in these two areas must be sampled at the depth of 6-8 foot bgs.

3. Comment #11on Page 7 of 9 is in regards to historical soil sampling data being reported non-detect when the laboratory detection limits exceeded EPA and/or KDHE soil screening data. MRP's response is that this soil data is broken down into three groups (a, b, c) based on the reporting limits. "Group A: normal reporting limits were 350-550 µg/kg. Resampling is not necessary at the locations where the laboratory achieved normal reporting limits. Resampling is also not necessary where the PAH CoC results are detected quantities."

   After review of Table 1 Summary of Phase 2 RFI COPC Data, it appears that there are numerous PAH soil samples where the data was reported either as U or UJ at reporting limits in excess of EPA's regional screening levels. An example is PA-01S with a screening level of 210 µg/kg for benzo (a) pyrene, while the reporting limit is 340-550 µg/kg. These soil results with the classification of "a-normal reporting limits" must be considered for resampling, contrary to Table 1.

4. Comment #13 on Page 8 of 9 originally requested that MRP submit their RFI Phase II soil data results in tables that compared the results to both current EPA and KDHE risk-based standards. Tables 2-9 only include KDHE's Tier 2 standards. EPA's risk-based standards are absent from these tables. MRP must revise these tables to include EPA's risk-based screening values.

If you have any questions, you may reach me at (913) 551-7159 or by email at garrett.david@epa.gov.

Sincerely,

David Garrett

David Garrett
Environmental Scientist
RCRA Corrective Action & Permits Branch
Air & Waste Management Division

cc: Mark Vishnefske
KDHE-BWM

MWH

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BUREAU OF WASTE MANAGEMENT

August 31, 2010

1005686

Chief of the Hazardous Waste Permits Section
Attention: Mr. Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7962 0572 2165

Re: 2010 Semiannual RCRA Groundwater Corrective Action Report
January 1, 2010 through June 30, 2010
MRP Properties Company, LLC Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Kamal:

MWH is submitting this report on behalf of MRP Properties Company, LLC (MRP) in accordance with the reporting requirements in Section IV.E.5 of the facility's Hazardous Waste Management Permit for the period January 1, 2010 through June 30, 2010. The data included in this report includes results of the quarterly bioreactor influent monitoring, demonstration of the reverse groundwater hydraulic gradient between the recovery wells and the Walnut River, semiannual groundwater monitoring laboratory analytical results, and operations data for the groundwater recovery system and the Land Treatment Unit (LTU) soil vapor extraction (SVE) and air sparge (AS) systems. An electronic copy of this report is also included on the attached CD-ROM. The groundwater monitoring was conducted in accordance with the procedures presented in the approved Groundwater Sampling and Analysis Plan (SAP).

The site location map is included on Figure 1. The Corrective Action monitoring well network is shown on Figure 2. A complete assessment of the semiannual monitoring data will be provided in the annual groundwater monitoring report.

Quarterly Groundwater Level Monitoring

Corrective action groundwater monitoring well water level measurements for the first two quarters (March 2 and May 13) of 2010 are summarized on Table 1.

May 2010 Semiannual Groundwater Monitoring Event

The semiannual sampling event was conducted between May 17 and May 24, 2010. The groundwater samples collected from the corrective action performance, supplemental

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information, and background monitor wells were analyzed for the Permit Attachment B groundwater protection standard (GWPS) constituents. MRP included analyses of methyl tert-butyl ether (MTBE), tert-butyl alcohol (TBA), total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and TPH diesel range organics (DRO) for this sampling event. In addition, the groundwater monitoring network was expanded by 16 wells for this sampling event to provide groundwater data from across the site. TestAmerica Laboratories (TAL) in Arvada, Colorado performed the analysis of the groundwater samples. The groundwater laboratory analytical results and corresponding field data are summarized in Tables 2 and 3. Figures 3 and 4 contain maps posting the laboratory results for representative constituents. The field sampling forms, field logs, and chain-of-custody forms for the sample event are included in Attachment 1. The laboratory's analytical report Form I's are included in Attachment 2.

One field blank, six trip blanks, and one equipment rinse blank were collected during the sampling event. The laboratory analytical data are summarized on Table 4 and the laboratory reports are included in Attachment 2. No detections of target constituents were found in the trip blanks. Chloroform was detected in the equipment rinse blank and the field blank at similar concentrations indicating the laboratory provided water as the source.

Two duplicate samples were collected during the sample event. The duplicate samples were identified as RCRA-MW-5 and RCRA-MW-6 and were duplicates of the groundwater samples collected from monitor wells WN-7B and MW-13, respectively.

Quarterly Bioreactor Influent Sampling

The quarterly bioreactor influent samples were collected on March 4 and May 24, 2010. The bioreactor influent samples were collected from three locations; location A combined flow from two inlet pipes on the north side of the bioreactor tank, location B on the west side of the bioreactor tank, and location C located near the lift station in the vicinity of product recovery vessel V-7106.

The influent flow rate and analytical data for the two sampling events are summarized on Tables 5 and 6. The field logbook entries for the quarterly bioreactor samples are included in Attachment 1. The laboratory analytical reports Form I's are included in Attachment 2.

Quarterly Groundwater Capture Zone Monitoring

Groundwater level and elevation data from the eight capture zone monitoring wells are summarized on Tables 7 and 8 for the March 2, 2010 and May 13, 2010 monitoring events, respectively. As is shown on the tables, the Permit-required minimum head difference of 0.2 feet was achieved at each capture zone well pair during the two quarterly monitoring events. Attachment 1 contains the groundwater level gauging field forms for the two quarterly compliance demonstration monitoring events.

Groundwater Corrective Action: Recovery of Groundwater and Free Product

The groundwater and free product recovery systems functioned normally during the reporting period. Quantities of groundwater and free product recovered during the reporting period are summarized on Table 9 for the system as a whole and for each recovery well. Data for the recovery wells outside the waste management area boundary are also included on Table 9.

LTU Corrective Action System Monitoring

The LTU corrective action system monitoring includes weekly and quarterly parameters in accordance with the procedures established in the approved system Operation and Maintenance Plan (dated January 2003) and the Engineering Feasibility Plan. The LTU SVE/AS monitoring data for the reporting period are summarized on Tables 10, 11, 12 and 13. The chain-of-custody forms for the SVE inlet air samples and the corresponding laboratory analytical report Form I's are included in Attachment 2.

SVE System

The weekly monitoring includes: airflow, operational hours, influent concentrations of organic vapors measured as percent of the lower explosive limit (LEL), inlet vacuum, and inlet and outlet air temperatures. SVE air samples are collected on a quarterly basis and submitted to TAL in Pensacola, Florida for analysis of total volatile petroleum hydrocarbons (C6-C10), BTEX, and MTBE.

AS System

The air sparge (AS) system is monitored weekly. The weekly monitoring includes air sparge blower operational hours, blower outlet air temperature, air pressure, and airflow.

The air flow rate at each air sparge well is checked and adjusted providing uniform air flow on a quarterly schedule. The air sparge airflow monitoring and air flow balancing was performed on January 26, 2010 and June 3, 2010.

Monitor Well Maintenance

Section IV.D.3 of the facility permit requires annual subsurface monitor well integrity inspections consisting of total well depth measurements. Table 14 contains the annual total well depth measurements conducted on March 4, 2010. All of the total well depth measurements, with the exception of MW-12 demonstrated that the well screen occlusion was less than the permit maximum 10 percent criterion. The MW-12 total depth measurement indicated 12.5 percent occlusion of the well screen. Consequently, the well was redeveloped on May 19 resulting in 2.9 percent screen occlusion.

The corrective action monitoring well top of casing measuring points were resurveyed on April 23, 2010. The survey report is included in Attachment 3.

Recovery Well Maintenance

Recovery well maintenance activities conducted during this reporting period consisted of routine maintenance of product and groundwater pumps. Recovery wells are periodically chemically treated to remove mineral encrustation and biomass that forms on the well screens to maintain the specific capacity of the wells. Well treatment was performed on recovery wells RW-35, RW-40, RW-45, RW-50, RW-55, RW-60, RW-75, and PARW-2 in April 2010.

Please contact either Brenda Epperson, MRP at 210/345-4619 or me at 303/291-2262 if you have any questions or comments about the information presented in this report.

Sincerely,

MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Attachments: Tables, Figures, Attachments, and CD-ROM

Cc: Brenda Epperson, MRP w/enc.
David Garrett, EPA Region 7 w/enc.
Everett Spellman, KDHE w/enc.
Kent Biggerstaff, MRP w/enc.

KANSAS
DEPARTMENT OF HEALTH
AND ENVIRONMENT

Mark Parkinson, Governor
Roderick L. Bremby, Secretary

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June 22, 2010

Brenda B. Epperson
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

RE: Response to KDHE Comments on the 2009 Annual Groundwater Monitoring Report
MRP Properties Company, LLC
Former Total Petroleum, Inc. Refinery
1400 South M Street, Arkansas City, Kansas
RCRA ID# KSD087418695

Dear Ms. Epperson,

The Kansas Department of Health and Environment (KDHE) has received the Response to KDHE Comments Letter, dated June 16, 2010, which was submitted by MWH Americas, Inc. on behalf of MRP Properties Company, LLC. The letter was sent in response to comments made by the KDHE on the 2009 Annual Groundwater Monitoring Report

KDHE has reviewed the response letter along with the replacement page and find them acceptable. Thank you for your prompt response to our comments letter. If you have any questions, please contact me by phone at (785)-291-3760 or e-mail me at (mvishnefske@kdheks.gov).

Sincerely,

Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions

cc: Jay Mednick – MWH Americas, Inc.
David Garrett – EPA Region 7/AWMD/RCAP
Allison Herring – DEA/SCDO/Waste Programs
Bill Bider – KDHE/BWM

MWH

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June 16, 2010

1005686

Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson Street, Suite 320
Topeka, Kansas 66612-1366

RE: Response to KDHE Comments on the 2009 Annual Groundwater Monitoring Report
MRP Properties Company Arkansas City, Kansas
RCRA ID# KSD087418695

Dear Mr. Vishnefske,

On behalf of MRP Properties Company, LLC (MRP) MWH Americas is submitting a response to the above referenced comments from the Kansas Department of Health and Environment (KDHE). The KDHE comments were included in a letter to MRP dated June 9, 2010. Provided below are the KDHE comment in italics followed by the MRP response.

KDHE Comment 1
KDHE: Table 7 - The Depth to Water measurements on Page 2 of the table are incorrect. The recorded values are identical to those listed on Page 1 of the table. Please correct.

MRP: Table 7 is a two page table containing the depth to water and groundwater elevation data for the four quarterly groundwater level monitoring events in 2009. The first page contains the depth to groundwater and groundwater elevation data for the first two quarters of 2009 and the second page contains the depth to groundwater and groundwater elevation data for the second two quarters of 2009. The depth to groundwater data displayed on page 2 are incorrect. The groundwater elevation data on page 2 are correct and reflect the data used to construct the groundwater potentiometric surface contour maps. Enclosed is a revised page 2 for Table 7.

KDHE Comment 2
KDHE: Appendix B - Benzene concentrations in the bioreactor effluent water samples, collected in May and August, are higher than the bioreactor influent samples for the same period. Please explain why the benzene concentrations increased during treatment in the bioreactor vessel.

The benzene concentration in the bioreactor influent stream varies because the system draws groundwater from wells in different parts of the hydrocarbon impacted area under varying groundwater elevation conditions. This variability can be observed in the data that were presented in Table 6 of the report. Additionally, the travel time through the bioreactor is approximately 24 hours; consequently the benzene concentration in the effluent from the

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bioreactor cannot be compared directly with the influent benzene concentration. The total petroleum hydrocarbons as gasoline range organics (TPH-GRO) is a better indicator of the overall performance of the bioreactor. The benzene and TPH-GRO data for the bioreactor influent and effluent streams for 2009 are provided below for reference. The TPH-GRO data demonstrate the hydrocarbon dissolved mass reduction through the bioreactor. The effluent from the bioreactor undergoes additional treatment in the oxidation ponds with a 30 day travel time prior to discharge through the NPDES permitted discharge point.

Bioreactor Influent and Effluent Laboratory Results for 2009

Sample Date	3/4/2009	5/21/2009	8/20/2009	10/29/2009
Influent Benzene (µg/L)	12	1.6	2.4	3.8
Effluent Benzene (µg/L)	4.4	6.3	4.2	0.6

The Benzene Risk-Based Standard for Kansas is 5 µg/L

Sample Date	3/4/2009	5/21/2009	8/20/2009	10/29/2009
Influent TPH-GRO (µg/L)	2000	110	220	240
Effluent TPH-GRO (µg/L)	570	58	130	33

The TPH-GRO Risk-Based Standard for Kansas is 500 µg/L

Please contact either Brenda Epperson, MRP at 210/345-4619 or me at 303/291-2262 if you have any questions regarding this information.

Sincerely,

MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Enclosure: Revised Report Table 7, Page 2

cc: Brenda Epperson, MRP Properties Company w/enc.
Everett Spellman, KDHE BWM w/enc.
David Garrett, EPA Region 7 w/enc.

Table 7 Summary of 2009 Quarterly Groundwater Level Measurements
MRP Properties Company, LLC - Arkansas City, Kansas

Station	Date	Measuring Point Elevation (ft AMSL)	Depth to LNAPL (ft BTOC)	Depth to Water (ft BTOC)	LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)
WN-1A	8/13/09	1066.36	ND	17.02	0.00	1049.34
WN-1B	8/13/09	1066.39	ND	17.07	0.00	1049.32
WN-5B	8/13/09	1064.71	ND	16.37	0.00	1048.34
WN-6A	8/13/09	1065.12	ND	17.70	0.00	1047.42
WN-6B	8/13/09	1064.42	ND	17.01	0.00	1047.41
WN-7B	8/13/09	1064.75	ND	15.71	0.00	1049.04
WN-8B	8/13/09	1064.42	ND	17.90	0.00	1046.52
MW-6	8/13/09	1062.22	ND	19.00	0.00	1043.22
MW-12	8/13/09	1071.80	ND	35.21	0.00	1036.59
MW-13	8/13/09	1062.84	ND	19.61	0.00	1043.23
MW-17	8/13/09	1065.34	ND	17.45	0.00	1047.89
RCRA-4	8/13/09	1061.20	ND	17.45	0.00	1043.75
RCRA-7	8/13/09	1063.72	ND	27.83	0.00	1035.89
113	8/13/09	1072.23	ND	36.71	0.00	1035.52
118	8/13/09	1070.70	ND	33.46	0.00	1037.24
MW-1002	8/13/09	1072.11	ND	33.13	0.00	1038.98
CMW-1	8/13/09	1059.71	ND	22.82	0.00	1036.89
CMW-2	8/13/09	1061.75	ND	25.38	0.00	1036.37
CMW-3	8/13/09	1061.47	ND	23.83	0.00	1037.64
CMW-4	8/13/09	1061.93	ND	22.55	0.00	1039.38
WN-1A	10/19/09	1066.36	ND	17.32	0.00	1049.04
WN-1B	10/19/09	1066.39	ND	17.39	0.00	1049.00
WN-5B	10/19/09	1064.71	ND	16.75	0.00	1047.96
WN-6A	10/19/09	1065.12	ND	18.14	0.00	1046.98
WN-6B	10/19/09	1064.42	ND	17.49	0.00	1046.93
WN-7B	10/19/09	1064.75	ND	16.10	0.00	1048.65
WN-8B	10/19/09	1064.42	ND	16.38	0.00	1048.04
MW-6	10/19/09	1062.22	ND	19.11	0.00	1043.11
MW-12	10/19/09	1071.80	ND	34.25	0.00	1037.55
MW-13	10/19/09	1062.84	ND	19.79	0.00	1043.05
MW-17	10/19/09	1065.34	ND	17.93	0.00	1047.41
RCRA-4	10/19/09	1061.20	ND	17.53	0.00	1043.67
RCRA-7	10/19/09	1063.72	ND	26.72	0.00	1037.00
113	10/19/09	1072.23	ND	35.75	0.00	1036.48
118	10/19/09	1070.70	ND	32.59	0.00	1038.11
MW-1002	10/19/09	1072.11	ND	32.78	0.00	1039.33
CMW-1	10/19/09	1059.71	ND	22.24	0.00	1037.47
CMW-2	10/19/09	1061.75	ND	24.66	0.00	1037.09
CMW-3	10/19/09	1061.47	ND	23.15	0.00	1038.32
CMW-4	10/19/09	1061.93	ND	22.24	0.00	1039.69

Notes:
All monitor wells resurveyed March 14, 2007, by Smith & Oakes, Inc., Arkansas City, KS.
ND = LNAPL not detected
LNAPL = light non aqueous phase liquid
ft = feet
BTOC = below top of casing
AMSL = above mean sea level

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Mark Parkinson, Governor
Roderick L. Bremby, Secretary

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June 9, 2010

Brenda B. Epperson
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

RE: Comments on the 2009 Annual Groundwater Monitoring Report
MRP Properties Company, LLC
Former Total Petroleum, Inc. Refinery
1400 South M Street, Arkansas City, Kansas
RCRA ID# KSD087418695

Dear Ms. Epperson,

The Kansas Department of Health and Environment (KDHE) has received the 2009 Annual Groundwater Monitoring Report for the Former Total Petroleum, Inc. refinery in Arkansas City. The report provides a review of the 2009 groundwater monitoring program and on-going corrective action. KDHE's comments on the report are listed below:

1. Table 7 - The Depth to Water measurements on Page 2 of the table are incorrect. The recorded values are identical to those listed on Page 1 of the table. Please correct.

2. Appendix B – Benzene concentrations in the bioreactor effluent water samples, collected in May and August, are higher than the bioreactor influent samples for the same period. Please explain why the benzene concentrations increased during treatment in the bioreactor vessel.

Please respond to these comments by July 9, 2010 and submit revised pages as necessary. If you have any questions, please contact me by phone at (785)-291-3760 or e-mail me at (mvishnefske@kdheks.gov).

Sincerely,

Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions

cc: David Garrett – EPA Region 7/AWMD/RCAP
Allison Herring – DEA/SCDO/Waste Programs
Bill Bider – KDHE/BWM

KANSAS

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June 1, 2010

Brenda B. Epperson
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

RE: Comments on the Exposure Unit Supplemental Soil Investigation Work Plan
MRP Properties Company, LLC
Former Total Petroleum, Inc. Refinery
1400 South M Street, Arkansas City, Kansas
RCRA ID# KSD087418695

Dear Ms. Epperson,

The Kansas Department of Health and Environment (KDHE) and the Environmental Protection Agency (EPA) Region 7 have reviewed the "Exposure Unit Supplemental Soil Investigation Work Plan," dated July 24, 2009, submitted by MWH Americas, Inc. on behalf of MRP Properties Company, LLC (MRP). This work plan outlines activities to delineate the areas within the Process Area and the Junk Storage Area of the refinery that are impacted by contaminated soils which require corrective action. KDHE and EPA have the following comments:

1. The work plan does not mention anything about the asphalt plant located to the north of the facility and also within the confines of the Process Area. MRP must provide additional information about the plant ownership, dates of operation, specific processes conducted, products used at the plant, historical waste streams, and other applicable information.

2. Although the objective of this work plan is a soil investigation of both Process and Junk Storage Areas, MRP must also consider other soil investigation areas. EPA's letter, dated October 26, 2001, did not require additional investigation at that time, but clearly stated that "several areas at the Facility may warrant additional investigation as the corrective action process progresses. Areas which may warrant further investigation at a future date include solid waste management units (SWMUs) 4,5,6,7,8,9,10,11,14,15,16,20, and 47 as well as additional areas of concern such as subsurface soils near the two seeps to Walnut Creek." In addition, this EPA letter also stated that the "Facility should conduct representative sampling of sediments along the river consistent with sediment sampling as included in the approved QAPP for the RFI. Such activities may be conducted concurrent with CMS activities." KDHE and EPA do not possess records that demonstrate that these activities have occurred. Therefore, the scope of this work plan should be expanded to include investigation of these areas.

3. Section 1.1 states that the hydrocarbon recovery program has included the installation of more than 100 groundwater monitoring wells and several groundwater and product recovery wells throughout the site. However, none of the figures provided in the work plan illustrates these well locations. MRP should provide these monitoring well locations on a figure for historical reference.

4. The second paragraph on page 1-2 states that previous samples which were non-detect for site constituents had elevated detection limits. From review of the historical RFI data it is evident that there are data gaps due to the use of analytical methods with elevated detection limits. Elevated detection limits increase the uncertainty of identifying contaminants that are used to determine risks to human health. MRP must achieve lower detection limits for all environmental sampling data in the future.

5. The second paragraph on page 2-1 states "Groundwater contamination and potential ecological risks have been satisfactorily addressed. Previous investigations delineated the nature and extent of groundwater contamination." KDHE and EPA disagree with this statement. Delineation of groundwater contamination has been focused on the Waste Management Area in the southeastern section of the site with limited groundwater monitoring in the remainder of the facility. MRP must include additional information to justify the statement regarding delineation of groundwater contamination or the statement must be removed in its entirety.

6. The third paragraph in Section 2 states that the areas under investigation are the Process Area and the Junk Storage Area. However, there are areas adjacent to both the Process Area and Junk Storage Area that may also need to be investigated. These areas include the area west of former storage tanks T-132 and T-133, the area between Former storage tank T-131 and the Process Area, and the area east of the Process Area that includes former storage tanks T-102, T-103, T-104, and T-113.

   MRP must investigate these areas unless it can reference historical documents with EPA approvals that show that these areas have been adequately investigated. If MRP cannot do this, additional soil sampling must be included as part of this work plan along with revised figures that depict the locations of the soil borings in these additional areas.

7. MRP indicates on page 3-2 that they will be collecting soil samples at intervals of 1 foot and 2-4 feet below ground surface (bgs). However, as mentioned on page 1-2, soils were disturbed and underground piping in the Process Area was removed to a depth of 6 feet bgs during decommissioning. As a result, when sampling in the Process Area, MRP must include soil samples at intervals of 4-6 feet and 6-8 feet to properly categorize disturbed soils and to detect any leakage that may have occurred from underground piping.

8. The third paragraph on page 3-2 states "Should future work require contact with soil at a greater depth (e.g., for installation or repairs of utility lines), there will be a requirement to either characterize the soil and perform a removal should concentrations exceed risk-based criteria, or to implement appropriate health and safety measures. These requirements will be described in detail in a future document."

   EPA believes that this information must be provided in this revised work plan rather than in a subsequent document that will be submitted at a later date. Future work could be years later and under new potential ownership. Soil must be characterized during this investigation to determine whether contaminants exist at concentrations above risk-based criteria.

9. The last paragraph on Page 3-2 is confusing. The listing of COPCs directly after the sampling protocol causes confusion as to which constituents MRP intends to analyze during the soil investigation. MRP must analyze all soil samples for arsenic, chromium, and Skinner List

volatile organic compounds (VOCs) and Polynuclear Aromatic Hydrocarbons (PAHs). Please rewrite this paragraph to eliminate confusion about constituents to be sampled during the investigation.

10. KDHE and EPA have not received a Quality Assurance Project Plan (QAPP) or a Sampling and Analysis Work Plan (SAP) for the soil investigation work plan as detailed in Section 6. As a note, KDHE and EPA must review and approve the QAPP and SAP before any work commences on this investigation.

11. In Section 3, MRP must discuss if it is planning to use the RFI Phase II data in conjunction with the 2010 investigation results. MRP also needs to detail how it plans to evaluate the uncertainty related to Phase II samples that resulted in elevated detection limits. For example, what criteria will MRP use to determine if a Phase II sample location with an elevated non-detect value needs to be resampled for the Exposure Unit Supplemental Soil Investigation Work Plan.

12. Figure 2 must include the delineation of the background samples area so that the reader can see in one figure where the background samples are to be taken in comparison to where the Process and Junk Storage areas are located.

13. KDHE and EPA requests that MRP submit RFI Phase II soil data results in a table to be used with Figures 3 and 4. The table needs to report all results, including detected as well as non-detected constituents, detection limits, constituent names, and comparison to current applicable EPA and KDHE Risk-Based Standards, 4th Version, revised June 2007 cleanup guidelines. This data will be used to evaluate the validity of samples from Phase II borings with elevated non-detection values that are include in Figures 3 and 4.

14. The Junk Storage Area is approximately 700 ft by 500 ft in area. However, only 12 new borings are proposed, and many of these sample locations are nearly 200 ft apart. This spacing seems excessive. MRP must propose additional soil borings in the Junk Storage Area to adequately delineate contamination. In addition, MRP states on page 3-1 that "The soil in the Junk Storage Area has not been disturbed since the RFI soil sampling was conducted (1999)." KDHE and EPA are unsure whether MRP is planning to use the 1999 soil data with the 2010 data for corrective action assessment.

Please submit your response to comments directly to KDHE by June 28, 2010 and copy EPA. If you have any questions, please contact me by phone at (785)-291-3760 or e-mail me at (mvishnefske@kdheks.gov).

Sincerely,

Mark Vishnefske

Mark Vishnefske
Environmental Scientist II
Hazardous Waste Corrective Actions

cc: David Garrett – AWMD/RCAP – EPA Region VII
Allison Herring – DEA/SCDO/Waste Programs
Bill Bider – BWM

Michigan Revitilization

Everett Spellman

From: Jay Mednick [Joseph.F.Mednick@us.mwhglobal.com]
Sent: Friday, May 21, 2010 11:52 AM
To: Everett Spellman
Cc: Epperson, Brenda
Subject: MRP Properties Company - Arkansas City - Mailing List Notification Returned Mail Class 1a Permit Modification Vessel V-7106
Attachments: scan of returned letters.pdf

Everett,

Fifty-one letters were mailed to notify the mailing list of the approved Class 1a permit modification. Three letters were returned as shown on the attached PDF file and pasted into this e-mail below. The USPS was unable to deliver the letter to Kathy Ellis; the reason provided by the USPS was the forwarding time had expired. According to the USPS, the letter to Edward B. Anderson could not be delivered either. The address was checked on the USPS web site and reported as "not found". The letter to Ralph J. Kieffer was returned because the zip code associated with the PO Box was incorrect. The letter was resent to the 834 SW Fillmore Street address after confirmation of the zip code on the USPS web site.

Please advise MRP Properties Company if you have any new address information for Kathy Ellis and Edward B. Anderson.

Thank you.

Jay

Changes made to the HWP-Michigan Revtil - KSD087418695 facility mailing list.

Kathy Ellis was removed and President was added the address was changed to the museum of Natural History at the University of Kansas.

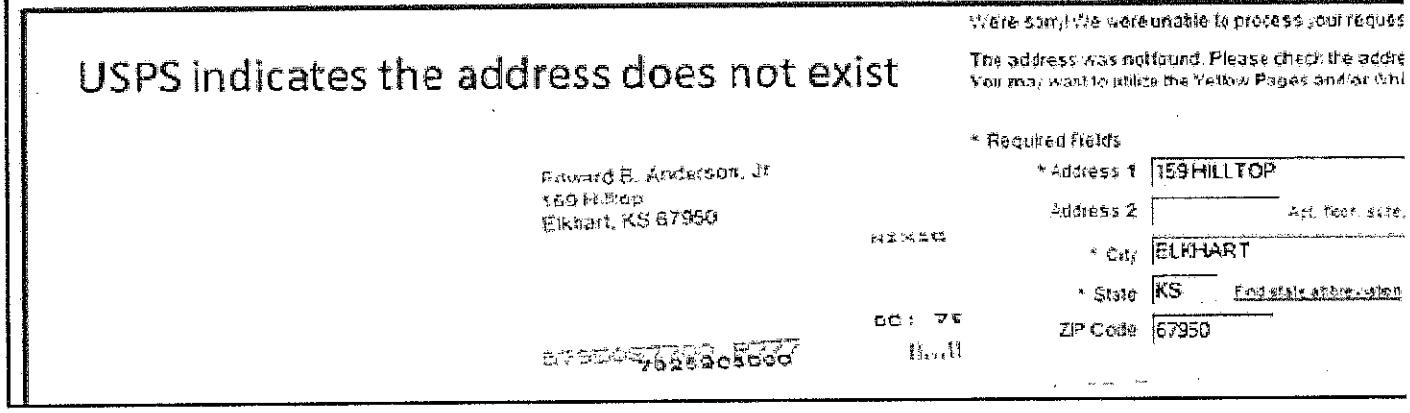
Edward Anderson was removed from the mailing list.

Ralph J. Kieffer's address was changed as noted above.

ES

Name	Status
Kathy Ellis, President Kansas Herpetological Society 10025 SW Jordan Rd. Wakarusa, Kansas 66446	Forwarding Time Expired, Return to Sender **Unable to Deliver**
Edward B. Anderson 159 Hilltop Elkhart, KS 67950	Insufficient Address, Unable to Forward, Return to Sender **Unable to Deliver**

USPS indicates the address does not exist



Ralph J. Kieffer PO Box 1977 Topeka, KS 66606	Not Deliverable as Addressed, Unable to Forward, Return to Sender **Resent to:** Ralph J. Kieffer 834 SW Fillmore Street Topeka, KS 66606-1444

MWH

BUILDING A BETTER WORLD

Jay Mednick, P.G
Principal Hydrogeologist

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Kathy Ellis, President
Kansas Herpetological Society
10025 SW Jordan Rd.
Wakarusa, Kansas 6654

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WAKARUSA KS 66546-9609

RETURN TO SENDER

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78269@6000

Edward B. Anderson, Jr
159 Hilltop
Elkhart, KS 67950

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78269@6000

LISTNAME	SALUTATION	FIRSTNAME	MIDNAME	LASTNAME	SUFFIX	ADDRESSEETITLE	ORG
HWP-MichiganReutil-KSD087418695		William (Bill)	A.	Anderson	JR		
HWP-MichiganReutil-KSD087418695		W. R.		Brecheisen			Kansas Furharvesters Association
HWP-MichiganReutil-KSD087418695	Hon.	Sam		Brownback			U.S. Senate
HWP-MichiganReutil-KSD087418695		William	R.	Browning	M.D.		
HWP-MichiganReutil-KSD087418695		Ronald		Dubach			
HWP-MichiganReutil-KSD087418695		Brenda		Epperson			MRP Properties Company, LLC
HWP-MichiganReutil-KSD087418695		Mike		Givens			
HWP-MichiganReutil-KSD087418695	Hon.	Greta	H.	Goodwin		Member	Kansas Senate (District 32)
HWP-MichiganReutil-KSD087418695		Kelly		Johnston	Esq	C/O James Johnston	The Johnston Law Offices
HWP-MichiganReutil-KSD087418695	Mr.	Mostafa		Kamal	PE	Chief/HW Permit Section	KDHE/Bureau of Waste Management
HWP-MichiganReutil-KSD087418695	Hon.	Kasha		Kelley		Member	Kansas House of Representatives (District 79)
HWP-MichiganReutil-KSD087418695		Ralph	J.	Kieffer			
HWP-MichiganReutil-KSD087418695		Amanda		Maltby			
HWP-MichiganReutil-KSD087418695		Carl		Mills			
HWP-MichiganReutil-KSD087418695		Alan		Paton			
HWP-MichiganReutil-KSD087418695		Larry		Riggs			
HWP-MichiganReutil-KSD087418695		John & Nola		Riggs			
HWP-MichiganReutil-KSD087418695	Hon.	Pat		Roberts			U.S. Senate
HWP-MichiganReutil-KSD087418695		Mary	H.	Savala			
HWP-MichiganReutil-KSD087418695		Keith	L.	Stultz			
HWP-MichiganReutil-KSD087418695	Hon.	Todd		Tiahrt		Member	U.S. House of Representatives
HWP-MichiganReutil-KSD087418695	Hon.	Ed		Trimmer		Member	Kansas House of Representatives (District 78)
HWP-MichiganReutil-KSD087418695		Ronald	A.	Vine			
HWP-MichiganReutil-KSD087418695		Theresa		Walte			Cowley County Appraiser
HWP-MichiganReutil-KSD087418695						Secretary	Kansas Department of Wildlife & Parks
HWP-MichiganReutil-KSD087418695						Chairman, City Planning Commissi	City of Arkansas City, Kansas
HWP-MichiganReutil-KSD087418695						Mayor	City of Arkansas City, Kansas
HWP-MichiganReutil-KSD087418695						City Clerk	City of Arkansas City, Kansas
HWP-MichiganReutil-KSD087418695						City Manager	City of Arkansas City, Kansas
HWP-MichiganReutil-KSD087418695							Cowley County Health Department
HWP-MichiganReutil-KSD087418695							The Arkansas City Traveler
HWP-MichiganReutil-KSD087418695						News Director	Winfield Daily Courier
HWP-MichiganReutil-KSD087418695						News Director	KSOK FM Radio
HWP-MichiganReutil-KSD087418695							Greenpeace USA
HWP-MichiganReutil-KSD087418695						Executive Vice President	Kansas Livestock Association/Kansas Beef Council
HWP-MichiganReutil-KSD087418695						President	Kansas Wildlife Federation
HWP-MichiganReutil-KSD087418695						President	Kansas Section Society for Range Management
HWP-MichiganReutil-KSD087418695						Chairman	The Land Institute
HWP-MichiganReutil-KSD087418695						Executive Director	Kansas State Historical Society
HWP-MichiganReutil-KSD087418695						President	Kansas Natural Resource Council
HWP-MichiganReutil-KSD087418695						President	Kansas Herpetological Society
HWP-MichiganReutil-KSD087418695						Director	Kansas Water Office
HWP-MichiganReutil-KSD087418695						Executive Director	Kansas Conservation Commission
HWP-MichiganReutil-KSD087418695						Director, Air, RCRA, Toxics Div.	US Environmental Protection Agency
HWP-MichiganReutil-KSD087418695						Director	U.S. Fish & Wildlife Services
HWP-MichiganReutil-KSD087418695						Secretary	Kansas Furharvesters Associatin
HWP-MichiganReutil-KSD087418695						President	Kansas Ornithological Society
HWP-MichiganReutil-KSD087418695						Chief Engineer	Kansas Department of Agriculture
HWP-MichiganReutil-KSD087418695						President	Kansas Chapter of the Wildlife Society
HWP-MichiganReutil-KSD087418695						COMMANDER (de)	8th Coast Guard District External Affairs

ADDRESS1	ADDRESS2	CITY	STATE	ZIP
5733 Reinhardt Dr		Fairway	KS	66205
24585 Lyon Rd		Chanute	KS	66720
612 S. Kansas		Topeka	KS	66603
RR 1, Box 645		Madison	KS	66860
6342 314th Dr		Arkansas City	KS	67005
PO Box 696000		San Antonio	TX	78269-6000
11500 312th Rd		Arkansa City	KS	67005
420 E 12th Ave		Winfield	KS	67156
800 N Market St	PO Box 3089	Wichita	KS	67201-3089
1000 SW Jackson, Suite 320		Topeka	KS	66612-1366
PO Box 1111		Arkansas City	KS	67005
834 SW Fillmore		Topeka	KS	66606
112 N Iowa		Winfield	KS	67156
901 N Centennial Rd		Arkansas City	KS	67005
22 Crestwood		Arkansas City	KS	67005
1024 North A		Arkansas City	KS	67005
251[illegible] Valley View Dr		Arkansas City	KS	67005
10[illegible]ilitary Plaza	PO Box 550	Dodge City	KS	67801
224 Randon Rd		Arkansas City	KS	67005
2635 Southwood Ct		Arkansas City	KS	67005
155 N Market St, Suite 400		Wichita	KS	67202
1402 E 9th		Winfield	KS	67156
14017 Fairway Circle		Overland Park	KS	66224-4809
PO Box 641		Winfield	KS	67156
Environmental Services Section	1020 S. Kansas	Topeka	KS	66612-1249
118 W Central	PO Box 778	Arkansas City	KS	67005
118 W Central	PO Box 778	Arkansas City	KS	67005
118 W Central	PO Box 778	Arkansas City	KS	67005
118 W Central	PO Box 778	Arkansas City	KS	67005
320 E 9th Suite B		Winfield	KS	67156
200 E Fifth Ave		Arkansas City	KS	67005
201 E 9th	PO Box 543	Winfield	KS	67156
334 E Radio Ln	PO Box 1014	Arkansas City	KS	67005
702 H St NW	Suite 300	Washington	DC	20001
6031 SW 37th St		Topeka	KS	66614
PC 771282		Wichita	KS	67277-1282
PO Box 303		Manhattan	KS	66505
2440 E Water Well Rd		Salina	KS	67401
6425 SW 6th Ave		Topeka	KS	66615-1099
PO Box 2635		Topeka	KS	66601
Museum of Natural History	University of Kansas	Lawrence	KS	66045
901 S Kansas Ave, Ste. 300		Topeka	KS	66612
109 SW 9th St	Mills Bldg., Suite 500	Topeka	KS	66612
Region VII - RCAP/ARTD	901 N 5th St	Kansas City	KS	66101
Ecological Services/Partners for Fish & Wildlife	2609 Anderson	Manhattan	KS	66502-2801
11816 Highway K16		Valley Falls	KS	66088
Baker University, Dept. of Biology	PO Box 65	Baldwin City	KS	66006
Division of Water Resources	109 SW 9th, 2nd Floor	Topeka	KS	66612-1283
PO Box 1525		Emporia	KS	66801
500 Poydras Stm Suite 1324		New Orleans	LA	70130

MRP Properties Company, LLC

Post Office Box 696000 • San Antonio, Texas 78269-6000 • Telephone (210) 345-2000

Brenda B. Epperson
Manager, Environmental

April 28, 2010

RECEIVED

APR 30 2010

BUREAU OF WASTE MANAGEMENT

Mostafa Kamal, PE
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Notice of Class 1a Permit Modification
Recovered Petroleum Product Temporary Storage Tank
MRP Properties Company, LLC – Arkansas City, Kansas
U.S. EPA ID No. KSD087418695

Dear Sir or Madam:

MRP Properties Company, LLC (MRP) has received approval from the Kansas Department of Health and Environment for a Class 1a permit modification for the referenced facility. The permit modification involves replacing the temporary recovered product storage Tank 7132 with Tank V-7106. The reason for this modification is to upgrade the equipment currently in use. The permit modification will not change the facility's responsibility under the corrective action requirements of the permit.

This is a courtesy notification. No action is required on your part. You are being sent this notice because you are listed on the facility's mailing list maintained by the KDHE. If you wish to be removed from this list, you may contact Mr. Everett Spellman of the KDHE at (785) 296-1616.

If you have any questions regarding this notification, please contact Brenda Epperson of MRP Properties Company, LLC (210) 345-4619.

Sincerely,

Brenda B. Epperson
MRP Properties Company, LLC

Cc: Everett Spellman – KDHE BWM/HWPS
David Garrett - EPA Region 7IRCAP Branch
Allison Herring - DEA/KDHE/SCDO/Waste Programs
William Bider- Director KDHE BWM

MWH

BUILDING A BETTER WORLD

RECEIVED

APR 29 2010

BUREAU OF WASTE MANAGEMENT

April 27, 2010

1005686

Chief of the Hazardous Waste Permits Section
ATTN: Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

VIA FEDERAL EXPRESS
TRK# 7986 0741 1707

Re: Combined Quarterly Corrective Action Progress Report First Quarter 2010, and Semiannual ICM Report: Fourth Quarter 2009 and First Quarter 2010
MRP Properties Company, LLC – Arkansas City Refinery
Facility ID: KSD 087418695

Dear Mr. Kamal:

This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the quarterly reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit (September 20, 2001), and the reporting outlined in the Interim Corrective Measures Addendum (March 3, 1995).

1.0 Corrective Action Progress Report (1st Quarter 2010)

This section of the report contains a summary of the corrective action elements pursuant to Parts 1 and 2 of the Hazardous Waste Management Facility Permit.

1.1 Description of Work Completed:

- Quarterly Bioreactor Sampling – the first quarter bioreactor influent water sampling was performed on March 4, 2010. The laboratory results are summarized on Table 1.
- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on March 2, 2010. Additionally, monthly operational monitoring was conducted on January 14, 2010 and February 10, 2010. The capture zone monitoring data are presented on Table 2.
- Land Treatment Unit (LTU) Corrective Action – the quarterly air sparge system flow monitoring and balancing was conducted on January 26, 2010 and the soil vapor extraction system inlet air stream was sampled on March 9, 2010.
- Groundwater Corrective Action – the groundwater corrective action system downgradient of the waste management area operated normally during this reporting period.
- MRP submitted a request for a Class 1A permit modification to KDHE on January 25, 2010. The permit modification addresses the use of vessel V-7106 for the temporary containment of recovered petroleum product.
- The fourth quarter 2009 Corrective Action Progress Report was submitted to KDHE and EPA on January 28, 2010.

1801 California Street
Suite 2900
Denver, Colorado 80202

TEL 303 291 2222
FAX 303 291 2221
www.mwhglobal.com

- MRP met with representatives of KDHE and EPA on February 3, 2010 to discuss the RCRA permit renewal timeline and the soil investigation work plan.
- The annual groundwater monitoring report was submitted to KDHE and EPA on February 26, 2010.
- Conducted the annual wellbore siltation evaluation on March 4, 2010

1.2 Summaries of all Findings and Summaries of Laboratory Data:

- MRP submitted the annual groundwater monitoring report to KDHE on February 26, 2010. This report included the 2009 groundwater monitoring data including the results of the Appendix IX testing at monitor wells WN-1A, WN-7B, and MW-6 in October 2009. In addition, the report included the field and laboratory data associated with the Land Treatment Unit soil vapor extraction system for 2009; the capture zone monitoring data demonstrating compliance with the permit requirement to prevent off-site migration of groundwater; and an evaluation of the effectiveness and adequacy of the corrective action.
- The Bioreactor influent data (March 4, 2010) are summarized on the attached Table 1. The results are consistent with previous monitoring events. The laboratory report summary pages are included on Table 1.
- The groundwater capture zone monitoring conducted during this quarter demonstrated continued compliance with the facility permit requirement and the data are summarized on attached Table 2.
- The LTU Soil Vapor Extraction (SVE) system average airflow rate was maintained at approximately 100 standard cubic feet per minute (SCFM). The LTU SVE system inlet air stream was sampled on March 9, 2010. The air sample was analyzed by the TestAmerica laboratory in Pensacola, Florida for benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether, and total petroleum hydrocarbons as gasoline range organics; the results were all reported as non-detect. The laboratory analytical results are summarized on Table 3 and the laboratory report's summary pages are included as an attachment to this report.
- The LTU Air Sparge (AS) system operated normally during this reporting period. The average airflow rate during this reporting period was 10 SCFM. The average oxygen injection rate into the groundwater during the first quarter of 2010 was approximately 150 pounds per day. Approximately 12 tons of oxygen has been injected into the groundwater during the first quarter of 2010.
- The annual wellbore siltation evaluation indicated monitor well MW-12 contained approximately 12.5 percent silt. This well will be developed prior to the next sampling event.

1.3 Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems:

No problems were encountered during the reporting period.

1.4 Projected Work for the Next Quarter:

- MRP will submit the NPDES permit renewal application to the KDHE Bureau of Water to maintain the NPDES permit in accordance with the Hazardous Waste Management Facility Permit Section IV.C.1.c.
- MRP will survey the corrective action monitoring wells in accordance with Section 4.3 of the Groundwater Sampling and Analysis Plan (RCRA Part B Permit Application, Appendix P).

- Develop monitor well MW-12 to remove excess silt in the wellbore.
- Conduct semiannual groundwater sampling (May 2010). The groundwater samples will be tested for the groundwater protection standards list of constituents presented in according to the hazardous waste management facility permit Section IV.D.4.c.iii.
- Conduct quarterly capture zone monitoring and bioreactor influent monitoring.
- Sample the LTU SVE system inlet air stream and balance air sparge system air flows.
- Conduct routine monitoring and maintenance of the LTU SVE and AS system.
- Submit a request for a Class 1A permit modification to remove 7111 and 7112 designated in the permit as emergency containment tanks.
- Complete the preparation of the soil investigation work plan and quality assurance plan.

1.5 Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II R:

There are no instances of noncompliance to report under Part II.R of the permit.

2.0 Semiannual Interim Corrective Measures (4TH Quarter 2009 & 1ST Quarter 2010)

This section of the report presents information on the groundwater and product recovery wells and the Closed Surface Impoundment (CSI) soil vapor extraction and air sparging (SVE-AS) system collected during the fourth quarter of 2009 and the first quarter of 2010 (reporting period).

The groundwater level and phase-separated hydrocarbon monitoring data collected during the reporting period (October 2009 through March 2010) are presented on Table 4. Groundwater potentiometric surface contour maps for the six month reporting period are presented on Figures 1 through 6. These maps also show the inferred extent of measurable phase-separated hydrocarbons. The recovery well system groundwater pumping rates and product recovery data for the reporting period are summarized on Table 5. Tables 6, 7, 8, 9, 10, and 11 summarize the Walnut River visual inspections performed during this six month reporting period.

2.1 Summaries of all Findings and Summaries of Laboratory Data:

- The average monthly groundwater pumping rates ranged between 1,743 and 1,950 gallons per minute (gpm) during the reporting period, with an overall average rate of 1,862 gpm compared with 2,104 gpm during the previous six month reporting period.
- Approximately 36,100 gallons of petroleum product was recovered during this reporting period compared with 18,158 gallons during the previous six-month reporting period. The increase in product recovery is due to lower groundwater levels during the fall and winter months.
- Recovery well maintenance during this reporting period consisted of routine maintenance on water and product recovery pumps.
- The Closed Surface Impoundment (CSI) Soil Vapor Extraction (SVE) system operated normally during the reporting period. The average airflow rate during this reporting period was approximately 654 standard cubic feet per minute (SCFM), resulting in the removal of approximately 3,119 pounds (lbs) of hydrocarbon mass from the soil compared with 2,516 lbs in the previous six-month reporting period.

- The CSI SVE system inlet air stream was sampled on March 9, 2010. The laboratory analytical results are summarized on Table 12 and the laboratory report's summary page is included as an attachment to this report. The SVE system continues to operate consistently and BTEX and TPH-GRO concentrations are consistent with previous samples and continue to show an overall decreasing concentration trend.
- The CSI Air Sparge (AS) system operated normally during this reporting period. The average airflow rate during this reporting period was 92 SCFM and ranged between approximately 51 and 126 SCFM through each of the two manifolds, or 11.2 to 10.4 SCFM per air sparge well. The average daily oxygen injection rate into the groundwater during this reporting period was approximately 2,800 pounds (lbs). Approximately 250 tons of oxygen has been injected into the groundwater over the same six-month period.

2.2 Projected Work for the Next Quarter:

- Conduct five year follow up ROST survey at select locations in the vicinity of product recovery wells and the two SVE-AS systems.
- Conduct recovery well treatment in April, 2010 at recovery wells: RW-35, RW-40, RW-45, RW-50, RW-55, RW-60, RW-75, PARW-1, and PARW-2.
- Sample the CSI SVE system inlet air stream and balance air sparge system air flows.
- Perform Routine maintenance and monitoring of the CSI and ICM systems.

If you have any questions or comments regarding this information, please contact Brenda Epperson, MRP at (210) 345-4619 or Jay Mednick, MWH at (303) 291-2262.

Sincerely,
MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Attachments: Tables 1- 12, Figures 1-6, Attachments, CD-ROM

cc: Brenda Epperson, MRP w/enc.
David Garrett, USEPA w/enc.
Everett Spellman, KDHE w/enc.
Kent Biggerstaff, MRP w/enc.
Rob Franke, BWR w/enc.

Table 1 Summary of First Quarter 2010
Bioreactor Influent Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	1st Quarter 2010		
		Bioreactor Influent A	Bioreactor Influent B	Bioreactor Influent C
Field Measurements				
Sample Date		03/04/10	03/04/10	03/04/10
Flow (gpm)		1300	160	300
pH (SU)		7.20	6.94	6.96
Temperature °C		15.64	14.13	13.04
Conductivity (uS/cm)		1022	970	1174
Turbidity (NTU)		1.04	4.51	6.97
Dissolved Oxygen (mg/L)		3.21	2.27	1.95
Laboratory Analyses				
Benzene (µg/L)	5	2.8	**10**	**10**
Toluene (µg/L)	1000	0.57 J	1.1	1.6
Ethylbenzene (µg/L)	700	1.0 U	4.8	8.6
Xylenes, total (µg/L)	10000	1.2 J	7.7	11
MTBE (µg/L)*	20	0.35 J	5.0 U	5.0 U

Notes:

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL)

BOLD sample results indicate detection equal to or above the groundwater protection standard

* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK

gpm = gallons per minute

µS/cm = microsiemens per centimeter

mg/L = milligrams per liter

µg/L = micrograms per liter

°C = degrees Celsius

Bioreactor Influent A = Recovery wells RW-11 through RW-80A

Bioreactor Influent B & C = Recovery wells PARW-1, PARW-2, NARW-1, NARW-2, and NARW-3

Table 2 Monthly Groundwater Capture Zone Monitoring Results
Fourth Quarter 2009 and First Quarter 2010
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Operational Monitoring - January 14, 2010					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	28.74	1034.98	0.59
	CMW-1	1059.71	24.14	1035.57	
2	113	1072.23	37.92	1034.31	1.88
	CMW-2	1061.75	25.56	1036.19	
3	118	1070.70	34.36	1036.34	0.56
	CMW-3	1061.47	24.57	1036.90	
4	MW-1002	1072.11	33.50	1038.61	0.27
	CMW-4	1061.93	23.05	1038.88	

Capture Zone Operational Monitoring - February 10, 2010					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	27.63	1036.09	0.31
	CMW-1	1059.71	23.31	1036.40	
2	113	1072.23	36.68	1035.55	0.54
	CMW-2	1061.75	25.66	1036.09	
3	118	1070.70	33.89	1036.81	0.56
	CMW-3	1061.47	24.10	1037.37	
4	MW-1002	1072.11	33.16	1038.95	0.29
	CMW-4	1061.93	22.69	1039.24	

Capture Zone Compliance Monitoring - March 2, 2010					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	27.35	1036.37	0.46
	CMW-1	1059.71	22.88	1036.83	
2	113	1072.23	36.16	1036.07	0.48
	CMW-2	1061.75	25.20	1036.55	
3	118	1070.70	33.52	1037.18	0.50
	CMW-3	1061.47	23.79	1037.68	
4	MW-1002	1072.11	32.93	1039.18	0.30
	CMW-4	1061.93	22.45	1039.48	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 3 LTU Fourth Quarter 2009 SVE Inlet Air Sample Analytical Results
MRP Properties Company, LLC - Arkansas City, Kansas

Analyte	Date Sampled
	3/9/2010
Benzene (mg/m^3)	<1.0
Ethylbenzene (mg/m^3)	<1.0
Toluene (mg/m^3)	<5.0
Xylenes, (total) (mg/m^3)	<2.0
Methyl tert-butyl ether (mg/m^3)	<5.0
Gasoline Range Organics (C_6-C_{10}) (mg/m^3)	<100

KANSAS
DEPARTMENT OF HEALTH
AND ENVIRONMENT
Division of Environment

Kathleen Sebelius, Governor
Roderick L. Bremby, Secretary

www.kdheks.gov

April 23, 2010

Brenda Epperson
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Class 1a Permit Modification to Replace Tank 7132 with Tank V-7106
MRP Properties Company LLC, Arkansas City
EPA ID# KSD 087418695

Dear Ms. Epperson:

The Kansas Department of Health and Environment (KDHE) received a January 25, 2010 letter from MRP Properties Company, LLC (MRP) requesting a permit modification to replace Tank 7132 with Tank V-7106. KDHE has reviewed this information and concurs the permit modification meets the definition for a Class 1a RCRA Permit modification in accordance with 40 CFR 270.42. The modification is approved.

In accordance with 40 CFR 270.42, this Class 1a permit modification requires the permittee to send notice of the modification to all persons on the facility mailing list within 90 calendar days after KDHE approves the request. The notice must specify changes being made and explain why the changes are necessary. An updated mailing list has been enclosed to assist in completing this notification.

Also enclosed is a replacement page for Part I of the permit and a highlight/strikeout page that shows these revisions. Please ensure that all copies of the Part B Permit application have been updated to reflect this tank change. If you have any questions or concerns regarding this letter, you may contact me via e-mail at espellman@kdheks.gov or by phone at (785) 296-1616.

Sincerely,

Everett Spellman

Everett Spellman
Chief, Corrective Action Unit
Hazardous Waste Permits Section

Enclosures: Page 33 of Part I of the Permit
Highlight/Strikeout of Page 33 of Part I of the Permit
Facility Mailing List

Cc: David Garrett - EPA Region 7/RCAP Branch (w/enclosures)
Allison Herring - DEA/KDHE/SCDO/Waste Programs (w/enclosures)
William Bider- Director BWM (w/o enclosures)

IV.C.1.b. The corrective action system for the Land Treatment Unit shall consist of continuous operation of the groundwater containment and recovery system listed in Permit Condition IV.C.1.a. and installation and operation of a soil vapor extraction/air sparge system as defined in the approved Engineering Feasibility Plan of the Part B Permit Application.

IV.C.1.c. The Permittee shall maintain an NPDES permit, issued by the Secretary, for treatment and discharge of the recovered groundwater. The system identified in the Engineering Feasibility Plan to be used for treatment of the groundwater consists of two bioreactor tanks (Tank R-7101 and Tank R-7102), the #3B Aerated Lagoon, and a series of oxidation ponds. If the Permittee does not maintain the NPDES Permit for treatment and discharge of the recovered groundwater, the Permittee shall submit a permit modification in accordance with 40 CFR 270.42.

IV.C.1.d. The Permittee shall maintain Tank V-7106 for storage of recovered light non-aqueous phase liquid (LNAPL) as specified in the Engineering Feasibility Plan, Section 15.4 of the Part B Permit Application.

IV.C.1.e. The Permittee shall maintain two tanks for use as emergency containment and storage of recovered groundwater as specified in the Engineering Feasibility Plan, Section 15.4 of the Part B Permit Application.

IV.C.2. Prevention of Releases to the Walnut River

IV.C.2.a. The Permittee shall implement a corrective action program that prevents any releases of hazardous constituents above the GWPS, included in Permit Attachment B, to the Walnut River. [40 CFR 264.100]

IV.C.2.b. To prevent any release, the Permittee shall continuously operate the recovery wells listed in Permit Condition IV.C.1. (Table 4) to create a reverse hydraulic gradient (capture zone) between the Walnut River and the recovery wells.

IV.C.2.c. The Permittee must demonstrate that a reverse hydraulic gradient is maintained between the recovery wells and the Walnut River. Reverse hydraulic gradient shall be demonstrated by comparing the groundwater elevations between the following capture zone monitoring well pairs: (CMW-1 to RCRA-7), (CMW-2 to 113), (CMW-3 to 118), and (CMW-4 to MW-1002). This demonstration shall be done quarterly, in accordance with procedures contained in the Sampling and Analysis Plan and the Engineering Feasibility Plan, Section 15 of the Part B Permit Application. At a minimum, 0.2 ft. of head differential, corrected for free product, must be maintained.

SALUTATION	FIRSTNAME	MIDNAME	LASTNAME	SUFFIX	ADDRESSEETITLE	ORG	ADDRESS1	ADDRESS2	CITY	STATE	ZIP
	Edward (Ed)	B.	Anderson				159 Hilltop		Elkhart	KS	67950
	William (Bill)	A.	Anderson	JR			5733 Reinhardt Dr		Fairway	KS	66205
	W. R.		Brechelsen			Kansas Furharvesters Association	24685 Lyon Rd		Chanute	KS	66720
Hon.	Sam		Brownback			U.S. Senate	612 S. Kansas		Topeka	KS	66603
	William	R.	Browning	M.D.			RR 1, Box 645		Madison	KS	66860
	Ronald		Dubach				6342 314th Dr		Arkansas City	KS	67005
	Kathy		Ellis		President	Kansas Herpetological Society	10025 SW Jordan Rd		Wakarusa	KS	66546
	Brenda		Epperson			MRP Properties Company, LLC	PO Box 696000		San Antonio	TX	78269-6000
	Mike		Givens				11500 312th Rd		Arkansa City	KS	67005
Hon.	Greta	H.	Goodwin		Member	Kansas Senate (District 32)	420 E 12th Ave		Winfield	KS	67156
	Kelly		Johnston	Esq	C/O James Johnston	The Johnston Law Offices	800 N Market St	PO Box 3089	Wichita	KS	67201-3089
Mr.	Mostafa		Kamal	PE	Chief/HW Permit Section	KDHE/Bureau of Waste Management	1000 SW Jackson, Suite 320		Topeka	KS	66612-1366
Hon.	Kasha		Kelley		Member	Kansas House of Representatives (District 79)	PO Box 1111		Arkansas City	KS	67005
	Ralph	J.	Kieffer				834 SW Fillmore	PO Box 1977	Topeka	KS	66606
	Amanda		Maltby				112 N Iowa		Winfield	KS	67156
	Carl		Mills				901 N Centennial Rd		Arkansas City	KS	67005
	Alan		Paton				22 Crestwood		Arkansas City	KS	67005
	Larry		Riggs				1024 North A		Arkansas City	KS	6700
	John & Nola		Riggs				2518 Valley View Dr		Arkansas City	KS	67005
Hon.	Pat		Roberts			U.S. Senate	444 SE Quincy - Room 392	Frank Carlson Federal Bldg.	Topeka	KS	66683
	Mary	H.	Savala				224 Randon Rd		Arkansas City	KS	67005
	Keith	L.	Stultz				2635 Southwood Ct		Arkansas City	KS	67005
Hon.	Todd		Tiahrt		Member	U.S. House of Representatives	155 N Market St, Suite 400		Wichita	KS	67202
Hon.	Ed		Trimmer		Member	Kansas House of Representatives (District 78)	1402 E 9th		Winfield	KS	67156
	Ronald	A.	Vine				14017 Fairway Circle		Overland Park	KS	66224-4809
	Theresa		Waite			Cowley County Appraiser	PO Box 641		Winfield	KS	67156
					Chairmen, City Planning Commissi	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005
					Mayor	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005
					City Clerk	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005
					City Manager	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005
						Cowley County Health Department	320 E 9th Suite B		Winfield	KS	67156
						The Arkenses City Traveler	200 E Fifth Ave		Arkansas City	KS	67005
					News Director	Winfield Daily Courier	201 E 9th	PO Box 543	Winfield	KS	67156
					News Director	KSOK FM Radio	334 E Radio Ln	PO Box 1014	Arkansas City	KS	67005
						Greenpeace USA	702 H St NW	Suite 300	Washington	DC	20001
					Executive Vice President	Kansas Livestock Association/Kansas Beef Council	6031 SW 37th St		Topeka	KS	66614
					President	Kansas Wildlife Federation	PO Box 771282		Wichita	KS	67277-1282
					President	Kanses Section Society for Range Management	PO Box 303		Manhattan	KS	66505
						Kansas Department of Wildlife & Parks	Environmental Services Section	512 SE 25th Ave	Pratt	KS	67124
					Chairmen	The Land Institute	2440 E Water Well Rd		Salina	KS	67401
					Executive Director	Kansas State Historical Society	6425 SW 6th Ave		Topeka	KS	66615-1099
					President	Kansas Natural Resource Council	PO Box 2635		Topeka	KS	66601
					President	Kansas Chapter of the Wildlife Society	Wolf Creek Nuclear Operations Corp.	1550 Oxen Ln	Burlington	KS	66839
					Chief Engineer	Kanses Department of Agriculture	Division of Water Resources	109 SW 9th, 2nd Floor	Topeka	KS	66612-1283
					Director	Kansas Water Office	901 S Kansas Ave		Topeka	KS	66612
					Executive Director	Kansas Conservation Commission	109 SW 9th St	Mills Bldg., Suite 500	Topeka	KS	66612
					Director, Air, RCRA, Toxics Div.	US Environmental Protection Agency	Region VII - RCAP/ARTD	901 N 5th St	Kansas City	KS	66101
					Director	U.S. Fish & Wildlife Services	Ecological Services/Partners for Fish & Wildlife	2609 Anderson	Manhattan	KS	66502-2801
					COMMANDER (de)	8th Coast Guard District External Affairs	500 Poydras Stm Suite 1324		New Orleans	LA	70130
					President	Kansas Ornithological Society	4505 W 55th St		Prairie Village	KS	66208
					Secretary	Kansas Furharvesters Associatin	11616 Highway K16		Valley Falls	KS	66088

IV.C.1.b. The corrective action system for the Land Treatment Unit shall consist of continuous operation of the groundwater containment and recovery system listed in Permit Condition IV.C.1.a. and installation and operation of a soil vapor extraction/air sparge system as defined in the approved Engineering Feasibility Plan of the Part B Permit Application.

IV.C.1.c. The Permittee shall maintain an NPDES permit, issued by the Secretary, for treatment and discharge of the recovered groundwater. The system identified in the Engineering Feasibility Plan to be used for treatment of the groundwater consists of two bioreactor tanks (Tank R-7101 and Tank R-7102), the #3B Aerated Lagoon, and a series of oxidation ponds. If the Permittee does not maintain the NPDES Permit for treatment and discharge of the recovered groundwater, the Permittee shall submit a permit modification in accordance with 40 CFR 270.42.

IV.C.1.d. The Permittee shall maintain Tank V-7106 for storage of recovered light non-aqueous phase liquid (LNAPL) as specified in the Engineering Feasibility Plan, Section 15.4 of the Part B Permit Application.

Deleted: 7132

IV.C.1.e. The Permittee shall maintain two tanks for use as emergency containment and storage of recovered groundwater as specified in the Engineering Feasibility Plan, Section 15.4 of the Part B Permit Application.

IV.C.2. Prevention of Releases to the Walnut River

IV.C.2.a. The Permittee shall implement a corrective action program that prevents any releases of hazardous constituents above the GWPS, included in Permit Attachment B, to the Walnut River. [40 CFR 264.100]

IV.C.2.b. To prevent any release, the Permittee shall continuously operate the recovery wells listed in Permit Condition IV.C.1. (Table 4) to create a reverse hydraulic gradient (capture zone) between the Walnut River and the recovery wells.

IV.C.2.c. The Permittee must demonstrate that a reverse hydraulic gradient is maintained between the recovery wells and the Walnut River. Reverse hydraulic gradient shall be demonstrated by comparing the groundwater elevations between the following capture zone monitoring well pairs: (CMW-1 to RCRA-7), (CMW-2 to 113), (CMW-3 to 118), and (CMW-4 to MW-1002). This demonstration shall be done quarterly, in accordance with procedures contained in the Sampling and Analysis Plan and the Engineering Feasibility Plan, Section 15 of the Part B Permit Application. At a minimum, 0.2 ft. of head differential, corrected for free product, must be maintained.

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MAR 0 1 2010

BUREAU OF WASTE MANAGEMENT

February 26, 2010

1005686

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7984 2950 3711

Re: 2009 Annual Groundwater Monitoring Report
Arkansas City, Kansas
MRP Properties Company, LLC
EPA ID No.: KSD087418695

Dear Mr. Kamal,

Please find enclosed the 2009 Annual Groundwater Monitoring Report for the former Arkansas City Refinery site located in Arkansas City, Kansas. MWH Americas Inc. is submitting this report on behalf of MRP Properties Company, LLC. (MRP). An electronic copy of the report is included on the CD-ROM included in Appendix E. This report has been prepared in accordance with the above referenced RCRA permit.

If you have any questions regarding this report, please contact Brenda Epperson, MRP at (210) 345-4619 or me at (303) 291-2262

Sincerely,

MWH Americas, Inc.

Joseph Mednick, P.G.
Principal Hydrogeologist

Enclosure: 2008 Annual Groundwater Monitoring Report

cc: Brenda Epperson, MRP, LLC w/enc.
Kent Biggerstaff, MRP, LLC w/enc.
Everett Spellman, KDHE w/o enc.
David Garrett, EPA Region 7 w/enc.

1801 California Street
Suite 2900
Denver, Colorado 80202

TEL 303 291 2222
FAX 303 291 2221
www.mwhglobal.com

MRP Properties Company, LLC
Post Office Box 696000 • San Antonio, Texas 78269-6000 • Telephone (210) 345-2000

Brenda B. Epperson
Manager, Environmental

January 19, 2010

Ms. Linda Prockish
Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: 2009 Hazardous Waste Report
MRP Properties Company, LLC - Arkansas City, Kansas
EPA RCRA ID Number: KSD 087418695

Dear Ms. Prockish:

The 2009 Hazardous Waste Report for the above-referenced facility is hereby submitted on behalf of MRP Properties Company, LLC. The forms attached include the Monitoring Fees (Form MF) and the Hazardous Waste Site Info Verification Report. No hazardous waste was generated during 2009.

If you have any questions or require additional information, please contact me at (210) 345-4619.

Sincerely,

Brenda B. Epperson

RECEIVED
JAN 22 2010
BUREAU OF WASTE MANAGEMENT

Attachment

EPA ID: |K|S|D|0|8|7|4|1|8|6|9|5|

T/N

SEND COMPLETED FORM TO: KDHE-BWM 1000 SW JACKSON, SUITE 320 TOPEKA, KS 66612	Kansas Department of Health and Environment **Notification of Regulated Waste Activity (RCRA SUBTITLE C SITE IDENTIFICATION FORM)** RECEIVED JAN 2 2 2010 Bureau of Waste Management ENTERED

1. Reason for Submittal (See instructions on page 7) MARK ALL BOX(ES) THAT APPLY	**Reason for Submittal:** ☐ To provide Initial Notification of Regulated Waste Activity (to obtain an EPA ID Number for hazardous waste, or used oil activities) ☒ To provide Subsequent Notification of Regulated Waste Activity (to update site identification information) ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application ☐ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #) ☐ As a component of the Hazardous Waste Report		
2. Site EPA ID Number	**EPA ID Number** |K|S|D|0|8|7|4|1|8|6|9|5|		
3. Site Name	**Name:** **MRP PROPERTIES COMPANY, LLC**		
4. Site Location Information	**Street Address:** **1400 M Street**		
	City, Town, or Village: **Arkansas City**		**State:** **KS**
	County Name: **Cowley**		**Zip Code:** **67005**
5. Site Land Type	**Site Land Type:** ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other		
6. (NAICS) Code(s) a five digit code	**A.** **42271**		**B.**
	C.		**D.**
7. Site Mailing Address	**Street or P.O. Box:** **1400 M Street**		
	City, Town, or Village: **Arkansas City**		**State:** **KS**
	Country: **USA**		**Zip Code:** **67005**
8. Site Contact Person	**First Name:** **Kent**	**MI:**	**Last Name:** **Biggerstaff**
	Title: Sr. Environmental Project Specialist		
	Street of PO Box: 1400 S. M Street		
	City, Town or Village: Arkansas City		
	State: KS	**Country: US**	**Zip Code: 67005**
	Email: kent.biggerstaff@valero.com		
	Phone Number: **(620) 442-5100**	**Extension:**	**Fax:** **(620) 442-4199**

EPA ID: |K|S|D|0|8|7|4|1|8|6|9|5|

9. Legal Owner and Operator of the Site	**A. Name of Site's Legal Owner:** MRP Properties Company, LLC	**Date Became Owner (mm/dd/yyyy):** 05/01/2008
	Owner Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other	
	Street or PO Box: P.O. Box 696000	
	City, Town or Village: San Antonio	
	State: TX **Country:** US	**Zip Code:** 78269-6000
	B. Name of Site's Operator: MRP Properties Company, LLC	**Date Became Operator (mm/dd/yyyy):** 05/01/2008
	Operator Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other	

10. Type of Regulated Waste Activity
Mark "Yes" or "No" for all activities; complete any additional boxes as instructed.

A. Hazardous Waste Activities
Complete all parts for 1 through 6.

Y☒N☐ 1. Generator of Hazardous Waste
If "Yes", choose only one of the following –a, b, or c.

- ☒ a. LQG: Greater than 1,000 kg/mo (2,200 lbs/mo) of non-acute hazardous waste; or
- ☐ b1. KSG sub-class 1: 100 to 1,000 kg/mo (220-2,200 lbs/mo) of non-acute hazardous waste; or
- ☐ b2. KSG sub-class 2: 25 to less than 100 kg/mo (55-220 lbs/mo) of non-acute hazardous waste; or
- ☐ c. KSSQG: Less than 25 kg/mo (55lbs/mo) of non-acute hazardous waste

In addition, indicate other generator activities.

Y☐N☒ d. Short-Term Generator (generate from a short-term or one-time event and not from a on-going processes. If Yes, provide info under Comments Section.

Y☐N☒ e. United States Importer of Hazardous Waste

Y☐N☒ f. Mixed Waste (hazardous and radioactive) Generator

Y☐N☒ 2. Transporter of Hazardous Waste

Y☐N☒ 3. Treater, Storer, or Disposer of Hazardous Waste (at your site) Note: A hazardous waste permit is required for this activity.

Y☐N☒ 4. Recycler of Hazardous Waste (at your site) Note: A permit may be required

Y☐N☒ 5. Exempt Boiler and/or industrial Furnace
If "Yes", mark each that applies.

- ☐ a. Small Quantity On-site Burner Exemption
- ☐ b. Smelting, Melting, and Refining Furnace Exemption

Y☐N☒ 6. Underground Injection Control

B. Universal Waste Activities

Y☐N☒ 1. Large Quantity Handler of Universal Waste (accumulate 5,000 kg or more) [refer to Kansas regulations to determine what is regulated]. Indicate types of universal waste generated and/or accumulated at your site. If "Yes", mark all boxes that apply:

	Generate	Accumulate
a. Batteries	☐	☐
b. Pesticides	☐	☐
c. Thermostats	☐	☐
d. Lamps	☐	☐
e. Others	☐	☐

Y☐N☒ 2. Destination Facility for Universal Waste

Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities
Mark all boxes that apply.

Y☐N☒ 1. Used Oil Transporter
If "Yes", mark each that applies.

- ☐ a. Transporter
- ☐ b. Transfer Facility

Y☐N☒ 2. Used Oil Processor and/or Re-refiner
If "Yes", mark each that applies.

- ☐ a. Processor
- ☐ b. Re-refiner

Y☐N☒ 3. Off-Specification Used Oil Burner

Y☐N☒ 4. Used Oil Fuel Marketer
If "Yes", mark each that applies.

- ☐ a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- ☐ b. Marketer Who First Claims the Used Oil Meets the Specifications

EPA ID: |K|S|D|0|8|7|4|1|8|6|9|5|

11. Description of Hazardous Wastes

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

12. Comments (See instructions on page 14.)

No hazardous waste generated during 2009.

13. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information, submitted is, to be the best of my knowledge and belief, true accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. **(See instructions on page 14.)**

Signature of operator, owner, or an authorized representative	Name and Official Title (type or print) Brenda B. Epperson, Manager	Date Signed (mm/dd/yyyy) 01/19/2010

EPA ID: |K|S|D|0|8|7|4|1|8|6|9|5|

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT

2009 Hazardous Waste Report

MF FORM

EPA ID:	**KSD087418695**
Name:	**MRP PROPERTIES CO LLC**
Address:	**1400 SOUTH M STREET** **ARKANSAS CITY, KS 67005**

MONITORING FEES

WHO MUST COMPLETE THIS FORM? Every "EPA generator" must complete this form.

INSTRUCTIONS: Kansas Administrative Regulation 28-31-10(g) requires that hazardous waste generators of regulated quantities pay an annual monitoring fee for the total quantity of hazardous waste generated during each calendar year. This form should be submitted before March 1, 2010. Please return this form along with a check made payable to: **"KDHE - BWM"** for the quantity of waste subject to the monitoring fee.

EXEMPTION: Hazardous wastes which are reclaimed onsite to recover substantial amounts of either energy or materials are exempt. However, monitoring fees shall be paid on any hazardous waste residues produced during reclamation.

FEE CALCULATIONS

All quantities must be calculated in tons (1 ton = 2,000 pounds). If the density of the liquid is unknown, use a conversion factor of 1 gallon = 8 pounds.

A. Enter the total quantity of hazardous waste generated in 2009: 0 Tons

B. Enter the total quantity of hazardous waste generated in 2009 for which you can claim an exemption. ____ Tons

C. Total quantity of hazardous waste generated in 2009 which is subject to monitoring fee. Subtract (B) amount from (A) amount to get (C). **If this quantity is zero do not submit any fees.** Use this figure to determine the fee payment below.

0 Total Tons

FEE PAYMENT

Use the figure from C (above) to determine the monitoring fee payment for the hazardous waste generated in 2009.

A. Total Quantity Generated in 2009	Amount
No hazardous waste generated	None
Less than or equal to 5 tons	$250
Greater than 5 tons but less than or equal to 50 tons	$750
Greater than 50 tons but less than or equal to 500 tons	$2,500
Greater than 500 tons	$7,500

TOTAL MONITORING FEE ENCLOSED (according to the above table) $ 0

ATTACH COPIES OF ALL MANIFESTS FOR HAZARDOUS WASTE SHIPMENTS IN 2009

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NOV 0 2 2009
BUREAU OF WASTE MANAGEMENT

October 30, 2009

1005686

Chief of the Hazardous Waste Permits Section
ATTN: Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

VIA FEDERAL EXPRESS
TRK# 7970 6715 3947

Re: Combined Quarterly Corrective Action Progress Report Third Quarter 2009, and Semiannual ICM Report: Second and Third Quarters 2009
MRP Properties Company, LLC – Arkansas City Refinery
Facility ID: KSD 087418695

Dear Mr. Kamal:
This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the quarterly reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit (September 20, 2001), and the reporting outlined in the Interim Corrective Measures Addendum (March 3, 1995).

1.0 CORRECTIVE ACTION PROGRESS

1.1 DESCRIPTION OF WORK COMPLETED:

- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on August 13, 2009.
- Quarterly Bioreactor Sampling – the third quarter bioreactor influent water sampling was performed on August 20, 2009.
- Groundwater samples were collected from monitor wells MW-11, MW-12, MW-17, WN-7B, and WN-8B on August 20, 2009. The permit does not require quarterly sampling of these wells. MRP samples these wells to develop a database of water quality trends associated with the LTU and CSI air sparge system performance.
- Land Treatment Unit (LTU) Corrective Action – the quarterly air sparge system flow monitoring and balancing was conducted on September 1, 2009 and the soil vapor extraction system inlet air stream was sampled on September 14, 2009.
- Groundwater Corrective Action – the groundwater corrective action system downgradient of the waste management area operated normally during this reporting period.
- The second quarter 2009 Corrective Action Progress Report was submitted to KDHE and EPA on July 27, 2009.
- The semi-annual groundwater monitoring report was submitted to KDHE on August 25, 2009.

1801 California Street
Suite 2900
Denver, Colorado 80202
TEL 303 291 2222
FAX 303 291 2221
www.mwhglobal.com

1.2 SUMMARIES OF ALL FINDINGS AND SUMMARIES OF LABORATORY DATA:

- MRP submitted the semi-annual groundwater monitoring report to KDHE on August 25, 2009. This report included the 2009 groundwater and soil vapor extraction system analytical results and field measurements for the first six months in 2009.
- The Bioreactor influent data (May 21 and August 20 2009) are summarized on the attached Table 1. The results are consistent with previous monitoring events. The laboratory report summary pages are included as an attachment to this report.
- The groundwater analytical results from the five wells sampled in August 2009 are presented on Table 2. The laboratory report summary pages are included as an attachment to this report. The results are consistent with previous reports and over the long term have shown an overall decreasing concentration trend.
- The groundwater capture zone monitoring conducted during this quarter demonstrated continued compliance with the facility permit requirement and the data are summarized on attached Table 3.
- The LTU Soil Vapor Extraction (SVE) system operations were affected by high groundwater levels resulting in water entrainment in the inlet air stream. To counteract the high groundwater levels and the water entrainment, the average SVE airflow rate was maintained around 100 standard cubic feet per minute (SCFM). This has been the case since 2007. The LTU SVE system inlet air stream was sampled on June 10 and September 14, 2009. Both sets of air samples were analyzed by the TestAmerica laboratory in Pensacola, Florida; the BTEX and TPH-GRO results were all reported as non-detect. These results are consistent with the previous five quarterly monitoring events. The laboratory analytical results are summarized on Table 12 and the laboratory report's summary pages are included as an attachment to this report.
- The LTU Air Sparge (AS) system operated normally during this reporting period. The average airflow rate during this reporting period was 22 SCFM. The average daily oxygen injection rate into the groundwater during this reporting period was approximately 550 pounds (lbs). Approximately 50 tons of oxygen has been injected into the groundwater over the six-month reporting period.

1.3 SUMMARIES OF ALL PROBLEMS OR POTENTIAL PROBLEMS ENCOUNTERED DURING THIS REPORTING PERIOD AND ACTIONS TAKEN TO RECTIFY PROBLEMS:

No problems were encountered during the reporting period.

1.4 PROJECTED WORK FOR THE NEXT QUARTER:

- Conduct semiannual groundwater sampling (October 2009). The groundwater samples from three wells (WN-1A, WN-7B, and MW-6) will be tested for the Appendix IX constituents according to the facility's hazardous waste management permit Section IV.D.4.c.iv.
- Sample the LTU SVE system inlet air stream and balance air sparge system air flows.
- Conduct routine monitoring and maintenance of the LTU SVE and AS system.
- Submit request for Class 1a permit modifications to:

- Replace tanks 7111 and 7112 designated in the permit as emergency containment tanks with the No. 3B Lagoon, and
- Replace recovered product containment tank 7132 with tank V-7106.

1.5 Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II R:

There are no instances of noncompliance to report under Part II.R of the permit.

2.0 Interim Measures

2.1 ICM System Monitoring

This section of the report presents the groundwater elevation, phase-separated hydrocarbon measurements, and data from the visual inspection of the south bank of the Walnut River, collected during the second and third quarters of 2009 (reporting period). The zones (1-5) referenced on the visual inspection logs correspond to the ICM zones (ICM Design Plan, EnecoTech 1994).

The groundwater level and phase-separated hydrocarbon monitoring data collected during the reporting period (April 2009 through September 2009) are presented on Table 4. Groundwater potentiometric surface contour maps for the six month reporting period are presented on Figures 1 through 6. These maps also show the inferred extent of measurable phase-separated hydrocarbons. The recovery well system groundwater pumping rates and product recovery data for the reporting period are summarized on Table 5. The average monthly groundwater pumping rates ranged between 1,971 and 2,213 gallons per minute (gpm) during the reporting period, with an overall average rate of 2,104 gpm compared with 1,860 gpm during the previous six month reporting period. Approximately 18,158 gallons of petroleum product was recovered during this reporting period compared with 45,836 gallons during the previous six-month reporting period. The reduction in product recovery is due to higher groundwater levels during the spring and summer months. Tables 6, 7, 8, 9, 10, and 11 summarize the Walnut River visual inspections performed during this reporting period.

2.2 Description of Work Completed

- Recovery well maintenance during this reporting period consisted of routine maintenance on product recovery pumps.
- The Closed Surface Impoundment (CSI) Soil Vapor Extraction (SVE) system operated normally during the reporting period. The average airflow rate during this reporting period was approximately 576 standard cubic feet per minute (SCFM), resulting in the removal of approximately 2,516 pounds (lbs) of hydrocarbon mass from the soil compared with 3,682 lbs in the previous six-month reporting period.
- The CSI SVE system inlet air stream was sampled on June 10 and September 14, 2009. The laboratory analytical results are summarized on Table 13 and the laboratory report's summary pages are included as an attachment to this report. The SVE system continues to operate consistently and BTEX and TPH-GRO concentrations are consistent with previous samples and continue to show an overall decreasing concentration trend.

- The CSI Air Sparge (AS) system operated normally during this reporting period. The average airflow rate during this reporting period was 94 SCFM and ranged between approximately 76 and 109 SCFM through each of the two manifolds, or 7.6 to 10.9 SCFM per air sparge well. The average daily oxygen injection rate into the groundwater during this reporting period was approximately 2,375 pounds (lbs). Approximately 116 tons of oxygen has been injected into the groundwater over the same six-month period.

2.3 Projected Work for the Next Quarter:

- Conduct recovery well treatment in October, 2009
- Sample the CSI SVE system inlet air stream and balance air sparge system air flows.
- Perform Routine maintenance and monitoring of CSI, LTU, and ICM systems

If you have any questions or comments regarding this information, please contact Brenda Epperson, MRP at (210) 345-4619 or Jay Mednick, MWH at (303) 291-2262.

Sincerely,

MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Attachments: Tables 1- 13, Figures 1-6, Attachments, CD-ROM

cc: Brenda Epperson, MRP w/enc.
David Garrett, USEPA w/enc.
Everett Spellman, KDHE w/enc.
Raymond Rahn, MRP w/enc.
Rob Franke, BWR w/enc.

Table 1 Summary of Second and Third Quarter 2009 Bioreactor Influent Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	2nd Quarter 2009 Bioreactor Influent	3rd Quarter 2009 Bioreactor Influent
Field Measurements			
Sample Date		05/21/09	08/20/09
Flow (gpm)		2000	1950
pH (SU)		7.51	7.8
Conductivity (uS/cm)		1043	1048
Temperature °C		13.61	19.58
Dissolved Oxygen (mg/L)		3.18	5.01
Laboratory Analyses			
Benzene (ug/L)	5	1.6	2.4
Toluene (ug/L)	1000	1.0 U	0.19 J
Ethylbenzene (ug/L)	700	0.45 J	0.37 J
Xylenes, total (ug/L)	10000	0.51 J	0.81 J
MTBE (ug/L)*	20	5.0 U	5.0 U

Notes:

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL)

BOLD sample results indicate detection equal to or above the groundwater protection standard

* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, June 2007)

gpm = gallons per minute

uS/cm = microsiemens per centimeter

mg/L = milligrams per liter

ug/L = micrograms per liter

°C = degrees Celsius

Table 2 Summary Groundwater Monitoring Results Third Quarter, 2009
MRP Properties Company, LLC - Arkansas City, Kansas

Measurements	Groundwater Protection Standard	MW-11	MW-12	MW-17	WN-7B	WN-8B
Field Measurements						
Sample Date		08/20/09	08/20/09	08/20/09	08/20/09	08/20/09
Groundwater Elevation (ft amsl)[1]		1035.82	1037.30	1047.36	1048.94	1048.31
pH (standard units)		7.23	7.76	7.51	7.22	7.32
Conductivity @25°C (uS/cm)		1235	1141	1149	960	1097
Temperature °C		18.47	17.60	16.99	16.61	16.61
Dissolved Oxygen (mg/L)		0.45	0.79	0.15	0.13	0.11
Laboratory Analyses						
Benzene (ug/L)	5	**6.3**	0.7 J	1.0 U	**170**	**27**
Toluene (ug/L)	1000	0.42 J	1.0 U	1.0 U	14	2.1
Ethylbenzene (ug/L)	700	0.54 J	1.0 U	1.0 U	2.1	0.97 J
Xylenes (total) (ug/L)	10000	2.6	2.0 U	2.0 U	42	5.5
MTBE (ug/L)*	20	5.0 U	5.0 U	5.0 U	8.3 U	5.0 U

Notes:
U - not detected above the method reporting limit shown
J - estimated value. Used primarily when the compound was detected between the method
BOLD sample results indicate detection equal to or above the groundwater protection standard.
* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, June 2007)
uS/cm = microsiemens per centimeter
ft amsl = feet above mean sea level.
mg/L = milligrams per liter
ug/L = micrograms per liter
°C = degrees Celsius
One trip blank and one field blank were analyzed for BTEX, there were no detections of these constituents

Table 3 Monthly Groundwater Capture Zone Monitoring Results
Second and Third Quarters 2009
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Operational Monitoring - April 17, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	27.25	1036.47	1.41
	CMW-1	1059.71	21.83	1037.88	
2	113	1072.23	36.71	1035.52	1.53
	CMW-2	1061.75	24.70	1037.05	
3	118	1070.70	33.64	1037.06	0.85
	CMW-3	1061.47	23.56	1037.91	
4	MW-1002	1072.11	32.71	1039.40	0.51
	CMW-4	1061.93	22.02	1039.91	

Capture Zone Compliance Monitoring - May 18, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	24.33	1039.39	0.97
	CMW-1	1059.71	19.35	1040.36	
2	113	1072.23	33.84	1038.39	1.22
	CMW-2	1061.75	22.14	1039.61	
3	118	1070.70	30.37	1040.33	0.70
	CMW-3	1061.47	20.44	1041.03	
4	MW-1002	1072.11	29.28	1042.83	0.47
	CMW-4	1061.93	18.63	1043.30	

Capture Zone Operational Monitoring - June 26, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	25.66	1038.06	0.73
	CMW-1	1059.71	20.92	1038.79	
2	113	1072.23	35.35	1036.88	1.25
	CMW-2	1061.75	23.62	1038.13	
3	118	1070.70	32.25	1038.45	0.67
	CMW-3	1061.47	22.35	1039.12	
4	MW-1002	1072.11	31.56	1040.55	0.51
	CMW-4	1061.93	20.87	1041.06	

Notes:
1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 3 Monthly Groundwater Capture Zone Monitoring Results
Second and Third Quarters 2009
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Operational Monitoring - July 23, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	26.42	1037.30	0.50
	CMW-1	1059.71	21.91	1037.80	
2	113	1072.23	36.03	1036.20	1.19
	CMW-2	1061.75	24.36	1037.39	
3	118	1070.70	32.78	1037.92	0.65
	CMW-3	1061.47	22.90	1038.57	
4	MW-1002	1072.11	32.31	1039.80	0.47
	CMW-4	1061.93	21.66	1040.27	

Capture Zone Compliance Monitoring - August 13, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	27.83	1035.89	1.00
	CMW-1	1059.71	22.82	1036.89	
2	113	1072.23	36.71	1035.52	0.85
	CMW-2	1061.75	25.38	1036.37	
3	118	1070.70	33.46	1037.24	0.40
	CMW-3	1061.47	23.83	1037.64	
4	MW-1002	1072.11	33.13	1038.98	0.40
	CMW-4	1061.93	22.55	1039.38	

Capture Zone Operational Monitoring - September 11, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	26.24	1037.48	1.29
	CMW-1	1059.71	20.94	1038.77	
2	113	1072.23	35.42	1036.81	1.64
	CMW-2	1061.75	23.30	1038.45	
3	118	1070.70	32.07	1038.63	0.95
	CMW-3	1061.47	21.89	1039.58	
4	MW-1002	1072.11	31.73	1040.38	0.63
	CMW-4	1061.93	20.92	1041.01	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 11 September 2009 Walnut River Visual Inspection Summary

Area	Date Inspected	River Bank Inspection	Visual Inspection Performed by
Zone 1	9/2/09	No Seep	K. Biggerstaff
Zone 2	9/2/09	No Seep	K. Biggerstaff
Zone 3	9/2/09	No Seep	K. Biggerstaff
Zone 4	9/2/09	No Seep	K. Biggerstaff
Zone 5	9/2/09	No Seep	K. Biggerstaff

Table 12 LTU SVE Inlet Air Sample Analytical Results

Analyte	Date Sampled	
	6/10/09	9/14/09
Benzene (mg/m^3)	<1	<1
Ethylbenzene (mg/m^3)	<1	<1
Toluene (mg/m^3)	<5	<5
Xylenes, (total) (mg/m^3)	<2	<2
Methyl tert-butyl ether (mg/m^3)	<5	<5
Gasoline Range Organics (C6-C10) (mg/m^3)	<100	<100

Table 13 CSI SVE Inlet Air Sample Analytical Results

Analyte	Date Sampled	
	6/10/09	9/14/09
Benzene (mg/m^3)	<1	1.1
Ethylbenzene (mg/m^3)	<1	<1
Toluene (mg/m^3)	<5	<5
Xylenes, (total) (mg/m^3)	<2	<2
Methyl tert-butyl ether (mg/m^3)	<5	<5
Gasoline Range Organics (C6-C10) (mg/m^3)	<100	410

MRP Properties

Everett Spellman

From: Stan Marcotte
Sent: Tuesday, September 08, 2009 10:03 AM
To: Kent Schierkolk
Cc: Kyle Parker; John Jones; Everett Spellman
Subject: RE: Ark City complaint

I responded to this complaint last Thursday the 3rd of September. The location is indeed a half mile to the west of the refinery north of where the north/south tracks cross the Arkansas River and at the south end of what appears to be the old railroad yard on the aerial photos.
Nowak Construction and Horizontal Drilling are replacing a sewer line for the City of Arkansas City. Reportedly a small amount of oil contaminated dirt was encountered a couple of feet below the surface while conducting the horizontal boring under the railroad. The trench had already been backfilled upon my arrival; however, I observed only two very small spots of impacted dirt and a few old railroad ties. There was no staining on the track hoe bucket or any of the steel casing that was used to install the sewer line. I also noticed a number of dewatering wells but did not observe and odors coming from the wells.
I met with Jim Heiman, the foreman for Nowak, and the new inspector for the job (the other inspector had been fired Tuesday). They showed be the discharge point for the dewatering wells which flowed through a plastic line trench to a pit where another pump was pumping the water from that point to the river. There was no staining, oil film or odors along the trench or the pit.
It would not be surprising to have some oil contamination etc. associated with the old railroad yard and tracks. However, I observed nothing of concern at this point and consider this resolved. I don't plan on generating a report on the database unless instructed otherwise.

-----Original Message-----
From: Kent Schierkolk
Sent: Wednesday, September 02, 2009 11:29 AM
To: Stan Marcotte; Kyle Parker
Subject: FW: Ark City complaint

FYI regarding the oil contaminated soil complaint.

-----Original Message-----
From: Everett Spellman
Sent: Wednesday, September 02, 2009 11:15 AM
To: Kent Schierkolk
Cc: Mostafa Kamal
Subject: RE: Ark City complaint

Kent,

I spoke with the Project Manager for MRP Properties, LLC (formerly Total Petroleum). He said a maintenance worker from MRP did not observe any construction activity directly west of the refinery property as he drove south on M Street. However, the worker did notice track hoes north of the Arkansas River by the railroad tracks that are about one-half mile west of the refinery property. Looking at an online map, this area appears to be southeast of the baseball/running track sports complex. Perhaps district staff should plan a visit to this location.

Everett Spellman
Professional Geologist
Bureau of Waste Management
Kansas Department of Health & Environment
Phone: (785) 296-1616
Fax: (785) 296-1592

-----Original Message-----
From: Kent Schierkolk

Sent: Wednesday, September 02, 2009 10:01 AM
To: Everett Spellman
Subject: RE: Ark City complaint

I called John and got more information.
Please call me at 368-7301
Kent

-----Original Message-----
From: Everett Spellman
Sent: Wednesday, September 02, 2009 9:39 AM
To: Kent Schierkolk
Subject: FW: Ark City complaint

Kent,

Here's the note I referenced during our call this morning.

Everett Spellman

-----Original Message-----
From: Mostafa Kamal
Sent: Wednesday, September 02, 2009 7:49 AM
To: Everett Spellman
Subject: FW: Ark City complaint

Everett - Please contact MR and address this complaint. Please follow-up with a short email following your findings.

Mostafa Kamal, PE, CPM
Chief, Hazardous Waste Permits Section
Ph: 785-296-1609
Fax: 785-296-1592
Email: mkamal@kdheks.gov

-----Original Message-----
From: Spill Hotline
Sent: Tuesday, September 01, 2009 4:47 PM
To: Mostafa Kamal
Subject: Ark City complaint

The spill hotline received an anonymous complaint about crude oil contamination. The Smith Oaks Engineering inspector complains of two trenches with crude oil at depths of less than five feet. The location is just east of the sports complex. The contractor is boring a steel casing for a sewer line under the railroad by the Total Refinery AST.

John Jones
785 296-1679

MWH

BUILDING A BETTER WORLD

RECEIVED

AUG 2 6 2009

BUREAU OF WASTE MANAGEMENT

1005686

August 25, 2009

Chief of the Hazardous Waste Permits Section
Attention: Mr. Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7978 7639 0461

Re: 2009 Semiannual RCRA Groundwater Corrective Action Report
January 1, 2009 through June 30, 2009
MRP Properties Company, LLC Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Kamal:

MWH is submitting this report on behalf of MRP Properties Company, LLC (MRP) in accordance with the reporting requirements described in Section IV.E.5 of the Arkansas City facility's RCRA Permit for the period January 1, 2009 through June 30, 2009. The data included in this report includes results of the quarterly bioreactor influent stream monitoring and demonstration of the reverse hydraulic gradient between the recovery wells and the Walnut River, semiannual groundwater monitoring, and operations data for the groundwater recovery system and the Land Treatment Unit (LTU) soil vapor extraction (SVE) and air sparge (AS) systems. An electronic copy of this report is also included on the attached CD-ROM. The groundwater monitoring was conducted in accordance with the procedures presented in the approved Groundwater Sampling and Analysis Plan (SAP). The site location map is included on Figure 1. The monitor well locations are shown on Figure 2. A complete assessment of the semiannual monitoring data will be provided in the annual groundwater monitoring report.

Quarterly Groundwater Level Monitoring

Corrective action groundwater monitoring well water level measurements for the first two quarters (March 13 and May 18) of 2009 are summarized on Table 1.

May 2009 Semiannual Groundwater Monitoring Event

The semiannual sampling event was conducted between May 19 and May 21, 2009. The groundwater samples collected from the corrective action performance, supplemental information, and background monitor wells were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). MRP included analyses of methyl tert-butyl ether (MTBE), and tert-butyl alcohol (TBA) for this sampling event. TestAmerica Laboratories (TAL) in Arvada, Colorado performed the sample analyses. The BTEX and MTBE analytical results and corresponding field data are summarized in Table 2. The field sampling data forms, field logs, and chain-of-custody forms for the sample event are included in Attachment 1. The laboratory's analytical report Form I's are included in Attachment 2.

1801 California Street
Suite 2900
Denver, Colorado 80202

TEL 303 291 2222
FAX 303 291 2221
www.mwhglobal.com

One field blank and one trip blank were collected during the sampling event. These field quality assurance samples were analyzed for BTEX, MTBE, and TBA. The laboratory analytical reports are included in Attachment 2. No detections of BTEX, MTBE, or TBA constituents were found in the field or trip blanks.

One duplicate sample was collected during the sample event. The sample labeled RCRA-MW-5 was a duplicate of the sample collected from the Bioreactor Influent on May 21, 2009. The analytical results were similar between the two samples collected from the Bioreactor Influent.

Quarterly Groundwater Capture Zone Monitoring

Groundwater level and elevation data from the eight capture zone monitoring wells are summarized on Tables 3 and 4 for the March 13, 2009 and May 18, 2009 monitoring events, respectively. As is shown on the tables, the Permit-required head difference of 0.2 feet was met at each capture zone well pair during the first and second quarter monitoring events. Attachment 1 contains the groundwater level gauging field forms for the two quarterly compliance demonstration monitoring events (March 13 and May 18, 2009).

Quarterly Bioreactor Influent Sampling

The groundwater influent to the bioreactor tank was sampled during the first and second quarters of 2009. During both the March and May 2009 sampling, groundwater flow was confined to a single bioreactor inlet pipe, and one water sample was collected.

The first quarter sample was collected on March 4, 2009, and the second quarter sample was collected during the semiannual sampling event on May 21, 2009. The influent flow and analytical data are summarized on Table 5. The field logbook entries for the quarterly bioreactor samples are included in Attachment 1. The laboratory analytical reports Form I's are included in Attachment 2.

Groundwater Corrective Action: Recovery of Groundwater and Free Product

The groundwater and free product recovery systems functioned normally during the reporting period. Quantities of groundwater and free product recovered during the reporting period are summarized on Table 6 for the system as a whole and for each recovery well. Data for the recovery wells outside the waste management area boundary are also included on Table 6.

LTU Corrective Action System Monitoring

The LTU corrective action system is monitored weekly, monthly, and quarterly in accordance with the procedures established in the approved system Operation and Maintenance Plan (dated January 2003) and the Engineering Feasibility Plan. The LTU SVE/AS monitoring data for the reporting period are summarized on Tables 7, 8, 9 and 10. The chain-of-custody forms for the SVE inlet air samples and the corresponding laboratory analytical report Form I's are included in Attachment 2.

- SVE System
  The weekly monitoring includes: airflow, operational hours, influent concentrations of organic vapors measured as percent of the lower explosive limit (LEL), inlet vacuum, and inlet and outlet air temperatures. SVE air samples are collected on a quarterly basis and submitted to TAL in Pensacola, Florida for analysis of total volatile petroleum hydrocarbons (C6-C10), BTEX, and MTBE.

- AS System
  The air sparge (AS) system is monitored weekly. The weekly monitoring includes air sparge blower operational hours, blower outlet air temperature, air pressure, and airflow.

The air flow rate at each air sparge well is checked and adjusted providing uniform air flow on a quarterly schedule. The air sparge airflow monitoring and air flow balancing was performed on March 6, 2009 and June 25, 2009.

Monitor Well Maintenance

Recovery well maintenance activities conducted during this reporting period consisted of routine maintenance of product and groundwater pumps. Section IV.D.3 of the facility permit requires annual subsurface well integrity inspections consisting of total well depth measurements. Table 11 contains the annual total well depth measurements conducted on March 13, 2009. All total well depth measurements demonstrated that the well screen occlusion was less than the permit maximum 10 percent criterion.

Recovery Well Maintenance

Well treatment was performed on recovery wells RW-35, 40, 60, 70, and 75 in April 2009.

Please contact either Brenda Epperson, MRP at 210/345-4619 or me at 303/291-2262 if you have any questions or comments about the information presented in this report.

Sincerely,

MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Project Manager

Attachments: Tables 1-11, Figures 1 and 2, Attachments 1 and 2, and CD-ROM

Cc: Brenda Epperson, MRP w/enc.
David Garrett, EPA Region 7 w/enc.
Everett Spellman, KDHE w/enc.
Raymond Rahn, MRP w/enc.

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 19-21, 2009
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Sample ID / Association					
		WN-1A / Background	WN-1B / Background	WN-5B / CAP	WN-6A / CAP	WN-6B / CAP	WN-7B / CAP
Field Measurements							
Sample Date		05/19/09	05/19/09	05/21/09	05/20/09	05/19/09	05/21/09
Groundwater Elevation (ft amsl)		1053.20	1053.21	1052.29	1050.91	1050.83	1052.63
pH (standard units)		7.80	7.28	7.47	7.76	7.49	7.27
Conductivity @25°C (uS/cm)		1645	993	1134	1245	1195	1247
Turbidity (NTU)		0.40	0.63	0.93	0.25	0.45	1.41
Temperature °C		13.5	12.82	14.46	15.7	15.66	15.34
Dissolved Oxygen (mg/L)		0.08	1.20	0.16	0.13	0.00	0.35
Laboratory Analyses							
Benzene (ug/L)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**110**
Toluene (ug/L)	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7
Ethylbenzene (ug/L)	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Xylenes (total) (ug/L)	10000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	11
MTBE (ug/L)*	20	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

MEASUREMENTS	Groundwater Protection Standard	Sample ID / Association					
		WN-8B / CAP	MW-6 / CAP	MW-12 / SUPP	MW-13 / CAP	MW-17 / CAP	RCRA-4 / SUPP
Field Measurements							
Sample Date		05/19/09	05/20/09	05/20/09	05/20/09	05/21/09	05/20/09
Groundwater Elevation (ft amsl)		1051.77	1046.28	1039.21	1046.27	1051.14	1048.22
pH (standard units)		7.50	6.93	7.03	7.73	7.53	6.99
Conductivity @25°C (uS/cm)		1166	1083	1101	1121	1296	956
Turbidity (NTU)		1.1	375	3.32	0.28	1.30	1.59
Temperature °C		15.58	15.35	16.71	15.91	16.38	15.69
Dissolved Oxygen (mg/L)		0.14	0.06	0.23	0.10	0.13	0.32
Laboratory Analyses							
Benzene (ug/L)	5	**36**	**1100**	1.0 U	1.0 U	1.6	1.0 U
Toluene (ug/L)	1000	2.8	27	1.0 U	1.0 U	0.41 J	1.0 U
Ethylbenzene (ug/L)	700	1.6	160	1.0 U	1.0 U	0.29 J	1.0 U
Xylenes (total) (ug/L)	10000	7.3	1200	2.0 U	2.0 U	1.5 J	2.0 U
MTBE (ug/L)*	20	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 19-21, 2009
MRP Properties Company, LLC - Arkansas City, Kansas

Notes:

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).

BOLD sample results indicate detection equal to or above the groundwater protection standard.

Monitor wells WN-1A, WN-6A, MW-12, MW-13 are completed in the lower part of the alluvial aquifer. The other wells are completed at and below the water table in the upper part of the alluvial aquifer.

* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, June 2007)

uS/cm = microsiemens per centimeter

NTU = nephelometric turbidity units

ft amsl = feet above mean sea level.

ug/L = micrograms per liter

mg/L - milligrams per liter

°C = degrees Celsius

CAP = corrective action performance

SUPP = supplemental information well

One trip blank and one field blank were analyzed for BTEX, there were no detections of these constituents

Table 3 Quarterly Groundwater Capture Zone Compliance Monitoring - March 13, 2009
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1063.72	28.29	1035.43	**0.87**	140	RW-35
	CMW-1	1059.71	23.41	1036.30		90	RW-40
2	113	1072.23	37.04	1035.19	**0.81**	60	RW-45
	CMW-2	1061.75	25.75	1036.00		190	RW-50
						30	RW-55
3	118	1070.70	34.05	1036.65	**0.54**	200	RW-60
	CMW-3	1061.47	24.28	1037.19		185	RW-65
4	MW-1002	1072.11	33.48	1038.63	**0.39**	80	RW-70
	CMW-4	1061.93	22.91	1039.02		105	RW-75
						0	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm						1080	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 4 Quarterly Groundwater Capture Zone Compliance Monitoring - May 18, 2009
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1063.72	24.33	1039.39	**0.97**	130	RW-35
	CMW-1	1059.71	19.35	1040.36		170	RW-40
2	113	1072.23	33.84	1038.39	**1.22**	120	RW-45
	CMW-2	1061.75	22.14	1039.61		230	RW-50
						150	RW-55
3	118	1070.70	30.37	1040.33	**0.70**	220	RW-60
	CMW-3	1061.47	20.44	1041.03		190	RW-65
4	MW-1002	1072.11	29.28	1042.83	**0.47**	105	RW-70
	CMW-4	1061.93	18.63	1043.30		100	RW-75
						0	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm						1415	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 5 Summary of Quarterly Bioreactor Influent Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	1st Quarter Bioreactor Influent Sample	2nd Quarter Bioreactor Influent Sample
Field Measurements			
Sample Date		03/04/09	05/21/09
Flow (gpm)		1700	2000
pH		7.41	7.51
Temperature °C		19.01	13.61
Conductivity (uS/cm)		1118	1043
Turbidity (NTU)		fairly clear	14.80
Dissolved Oxygen (mg/L)		1.23	3.18
Laboratory Analyses			
Benzene (ug/L)	5	12	1.6
Toluene (ug/L)	1000	0.63 J	1.0 U
Ethylbenzene (ug/L)	700	1.2	0.45 J
Xylenes (total) (ug/L)	10000	3.9	0.51 J
MTBE (ug/L)*	20	1.1 J	5.0 U

Notes:

gpm - gallons per minute

°C - degrees Celsius

uS/cm - micro siemens per centimeter

U - not detected above the method reporting limit shown

NTU - nephelometric turbidity units

mg/L - milligrams per liter

ug/L - micrograms per liter

MTBE - Methyl tert-butyl ether

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).

* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual,

Table 8 Summary of LTU SVE System Inlet Air Sample Results
MRP Properties Company, LLC - Arkansas City, Kansas

	SVE Inlet Concentrations	
Sample Date	03/18/09	06/10/09
Laboratory Analyses		
Benzene (mg/m^3)	1.0 U	1.0 U
Toluene (mg/m^3)	5.0 U	5.0 U
Ethylbenzene (mg/m^3)	1.0 U	1.0 U
Xylenes (total) (mg/m^3)	2.0 U	2.0 U
MTBE (mg/m^3)	5.0 U	5.0 U
TVPH (mg/m^3)	100 U	100 U

Notes:
1. Air samples submitted to TestAmerica Laboratories, Inc., Pensacola, Florida for analysis.
2. MTBE = methyl tert-butyl ether
3. TVPH = total volatile petroleum hydrcarbons (C6-C10)
4. U = not detected above the method reporting limit shown.

BWR | Right in the Center

RECEIVED
AUG 03 2009
BUREAU OF WASTE MANAGEMENT

July 27, 2009

Mr. David Garrett
Environmental Scientist
Air, RCRA, Toxics Division
RCRA Corrective Actions and Permitting Branch
901 N. Fifth St.
Kansas City, KS. 66101

Mr. Mostafa Kamal
Chief, Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: Second Quarter 2009 - Corrective Action Progress Report
MRP Properties Company, LLC - Arkansas City, Kansas
Facility ID: KSD087418695

Dear Mr. Garrett and Mr. Kamal:

This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the quarterly corrective action reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit for the subject facility in Arkansas City, Kansas (formerly the Total Petroleum Inc. Arkansas City Refinery).

CORRECTIVE ACTION PROGRESS

Description of Work Completed:

- Quarterly Bioreactor Sampling – the quarterly bioreactor influent water sampling was performed on May 21, 2009. The analytical data is currently being validated and will be included within the Semiannual Groundwater Monitoring Report to be submitted by September 1, 2009.
- Semiannual groundwater sampling was conducted between May 19 and 21, 2009. KDHE was present during this sampling event to conduct their O&M Inspection. The September 1, 2009 Semiannual Groundwater Monitoring Report will include the analytical results of this sampling event.
- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on May 18, 2009.
- Land Treatment Unit (LTU) Corrective Action – the soil vapor extraction and air sparge system operated normally during this reporting period. The quarterly air sparge system

flow monitoring and balancing was conducted on June 25, 2009 and the soil vapor extraction system inlet air stream was sampled on June 10, 2009. The laboratory data from the LTU – SVE and air sparge system sampling is attached.

- Soil Corrective Measures - MRP prepared an internal draft of the soil exposure unit sampling plan as previously described to KDHE and EPA. The draft sampling plan is undergoing MRP review.
- The first quarter 2009 Corrective Action Progress Report was submitted to KDHE and EPA on May 8, 2009. This report was a combined quarterly Corrective Action and semiannual (fourth quarter 2008 and first quarter 2009) ICM report.
- Groundwater Corrective Action – the groundwater corrective action system downgradient of the waste management area operated normally during this reporting period.

Summaries of all Findings and Summaries of Laboratory Data:

- The monthly groundwater capture zone monitoring conducted during the second quarter 2009 demonstrated continued compliance with the facility permit requirement. The data is summarized within the attached Table 1.
- Data from the monthly groundwater capture zone monitoring conducted during the second quarter, in accordance with the temporary authorization to turn off recover well RW-80A, is also presented within the attached Table 1. The groundwater elevation difference measured between MW-1002 and CMW-04 on April 17 was 0.51 feet, indicating compliance with Section IV of the facility Permit.
- The LTU SVE system continues to report non-detect for the inlet air sample (June 10, 2009) BTEX and TPH monitoring parameters. The corresponding laboratory report summary pages are included as an attachment to this report.

Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems:

- No problems were encountered during the reporting period.

Projected Work for the Third Quarter 2009:

- MRP will prepare the quality assurance plan and sampling plan for the soil corrective measures. .
- Conduct quarterly groundwater sampling (August 2009).

BWR | Right in the Center

- Sample the LTU SVE system inlet air stream and balance air sparge system air flows (August 2009).
- Conduct routine monitoring and maintenance of the LTU SVE and AS system.
- Submit soil exposure unit sampling plan to KDHE (July 2009).
- Submit request for Class 1a permit modifications to:
    1) Replace tanks 7111 and 7112 designated in the permit as emergency containment tanks with the No. 3B Lagoon, and
    2) Replace recovered product containment tank 7132 with tank V-7106.

Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II.R:

- There are no instances of noncompliance to report under Part II.R of the permit.

If you have questions or comments regarding this information, please call Brenda Epperson of Valero at (210) 345-4619 or me at (214) 373-7873.

Sincerely,

Rob Franke, P.E.
Bucher, Willis & Ratliff Corporation

Attachment: Table 1

cc: Brenda Epperson, MRP
Raymond Rahn, MRP
Jay Mednick, MWH Americas, Inc.

Analytical Data

Job Number: 400-40476-1

Client: MWH Americas Inc

Client Sample ID: LTU

Lab Sample ID: 400-40476-1
Client Matrix: Air - Tedlar Bag

Date Sampled: 06/10/2009 0701
Date Received: 06/11/2009 1400

8021/8015 Volatiles & GRO

Method: 8021/8015
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 06/12/2009 0452
Date Prepared: 06/12/2009 0452

Analysis Batch: 400-91182

Instrument ID: GC/PID/FID
Lab File ID: C061119.D
Initial Weight/Volume: 5.00 mL
Final Weight/Volume: 5.00 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/m3)	Qualifier	RL
Benzene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Toluene	<5.0		5.0
Xylenes, Total	<2.0		2.0
Methyl tert-butyl ether	<5.0		5.0
Gasoline Range Organics (GRO)-C6-C10	<100		100

Surrogate	%Rec	Acceptance Limits
a,a,a-Trifluorotoluene (pid)	108	79 - 128
a,a,a-Trifluorotoluene (fid)	106	81 - 128

Analytical Data

Job Number: 400-40476-1

Client: MWH Americas Inc

Client Sample ID: CSI

Lab Sample ID: 400-40476-2
Client Matrix: Air - Tedlar Bag

Date Sampled: 06/10/2009 0720
Date Received: 06/11/2009 1400

8021/8015 Volatiles & GRO

Method: 8021/8015
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 06/12/2009 0556
Date Prepared: 06/12/2009 0556

Analysis Batch: 400-91182

Instrument ID: GC/PID/FID
Lab File ID: C061120.D
Initial Weight/Volume: 5.00 mL
Final Weight/Volume: 5.00 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/m3)	Qualifier	RL
Benzene	<1.0		1.0
Ethylbenzene	<1.0		1.0
Toluene	<5.0		5.0
Xylenes, Total	<2.0		2.0
Methyl tert-butyl ether	<5.0		5.0
Gasoline Range Organics (GRO)-C6-C10	<100		100

Surrogate	%Rec	Acceptance Limits
a,a,a-Trifluorotoluene (pid)	106	79 - 128
a,a,a-Trifluorotoluene (fid)	107	81 - 128

Table 1 Monthly Groundwater Capture Zone Monitoring Results - Second Quarter 2009
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Operational Monitoring - April 17, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	27.25	1036.47	1.41
	CMW-1	1059.71	21.83	1037.88	
2	113	1072.23	36.71	1035.52	1.53
	CMW-2	1061.75	24.70	1037.05	
3	118	1070.70	33.64	1037.06	0.85
	CMW-3	1061.47	23.56	1037.91	
4	MW-1002	1072.11	32.71	1039.40	0.51
	CMW-4	1061.93	22.02	1039.91	

Capture Zone Compliance Monitoring - May 18, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	24.33	1039.39	0.97
	CMW-1	1059.71	19.35	1040.36	
2	113	1072.23	33.84	1038.39	1.22
	CMW-2	1061.75	22.14	1039.61	
3	118	1070.70	30.37	1040.33	0.70
	CMW-3	1061.47	20.44	1041.03	
4	MW-1002	1072.11	29.28	1042.83	0.47
	CMW-4	1061.93	18.63	1043.30	

Capture Zone Operational Monitoring - June 26, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	25.66	1038.06	0.73
	CMW-1	1059.71	20.92	1038.79	
2	113	1072.23	35.35	1036.88	1.25
	CMW-2	1061.75	23.62	1038.13	
3	118	1070.70	32.25	1038.45	0.67
	CMW-3	1061.47	22.35	1039.12	
4	MW-1002	1072.11	31.56	1040.55	0.51
	CMW-4	1061.93	20.87	1041.06	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

MWH

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June 8, 2009

1005686

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7976 6010 2834

RECEIVED
JUN 10 2009
BUREAU OF WASTE MANAGEMENT

Re: Groundwater Head Differential Monitoring Report No. 6
Recovery Well RW-80A Temporary Authorization
MRP Properties Company, LLC Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Kamal:

MWH is submitting this letter on behalf of MRP Properties Company, LLC (MRP) in accordance with the temporary authorization to discontinue groundwater pumping at recovery well RW-80A (KDHE, November 4, 2008). The groundwater pump in recovery well RW-80A was turned off on November 19, 2008 to demonstrate that RW-80A is not needed to create the groundwater capture zone. The 180 day temporary authorization allows groundwater pumping at RW-80A to be discontinued until May 18, 2009.

MRP conducted capture zone monitoring on April 17, 2009 to demonstrate groundwater gradient reversal at capture zone monitoring wells CMW-4 and MW-1002. The monitoring well top of casing elevations for CMW-4 and MW-1002 are based on the March 14, 2007 survey. The facility has demonstrated compliance with permit section IV.C.2.c. since the temporary authorization was approved and RW-80A was turned off. The groundwater level monitoring data for the previous five monthly demonstrations are also included in the following table.

Capture Zone Well / Casing Elevation	Capture Zone Monitoring Date					
	11/24/08	12/30/08	1/23/09	2/27/09	3/13/09	4/17/09
MW-1002 / 1072.11						
Depth to Water (feet)	31.00	32.84	33.67	33.65	33.48	32.71
Groundwater Elevation	1041.11	1039.27	1038.44	1038.46	1038.63	1039.40
CMW-4 / 1061.93						
Depth to Water (feet)	20.57	22.19	23.12	23.10	22.91	22.02
Groundwater Elevation	1041.36	1039.74	1038.81	1038.83	1039.02	1039.91
Elevation Difference	**0.25**	**0.47**	**0.37**	**0.37**	**0.39**	**0.51**

Note: Elevations are in feet above mean sea level

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Suite 2900
Denver, Colorado 80202

TEL 303 291 2222
FAX 303 291 2221
www.mwhglobal.com

Please call Brenda Epperson of MRP at 210-345-4619 or me at 303-291-2262 if you have any questions about this information.

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick, P.G.
Principal Hydrogeologist

Cc: Brenda Epperson, MRP
David Garrett, EPA Region 7
Raymond Rahn, MRP
Everett Spellman, KDHE

MWH

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MAY 11 2009

BUREAU OF WASTE MANAGEMENT

May 8, 2009

1005686

Chief of the Hazardous Waste Permits Section
ATTN: Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: Combined Quarterly Corrective Action Progress Report First Quarter 2009, and Semiannual ICM Report, Fourth Quarter 2008 & First Quarter 2009
MRP Properties Company, LLC – Arkansas City Refinery
Facility ID: KSD 087418695

Dear Mr. Kamal:
This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the quarterly reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit (September 20, 2001), and the reporting outlined in the Interim Corrective Measures Addendum (March 3, 1995).

1.0 CORRECTIVE ACTION PROGRESS

1.1 DESCRIPTION OF WORK COMPLETED:

- Quarterly Bioreactor Sampling – the quarterly bioreactor influent water sampling was performed on March 4, 2009.
- Groundwater samples were collected from monitor wells MW-11, MW-12, MW-17 RCRA-MW-2, WN-7B, and WN-8B on March 4 and 5, 2009. The permit does not require quarterly sampling of these wells. MRP samples these wells to develop a database of water quality trends associated with the LTU and CSI air sparge system performance.
- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on March 13, 2009.
- Groundwater capture zone monitoring associated with the temporary authorization to turn off recovery well RW-80A was performed on January 23, February 27, and March 13, 2009.
- Land Treatment Unit (LTU) Corrective Action – the soil vapor extraction and air sparge system operated normally during this reporting period. The quarterly air sparge system flow monitoring and balancing was conducted on March 6, 2009 and the soil vapor extraction system inlet air stream was sampled on March 18, 2009.

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- Soil Corrective Measures - MRP prepared an internal draft of the soil exposure unit sampling plan as previously described to KDHE and EPA.
- The fourth quarter 2008 Corrective Action Progress Report was submitted to KDHE and EPA on January 31, 2009.
- The annual groundwater monitoring report was submitted to KDHE on March 1, 2009.
- Groundwater Corrective Action – the groundwater corrective action system downgradient of the waste management area operated normally during this reporting period.

1.2 SUMMARIES OF ALL FINDINGS AND SUMMARIES OF LABORATORY DATA:

- MRP submitted the annual groundwater monitoring report to KDHE on March 1, 2009. This report included the 2008 groundwater and soil vapor extraction system analytical results and field measurements.
- The Bioreactor influent and effluent data (March 2009) are summarized on the attached Table 1. The results are consistent with previous monitoring events. The laboratory report summary pages are included as an attachment to this report.
- The groundwater analytical results from the six wells sampled in March 2009 are presented on Table 2. The laboratory report summary pages are included as an attachment to this report.
- The groundwater capture zone monitoring conducted during this quarter demonstrated continued compliance with the facility permit requirement and the data are summarized on attached Table 3.
- The data from the monthly groundwater capture zone monitoring conducted during the first quarter in accordance with the temporary authorization to turn off recover well RW-80A is presented on Table 3. The groundwater elevation differences measured between MW-1002 and CMW-04 were 0.37, 0.37, and 0.39 feet for the January, February and March measurements respectively, indicating compliance with Section IV of the facility Permit.
- The LTU SVE system continues to report non-detect for the inlet air sample (March 18, 2009) BTEX and TPH monitoring parameters. The laboratory report summary pages are included as an attachment to this report.

1.3 SUMMARIES OF ALL PROBLEMS OR POTENTIAL PROBLEMS ENCOUNTERED DURING THIS REPORTING PERIOD AND ACTIONS TAKEN TO RECTIFY PROBLEMS:

No problems were encountered during the reporting period.

1.4 PROJECTED WORK FOR THE NEXT QUARTER:

- Conduct semiannual groundwater sampling (May 2009).
- Sample the LTU SVE system inlet air stream and balance air sparge system air flows
- Conduct routine monitoring and maintenance of the LTU SVE and AS system.

- Submit soil exposure unit sampling plan to KDHE.
- Submittal of request for temporary authorization to discontinue operation of the LTU SVE/AS system.
- Submit request for Class 1a permit modifications to:
- Replace tanks 7111 and 7112 designated in the permit as emergency containment tanks with the No. 3B Lagoon, and
- Replace recovered product containment tank 7132 with tank V-7106.

1.5 Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II R:

There are no instances of noncompliance to report under Part II.R of the permit.

2.0 Interim Measures

2.1 ICM System Monitoring

This section of the report presents the groundwater elevation, phase-separated hydrocarbon measurements, and data from the visual inspection of the south bank of the Walnut River, collected during the fourth quarter of 2008 and the first quarter of 2009 (reporting period). The zones (1-5) referenced on the visual inspection logs correspond to the ICM zones (ICM Design Plan, EnecoTech 1994).

The groundwater level and phase-separated hydrocarbon monitoring data collected during the reporting period (October 2008 through March 2009) are presented on Table 4. Groundwater potentiometric surface contour maps for the six month reporting period are presented on Figures 1 through 6. These maps also show the inferred extent of measurable phase-separated hydrocarbons. The recovery well system groundwater pumping rates and product recovery data for the reporting period are summarized on Table 5. The average monthly groundwater pumping rates ranged between 1,696 and 2,013 gallons per minute (gpm) during the reporting period, with an overall average rate of 1,860 gpm compared with 1,662 gpm during the previous six month reporting period. Approximately 45,836 gallons of petroleum product was recovered during this reporting period compared with 10,626 gallons during the previous six-month reporting period. Tables 6, 7, 8, 9, 10, and 11 summarize the Walnut River visual inspections performed during this reporting period.

2.2 Description of Work Completed

- Oxidation Pond System Outfall Improvement - Installation of a 12-inch Parshall flume was completed on October 9, 2008.
- Recovery well maintenance during this reporting period consisted of routine maintenance on product recovery pumps.
- The Closed Surface Impoundment (CSI) Soil Vapor Extraction (SVE) system operated normally during the reporting period. The average airflow rate during this reporting

period was approximately 524 standard cubic feet per minute (SCFM), resulting in the removal of approximately 3,682 pounds (lbs) of hydrocarbon mass from the soil compared with 7,200 lbs in the previous six-month reporting period.

- The CSI SVE system inlet air stream was sampled on March 18, 2009. The laboratory reported the following inlet air sample monitoring results: benzene, 1.6 milligrams per cubic meter (mg/m^3); toluene, <5 mg/m^3; ethylbenzene, 1.1 mg/m^3; xylenes, <2 mg/m^3; and total petroleum hydrocarbons (gasoline range organics), 540 mg/m^3. The laboratory report summary pages are included as an attachment to this report.
- The CSI Air Sparge (AS) system operated normally during this reporting period. The average airflow rate during this reporting period was 94 SCFM and ranged between approximately 76 and 109 SCFM through each of the two manifolds, or 7.6 to 10.9 SCFM per air sparge well. The average daily oxygen injection rate into the groundwater during this reporting period was approximately 2,480 pounds (lbs). Approximately 216 tons of oxygen has been injected into the groundwater over the same six-month period.

2.3 Projected Work for the Next Quarter:

- Conduct recovery well treatment in April, 2009
- Perform Routine maintenance and monitoring of CSI, LTU, and ICM systems

If you have any questions or comments regarding this information, please contact Brenda Epperson, MRP at (210) 345-4619 or Jay Mednick, MWH at (303) 291-2262.

Sincerely,

MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.
Principal Hydrogeologist

Attachments: Tables 1- 11, Figures 1-6

cc: Brenda Epperson, MRP w/enc.
David Garrett, USEPA w/enc.
Everett Spellman, KDHE w/enc.
Raymond Rahn, MRP w/enc.
Rob Franke, BWR w/enc.

Table 1 Summary of Quarterly Bioreactor Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

Measurements	Groundwater Protection Standard	Bioreactor Influent[2]	Bioreactor Effluent
Field Measurements			
Sample Date		03/04/09	03/04/09
pH (standard units)		7.41	7.64
Conductivity @25°C (uS/cm)		1118	947
Temperature °C		19.0	19.8
Dissolved Oxygen (mg/L)		1.23	5.31
Laboratory Analyses			
Benzene (ug/L)	5	**12**	4.4
Toluene (ug/L)	1000	0.63 J	1.0 U
Ethylbenzene (ug/L)	700	1.2	1.0 U
Xylenes (total) (ug/L)	10000	3.9	0.96 J
MTBE (ug/L)*	20	1.1 J	0.64 J

Notes:
1 - bioreactor influent water flow rate, gallons per minute
2 - a duplicate sample (RCRA-MW-5) was collected with the Bioreactor Influent
U - not detected above the method reporting limit shown
J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).
BOLD sample results indicate detection equal to or above the groundwater protection standard.
* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for
uS/cm = microsiemens per centimeter
mg/L = milligrams per liter
ug/L = micrograms per liter
°C = degrees Celsius

Table 2 Summary Groundwater Monitoring Results March 4-5, 2009
MRP Properties Company, LLC - Arkansas City, Kansas

Measurements	Groundwater Protection Standard	MW-11	MW-12	MW-17	RCRA-MW-2	WN-7B	WN-8B
Field Measurements							
Sample Date		03/05/09	03/05/09	03/05/09	03/04/09	03/05/09	03/05/09
Groundwater Elevation (ft amsl)[1]		1036.49	1037.47	1046.02	1036.53	1047.40	1046.78
pH (standard units)		7.18	7.87	7.89	7.60	7.14	7.40
Conductivity @25°C (uS/cm)		1139	1044	1142	1028	959	879
Temperature °C		19.5	18.8	17.7	17.4	17.0	16.9
Dissolved Oxygen (mg/L)		1.82	7.97	2.03	4.99	2.40	2.53
Laboratory Analyses							
Benzene (ug/L)	5	1.6	3.2	1.0 U	1.0 U	**270**	**32**
Toluene (ug/L)	1000	0.38 J	0.54 J	1.0 U	1.0 U	18	2.2
Ethylbenzene (ug/L)	700	1.0 U	1.0 U	1.0 U	1.0 U	2.0	1.3
Xylenes (total) (ug/L)	10000	0.96 J	0.78 J	2.0 U	2.0 U	35	6.2
MTBE (ug/L)*	20	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Notes:

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the

BOLD sample results indicate detection equal to or above the groundwater protection standard.

* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, June 2007)

uS/cm = microsiemens per centimeter

ft amsl = feet above mean sea level.

mg/L = milligrams per liter

ug/L = micrograms per liter

°C = degrees Celsius

One trip blank and one field blank were analyzed for BTEX, there were no detections of these constituents

Table 3 Monthly Groundwater Capture Zone Monitoring Results - First Quarter 2009
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Operational Monitoring - January 23, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	27.84	1035.88	0.40
	CMW-1	1059.71	23.43	1036.28	
2	113	1072.23	36.94	1035.29	0.64
	CMW-2	1061.75	25.82	1035.93	
3	118	1070.70	34.01	1036.69	0.39
	CMW-3	1061.47	24.39	1037.08	
4	MW-1002	1072.11	33.67	1038.44	0.37
	CMW-4	1061.93	23.12	1038.81	

Capture Zone Operational Monitoring - Feburary 27, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	28.36	1035.36	0.70
	CMW-1	1059.71	23.65	1036.06	
2	113	1072.23	37.12	1035.11	0.69
	CMW-2	1061.75	25.95	1035.80	
3	118	1070.70	34.14	1036.56	0.49
	CMW-3	1061.47	24.42	1037.05	
4	MW-1002	1072.11	33.65	1038.46	0.37
	CMW-4	1061.93	23.10	1038.83	

Capture Zone Compliance Monitoring - March 13, 2009					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Head Difference[2]
1	RCRA-7	1063.72	28.29	1035.43	0.87
	CMW-1	1059.71	23.41	1036.30	
2	113	1072.23	37.04	1035.19	0.81
	CMW-2	1061.75	25.75	1036.00	
3	118	1070.70	34.05	1036.65	0.54
	CMW-3	1061.47	24.28	1037.19	
4	MW-1002	1072.11	33.48	1038.63	0.39
	CMW-4	1061.93	22.91	1039.02	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

MWH

BUILDING A BETTER WORLD

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APR 07 2009

BUREAU OF WASTE MANAGEMENT

April 6, 2009

1005686

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7964 9319 1836

Re: Groundwater Head Differential Monitoring Report No. 5
Recovery Well RW-80A Temporary Authorization
MRP Properties Company, LLC Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Kamal:

MWH is submitting this letter on behalf of MRP Properties Company, LLC (MRP) in accordance with the temporary authorization to discontinue groundwater pumping at recovery well RW-80A (KDHE, November 4, 2008). The groundwater pump in recovery well RW-80A was turned off on November 19, 2008 to demonstrate that RW-80A is not needed to create the groundwater capture zone. The 180 day temporary authorization allows groundwater pumping at RW-80A to be discontinued until May 18, 2009.

MRP conducted capture zone monitoring on March 13, 2009 to demonstrate groundwater gradient reversal at capture zone monitoring wells CMW-4 and MW-1002. The monitoring well top of casing elevations for CMW-4 and MW-1002 are based on the March 14, 2007 survey. This is the fifth consecutive month that the facility demonstrated compliance with permit section IV.C.2.c. since the temporary authorization was approved and RW-80A was turned off. The groundwater level monitoring data for the previous four monthly demonstrations are also included in the following table.

Capture Zone Well / Casing Elevation	Capture Zone Monitoring Date					
	11/24/08	12/30/08	1/23/09	2/27/09	3/13/09	Apr-09
MW-1002 / 1072.11						
Depth to Water (feet)	31.00	32.84	33.67	33.65	33.48	
Groundwater Elevation	1041.11	1039.27	1038.44	1038.46	1038.63	
CMW-4 / 1061.93						
Depth to Water (feet)	20.57	22.19	23.12	23.10	22.91	
Groundwater Elevation	1041.36	1039.74	1038.81	1038.83	1039.02	
Elevation Difference	**0.25**	**0.47**	**0.37**	**0.37**	**0.39**	

Note: Elevations in feet above mean sea level

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www.mwhglobal.com

Please call Brenda Epperson of MRP at 210-345-4619 or me at 303-291-2262 if you have any questions about this information.

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick, P.G.
Principal Hydrogeologist

Cc: Brenda Epperson, MRP
David Garrett, EPA Region 7
Raymond Rahn, MRP
Everett Spellman, KDHE

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MAR 18 2009

BUREAU OF WASTE MANAGEMENT 1005686

March 16, 2009

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7964 3274 4695

Re: Groundwater Head Differential Monitoring Report No. 4
Recovery Well RW-80A Temporary Authorization
MRP Properties Company, LLC Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Kamal:

MWH is submitting this letter on behalf of MRP Properties Company, LLC (MRP) in accordance with the temporary authorization to discontinue groundwater pumping at recovery well RW-80A (KDHE, November 4, 2008). The groundwater pump in recovery well RW-80A was turned off on November 19, 2008 to demonstrate that RW-80A is not needed to create the groundwater capture zone. The 180 day temporary authorization allows groundwater pumping at RW-80A to be discontinued until May 18, 2009.

MRP conducted capture zone monitoring on February 27, 2009 to demonstrate groundwater gradient reversal at capture zone monitoring wells CMW-4 and MW-1002. The monitoring well top of casing elevations for CMW-4 and MW-1002 are based on the March 14, 2007 survey. This is the fourth consecutive month that the facility demonstrated compliance with permit section IV.C.2.c. since the temporary authorization was approved and RW-80A was turned off. The groundwater level monitoring data for the previous three monthly demonstrations are also included in the following table.

Capture Zone Well / Casing Elevation	Capture Zone Monitoring Date					
	11/24/08	12/30/08	1/23/09	2/27/09	Mar-09	Apr-09
MW-1002 / 1072.11						
Depth to Water (feet)	31.00	32.84	33.67	33.65		
Groundwater Elevation	1041.11	1039.27	1038.44	1038.46		
CMW-4 / 1061.93						
Depth to Water (feet)	20.57	22.19	23.12	23.10		
Groundwater Elevation	1041.36	1039.74	1038.81	1038.83		
Elevation Difference	**0.25**	**0.47**	**0.37**	**0.37**		

Note: Elevations in feet above mean sea level

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Please call Brenda Epperson of MRP at 210-345-4619 or me at 303-291-2262 if you have any questions about this information.

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick, P.G.
Principal Hydrogeologist

Cc: Brenda Epperson, MRP
David Garrett, EPA Region 7
Raymond Rahn, MRP
Everett Spellman, KDHE

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MAR 13 2009

BUREAU OF WASTE MANAGEMENT

February 27, 2009

1005686

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7973 7580 5962

Re: 2008 Annual Groundwater Monitoring Report
Arkansas City, Kansas
MRP Properties Company, LLC
EPA ID No.: KSD087418695

Dear Mr. Kamal,

Please find enclosed the 2008 Annual Groundwater Monitoring Report for the former Arkansas City Refinery site located in Arkansas City, Kansas. MWH Americas Inc. is submitting this report on behalf of MRP Properties Company, LLC. (MRP). An electronic copy of the report is included on the CD-ROM included in Appendix E. This report has been prepared in accordance with the above referenced RCRA permit.

If you have any questions regarding this report, please contact Brenda Epperson, MRP at (210) 345-4619 or me at (303) 291-2262

Sincerely,

MWH Americas, Inc.

Joseph Mednick, P.G.
Principal Hydrogeologist

Enclosure: 2008 Annual Groundwater Monitoring Report

cc: Brenda Epperson, MRP, LLC w/enc.
Raymond Rahn, MRP, LLC w/enc.
Everett Spellman, KDHE w/o enc.
David Garrett, EPA Region 7 w/enc.

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FEB 23 2009

January 31, 2009

Mr. Mostafa Kamal
Chief, Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: Fourth Quarter 2008 - Corrective Action Progress Report
MRP Properties Company, LLC - Arkansas City Site
Facility ID: KSD087418695

Dear Mr. Kamal:

This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the quarterly corrective action reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit for the subject facility in Arkansas City, Kansas (formerly the Total Petroleum Inc. Arkansas City Refinery).

CORRECTIVE ACTION PROGRESS

Description of Work Completed:

- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on October 7, 2008.
- Land Treatment Unit (LTU) Corrective Action – the soil vapor extraction system operated normally between October 1 and December 8, when the SVE knockout tank water transfer pump failed. The transfer pump is being evaluated and will either be repaired or replaced. The air sparge system operated normally during this reporting period. The soil vapor extraction system inlet air stream was sampled on October 10, 2008.
- Groundwater Sampling – quarterly groundwater sampling was performed between October 8 and 10, 2008.
- On October 27, 2008 MRP submitted a request for a 180 day temporary authorization to turn off recovery well RW-80A.
- On November 3, in conjunction with the request for the 180 day temporary authorization MRP sent notice of the request to all persons on the facility mailing list.
- On November 4, 2008, KDHE issued a 180 day temporary authorization to turn off recovery well RW-80A. The request for temporary authorization included a provision to monitor the groundwater elevations at capture zone monitoring wells CMW-4 and MW-1002 monthly during the 180 day temporary authorization period.

- Recovery well RW-80A was turned off on November 18, 2008. Groundwater levels were measured at capture zone monitoring wells CMW-4 and MW-1002 on November 24, and December 30, 2008. The groundwater elevation differences were 0.25 and 0.47 feet for the November and December measurements respectively indicating compliance with Section IV of the facility Permit.
- MRP received KDHE's comments on the proposal outlining the soil corrective action strategy using soil exposure units dated January 13, 2009.

Summaries of all Findings and Summaries of Laboratory Data:

- The laboratory analytical data associated with the semiannual groundwater monitoring event (October 2008) are summarized on Tables 1 and 2.
- The groundwater capture zone monitoring conducted during this quarter demonstrated compliance with the facility permit requirement and the data are summarized on attached Table 3.
- The LTU SVE system continues to report non-detect for the inlet air sample monitoring parameters: benzene, less than (<) 1 milligram per cubic meter (mg/m3); toluene, <5 mg/m3; ethylbenzene, <1 mg/m3; xylenes, <2 mg/m3; and total petroleum hydrocarbons (gasoline range organics), <100 mg/m3.

Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems:

- No problems were encountered during the reporting period.

Projected Work for the Next Quarter:

- Prepare soil investigation work plan including the delineation of the exposure units.
- Conduct quarterly groundwater sampling and capture zone monitoring.
- Continue monthly groundwater level gauging at capture zone monitoring wells CMW-4 and MW-1002.
- Prepare a request for a 180 day temporary authorization to turn off the LTU soil vapor extraction and air sparge system.
- Prepare the annual groundwater monitoring report (due March 1, 2009).
- Prepare requests for Class I permit modifications to use Vessel V-7106 for temporary storage of recovered product and remove reference to the "emergency containment tanks" (tanks 7111 and 7112) from the description of the groundwater treatment system.

Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II R:

- There are no instances of noncompliance to report under Part II.R of the permit.

Interim Measures

ICM System Monitoring

- The average monthly groundwater pumping rates ranged between 1,761 and 2,013 gallons per minute (gpm) during the reporting period, with an overall average rate of 1,914 gpm. Approximately 5012 gallons of petroleum product was recovered during this reporting period.

Description of Work Completed:

- Recovery wells NARW-2, NARW-3, NARW-4, NARW-5, and PARW-2 were installed in September 2008. The five new recovery wells were surveyed on October 17, 2008 by Smith & Oakes, Inc. of Arkansas City, Kansas. Four of the new recovery wells became operational on October 17, 2008. A pump was not installed in NARW-5 due to the low permeability of the soils at that location.
- Recovery well maintenance during this reporting period consisted of routine maintenance on product recovery pumps and chemical treatment of recovery wells RW-45, RW-50, RW-65, and PARW-1. The recovery well chemical treatment was performed by Alexander Pump and Services, Inc. between December 9 and 19, 2008.
- The Closed Surface Impoundment (CSI) Soil Vapor Extraction (SVE) system operated normally between October 1, 2008 and December 8, 2008. The CSI SVE system was shutdown from December 8, 2008 through January 6, 2009, due to a frozen water line from the knockout tank. A heater was installed in the equipment building to prevent freezing temperatures in the future. The average operational airflow rate during the October through December 2008 reporting period was approximately 600 standard cubic feet per minute (SCFM), resulting in the removal of approximately 1,500 pounds (lbs) of hydrocarbon mass from the soil.
- The CSI SVE system inlet air stream was sampled on November 12, 2008. The laboratory reported the following inlet air sample monitoring results: benzene, <1 milligrams per cubic meter (mg/m3); toluene, <5 mg/m3; ethylbenzene, 1.0 mg/m3; xylenes, <2 mg/m3; and total petroleum hydrocarbons (gasoline range organics), 440 mg/m3.
- The CSI Air Sparge (AS) system operated during the day between December 8 and 17, 2008 due to very low nighttime temperatures. Otherwise, the CSI AS system operated normally during this reporting period. The average airflow rate during this reporting period was 87 SCFM and ranged between approximately 73 and 94 SCFM through each of the two manifolds, or 7.3 to 9.4 SCFM per air sparge well. The average daily oxygen injection rate into the groundwater during this reporting period was approximately 1,960 pounds (lbs).

Projected Work for the Next Quarter:

- MRP will expand the North Area and Process Area pilot free-product recovery system constructed in October 2007. The expanded system will include the five new recovery wells as described in the previous semiannual ICM and quarterly CMS report dated April 30, 2008. The recovery wells will be dual pump systems with a groundwater depression pump and a product recovery pump. The groundwater and free product will be managed in the existing water treatment and product recovery systems. Both the groundwater treatment system and the recovered product storage tank have adequate capacity and the new wells will not interfere with the operation of the groundwater recovery system downgradient of the waste management area. The well construction start date has not been

finalized as of the date of this report. The construction is anticipated to take approximately two to three weeks. The construction start date is September 22 2008. The proposed well locations are included on Figure 1 previously provided to KDHE and EPA on August 5, 2008. MRP will notify KDHE and EPA of any changes in the well construction schedule.

If you have questions or comments regarding this information, please call Brenda Epperson at (210) 345-4619 or me at (972) 293-6722.

Sincerely,

Rob Franke, P.E.
Bucher, Willis & Ratliff Corporation

Attachments:
Table 1 - Summary of RCRA Corrective Action Groundwater Monitoring Results October 8-10, 2008
Table 2 - Summary of 2008 Quarterly Bioreactor Influent Sampling Results
Table 3 - Capture Zone Monitoring - October 7, 2008

cc: Brenda Epperson, MRP
David Garrett, EPA
Raymond Rahn, MRP
Jay Mednick, MWH

Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results October 8-10, 2008
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Sample ID / Association					
		WN-1A / Background	WN-1B / Background	WN-5B / CAP	WN-6A / CAP	WN-6B / CAP	WN-7B[1] / CAP
Field Measurements							
Sample Date		10/08/08	10/08/08	10/08/08	10/09/08	10/09/08	10/08/08
Groundwater Elevation (ft amsl)		1051.68	1051.68	1051.12	1050.14	1050.11	1051.23
pH (standard units)		8.05	7.57	7.72	7.72	7.39	7.12
Conductivity @25°C (uS/cm)		1109	1004	859	1337	1142	976
Turbidity (NTU)		0.71	0.79	0.59	0.44	0.69	1.46
Temperature °C		14.76	15.54	16.54	16.70	17.01	17.04
Dissolved Oxygen (mg/L)		0.13	0.54	0.07	0.03	0.04	0.08
Laboratory Analyses							
Benzene (ug/L)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**370**
Toluene (ug/L)	1000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	26
Ethylbenzene (ug/L)	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.6
Xylenes (total) (ug/L)	10000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	46
MTBE (ug/L)*	20	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10.0 U

MEASUREMENTS	Groundwater Protection Standard	Sample ID / Association					
		WN-8B / CAP	MW-6 / CAP	MW-12 / SUPP	MW-13 / CAP	MW-17 / CAP	RCRA-4 / SUPP
Field Measurements							
Sample Date		10/08/08	10/10/08	10/09/08	10/10/08	10/08/08	10/09/08
Groundwater Elevation (ft amsl)		1050.68	1046.57	1041.21	1046.60	1050.25	1047.42
pH (standard units)		7.23	6.71	7.25	7.47	7.72	7.03
Conductivity @25°C (uS/cm)		1103	1013	1150	1118	1075	1035
Turbidity (NTU)		0.7	1000	52.6	1.19	0.67	1.36
Temperature °C		17.53	17.77	17.24	16.27	17.74	22.81
Dissolved Oxygen (mg/L)		0.08	0.62	1.07	1.28	0.14	0.19
Laboratory Analyses							
Benzene (ug/L)	5	**32**	**2000**	**57**	**41**	1.0 U	1.0 U
Toluene (ug/L)	1000	2.2	50	1.3	0.7 J	1.0 U	1.0 U
Ethylbenzene (ug/L)	700	1.5	180	1.0 U	9.7	0.18 J	1.0 U
Xylenes (total) (ug/L)	10000	6.0	3500	6.1	7.7	0.51 J	2.0 U
MTBE (ug/L)*	20	5.0 U	**33** U	5.0 U	5.0 U	5.0 U	5.0 U

Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results October 8-10, 2008
MRP Properties Company, LLC - Arkansas City, Kansas

Notes:

1 - a duplicate sample (RCRA-MW-5) was collected with WN-7B, the results are presented in Appendix B.

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).

BOLD sample results indicate detection equal to or above the groundwater protection standard.

Monitor wells WN-1A, WN-6A, MW-12, MW-13 are completed in the lower part of the alluvial aquifer. The other wells are completed at and below the water table in the upper part of the alluvial aquifer.

* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, June 2007)

uS/cm = microsiemens per centimeter

NTU = nephelometric turbidity units

ft amsl = feet above mean sea level.

ug/L = micrograms per liter

mg/L - milligrams per liter

°C = degrees Celsius

CAP = corrective action performance

SUPP = supplemental information well

One trip blank and one field blank were analyzed for BTEX, there were no detections of these constituents

Table 2 Summary of 2008 Quarterly Bioreactor Influent Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard*	1st Quarter Bioreactor Influent Sample	2nd Quarter Bioreactor Influent Sample	3rd Quarter Bioreactor Influent Sample	4th Quarter Bioreactor Influent Sample
Field Measurements					
Sample Date		02/12/08	05/08/08	08/06/08	10/10/08
Flow (gpm)		1150	1240	1425	1450
pH		7.44	7.37	7.11	7.13
Conductivity (uS/cm)		1167	1113	1162	1017
Temperature °C		15.41	19.06	21.30	18.41
Turbidity (NTU)		low	8.93	moderate	4.12
Dissolved Oxygen (mg/L)		3.16	3.66	1.63	0.50
Laboratory Analyses					
Benzene (ug/L)	5	13	11	36	12
Toluene (ug/L)	1000	0.46 J	4 U	0.91 J	0.57 J
Ethylbenzene (ug/L)	700	0.4 J	1.3 J	1.3	0.83 J
Xylenes (total) (ug/L)	10000	1.7 J	8 U	3.8	2.2
MTBE (ug/L)	20	5.0 U	2 U	5 U	5 U

MEASUREMENTS	Groundwater Protection Standard*	1st Quarter Outfall Sample	2nd Quarter Outfall Sample	3rd Quarter Outfall Sample	4th Quarter Outfall Sample
Field Measurements					
Sample Date		02/12/08	05/08/08	08/06/08	10/10/08
Laboratory Analyses					
Benzene (ug/L)	5	1.0 U	2.0 U	1.0 U	1.0 U
Toluene (ug/L)	1000	1.0 U	4.0 U	1.0 U	1.0 U
Ethylbenzene (ug/L)	700	1.0 U	4.0 U	1.0 U	1.0 U
Xylenes (total) (ug/L)	10000	2.0 U	8.0 U	2.0 U	2.0 U
MTBE (ug/L)	20	5.0 U	2.0 U	5.0 U	5.0 U

Notes:

gpm - gallons per minute

°C - degrees Celsius

uS/cm - micro siemens per centimeter

NTU - nephelometric turbidity units

mg/L - milligrams per liter

ug/L - micrograms per liter

MTBE - Methyl tert-butyl ether

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).

* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, June 2007)

Table 3 Capture Zone Monitoring
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Monitoring - October 7, 2008					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Elevation Difference[2]
1	RCRA-7	1063.72	23.21	1040.51	0.40
	CMW-1	1059.71	18.80	1040.91	
2	113	1072.23	32.58	1039.65	0.98
	CMW-2	1061.75	21.12	1040.63	
3	118	1070.70	28.83	1041.87	0.21
	CMW-3	1061.47	19.39	1042.08	
4	MW-1002	1072.11	28.99	1043.12	0.29
	CMW-4	1061.93	18.52	1043.41	

Capture Zone Monitoring - November 24, 2008					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Elevation Difference[2]
1	RCRA-7	1063.72	25.66	1038.06	0.71
	CMW-1	1059.71	20.94	1038.77	
2	113	1072.23	34.35	1037.88	0.69
	CMW-2	1061.75	23.18	1038.57	
3	118	1070.70	30.85	1039.85	0.23
	CMW-3	1061.47	21.39	1040.08	
4	MW-1002	1072.11	31.00	1041.11	0.25
	CMW-4	1061.93	20.57	1041.36	

Capture Zone Monitoring - December 30, 2008					
Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elevation	Elevation Difference[2]
1	RCRA-7	1063.72	27.02	1036.70	0.66
	CMW-1	1059.71	22.35	1037.36	
2	113	1072.23	36.22	1036.01	0.89
	CMW-2	1061.75	24.85	1036.90	
3	118	1070.70	33.24	1037.46	0.60
	CMW-3	1061.47	23.41	1038.06	
4	MW-1002	1072.11	32.84	1039.27	0.47
	CMW-4	1061.93	22.19	1039.74	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive elevation difference of greater than or equal to 0.2 feet.

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BUREAU OF WASTE MANAGEMENT

1005686

January 27, 2009

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Groundwater Head Differential Monitoring Report No. 3
Recovery Well RW-80A Temporary Authorization
MRP Properties Company, LLC Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Kamal:

MWH is submitting this letter on behalf of MRP Properties Company, LLC (MRP) in accordance with the temporary authorization to discontinue groundwater pumping at recovery well RW-80A (KDHE, November 4, 2008). The groundwater pump in recovery well RW-80A was turned off on November 19, 2008 to demonstrate that RW-80A is not needed to create the groundwater capture zone. The 180 day temporary authorization allows groundwater pumping at RW-80A to be discontinued until May 18, 2009.

MRP conducted capture zone monitoring on January 23, 2009 to demonstrate groundwater gradient reversal at capture zone monitoring wells CMW-4 and MW-1002. The monitoring well top of casing elevations for CMW-4 and MW-1002 are based on the March 14, 2007 survey. This is the third consecutive month that the facility demonstrated compliance with permit section IV.C.2.c. since the temporary authorization was approved and RW-80A was turned off. The groundwater level monitoring data for the previous two monthly demonstrations are also included in the following table.

Capture Zone Well / Casing Elevation	Capture Zone Monitoring Date					
	11/24/08	12/30/08	1/23/09	Feb-09	Mar-09	Apr-09
MW-1002 / 1072.11						
Depth to Water (feet)	31.00	32.84	33.67			
Groundwater Elevation	1041.11	1039.27	1038.44			
CMW-4 / 1061.93						
Depth to Water (feet)	20.57	22.19	23.12			
Groundwater Elevation	1041.36	1039.74	1038.81			
Elevation Difference	**0.25**	**0.47**	**0.37**			

Note: Elevations in feet above mean sea level

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Please call Brenda Epperson of MRP at 210-345-4619 or me at 303-291-2262 if you have any questions about this information.

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick, P.G.
Principal Hydrogeologist

Cc: Brenda Epperson, MRP
David Garrett, EPA Region 7
Raymond Rahn, MRP
Everett Spellman, KDHE

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BUREAU OF WASTE MANAGEMENT 1005686

January 5, 2009

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7962 2963 9901

Re: CPT/ROST Investigation Technical Memorandum
Arkansas City, Kansas
MRP Properties Company, LLC
EPA ID No.: KSD087418695

Dear Mr. Kamal,

Please find enclosed one copy of the Technical Memorandum presenting the results of the cone penetrometer testing (CPT) and rapid optical screening tool (ROST) investigation conducted at the MRP Properties Company, LLC (MRP) site in Arkansas City, Kansas. An electronic copy of the document is included on the CD-ROM included in Appendix C. The field work was conducted in 2004 and 2005. KDHE representatives were onsite during a portion of the work conducted in August 2005.

If you have any questions regarding this information please contact Brenda Epperson, MRP at (210) 345-4619 or me at (303) 291-2262

Sincerely,

MWH Americas, Inc.

Joseph Mednick, P.G.

Principal Hydrogeologist

Enclosure:

cc: Brenda Epperson, MRP w/enc.
Raymond Rahn, MRP w/enc.
Everett Spellman, KDHE w/o enc.
David Garrett, EPA Region 7 w/enc.

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BUREAU OF WASTE MANAGEMENT

1005686

January 5, 2009

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Groundwater Head Differential Monitoring Report No. 2
Recovery Well RW-80A Temporary Authorization
MRP Properties Company, LLC Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Kamal:

MWH is submitting this letter on behalf of MRP Properties Company, LLC (MRP) in accordance with the temporary authorization to discontinue groundwater pumping at recovery well RW-80A (KDHE, November 4, 2008). The groundwater pump in recovery well RW-80A was turned off on November 19, 2008 to demonstrate that RW-80A is not needed to create the groundwater capture zone. The 180 day temporary authorization allows groundwater pumping at RW-80A to be discontinued until May 18, 2009.

MRP conducted capture zone monitoring on December 30, 2008 to demonstrate groundwater gradient reversal at capture zone monitoring wells CMW-4 and MW-1002. The monitoring well top of casing elevations for CMW-4 and MW-1002 are based on the March 14, 2007 survey. This is the second consecutive month that we demonstrated compliance with permit section IV.C.2.c. since the temporary authorization was approved and RW-80A was turned off. The groundwater level monitoring data for the first and second monthly demonstrations are included in the following table.

Capture Zone Well / Casing Elevation	Capture Zone Monitoring Date					
	11/24/08	12/30/08	Jan-09	Feb-09	Mar-09	Apr-09
MW-1002 / 1072.11						
Depth to Water (feet)	31.00	32.84				
Groundwater Elevation	1041.11	1039.27				
CMW-4 / 1061.93						
Depth to Water (feet)	20.57	22.19				
Groundwater Elevation	1041.36	1039.74				
Elevation Difference	**0.25**	**0.47**				

Note: Elevations in feet above mean sea level

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Please call Brenda Epperson of MRP at 210-345-4619 or me at 303-291-2262 if you have any questions about this information.

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick, P.G.
Principal Hydrogeologist

Cc: Brenda Epperson, MRP
David Garrett, EPA Region 7
Raymond Rahn, MRP
Everett Spellman, KDHE

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DEC 0 3 2008

BUREAU OF WASTE MANAGEMENT

1005686

December 2, 2008

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Groundwater Head Differential Monitoring Report – November 24, 2008
Recovery Well RW-80A Temporary Authorization
MRP Properties Company, LLC Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Kamal:

MWH is submitting this letter on behalf of MRP Properties Company, LLC (MRP) in accordance with the temporary authorization to discontinue groundwater pumping at recovery well RW-80A (KDHE, November 4, 2008). The groundwater pump in recovery well RW-80A was turned off on November 19, 2008 to demonstrate that RW-80A is not needed to create the groundwater capture zone. The 180 day temporary authorization allows pumping at RW-80A to be discontinued until May 18, 2009.

MRP conducted capture zone monitoring on November 24, 2008 to demonstrate groundwater gradient reversal at capture zone monitoring wells CMW-4 and MW-1002. The monitoring well top of casing elevations for CMW-4 and MW-1002 are based on the March 14, 2007 survey. The groundwater level monitoring data are included in the following table.

Capture Zone Well Pair		Casing Elevation	Depth to Water	Ground-Water Elev.	Head Differential
4	MW-1002	1072.11	31.00	1041.11	0.25
	CMW-4	1061.93	20.57	1041.36	

The head differential between capture zone monitoring wells MW-1002 and CMW-4 was 0.25 feet demonstrating compliance with the temporary authorization and permit section IV.C.2.c.

Please call Brenda Epperson of MRP at 210-345-4619 or me at 303-291-2262 if you have any questions about this information.

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick, P.G.
Principal Hydrogeologist

Cc: Brenda Epperson, MRP
David Garrett, EPA Region 7
Raymond Rahn, MRP
Everett Spellman, KDHE

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DEPARTMENT OF HEALTH
AND ENVIRONMENT

Division of Environment

Kathleen Sebelius, Governor
Roderick L. Bremby, Secretary

www.kdheks.gov

November 4, 2008

Brenda Epperson
Environmental Manager
MRP Properties Company, LLC
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Temporary Authorization to modify the function of recovery well RW-80A
MRP Properties Company, LLC, Arkansas City
EPA ID# KSD 087418695

Dear Ms. Epperson:

The Kansas Department of Health and Environment (KDHE) received an October 27, 2008 letter from MRP Properties Company, LLC (MRP) requesting temporary authorization to modify the function of recovery well RW-80A. KDHE is approving this request in accordance with 40 CFR 270.42 (e).

The duration of this authorization is limited to 180 days from the initiation of the proposed activity. During this time period, MRP is required to meet all applicable permit conditions and any other applicable state, federal, and/or local requirements. In particular, MRP must maintain hydraulic control of the contaminant plume. Should this goal not be achieved, MRP must take appropriate measures, up to and including the resumed operation of RW-80A as specified in Section IV of the facility Permit. Following the completion of the proposed activities, MRP must submit a technical report describing the scope of the project, the findings, and other related information.

In accordance with 40 CFR 270.42 (e)(2)(iii), the permittee is required to send notice of the authorization request to all persons on the facility mailing list within seven calendar days of the request. On November 3, 2008, KDHE received a notice from MRP that fulfills this requirement.

If you have any questions or concerns regarding this letter, you may contact me via e-mail at espellma@kdhe.state.ks.us or by phone at (785) 296-1616.

Sincerely,

Everett Spellman

Everett Spellman
Chief, Corrective Action Unit
Hazardous Waste Permits Section

Cc: Lynn Slugantz - EPA Region 7/RCAP Branch
Allison Herring - DEA/KDHE/SCDO/Waste Programs
William Bider- Director BWM

KANSAS

DEPARTMENT OF HEALTH
AND ENVIRONMENT

Division of Environment

Kathleen Sebelius, Governor
Roderick L. Bremby, Secretary

www.kdheks.gov

November 3, 2008

Brenda Epperson
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Class 1a Permit Modification for Facility Name Change
MRP Properties Company LLC, Arkansas City
EPA ID# KSD 087418695

Dear Ms. Epperson:

The Kansas Department of Health and Environment (KDHE) has reviewed the Part A Permit Application, Corporate Organization Chart, and Business Concern Disclosure Statement that were submitted to facilitate a name change for the above referenced facility, formerly know as Michigan Reutilization, LLC. After review of these documents, KDHE approves the name change request as a Class 1a permit modification. The facility will now be referred to as MRP Properties Company, LLC. The Cover Page for Part I of the Permit has been updated to reflect the new name and a copy is enclosed with this approval letter.

In accordance with 40 CFR 270.42, this Class 1a permit modification requires the permittee to send notice of the modification to all persons on the facility mailing list within 90 calendar days after KDHE approves the request. The notice must specify changes being made and explain why the changes are necessary. An updated mailing list has been enclosed to assist in completing this notification.

Please ensure that all copies of the Part B Permit application have been updated to reflect the facility's change of name. If you have any questions or concerns regarding this letter, you may contact me via e-mail at espellma@kdhe.state.ks.us or by phone at (785) 296-1616.

Sincerely,

Everett Spellman

Everett Spellman
Chief, Corrective Action Unit
Hazardous Waste Permits Section

Enclosures: Cover Page for Part I of the Permit
Facility Mailing List

Cc: Lynn Slugantz - EPA Region 7/RCAP Branch (w/enclosures)
Allison Herring - DEA/KDHE/SCDO/Waste Programs (w/enclosures)
William Bider- Director BWM (w/o enclosures)

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October 31, 2008

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BUREAU OF WASTE MANAGEMENT

Mostafa Kamal
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

Re: Notice of Facility Name Change
Notice of Request for a 180 Day Temporary Authorization to Suspend Operation of Recovery Well 80A
MRP Properties Company, LLC – Arkansas City, Kansas
U.S. EPA ID No. KSD087418695

Dear Sir or Madam:

MWH is submitting this notification on behalf of MRP Properties Company, LLC (MRP) regarding the facility name change from Michigan Reutilization, LLC (MRLLC) to MRP Properties Company, LLC. This name change is necessary to reflect the fact that on May 1, 2008 MRLLC transferred to MRP Properties Company, LLC all responsibilities associated with the above referenced permit.

In addition, this notification includes notice that MRP has submitted a request to the Kansas Department of Health and Environment (KDHE) – Bureau of Waste Management for a 180 day temporary authorization to suspend operation of one groundwater recovery well (RW-80A) at their Arkansas City, Kansas facility. This notification is made pursuant to Title 40 of the US Code of Federal Regulations part 270.42 and the facility's Hazardous Waste Management Permit. The purpose of this temporary authorization is to demonstrate the effect of well RW-80A on the groundwater capture zone. If during the demonstration period the data indicates groundwater control is not maintained as a result of turning well RW-80A off, the well will be returned to service.

This is a courtesy notification. No action is required on your part. You are being sent this notice because you are listed on the facility's mailing list maintained by the KDHE. If you wish to be removed from this list, you may contact Mr. Everett Spellman of the KDHE at (785) 296-1616.

If you have any questions regarding this notification, please contact Brenda Epperson of MRP Properties Company, LLC at the following address:

Brenda Epperson
MRP Properties Company, LLC
P.O. Box 696000
San Antonio, Texas 78269-6000

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick P.G.
Principal Hydrogeologist

cc: Brenda Epperson, MRP
Chief, Hazardous Waste Permits Section, KDHE
David Garrett, EPA

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Michigan Reutilization

HWP-MichiganReutil-KS0087418695					Director	Kansas Water Office	901 S Kansas Ave		Topeka	KS	66612
HWP-MichiganReutil-KS0087418695	Edward (Ed)	B.	Anderson				159 Hilltop		Elkhart	KS	67950
HWP-MichiganReutil-KS0087418695	William (Bill)	A.	Anderson	JR			5733 Reinhardt Dr		Fairway	KS	66205
HWP-MichiganReutil-KS0087418695					Director	U.S. Fish & Wildlife Services	Ecological Services/Partners for Fish & Wildlif	2609 Anderson	Manhattan	KS	66502-2801
HWP-MichiganReutil-KS0087418695					Director, Air, RCRA, Toxics Div.	US Environmental Protection Agency	Region VII - RCAP/ARTD	901 N 5th St	Kansas City	KS	66101
HWP-MichiganReutil-KS0087418695					Executive Director	Kansas Conservation Commission	109 SW 9th St	Mills Bldg., Suite 500	Topeka	KS	66612
HWP-MichiganReutil-KS0087418695					President	Kansas Ornithological Society	4505 W 68th St		Prairie Village	KS	66208
HWP-MichiganReutil-KS0087418695	Nancy		Lee		Secretary	Kansas Furharvesters Associatin	11816 Highway K16		Valley Falls	KS	66088
HWP-MichiganReutil-KS0087418695	Russell		Voelker		COMMANDER (de)	Eighth Coast Guard District External Affairs	500 Poydras Stm Suite 1324		New Orleans	LA	70130
HWP-MichiganReutil-KS0087418695					Chief Engineer	Kansas Department of Agriculture	Division of Water Resources	109 SW 9th, 2nd Floor	Topeka	KS	66612-1283
HWP-MichiganReutil-KS0087418695	David		Pope			Kansas Department of Health and Environment	1000 SW Jackson, Suite 320		Topeka	KS	66612-1366
HWP-MichiganReutil-KS0087418695	Mostafa		Kamal	PE			Wolf Creek Nuclear Operations Corp.	1550 Oxen Ln	Burlington	KS	66839
HWP-MichiganReutil-KS0087418695	Dan		Haines		President	Kansas Chapter of the Wildlife Society	800 N Market St	PO Box 3089	Wichita	KS	67201-3089
HWP-MichiganReutil-KS0087418695	James		Johnston	Esq		The Johnston Law Offices					

Michigan Reutilization

LISTNAME	SALUTATION	FIRSTNAME	MIDNAME	LASTNAME	SUFFIX	ADDRESSEETITLE	ORG	ADDRESS1	ADDRESS2	CITY	STATE	ZIP
HWP-MichiganReutil-KS0087418695		Dan		Carpenter		President	Kansas Herpetological Society	13321 Flatland Trail		Derby	KS	67037
HWP-MichiganReutil-KS0087418695	Hon.	Pat		Roberts			U.S. Senate	155 N Market St, Suite 120		Wichita	KS	67202
HWP-MichiganReutil-KS0087418695	Hon.	Sam		Brownback			U.S. Senate	1111 W 95th St, Suite 245		Overland Park	KS	66214
HWP-MichiganReutil-KS0087418695	Hon.	Todd		Tiahrt		Member	U.S. House of Representatives	155 N Market St, Suite 400		Wichita	KS	67202
HWP-MichiganReutil-KS0087418695						President	Kansas Natural Resource Council	PO Box 2635		Topeka	KS	66601
HWP-MichiganReutil-KS0087418695						President	Kansas Wildlife Federation	PO Box 771282		Wichita	KS	67277-1282
HWP-MichiganReutil-KS0087418695						Executive Vice President	Kansas Livestock Association/Kansas Beef Counc	6031 SW 37th St		Topeka	KS	66614
HWP-MichiganReutil-KS0087418695							Greenpeace USA	702 H St NW	Suite 300	Washington	DC	20001
HWP-MichiganReutil-KS0087418695						President	Kansas Section Society for Range Management	PO Box 303		Manhattan	KS	66505
HWP-MichiganReutil-KS0087418695							Kansas Department of Wildlife & Parks	Environmental Services Section	512 SE 25th Ave	Pratt	KS	67124
HWP-MichiganReutil-KS0087418695						Member	Kansas Senate (District 32)	420 E 12th Ave		Winfield	KS	67156
HWP-MichiganReutil-KS0087418695	Hon.	Greta	H.	Goodwin			Kansas Furharvesters Association	24685 Lyon Rd		Chanute	KS	66720
HWP-MichiganReutil-KS0087418695		W. R.		Brecheisen			Cowley County Appraiser	PO Box 641		Winfield	KS	67156
HWP-MichiganReutil-KS0087418695		Theresa		Waite			MRP Properties Company, LLC	PO Box 686000		San Antonio	TX	78269-6000
HWP-MichiganReutil-KS0087418695		Brenda		Epperson			City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695						City Clerk	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695						City Manager	Cowley County Health Department	320 E 9th Suite B		Winfield	KS	67156
HWP-MichiganReutil-KS0087418695							The Arkansas City Traveler	200 E Fifth Ave		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695						News Director	Winfield Daily Courier	201 E 9th	PO Box 543	Winfield	KS	67156
HWP-MichiganReutil-KS0087418695						News Director	KSOK FM Radio	334 E Radio Ln	PO Box 1014	Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695								6342 314th Dr		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695		Ronald		Dubach				11500 312th Rd		Arkansa City	KS	67005
HWP-MichiganReutil-KS0087418695		Mike		Givens				112 N Iowa		Winfield	KS	67156
HWP-MichiganReutil-KS0087418695		Amanda		Maltby				901 N Centennial Rd		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695		Carl		Mills				22 Crestwood		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695		Alan		Paton				1024 North A		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695		Larry		Riggs				2518 Valley View Dr		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695		John & Nola		Riggs				224 Randon Rd		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695		Mary	H.	Savala				2635 Southwood Ct		Shawnee Mission	KS	66209
HWP-MichiganReutil-KS0087418695		Keith	L.	Stultz				3509 W 128th St		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695		Ronald	A.	Vine				PO Box 111		Winfield	KS	67156
HWP-MichiganReutil-KS0087418695	Hon.	Kasha		Kelley		Member	Kansas House of Representatives (District 79)	1402 E 9th		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695	Hon.	Ed		Trimmer		Member	Kansas House of Representatives (District 78)	118 W Central	PO Box 778	Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695						Chairman, City Planning Commissio	City of Arkansas City, Kansas	118 W Central	PO Box 778	Topeka	KS	66606
HWP-MichiganReutil-KS0087418695						Mayor	City of Arkansas City, Kansas	834 SW Fillmore	PO Box 1977	Salina	KS	67401
HWP-MichiganReutil-KS0087418695		Ralph	J.	Kieffer				2440 E Water Well Rd		Madison	KS	66860
HWP-MichiganReutil-KS0087418695						Chairman	The Land Institute	RR 1, Box 645		Topeka	KS	66615-1099
HWP-MichiganReutil-KS0087418695		William	R.	Browning	M.D.			6425 SW 6th Ave				
HWP-MichiganReutil-KS0087418695						Executive Director	Kansas State Historical Society					

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October 27, 2008

1005686

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Shipped Via Federal Express
Tracking No. 792133828499

Re: Request for Temporary Authorization to Modify the Function of Recovery Well RW-80A
MRP Properties Company, LLC Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Kamal:

MWH is submitting this request for a 180 day temporary authorization to modify the function of recovery well RW-80A on behalf of MRP Properties Company, LLC (MRP). The purpose of this request is to demonstrate that RW-80A is not needed to create the groundwater capture zone.

The modification request is made in accordance with 40 CFR 270.42 for the above referenced facility and in accordance with Section IV.C.5 of the facility's post-closure care permit (Permit). MRP Properties is requesting the Kansas Department of Health and Environment (KDHE) Bureau of Waste Management (BWM) issue MRP temporary authorization to discontinue groundwater pumping and use the recovery well RW-80A for product recovery only. This request for temporary authorization contains:

- Background information related to the groundwater corrective action system;
- A description of the activities to be conducted under the temporary authorization;
- An explanation of why the temporary authorization is necessary;
- Information to ensure compliance with 40 CFR part 264 standards; and,
- Notification of the temporary authorization request.

Background

The groundwater corrective action system for the waste management area in the original Permit (September 20, 2001) consisted of six recovery wells (RW-35, RW-40. RW-50, RW-60, RW-70, and RW-80A). A request for a temporary authorization to implement a Class 2 permit

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modification was submitted to KDHE (November 7, 2001) for the installation of four additional corrective action groundwater recovery wells (RW-45, RW-55, RW-65, and RW-75). The purpose of these additional wells was to improve the efficiency and effectiveness of the waste management area groundwater corrective action system. The temporary authorization was approved on November 16, 2001 and a Class 2 permit modification was completed on July 22, 2002. The addition of the four new recovery wells reduced the spacing between the original six recovery wells. However, the improved spacing between recovery wells conflicted with recovery well RW-80A as described in the explanation section of this letter.

Description of Activities

The Permit currently requires continuous groundwater recovery from well RW-80A to prevent releases to the Walnut River. MRP is requesting to discontinue groundwater pumping from recovery well RW-80A and use the well for product recovery only during the temporary authorization period. The recovery well is equipped with a groundwater pump and a product pump. MRP requests to stop the groundwater pumping in November 2008 to allow observation of the groundwater capture zone during the winter and spring months when extremes of river and groundwater levels tend to occur.

Explanation

Recovery well RW-80A is one of 10 groundwater recovery wells (Permit Section IV.C.1.) located along the downgradient boundary of the waste management area. The purpose of these recovery wells is to prevent groundwater releases to the Walnut River. The prevention of releases to the Walnut River is achieved by maintaining a reverse groundwater hydraulic gradient between the recovery wells and the Walnut River (Permit Section IV.C.2). This demonstration is made by monitoring groundwater elevations in a series of capture zone monitoring wells.

Recovery well RW-80A is located directly downgradient of recovery well RW-75 (see background discussion above) and adjacent to capture zone monitoring well CMW-04. Groundwater withdrawal from recovery well RW-80A interferes with the capture zone associated with recovery well RW-75 resulting in a reduction of the reverse groundwater hydraulic gradient as demonstrated through capture zone monitoring.

Compliance with Permit Section IV.C.2 – Prevention of Releases to the Walnut River

The facility shall demonstrate continued compliance with this requirement and specifically to operate the recovery wells listed in Permit Section IV.C.1 (Table 4) with the exception of recovery well RW-80A to create a reverse hydraulic gradient (capture zone) between the

recovery wells and the Walnut River. The facility will continue to demonstrate the reverse hydraulic gradient as provided in the Permit Section IV.C.2.c.

MRP will perform capture zone monitoring on a monthly basis to demonstrate groundwater gradient reversal. A letter containing the capture zone monitoring results will be sent to KDHE each month. The capture zone monitoring results will be discussed in the quarterly CMS progress reports. These reports are submitted to KDHE on the 30th day of the month following the end of the calendar quarter. If the capture zone monitoring does not demonstrate gradient reversal as a result of this temporary authorization, MRP will notify KDHE and resume operation of RW-80A as described in the Permit.

Notification
MRP will notify the mailing list within seven days of submission of this request to KDHE-BWM.

Please call Brenda Epperson of MRP at 210-345-4619 or me at 303-291-2262 if you have any questions about this request or require additional information.

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick, P.G.
Principal Hydrogeologist

Cc: Brenda Epperson, MRP
Rob Franke, BWR
David Garrett, EPA Region 7
Raymond Rahn, MRP
Everett Spellman, KDHE

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BUREAU OF WASTE MANAGEMENT

October 24, 2008

1005686

Chief of the Hazardous Waste Permits Section
ATTN: Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: Combined Quarterly Corrective Action Progress Report Third Quarter 2008, and Semiannual ICM Report, Second and Third Quarters 2008
MRP Properties Company, LLC – Arkansas City Refinery
Facility ID: KSD 087418695

Dear Mr. Kamal:

This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the quarterly reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit (September 20, 2001), and the reporting outlined in the Interim Corrective Measures Addendum (March 3, 1995).

1.0 CORRECTIVE ACTION PROGRESS

1.1 DESCRIPTION OF WORK COMPLETED:

- MRP met with KDHE and EPA at KDHE's offices in Topeka on August 5, 2008 to provide the agencies a project update including a review of planned enhancements to the corrective action systems at the site and MRPs request to discontinue operation of the LTU SVE/AS system.
- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on August 5, 2008.
- Land Treatment Unit (LTU) Corrective Action – the soil vapor extraction and air sparge system operated normally during this reporting period. The soil vapor extraction system inlet air stream was sampled on August 6, 2008.
- Groundwater Sampling – quarterly groundwater sampling was performed on August 8, 2008.

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- Soil Corrective Measures - MRP submitted a proposal to KDHE on August 11, 2008 outlining an approach to support a soil corrective action strategy using soil exposure units as previously discussed with KDHE and EPA.
- The second quarter 2008 Corrective Action Progress Report was submitted to KDHE and EPA on August 25, 2008.
- The semiannual groundwater monitoring report was submitted to KDHE on September 1, 2008.
- Groundwater Corrective Action – the groundwater corrective action system downgradient of the waste management area operated normally during this reporting period with the exception of recovery well RW-80A. Recovery well RW-80A was not in service for approximately 25 days following the flood level flow in the Walnut River (September 15, 2008). Gradient monitoring on September 22 and October 7, demonstrated the capture zone was maintained while RW-80A was not in service.

1.2 Summaries of all Findings and Summaries of Laboratory Data:

MRP submitted the semiannual groundwater monitoring report to KDHE on September 1, 2008. This report included the groundwater and soil vapor extraction system analytical results and field measurements obtained for the first six months of 2008.

The laboratory analytical data associated with the semiannual groundwater monitoring event (August 2008) are summarized on the attached Table 1. The results are consistent with previous monitoring events. The groundwater capture zone monitoring conducted during this quarter demonstrated compliance with the facility permit requirement and the data are summarized on attached Table 2. The LTU SVE system continues to report non-detect for the inlet air sample monitoring parameters: benzene, less than (<) 1 milligram per cubic meter (mg/m^3); toluene, <5 mg/m^3; ethylbenzene, <1 mg/m^3; xylenes, <2 mg/m^3; and total petroleum hydrocarbons (gasoline range organics), <100 mg/m^3.

1.3 Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems:

No problems were encountered during the reporting period.

1.4 Projected Work for the Next Quarter:

- Semiannual groundwater sampling (conducted between October 7 and 10, 2008).
- Submittal of request for temporary authorization to modify the function of recovery well RW-80A from groundwater recovery to product recovery.
- Submittal of request for temporary authorization to discontinue operation of the LTU SVE/AS system.

1.5 Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II R:

There are no instances of noncompliance to report under Part II.R of the permit.

2.0 Interim Measures

2.1 ICM System Monitoring

This section of the report presents the groundwater elevation, phase-separated hydrocarbon measurements, and data from the visual inspection of the south bank of the Walnut River, collected during the second and third quarters of 2008 (reporting period). The zones (1-5) referenced on the visual inspection logs correspond to the ICM zones (ICM Design Plan, EnecoTech 1994).

This report contains a tabulation of the groundwater level and phase-separated hydrocarbon monitoring data collected April 2008 through September 2008 on Table 3. The data are presented as groundwater potentiometric surface elevation contour maps on Figures 1 through 6 for the six months in the reporting period. These maps also show the inferred extent of measurable phase-separated hydrocarbons for each respective month. The ICM system groundwater pumping rates and product recovery data for the reporting period are summarized on Table 4. Average monthly groundwater pumping rates ranged between 1,448 and 1,837 gallons per minute (gpm) during the reporting period, with an overall average rate of 1,662 gpm compared with 1,707 gpm during the previous six month reporting period. Approximately 10,626 gallons of petroleum product was recovered during this reporting period compared with 34,290 gallons during the previous six-month reporting period. During both reporting periods, approximately 50 percent of the product recovery is attributed to the two new product recovery wells, NARW-1 and PARW-1, which were put into service in October 2007. These two recovery wells accounted for approximately 5,000 gallons during the current reporting period compared with approximately 17,000 gallons during the previous six-month reporting period. The reduced volume of product recovered is a result of seasonally high groundwater levels. Tables 5, 6, 7, 8, 9, and 10 summarize the Walnut River visual inspections performed during this reporting period.

2.2 Description of Work Completed

- Oxidation Pond System Outfall Improvement - Installation of a 12-inch Parshall flume was completed on October 9, 2008.
- Recovery wells NARW-2, NARW-3, NARW-4, NARW-5, and PARW-2 were installed in September. These wells were described in the previous quarterly Corrective Action Progress Report and to KDHE and EPA representatives during a meeting at KDHE's offices in Topeka on August 5, 2008.
- Recovery well maintenance during this reporting period consisted of routine maintenance on product recovery pumps and chemical treatment of recovery well RW-55. The recovery well chemical treatment was performed by Alexander Pump and Services, Inc. between

September 22 and 24, 2008. The chemical treatment will be described in greater detail in the facility's annual groundwater monitoring report.

- The Closed Surface Impoundment (CSI) Soil Vapor Extraction (SVE) system operated normally during the reporting period. The average airflow rate during this reporting period was approximately 570 standard cubic feet per minute (SCFM), resulting in the removal of approximately 7,200 pounds (lbs) of hydrocarbon mass from the soil compared with 13,000 lbs in the previous six-month reporting period.
- The CSI SVE system inlet air stream was sampled on August 6, 2008. The laboratory reported the following inlet air sample monitoring results: benzene, 1.1 milligrams per cubic meter (mg/m^3); toluene, <5 mg/m^3; ethylbenzene, <1 mg/m^3; xylenes, <2 mg/m^3; and total petroleum hydrocarbons (gasoline range organics), 390 mg/m^3.
- The CSI Air Sparge (AS) system operated normally during this reporting period. The average airflow rate during this reporting period was 88 SCFM and ranged between approximately 55 and 114 SCFM through each of the two manifolds, or 5.5 to 11.4 SCFM per air sparge well. The average daily oxygen injection rate into the groundwater during this reporting period was approximately 2,250 pounds (lbs). Approximately 205 tons of oxygen has been injected into the groundwater over the same six-month period.

2.3 Projected Work for the Next Quarter:

- Survey the locations and top of casing elevations for the five new recovery wells.
- Complete the oxidation pond outfall Parshall flume installation.
- Startup of the five new recovery wells.

If you have any questions or comments regarding this information, please contact Brenda Epperson, MRP at (210) 345-4619 or Jay Mednick, MWH at (303) 291-2262.

Sincerely,

MWH Americas, Inc.

Joseph (Jay) Mednick, P.G.

Principal Hydrogeologist

Attachments: Tables 1- 10, Figures 1-6

cc: Brenda Epperson, MRP w/enc.
David Garrett, USEPA w/enc.
Everett Spellman, KDHE w/enc.
Raymond Rahn, MRP w/enc.
Rob Franke, BWR w/enc.

Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results August 6, 2008
MRP Properties Company, LLC - Arkansas City, Kansas

Measurements	Groundwater Protection Standard	WN-7B	WN-8B	MW-17	Bioreactor Influent	Bioreactor Effluent	Outfall
Field Measurements							
Sample Date		08/06/08	08/06/08	08/06/08	08/06/08	08/06/08	08/06/08
Groundwater Elevation (ft amsl)[1]		1050.08	1049.69	1049.17	--	--	--
pH (standard units)		7.10	6.97	7.27	7.11	7.66	8.00
Conductivity @25°C (uS/cm)		906	1085	1067	1162	1123	1029
Temperature °C		17.7	17.3	18.2	21.3	21.8	30.8
Dissolved Oxygen (mg/L)		0.07	3.12	0.04	1.63	5.72	4.31
Laboratory Analyses							
Benzene (ug/L)	5	**160**	**97**	0.26 J	**36**	0.6 J	1 U
Toluene (ug/L)	1000	15.0	6.2	1.0 U	0.91 J	1 U	1 U
Ethylbenzene (ug/L)	700	1.7	2.6	1.0 U	1.3	1 U	1 U
Xylenes (total) (ug/L)	10000	32.0	15.0	2.0 U	3.8	2 U	2 U
MTBE (ug/L)*	20	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Notes:

1 - bioreactor influent water flow rate, gallons per minute

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).

BOLD sample results indicate detection equal to or above the groundwater protection standard.

* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, June 2007)

uS/cm = microsiemens per centimeter

ft amsl = feet above mean sea level.

ug/L = micrograms per liter

°C = degrees Celsius

One trip blank and one field blank were analyzed for BTEX, there were no detections of these constituents

Table 2 Capture Zone Monitoring - August 5, 2008
Arkansas City, Kansas

Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Ground-Water Elev.	Elev. Difference[2]
1	RCRA-7	1063.72	24.04	1039.68	**0.70**
	CMW-1	1059.71	19.33	1040.38	
2	113	1072.23	33.34	1038.89	**0.55**
	CMW-2	1061.75	22.31	1039.44	
3	118	1070.70	31.03	1039.67	**0.29**
	CMW-3	1061.47	21.51	1039.96	
4	MW-1002	1072.11	31.48	1040.63	**0.23**
	CMW-4	1061.93	21.07	1040.86	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. Permit criteria equal to or greater than 0.2 feet.

MRP PROPERTIES COMPANY, LLC

P.O. Box 696000 • San Antonio, Texas 78269-6000 • Telephone (210) 345-2000

Brenda B. Epperson
Manager, Environmental

RECEIVED

OCT 0 6 2008

BUREAU OF WASTE MANAGEMENT

October 2, 2008

Mr. Mostafa Kamal, P.E., CPM
Chief, Hazardous Waste Permits Section
Bureau Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite
Topeka, Kansas 66612-1366

Re: **Facility Name Change**
Michigan Reutilization, LLC / MRP Properties Company, LLC
Arkansas City Facility
EPA ID No. KSD087418695

Dear Mr. Kamal:

In response to your April 14, 2008 letter, I am requesting a permit modification for the above-referenced permit to reflect the change in the facility name from Michigan Reutilization, LLC ("MRLLC") to MRP Properties Company, LLC ("MRP"). As requested in your letter, I have attached a Revised Part A Permit Application, a Corporate Organizational Chart for MRP and a Business Concern Disclosure Statement ("BCDS") Form 1 for MRP. We assume that the submittal of the Attached Revised Part A Application will also suffice to inform the KDHE of the name change for purposes of the facility's EPA ID number, as the form is the same. Please contact me at the number below if we need to resubmit that information to another individual or Bureau at KDHE.

This name change is necessary to reflect the fact that on May 1, 2008, MRLLC transferred to MRP Properties Company, LLC all responsibilities, coverage, and liability under the above-referenced permit. MRLLC and MRP Properties Company, LLC certify that no change in operations has or will occur following the transfer. This change has resulted in no disruption regarding compliance with the above-referenced permit. The individuals responsible for environmental compliance at MRLLC, remain unchanged and continue to ensure that operations continue pursuant to the terms of the above-referenced permit. MRLLC filed a Certificate of Dissolution with the Michigan Department of Labor and Economic Growth effective January 15, 2008.

Please contact me at 210-345-4619, or our counsel, Stacy Stotts of Stinson Morrison Hecker at 816-691-3363, if you have any questions about the attached application or require any additional information or documentation to process this request.

Sincerely,

B B Epperson

Brenda B. Epperson

Michigan Reutilization

HWP-MichiganReutil-KSD087418695	Mike		Givens				11500 312th Rd		Arkansa City	KS	67005
HWP-MichiganReutil-KSD087418695	Amanda		Maltby				112 N Iowa		Winfield	KS	67156
HWP-MichiganReutil-KSD087418695	Carl		Mills				901 N Centennial Rd		Arkansas City	KS	67005
HWP-MichiganReutil-KSD087418695	Alan		Paton				22 Crestwood		Arkansas City	KS	67005
HWP-MichiganReutil-KSD087418695	Larry		Riggs				1024 North A		Arkansas City	KS	67005
HWP-MichiganReutil-KSD087418695	John & Nola		Riggs				2518 Valley View Dr		Arkansas City	KS	67005
HWP-MichiganReutil-KSD087418695	Mary	H.	Savala				224 Randon Rd		Arkansas City	KS	67005
HWP-MichiganReutil-KSD087418695	Keith	L.	Stultz				2635 Southwood Ct		Shawnee Mission	KS	66209
HWP-MichiganReutil-KSD087418695	Ronald	A.	Vine				3509 W 128th St		Topeka	KS	66606
HWP-MichiganReutil-KSD087418695	Ralph	J.	Kieffer				834 SW Fillmore	PO Box 1977	Madison	KS	66860
HWP-MichiganReutil-KSD087418695	William	R.	Browning	M.D.			RR 1, Box 645		Elkhart	KS	67950
HWP-MichiganReutil-KSD087418695	Edward (Ed)	B.	Anderson				159 Hilltop		Fairway	KS	66205
HWP-MichiganReutil-KSD087418695	William (Bill)	A.	Anderson	JR			5733 Reinhardt Dr				

Michigan Reutilization

LISTNAME	SALUTATION	FIRSTNAME	MIDNAME	LASTNAME	SUFFIX	ADDRESSEETITLE	ORG	ADDRESS1	ADDRESS2	CITY	STATE	ZIP
HWP-MichiganReutil-KS0087418695						City Clerk	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695						City Manager	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695						Chairman, City Planning Commissio	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695						Mayor	City of Arkansas City, Kansas	118 W Central	PO Box 778	Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695							Cowley County Appraiser	PO Box 641		Winfield	KS	67156
HWP-MichiganReutil-KS0087418695		Theresa		Waite			Cowley County Health Department	320 E 9th Suite B		Winfield	KS	67156
HWP-MichiganReutil-KS0087418695							Eighth Coast Guard District External Affairs	500 Poydras Stm Suite 1324		New Orleans	LA	70130
HWP-MichiganReutil-KS0087418695						COMMANDER (de)	Greenpeace USA	702 H St NW	Suite 300	Washington	DC	20001
HWP-MichiganReutil-KS0087418695							Kansas Chapter of the Wildlife Society	Wolf Creek Nuclear Operations Corp.	1550 Oxen Ln	Burlington	KS	66839
HWP-MichiganReutil-KS0087418695		Dan		Haines		President	Kansas Conservation Commission	109 SW 9th St	Mills Bldg., Suite 500	Topeka	KS	66612
HWP-MichiganReutil-KS0087418695						Executive Director	Kansas Department of Agriculture	Division of Water Resources	109 SW 9th, 2nd Floor	Topeka	KS	66612-1283
HWP-MichiganReutil-KS0087418695		David		Pope		Chief Engineer	Kansas Department of Health and Environment	1000 SW Jackson, Suite 320		Topeka	KS	66612-1366
HWP-MichiganReutil-KS0087418695		Mostafa		Kamal	PE		Kansas Department of Wildlife & Parks	Environmental Services Section	512 SE 25th Ave	Pratt	KS	67124
HWP-MichiganReutil-KS0087418695							Kansas Furharvesters Associatin	11816 Highway K16		Valley Falls	KS	66088
HWP-MichiganReutil-KS0087418695		Russell		Voelker		Secretary	Kansas Furharvesters Association	24885 Lyon Rd		Chanute	KS	66720
HWP-MichiganReutil-KS0087418695		W. R.		Brechelsen			Kansas Herpetological Society	13321 Flatland Trail		Derby	KS	67037
HWP-MichiganReutil-KS0087418695		Dan		Carpenter		President	Kansas House of Representatives (District 78)	1402 E 9th		Winfield	KS	67156
HWP-MichiganReutil-KS0087418695	Hon.	Ed		Trimmer		Member	Kansas House of Representatives (District 79)	PO Box 1111		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695	Hon.	Kasha		Kelley		Member	Kansas Livestock Association/Kansas Beef Counc	6031 SW 37th St		Topeka	KS	66614
HWP-MichiganReutil-KS0087418695						Executive Vice President	Kansas Natural Resource Council	PO Box 2635		Topeka	KS	66601
HWP-MichiganReutil-KS0087418695						President	Kansas Ornithological Society	4505 W 66th St		Prairie Village	KS	66208
HWP-MichiganReutil-KS0087418695		Nancy		Leo		President	Kansas Section Society for Range Management	PO Box 303		Manhattan	KS	66505
HWP-MichiganReutil-KS0087418695						President	Kansas Senate (District 32)	420 E 12th Ave		Winfield	KS	67156
HWP-MichiganReutil-KS0087418695	Hon.	Greta	H.	Goodwin		Member	Kansas State Historical Society	6425 SW 6th Ave		Topeka	KS	66615-1099
HWP-MichiganReutil-KS0087418695						Executive Director	Kansas Water Office	901 S Kansas Ave		Topeka	KS	66612
HWP-MichiganReutil-KS0087418695						Director	Kansas Wildlife Federation	PO Box 771282		Wichita	KS	67277-1282
HWP-MichiganReutil-KS0087418695						President	KSOK FM Radio	334 E Radio Ln	PO Box 1014	Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695						News Director	MRP Properties Company, LLC	PO Box 696000		San Antonio	TX	78269-6000
HWP-MichiganReutil-KS0087418695		Brenda		Epperson			The Arkansas City Traveler	200 E Fifth Ave		Arkansas City	KS	67005
HWP-MichiganReutil-KS0087418695							The Johnston Law Offices	800 N Market St	PO Box 3089	Wichita	KS	67201-3089
HWP-MichiganReutil-KS0087418695		James		Johnston	Esq		The Land Institute	2440 E Water Well Rd		Salina	KS	67401
HWP-MichiganReutil-KS0087418695						Chairman	U.S. Fish & Wildlife Services	Ecological Services/Partners for Fish & Wildlif	2609 Anderson	Manhattan	KS	66502-2801
HWP-MichiganReutil-KS0087418695						Director	U.S. House of Representatives	155 N Market St, Suite 400		Wichita	KS	67202
HWP-MichiganReutil-KS0087418695						Member	U.S. Senate	155 N Market St, Suite 120		Wichita	KS	67202
HWP-MichiganReutil-KS0087418695	Hon.	Todd		Tiahrt			U.S. Senate	11111 W 95th St, Suite 245		Overland Park	KS	66214
HWP-MichiganReutil-KS0087418695	Hon.	Pat		Roberts			US Environmental Protection Agency	Region VII - RCAP/ARTD	901 N 5th St	Kansas City	KS	66101
HWP-MichiganReutil-KS0087418695	Hon.	Sam		Brownback		Director, Air, RCRA, Toxics Div.	Winfield Daily Courier	201 E 9th	PO Box 543	Winfield	KS	67156
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HWP-MichiganReutil-KS0087418695		Ronald		Dubach								

Michigan Reutilization

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HWP-MichiganReutil-KSD087418695		William	R.	Browning	M.D.							
HWP-MichiganReutil-KSD087418695						Executive Director	Kansas State Historical Society	6425 SW 6th Ave				

Jay F Mednick
<Joseph.F.Mednick@us.mwhglobal.com>
09/17/2008 02:22 PM

To espellma@kdhe.state.ks.us
cc brenda.epperson@valero.com
bcc
Subject ArkCity Update 9/17/08 & Notification of Upcoming Field Work

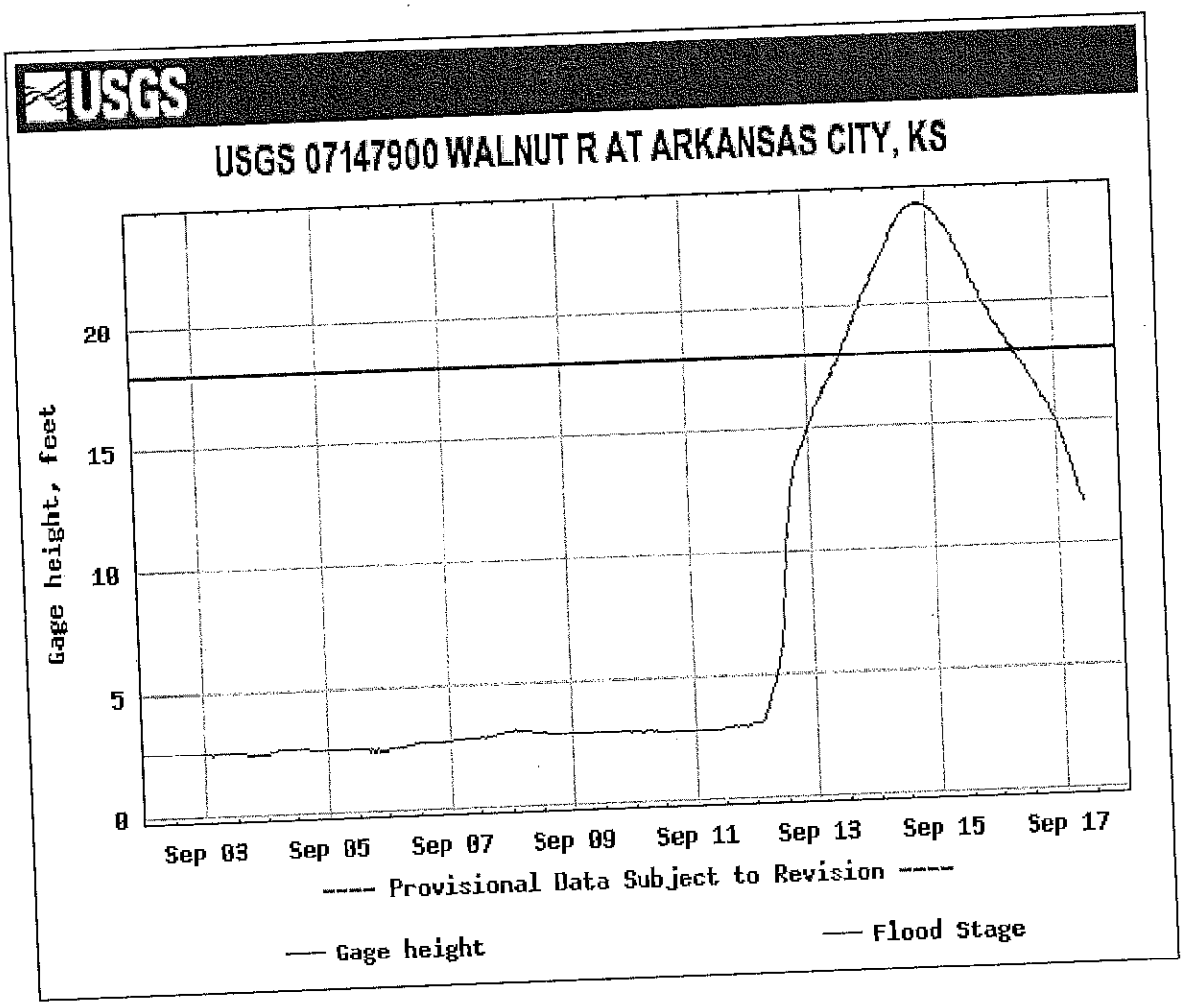
Everett,

The purpose of this e-mail is to summarize our telephone conversation this morning with respect to upcoming field activities at the ArkCity site, operation of the groundwater corrective action recovery well system, and the LTU SVE-AS system.

The recovery well construction is scheduled to start Monday, September 22, 2008. The work is expected to take approximately two weeks. The first week will involve well construction only. The second week, starting September 29 should involve well construction and the start of the well development. The actual schedule will be a function of the drilling and well construction progress. The work will be performed during the day, Monday through Friday.

Semiannual groundwater sampling is scheduled to begin October 6 with the site wide groundwater level gauging. Groundwater sampling will begin October 7 (Tuesday) and should be completed by October 9.

The Walnut River in Arkansas City was higher than its flood stage over the weekend. As a result, recovery well RW-80A (near the river bank) was submerged and was turned off. Two of the downgradient capture zone monitoring wells were also inaccessible due to the high river stage. Recovery well RW-80A will be turned on as soon as the river level recedes. The other recovery wells remained in operation with the exception of two days; the afternoon of September 13 until the morning of September 15, because oxidation pond discharge to the Walnut River was stopped while the river gate through the levee was closed over the weekend to protect the site from flooding.



LTU SVE-AS system: per our conversation I understand KDHE prefers at this point not to approve a permit modification and MRP should send a letter to KDHE requesting temporary authorization to suspend operation of the LTU SVE-AS system. The document submitted by Michigan Reutilization on February 15, 2008 should be incorporated by reference to justify the request.

We also discussed the Process Area Exposure Unit recommendation letter submitted to KDHE and copied to EPA on August 11, 2008. A copy was sent via e-mail to your attention following the call this morning.

Please let me know if you have any questions about any of these items. I hope to confirm the date we can meet in ArkCity to observe the recovery well construction by the end of the day today.

Thank you.

Jay

Jay Mednick, P.G
Principal Hydrogeologist

MWH Americas, Inc.
1801 California Street, Suite 2900
Denver, CO, 80202

Direct. 303 291 2262
Main. 303 291-2222
Cell. 303 885 5069
Fax. 303 291-2221
Email: jay.mednick@mwhglobal.com
MWH Website: http://www.mwhglobal.com/

MWH

BUILDING A BETTER WORLD

RECEIVED

SEP 02 2008

BUREAU OF WASTE MANAGEMENT

August 29, 2008

1005686

Chief of the Hazardous Waste Permits Section
Attention: Mr. Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: 2008 Semiannual RCRA Groundwater Corrective Action Report
January 1, 2008 through June 30, 2008
MRP Properties Company, LLC Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Kamal:

MWH is submitting this report on behalf of MRP Properties Company, LLC (MRP) in accordance with the reporting requirements described in Section IV.E.5 of the Arkansas City facility's RCRA Permit for the period January 1, 2008 through June 30, 2008. The data included in this report includes results of the quarterly bioreactor influent stream monitoring and gradient demonstration monitoring, semiannual groundwater monitoring, and operations data for the groundwater recovery system and the Land Treatment Unit (LTU) soil vapor extraction (SVE) and air sparge (AS) systems. An electronic copy of this report is also included on the attached CD-ROM. The groundwater monitoring was conducted in accordance with the procedures presented in the approved Groundwater Sampling and Analysis Plan (SAP). The site location map is included on Figure 1. The monitor well locations are shown on Figure 2. A complete assessment of the semiannual monitoring data will be provided in the annual groundwater monitoring report.

Quarterly Groundwater Level Monitoring

Corrective action groundwater monitoring well water level measurements for the first two quarters (February 11 and May 5) of 2008 are summarized on Table 1.

May 2008 Semiannual Groundwater Monitoring Event

The semiannual sampling event was conducted between May 6 and May 8, 2008. The groundwater samples collected from the corrective action performance, supplemental information, and background monitor wells were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). MRP included analyses of methyl tert-butyl ether (MTBE), and tert-butyl alcohol (TBA) for this sampling event. TestAmerica Laboratories (TAL) in Arvada, Colorado performed the sample analyses. The BTEX and MTBE analytical results and corresponding field data are summarized in Table 2. The field sampling data forms, field logs, and chain-of-custody forms for the sample event are included in Attachment 1. The laboratory's analytical report Form I's are included in Attachment 2.

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One field blank and one trip blank were collected during the sampling event. These field quality assurance samples were analyzed for BTEX, MTBE, and TBA. The laboratory analytical reports are included in Attachment 2. No detections of BTEX, MTBE, or TBA constituents were found in the field or trip blanks.

One duplicate sample was collected during the sample event. The sample labeled RCRA-MW-5 was a duplicate groundwater sample collected from monitor well WN-7B on May 7, 2008. The analytical results were similar between the two samples collected from monitor well WN-7B.

Quarterly Capture Zone Monitoring

Groundwater level and elevation data from the eight capture zone monitoring wells are summarized on Tables 3 and 4 for the February 11, 2008 and May 5, 2008 monitoring events, respectively. As is shown on the tables, the Permit-required head difference of 0.2 feet was met at each capture zone well pair during the first and second quarter monitoring events. Attachment 1 contains the groundwater level gauging field forms for the two quarterly compliance demonstration monitoring events (February 11 and May 5, 2008).

Quarterly Bioreactor Influent Sampling

The groundwater influent to the bioreactor tank was sampled during the first and second quarters of 2008. During both the February and May 2008 sampling, groundwater flow was confined to a single bioreactor inlet pipe, and one water sample was collected.

The first quarter sample was collected on February 12, 2008, and the second quarter sample was collected during the semiannual sampling event on May 8, 2008. The influent flow and analytical data are summarized on Table 5. The field logbook entries for the quarterly bioreactor samples are included in Attachment 1. The laboratory analytical reports Form I's are included in Attachment 2.

Groundwater Corrective Action: Recovery of Groundwater and Free Product

The groundwater and free product recovery systems functioned normally during the reporting period. Quantities of groundwater and free product recovered during the reporting period are summarized on Table 6 for the system as a whole and for each recovery well. Data for the recovery wells outside the waste management area boundary are also included on Table 6.

LTU Corrective Action System Monitoring

The LTU corrective action system is monitored weekly, monthly, and quarterly in accordance with the schedule and procedures established in the approved system Operation and Maintenance Plan (dated January 2003) and the Engineering Feasibility Plan. For the soil vapor extraction (SVE) system, weekly monitoring includes overall airflow, operational hours, influent concentrations of organic vapors measured as percent of the lower explosive limit (LEL), inlet vacuum, and inlet and outlet air temperatures. SVE air samples are collected on a quarterly basis and submitted to TAL in Pensacola, Florida for analysis of total volatile petroleum hydrocarbons (C6-C10) and BTEX. The air sparge (AS) system is monitored weekly and includes air sparge blower operational hours, blower outlet air temperature, air pressure, and airflow.

The airflow at each air sparge well is monitored quarterly using a handheld thermal anemometer. The air sparge airflow monitoring and flow balancing was performed on February 15, 2008 and May 9, 2008. The

LTU SVE/AS monitoring data for the reporting period are summarized on Tables 7, 8, 9 and 10. The chain-of-custody forms for the SVE inlet air samples and the corresponding laboratory analytical report Form I's are included in Attachment 2.

Groundwater Corrective Action Well and Monitor Well Maintenance

Recovery well maintenance activities conducted during this reporting period consisted of routine maintenance of product and groundwater pumps. Section IV.D.3 of the facility permit requires annual subsurface well integrity inspections consisting of total well depth measurements. Table 11 contains the annual total well depth measurements conducted on April 25, 2008. All total well depth measurements demonstrated that the well screen occlusion was less than the permit maximum 10 percent criterion.

Please contact either Brenda Epperson, MRP at 210/345-4619 or me at 303/291-2262 if you have any questions or comments about the information presented in this report.

Sincerely,

MWH Americas, Inc.

Jay Mednick, P.G.
Project Manager

Attachments: Tables 1-11, Figures 1 and 2, Attachments 1 and 2, and CD-ROM

Cc: Brenda Epperson, MRP w/enc.
David Garrett, EPA Region 7 w/enc.
Devin Pollock, KDHE w/enc.
Raymond Rahn, MRP w/enc.

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 6-8, 2008
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Sample ID / Association					
		WN-1A / Background	WN-1B / Background	WN-5B / CAP	WN-6A / CAP	WN-6B / CAP	WN-7B[1] / CAP
Field Measurements							
Sample Date		05/06/08	05/06/08	05/06/08	05/07/08	05/07/08	05/07/08
Groundwater Elevation (ft amsl)		1049.12	1049.14	1048.14	1047.16	1047.11	1048.75
pH (standard units)		7.83	7.53	7.78	7.80	7.34	7.23
Conductivity @25°C (uS/cm)		1476	905	841	1077	1197	852
Turbidity (NTU)		0.02	0.47	0.29	0.66	0.87	1.77
Temperature °C		15.6	15.8	17.0	16.9	16.6	17.3
Dissolved Oxygen (mg/L)		0.31	0.79	0.26	0.08	0.42	0.25
Laboratory Analyses							
Benzene (ug/L)	5	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	**160**
Toluene (ug/L)	1000	4.0 U	4.0 U	4.0 U	1.0 U	1.4	14
Ethylbenzene (ug/L)	700	4.0 U	4.0 U	4.0 U	1.0 U	0.37 J	1.5
Xylenes (total) (ug/L)	10000	8.0 U	8.0 U	8.0 U	2.0 U	3.7	26
MTBE (ug/L)*	20	2.0 U	2.0 U	2.0 U	5.0 U	5.0 U	5.0 U

MEASUREMENTS	Groundwater Protection Standard	Sample ID / Association					
		WN-8B / CAP	MW-6 / CAP	MW-12 / SUPP	MW-13 / CAP	MW-17 / CAP	RCRA-4 / SUPP
Field Measurements							
Sample Date		05/07/08	05/07/08	05/06/08	05/08/08	05/07/08	05/06/08
Groundwater Elevation (ft amsl)		1048.15	1045.95	1038.82	1043.50	1048.03	1044.76
pH (standard units)		7.32	7.32	7.29	7.73	7.34	6.95
Conductivity @25°C (uS/cm)		868	868	1113	1099	1197	989
Turbidity (NTU)		0.32	0.32	10.69	0.75	0.87	0.53
Temperature °C		16.7	16.7	18.1	16.8	16.6	15.7
Dissolved Oxygen (mg/L)		0.27	0.27	0.71	0.08	0.42	0.65
Laboratory Analyses							
Benzene (ug/L)	5	**52**	**1500**	2.0 U	2.0 U	1.0 U	2.0 U
Toluene (ug/L)	1000	3.2	28	1.2 J	4.0 U	1.0 U	4.0 U
Ethylbenzene (ug/L)	700	2.3	170	2.5 J	4.0 U	1.0 U	4.0 U
Xylenes (total) (ug/L)	10000	8.4	1200	2.1 J	8.0 U	2.0 U	8.0 U
MTBE (ug/L)*	20	5.0 U	5.0 U	2.0 U	2.0 U	5.0 U	2.0 U

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 6-8, 2008
MRP Properties Company, LLC - Arkansas City, Kansas

Notes:
1 - a duplicate sample (RCRA-MW-5) was collected with WN-7B, the results are presented in Attachment 2.
U - not detected above the method reporting limit shown
J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).
BOLD sample results indicate detection equal to or above the groundwater protection standard.
Monitor wells WN-1A, WN-6A, MW-12, MW-13 are completed in the lower part of the alluvial aquifer. The other wells are completed at and below the water table in the upper part of the alluvial aquifer.
* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, June 2007)
uS/cm = microsiemens per centimeter
NTU = nephelometric turbidity units
ft amsl = feet above mean sea level.
ug/L = micrograms per liter
mg/L - milligrams per liter
°C = degrees Celsius
CAP = corrective action performance
SUPP = supplemental information well
One trip blank and one field blank were analyzed for BTEX, there were no detections of these constituents

Table 3 Quarterly Groundwater Capture Zone Compliance Monitoring - February 11, 2008
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elev.	Head Difference[2]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1063.72	27.04	1036.68	**0.62**	115	RW-35
	CMW-1	1059.71	22.41	1037.30		170	RW-40
2	113	1072.23	35.75	1036.48	**0.56**	55	RW-45
	CMW-2	1061.75	24.71	1037.04		155	RW-50
						80	RW-55
3	118	1070.70	32.98	1037.72	**0.30**	200	RW-60
	CMW-3	1061.47	23.45	1038.02		165	RW-65
4	MW-1002	1072.11	33.00	1039.11	**0.31**	100	RW-70
	CMW-4	1061.93	22.51	1039.42		120	RW-75
						10	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm						1170	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 4 Quarterly Groundwater Capture Zone Compliance Monitoring - May 5, 2008
MRP Properties Company, LLC - Arkansas City, Kansas

Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elev.	Head Difference[2]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1063.72	25.66	1038.06	**0.85**	110	RW-35
	CMW-1	1059.71	20.80	1038.91		120	RW-40
2	113	1072.23	34.20	1038.03	**0.70**	70	RW-45
	CMW-2	1061.75	23.02	1038.73		150	RW-50
						65	RW-55
3	118	1070.70	31.33	1039.37	**0.21**	245	RW-60
	CMW-3	1061.47	21.89	1039.58		120	RW-65
4	MW-1002	1072.11	31.84	1040.27	**0.28**	115	RW-70
	CMW-4	1061.93	21.38	1040.55		120	RW-75
						5	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm						1120	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 5 Summary of Quarterly Bioreactor Influent Sampling Results
MRP Properties Company, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	1st Quarter Bioreactor Influent Sample	2nd Quarter Bioreactor Iufluent Sample
Field Measurements			
Sample Date		02/12/08	05/08/08
Flow (gpm)		1150	1240
pH		7.44	7.37
Temperature °C		15.41	19.06
Conductivity (uS/cm)		1167	1113
Turbidity (NTU)		low	8.93
Dissolved Oxygen (mg/L)		3.16	3.66
Laboratory Analyses			
Benzene (ug/L)	5	13	11
Toluene (ug/L)	1000	0.46 J	4.0 U
Ethylbenzene (ug/L)	700	0.4 J	1.3 J
Xylenes (total) (ug/L)	10000	1.7 J	8.0 U
MTBE (ug/L)*	20	5.0 U	2.0 U

MEASUREMENTS	Groundwater Protectiou Standard	1st Quarter Outfall Sample	2nd Quarter Outfall Sample
Field Measurements			
Sample Date		02/12/08	05/08/08
Laboratory Analyses			
Benzene (ug/L)	5	1.0 U	2.0 U
Toluene (ug/L)	1000	1.0 U	4.0 U
Ethylbenzene (ug/L)	700	1.0 U	4.0 U
Xylenes (total) (ug/L)	10000	2.0 U	8.0 U
MTBE (ug/L)*	20	5.0 U	2.0 U

Notes:

gpm - gallons per minute

°C - degrees Celsius

uS/cm - micro siemens per centimeter

NTU - nephelometric turbidity units

mg/L - milligrams per liter

ug/L - micrograms per liter

MTBE - Methyl tert-butyl ether

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).

* KDHE Tier 2 Residential Groundwater Pathway Risk-Based Standards for Kansas (RSK Manual, June

Table 8 Summary of LTU SVE System Inlet Air Sample Results
MRP Properties Company, LLC - Arkansas City, Kansas

	SVE Inlet Concentrations	
Sample Date	03/18/08	05/08/08
Laboratory Analyses		
Benzene (mg/m^3)	1.0 U	1.0 U
Toluene (mg/m^3)	5.0 U	5.0 U
Ethylbenzene (mg/m^3)	1.0 U	1.0 U
Xylenes (total) (mg/m^3)	2.0 U	2.0 U
MTBE (mg/m^3)	5.0 U	5.0 U
TVPH (mg/m^3)	100 U	100 U

Notes:

1. Air samples submitted to TestAmerica Laboratories, Inc., Pensacola, Florida for analysis.
2. MTBE = methyl tert-butyl ether
3. TVPH = total volatile petroleum hydrcarbons (C6-C10)
4. U = not detected above the method reporting limit shown

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August 25, 2008

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AUG 29 2008

BUREAU OF WASTE MANAGEMENT

Mr. Mostafa Kamal
Chief, Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: Second Quarter 2008 - Corrective Action Progress Report
MRP Properties Company, LLC - Arkansas City Site
Facility ID: KSD087418695

Dear Mr. Kamal:

This report is presented on behalf of MRP Properties Company, LLC (MRP) to fulfill the quarterly corrective action reporting requirements in Part II, Section III.L of the Hazardous Waste Management Permit for the subject facility in Arkansas City, Kansas (formerly the Total Petroleum Inc. Arkansas City Refinery).

CORRECTIVE ACTION PROGRESS

Description of Work Completed:

- Groundwater Sampling – semiannual groundwater sampling was performed between May 6 and 8, 2008. The sampling included the upgradient monitoring wells, corrective action performance monitoring wells, and supplemental information monitoring wells.

- Capture Zone Monitoring – quarterly groundwater capture zone monitoring was conducted on May 5, 2008.

- Groundwater Corrective Action – the groundwater corrective action system downgradient of the waste management area operated normally during this reporting period.

- Land Treatment Unit (LTU) Corrective Action – the soil vapor extraction and air sparge system operated normally during this reporting period. The soil vapor extraction system inlet air stream was sampled on May 8, 2008.

- Soil Corrective Measures - MRP has reviewed the RFI Phase II soil data in light of EPA comments (July 28, 2005 and September 29, 2005) pertaining to the number of soil samples and has developed an exposure unit approach consistent with the approved Proposed Cleanup Goals

document (RBA, May 5, 2005). Exposure units will be proposed to help localize potential exposures and risks, and to identify areas where remediation may be necessary. Exposure units will be based on anticipated future land use. MRP will present this approach to KDHE and EPA in the next quarter.

- The first quarter 2008 CMS report was submitted to KDHE and EPA on April 30, 2008.

Summaries of all Findings and Summaries of Laboratory Data: The laboratory analytical data associated with the semiannual groundwater monitoring event (May 2008) are summarized on the attached Table 1. The groundwater capture zone monitoring conducted during this quarter demonstrated compliance with the facility permit requirement and the data are summarized on attached Table 2. The LTU SVE system continues to report non-detect for the inlet air sample monitoring parameters: benzene, less than (<) 1 milligram per cubic meter (mg/m^3); toluene, <1 mg/m^3; ethylbenzene, <5 mg/m^3; xylenes, <2 mg/m^3; and total petroleum hydrocarbons (gasoline range organics), <100 mg/m^3.

Summaries of all Problems or Potential Problems Encountered During this Reporting Period and Actions Taken to Rectify Problems: No problems were encountered during the reporting period.

Projected Work for the Next Quarter:

- MRP will meet with KDHE/EPA (meeting held on August 5, 2008) to update KDHE and EPA on the project status and review the exposure unit approach to addressing the soils in the Process and Junk Storage areas.

- MRP will submit a document (submitted August 11, 2008) describing the Exposure Unit approach to KDHE and EPA. Upon approval of this document, an exposure unit soil sampling work plan will be prepared.

- MRP will prepare the semiannual (January – June) groundwater monitoring report for submittal to KDHE and EPA on September 1, 2008. This report will include the groundwater sampling laboratory analytical reports, groundwater capture zone monitoring data, and monitoring data for the LTU soil vapor extraction and air sparge system.

- Semiannual groundwater sampling will be conducted in October. MRP will notify KDHE of the sampling schedule. At this time it is anticipated to start the third full week in October.

Instances of Noncompliance with Part II of the Permit not Otherwise Required to be Reported Pursuant to Permit Condition II.R: There are no instances of noncompliance to report under Part II.R of the permit.

INTERIM MEASURES

Description of Work Completed:

- MRP submitted the semiannual ICM report to KDHE and EPA on April 30, 2008. This report covered the fourth quarter 2007 and first quarter 2008 and included groundwater potentiometric surface contour maps for each of the six months in this period. The report also included information on the operation of the recovery well system including groundwater pumping rates and product recovery volumes. Monthly Walnut River inspection observations are also included in this report.

- Recovery well designs, specifications, and construction bid packages were completed during this quarter for the recovery well system expansion in the north area of the site. Proposed well construction diagrams for each of the five new recovery wells were provided to KDHE and EPA (August 5, 2008).

- Closed Surface Impoundment Soil Vapor Extraction/Air Sparge System – the soil vapor extraction and air sparge system operated normally during this reporting period. The soil vapor extraction system inlet air stream was sampled on May 8, 2008. The laboratory reported the following inlet air sample monitoring results: benzene, 3.1 milligrams per cubic meter (mg/m^3); toluene, <12 mg/m^3; ethylbenzene, <2.5 mg/m^3; xylenes, <5 mg/m^3; and total petroleum hydrocarbons (gasoline range organics), 920 mg/m^3.

- Oxidation Pond System Outfall Improvement – the oxidation pond discharge outfall has been redesigned. The redesign addresses operational issues associated with the existing underflow weir. The current outfall is prone to blockage resulting in reduced discharge capacity. The reduced discharge is a problem during high intensity precipitation events. The redesign replaces the underflow pipe/weir with a Parshall flume. KDHE Bureau of Water has been notified and the appropriate revisions to the NPDES permit will be made.

Projected Work for the Next Quarter:

MRP will expand the North Area and Process Area pilot free-product recovery system constructed in October 2007. The expanded system will include the five new recovery wells as described in the previous semiannual ICM and quarterly CMS report dated April 30, 2008. The recovery wells will be dual pump systems with a groundwater depression pump and a product recovery pump. The groundwater and free product will be managed in the existing water treatment and product recovery systems. Both the groundwater treatment system and the recovered product storage tank have adequate capacity and the new wells will not interfere with the operation of the groundwater recovery system downgradient of the waste management area. The well construction start date has not been finalized as of the date of this report. The construction is anticipated to take approximately two to three weeks. The construction start date is September 22 2008. The proposed well locations are included on the attached Figure 1 (provided to

KDHE and EPA on August 5, 2008). MRP will notify KDHE and EPA of any changes in the well construction schedule.

If you have questions or comments regarding this information, please call Brenda Epperson at (210) 345-4619 or me at (972) 293-6722.

Sincerely,

Rob Franke, P.E.
Bucher, Willis & Ratliff Corporation

Attachments

cc: Brenda Epperson, MRP
David Garrett, EPA
Raymond Rahn, MRP
Jay Mednick, MWH

MWH

BUILDING A BETTER WORLD

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APR 2 8 2008

BUREAU OF WASTE MANAGEMENT

April 21, 2008

1005686

Chief of the Hazardous Waste Permits Section
ATTN: Mostafa Kamal
Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Five-Year Review Report
Michigan Reutilization LLC, Arkansas City, Kansas
EPA ID# KSD 087418695

Dear Mr. Kamal,

MWH Americas, Inc. (MWH) is submitting this response to the Kansas Department of Health and Environment (KDHE) Bureau of Waste Management (BWM) comments on the Five-Year Review Report (Report) on behalf of Michigan Reutilization, LLC (MR). The Report was prepared in accordance with the facility's Hazardous Waste Permit condition I.B.3 and contains a detailed review and assessment of the corrective action program at the Arkansas City, Kansas facility. The Report was submitted to KDHE on April 24, 2006. Section 5 of the report provided recommendations for the corrective action program for consideration in the upcoming permit modifications. The response to the KDHE comments presented in this letter is based upon review of the comments and subsequent discussions with KDHE personnel.

The format of this letter is as follows; original Report proposal, KDHE comment in italics, and MR response.

Facility Recommendation 1:
Include procedures in the GWSAP for groundwater sampling using Passive Diffusion Bag (PDB) and Low Flow sampling techniques – affected document(s) Part B Permit Application Appendix 9.

KDHE Comment:
Michigan Reutilization (MR) recommended that the groundwater sampling program be revised

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to include procedures to use passive diffusion bags (PDB) and low flow sampling techniques. In order to use low-flow sampling, KDHE requires the stabilization of water quality indicator parameters prior to the collection of groundwater samples. In addition, water levels must be measured during purging to demonstrate a minimum drawdown of less than 25% of the screened interval above the pump intake.

Recommended water quality parameters are dissolved oxygen, turbidity, oxidation-reduction potential, and electrical conductance. Furthermore, water quality parameters should be recorded every three to five minutes. Parameters are considered stable when three successive readings have been collected within the following ranges: dissolved oxygen ±10% or 0.3 mg/L, turbidity ±10%NTUs (when turbidity is greater than 10 NTUs), oxidation-reduction potential ±10 mV, and electrical conductance ±3% µs/cm. The flow rate at which the pump will be operated must be based on the hydraulic conductivity of the aquifer and the drawdown, with the goal of minimizing the drawdown. Recommended pump flow rates are on the order of 0.1 to 0.5 L/min. Once stabilization has been achieved, the above referenced parameters, pH, and temperature measurements must be recorded in the field logbook prior to sampling collection. Sampling collection can take place without stabilization once three borehole volumes of groundwater have been removed.

KDHE will support MR exploring the use of PDB sampling at this site. The aquifer characteristics indicate this technology may be appropriate for site. Prior to adding PDB sampling procedures to the sampling and analysis plan, KDHE requests the completion of a validation study to confirm that PDB sampling will produce similar results as current methods. A validation study would include conducting a side-by-side test with both PDB samples and conventional sampling techniques. At a minimum, the validation study should consist of four wells and two consecutive sampling events. A work plan should be submitted to KDHE prior to implementation of any validation studies.

MR Response:
MR is withdrawing the recommendation to include the PDB and low-flow sampling techniques in the groundwater sampling and analysis plan.

Facility Recommendation 2:
Revise the groundwater monitoring constituent list, remove Appendix IX requirement and revise the groundwater protection standards (GWPS) constituents (Table 17) – affected document(s) Part B Permit Application Appendix 9, Facility Permit.

KDHE Comment:

a. *Changes to the Groundwater Protection Standard (GWPS) necessitate a Class 3 permit modification, and KDHE will consider modifying the sampling of the GWPS list contained*

in Permit Attachment B- Groundwater Protection Standard. Although KDHE does not object to the constituents proposed in Table 17 of the Five Year Permit Review document, KDHE believes that the following constituents should also be added for the reasons provided.

Benzo(a) anthracene	*Historically detected above Permit GWPS standard*
Benzo(b) fluoranthene	*Historically detected above Permit GWPS standard*
Benzo(a) pyrene	*Historically detected above Permit GWPS standard*
Bis(2-ethylhexyl) phthalate	*Historically detected above GWPS standard and 2003 RSK values*
1,4-Dioxane	*Detection and/or reporting limits have historically exceeded GWPS standard*

Furthermore, Table 17 of the Five Year Permit Review document contains incorrect RSK values for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene. These RSK values should be corrected to 5 µg/L, 5 µg/L, and 9,000 µg/L, respectively. Additionally, the concentration limits listed in the GWPS list should be revised to reflect current Maximum Contaminant Levels and Kansas Tier II Risk Based (RSK) values.

b. *KDHE does not concur with completely removing Appendix IX requirements. 40 CFR Part 264 Subpart F requires the facility to determine whether additional hazardous constituents from Appendix IX, which are not on the detection monitoring list in the Permit, could possibly be present in the uppermost aquifer. Removing Appendix IX sampling will not enable the facility to meet this requirement. However, KDHE will consider revising the list of Appendix IX constituents required for analysis, though.*

MR Response:
MR is withdrawing the request at this time to revise the GWPS. MR will submit a revised Report Section 5.0 Recommendations. Table 17 will be removed from the revised Report.

Based on Appendix IX testing conducted in 2004, MR requests KDHE revise the list of Appendix IX constituents and remove the testing requirements for the organochlorine pesticides, PCBs, and chlorinated herbicides. These constituents have not been detected in groundwater samples nor are they associated with operations at a petroleum refinery.

Facility Recommendation 3:
Remove field forms from O&M plans and sampling plans and replace with text in the respective documents to provide additional operational flexibility to the facility – effected documents Part B Permit Application Appendix 9, LTU O&M Plan, Groundwater Corrective Action O&M Plan;

KDHE Comment:

KDHE concurs with the removal of the field forms from the O&M and sampling plans to provide the facility some operational flexibility. The text in the respective documents must be revised to describe the information to be recorded on the field forms. Change pages to these documents should be submitted to KDHE for review and approval.

MR Response 3:

MR will implement the revisions and submit revised text in the respective documents to KDHE for review and approval as a Class 1 permit modification. The Class 1 permit modification letter will include a sample field form with a list of the parameters that will be incorporated on future field forms for the facility.

Facility Recommendation 4:

Remove BTEX analysis from LTU air monitoring; retain TPH-GRO analysis – affected document(s) Engineering Feasibility Plan, LTU SVE-AS O&M Plan.

KDHE Comment:

As written, the Five Year Review Report does not contain sufficient information to support the removal of the BTEX analysis from Land Treatment Unit (LTU) air monitoring. The report should be revised to include a summary of historical and current air monitoring data and the rationale for eliminating BTEX analysis while maintaining monitoring of total volatile petroleum hydrocarbons. The report will become a public document, and as such, should contain sufficient details to support and substantiate any subsequent permit modifications.

MR Response 4:

MR withdraws the recommendation to modify the BTEX testing requirement for the LTU soil vapor extraction system since the facility has proposed to KDHE that the system be shutdown.

Facility Recommendation 5:

Decrease LTU air sparge system flow-balancing events from quarterly to semiannually – affected document(s) Engineering Feasibility Plan, LTU SVE-AS O&M Plan.

KDHE Comment:

KDHE will consider MR's proposal to decrease the LTU air sparge system flow-balancing events from quarterly to semiannually; however, more information must be provided in the Five Year Review Document to support this modification. The Engineering Feasibility Plan and the O&M plans must be revised to annotate this change. Change pages to these documents should be submitted to KDHE for review and approval.

MR Response 5:

MR is withdrawing the recommendation to modify the LTU air sparge system flow-balancing frequency since the facility has proposed to KDHE that the system be shutdown.

Facility Recommendation 6:

Remove Tank 7132 and emergency containment tanks (TK-7111 and TK-7112) from the groundwater corrective action system -affected document(s) Engineering Feasibility Plan and Groundwater Corrective Action O&M Plan.

KDHE Comment:

KDHE does not object to the removal of emergency containment tanks 7111 and 7112 from the groundwater corrective action system. KDHE acknowledges that the tanks were originally included for temporary groundwater storage for up to 35 hours and that the tanks have never been used since the inception of the groundwater recovery system. Furthermore, series of existing oxidation ponds seems to be sufficient in ensuring that recovered groundwater does not exceed NPDES standards prior to discharge to the Walnut River. Removing these tanks from the corrective action system will necessitate modifications to the existing permit. KDHE proposes to modify the permit by replacing language pertaining to the tanks in Permit Condition IV.C.1.e and Permit Condition IV.A. with language to describe the series of oxidation ponds that will be used in lieu of the tanks. Additionally, MR should provide information about the fate of the tanks and documentation that they have been closed clean in accordance with regulations or verification that they do not contain any residual contamination.

MR Response 6:

KDHE is correct; there has been no need to use tanks TK-7111 and TK-7112 for the purpose described in the Engineering Feasibility Plan (EFP). Modifications to the water treatment system in 1999 rendered tanks TK-7111 and TK-7112 obsolete.

In the original design, the groundwater from the recovery wells was pumped to the bioreactor tank, then by gravity, flows from the bioreactor tank to the #3B pond and to the Shell Trap, from the Shell Trap, the water is pumped to the #1A Oxidation Pond. The pump at the Shell Trap was a critical mechanical component in the system. If this pump failed, the emergency containment tanks would be used to store groundwater until the pump was operational. If the Shell Trap pump was not repaired before tanks TK-7111 and TK-7112 were filled, the recovery system would have to be shut down. TPI Petroleum, Inc. installed a new discharge pipe from the bioreactor tank directly to the #1A Oxidation Pond in 1999 to allow the treated groundwater to gravity flow to the oxidation ponds bypassing the Shell Trap. Additional modifications to the bioreactor tank system included installation of a second 75 horse power (hp) air compressor in 2006 providing complete system redundancy. The #3B pond remains part of the system and is available if needed to handle excess storm water runoff.

Tanks TK-7111 and TK-7112 were decommissioned in 2002. Onyx Waste Services was contracted to clean the tanks in 2002.

Additionally, MR proposes to use Vessel V-7106 for temporary storage of recovered product in lieu of Tank 7132. Vessel V-7106 is located at the lift station (Figure 1). Vessel V-7106 is a newer tank and has greater capacity. Tank V-7106 has a capacity of 280 barrels and was installed in 1986. Tank 7132 has a capacity of 250 barrels and was built in 1951. Tank V-7106 has several advantages including: 1) newer construction, 2) larger tank providing greater storage capacity, and 3) located within the lift station which provides greater containment capacity than the Tank 7132 spill containment area.

Tank V-7106 is situated within the Lift Station adjacent to the API separator system bays as shown on Figure 1. The API system and Tank V-7106 are located within the same spill containment area. The lift station drains into the two API separator bays. The two bays have a combined capacity of 3740 barrels. A float control system maintains an eight foot water depth in the API separators, providing 1745 barrels available capacity, more than adequate to handle a release from the 280 barrel Tank V-7106. In addition, the entire lift station is surrounded by a concrete wall that is approximately 1.25 feet high at the lowest point. The API separator system will contain any product release from Vessel V-7106 and prevent recovered product from entering the water line to the bioreactor tanks.

MR will clean tank 7132; water will be managed in the water treatment system.

MR proposes the text in the permit be revised as follows:

Permit Section IV.A Unit Description

The groundwater containment and recovery system consists of ~~six~~ 10 ~~(6)~~ recovery wells~~,~~ and a product recovery tank~~., and two emergency containment tanks.~~ The recovery wells are used to achieve a gradient reversal to contain the groundwater and prevent releases to the Walnut River. In addition, the recovery wells pump the groundwater to the facility's wastewater treatment system (bioreactor tanks, #3B Lagoon, and a series of oxidation ponds) for treatment and discharge under an NPDES permit.

Permit Section IV.C.1.d. Groundwater Corrective Action Systems

The Permittee shall maintain Tank V-7106~~7132~~ for storage of recovered light non-aqueous phase liquid (LNAPL) as specified in the Engineering Feasibility Plan, Section 15.4 of the Part B Permit Application.

~~Permit Section IV.C.1.e. Groundwater Corrective Action Systems –.~~

~~The Permittee shall maintain two tanks for use as emergency containment and storage of recovered groundwater as specified in the Engineering Feasibility Plan, Section 15.4 of the Part B Permit Application.~~

Facility Recommendation 7:

Change the operation requirement for recovery well RW-80A to intermittent use for product recovery as necessary – affected document(s) Engineering Feasibility Plan and Groundwater Corrective Action O&M Plan, Facility Permit.

KDHE Comment:

KDHE requests a capture zone analysis of the adjacent recovery wells and a description of the criteria to determine hydraulic conditions for operation of RW-80A in order to support any decision to amend the operations of RW-80A. Furthermore, KDHE believes that RW-80A should maintain the capability to operate as a recovery well as a contingency in the event that capture zone monitoring well pair CMW-04 and MW-1002 fails to maintain groundwater hydraulic gradient reversal. If the recommendation is approved, changed pages to the Engineering Feasibility Plan and Groundwater Corrective Action O&M Plan must be submitted to KDHE. KDHE would then modify Permit Condition IV.C.1.a, Table 4 of Part I of the permit to reflect this proposed change as follows:

Table 4 - Groundwater Containment and Recovery System

Recovery Wells (10)	*RW-35*	*RW-60*
	RW-40	*RW-65*
	RW-45	*RW-70*
	RW-50	*RW-75*
	RW-55	*RW-80A**

** RW-80A operated intermittently in accordance with the Part B Permit Application*

MR Response 7:

Recovery well RW-80A (successor to RW-80) was originally installed in 1995 to intercept free product in the vicinity of the outfall into the Walnut River. Recovery well RW-80A was included in the groundwater corrective action system as the sixth of six original groundwater recovery wells (RW-35, RW-40, RW-50, RW-60, RW-70, and RW-80A) included in the facility's permit. In January 2002, four new recovery wells (RW-45, RW-55, RW-65, and RW-75) were added to the system to improve groundwater capture and provide system redundancy. Recovery well RW-75 is located hydraulically upgradient of recovery well RW-80A which in turn is laterally cross gradient to capture zone monitoring well CMW-4 (2006 Annual RCRA Groundwater Monitoring Report, Figure 2) a copy of the 2006 annual groundwater monitoring report Figure 2 is attached for reference. The effect of recovery well RW-80A's location is to oppose the operation of

recovery well RW-75 and draw down the groundwater at monitor well CMW-4 resulting in loss of groundwater capture at the downgradient boundary of the Waste Management Area (WMA) in the vicinity of capture zone monitor well pair MW-1002/CMW-4 and inducing groundwater flow toward the Walnut River.

Personnel at the facility measured the groundwater elevations at capture zone monitor wells MW-1002 and CMW-4 on August 10, 2007 with RW-80A pumping 10 gallons per minute and turned off to demonstrate the effect recovery well RW-80A has on the groundwater capture. The groundwater elevation difference with RW-80A pumping 10 gallons per minute was 0.17 feet. RW-80A was turned off and approximately two hours later the groundwater elevations in MW-1002 and CMW-4 were measured and the elevation difference was 0.20 feet. This effect has been observed in the past. The operation of RW-80A consistently reduces the groundwater elevation difference between monitor wells MW-1002 and CMW-4.

MR agrees with KDHE that recovery well RW-80A should maintain the capability to operate as a groundwater recovery well but it should be permitted to operate intermittently for product recovery. The facility will maintain the groundwater pumping equipment for RW-80A should it be necessary in the future.

MR will submit a request for temporary authorization to implement a Class 1 permit modification to demonstrate the affect of converting recovery well RW-80A to product recovery services will not affect the reverse hydraulic gradient.

Facility Recommendation 8:
Revise the groundwater gradient reversal demonstration criteria to a minimum of 0.1 feet of head differential as the compliance criterion with 0.2 feet of head differential specified as the goal – affected document(s) Facility Permit.

KDHE Comment:

MR has requested a reduction in the minimum reversal gradient requirement for the groundwater recovery system along the Walnut River. Although MR has submitted subsequent correspondence to support this recommendation, additional information should be provided to support the rationale for reducing the requirement from 0.2 feet to 0.1 feet. Additionally, MR should provide conditions upon which the reduced gradient requirement would apply and detailed engineering information on how this small gradient reversal could be accurately and reliably measured and documented. Analysis should also be provided on how the proposed change may affect pumping rates of recovery wells and any potential releases of the constituents of concern to the river.

MR Response 8:

Based on discussions with KDHE personnel, MR is withdrawing this recommendation at this time.

Facility Recommendation 9:

Consolidate corrective action program reporting into a single annual report due March 1 for the preceding January through December period – affected document(s) Facility Permit.

KDHE Comment:

MR has requested consolidating the corrective action program reporting from semi-annual reporting to annual reporting. Current Permit Condition IV.E establishes the requirements for the semi-annual reports. KDHE will allow the results of the semi-annual monitoring events to be reported in an abbreviated format, but the annual report must contain all required data and analysis. At a minimum, the abbreviated semi-annual report shall include results or summary tables for: groundwater level measurements, constituent sampling, capture zone compliance monitoring, influent sampling, recovery well system groundwater data, free product data, and LTU system data.

KDHE will modify this portion of the permit to replace the word "semi-annual" with "annual" and modify Permit Condition IV.E.5.e as follows:

The Permittee shall submit the Annual Groundwater Corrective Action Reports to the Secretary by March 1 of each calendar year for the preceding calendar year. A semi-annual report on the effectiveness of the corrective action program shall be submitted to the Secretary by September 1 of each calendar year. The semi-annual reporting may contain a narrative summary evaluating the effectiveness of the corrective action program.

MR Response 9:

Based on discussions with KDHE personnel, MR is withdrawing this recommendation at this time.

Summary

The recommendations presented above are summarized in the following Table.

Comment	Recommendation	Action
1	Withdraw PDB and low-flow sampling recommendation.	No Further Action
2	Withdraw recommendation to revise the groundwater protection standards. Remove organochlorine pesticides, PCBs, and chlorinated herbicides from Appendix IX testing list. Delete Table 17 from the Five-Year Permit Review Report. Withdraw	Pending determination from KDHE

	recommendation to change Appendix IX testing frequency to every six years.	
3	Remove field forms from O&M plans and sampling plans and replace with text in the respective documents.	Class 1
4	Withdraw recommendation to remove BTEX analysis from LTU air monitoring, retain TPH-GRO analysis.	No Further Action
5	Withdraw recommendation to decrease LTU air sparge system flow-balancing events from quarterly to semiannually.	No Further Action
6	Remove Tank 7131 and emergency containment tanks (7111 and 7112) from the groundwater corrective action system; additionally, replace Tank 7132 with Tank V-7106 for temporary storage of recovered product.	Class 1
7	Change the operation requirement for recovery well RW-80A to intermittent use for product recovery.	Temporary authorization/Class 1 Mod.
8	Withdraw request to revise groundwater gradient reversal demonstration criteria.	No Further Action
9	Withdraw request to consolidate corrective action program reporting into a single annual report due March 1 for the preceding year; January through December.	No Further Action

Applicable replacement pages will be submitted under separate cover pending KDHE's approval of the response to these comments.

Please contact either Brenda Epperson, MR at 210-345-4619 or me at 303-291-2262 if you have any questions regarding this information.

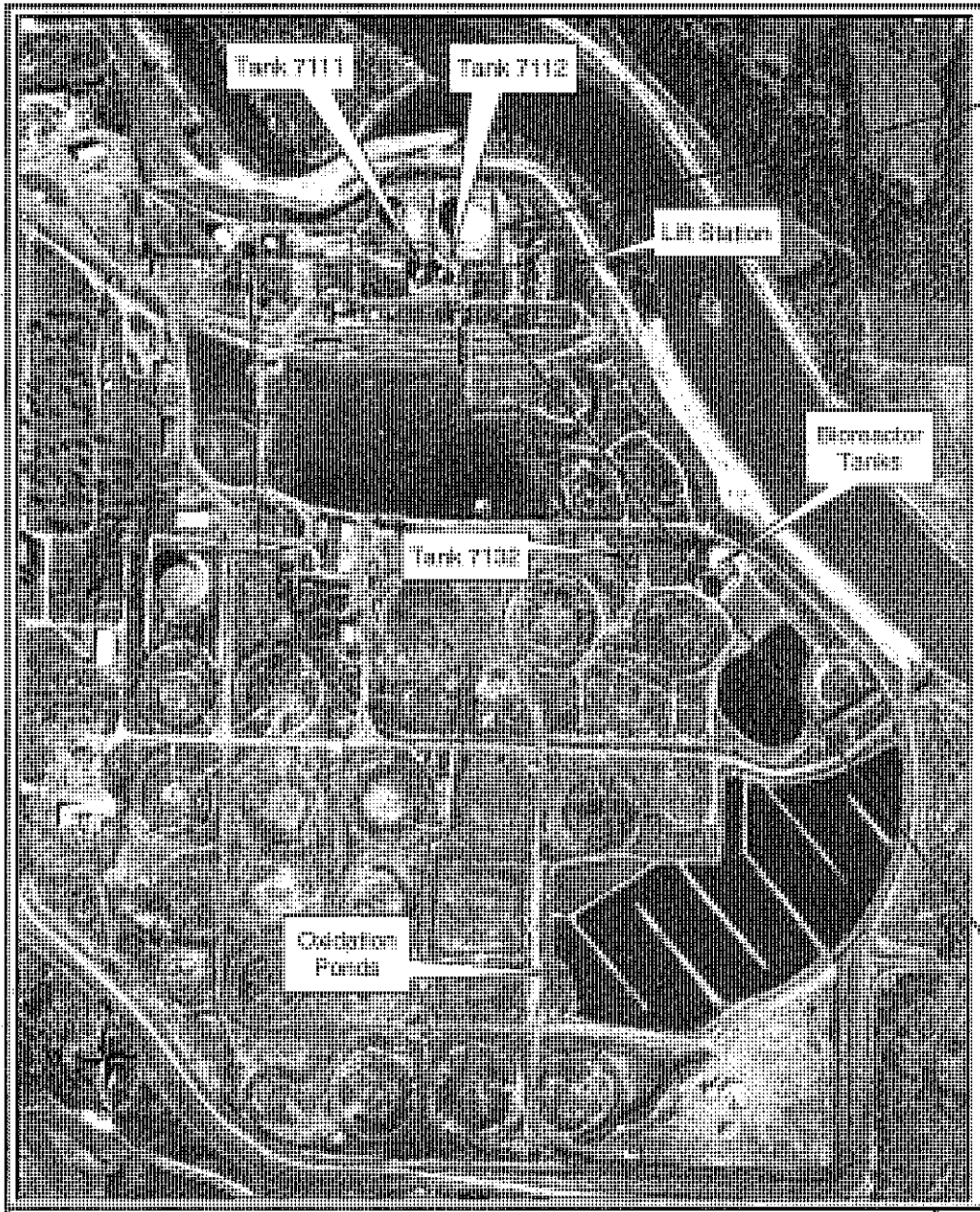
Sincerely,

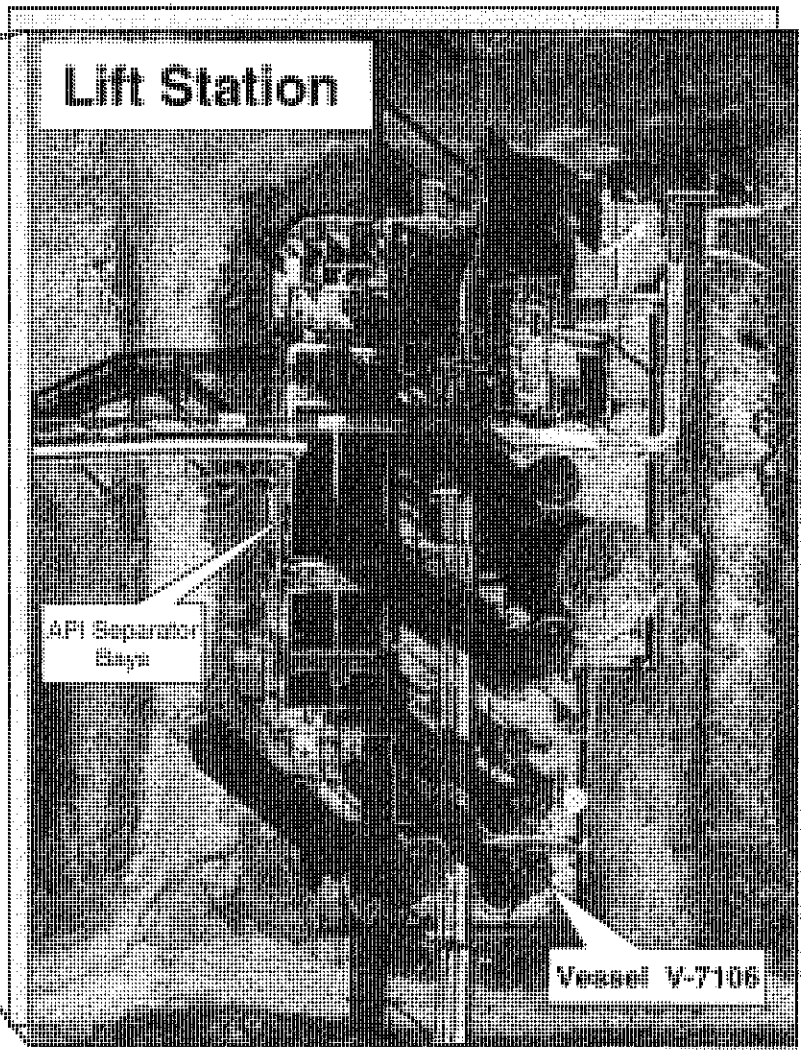
MWH Americas, Inc.

Joseph Mednick, P.G.

Attachments: Figure 1

Cc: Devin Pollock, KDHE w/attachments
Brenda Epperson, MR w/attachments
David Garrett, EPA w/attachments
Raymond Rahn, MR w/attachments





EXPLANATION

Product Recovery
Vessel V-7106
Location Map

MICHIGAN REFITILIZATION, LLC
ARKANSAS CITY, KANSAS

MWH

1

MWH

BUILDING A BETTER WORLD

February 29, 2008

Chief, Hazardous Waste Permits Section
Attn: Mr. Mostafa Kamal, PE CHMM
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

1005197

VIA FEDERAL EXPRESS
TRK# 7920 1466 7529

RECEIVED
MAR 03 2008
BUREAU OF WASTE MANAGEMENT

Re: 2007 Annual Groundwater Monitoring Report
Arkansas City, Kansas
Michigan Reutilization, LLC
EPA ID No.: KSD087418695

Dear Mr. Kamal,

Please find enclosed the 2007 Annual Groundwater Monitoring Report for the former Arkansas City Refinery. MWH is submitting this report on behalf of Michigan Reutilization, LLC. An electronic copy of the report is included on the CD-ROM included in Appendix E. This report has been prepared in accordance with the above referenced RCRA permit.

If you have any questions regarding this report, please contact Brenda Epperson, Michigan Reutilization at (210) 345-4619 or me at (303) 291-2262

Sincerely,

MWH Americas, Inc.

Joseph Mednick, P.G.
Principal Hydrogeologist

Enclosure:

cc: Brenda Epperson, MR, LLC w/enc.
Raymond Rahn, MR, LLC w/enc.
Devin Pollock, KDHE w/o enc.
David Garrett, EPA Region 7 w/enc.

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MWH

BUILDING A BETTER WORLD

RECEIVED

FEB 19 2008

BUREAU OF WASTE MANAGEMENT

February 15, 2008

Mostafa Kamal
Chief of the Hazardous Waste Permits Section
Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

1005197

RE: Transmittal of Request to Discontinue Operation of the LTU SVE-AS System
Michigan Reutilization, LLC Arkansas City
EPA ID KSD087418695

Dear Mr. Kamal:

MWH has prepared the enclosed document on behalf of Michigan Reutilization, LLC (MR) for their Arkansas City, Kansas facility. The document contains a formal request to discontinue operation of the soil vapor extraction and air sparge system (System) at the closed Land Treatment Unit (LTU). This request is submitted in accordance with Section IV.C.3.e of the facility's Hazardous Waste Management Permit. Since startup in October 2002, the SVE system has removed approximately 30 tons of petroleum hydrocarbons from the subsurface and the air sparge system has injected almost 500 tons of oxygen into the groundwater. Monitoring data collected during the last 18 months indicate there is no additional benefit to continuing operation of the System. This report presents the operational monitoring data since the system was turned on, a review of the system performance, and the request to discontinue the system operation.

If you have any questions regarding the enclosed report and request, please contact either myself at 303-291-2262 or Brenda Epperson of MR at 21-345-4619.

Sincerely yours,

MWH Americas, Inc.

Joseph F, Mednick P.G.
Principal Hydrogeologist

Enclosure

cc: Brenda Epperson, MR w/enc.
Raymond Rahn, MR w/enc.
Devin Pollock, KDHE w/enc.

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Michigan Re[illegible]tization, LLC

Devin Pollock/Kdhe
09/17/2007 07:32 AM

To Jay F Mednick <Joseph.F.Mednick@us.mwhglobal.com>
cc "Brenda Manterola" <brenda.manterola@valero.com>
bcc
Subject Re: ArkCity Field Work Notification

Jay,

Thank you for the update. I was out of the office on Friday. Probably will not make it to the site this week or next but maybe for the well development portion of the fieldwork. I will notify you and Brenda by e-mail if I plan on being at the site the week of October 1.

Thanks,

Devin

Devin Pollock
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Office: (785) 291-3760
Fax: (785) 296-1592
E-Mail: dpollock@kdhe.state.ks.us

Jay F Mednick <Joseph.F.Mednick@us.mwhglobal.com>

Jay F Mednick
<Joseph.F.Mednick@us.mwh
global.com>
09/14/2007 04:28 PM

To DPollock@kdhe.state.ks.us
cc "Brenda Manterola" <brenda.manterola@valero.com>, ESpellma@kdhe.state.ks.us
Subject Re: ArkCity Field Work Notification

Devin,

Per my voice message, we started this week at recovery well RW-75, the sequence will generally be from RW-75 to RW-65, to RW-55, to RW-45, and lastly RW-35. Only one recovery well is treated at a time, the other recovery wells will continue to operate during the treatment. The duration of the treatment is generally 48-hours per well. The well treatment will continue next week, and should be completed by Friday, September 21.

Attached is letter detailing the plan to install the two new recovery wells located in the North Area and the Process Area. The installation will follow the technique used earlier this year for recovery wells RW-40, RW-60, and RW-70.

Please contact either me or Brenda Manterola at 210-345-4619 if you have any questions about this information.

Thank you.

Jay

Jay Mednick P.G.

MWH
1801 California Street, Suite 2900
Denver, CO 80202

Direct: 303-291-2262
Main: 303-291-2222
Fax: 303-291-2180

jay.mednick@mwhglobal.com

DPollock@kdhe.state.ks.us

09/11/2007 09:15 AM

To Jay F Mednick <Joseph.F.Mednick@us.mwhglobal.com>
cc "Brenda Manterola" <brenda.manterola@valero.com>, ESpellma@kdhe.state.ks.us
Subject Re: ArkCity Field Work Notification

Hello Jay,

I have a few comments in regard to your e-mail.

1.) As we discussed on August 28, Michigan Reutilization will be performing chemical treatment on recovery wells RW-35, RW-45, RW-55, RW-65, and RW-75 this week and next at the Arkansas City site. Layne-Western has been hired to perform the treatment. We have planned on two days per well for the treatment.
KDHE Comment 1 - Please submit a schedule to KDHE of which recovery wells you will start with including a description of how long the system will be shutdown.

2.) The recovery well installation we discussed on the 28th is still scheduled for the week of September 24. We'll keep you appraised of any changes to that schedule. We anticipate the installation of the two recovery wells will be completed by September 26 or 27 pending field conditions. Typically these wells take 1.5 days to complete. The first day begins around 7 or 8 a.m. and ends by 10 p.m. or later - day one

involves the drilling, installation of the screen and blank casing, followed by the gravel pack and a bentonite seal above the gravel pack. The remainder of the annulus (above the water table) and the well head are completed on a second day, or in this particular case probably following the installation of the second well.

KDHE Comment 2 - Please submit a workplan to KDHE for the installation of the two recovery wells including well diagrams and location map where these two recovery wells will be located.

If you have any questions or comments, please contact me at the number below.

Thank you,

Devin

Devin Pollock
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Office: (785) 291-3760
Fax: (785) 296-1592
E-Mail: dpollock@kdhe.state.ks.us

Jay F Mednick <Joseph.F.Mednick@us.mwhglobal.com>

09/11/2007 09:32 AM

To dpollock@kdhe.state.ks.us
cc espellma@kdhe.state.ks.us, brenda.manterola@valero.com
Subject ArkCity Field Work Notification

Devin,

As we discussed on August 28, Michigan Reutilization will be performing chemical treatment on recovery wells RW-35, RW-45, RW-55, RW-65, and RW-75 this week and next at the Arkansas City site. Layne-Western has been hired to perform the treatment. We have planned on two days per well for the treatment.

The recovery well installation we discussed on the 28th is still scheduled for the week of September 24. We'll keep you appraised of any changes to that schedule. We anticipate the installation of the two

recovery wells will be completed by September 26 or 27 pending field conditions. Typically these wells take 1.5 days to complete. The first day begins around 7 or 8 a.m. and ends by 10 p.m. or later - day one involves the drilling, installation of the screen and blank casing, followed by the gravel pack and a bentonite seal above the gravel pack. The remainder of the annulus (above the water table) and the well head are completed on a second day, or in this particular case probably following the installation of the second well.

Please contact me if you have any questions about this information.

Thank you.

Jay

Jay Mednick P.G.

MWH
1801 California Street, Suite 2900
Denver, CO 80202

Cell: 303-885-5069
Direct: 303-291-2262
Main: 303-291-2222
Fax: 303-291-2180

jay.mednick@mwhglobal.com

Recov Well Installation Notification.pdf

MWH

RECEIVED
SEP 04 2007
BUREAU OF WASTE MANAGEMENT 1005197

August 31, 2007

Chief of the Hazardous Waste Permits Section
Attention: Mr. Mostafa Kamal
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: 2007 Semiannual RCRA Groundwater Corrective Action Report
January 1, 2007 through June 30, 2007
Michigan Reutilization, LLC Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Kamal:

MWH is submitting this report on behalf of Michigan Reutilization, LLC (MR) in accordance with the reporting requirements described in Section IV.E.5 of the Arkansas City facility's RCRA Permit for the period January 1, 2007 through June 30, 2007. The data included in this report includes results of the quarterly bioreactor influent stream monitoring and gradient demonstration monitoring, semiannual groundwater monitoring, and operations data for the groundwater recovery system and the Land Treatment Unit (LTU) soil vapor extraction (SVE) and air sparge (AS) systems. An electronic copy of this report is also included on the attached CD-ROM. The groundwater monitoring was conducted in accordance with the procedures presented in the approved Groundwater Sampling and Analysis Plan (SAP). A site location map is included on Figure 1. The monitor well locations are shown on Figure 2. A complete assessment of the semiannual monitoring data will be provided in the annual groundwater monitoring report.

Quarterly Groundwater Level Monitoring

Corrective action groundwater monitoring well water level measurements for the first two quarters of 2007 are summarized on Table 1.

May 2007 Semiannual Groundwater Monitoring Event

The semiannual sampling event was conducted between May 7 and May 10, 2007. The groundwater samples collected from the corrective action performance, supplemental

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80202

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Fax: 303 291-2221

information, and background monitor wells were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). MR included analyses of methyl tert-butyl ether (MTBE), and tert-butyl alcohol (TBA) for this sampling event. TestAmerica Laboratories (TAL) in Arvada, Colorado performed the sample analyses. The BTEX and MTBE analytical results and corresponding field data are summarized in Table 2. The field sampling data forms, field logs, and chain-of-custody forms for the sample event are included in Attachment 1. The laboratory's analytical report Form I's are included in Attachment 2.

One field blank and two trip blanks were collected during the sampling event. The trip blanks were submitted to the laboratory with each sample cooler shipped. These field quality assurance samples were analyzed for BTEX, MTBE, and TBA. The laboratory analytical reports are included in Attachment 2. No detections of BTEX, MTBE, or TBA constituents were found in the field or trip blanks.

One duplicate sample was collected during the sample event. The sample labeled RCRA-MW-5 was a duplicate groundwater sample collected from monitor well MW-17 on May 10, 2007. All chemical analysis results were similar between the two samples collected from monitor well MW-17.

Quarterly Capture Zone Monitoring

Groundwater level and elevation data from the eight capture zone monitoring wells are summarized on Tables 3 and 4 for the March 14, 2007 and May 7, 2007 monitoring events, respectively. As is shown on the tables, the Permit-required head difference of 0.2 feet was met at each capture zone well pair during the first and second quarter monitoring events. Attachment 1 contains the groundwater level gauging field forms for the two quarterly compliance demonstration monitoring events (March 14 and May 5, 2007).

Quarterly Bioreactor Influent Sampling

The groundwater influent to the bioreactor tank was sampled during the first and second quarters of 2007. During both the March and May 2007 sampling, groundwater flow was confined to a single bioreactor inlet pipe, and one groundwater sample was collected.

The first quarter sample was collected on March 16, 2007, and the second quarter sample was collected during the semiannual sampling event on May 9, 2007. The influent flow and analytical data are summarized on Table 5. The field logbook entries for the quarterly bioreactor samples are included in Attachment 1. The laboratory analytical reports Form

I's are included in Attachment 2.

Groundwater Corrective Action: Recovery of Groundwater and Free Product

The groundwater and free product recovery systems functioned normally during the reporting period. Quantities of groundwater and free product recovered during the reporting period are summarized on Table 6 for the system as a whole and for each recovery well. Data for the recovery wells outside the waste management area boundary are also included on Table 6.

LTU Corrective Action System Monitoring

The LTU corrective action system is monitored weekly, monthly, and quarterly in accordance with the schedule and procedures established in the approved system Operation and Maintenance Plan (dated January 2003) and the Engineering Feasibility Plan. For the soil vapor extraction (SVE) system, weekly monitoring includes overall airflow, operational hours, influent concentrations of flammable gas measured as percent of the lower explosive limit (LEL), inlet vacuum, and inlet and outlet air temperatures. SVE air samples are collected on a quarterly basis and submitted to TAL in Pensacola, Florida for analysis of total volatile petroleum hydrocarbons (C6-C10) and BTEX. The air sparge (AS) system is monitored weekly and includes air sparge blower operational hours, blower outlet air temperature, air pressure, and airflow.

The airflow at each air sparge well is monitored quarterly using a handheld thermal anemometer. The air sparge airflow monitoring and flow balancing was performed on March 21, 2007 and June 20, 2007. The LTU SVE/AS monitoring data for the reporting period are summarized on Tables 7, 8, 9 and 10. The chain-of-custody forms for the SVE inlet air samples are included in Attachment 1, and the corresponding laboratory analytical report Form I's are included in Attachment 2.

Groundwater Corrective Action Well and Monitor Well Maintenance

Recovery wells RW-40, RW-60, and RW-70 were replaced between February 22 and March 12, 2007 following notification to KDHE on February 1, 2007 and in accordance with the approved plan submitted to KDHE on February 12, 2007. The recovery wells were replaced because well treatments over recent years had proven progressively less effective in maintaining the specific capacity. This was due in part to the design of these wells installed in 1995. Based on site experience, additional treatment of these three recovery wells would not yield satisfactory results and replacement of these three recovery wells with improved design features (casing material and well diameter) was determined to

be the appropriate action. The original three recovery wells were properly plugged and abandoned in accordance with KDHE requirements. Documentation of these activities were provided to KDHE in a separate document.

Other recovery well maintenance activities conducted during this reporting period consisted of routine maintenance of product and groundwater pumps. Section IV.D.3 of the facility permit requires annual subsurface well integrity inspections consisting of total well depth measurements. Table 11 contains the annual total well depth measurements conducted on April 26, 2007. All total well depth measurements demonstrated that the well screen occlusion was less than the permit maximum 10 percent criterion.

Please contact either Brenda Manterola, MR at 210/345-4619 or me at 303/291-2262 if you have any questions or comments about the information presented in this report.

Sincerely,

MWH Americas, Inc.

Jay Mednick, P.G.
Project Manager

Attachments: Tables 1-10, Figures 1 and 2, Attachments 1 and 2, and CD-ROM

Cc: Brenda Manterola, MR w/enc.
David Garrett, EPA Region 7 w/enc.
Devin Pollock, KDHE w/enc.
Raymond Rahn, MR w/enc.

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 7-10, 2007
Michigan Reutilization, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Sample ID / Association					
		WN-1A / Background	WN-1B / Background	WN-5B / CAP	WN-6A / CAP	WN-6B / CAP	WN-7B / CAP
Field Measurements							
Sample Date		05/07/07	05/08/07	05/10/07	05/08/07	05/08/07	05/09/07
Groundwater Elevation (ft amsl)		1050.36	1050.51	1049.54	1048.61	1048.59	1049.92
pH (standard units)		7.63	7.39	7.40	7.85	7.43	7.09
Conductivity @25°C (uS/cm)		1298	1064	1111	1480	1152	1360
Turbidity (NTU)		0.35	0.49	0.8	1.79	0.61	1.16
Temperature °C		16.4	15.4	16.2	17.2	16.9	18.0
Dissolved Oxygen (mg/L)		0.41	1.02	0.79	0.17	0.23	0.24
Laboratory Analyses							
Benzene (ug/L)	5	1 U	1 U	2 U	1 U	1 U	**250**
Toluene (ug/L)	1000	1 U	1 U	2 U	1 U	1 U	19
Ethylbenzene (ug/L)	700	1 U	1 U	2 U	1 U	1 U	2
Xylenes (total) (ug/L)	10000	2 U	2 U	4 U	2 U	2 U	39
MTBE (ug/L)*	20	5 U	5 U	10 U	5 U	5 U	5 U

MEASUREMENTS	Groundwater Protection Standard	Sample ID / Association					
		WN-8B / CAP	MW-6 / CAP	MW-12 / SUPP	MW-13 / CAP	MW-17[1] / CAP	RCRA-4 / SUPP
Field Measurements							
Sample Date		05/09/07	05/09/07	05/08/07	05/09/07	05/10/07	05/10/07
Groundwater Elevation (ft amsl)		1049.37	1045.07	1040.35	1045.10	1048.88	1046.33
pH (standard units)		7.57	6.92	7.20	7.81	7.70	6.89
Conductivity @25°C (uS/cm)		1314	1237	1241	1421	1366	1037
Turbidity (NTU)		0.53	95.1	564	0.41	2.2	424.0
Temperature °C		17.0	17.4	18.8	16.9	18.6	16.5
Dissolved Oxygen (mg/L)		0.22	1.30	6.56	0.59	0.30	2.11
Laboratory Analyses							
Benzene (ug/L)	5	**30 J**	**2000**	1 U	1 U	1 U	1 U
Toluene (ug/L)	1000	1.9	33	1 U	1 U	1 U	1 U
Ethylbenzene (ug/L)	700	1.3	240	1 U	1 U	1 U	1 U
Xylenes (total) (ug/L)	10000	5.3	4000	2 U	2 U	2 U	2 U
MTBE (ug/L)*	20	5 U	50 U	5 U	5 U	5 U	5 U

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 7-10, 2007
Michigan Reutilization, LLC - Arkansas City, Kansas

Notes:

1 - a duplicate sample (RCRA-MW-5) was collected with MW-17, the results are presented in Attachment 2.

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).

BOLD sample results indicate detection equal to or above the groundwater protection standard.

Monitor wells WN-1A, WN-6A, MW-12, MW-13 are completed in the lower part of the alluvial aquifer. The other wells are completed at and below the water table in the upper part of the alluvial aquifer.

* KDHE Tier 2 Risk Based Standard - Residential Groundwater Pathway

uS/cm = microsiemens per centimeter

NTU = nephelometric turbidity units

ft amsl = feet above mean sea level.

ug/L = micrograms per liter

mg/L - milligrams per liter

°C = degrees Celsius

CAP = corrective action performance

SUPP = supplemental information well

Two trip blanks and one field blank were analyzed for BTEX, there were no detections of these constituents

Table 3 Quarterly Groundwater Capture Zone Compliance Monitoring - March 14, 2007
Michigan Reutilization, LLC - Arkansas City, Kansas

Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elev.	Head Difference[2]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1063.72	28.26	1035.46	**0.75**	180	RW-35
	CMW-1	1059.71	23.50	1036.21		130	RW-40
2	113	1072.23	36.94	1035.29	**0.53**	70	RW-45
	CMW-2	1061.75	25.93	1035.82		160	RW-50
						50	RW-55
3	118	1070.70	34.45	1036.25	**0.25**	200	RW-60
	CMW-3	1061.47	24.97	1036.50		150	RW-65
4	MW-1002	1072.11	34.45	1037.66	**0.49**	200	RW-70
	CMW-4	1061.93	23.78	1038.15		55	RW-75
						20	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm						1215	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 4 Quarterly Groundwater Capture Zone Compliance Monitoring - May 7, 2007
Michigan Reutilization, LLC - Arkansas City, Kansas

Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elev.	Head Difference[2]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1063.72	23.83	1039.89	**0.55**	130	RW-35
	CMW-1	1059.71	19.27	1040.44		135	RW-40
2	113	1072.23	32.43	1039.80	**0.49**	80	RW-45
	CMW-2	1061.75	21.46	1040.29		110	RW-50
						100	RW-55
3	118	1070.70	29.87	1040.83	**0.32**	160	RW-60
	CMW-3	1061.47	20.32	1041.15		130	RW-65
4	MW-1002	1072.11	29.99	1042.12	**0.38**	150	RW-70
	CMW-4	1061.93	19.43	1042.50		25	RW-75
						20	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm						1040	

Notes:

1. Elevations are shown as feet above mean sea level. Casing elevations based on March 14, 2007 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 5 Summary of Quarterly Bioreactor Influent Sampling Results
Michigan Reutilization, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	1st Quarter Bioreactor Influent Sample	2nd Quarter Bioreactor Influent Sample
Field Measurements			
Sample Date		03/16/07	05/09/07
Flow (gpm)		1175	1100
pH		7.23	7.14
Temperature °C		16.80	18.64
Conductivity (uS/cm)		978	1242
Turbidity (NTU)		6.58	4.44
Dissolved Oxygen (mg/L)		5.04	1.63
Laboratory Analyses			
Benzene (ug/L)	5	13	8.3
Toluene (ug/L)	1000	0.66 J	0.44 J
Ethylbenzene (ug/L)	700	2.4 J	0.99 J
Xylenes (total) (ug/L)	10000	6.3	4.7
MTBE (ug/L)*	20	0.55 J	5 U

Notes:

gpm - gallons per minute

°C - degrees Celcius

uS/cm - micro siemens per centimeter

NTU - nephelometric turbidity units

mg/L - milligrams per liter

ug/L - micrograms per liter

U - not detected above the method reporting limit shown

J - estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).

MTBE - Methyl tert-butyl ether

* KDHE Tier 2 Risk Based Standard - Residential Groundwater Pathway

Table 8 Summary of LTU SVE System Inlet Air Sample Results
Michigan Reutilization, LLC - Arkansas City, Kansas

	SVE Inlet Concentrations		
Sample Date	2/28/2007	3/22/2007	6/27/2007
Laboratory Analyses			
Benzene (mg/m^3)	--	<1	<1
Toluene (mg/m^3)	--	<5	<5
Ethylbenzene (mg/m^3)	--	<1	<1
Xylenes (total) (mg/m^3)	--	<2	<2
MTBE (mg/m^3)	--	<5	<5
TVPH (mg/m^3)	<100	<100	<100

Notes:

1. Air samples submitted to Severn Trent Laboratories, Pensacola, Florida for analysis.
2. MTBE = methyl tert-butyl ether
3. TVPH = total volatile petroleum hydrcarbons (C6-C10)

-- = constituents not analyzed

Devin Pollock/Kdhe
07/31/2007 01:16 PM

To Jay F Mednick <Joseph.F.Mednick@us.mwhglobal.com>
cc brenda.manterola@valero.com
bcc
Subject Re: Michigan Reutilization Site - Arkansas City, Kansas

Jay,

KDHE has reviewed MWH e-mail regarding recommendations to Michigan Reutilization to connect recovery wells RW-60 and RW-65 to a separate header pipe to increase the pumping performance along the groundwater barrier system. This recommendation is acceptable to KDHE. Please keep me informed as to the construction work schedule. I would like to be there part of the time when the modifications are being completed.

If you have questions, please contact me at (785) 291-3760.

Respectfully,

Devin Pollock
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Jay F Mednick <Joseph.F.Mednick@us.mwhglobal.com>

Jay F Mednick
<Joseph.F.Mednick@us.mwhglobal.com>
07/27/2007 03:09 PM

To dpollock@kdhe.state.ks.us
cc brenda.manterola@valero.com
Subject Michigan Reutilization Site - Arkansas City, Kansas

Devin,

The purpose of this e-mail is to provide you and KDHE an update on the performance of the groundwater barrier system at the Michigan Reutilization Arkansas City site. Recent precipitation events in southeastern Kansas have resulted in surface water runoff in the Walnut river at or above flood stage on several occasions in July. The high surface water and precipitation events have caused the groundwater elevations to rise significantly over what has been observed over the last 10 years. As a result of the increased river flow and groundwater elevation we have had difficulty in obtaining the 0.2 feet head difference at one of the four capture zone monitoring well pairs (118 and CMW-3). In our evaluation of the condition we have prepared a recommendation to Michigan Reutilization to connect recovery wells RW-60 and RW-65 to a separate header pipe dedicated to these two wells. In doing so the flow rate in the existing header that serves recovery wells RW-45, RW-50, RW-55, RW-70, RW-75, and RW-80A will be reduced by approximately 400 gallons per minute (gpm). Reducing the flow rate in the header will increase the performance (discharge capacity) of the wells that remain connected to the header. Also, the performance of RW-60 and RW-65 will improve with the reduced friction loss in the dedicated pipe. Increased pumping performance will provide additional drawdown in the recovery wells during these unusual periods of high groundwater and river levels.

On a parallel subject, we continue to observe that RW-80A is interfering with the gradient reversal between monitor wells MW-1002 and CMW-4. We will contact you later with data and recommendations pertaining to changing the status of RW-80A in the permit as we have discussed previously.

At this time, MR is contacting contractors to assist with the installation of the new underground header, connect RW-60 and RW-65, install a third inlet pipe to the bioreactor and a flow meter to the bioreactor. We anticipate the improvements will be completed in approximately 30 days.

We are planning on conducting the quarterly groundwater compliance monitoring during August. We will keep you informed of the progress at least every two weeks. In the meantime, if you have any questions about this, please contact either Brenda Manterola at 210-345-4619 or me at 303-291-2262.

We appreciate you continued assistance with this project.

Thank you.

Jay

Jay Mednick P.G.

MWH
1801 California Street, Suite 2900
Denver, CO 80202

Direct: 303-291-2262
Main: 303-291-2222
Fax: 303-291-2180

jay.mednick@mwhglobal.com

MWH

RECEIVED
JUL 02 2007
BUREAU OF WASTE MANAGEMENT

June 29, 2007

Chief, Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Transmittal, Groundwater Recovery Well Replacement Report
Michigan Reutilization, LLC - Arkansas City, Kansas
EPA ID No.: KSD087418695

Chief, Hazardous Waste Permits Section:

Please find enclosed the report documenting the replacement of recovery wells RW-40, RW-60, and RW-70 at the former refinery site in Arkansas City, Kansas. This report also contains replacement pages for the facility's engineering feasibility plan and groundwater corrective action operation and maintenance plan.

If you have any questions regarding this report, please contact Ms. Brenda Manterola at (210) 345-4619, MR or me at (303) 291-2262.

Sincerely,

MWH Americas, Inc.

Jay Mednick, P.G.
Principal Hydrogeologist

Enclosure:

cc: Brenda Manterola, MR w/enc.
Raymond Rahn, MR w/enc.
David Garrett, EPA Region 7 w/enc.
Devin Pollock, KDHE w/o enc.

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KANSAS

DEPARTMENT OF HEALTH
AND ENVIRONMENT
Division of Environment

Kathleen Sebelius, Governor
Roderick L. Bremby, Secretary

www.kdheks.gov

February 16, 2007

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Request for Permit Modification- Single Agency Lead
Michigan Reutilization, LLC., Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola:

The Kansas Department of Health and Environment (KDHE) has reviewed the above referenced permit modification request submitted on April 18, 2006. This permit modification requested that KDHE be allowed to become the lead agency for regulatory oversight of both Part I and Part II requirements of the facility's RCRA permit. KDHE has conferred with EPA, and the Part II Permit has been revised to accommodate the modification request. KDHE has received and reviewed the approved Part II Permit, effective February 6, 2007. Therefore, KDHE is approving the request as a Class 1a permit modification, effective February 16, 2007.

1. The Part I Permit has been updated with the following modifications:

   a. **Permit Condition I.A.**: Revised to state that KDHE will be the lead oversight agency for implementation and administration of this permit and that EPA retains enforcement authority for the Hazardous and Solid Waste Amendments (HSWA) Part II requirements of the Permit.

   b. **Permit Condition I.L.**: Added a section regarding dispute resolution. Permittee reserves its right to appeal any decision to the Secretary in accordance with K.S.A. 65-3440, and the Secretary shall notify the Permittee in writing of the final resolution of the dispute, and the reasons for this resolution.

   c. **Permit Condition II.M.5.**: Added a section regarding permit fees. KDHE requires the collection of permit fees allowable in our state statute, KSA 65-3431 (v)(1), to facilitate and provide necessary resources for implementing the lead change for project oversight.

2. The Part II Permit has been updated with the following modifications:

   a. **General**: Changed all references of TPI Petroleum, Inc. to Michigan Reutilization, LLC. due to the company's name change.

   b. **Page 2**: Revised the Air, RCRA, and Toxics Division Director's name to Carol Kather, Acting Director.

   c. **Permit Condition I.**: "Secretary" added to the list of definitions. For permit purposes, Secretary shall refer to the Secretary of KDHE or a designee or authorized representative of KDHE.

   d. **Permit Condition II.A.**: A provision stating that KDHE will become the lead technical oversight agency for Part II of the Permit was added. EPA will retain administrative and legal authority for work performed under Part II. EPA shall also be provided an adequate review and comment period for all documents and requests.

   e. **Permit Condition II.B.4.**: KDHE point of contact and mailing address were updated.

   f. **Permit Condition II.C.1.**: Revised the section to state that the permit may be modified, revoked, reissued, or terminated for cause in accordance with 40 CFR Sections 270.41, 270.42, and 270.43.

   g. **Permit Condition II.G.**: Revised the section to state that the transfer of permit provision also applies to transfers of any portion of the facility to a new owner or operator.

   h. **Permit Condition II.O.**: The section has been revised to also include the Secretary or his authorized representatives in the inspection and entry provisions.

   i. **Permit Condition II.Q.**: Revised the section to state that the Facility must provide at least 20 calendar days notice of any planned physical alterations or additions.

   j. **Permit Condition II.T.3.**: Revised the section to state that permit modification procedures are listed in Permit Condition II.C.

   k. **Permit Condition III.**: Deleted the section originally stating that the Permittee may perform self-directed correction action.

   l. **Permit Condition III.A.**: Added a provision stating that KDHE will have primary responsibility for the direction, oversight, and approval for the corrective action pursuant to Part II of the Permit.

   m. **Permit Condition III.B. Table**: Added SWMU 54, Water Softening Line or Lime, and SWMU 55, Asphaltic Material.

n. **Permit Condition III.C.3.**: Revised to state that the SWMU Assessment Work Plan will be reviewed in accordance with procedures set forth in Permit Condition III.M.

o. **Permit Condition III.C.5.**: Revised to state that the SWMU Assessment Report will be reviewed in accordance with procedures set forth in Permit Condition III.M.

p. **Permit Condition III.D.3.**: Revised to state that the Newly Identified Release Investigation Work Plan will be reviewed in accordance with procedures set forth in Permit Condition III.M.

q. **Permit Condition III.D.5.**: Revised to state that the Newly Identified Release Report will be reviewed in accordance with procedures set forth in Permit Condition III.M.

r. **Permit Condition III.E.5.**: Revised to state that the EPA has added two new Environmental Indicators. More information is available on the EPA website.

s. **Permit Condition III.F.2.c.**: Revised to reflect updated EPA guidance on Quality Assurance Project Plans.

t. **Permit Condition III.F.2.f.**: Revised to state that RFI Work Plan(s) will be reviewed in accordance with procedures set forth in Permit Condition III.M.

u. **Permit Condition III.F.3.e.**: Revised to state that the RFI Report will be reviewed in accordance with procedures set forth in Permit Condition III.M.

v. **Permit Condition III.G.1.c.**: Revised to state that the CMS Work Plan will be reviewed in accordance with procedures set forth in Permit Condition III.M.

w. **Permit Condition III.G.2.c.**: Revised to state that the CMS Report will be reviewed in accordance with procedures set forth in Permit Condition III.M.

x. **Facility Submission Summary**:

1. Revised to state that Permit Renewal provisions are contained in Permit Condition II.D.

2. Revised to state that Interim Measure and Stabilization Notification provisions are contained in Permit Condition III.E.2.

3. Revised to state that Notification that Stabilization is Not Effective provisions are contained in Permit Condition III.E.4.

4. Added Public Information Plan; provisions are contained in Permit Condition III.J.

5. Revised to state that Financial Assurance/Funding for Corrective Action provisions are contained in Permit Condition III.K.1.

6. Revised to state that Financial Assurance Cost Estimate Increase provisions are contained in Permit Condition III.K.2.

7. Revised to state that Quarterly Progress Report provisions are contained in Permit Condition III.L.

EPA will continue to be a partner in making corrective action decisions for the facility and will be provided opportunity to comment on submittals prior to approval and other project decisions. Comments from both agencies will be combined under KDHE letterhead to streamline the administrative process. The revised Part I and Part II Permits have been enclosed with this letter.

In accordance with 40 CFR 270.42, this Class 1a permit modification requires the Permittee to send notice of the modifications to all persons on the facility mailing list within 90 calendar days after the KDHE approves the request. The notice must specify changes being made to permit conditions and supporting documents referenced by the permit must explain why the changes are necessary.

Based on the above information and good faith about notification of the mailing list, KDHE approves the modification request. If you have not already done so, please submit a clean copy of all revised pages and an index of changes to each holder of the Part B permit application.

If you have any questions or concerns about this letter, you may contact me at rcrysler@kdhe.state.ks.us or (785) 291-3760.

Sincerely,

Ruby Crysler
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Enclosures: 1. Revised Part I Permit
2. Revised Part II Permit

Cc: Michael Jones- SCDO/DEA/Waste Programs
David Garrett- EPA Region VII/RCAP Branch
William Bider- Director BWM
Joseph Mednick- MWH

KANSAS

DEPARTMENT OF HEALTH
AND ENVIRONMENT
Division of Environment

Kathleen Sebelius, Governor
Roderick L. Bremby, Secretary

www.kdheks.gov

February 16, 2007

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Work Plan: Replacement of Wells RW-40, RW-60, and RW-70
Work Plan Addendum: Recovery Well RW-40
Michigan Reutilization, LLC., Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola:

The Kansas Department of Health and Environment (KDHE) has reviewed the above referenced documents, submitted on February 12,2007 and February 15, 2007, respectively. KDHE finds the documents to be generally acceptable and hereby approves the documents.

If you have any questions or concerns about this letter, you may contact me at rcrysler@kdhe.state.ks.us or (785) 291-3760.

Sincerely,

Ruby Crysler
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Cc: Michael Jones- SCDO/DEA/Waste Programs
David Garrett- EPA Region VII/RCAP Branch
William Bider- Director BWM
Joseph Mednick- MWH

MWH

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BUREAU OF WASTE MANAGEMENT

February 1, 2007

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E2AR.5000N.59

Chief of the Hazardous Waste Permits Section
Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

VIA FEDERAL EXPRESS
TRK# 7929 2622 2781

Ruby Crysler
Environmental Scientist
Corrective Action Unit / Hazardous Waste Permits Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Notification of Replacement of Recovery Wells RW-40, RW-60, and RW-70
Michigan Reutilization, LLC, Arkansas City, Kansas
EPA Identification Number: KSD 087418695

Dear Ms. Crysler,

MWH is submitting this notification of the replacement of the three recovery wells referenced above on behalf of Michigan Reutilization, LLC (MR) in accordance with the Hazardous Waste Management Facility Permit (Permit), Part 1, Section IV.C.5.d. The three recovery wells were constructed in 1995 as part of the Interim Corrective Measures (ICM) groundwater recovery system. The wells are being replaced due to reduced well efficiency. The three recovery wells have been chemically treated on several occasions over the last 12 years; however, the resultant improvement in efficiency has declined over the successive treatments, in part a result of the well construction materials and casing diameter.

MR has scheduled the new well construction beginning on February 19, 2007. The planned recovery well construction is expected to be completed within approximately two weeks. The existing recovery wells will continue to operate while the replacement wells are constructed. The recovery well design details are provided below.

The planned replacement recovery wells will be equivalent (Permit Section I.E.10) to the original wells with the exception of the borehole and well casing and screen diameters and the well casing material. The original recovery wells were constructed with 8-inch diameter low-carbon steel blank casing and stainless steel continuous slot wire-wrap well screen. The replacement recovery wells will be constructed using 12-inch diameter blank casing constructed from Poly Vinyl Chloride (PVC) and 12-inch diameter stainless steel continuous slot wire wrap well screen. The

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larger diameter casing and screen provides improved access to the wells for the water and product pumps, downhole sensors, well treatment, and well gauging. The PVC blank casing has proven to be more resistant to corrosion than the low carbon steel casing and withstands the periodic chemical treatment required to maintain the well performauce better than the low carbon steel material. The well locations will be offset from the original wells to avoid underground utilities and provide access to the drill rig and support equipment.

The recovery wells will be constructed by Layne-Western, a Kansas licensed water well constructor. Their personnel are trained in compliance with OSHA standards (29CFR Part 1910.120). The well construction and health and safety oversight will be performed by MWH personnel and MR personnel.

The locations and casing elevations for the replacement recovery wells will be surveyed by a licensed surveyor and replacement pages will be issued to KDHE and EPA for the Part B permit application, the Engineering Feasibility Plan, and the groundwater corrective action Operation and Maintenance Plan. The replacement pages will include new well construction diagrams and updated figures, tables, and location maps. The facility's files will be updated with the new information.

Permit Section IV.C.5.c states all wells deleted from the recovery and treatment system be plugged and abandoned in accordance with Kansas regulatory requirements. Currently, MR prefers to maintain the former recovery wells RW-40, RW-60, and RW-70 as groundwater elevation monitoring wells and proposes to rename the wells as RW-40(OBS), RW-60(OBS), and RW-70(OBS).

If you have any questions about the attached information, please contact either Brenda Manterola of MR at 210/345-4619 or me at 303/291-2262.

Sincerely,

MWH Americas, Inc.

Joseph Mednick, P.G.

cc: Brenda Manterola, MR
Raymond Rahn, MR
David Garrett, EPA Region 7/RCAP Branch

K A N S A S

RODERICK L. BREMBY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

DEPARTMENT OF HEALTH AND ENVIRONMENT

December 29, 2006

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Five-Year Review Report
Michigan Reutilization LLC, Arkansas City, Kansas
EPA ID# KSD 087418695

Dear Ms. Manterola:

The Kansas Department of Health and Environment (KDHE) has reviewed the above referenced document, dated April 24, 2006. KDHE provides the following comments to the recommendations presented in the report.

Recommendation 1: Michigan Reutilization (MR) recommended that the groundwater sampling program be revised to include procedures to use passive diffusion bags (PDB) and low flow sampling techniques. In order to use low-flow sampling, KDHE requires the stabilization of water quality indicator parameters prior to the collection of groundwater samples. In addition, water levels must be measured during purging to demonstrate a minimum drawdown of less than 25% of the screened interval above the pump intake.

Recommended water quality parameters are dissolved oxygen, turbidity, oxidation-reduction potential, and electrical conductance. Furthermore, water quality parameters should be recorded every three to five minutes. Parameters are considered stable when three successive readings have been collected within the following ranges: dissolved oxygen ±10% or 0.3 mg/L, turbidity ±10%NTUs (when turbidty is greater than 10 NTUs), oxidation-reduction potential ±10 mV, and electrical conductance ±3% µs/cm. The flow rate at which the pump will be operated must be based on the hydraulic conductivity of the aquifer and the drawdown, with the goal of minimizing the drawdown. Recommended pump flow rates are on the order of 0.1 to 0.5 L/min. Once stabilization has been achieved, the above referenced parameters, pH, and temperature measurements must be recorded in the field logbook prior to sampling collection. Sampling collection can take place without stabilization once three borehole volumes of groundwater have been removed.

KDHE will support MR exploring the use of PDB sampling at this site. The aquifer characteristics indicate this technology may be appropriate for site. Prior to adding PDB sampling procedures to the sampling and analysis plan, KDHE requests the completion of a validation study to confirm that PDB sampling will produce similar results as current methods. A validation study would include conducting a side-by-side test with both PDB samples and conventional sampling

techniques. At a minimum, the validation study should consist of four wells and two consecutive sampling events. A work plan should be submitted to KDHE prior to implementation of any validation studies.

Recommendation 2:

a. Changes to the Groundwater Protection Standard (GWPS) necessitate a Class 3 permit modification, and KDHE will consider modifying the sampling of the GWPS list contained in Permit Attachment B- Groundwater Protection Standard. Although KDHE does not object to the constituents proposed in Table 17 of the Five Year Permit Review document, KDHE believes that the following constituents should also be added for the reasons provided.

Benzo(a) anthracene	Historically detected above Permit GWPS standard
Benzo(b) fluoranthene	Historically detected above Permit GWPS standard
Benzo(a) pyrene	Historically detected above Permit GWPS standard
Bis(2-ethylhexyl) phthalate	Historically detected above GWPS standard and 2003 RSK values
1,4-Dioxane	Detection and/or reporting limits have historically exceeded GWPS standard

Furthermore, Table 17 of the Five Year Permit Review document contains incorrect RSK values for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene. These RSK values should be corrected to 5 µg/L, 5 µg/L, and 9,000 µg/L, respectively. Additionally, the concentration limits listed in the GWPS list should be revised to reflect current Maximum Contaminant Levels and Kansas Tier II Risk Based (RSK) values.

b. KDHE does not concur with completely removing Appendix IX requirements. 40 CFR Part 264 Subpart F requires the facility to determine whether additional hazardous constituents from Appendix IX, which are not on the detection monitoring list in the Permit, could possibly be present in the uppermost aquifer. Removing Appendix IX sampling will not enable the facility to meet this requirement. However, KDHE will consider revising the list of Appendix IX constituents required for analysis, though.

Recommendation 3: KDHE concurs with the removal of the field forms from the O&M and sampling plans to provide the facility some operational flexibility. The text in the respective documents must be revised to describe the information to be recorded on the field forms. Change pages to these documents should be submitted to KDHE for review and approval.

Recommendation 4: As written, the Five Year Review Report does not contain sufficient information to support the removal of the BTEX analysis from Land Treatment Unit (LTU) air monitoring. The report should be revised to include a summary of historical and current air monitoring data and the rationale for eliminating BTEX analysis while maintaining monitoring of total volatile petroleum hydrocarbons. The report will become a public document, and as such, should contain sufficient details to support and substantiate any subsequent permit modifications.

Recommendation 5: KDHE will consider MR's proposal to decrease the LTU air sparge system flow-balancing events from quarterly to semiannually; however, more information must be provided in the Five Year Review Document to support this modification. The Engineering Feasibility Plan

and the O&M plans must be revised to annotate this change. Change pages to these documents should be submitted to KDHE for review and approval.

Recommendation 6: KDHE does not object to the removal of emergency containment tanks 7111 and 7112 from the groundwater corrective action system. KDHE acknowledges that the tanks were originally included for temporary groundwater storage for up to 35 hours and that the tanks have never been used since the inception of the groundwater recovery system. Furthermore, series of existing oxidation ponds seems to be sufficient in ensuring that recovered groundwater does not exceed NPDES standards prior to discharge to the Walnut River. Removing these tanks from the corrective action system will necessitate modifications to the existing permit. KDHE proposes to modify the permit by replacing language pertaining to the tanks in Permit Condition IV.C.1.e and Permit Condition IV.A. with language to describe the series of oxidation ponds that will be used in lieu of the tanks. Additionally, MR should provide information about the fate of the tanks and documentation that they have been closed clean in accordance with regulations or verification that they do not contain any residual contamination.

Recommendation 7: MR is requesting a modification to the permit, which would allow the facility to operate recovery well RW-80A intermittently. The *2006 Semiannual RCRA Groundwater Corrective Action Report*, dated August 25, 2006, indicated RW-80A recovered 1179 gallons of product from January through June of 2006. Subsequent correspondence from MR indicates that RW-80A would operate in a product recovery mode only.

KDHE requests a capture zone analysis of the adjacent recovery wells and a description of the criteria to determine hydraulic conditions for operation of RW-80A in order to support any decision to amend the operations of RW-80A. Furthermore, KDHE believes that RW-80A should maintain the capability to operate as a recovery well as a contingency in the event that capture zone monitoring well pair CMW-04 and MW-1002 fails to maintain groundwater hydraulic gradient reversal. If the recommendation is approved, changed pages to the Engineering Feasibility Plan and Groundwater Corrective Action O&M Plan must be submitted to KDHE. KDHE would then modify Permit Condition IV.C.1.a, Table 4 of Part I of the permit to reflect this proposed change as follows:

Table 4 - Groundwater Containment and Recovery System

Recovery Wells (10)	RW-35	RW-60
	RW-40	RW-65
	RW-45	RW-70
	RW-50	RW-75
	RW-55	RW-80A*

* RW-80A operated intermittently in accordance with the Part B Permit Application

Recommendation 8: MR has requested a reduction in the minimum reversal gradient requirement for the groundwater recovery system along the Walnut River. Although MR has submitted subsequent correspondence to support this recommendation, additional information should be provided to support the rationale for reducing the requirement from 0.2 feet to 0.1 feet. Additionally, MR should provide conditions upon which the reduced gradient requirement would apply and detailed engineering information on how this small gradient reversal could be accurately and reliably measured and documented. Analysis should also be provided on how the proposed change may

affect pumping rates of recovery wells and any potential releases of the constituents of concern to the river.

Recommendation 9: MR has requested consolidating the corrective action program reporting from semi-annual reporting to annual reporting. Current Permit Condition IV.E establishes the requirements for the semi-annual reports. KDHE will allow the results of the semi-annual monitoring events to be reported in an abbreviated format, but the annual report must contain all required data and analysis. At a minimum, the abbreviated semi-annual report shall include results or summary tables for: groundwater level measurements, constituent sampling, capture zone compliance monitoring, influent sampling, recovery well system groundwater data, free product data, and LTU system data.

KDHE will modify this portion of the permit to replace the word "semi-annual" with "annual" and modify Permit Condition IV.E.5.e as follows:

> *The Permittee shall submit the Annual Groundwater Corrective Action Reports to the Secretary by March 1 of each calendar year for the preceding calendar year. A semi-annual report on the effectiveness of the corrective action program shall be submitted to the Secretary by September 1 of each calendar year. The semi-annual reporting may contain a narrative summary evaluating the effectiveness of the corrective action program.*

General Comment: In accordance with Permit Condition I.H., please direct all future reports, notifications, and other submissions related to Part I of the permit to the following:

Chief of the Hazardous Waste Permits Section
Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Please provide any applicable replacement permit application pages. If you have any questions regarding this letter, you may contact me at (785) 291-3760 or at rcrysler@kdhe.state.ks.us.

Sincerely,

Ruby Crysler
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Cc: Michael Jones- SCDO/DEA/Waste Programs
David Garrett- EPA Region 7/RCAP Branch
William Bider- Director BWM
Joseph Mednick- MWH

MWH

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SEP 15 2006

BUREAU OF WASTE MANAGEMENT

September 13, 2006

«See Attached List»
«Company»
«Address1»
«Address2»
«City»

Re: Class 1a Permit Modification – Facility Name Change
Michigan Reutilization, LLC – Arkansas City
U.S. EPA ID No. KSD 087418695

Dear Sir or Madam:

MWH is submitting this notification of a Class 1a Permit Modification for the above referenced facility on behalf of Michigan Reutilization (MR), LLC. Subsequent to MR's request, the Kansas Department of Health and Environment (KDHE) approved the Class 1a modification for the name change on September 8, 2006. This facility was formerly known as TPI Petroleum, Inc. The name change occurred as a result of a merger between Michigan Reutilization, LLC and TPI Petroleum, Inc. Part I of the permit has been updated with the change of name.

This is a courtesy notification. No action is required on your part. You are being sent this notice because you are listed on the facility's mailing list maintained by the KDHE. If you wish to be removed from this list, you may contact Ms. Katherine Dunn of the KDHE at (785) 296-6561.

If you have any questions regarding this notification, please contact Brenda Manterola of MR, LLC at the following address:

Brenda Manterola
Manager, Non-Operating Sites
Michigan Reutilization, LLC
P.O. Box 696000
San Antonio, Texas 78269-6000

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick P.G.
Principal Hydrogeologist

cc: Brenda Manterola, MR, LLC
Raymond Rahn, MR, LLC
Katherine Dunn, KDHE
David Garrett, EPA
Rob Franke, RBA

1801 California Street
Suite 2900
Denver, Colorado
80202

Tel: 303 291-2222
Fax: 303 291-2221

Mailing List
Michigan Reutilization, LLC Arkansas City, Kansas

Facility Contact

Brenda Manterola
Michigan Reutilization, LLC
PO Box 696000
San Antonio, TX 78269-6000

U.S. Senators

Honorable Sam Brownback
Member, U.S. Senate
11111 W 95th Street, Suite 245
Overland Park, KS 66214

Honorable Pat Roberts
Member, U.S. Senate
100 Military Plaza
P.O. Box 550
Dodge City, KS 67801

U.S. Congressman

Honorable Todd Tiahart
Member, U.S. House of Representatives
155 N. Market
Suite 400
Wichita, KS 67202

State Representatives

Honorable Ed Trimmer
Kansas House of Representatives (District 78)
1402 E. 9th
Winfield, KS 67156

Honorable Kasha Kelley
Kansas House of Representatives (District 79)
PO Box 1111
Arkansas City, KS 67005

State Senator

Honorable Greta H. Goodwin
Kansas Senate (District 32)
420 E. 12th Avenue
Winfield, KS 67156

Local Government

Mayor, City of Arkansas City
City Hall, P.O. Box 778
Arkansas City, KS 67005

City Clerk, City of Arkansas City
City Hall, P.O. Box 778
Arkansas City, KS 67005

City Manager, City of Arkansas City
Curtis Freeland
118 West Central
P. O. Box 778
Arkansas City, KS 67005

Cowley County Appraiser
Greg Kent
P.O. Box 641
Winfield, KS 67156

City Planning Commission

Chairman, City Planning Commission
City of Arkansas City, Kansas
118 West Central
P. O. Box 778
Arkansas City, KS 67005

Cowley County Health Department

Cowley County Health Department
320 E 9th, Suite B
Winfield, KS 67156

Radio Station

KSOK FM Radio
334 East Radio Lane
P. O. Box 1014
Arkansas City, KS 67005

Local Newspapers

Arkansas City Traveler
200 East 5
Arkansas City, KS 67005

September 13, 2006

Mailing List
Michigan Reutilization, LLC Arkansas City, Kansas

Winfield Daily Courier
201 E. 9th
PO Box 543
Winfield, KS 67156

State and Federal Agencies

David Pope, Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
109 SW 9th, 2nd Floor
Topeka, Kansas 66612-1283

Commander
Eighth Coast Guard District
500 Poydras St., Suite 320
New Orleans, La. 70130

Mostafa Kamal, PE
Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66620-0001

Director, Air, RCRA, & Toxics Division
U.S. Environmental Protection Agency
Region 7 - ARTD/RCAP
901 N 5th Street
Kansas City, Kansas 66101

Director, Kansas Water Office
901 S Kansas Avenue, Suite 100
Topeka, Kansas 66612

Executive Director
Kansas Conservation Commission
109 SW 9th, Room 500
Topeka, Kansas 66612-1299

Executive Director
Kansas State Historical Society
6425 SW 6th Street
Topeka, Kansas 66615-1099

U.S. Fish and Wildlife Service
315 Houston, Suite E
Manhattan, KS 66502

Environmental Services Section
Kansas Department of Wildlife and Parks
512 SE 25th Avenue
Pratt, KS 67214

Other interested Parties

Don Kaufman, President
Kansas Chapter of the Wildlife Society
11 Bushnell Hall
Manhattan, KS 66506

Greenpeace U.S.A,
Supporter Services
75 Arkansas St.
San Francisco, CA 94107-2434

Kansas Furharvesters Association
W. R. Brecheisen
24685 Lyon Rd.
Chanute, KS 66720

Kansas Herpetological Society, Secretary
5438 SW 12th Terrace, Apt. 4,
Topeka, Kansas 66604

Kansas Livestock Association
6031 S.W. 37th Street
Topeka, KS 66614

Executive Director
Kansas Natural Resources Council
P. O. Box 2635
Topeka, KS 66610

Eugene A. Young, President
Kansas Ornithological Society
Northern Oklahoma College
Crowder Science Hall, Rm 211
1220 East Grand Ave.
P.O. Box 310
Tonkawa, OK 74653-0310

Kansas Wildlife Federation
P. O. Box 771282
Wichita, KS 67277-1282

September 13, 2006

Mailing List
Michigan Reutilization, LLC Arkansas City, Kansas

Kansas Section Society for Range Management
President
P. O. Box 303
Manhattan, KS 66505

The Land Institute
2440 E Water Well Road
Salina, KS 67401

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5733 Reinhardt Drive
Fairway, KS 66205

William R. Browning, M.D.
RR #1, Box 645
Madison, KS 66860

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Shawnee Mission, KS 66209

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Wichita, KS 67201-3089

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Topeka, KS 66606

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Arkansas City, Kansas 67005

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Arkansas City, Kansas 67005

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Arkansas City, Kansas 67005

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Winfield, Kansas 67156

Keith L. Stultz
2635 Southwood Ct.
Arkansas City, Kansas 67005

Ronald Dubach
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Arkansas City, Kansas 67005

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Mike Givens
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Arkansas City, Kansas 67005

Carl Mills
901 N Centennial Road
Arkansas City, Kansas 67005

Revised: 07-02-97
10-08-99
02-03-00
01-18-01
02-12-01
05-03-01
09-05-01
02-04-02
09-05-02
12-05-05
01-03-06
08-08-06

September 13, 2006

K A N S A S

RODERICK L. BREMBY, SECRETARY

DEPARTMENT OF HEALTH AND ENVIRONMENT

KATHLEEN SEBELIUS, GOVERNOR

September 8, 2006

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Facility Name Change
Michigan Reutilization LLC, Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola:

The Kansas Department of Health and Environment (KDHE) has reviewed the documents listed below, which were submitted to facilitate a name change for the above referenced facility, formerly know as TPI Petroleum, Inc.

- Part A Permit Application, submitted April 4, 2006
- Part B Permit Application modifications, submitted May 12, 2006
- Corporate Organization Chart, submitted May 12, 2006
- Documents Evidencing the Corporate Guarantee, submitted June 2, 2006
- Business Concern Disclosure Statement, submitted August 16, 2006

After completing the review of these documents, KDHE approves the Class 1a permit modification for the change to the facility name. Part I of the permit has been updated with the change of name and a copy enclosed with this approval letter.

In accordance with 40 CFR 270.42, this Class 1a permit modification requires the permittee to send notice of the modification to all persons on the facility mailing list within 90 calendar days after KDHE approves the request. The notice must specify changes being made and explain why the changes are necessary. An updated mailing list has been enclosed to assist in completing this notification.

Please ensure that all copies of the Part B Permit application have been updated to reflect the facility's change of name. If you have any questions or concerns regarding this letter, you may contact me via e-mail at kdunn@kdhe.state.ks.us or by phone at (785) 296-6561.

Sincerely,

Katherine Dunn

Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section

Enclosure Part I of the Permit
Facility Mailing List

Cc: Michael Jones- KDHE/SCDO/DEA/Waste Programs (w/enclosure)
David Garrett- EPA Region 7/RCAP Branch (w/enclosure)
William Bider- Director BWM

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BUREAU OF WASTE MANAGEMENT

August 25, 2006

4270169

Ms. Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: 2006 Semiannual RCRA Groundwater Corrective Action Report
Michigan Reutilization, LLC Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Ms. Dunn:

MWH is submitting this report on behalf of Michigan Reutilization, LLC (MR) in accordance with the reporting requirements described in Section IV.E.5 of the Arkansas City facility's RCRA Permit for the period January 1, 2006 through June 30, 2006. The data included in this report includes results of the quarterly bioreactor influent stream monitoring and gradient demonstration monitoring, semiannual groundwater monitoring, and operations data for the groundwater recovery system and the Land Treatment Unit (LTU) soil vapor extraction (SVE) and air sparge (AS) systems. The groundwater monitoring was conducted in accordance with the procedures presented in the approved Groundwater Sampling and Analysis Plan (SAP). A site location map is included on Figure 1. The monitor well locations are shown on Figure 2. A complete assessment of the semiannual monitoring data will be provided in the annual groundwater monitoring report.

Quarterly Groundwater Level Monitoring

Corrective action groundwater monitoring well water level measurements for the first two quarters of 2006 are summarized on Table 1.

May 2006 Semiannual Groundwater Monitoring Event

The semiannual sampling event was conducted between May 2 and May 3, 2005. The

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groundwater samples collected from the corrective action performance, supplemental information, and background monitor wells were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). MR included analyses of methyl tert-butyl ether (MTBE), and tert-butyl alcohol (TBA) for this sampling event. Severn Trent Laboratories (STL) in Arvada, Colorado performed the sample analyses. The BTEX and MTBE analytical results and corresponding field data are summarized in Table 2. The field sampling data forms, field logs, and chain-of-custody forms for the sample event are included in Attachment 1. The laboratory's analytical report Form I's are included in Attachment 2.

One field blank and three trip blanks were collected during the sampling event. The trip blanks were submitted to the laboratory for each sample day. These field quality assurance samples were analyzed for BTEX, MTBE, and TBA. The laboratory analytical reports are included in Attachment 2. No detections of BTEX, MTBE, or TBA constituents were found in the trip or field blanks.

One duplicate sample was collected during the sample event. The sample labeled RCRA-MW-5 was a duplicate groundwater sample collected from monitor well WN-8B on May 3, 2006. All chemical analysis results are similar between the two samples collected from monitor well WN-8B.

Quarterly Capture Zone Monitoring

Groundwater level and elevation data from the eight capture zone monitoring wells are summarized on Tables 3 and 4 for the January and May monitoring events, respectively. As noted on the Table 3 and described in Section 4.1.1 of the 2005 annual report, water levels were not measured at monitor wells CMW-03 and CMW-04 during the first quarter monitoring event due to the levee construction. As is shown on the tables, the Permit-required head difference of 0.2 feet was met at capture zone well pairs RCRA-7/CMW-01 and 113/CMW-02 during the first quarter, and in each of the four well pairs during the second quarter monitoring event. Attachment 1 contains the groundwater level gauging field forms for the two quarterly compliance demonstration monitoring events (January and May, 2006).

Quarterly Bioreactor Influent Sampling

The groundwater influent to the bioreactor tank was sampled during the first and second quarters of 2006. Both inlet pipes were in use during the January 24 sampling event and samples were collected from each inlet pipe. During the May 4 sampling the groundwater flow was confined to a single inlet pipe, and one groundwater sample was collected.

The first quarter samples were collected on January 24, 2006, and the second quarter sample was collected during the semiannual sampling event on May 4, 2006. The analytical results for the January 24 samples were flow-weighted according to their respective flow rates measured at the time of sampling. The influent flow and analytical data are summarized on Table 5. The field logbook entries for the quarterly bioreactor samples are included in Attachment 1. The laboratory analytical reports Form I's are included in Attachment 2.

Groundwater Corrective Action: Recovery of Groundwater and Free Product

The groundwater and free product recovery systems functioned normally during the reporting period. Quantities of groundwater and free product recovered during the reporting period are summarized on Table 6 for the system as a whole and for each recovery well. Data for the recovery wells outside the waste management area boundary are also included on Table 6.

LTU Corrective Action System Monitoring

The LTU corrective action system is monitored weekly, monthly, and quarterly in accordance with the schedule and procedures established in the approved system Operation and Maintenance Plan (dated January 2003) and the Engineering Feasibility Plan. For the soil vapor extraction (SVE) system, weekly monitoring includes overall airflow, operational hours, influent concentrations of flammable gas measured as percent of the lower explosive limit (LEL), inlet vacuum, and inlet and outlet air temperatures. SVE air samples are collected on a quarterly basis and submitted to STL in Pensacola, Florida for analysis of total volatile petroleum hydrocarbons (C6-C10). The air sparge (AS) system is monitored weekly and includes air sparge blower operational hours, blower outlet air temperature, air pressure, and airflow.

The airflow at each air sparge well is monitored quarterly using a handheld thermal

anemometer. The air sparge airflow monitoring and flow balancing was performed on January 25, and June 28, 2006. The LTU SVE/AS monitoring data for the reporting period are summarized on Tables 7, 8, 9 and 10. The chain-of-custody forms for the SVE inlet air samples are included in Attachment 1, and the corresponding laboratory analytical report Form I's are included in Attachment 2.

Groundwater Corrective Action Well and Monitor Well Maintenance

Recovery well maintenance activities consisted of routine maintenance of product and groundwater pumps.

Please contact either Brenda Manterola, MR at 210/345-4619 or me at 303/291-2262 if you have any questions or comments about the information presented in this report.

Sincerely,

MWH Americas, Inc.

Jay Mednick, P.G.
Project Manager

Attachments: Tables 1-10, Figures 1 and 2, Attachments 1 and 2

Cc: Brenda Manterola, MR w/enc.
David Garrett, EPA Region 7 w/enc.
Raymond Rahn, MR w/enc.

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 2 & 3, 2006
Michigan Reutilization, LLC - Arkansas City, Kansas
Page 1 of 2

MEASUREMENTS	Groundwater Protection Standard	Sample ID					
		WN-1A	WN-1B	WN-5B	WN-6A	WN-6B	WN-7B
Field Measurements							
Sample Date		05/02/06	05/02/06	05/02/06	05/02/06	05/02/06	05/03/06
Groundwater Elevation (ft amsl)		1047.17	1047.69	1048.39	1044.90	1045.41	1047.19
pH (standard units)		7.73	7.49	7.59	7.77	6.95	7.08
Conductivity @25°C (uS/cm)		1500	942	911	1195	1073	1049
Turbidity		0.82	0.88	1.23	1.15	1.89	7.45
Temperature °C		15.4	15.4	16.5	17.0	17.3	18.7
Laboratory Analyses							
Benzene (ug/L)	5	1 U	1 U	0.36 J	1 U	**41**	**190**
Toluene (ug/L)	1000	1 U	1 U	2 U	1 U	4.7	15
Ethylbenzene (ug/L)	700	1 U	1 U	0.37 J	1 U	0.6 J	2 J
Xylenes (total) (ug/L)	10000	2 U	2 U	4 U	2 U	7.9	20
MTBE (ug/L)**	20	5 U	5 U	10 U	5 U	10 U	50 U

MEASUREMENTS	Groundwater Protection Standard	Sample ID						
		WN-8B	RCRA-MW-5 (duplicate of WN-8B)	MW-6	MW-12	MW-13	MW-17	RCRA-4
Field Measurements								
Sample Date		05/03/06	05/03/06	05/03/06	05/03/06	05/03/06	05/03/06	05/02/06
Groundwater Elevation (ft amsl)		1046.11	-	1041.73	1036.89	1041.79	1045.93	1043.93
pH (standard units)		7.39	-	6.80	7.21	7.80	7.85	7.00
Conductivity @25°C (uS/cm)		1052	-	1171	1135	1291	1162	864
Turbidity		2.11	-	410	55.8	6.2	29.3	15.5
Temperature °C		18.4	-	17.3	18.8	17.0	19.7	16.3
Laboratory Analyses								
Benzene (ug/L)	5	**40**	**41**	**2300**	4.3	1 U	1 U	1 U
Toluene (ug/L)	1000	3.5	3.5	56 J	0.44 J	1 U	1 U	1 U
Ethylbenzene (ug/L)	700	1.6 J	1.6 J	300	0.22 J	1 U	1 U	1 U
Xylenes (total) (ug/L)	10000	9.7	10	2200	2 U	2 U	2 U	2 U
MTBE (ug/L)**	20	10 U	10 U	500 U	5 U	5 U	5 U	5 U

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 2 & 3, 2006
Michigan Reutilization, LLC - Arkansas City, Kansas

Notes:

U Indicates compound was analyzed for but not detected. Reporting limit shown.
J Indicates an estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).
BOLD Indicates positive detection equal to or above the groundwater protection standard.
"-" Indicates that the parameter was not measured or was not applicable.
Monitor wells WN-1A, WN-6A, WN-12, WN-13 are completed in the lower part of the alluvial aquifer. The other wells are completed at and below the water table in the upper part of the alluvial aquifer.
** KDHE Tier 2 Risk Based Standard - Residential Groundwater Pathway

Table 3 Quarterly Groundwater Capture Zone Compliance Monitoring - January 23, 2006
Michigan Reutilization, LLC - Arkansas City, Kansas

Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elev.	Head Difference[2]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1063.71	26.76	1036.95	0.65	140	RW-35
	CMW-1	1059.70	22.10	1037.60		30	RW-40
2	113	1072.23	35.00	1037.23	0.32	80	RW-45
	CMW-2	1061.73	24.18	1037.55		100	RW-50
						150	RW-55
3	118	1070.70	31.83	1038.87	N/A[3]	120	RW-60
	CMW-3	1060.12				75	RW-65
4	MW-1002	1072.10	32.32	1039.78	N/A[3]	80	RW-70
	CMW-4	1058.23				60	RW-75
						25	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm						860	

Notes:

1. Elevations are shown as feet above mean sea level. Based on December 14, 2004 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.
3. Monitor wells CMW-3 and CMW-4 were not gauged during the first quarter 2006 due to levee construction.

Table 4 Quarterly Groundwater Capture Zone Compliance Monitoring - May 10, 2006
Michigan Reutilization, LLC - Arkansas City, Kansas

Capture Zone Well Pair		Casing Elevation[1]	Depth to Water	Water Elev.	Head Difference[2]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1063.72	26.86	1036.86	**1.43**	140	RW-35
	CMW-1	1059.71	21.42	1038.29		100	RW-40
2	113	1072.23	34.93	1037.30	**0.89**	50	RW-45
	CMW-2	1061.75	23.56	1038.19		95	RW-50
						120	RW-55
3	118	1070.70	32.21	1038.49	**0.55**	140	RW-60
	CMW-3	1061.47	22.43	1039.04		140	RW-65
4	MW-1002	1072.11	32.08	1040.03	**0.41**	95	RW-70
	CMW-4	1061.93	21.49	1040.44		45	RW-75
						25	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm						950	

Notes:

1. Elevations are shown as feet above mean sea level. Based on April 13, 2006 survey data information.
2. A positive head difference indicates groundwater capture. The RCRA permit requires a positive head difference of greater than or equal to 0.2 feet.

Table 5 Summary of Quarterly Bioreactor Influent Sampling Results
Michigan Reutilization, LLC - Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Influent Water Sample	
		1st Quarter Bioreactor [1]	2nd Quarter Bioreactor [2]
Field Measurements			
Sample Date		01/24/06	05/04/06
Total Flow (gpm)		1275	1150
Laboratory Analyses*			
Benzene (ug/L)	5	**17**	**14**
Toluene (ug/L)	1000	0.66 J	0.61 J
Ethylbenzene (ug/L)	700	1.0 J	0.88 J
Xylenes (total) (ug/L)	10000	4.0 J	4.6
MTBE (ug/L)**	20	3.7	5.0 U

Notes:

gpm Indicates gallons per minute measured at the bioreactor influent flow meters.
ug/L Indicates micrograms per liter.

1. Results represent flow-weighted averages of the influent samples collected from the east and west influent lines.
2. Results represent sample taken from west influent line only. Prior to sampling, east influent line shut off such that all flow through the west influent line.

** KDHE Tier 2 Risk Based Standard - Residential Groundwater Pathway

Table 8 Summary of LTU SVE System Inlet Air Sample Results
Michigan Reutilization, LLC - Arkansas City, Kansas

Date	SVE Inlet TVPH Concentration (mg/m^3)
1/24/2006	110
3/29/2006	380
6/28/2006	100

Notes:

1. Air samples submitted to Severn Trent Laboratories, Pensacola, Florida for analysis.
2. TVPH = total volatile petroleum hydrcarbons (C6-C10)

File

KANSAS

RODERICK L. BREMBY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

DEPARTMENT OF HEALTH AND ENVIRONMENT

June 30, 2006

Lynn Slugantz
Chief, RCRA Corrective Action & Permits Branch
USEPA, Region 7
901 North 5th Street
Kansas City, KS 66101

Re: Permit Modification Request for Single Agency Lead
Michigan Reutilization, LLC - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Slugantz:

As you are aware, the above referenced request was submitted to both the Kansas Department of Health and Environment (KDHE) and the U.S. Environmental Protection Agency (EPA) on April 18, 2006, requesting a permit modification to allow KDHE to become the lead agency for the regulatory oversight of both Part I and Part II requirements of the facility's RCRA permit. If our respective agencies are in agreement, KDHE is prepared to take the lead for this requested oversight.

Given our current funding situation in the RCRA program, this request can only be accommodated through the collection of permit fees allowable in our state statute, KSA 65-3431 (v)(1). Therefore, during the permit modification process we will include language specific to fee collection that will facilitate and provide the necessary resources for implementing this change. Michigan Reutilization is aware of the above and has verbally agreed with this requirement.

The permit modification will also include language for implementing the lead change for corrective action oversight for this facility. KDHE will have the responsibility to ensure facility's compliance with both Part I and Part II requirements of the permit.

EPA will continue to be our partner in making corrective action decisions for this facility. Since corrective action authority continues to remain with the EPA at this time,

DIVISION OF ENVIRONMENT
Bureau of Waste Management
CURTIS STATE OFFICE BUILDING, 1000 SW JACKSON ST., STE. 320, TOPEKA, KS 66612-1366
Voice 785-296-1600 Fax 785-296-8909 http://www.kdhe.state.ks.us/waste

EPA will be provided opportunity to comment on facility submittals prior to KDHE's approval and/or project decisions. Comments from both agencies will be combined under KDHE letterhead to streamline the administrative process.

We have enjoyed an excellent working relationship with this facility over the years. We have been very successful in implementing the Part I requirements of the permit. In addition, KDHE has actively participated with EPA during implementation of different phases of the Part II permit requirements as well. Therefore, we believe the requested transition should be fairly smooth without any relaxation of corrective action requirements. The facility has been very cooperative with both of our agencies and does not appear to be attempting to circumvent any issues associated with the corrective action process. The facility should benefit from streamlining the administrative process with only one regulatory agency administering both Part I and Part II of the permit.

A draft version of the proposed changes to the permit is enclosed for your review and comment. Should you need further clarification, please call me at (785) 296-1609.

Sincerely,

M. Kamal

Mostafa Kamal, PE, CPM
Chief, Hazardous Waste Permits Section
Bureau of Waste Management

Enclosure

Cc: Michael Jones - KDHE/SCDO/DEA/Waste Programs
David Garrett - EPA Region 7/RCAP Branch
William Bider - KDHE

MICHIGAN REUTILIZATION, LLC
POST-CLOSURE PERMIT
ARKANSAS CITY, KANSAS
EPA I.D. #KSD 087418695

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SECTION I - STANDARD PERMIT CONDITIONS

I.A. EFFECT OF PERMIT

Michigan Reutilization, LLC, a wholly-owned subsidiary of Valero Energy Corporation, herein referred to as the Permittee, is required to perform closure of the Land Treatment Unit (LTU), post-closure care for the #1 Surface Impoundment, #2 Surface Impoundment, #3A Aerated Lagoon, and the Land Treatment Unit; compliance monitoring; and corrective action for the Waste Management Area for the facility located at Arkansas City, Kansas, in accordance with the conditions of this Permit. Any treatment, storage or disposal of hazardous waste not authorized in this Permit is prohibited. This Permit consists of the conditions contained herein, including those in any attachments; the Permit Application, including all revisions; and the applicable regulations contained in 40 CFR Parts 124, 260 through 264, 268 and 270. Applicable regulations are those which are in effect on the date of issuance of this Permit. [See 40 CFR 270.32(c)] The federal regulations are adopted by reference in Kansas Administrative Regulations (K.A.R.) 28-31-1 through 28-31-14. All citations to federal regulations are for the sake of convenience. In situations where state regulations differ from the federal ones, they are also referenced and take precedence.

Subject to 40 CFR 270.4, compliance with this Permit constitutes compliance, for purposes of enforcement, with K.S.A. 65-3430 et seq. and K.A.R. 28-31-1 through 28-31-14 and Subtitle C of the Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA). Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance, with the terms of this Permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013 or 7003 of RCRA; Sections 106(a), 104, or 107 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. 9606 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment. [40 CFR 270.4, 270.30(g)]

The Secretary and Director have agreed, as stated in Part II of this Permit, that KDHE will be the lead oversight agency for implementation and administration of this permit. Although not authorized, Kansas has adopted the requirements of 40 CFR 264.101. Therefore, the Permittee shall complete all requirements of Part II of the Permit in accordance with 40 CFR 264.101. [K.S.A. 65-3430 and K.A.R. 28-31-1] The Permittee shall complete requirements of Part II of the Permit, which are hereby incorporated by reference into Part I of the Permit. The Permittee shall fulfill the requirements of Part II of the Permit under the oversight of KDHE as the lead agency.

Although KDHE is the lead agency for this Permit and will implement corrective action activities under Part I of the Permit, EPA retains enforcement authority for the Hazardous and Solid Waste Amendments (HSWA) Part II requirements of the Permit.

I.J.7. Annually adjusted cost estimate for facility closure, post-closure care and corrective action as required by 40 CFR 264.142(d) and 264.144(d) and this Permit.

I.J.8. Documentation that notices have been filed as required under 264.119 and 270.14(b)(14) and as required by this Permit.

I.K. PENALTIES

Failure to comply with the terms of this Permit may subject the Permittee to an administrative and/or civil penalty, a criminal penalty and/or an action to suspend or revoke this Permit. Failure to minimize or mitigate any adverse impact on the environment resulting from noncompliance may serve to increase the severity of such penalties. [K.S.A. 65-3444 and 65-3446]

I.L. DISPUTE RESOLUTION

If the Permittee takes exception to any disapproval, modification, or other decision or directive made by the Secretary pursuant to provisions of the Permit, the Permittee shall follow the dispute resolution procedures outlined in Permit Condition I.L.1. and I.L.2.

I.K.1. If the Permittee disagrees, in whole or in part, with any disapproval, modification, or other decision or directive made by Secretary pursuant to provisions of this permit, the Permittee shall notify the Secretary in writing of its objections and basis for them within fifteen (15) calendar days of receipt of the Secretary's disapproval, decision, or directive. The notice shall set forth specific points of the dispute, the position the Permittee maintains should be adopted as consistent with the requirements of this permit, the factual and legal basis for the Permittee's position, and all matters the Permittee considers necessary for the Secretary's determination. The Secretary and Permittee shall then have an additional thirty (30) calendar days from the Secretary's receipt of the Permittee's objection to attempt to resolve the dispute. If agreement is reached, the resolution will be reduced to writing by the Secretary and shall become part of this permit. If the parties are unable to reach agreement within this 30-day period, the Secretary shall issue its final decision on the dispute, in writing. Permittee reserves its right to appeal any decision to the Secretary in accordance with K.S.A. 65-3440, and the Secretary shall notify the Permittee in writing of the final resolution of the dispute, and the reasons for this resolution. The final resolution of such dispute shall be incorporated into and made an enforceable part of this permit.

I.K.2. The existence of a dispute as defined herein and the Secretary's consideration of such matters as placed in dispute shall not excuse, toll, or suspend any obligation or deadline required pursuant to this permit, that is not the subject of dispute, during pendency of the dispute resolution process.

II.M.5. Permit Fees

II.M.5a. The Permittee shall submit $10,000 annually in permitting fees in accordance with KSA 65-3431 (v)(1). This annual amount is due within sixty (60) days of this permit modification and annually thereafter. The fee is based on the resources required for implementation of this of the Permit. The Secretary will review the permitting fees annually to determine if an adjustment is necessary. Additional costs or credits associated with the resources required for administration of this Permit will be applied to next year. The fees established shall not exceed $175,000 for duration of this Permit.

II.M.5.b. This permit fee shall not affect the requirements established in KAR 28-31-10 for the hazardous waste monitoring fees.

order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA.

Part II of this Permit addresses the corrective action requirements for SWMUs and AOCs, and establishes the schedule of compliance for those activities and implements other provisions of the Hazardous and Solid Waste Amendments of 1984 to the Resource Conservation and Recovery Act for which Kansas is not authorized. On September 24, 2001, the Kansas Department of Health and Environment (KDHE) issued Part I of the Permit. KDHE will have the primary responsibility for the direction, review, oversight, and approval for the corrective action pursuant to Part II of the Permit.

EPA believes that corrective action pursuant to the Kansas Part I of the Permit will be protective of human health and the environment and will provide for appropriate public participation in the remedy selection process. The Kansas Part I of the Permit was issued under Kansas' legal authorities and the work will be performed with KDHE as the lead oversight agency.

The Director's decision to impose and require implementation of the corrective action for releases from SWMUs and AOCs in Part II of this Permit will be based upon review of the work performed pursuant to Part I of the Permit. If the Director determines that the work performed is consistent with the requirements of Part II of the permit and is adequate to protect human health and the environment, those activities will be deemed completed pursuant to Part II of the Permit. The EPA will review annually (or more often if EPA determines that more frequent review is necessary or appropriate) the progress of the work being performed by the Permittee to insure the corrective action is being timely performed and, on completion, will be adequate to protect human health and the environment. The Director may at any time resume the corrective action oversight lead of Part II of the Permit if it is determined that either (i) timely progress is not being made to control exposure to releases of hazardous wastes and hazardous constituents or (ii) the work performed, or to be performed, will not be adequate to protect human health and the environment.

The Permittee shall continue to provide the required notification for newly identified SWMUs in accordance with Permit Condition III.C. and the notification for newly identified release in accordance with Permit Condition III.D.

II.B. Submittal of Permit Requirements

II.B.1. Failure to submit the information required in Part II of this Permit, or falsification of any submitted information, is subject to enforcement and/or termination of Part II of this Permit.

II.B.2. The Permittee shall ensure that all plans, reports, notifications, and other submissions to the Director required in Part II of this Permit are signed and certified in accordance with 40 CFR §§270.11 and 270.30(k).

MWH

RECEIVED

JUN 21 2006

BUREAU OF WASTE MANAGEMENT

June 20, 2006

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

4270169

Re: Transmittal of Revised Well Construction Logs
Engineering Feasibility Plan, Groundwater Corrective Action O&M Plan, and Groundwater Sampling and Analysis Plan
Michigan Reutilization, LLC - Arkansas City, Kansas
EPA Identification Number: KSD 087418695

Dear Ms. Dunn:

MWH is submitting the attached replacement pages containing revised well construction logs on behalf of Michigan Reutilization, LLC (MR) for their Arkansas City, Kansas facility. Revised well logs are attached for groundwater monitor wells CMW-03 and CMW-04, and groundwater recovery wells RW-40 and RW-70.

Monitor wells CMW-03 and CMW-04 were planned to be modified as a result of the US Army Corps of Engineers' levee improvement project along the Walnut River in accordance with a workplan submitted to KDHE. Both monitor wells were modified according to the approved workplan (KDHE, February 27, 2002), however, monitor well CMW-03 was subsequently destroyed by the levee contractor and had to be replaced. The replacement well CMW-03 conforms to the original design.

Groundwater recovery wells RW-40 and RW-70 were recently chemically treated to maintain their performance. During the treatment it became necessary to install cement plugs to seal a portion of the blank casing at the bottom of the wells. This section of casing is identified on the well construction logs as the well sump.

The following documents are affected by these changes as described on the table below.

- Engineering Feasibility Plan
- RCRA Groundwater Corrective Action Operation and Maintenance Plan
- RCRA Part B Permit Application Appendix P – Groundwater Sampling and Analysis Plan

1801 California Street
Suite 2900
Denver, Colorado
80202

Tel: 303 291-2222
Fax: 303 291-2221

The following table provides a key for the correct replacement of the attached wells logs in their respective documents.

Well ID	Document Title		
	Engineering Feasibility Plan	**RCRA Groundwater Corrective Action O&M Plan**	**Appendix P Groundwater Sampling & Analysis Plan**
CMW-03	Appendix B (No Figure Number)	(not included in document)	Appendix A (No Figure Number)
CMW-04	Appendix B (No Figure Number)	(not included in document)	Appendix A (No Figure Number)
RW-40	Figure 5-2	Appendix A – Figure A-2	(not included in document)
RW-70	Figure 5-5	Appendix A – Figure A-8	(not included in document)

If you have any questions about the attached information, please contact either Brenda Manterola, MR at 210/345-4619 or me at 303/291-2262.

Sincerely,

MWH Americas Inc.

Joseph Mednick
Principal Hydrogeologist

Attachments:

Cc: Brenda Manterola, MR w/attachments
Raymond Rahn, MR w/attachments
David Garrett, USEPA Region 7 w/attachments

ENGINEERING FEASIBILITY PLAN

REPLACEMENT PAGES

Appendix B

Monitor Well Logs:
CMW-03
CMW-04

old pages replace 6-20-06

Figures

Recovery Well Logs:
Figure 5-2 RW-40
Figure 5-5 RW-70

PROJECT: 01-0138R-014

BOREHOLE CMW-3

Page

LOCATION: Arkansas City, KS

BORING DATE: 12/1/99 DATUM: GROUND SURFACE LOGGED: Chuck Gay

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Samples Sample ID	Samples USCS Symbol	Samples Recovery (%)	MEASUREMENTS PID (PPM) 0 200 400 600 800 1000
			GROUND SURFACE		0.0				
			Silty sand, dark brown, no hydrocarbon odor or staining.				SM	100	
			Sand, yellowish orange, fine grained, no hydrocarbon odor or staining, well sorted, little fines.		5.0		SW	60	
			Sand, light gray, hydrocarbon odor and staining, well sorted, fine grained, little fines.		9.0		SW	60	
			Sand, light gray, strong hydrocarbon odor and staining, very fine to fine grained, poorly sorted.		10.0		SP	50	
			Sand, light gray, strong hydrocarbon odor and staining, moist, poorly sorted, fine to medium grained.		13.5		SP	50	
			Sand, dark gray, strong hydrocarbon odor and staining, poorly sorted, medium to coarse grained, wet at approximately 17.5'.		15.0		SP	10	
			Continued on next page						

STICKUP Dft to 2.65ft

CEMENT APRON 0.00ft TO 2.50ft

BENTONITE GROUT 2.50ft TO 21.00ft

DRAWN: JS CHECKED: JWH

BOREHOLE/MONITORING WELL NAME: CMW-3

LOCATION & ELEVATIONS

NORTHING: -983.694

EASTING: 2578.978

COORDINATE SYSTEM: Plant Coords.

TOP OF CASING ELEV.: 1060.13 ft.

GROUND ELEV.: 1057.48 ft.

DRILLING SUMMARY

TOTAL WELL DEPTH: 32.00 ft bgs

SURFACE MOUNT: STICKUP:X

DATE DRILLED: 12/1/99

LOGGED BY: Chuck Gay EnecoTech

DRILLING CONTRACTOR:
Geocore Services, Inc., Salina, KS.

DRILLING RIG: CME-75
DRILLING METHOD: Hollow stem auger

BOREHOLE DIAMETER: 10"

HOLLOW STEM AUGER ID:
PILOT BOREHOLE: 4.25"
REAMED BOREHOLE: 6.25"

WATER LEVEL NA

WELL DESIGN AND MATERIALS

CASING: 2" ID sch. 40 PVC

SCREEN: 2" ID sch. 40 PVC 0.020" machine slot
SCREENED INTERVAL: 25.00-30.00 ft bgs

FILTER PACK: 10-20 silica sand
FILTER PACK INTERVAL: 23.00-32.00 ft bgs

BENTONITE PELLETS: 2.50-21.00 ft bgs

GROUT INTERVAL 1: Benseal w/Aqua-Grout
GROUT INTERVAL 1: 21.00-23.00 ft bgs
GROUT INTERVAL 2: Cement
GROUT INTERVAL 2: 0.00-2.50 ft bgs

SAMPLING

The borehole was sampled continuously with a 5-foot sampler. Percent recoveries and sample intervals are noted on the borehole log diagram.

WELL DEVELOPMENT

The wells were surged and pumped for approximately one hour until the water was sediment free.

COMMENTS

The stratification lines on the borehole log represent the approximate boundary between soil and rock types. The transition between these boundaries may be more gradual than depicted on this log.

Borehole below bottom of screen plugged with bentonite.

EnecoTech Inc.
1580 Lincoln Street, Suite 1000
Denver, Colorado 80203
(303) 861-2200

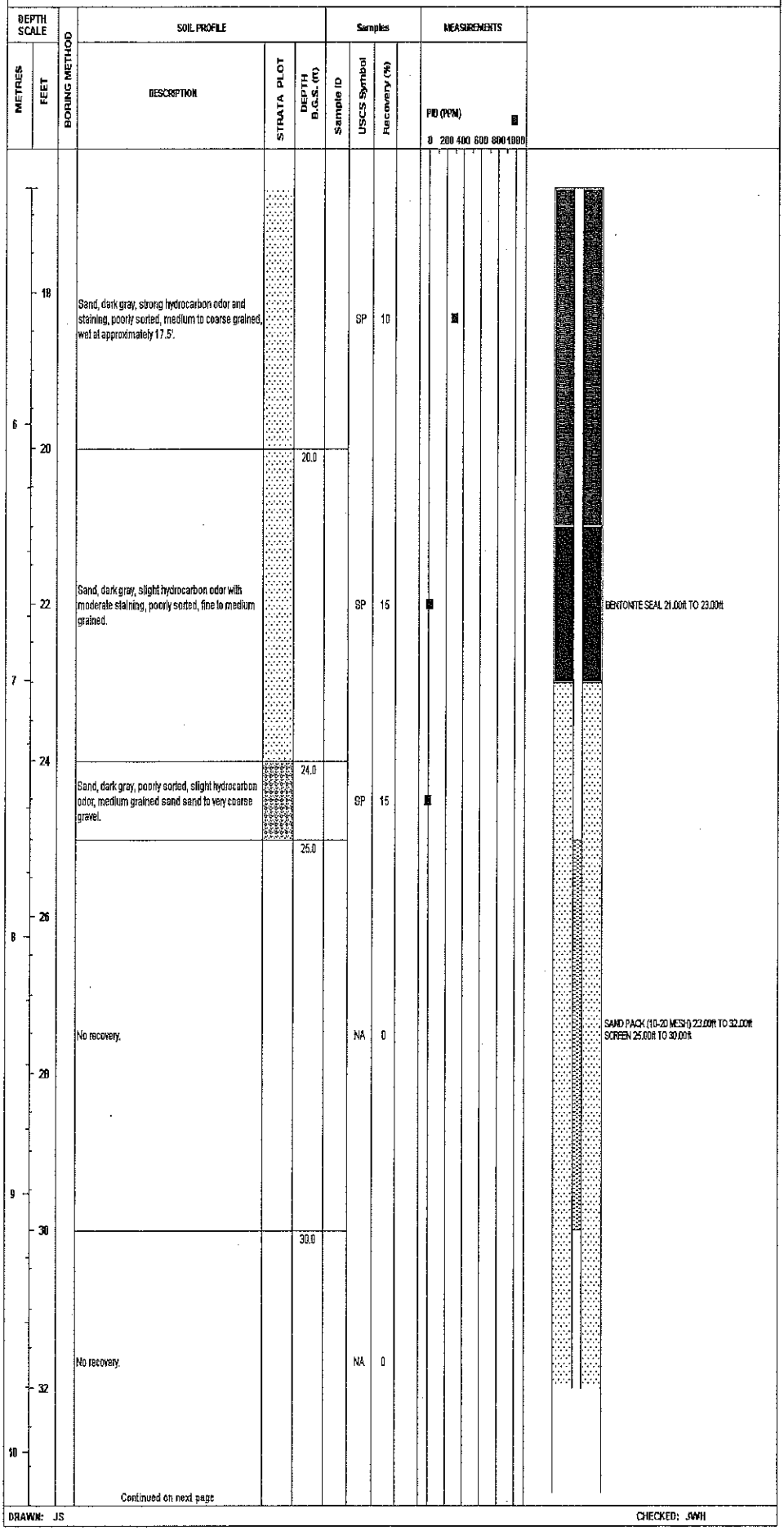
PROJECT: 01-0138R-014

OREHOLE CMW-3

Page

LOCATION: Arkansas City, KS

BORING DATE: 12/1/99 DATUM: GROUND SURFACE LOGGED: Chuck Gay



DRAWN: JS CHECKED: JWH

BOREHOLE/MONITORING WELL NAME: CMW-3

LOCATION & ELEVATIONS

NORTHING: -983.694

EASTING: 2578.978

COORDINATE SYSTEM: Plant Coords.

TOP OF CASING ELEV.: 1060.13 ft.

GROUND ELEV.: 1057.48 ft.

DRILLING SUMMARY

TOTAL WELL DEPTH: 32.00 ft bgs

SURFACE MOUNT: STICKUP:X

DATE DRILLED: 12/1/99

LOGGED BY: Chuck Gay EnecoTech

DRILLING CONTRACTOR:
Geocore Services, Inc., Salina, KS.

DRILLING RIG: CME-75
DRILLING METHOD: Hollow stem auger

BOREHOLE DIAMETER: 10"

HOLLOW STEM AUGER ID:
PILOT BOREHOLE: 4.25"
REAMED BOREHOLE: 6.25"

WATER LEVEL NA

WELL DESIGN AND MATERIALS

CASING: 2" ID sch. 40 PVC

SCREEN: 2" ID sch. 40 PVC 0.020" machine slot
SCREENED INTERVAL: 25.00-30.00 ft bgs

FILTER PACK: 10-20 silica sand
FILTER PACK INTERVAL: 23.00-32.00 ft bgs

BENTONITE PELLETS: 2.50-21.00 ft bgs

GROUT INTERVAL 1: Benseal w/Aqua-Grout
GROUT INTERVAL 1: 21.00-23.00 ft bgs
GROUT INTERVAL 2: Cement
GROUT INTERVAL 2: 0.00-2.50 ft bgs

SAMPLING

The borehole was sampled continuously with a 5-foot sampler. Percent recoveries and sample intervals are noted on the borehole log diagram.

WELL DEVELOPMENT

The wells were surged and pumped for approximately one hour until the water was sediment free.

COMMENTS

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Borehole below bottom of screen plugged with bentonite.

EnecoTech Inc.
1580 Lincoln Street, Suite 1000
Denver, Colorado 80203
(303) 861-2200

PROJECT: 01-0139R-014

BOREHOLE CMW-3

Page

LOCATION: Arkansas City, KS

BORING DATE: 12/1/99 DATUM: GROUND SURFACE LOGGED: Chuck Gay

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Samples Sample ID	Samples USCS Symbol	Samples Recovery (%)	MEASUREMENTS PID (PPM) 0 200 400 600 800 1000
	34		No recovery.				NA	0	
					35.0				
			No recovery.				NA	0	
11	36		Shale		36.0				
			END OF EXPLORATION @ 36.50ft		36.5				
	38								
12									
	40								
	42								
13									
	44								
14	46								
	48								
15									
	50								

END OF EXPLORATION

DRAWN: JS CHECKED: JWH

BOREHOLE/MONITORING WELL NAME: CMW-3

LOCATION & ELEVATIONS

NORTHING: -983.694

EASTING: 2578.978

COORDINATE SYSTEM: Plant Coords.

TOP OF CASING ELEV.: 1060.13 ft.

GROUND ELEV.: 1057.48 ft.

DRILLING SUMMARY

TOTAL WELL DEPTH: 32.00 ft bgs

SURFACE MOUNT: STICKUP:X

DATE DRILLED: 12/1/99

LOGGED BY: Chuck Gay EnecoTech

DRILLING CONTRACTOR:
Geocore Services, Inc., Salina, KS.

DRILLING RIG: CME-75
DRILLING METHOD: Hollow stem auger

BOREHOLE DIAMETER: 10"

HOLLOW STEM AUGER ID:
PILOT BOREHOLE: 4.25"
REAMED BOREHOLE: 6.25"

WATER LEVEL NA

WELL DESIGN AND MATERIALS

CASING: 2" ID sch. 40 PVC

SCREEN: 2" ID sch. 40 PVC 0.020" machine slot
SCREENED INTERVAL: 25.00-30.00 ft bgs

FILTER PACK: 10-20 silica sand
FILTER PACK INTERVAL: 23.00-32.00 ft bgs

BENTONITE PELLETS: 2.50-21.00 ft bgs

GROUT INTERVAL 1: Benseal w/Aqua-Grout
GROUT INTERVAL 1: 21.00-23.00 ft bgs
GROUT INTERVAL 2: Cement
GROUT INTERVAL 2: 0.00-2.50 ft bgs

SAMPLING

The borehole was sampled continuously with a 5-foot sampler. Percent recoveries and sample intervals are noted on the borehole log diagram.

WELL DEVELOPMENT

The wells were surged and pumped for approximately one hour until the water was sediment free.

COMMENTS

The stratification lines on the borehole log represent the approximate boundary between soil and rock types. The transition between these boundaries may be more gradual than depicted on this log.

Borehole below bottom of screen plugged with bentonite.

EnecoTech Inc.
1580 Lincoln Street, Suite 1000
Denver, Colorado 80203
(303) 861-2200

PROJECT: 01-0138R-014

BOREHOLE CMW-4

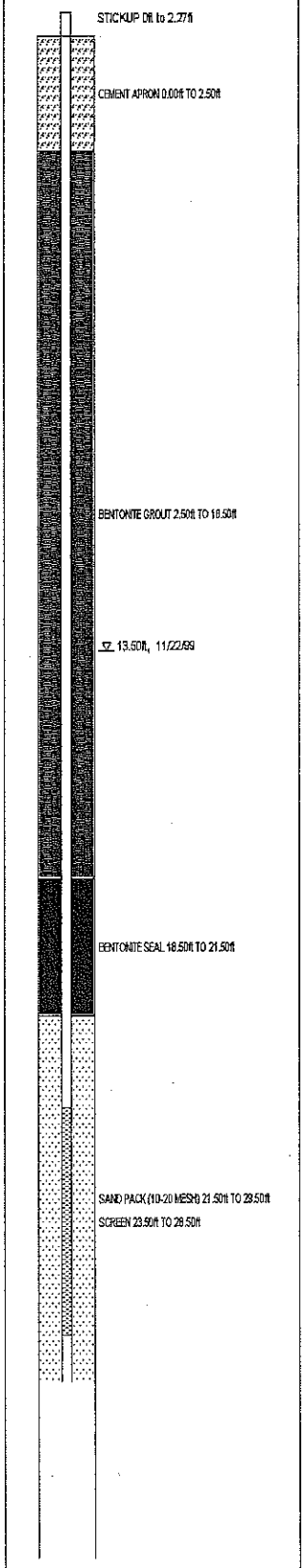
Page

LOCATION: Arkansas City, KS

BORING DATE: 11/22/99 DATUM: GROUND SURFACE LOGGED: Chuck Gay

METRES	FEET	BORING METHOD	DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Sample ID	USCS Symbol	Recovery (%)	PID (PPM) 0 200 400 600 800 1000
0	0		GROUND SURFACE						
			Silty clay, olive gray, low to moderate plasticity, no hydrocarbon odor or staining.		0.0		CL	100	
1	4								
			Silty clay, olive gray, low to moderate plasticity, soft, no hydrocarbon odor or staining.		5.0		CL	80	
2	6		Silty sand, dark brown, no hydrocarbon odor or staining, very fine to fine grained.		6.0		SM	80	
	8		Sand, yellow orange, fine grained, well graded, no hydrocarbon odor or staining.		8.0		SW	80	
3	10		Sand, light brown, poorly sorted, medium to coarse grained, moderate hydrocarbon odor, no apparent staining.		10.0		SP	50	
4	12								
	14		Sand, olive gray, well graded, fine grained, strong hydrocarbon odor, heavy staining, wet at approximately 13.5'.		12.5		SW	50	
5	16								
	18		Sand, dark gray, well graded, fine grained, moderate hydrocarbon odor, heavily stained, some silt.		15.0		SW	50	
6	20		Silty sand, dark gray, very fine grained to fine grained, moderate hydrocarbon odor with staining.		20.0		SM	50	
	22		Sand, poorly sorted, fine to coarse grained, moderate hydrocarbon odor with heavy staining.		21.0		SP	50	
7	24		Silty sand, dark gray, very fine to fine grained, moderate hydrocarbon odor with heavy staining.		24.0		SM	50	
8	26		Silty sand, dark gray, very fine to fine grained, slight to moderate odor, heavy staining.		25.0		SM	30	
	28								
9	30		Silty sand, dark gray, very fine to fine grained, slight hydrocarbon odor, heavily stained.		30.0		SM	30	
10	32								

Continued on next page



DRAWN: JS CHECKED: JWH

BOREHOLE/MONITORING WELL NAME: CMW-4

LOCATION & ELEVATIONS

NORTHING: -1128.936

EASTING: 2770.512

COORDINATE SYSTEM: Plant Coords.

TOP OF CASING ELEV.: 1058.27 ft.

GROUND ELEV.: 1056.00 ft.

DRILLING SUMMARY

TOTAL WELL DEPTH: 29.50 ft bgs

SURFACE MOUNT: STICKUP: X

DATE DRILLED: 11/22/99

LOGGED BY: Chuck Gay EnecoTech

DRILLING CONTRACTOR:
Geocore Services, Inc., Salina, KS.

DRILLING RIG: CME-75
DRILLING METHOD: Hollow stem auger

BOREHOLE DIAMETER: 10"

HOLLOW STEM AUGER ID:
PILOT BOREHOLE: 4.25"
REAMED BOREHOLE: 6.25"

WATER LEVEL (btoc): NA

WELL DESIGN AND MATERIALS

CASING: 2" ID sch. 40 PVC

SCREEN: 2" ID sch. 40 PVC 0.020" machine slot
SCREENED INTERVAL: 23.50-28.50 ft bgs

FILTER PACK: 10-20 silica sand
FILTER PACK INTERVAL: 21.50-29.50 ft bgs

BENTONITE PELLETS: 2.50-18.50 ft bgs

GROUT INTERVAL 1: Benseal w/Aqua-Grout
GROUT INTERVAL 1: 18.50-21.50 ft bgs
GROUT INTERVAL 2: Cement
GROUT INTERVAL 2: 0.00-2.50 ft bgs

SAMPLING

The borehole was sampled continuously with a 5-foot sampler. Percent recoveries and sample intervals are noted on the borehole log diagram.

WELL DEVELOPMENT

The wells were surged and pumped for approximately one hour until the water was sediment free.

COMMENTS

The stratification lines on the borehole log represent the approximate boundary between soil and rock types. The transition between these boundaries may be more gradual than depicted on this log.

Borehole below bottom of screen plugged with bentonite.

EnecoTech Inc.
1580 Lincoln Street, Suite 1000
Denver, Colorado 80203
(303) 861-2200

PROJECT: 01-0138R-014

BOREHOLE CMW-4

Page

LOCATION: Arkansas City, KS

BORING DATE: 11/22/99 DATUM: GROUND SURFACE LOGGED: Chuck Gay

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Samples: Sample ID	Samples: USCS Symbol	Samples: Recovery (%)	MEASUREMENTS: PID (PPM) 0 200 400 600 800 1000
	34		Silty sand, dark gray, very fine to fine grained, slight hydrocarbon odor, heavily stained.				SM	30	
11	36		Silty sand, dark gray, fine to medium grained, slight hydrocarbon odor, heavily stained.		35.0		SM	20	
			Shale bedrock.		37.0				
			END OF EXPLORATION @ 37.50ft		37.5				
12	38								
	40								
13	42								
	44								
14	46								
	48								
15	50								
	52								
16	54								
	56								
17	58								
	60								
18	62								
	64								
19	66								
20									

END OF EXPLORATION

DRAWN: JS CHECKED: JWH

BOREHOLE/MONITORING WELL NAME: CMW-4

LOCATION & ELEVATIONS

NORTHING: -1128.936

EASTING: 2770.512

COORDINATE SYSTEM: Plant Coords.

TOP OF CASING ELEV.: 1058.27 ft.

GROUND ELEV.: 1056.00 ft.

DRILLING SUMMARY

TOTAL WELL DEPTH: 29.50 ft bgs

SURFACE MOUNT: STICKUP: X

DATE DRILLED: 11/22/99

LOGGED BY: Chuck Gay EnecoTech

DRILLING CONTRACTOR:
Geocore Services, Inc., Salina, KS.

DRILLING RIG: CME-75
DRILLING METHOD: Hollow stem auger

BOREHOLE DIAMETER: 10"

HOLLOW STEM AUGER ID:
PILOT BOREHOLE: 4.25"
REAMED BOREHOLE: 6.25"

WATER LEVEL (btoc): NA

WELL DESIGN AND MATERIALS

CASING: 2" ID sch. 40 PVC

SCREEN: 2" ID sch. 40 PVC 0.020" machine slot
SCREENED INTERVAL: 23.50-28.50 ft bgs

FILTER PACK: 10-20 silica sand
FILTER PACK INTERVAL: 21.50-29.50 ft bgs

BENTONITE PELLETS: 2.50-18.50 ft bgs

GROUT INTERVAL 1: Benseal w/Aqua-Grout
GROUT INTERVAL 1: 18.50-21.50 ft bgs
GROUT INTERVAL 2: Cement
GROUT INTERVAL 2: 0.00-2.50 ft bgs

SAMPLING

The borehole was sampled continuously with a 5-foot sampler. Percent recoveries and sample intervals are noted on the borehole log diagram.

WELL DEVELOPMENT

The wells were surged and pumped for approximately one hour until the water was sediment free.

COMMENTS

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Borehole below bottom of screen plugged with bentonite.

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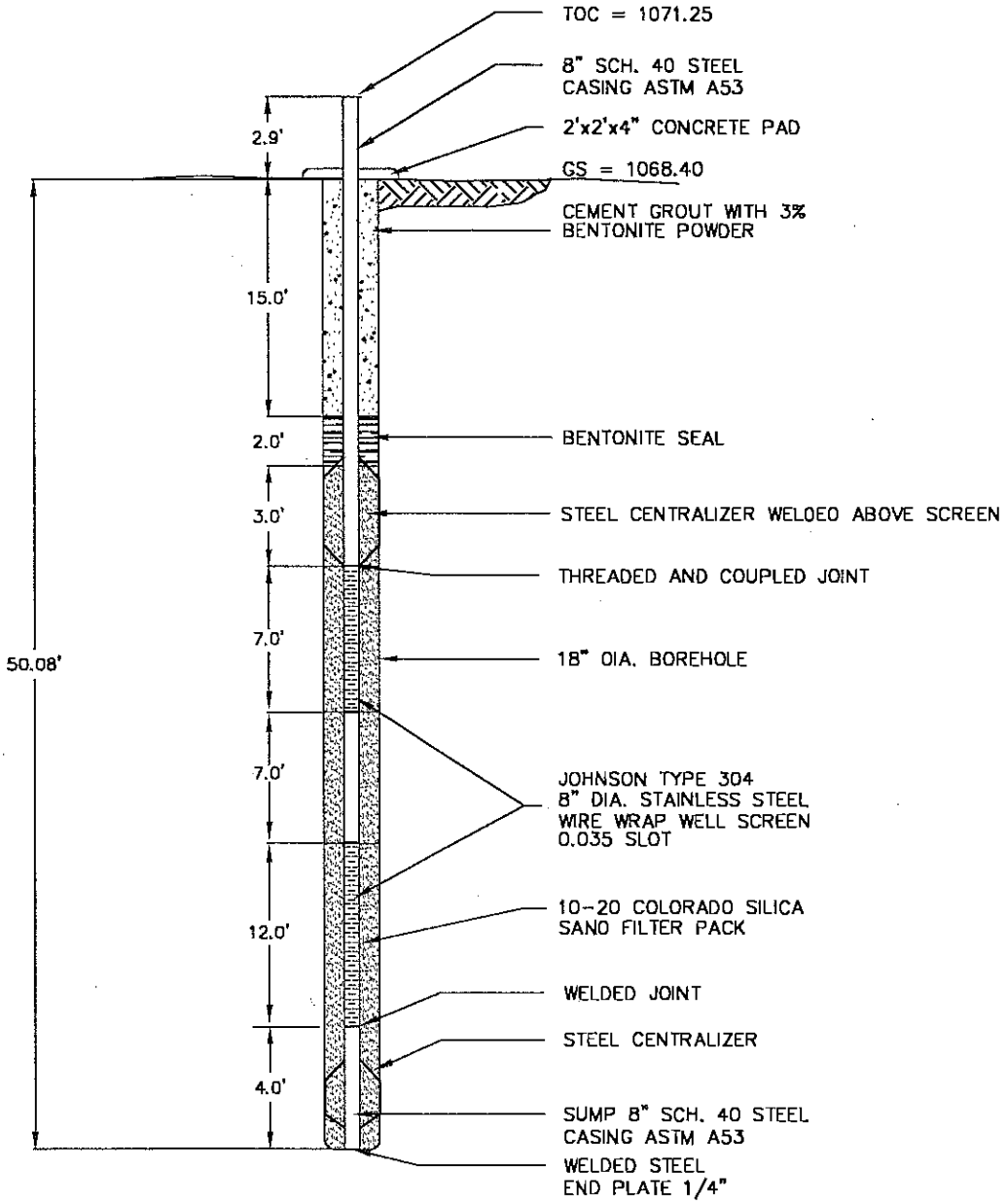
(303) 861-2200



SECTION
NOT TO SCALE

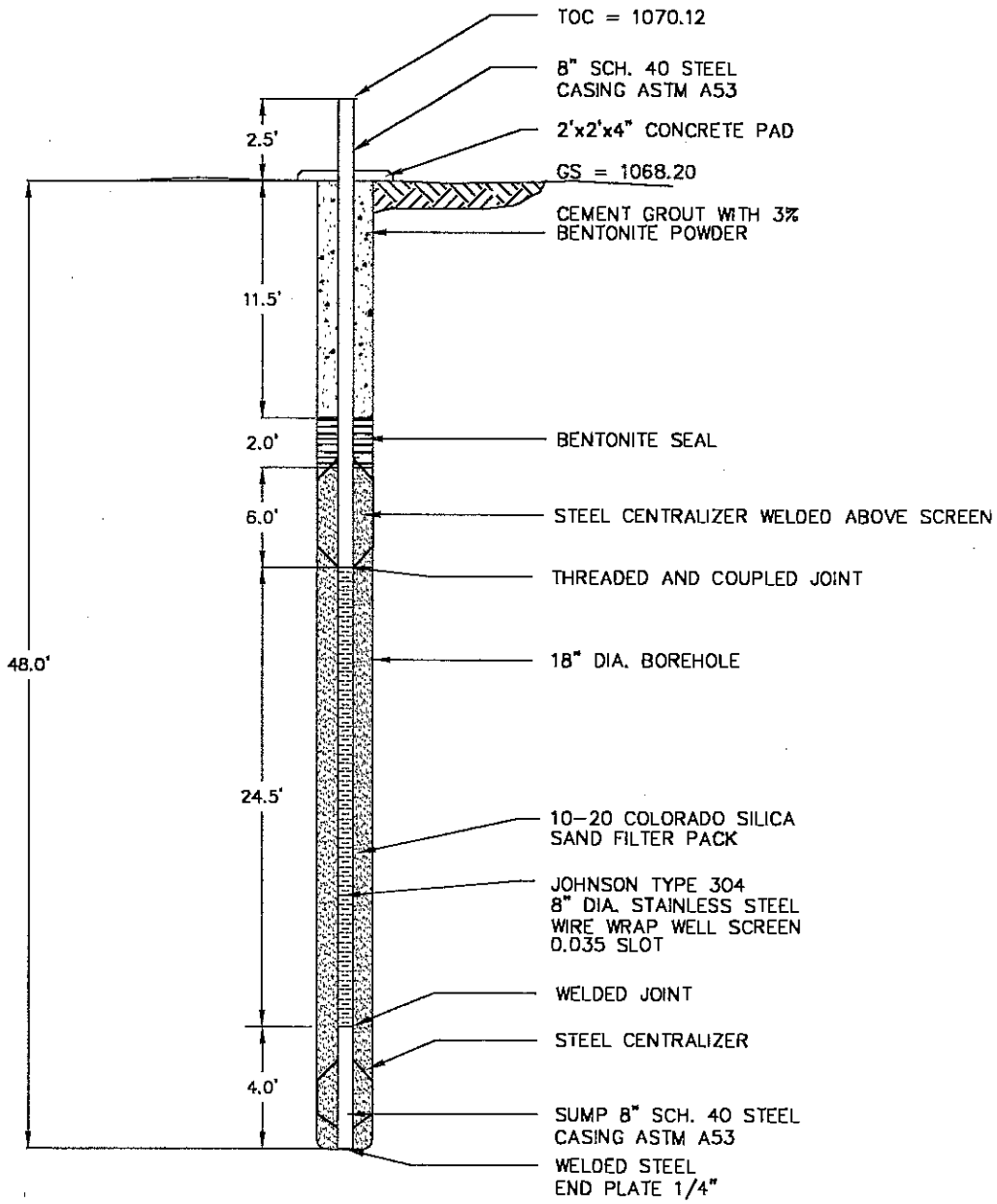
EnecoTech
ENVIRONMENTAL CONSULTANTS

Figure No.: 5-2

RECOVERY WELL RW-40

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

136R-014	DESIGNED BY: JFM	APPROVED BY: JFM	
1440_0M	DRAWN BY: LKB	DATE: 9/24/98	REV: 8/2/00



SECTION
NOT TO SCALE

EnecoTech
ENVIRONMENTAL CONSULTANTS

Figure No.: 5-5

RECOVERY WELL RW-70

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-014	DESIGNED BY: JFM	APPROVED BY: JFM	
1470_GM	DRAWN BY: LKB	DATE: 9/24/98	REV: 8/2/00

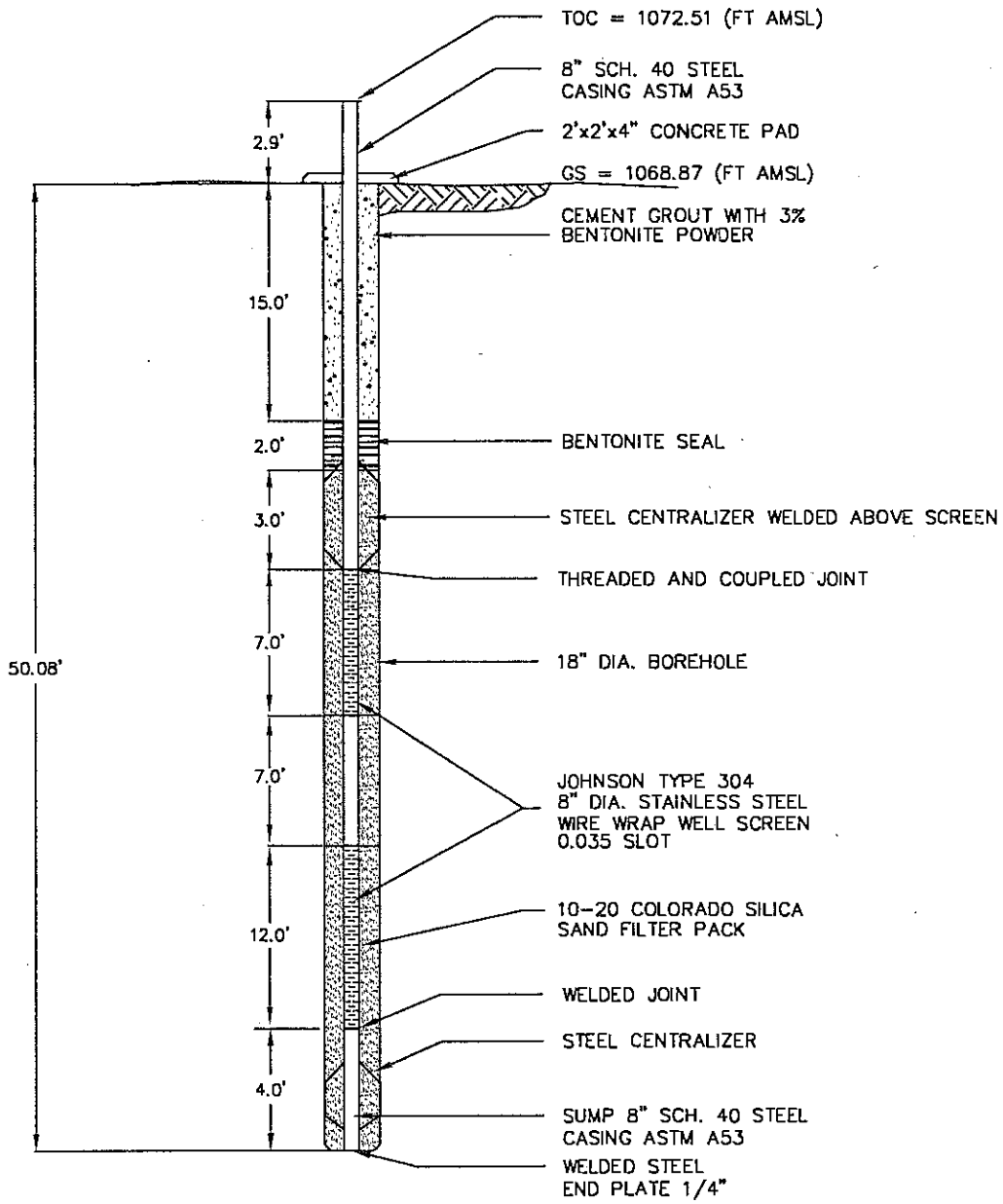
RCRA GROUNDWATER CORRECTIVE ACTION OPERATION & MAINTENANCE PLAN

REPLACEMENT PAGES

Appendix A

Recovery Well Logs:
Figure A-2 RW-40
Figure A-8 RW-70

June 20, 2006



BUILT BY: LAYNE-WESTERN
DATE COMPLETED: 9/7/95

SECTION
NOT TO SCALE

LOCATION (Plant Coordinates)

NORTHING -729.50(ft.)
EASTING 2074.55(ft.)

ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL (FT AMSL)

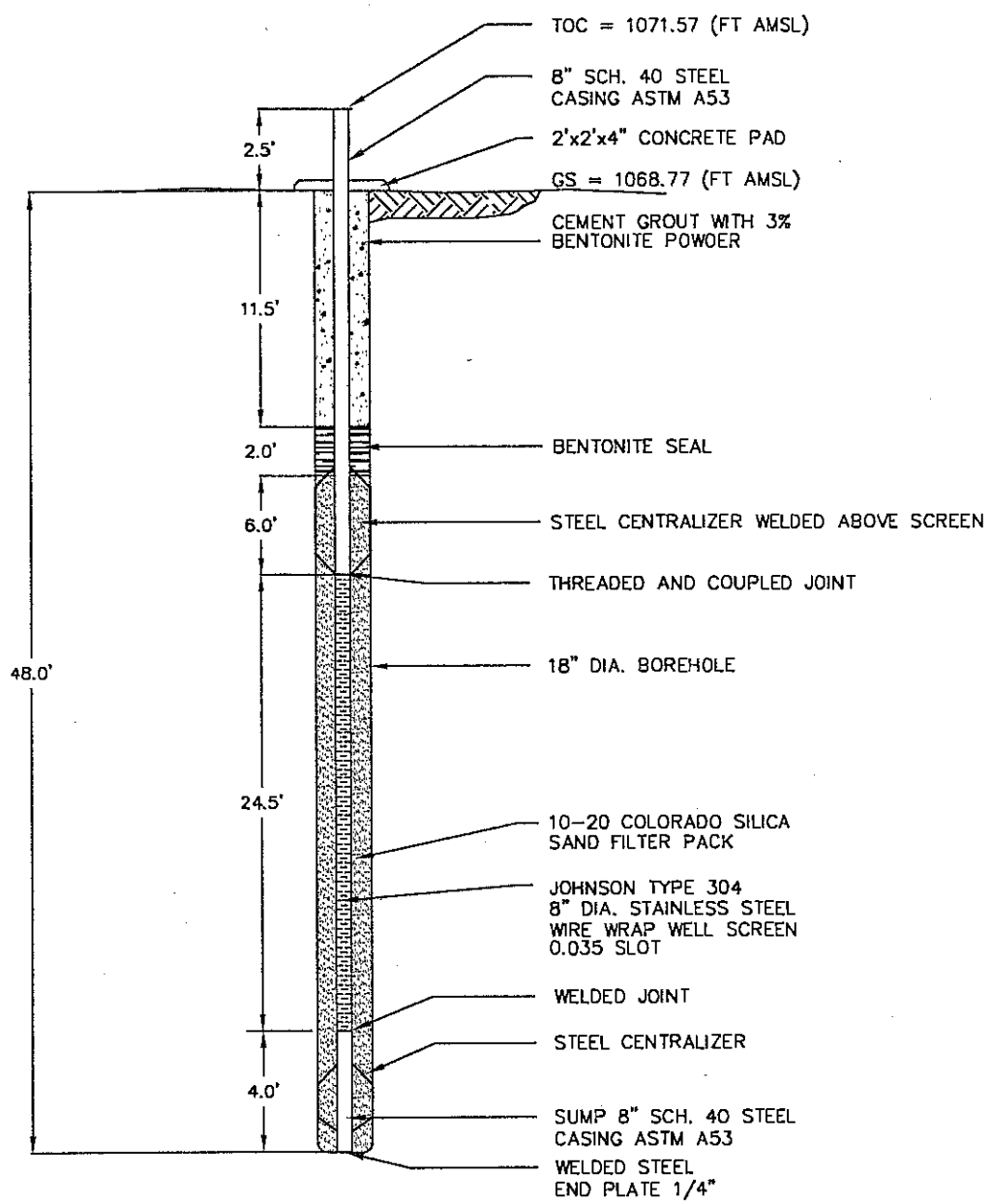
EnecoTech
ENVIRONMENTAL CONSULTANTS

Figure No.: A-2

RECOVERY WELL RW-40 CONSTRUCTION DIAGRAM

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-014	DESIGNED BY: JFM	APPROVED BY: JFM	
1440_DM	DRAWN BY: LKB	DATE: 9/24/98	REV: 8/2/00



BUILT BY: LAYNE-WESTERN
DATE COMPLETED: 9/13/95

SECTION
NOT TO SCALE

LOCATION (Plant Coordinates)

NORTHING -1152.36(ft.)
EASTING 2643.93(ft.)

ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL (FT AMSL)

EnecoTech
ENVIRONMENTAL CONSULTANTS

Figure No.: A-8

RECOVERY WELL RW-70 CONSTRUCTION DIAGRAM

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-014	DESIGNED BY: JFM	APPROVED BY: JFM	
1470_DM	DRAWN BY: LKB	DATE: 9/24/98	REV: 8/2/00

RCRA PART B PERMIT APPLICATION APPENDIX P GROUNDWATER SAMPLING & ANALYSIS PLAN

REPLACEMENT PAGES

Appendix A

Monitor Well Logs:
CMW-03
CMW-04

June 20, 2006

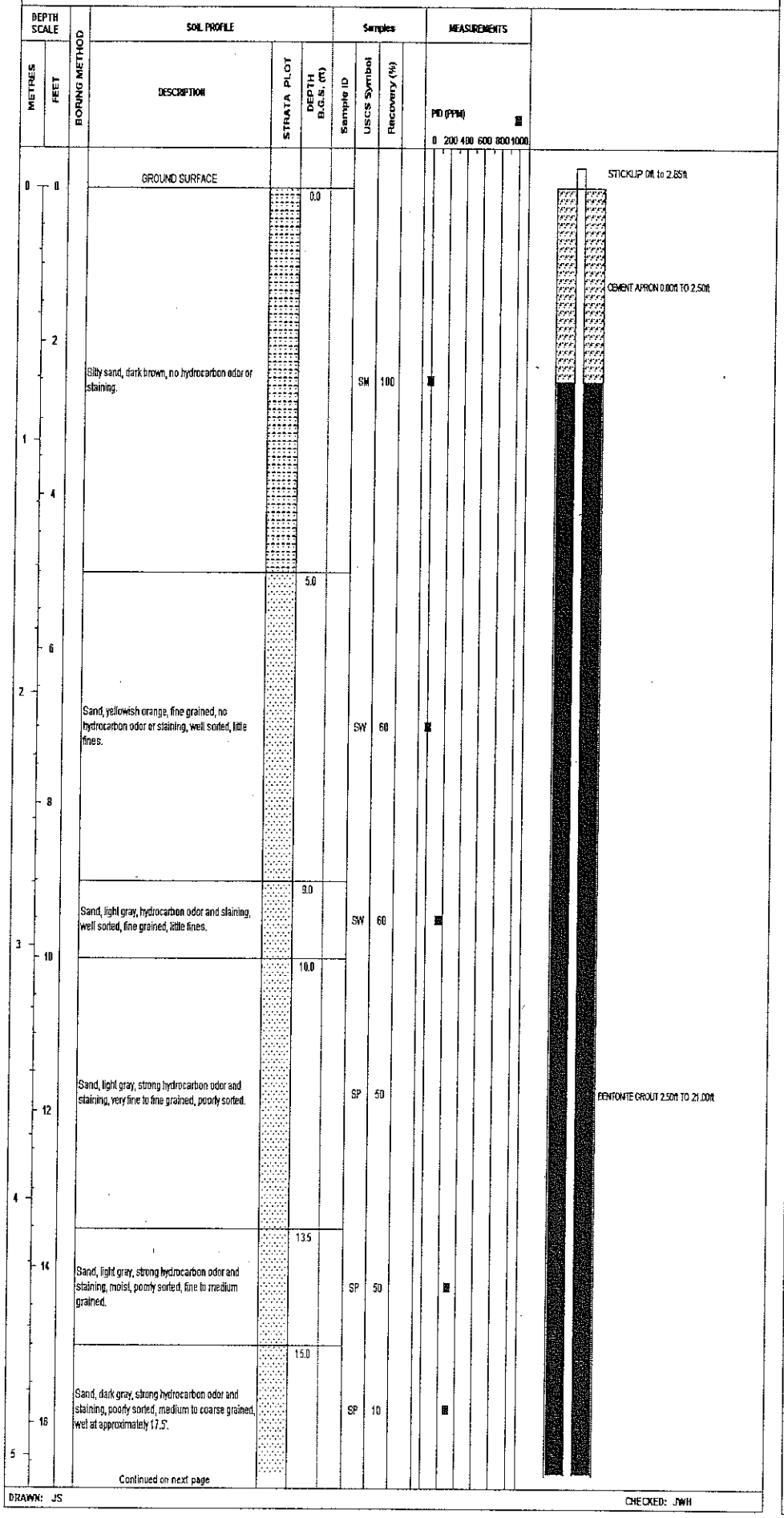
PROJECT: 01-0138R-014

BOREHOLE CMW-3

Pag

LOCATION: Arkansas City, KS

BORING DATE: 12/1/99 DATUM: GROUND SURFACE LOGGED: Chuck Gay



DRAWN: JS CHECKED: JWH

BOREHOLE/MONITORING WELL NAME: CMW-3

LOCATION & ELEVATIONS

NORTHING: -983.694

EASTING: 2578.978

COORDINATE SYSTEM: Plant Coords.

TOP OF CASING ELEV.: 1060.13 ft.

GROUND ELEV.: 1057.48 ft.

DRILLING SUMMARY

TOTAL WELL DEPTH: 32.00 ft bgs

SURFACE MOUNT: STICKUP:X

DATE DRILLED: 12/1/99

LOGGED BY: Chuck Gay EnecoTech

DRILLING CONTRACTOR:
Geocore Services, Inc., Salina, KS.

DRILLING RIG: CME-75
DRILLING METHOD: Hollow stem auger

BOREHOLE DIAMETER: 10"

HOLLOW STEM AUGER ID:
PILOT BOREHOLE: 4.25"
REAMED BOREHOLE: 6.25"

WATER LEVEL NA

WELL DESIGN AND MATERIALS

CASING: 2" ID sch. 40 PVC

SCREEN: 2" ID sch. 40 PVC 0.020" machine slot
SCREENED INTERVAL: 25.00-30.00 ft bgs

FILTER PACK: 10-20 silica sand
FILTER PACK INTERVAL: 23.00-32.00 ft bgs

BENTONITE PELLETS: 2.50-21.00 ft bgs

GROUT INTERVAL 1: Benseal w/Aqua-Grout
GROUT INTERVAL 1: 21.00-23.00 ft bgs
GROUT INTERVAL 2: Cement
GROUT INTERVAL 2: 0.00-2.50 ft bgs

SAMPLING

The borehole was sampled continuously with a 5-foot sampler. Percent recoveries and sample intervals are noted on the borehole log diagram.

WELL DEVELOPMENT

The wells were surged and pumped for approximately one hour until the water was sediment free.

COMMENTS

The stratification lines on the borehole log represent the approximate boundary between soil and rock types. The transition between these boundaries may be more gradual than depicted on this log.

Borehole below bottom of screen plugged with bentonite.

EnecoTech Inc.
1580 Lincoln Street, Suite 1000
Denver, Colorado 80203
(303) 861-2200

PROJECT: 01-0138R-014

BOREHOLE CMW-3

Pa

LOCATION: Arkansas City, KS

BORING DATE: 12/1/99 DATUM: GROUND SURFACE LOGGED: Chuck Gay

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Samples Sample ID	USCS Symbol	Recovery (%)	MEASUREMENTS PID (PPM) 0 200 400 600 800 1000
	18		Sand, dark gray, strong hydrocarbon odor and staining, poorly sorted, medium to coarse grained, wet at approximately 17.5'.				SP	10	
6	20				20.0				
	22		Sand, dark gray, slight hydrocarbon odor with moderate staining, poorly sorted, fine to medium grained.				SP	15	
7	24		Sand, dark gray, poorly sorted, slight hydrocarbon odor, medium grained sand sand to very coarse gravel.		24.0		SP	15	
	26				25.0				
8	28		No recovery.				NA	0	
9	30				30.0				
	32		No recovery.				NA	0	
10			Continued on next page						

BENTONITE SEAL 21.00ft TO 23.00ft

SAND PACK (10-20 MESH) 23.00ft TO 32.00ft
SCREEN 25.00ft TO 30.00ft

DRAWN: JS CHECKED: JWH

BOREHOLE/MONITORING WELL NAME: CMW-3

LOCATION & ELEVATIONS

NORTHING: -983.694

EASTING: 2578.978

COORDINATE SYSTEM: Plant Coords.

TOP OF CASING ELEV.: 1060.13 ft.

GROUND ELEV.: 1057.48 ft.

DRILLING SUMMARY

TOTAL WELL DEPTH: 32.00 ft bgs

SURFACE MOUNT: STICKUP:X

DATE DRILLED: 12/1/99

LOGGED BY: Chuck Gay EnecoTech

DRILLING CONTRACTOR:
Geocore Services, Inc., Salina, KS.

DRILLING RIG: CME-75
DRILLING METHOD: Hollow stem auger

BOREHOLE DIAMETER: 10"

HOLLOW STEM AUGER ID:
PILOT BOREHOLE: 4.25"
REAMED BOREHOLE: 6.25"

WATER LEVEL NA

WELL DESIGN AND MATERIALS

CASING: 2" ID sch. 40 PVC

SCREEN: 2" ID sch. 40 PVC 0.020" machine slot
SCREENED INTERVAL: 25.00-30.00 ft bgs

FILTER PACK: 10-20 silica sand
FILTER PACK INTERVAL: 23.00-32.00 ft bgs

BENTONITE PELLETS: 2.50-21.00 ft bgs

GROUT INTERVAL 1: Benseal w/Aqua-Grout
GROUT INTERVAL 1: 21.00-23.00 ft bgs
GROUT INTERVAL 2: Cement
GROUT INTERVAL 2: 0.00-2.50 ft bgs

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COMMENTS

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EnecoTech Inc.
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Denver, Colorado 80203
(303) 861-2200

PROJECT: 01-01388-014

BOREHOLE CMW-3

Pag

LOCATION: Arkansas City, KS

BORING DATE: 12/1/99 DATUM: GROUND SURFACE LOGGED: Chuck Gay

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Samples: Sample ID	Samples: USCS Symbol	Samples: Recovery (%)	MEASUREMENTS: PID (PPM) 0 200 400 600 800 1000
	34		No recovery.				NA	0	
			No recovery.		35.0		NA	0	
11	36		Shale		36.0				
			END OF EXPLORATION @ 36.50ft		36.5				
12	40								
13	42								
	44								
14	46								
	48								
15	50								

END OF EXPLORATION

DRAWN: JS CHECKED: JWH

BOREHOLE/MONITORING WELL NAME: CMW-3

LOCATION & ELEVATIONS

NORTHING: -983.694

EASTING: 2578.978

COORDINATE SYSTEM: Plant Coords.

TOP OF CASING ELEV.: 1060.13 ft.

GROUND ELEV.: 1057.48 ft.

DRILLING SUMMARY

TOTAL WELL DEPTH: 32.00 ft bgs

SURFACE MOUNT: STICKUP:X

DATE DRILLED: 12/1/99

LOGGED BY: Chuck Gay EnecoTech

DRILLING CONTRACTOR:
Geocore Services, Inc., Salina, KS.

DRILLING RIG: CME-75
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BOREHOLE DIAMETER: 10"

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WATER LEVEL NA

WELL DESIGN AND MATERIALS

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SCREEN: 2" ID sch. 40 PVC 0.020" machine slot
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BENTONITE PELLETS: 2.50-21.00 ft bgs

GROUT INTERVAL 1: Benseal w/Aqua-Grout
GROUT INTERVAL 1: 21.00-23.00 ft bgs
GROUT INTERVAL 2: Cement
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1580 Lincoln Street, Suite 1000
Denver, Colorado 80203
(303) 861-2200

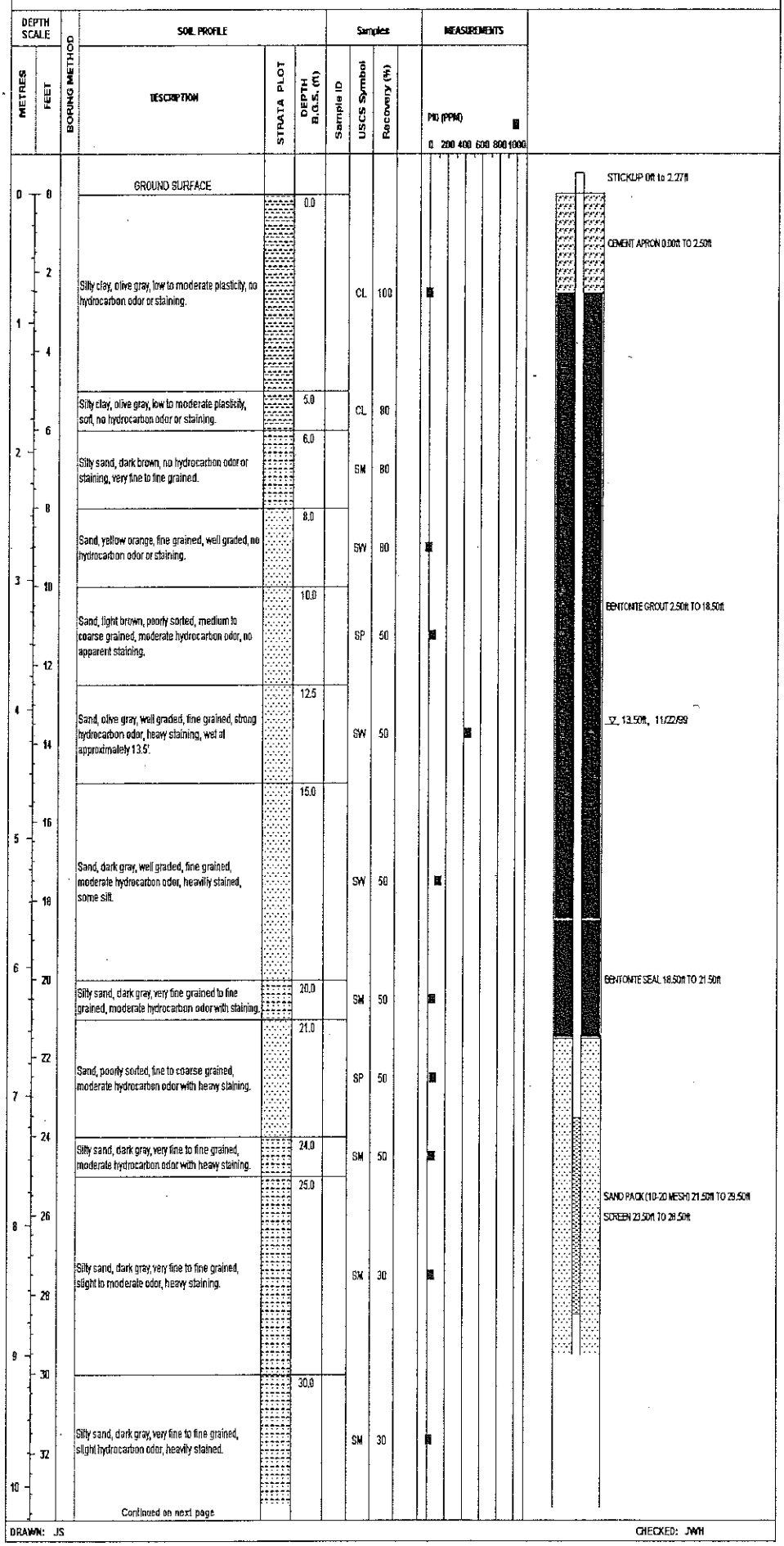
PROJECT: 01-0138R-014

BOREHOLE CMW-4

Par

LOCATION: Arkansas City, KS

BORING DATE: 11/22/99 DATUM: GROUND SURFACE LOGGED: Chuck Gay



DRAWN: JS CHECKED: JWH

BOREHOLE/MONITORING WELL NAME: CMW-4

LOCATION & ELEVATIONS

NORTHING: -1128.936

EASTING: 2770.512

COORDINATE SYSTEM: Plant Coords.

TOP OF CASING ELEV.: 1058.27 ft.

GROUND ELEV.: 1056.00 ft.

DRILLING SUMMARY

TOTAL WELL DEPTH: 29.50 ft bgs

SURFACE MOUNT: STICKUP: X

DATE DRILLED: 11/22/99

LOGGED BY: Chuck Gay EnecoTech

DRILLING CONTRACTOR:
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REAMED BOREHOLE: 6.25"

WATER LEVEL (btoc): NA

WELL DESIGN AND MATERIALS

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PROJECT: 01-0138R-014

BOREHOLE CMW-4

Pag

LOCATION: Arkansas City, KS

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			Shale bedrock.		37.0				
			END OF EXPLORATION @ 37.5ft		37.5				
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15	50								
	52								
16	54								
	56								
17	58								
	60								
18	62								
	64								
19	66								
20									

END OF EXPLORATION

DRAWN: JS CHECKED: JWH

BOREHOLE/MONITORING WELL NAME: CMW-4

LOCATION & ELEVATIONS

NORTHING: -1128.936

EASTING: 2770.512

COORDINATE SYSTEM: Plant Coords.

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Denver, Colorado 80203
(303) 861-2200

VALERO

Ethan A. Jones
Paralegal/Environmental Project Specialist
Environmental/Safety and
Regulatory Affairs Law

RECEIVED
MAY 15 2006
BUREAU OF WASTE MANAGEMENT

May 12, 2006

Mostafa Kamal, PE, CPM
Chief, Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 S.W. Jackson Street, Suite 320
Topeka, KS 66612-1366

Re: Facility Name Change and submission of new Part A Permit Application
Michigan Reutilization, LLC (formerly) TPI Petroleum, Inc.
Arkansas City EPA ID# KSD087418695

Dear Mr. Kamal:

In connection with the above-referenced matter, and pursuant to your letter of April 12, 2006, regarding the same, I have enclosed the following documents:

1. Updated Part B application (both a redlined version and a final version); and

2. Corporate organization chart showing the relationship between Michigan Reutilization, LLC and Valero Energy Corporation.

The Business Concern Disclosure Statement ("BCDS") Form I required pursuant to Kansas Statutes Annotated (K.S.A.) 65-3437(c) has been prepared and is currently being reviewed and approved for signature by the appropriate corporate officers. Valero Energy Corporation is also providing the Corporate Guarantee for Closure and Post-Closure Care and the Guarantee for Liability Insurance on behalf of Michigan Reutilization, LLC. This corporate guarantee has been prepared and is currently being reviewed and approved for signature by the Chief Financial Officer of Valero Energy Corporation.

The BCDS and the corporate guarantee will both be provided to you under separate cover within the next week.

In the meantime, should you have any questions, please do not hesitate to contact me. Thank you for your continued assistance and cooperation with this matter.

Sincerely,

Ethan A. Jones

EAJ/mth
Enclosures

cc: Tim George - Valero
Brenda Manterola - Valero
Robert C. Ehlers - Valero

One Valero Way • San Antonio, Texas 78249
Post Office Box 696000 • San Antonio, Texas 78269• (210) 345-2706 • Facsimile (210) 370-4529
ethan.jones@valero.com

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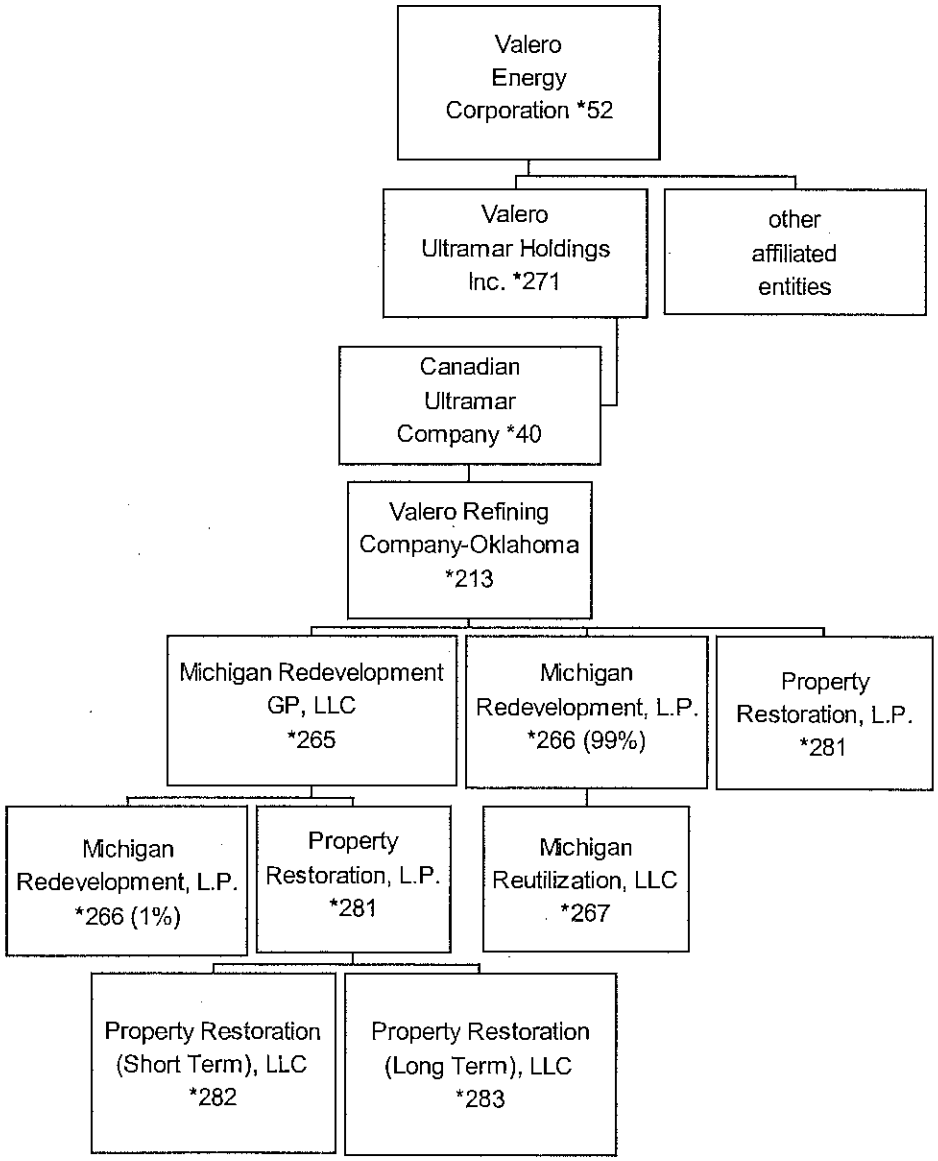
MAY 15 2006

BUREAU OF WASTE MANAGEMENT



MWH

RECEIVED
APR 26 2006
BUREAU OF WASTE MANAGEMENT

April 25, 2006

4270169

Kevin Anderson
Environmental Scientist
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Five Year Review Report
Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

Please find enclosed the Five Year Review Report prepared for the Michigan Reutilization, LLC (MR) Arkansas City facility in accordance with the facility's Hazardous Waste Permit condition I.B.3. This report contains a detailed review and assessment of the corrective action program at the Arkansas City, Kansas facility. Section 5 of the report provides recommendations for the corrective action program for consideration in the upcoming permit modifications.

If you have any questions regarding this report, please contact Ms. Brenda Manterola at (210) 345-4619, MR or me at (303) 291-2262.

Sincerely,

MWH Americas, Inc.

Jay Mednick, P.G.
Principal Hydrogeologist

Enclosure:

cc: Brenda Manterola, MR w/enc.
Raymond Rahn, MR w/enc.
David Garrett, EPA Region 7 w/enc.
Rob Franke, RBA w/enc.

1801 California Street
Suite 2900
Denver, Colorado
80202

Tel: 303 291-2222
Fax: 303 291-2221

MICHIGAN REUTILIZATION, LLC
Post Office Box 696000 • San Antonio, Texas 78269-6000 • Telephone (210) 345-2000

Brenda B. Manterola
Manager, Environmental

April 18, 2006

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APR 2 4 2006

BUREAU OF WASTE MANAGEMENT

Mr. Mostafa Kamal, P.E., CHMM
Chief, HW Permits Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Mr. David Garrett
Hydrogeologist
U.S. Environmental Protection Agency
901 North 5th Street
Kansas City, KS 66101

Re: Request for Permit Modification – Single Agency Lead
Michigan Reutilization, LLC – Arkansas City, Kansas
EPA ID# KSD 087418695

Dear Mr. Kamal and Mr. Garrett:

Michigan Reutilization, LLC (MR) is requesting the Kansas Department of Health and Environment (KDHE) and the United States Environmental Protection Agency (EPA) consider approving a permit modification of the facility's hazardous waste permit (Permit). The modification involves allowing KDHE to take the lead for Part II of the Permit. Part II of the Permit addresses corrective action requirements for Solid Waste Management Units (SWMUs) and other Hazardous and Solid Waste Amendments (HSWA) requirements as administered and enforced by EPA. MR is making this request in order to allow a single agency to oversee all aspects of the Permit.

KDHE currently oversees Part I activities of the Permit and EPA oversees Part II activities of the Permit. Historically at this facility, KDHE and EPA have agreed with the respective approaches to corrective action. MR is not attempting to obtain less stringent cleanup levels during the corrective action process. It is our understanding EPA will continue to review documents submitted to KDHE as desired. In addition, the cleanup goals document required by Part II of the Permit has received approval by both the KDHE and the EPA. The cleanup goals document specifies the action levels for this site.

MR believes that a single agency lead will benefit all parties by streamlining the process and potentially reducing the time to complete the corrective action. This modification would come at an opportune time. KDHE is in the process of the five-year review of Part I of the Permit. A permit modification will be submitted as part of the five-year review. The change could be facilitated through the same modification of the Permit. It is also our understanding KDHE will be the eventual lead agency over the Permit at the time corrective action is complete.

If this request is acceptable to both KDHE and EPA, please let us know so it can be incorporated into the permit modification currently being prepared. We appreciate your time and attention to this matter. If you have any questions regarding this information, please contact one of the following:

Brenda Manterola, MR at (210) 345-4619
Jay Mednick, MWH at (303) 291-2262
Rob Franke, RBA at (972) 293-6722

Sincerely,

Brenda B. Manterola

cc: Katherine Dunn, KDHE
Kevin Anderson, KDHE
Raymond Rahn, MR
Jay Mednick, MWH
Rob Franke, RBA

KANSAS

RODERICK L. BREMBY, SECRETARY

DEPARTMENT OF HEALTH AND ENVIRONMENT

KATHLEEN SEBELIUS, GOVERNOR

April 12, 2006

Ethan A. Jones, Paralegal
Environmental /Safety and Regulatory Affairs Law
Michigan Reutilization, LLC
One Valero Way
San Antonio, TX 78249

RE: Facility Name Change and submission of new Part A Permit Application
Michigan Reutilization, LLC (formerly TPI Petroleum Inc.)- Arkansas City
EPA ID# KSD 087418695

Dear Mr. Jones,

The Kansas Department of Health and Environment (KDHE) received your letter dated April 5, 2006, informing KDHE of a facility name change for the TPI Petroleum Inc. refinery in Arkansas City, Kansas. In association with this name change you have submitted a Part A application for Michigan Reutilization, LLC, the new owner/operator of the above facility. The name change for this facility will be addressed through a Class 1a permit modification. Therefore, please forward the replacement pages for the approved Part B application to reflect the above change in ownership and/or operational control.

Kansas Statutes Annotated (K.S.A.) 65-3437(c) requires the Secretary to conduct background investigation of the applicant before reviewing any application for hazardous waste treatment, storage and disposal facility. Therefore, KDHE requires Michigan Reutilization, LLC, as the applicant, to complete the Business Concern Disclosure Statement (BCDS) Form I (available at http://www.kdheks.gov/waste/bwm_haz_waste.html). Also, in connection with the recent corporate restructuring, KDHE requests Valero Energy Corporation to provide an organization chart that details the relationships, level by level, of the corporate structure for our record. Please include all affiliated companies and subsidiaries of the parent, indicating their relationships, such LLC, wholly owned direct subsidiary, wholly owned indirect subsidiary, etc.

KDHE received the financial test from Valero Energy Corporation dated March 30, 2006. The Corporate Guarantee for Closure and Post-Closure Care and the Guarantee for Liability Insurance, effective date of December 31, 2001, are on behalf of TPI Petroleum, Inc., which is

merged out of existence. Therefore, KDHE requests Valero Energy Corporation to provide the corporate guarantees on behalf of the permit applicant, Michigan Reutilization, LLC.

The above documents are necessary for completing the permit modification. In order for us to continue with the permit modification and the financial assurance review in accordance with K.S.A. 65-3431(s), please forward the above documents to KDHE by May 13, 2006. Should you have any questions with respect to background investigation and financial assurance, please contact Brian Busby at (785) 296-0680. For any technical questions related to the permit modification, please contact Kevin Anderson (785) 291-3760. For any other questions, please call me at (785) 296-1609.

Sincerely,

Mostafa Kamal, PE, CPM
Chief, Hazardous Waste Permits Section
Bureau of Waste Management

cc: Robert C. Ehlers - Valero Energy Corporation
Brenda Manterola - Valero Energy Corporation
Joseph Mednick - MWH
Michael Jones - DEA/SCDO/Waste Programs
David Garrett - EPA Region 7/RCAP Branch
William Bider - Director BWM
Brian Busby - BWM
Kevin Anderson - BWM

Michigan Reutilization, LLC

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APR 10 2006
BUREAU OF WASTE MANAGEMENT

April 5, 2006

Kevin M. Anderson
Kansas Dept. of Health and Environment
Bureau of Waste Management, Hazardous Waste Permits Section
1000 SW Jackson Street, Ste. 320
Topeka, KS 66612-1366

Re: Michigan Reutilization, LLC (formerly TPI Petroleum, Inc.)
Arkansas City EPA ID# KSD 087418695

Dear Mr. Anderson:

This letter is written to advise you that, in connection with a recent a corporate restructuring, TPI Petroleum, Inc., a Michigan corporation, merged with and into Michigan Reutilization, LLC, a Michigan limited liability company, with Michigan Reutilization, LLC being the surviving entity. By operation of law, all of the assets and liabilities of TPI are now assets and liabilities of the merged entity, essentially constituting a name change. The ultimate parent company, Valero Energy Corporation, will remain the same at this time.

Accordingly, we are notifying you that effective immediately, as a result of the merger, the name of the owner/operator of the above-referenced facility and associated RCRA Hazardous Waste Permit should be changed from "TPI Petroleum, Inc." to "Michigan Reutilization, LLC". Included with this letter is a revised Form 8700-23 Kansas RCRA Hazardous Waste part A Permit Application reflecting the name change.

We may have further transfers in the future as we market certain properties for appropriate uses and/or redevelopment. Please contact the undersigned if you have any questions about this notice or require any additional information or documentation to process the name change resulting from the TPI-Michigan Reutilization merger.

Thank you for your attention to this matter.

Sincerely,

Ethan A. Jones, Paralegal
Environmental/Safety and
Regulatory Affairs Law

/ej
Attachment

cc: David Garret – EPA Region 7/RCAP Branch
William Bider – Director BWM
Richard J. Walsh
Tim George
Brenda Manterola

One Valero Way • San Antonio, Texas 78249
Post Office Box 696000 • San Antonio, Texas 78269• (210) 345-2706 • Facsimile (210) 370-4529
tim.george@valero.com

MAIL COMPLETED 8700-12 FORM TO: KDHE-BWM 1000 SW Jackson, Suite 320, Topeka, KS 66612-1366	Kansas Department of Health and Environment **Notification of Regulated Waste Activity for Kansas Treatment, Storage, and Disposal Facilities** KANSAS FORM 8700-23 (RCRA SUBTITLE C SITE IDENTIFICATION FORM)	RECEIVED APR 06 2006 BUREAU OF WASTE MANAGEMENT

1. Reason for Submittal (See page 4 of the instructions) MARK ALL BOX(ES) THAT APPLY	**Reason for Submittal:** ❑ To provide Initial Notification of Regulated Waste Activity (to obtain an EPA ID Number) ☒ To provide Subsequent Notification of Regulated Waste Activity (to update information) ❑ As a component of a FIRST–Kansas RCRA Hazardous Waste Part A Permit Application ❑ As a component of a REVISED–Kansas RCRA Hazardous Waste Part A Permit Application ❑ As a component of the Hazardous Waste Report
2. Site EPA ID Number (See page 5 of the instructions)	**EPA ID Number:** KSD087418695
3. Site Name (See page 5 of the instructions)	**Name:** Michigan Reutilization, LLC
4. Site Location Information (See page 5 of the instructions)	**Street Address:** 1400 South M Street **City or Town:** Arkansas City — **State:** Kansas **County Name:** Cowley — **Zip Code:** 67005
5 Site Land Type (See page 5 of the instructions)	**Site Land Type:** ☒ Private ❑ County ❑ District ❑ Federal ❑ Indian ❑ Municipal ❑ State ❑ Other
6. North American Industry Classification System (NAICS) Code(s) for the Site (See page 5 of the instructions)	**A.** 42271 — **B.** **C.** — **D.**
7. Site Mailing Address (See page 6 of the instructions)	**Street or P. O. Box:** 1400 South M Street **City or Town:** Arkansas City **State:** Kansas **Country:** Cowley — **Zip Code:** 67005
8. Site Contact Person (See page 6 of the instructions)	**First Name:** Brenda — **MI:** — **Last Name:** Manterola **Phone Number & Extension:** (210) 345-4619 — **Email Address:** brenda.manterola@valero.com
9. Legal Owner and Operator of the Site (See page 6 of the instructions)	**A. Name of Site's Legal Owner:** Michigan Reutilization, LLC — **Date Became Owner (mm/dd/yyyy):** 01/01/2006 **Owner Type:** ❑ Private ❑ County ❑ District ❑ Federal ❑ Indian ❑ Municipal ❑ State ☒ Other Limited Liability Company

KSD087418695

	B. Name of Site's Operator:	Date Became Operator (mm/dd/yyyy):
	N/A	
	Operator Type: ❑ Private ❑ County ❑ District ❑ Federal ❑ Indian ❑ Municipal ❑ State ❑ Other	

10. Type of Regulated Waste Activity (Mark the appropriate boxes for activities that apply to your site. See pages 7-11 of the instructions)

A. Hazardous Waste Activities

1. Generator of Hazardous Waste (Choose only one of the following three classifications)

❑ a. EPA: 1,000 kg/mo (2,200 lbs in any single mo.) or more of non-acute hazardous waste, greater than 1 kg of acute hazardous waste;
or
❑ b. KSG Sub-Class 1: 100 kg or more and less than 1,000 kg (220 - 2,200 lbs in any single mo.) of non-acute hazardous waste;
or
❑ b. KSG Sub-Class 2: 25 kg or more and less than 100 kg (55 - 220 lbs in any single mo.) of non- acute hazardous waste;
or
❑ c. SQG: Less than 25 kg/mo (55 lbs./mo.) of non-acute hazardous waste

In addition, indicate other generator activities. (Mark all that apply)

❑ **d.** United States Importer of Hazardous Waste

❑ e. Mixed Waste (hazardous and radioactive) Generator

For Items 2 through 6, mark all that apply.

❑ **2. Transporter of Hazardous Waste**

❑ **3. Treater, Storer, or Disposer of Hazardous Waste (at your site)** Note: A hazardous waste permit is required for this activity.

❑ **4. Recycler of Hazardous Waste (at your site)** Note: A hazardous waste permit may be required for this activity.

5. Exempt Boiler and/or Industrial Furnace

❑ a. Small Quantity On-site Burner Exemption

❑ b. Smelting, Melting, and Refining Furnace Exemption

❑ **6. Underground Injection Control**

B. Universal Waste Activities

1. Large Quantity Handler of Universal Waste (accumulate 5,000 kg or more) [refer to Kansas regulations to determine what is regulated]. Indicate types of universal waste generated and/or accumulated at your site. (Mark all boxes that apply):

	Generate	Accumulate
a. Batteries	❑	❑
b. Pesticides	❑	❑
c. Thermostats	❑	❑
d. Lamps	❑	❑
e. Other (specify) _____	❑	❑
f. Other (specify) _____	❑	❑
g. Other (specify) _____	❑	❑

❑ **2. Destination Facility for Universal Waste**

Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities (Mark all boxes that apply.)

1. Used Oil Transporter - Indicate Type(s) of Activity(ies)

❑ a. Transporter

❑ b. Transfer Facility

2. Used Oil Processor and/or Re-refiner - Indicate Type(s) of Activity(ies)

❑ a. Processor

❑ b. Re-refiner

❑ **3. Off-Specification Used Oil Burner**

4. Used Oil Fuel Marketer - Indicate Type(s) of Activity(ies)

❑ a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner

❑ b. Marketer Who First Claims the Used Oil Meets the Specifications

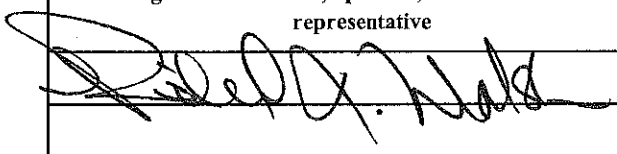
11. Description of Hazardous Wastes (See page 11 of the instructions)

Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

12. Comments (See page 11 of the instructions)

On January 1, 2006, TPI Petroleum, Inc. merged with and into Michigan Reutilization, LLC with Michigan Reutilization, LLC as the survivor. Currently, Michigan Reutilization, LLC a wholly-owned subsidiary of Valero Energy Corporation as was TPI Petroleum, Inc. at the time of the merger. By operation of law, all assets and liabilities of TPI Petroleum, Inc. became the assets and liabilities of Michigan Reutilization, LLC esentially constituting a name change. We may have further transfers of property in the future.

13. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. **(See page 11 of the instructions)**

Signature of owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	Richard J. Walsh, Vice Pres.	04/04/06

MAIL TO:
KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
BUREAU OF WASTE MANAGEMENT
1000 SW JACKSON, SUITE 320
TOPEKA, KS 66612-1366

United States Environmental Protection Agency

HAZARDOUS WASTE PERMIT INFORMATION FORM (8700-23)

1. Facility Permit Contact (See instructions on page 16)	First Name: Brenda	MI:	Last Name: Manterola
	Phone Number: (210) 345-4619		Phone Number Extension:
2. Facility Permit Contact Mailing Address (See instructions on page 16)	Street or P.O. Box: P.O. Box 696000		
	City, Town, or Village: San Antonio		
	State: Texas		
	Country: USA		Zip Code: 78269-6000
3. Legal Owner Mailing Address and Telephone Number (See instructions on page 17)	Street or P.O. Box: Same as above.		
	City, Town, or Village:		
	State:		
	Country:	Zip Code:	Phone Number
4. Operator Mailing Address and Telephone Number (See instructions on page 17)	Street or P.O. Box: Same as above.		
	City, Town, or Village:		
	State:		
	Country:	Zip Code:	Phone Number
5. Facility Existence Date (See instructions on page 17)	Facility Existence Date (mm/dd/yyyy): 1925		

6. Other Environmental Permits (See instructions on page 17)

A. Permit Type (Enter code)	B. Permit Number	C. Description
N	IWA18P0002	NPDES Permit
R	KSD087418695	RCRA Permit
E	0523	Construction Debris Landfill

7. Nature of Business (Provide a brief description; see instructions on page 18)

8. Process Codes and Design Capacities (See instructions on page 18)

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item 9.

B. PROCESS DESIGN CAPACITY- For each code entered in column A, enter the capacity of the process.

1. AMOUNT - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.

2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code in column B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.

C. PROCESS TOTAL NUMBER OF UNITS - Enter the total number of units for each corresponding process code.

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	Disposal:	
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet; Hectare-meter; Acres; Cubic Meters; Hectares; Cubic Yards
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards
D99	Other Disposal	Any Unit of Measure Listed Below
	Storage:	
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S03	Waste Pile	Cubic Yards or Cubic Meters
S04	Surface Impoundment Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S05	Drip Pad	Gallons; Liters; Acres; Cubic Meters; Hectares; or Cubic Yards
S06	Containment Building Storage	Cubic Yards or Cubic Meters
S99	Other Storage	Any Unit of Measure Listed Below
	Treatment:	
T01	Tank Treatment	Gallons Per Day; Liters Per Day; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hoor; Metric Tons Per Day; or Metric Tons Per Hour
T02	Surface Impoundment Treatment	Gallons Per Day; Liters Per Day; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Pounds Per Hour; Short Tons per Day; Kilograms Per Hour; Metric Tons Per Day; or Metric Tons Per Hour
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million Btu Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Gallons Per Day; Liters Per Hour; or Million Btu Per Hour
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; Btu Per Hour; or Million Btu Per Hour
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Liters Per Hour; Kilograms Per Hour; Metric Tons Per Hour; or Million Btu Per Hour
T82	Lime Kiln	
T83	Aggregate Kiln	
T84	Phosphate Kiln	
T85	Coke Oven	
T86	Blast Furnace	
T87	Smelting, Melting, or Refining Furnace	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Gallons Per Hour; Liters Per Hour; or Million Btu Per Hour
T88	Titanium Dioxide Chloride Oxidation Reactor	
T89	Methane Reforming Furnace	
T90	Pulping Liquor Recovery Furnace	
T91	Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid Halogen Acid Furnaces Other Industrial Furnaces	
T92	Listed In 40 CFR §260.10	
T93		
T94	Containment Building - Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million Btu Per Hour
	Miscellaneous (Subpart X):	
X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; Liters Per Hour; or Gallons Per Day
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; or Million Btu Per Hour
X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
X99	Other Subpart X	Any Unit of Measure Listed Below

UNIT OF MEASURE	UNIT OF MEASURE CODE
Gallons	G
Gallons Per Hour	E
Gallons Per Day	U
Liters	L
Liters Per Hour	H
Liters Per Day	V

UNIT OF MEASURE	UNIT OF MEASURE CODE
Short Tons Per Hour	D
Metric Tons Per Hour	W
Short Tons Per Day	N
Metric Tons Per Day	S
Pounds Per Hour	J
Kilograms Per Hour	R
Million Btu Per Hour	X

UNIT OF MEASURE	UNIT OF MEASURE CODE
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
Btu Per Hour	I

8. Process Codes and Design Capacities (*Continued*)

EXAMPLE FOR COMPLETING Item 8 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number		A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. (2) Unit of Measure (Enter code)	C. Process Total Number of Units	For Official Use Only
X	1	S 0 2	5 3 3 . 7 8 8	G	0 0 1	
	1	D 8 1	0 . 0	B	001	
	2	D 8 0	0 . 0	A	003	
	3		.			
	4		.			
	5		.			
	6		.			
	7		.			
	8		.			
	9		.			
1	0		.			
1	1		.			
1	2		.			
1	3		.			

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item 9.

9. Other Processes (*See instructions on page 18 and follow instructions from Item 8 for D99, S99, T04 and X99 process codes*)

Line Number (Enter #s in sequence with Item 8)		A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. (2) Unit of Measure (Enter code)	C. Process Total Number of Units	D. Description of Process
X	1	T 0 4	.			In-situ Vitrification
	1		.			
	2		.			
	3		.			
	4		.			

10. Description of Hazardous Wastes (See inst. ...ns on page 18)

A. EPA HAZARDOUS WASTE NUMBER - *Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR Part 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.*

B. ESTIMATED ANNUAL QUANTITY - *For each listed waste entered in column A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.*

C. UNIT OF MEASURE - *For each quantity entered in column B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:*

ENGLISH UNIT OF MEASURE	*CODE*	*METRIC UNIT OF MEASURE*	*CODE*
POUNDS	*P*	*KILOGRAMS*	*K*
TONS	*T*	*METRIC TONS*	*M*

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Items 8A and 9A on page 3 to indicate the waste will be stored, treated, and/or disposed at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Items 8A and 9A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. *Enter the first two as described above.*
2. *Enter "000" in the extreme right box of Item 10.D(1).*
3. *Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 10.E.*

2. PROCESS DESCRIPTION: *If a code is not listed for a process that will be used, describe the process in Item 10.D(2) or in Item 10.E(2).*

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. *Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.*
2. *In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.*
3. *Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.*

EXAMPLE FOR COMPLETING Item 10 (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)									D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
X	1	K	0	5	4	900	P	T	0	3	D	8	0				
X	2	D	0	0	2	400	P	T	0	3	D	8	0				
X	3	D	0	0	1	100	P	T	0	3	D	8	0				
X	4	D	0	0	2												Included With Above

10. Description of Hazardous Wastes (Continu .se additional sheets as necessary)

Line Number		A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)									D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1													
	2													
	3													
	4													
	5													
	6													
	7													
	8													
	9													
1	0													
1	1													
1	2													
1	3													
1	4													
1	5													
1	6													
1	7													
1	8													
1	9													
2	0													
2	1													
2	2													
2	3													
2	4													
2	5													
2	6													
2	7													
2	8													
2	9													
3	0													
3	1													
3	2													
3	3													

10. Description of Hazardous Wastes (Continu[illegible]dditional Sheet)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									E. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in E(1))

11. Map (See instructions on page 19)

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, eech of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include ell springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

12. Facility Drawing (See instructions on page 20)

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

13. Photographs (See instructions on page 20)

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

14. Comments (See instructions on page 20)

Currently, no hazardous waste treatment. storage or disposal activities occur at the site requiring a permit No hazardous waste or non-hazardous waste is accepted at the LTU. Surface Impoundments 1 and 2, as well as Aerated Lagoon #3A are in post-closure care.

On January 1, 2006, TPI Petroleum, Inc., an indirect wholly-owned subsidiary of Valero Energy Corporation merged with and into Michigan Reutilization, LLC, also an indirect wholly owned subsidiary of Valero Energy Corporation, with Michigan Reutilization, LLC being the surviving entity. As operation of law, all of the assets and liabilities of TPI Petroleum, INc. became the assets and liabilities of Michigan Reutiliization, LLC at the time of merger, essentially creating a name change. We may have further transfers as we market properties for appropriate uses and/or redevelopment.

K A N S A S

RODERICK L. BREMBY, SECRETARY

DEPARTMENT OF HEALTH AND ENVIRONMENT

KATHLEEN SEBELIUS, GOVERNOR

March 15, 2006

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: 2005 Annual RCRA Groundwater Monitoring Report
Michigan Reutilization LLC - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

On March 2, 2006 the Kansas Department of Health and Environment (KDHE) received the 2005 Annual RCRA Groundwater Monitoring Report. The above report was reviewed by KDHE and appears complete and accurate. Therefore, there are no technical comments on the 2005 Annual Groundwater Monitoring Report at this time.

As noted in this report and the March 7, 2006 mailing list notification, KDHE noticed the change of name for the facility. KDHE has neither received written notification of the facility name change nor modification of the permit application. A facility name change requires a Class 1 permit modification. Please give written notification of the name change and permit modification within 10 days of this letter.

If there are questions with regard to this letter, please contact me (785) 291-3760 or email kanderso@kdhe.state.ks.us.

Respectfully yours,

Kevin M. Anderson
Environmental Scientist
Hazardous Waste Permits Section

Cc: David Garrett- EPA Region 7/RCAP Branch
William Bider- Director BWM
Joseph Mednick- MWH

DIVISION OF ENVIRONMENT
Bureau of Waste Management
CURTIS STATE OFFICE BUILDING, 1000 SW JACKSON ST., STE. 320, TOPEKA, KS 66612-1366
Voice 785-296-1600 Fax 785-296-8909 http://www.kdhe.state.ks.us/waste

MWH

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BUREAU OF WASTE MANAGEMENT

March 7, 2006

Mostafa Kamal, PE
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66620-0001

Re: Class 1a Permit Modification
Michigan Reutilization, LLC – Arkansas City, Kansas
U.S. EPA ID No. KSD 087418695

Dear Sir or Madam:

MWH is submitting this notification on behalf of Michigan Reutilization, LLC (formerly known as TPI). The Kansas Department of Health and Environment (KDHE) has approved a request for a Class 1a permit modification effective December 30, 2005 in accorance with Permit Section III.B.3 and Section 5.6 of the approved Land Treatment Unit (LTU) closure plan. The permit modification will streamline the final closure of the LTU consistent with the facility-wide corrective measures approach approved by the KDHE and the United States Environmental Protection Agency. The approved modification includes discontinuing annual LTU soil sampling until final closure or as directed by KDHE.

This is a courtesy notification. No action is required on your part. You are being sent this notice because you are listed on the facility's mailing list maintained by the KDHE. If you wish to be removed from this list, you may contact Mr. Kevin Anderson of the KDHE at (785) 291-3760.

If you have any questions regarding this notification, please contact Brenda Manterola of MR, LLC at the following address:

Brenda Manterola
Manager, Non-Operating Sites
Michigan Reutilization, LLC
P.O. Box 696000
San Antonio, Texas 78269-6000

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick P.G.
Principal Hydrogeologist

cc: Brenda Manterola, MR, LLC
Raymond Rahn, MR, LLC
Katherine Dunn, KDHE
Kevin Anderson, KDHE
David Garrett, EPA
Rob Franke, RBA

1801 California Street
Suite 2900
Denver, Colorado
80202

Tel: 303 291-2222
Fax: 303 291-2221

MWH

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March 1, 2006

4270169

Kevin Anderson
Environmental Scientist
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: 2005 Aunual Groundwater Monitoring Report
Arkausas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

Please find enclosed the Arkansas City Refinery Annual Groundwater Monitoring Report for 2005 submitted on behalf of Michigan Reutilization, LLC, successor by merger to TPI Petroleum, Inc. As a result of a reorganization of the corporate structure, TPI Petroleum, Inc., a wholly-owned subsidiary of Valero Energy Corporation merged with and into Michigan Reutilization, LLC, a wholly-owned subsidiary of Valero Energy Corporation. Formal notification of this change will be provided under separate cover by the client.

An electronic copy of the report is included on the CD-ROM included in Appendix E. This report has been prepared in accordance with the above referenced RCRA permit.

If you have any questions regarding this report, please contact Ms. Brenda Manterola at (210) 345-4619 or me at (303) 291-2262

Sincerely,

MWH Americas, Inc.

Jay Mednick, P.G.
Principal Hydrogeologist

Enclosure:

cc: Brenda Manterola, MR, LLC w/enc.
Raymond Rahn, MR, LLC w/enc.
David Garrett, EPA Region 7 w/enc.

1801 California Street
Suite 2900
Denver, Colorado
80202

Tel: 303 291-2222
Fax: 303 291-2221

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SEND COMPLETED FORM TO: KDHE-BWM 1000 SW JACKSON, SUITE 320 TOPEKA, KS 66612	Kansas Department of Health and Environment **Notification of Regulated Waste Activity** **(RCRA SUBTITLE C SITE IDENTIFICATION FORM)**

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MAR 03 2006
BUREAU OF WASTE MANAGEMENT

1. Reason for Submittal (See instructions on page 7) MARK ALL BOX(ES) THAT APPLY	**Reason for Submittal:** ☐ To provide Initial Notification of Regulated Waste Activity (to obtain an EPA ID Number for hazardous waste, or used oil activities) ☐ To provide Subsequent Notification of Regulated Waste Activity (to update site identification information) ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application ☐ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #) ☒ As a component of the Hazardous Waste Report		
2. Site EPA ID Number (page 8)	**EPA ID Number** |K|S|D|0|8|7|4|1|8|6|9|5|		
3. Site Name (page 8)	**Name:** **Michigan Reutilization, LLC (formerly TPI Petroleum, Inc.) Arkansas City Former Refinery**		
4. Site Location Information (page 8)	**Street Address:** **1400 M Street**		
	City, Town, or Village: **Arkansas City**		**State:** **KS**
	County Name: **Cowley**		**Zip Code:** **67005**
5. Site Land Type (page 8)	**Site Land Type:** ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other		
6. North American Industry Classification System (NAICS) Code(s) (page 8)	**A.** **42332**		**B.**
	C.		**D.**
7. Site Mailing Address (page 9)	**Street or P.O. Box:** **1400 M Street**		
	City, Town, or Village: **Arkansas City**		**State:** **KS**
	Country: **USA**		**Zip Code:** **67005**
8. Site Contact Person (page 9)	**First Name:** **Brenda**	**MI:** **B**	**Last Name:** **Manterola**
	Phone Nnmber: **(210) 345-4619**	**Extension:**	**E-mail address:** **Brenda.manterola@valero.com**
9. Operator and Legal Owner of the Site (pages 9 aud 10)	**A. Name of Site's Operator:** **Michigan Reutilization, LLC**		**Date Became Operator (mm/dd/yyyy):** **01/01/2006**
	Operating Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other		
	B. Name of Site's Legal Owner: Michigan Reutilization, LLC		**Date Became Owner (mm/dd/yyyy):** 01/01/2006
	Owner Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other		

ID: |K|S|D|0|8|7|4|1|8|6|9|5|

(Legal Owner Continued Address)	Street or P.O. Box: 1400 M Street	
	City, Town, or Village: Arkansas City	
	State: KS	Zip Code: 67005
	Country: USA	

10. Type of Regulated Waste Activity
Mark "Yes" or "No" for all activities; complete any additional boxes as instructed. (See instructions on pages 10 to 14.)

A. Hazardous Waste Activities
Complete all parts for 1 through 6.

Y☒N☐ 1. Generator of Hazardous Waste
If "Yes", choose only one of the following –a, b, or c.

- ☒ a. LQG: Greater than 1,000 kg/mo (2,200 lbs/mo) of non-acute hazardous waste; or
- ☐ b1. KSG sub-class 1: 100 to 1,000 kg/mo (220-2,200 lbs/mo) of non-acute hazardous waste; or
- ☐ b2. KSG sub-class 2: 25 to less than 100 kg/mo (55-220 lbs/mo) of non-acute hazardous waste; or
- ☐ c. KSSQG: Less than 25 kg/mo (55lbs/mo) of non-acute hazardous waste

In addition, indicate other generator activities.

Y☐N☒ d. United States Importer of Hazardous Waste

Y☐N☒ e. Mixed Waste (hazardous and radioactive) Generator

Y☐N☒ 2. Transporter of Hazardous Waste

Y☐N☒ 3. Treater, Storer, or Disposer of Hazardous Waste (at your site) Note: A hazardous waste permit is required for this activity.

Y☐N☒ 4. Recycler of Hazardous Waste (at your site) Note: A permit may be required

Y☐N☒ 5. Exempt Boiler and/or industrial Furnace
If "Yes", mark each that applies.

- ☐ a. Small Quantity On-site Burner Exemption
- ☐ b. Smelting, Melting, and Refining Furnace Exemption

Y☐N☒ 6. Underground Injection Control

B. Universal Waste Activities

Y☐N☒ 1. Large Quantity Handler of Universal Waste (accumulate 5,000 kg or more) [refer to Kansas regulations to determine what is regulated]. Indicate types of nniversal waste generated and/or accumulated at your site. If "Yes", mark all boxes that apply:

	Generate	Accumulate
a. Batteries	☐	☐
b. Pesticides	☐	☐
c. Thermostats	☐	☐
d. Lamps	☐	☐
e. Other (specify) _____	☐	☐
f. Other (specify) _____	☐	☐
g. Other (specify) _____	☐	☐

Y☐N☒ 2. Destination Facility for Universal Waste

Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities
Mark all boxes that apply.

Y☐N☒ 1. Used Oil Transporter
If "Yes", mark each that applies.

- ☐ a. Transporter
- ☐ b. Transfer Facility

Y☐N☒ 2. Used Oil Processor and/or Re-refiner
If "Yes", mark each that applies.

- ☐ a. Processor
- ☐ b. Re-refiner

Y☐N☒ 3. Off-Specification Used Oil Burner

Y☐N☒ 4. Used Oil Fnel Marketer
If "Yes", mark each that applies.

- ☐ a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- ☐ b. Marketer Who First Claims the Used Oil Meets the Specifications

ID: |K|S|D|0|8|7|4|1|8|6|9|5|

D. Description of Hazardous Wastes (See instructions on page 14.)

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

F037						

12. Comments (See instructions on page 14.)

13. Certification. I certify under penalty of law that this document and all attachments were preparied under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquirey of the person or persons who manage the system, or those persons directly repsonsibel for gathering the information, the information, submitted is, to be the best of my knowledge and belief, true accureate, and complete. I am aware othat therea are significant penalties for submitting false information, including the possibility of fine and imporisonment for knowing violations. **(See instructions on page 14.)**

Signature of operator, owner, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
/s/ Manterola	Brenda B. Manterola, Manager	02/28/2006

K A N S A S

RODERICK L. BREMBY, SECRETARY

DEPARTMENT OF HEALTH AND ENVIRONMENT

KATHLEEN SEBELIUS, GOVERNOR

December 23, 2005

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Class 1a Permit Modification
TPI Petroleum, Inc. Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola:

The Kansas Department of Health and Environment (KDHE) has reviewed the above referenced Class 1a. permit modification request submitted on December 19, 2005. The request requires approval by KDHE prior to implementation. We are approving the permit modification request effective December 30, 2005. This permit modification request includes a proposal to streamline the final closure of the LTU consistent with the facility-wide corrective measures approach approved by the KDHE and the EPA, and asks to make changes in the Permit Section III.B, and Section 5.6 of the approved Land Treatment Closure (LTU) Plan. The modification request includes discontinuing annual soil sampling of the LTU until final closure or as directed by KDHE. KDHE has made the decision to grant approval of the request for the following reasons: 1) data indicate contaminants have not migrated below the treatment zone, and 2) although sampling data at the LTU indicate some degradation has occurred in surface soils, soil degradation data in deeper soils indicate remediation goals will not be achieved in a timely manner. The revised pages have been placed in the facility's Part B Permit Application on file at the KDHE. Revisions to the Permit have been enclosed with this letter.

In accordance with 40 CFR 270.42, this Class 1a permit modification requires the permittee to send notice of the modification to all persons on the facility mailing list within 90 calendar days after the KDHE approves the request. The notice must specify changes being made to permit conditions and supporting documents referenced by the permit must explain why the changes are necessary.

Based on the above information and good faith about notification of the mailing list, KDHE approves the modification request. If you have not already done so, please submit a clean copy of all revised pages and an index of changes to each holder of the Part B permit application.

If you have any questions or concerns about this letter, you may contact me at kanderso@kdhe.state.ks.us or (785) 291-3760.

Respectfully yours,

Kevin M. Anderson
Environmental Scientist
Hazardous Waste Permits Section

Enclosure: Permit modification replacement page 21

Cc: Michael Jones- SCDO/DEA/Waste Programs>enclosure
David Garrett- EPA Region 7/RCAP Branch> enclosure
William Bider- Director BWM> enclosure
Joseph Mednick- MWH> enclosure
Rob Franke- R&B Associates> enclosure

MWH

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BUREAU OF WASTE MANAGEMENT

December 19, 2005

Mr. Kevin Anderson
Environmental Scientist
Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Class IA Permit Modification Request
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Anderson:

MWH is submitting this letter on behalf of TPI Petroleum, Inc. (TPI). TPI is requesting a Class I permit modification (40 CFR 270.42 (a)) for the above referenced facility in accordance with Section III.B.3 of the facility's post-closure care permit and Section 5.6 of the approved Land Treatment Unit Closure Plan (LTU closure plan).

TPI is requesting this modification to streamline the final closure of the LTU to be consistent with the facility-wide corrective measures approach approved by the KDHE and the EPA. Annual soil core sampling has been conducted at the LTU since 1998 following TPI's submittal of their notice of intent to close the LTU. The sampling data indicate some degradation has occurred in the near surface soils. The data also indicate the contaminants have not migrated below the treatment zone. However, the soil degradation that has occurred todate does not indicate that the remediation goals will be achieved in a timely manner at the LTU. Additional soil core monitoring data is not needed to evaluate and select the appropriate final corrective measures for the LTU. In 2006, TPI will submit to the KDHE and the EPA the corrective measures technology evaluation report for the site, including the LTU.

While TPI is requesting the closure plan modification for the LTU soil sampling, the groundwater sampling and groundwater corrective action programs at the LTU will continue as specified in the facility's hazardous waste permit.

1801 California Street
Suite 2900
Denver, Colorado
80202

Tel: 303 291-2222
Fax: 303 291-2221

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The modification entails discontinuing the annual soil core sampling until the time of final closure or as directed by the KDHE. The revisions affect Sections 1.0, 3.1, and 3.4.3 of the LTU Closure Plan. Revised pages from the plan are enclosed in addition to a redline-strikeout copy. TPI will notify the mailing list of this modification within 90 days of KDHE's approval of the request.

Please call Brenda Manterola of TPI at 210-345-4619 or me at 303-291-2262 if you have any questions about this request or require additional information.

Sincerely,

MWH Americas, Inc.

Joseph F. Mednick

Enclosures

cc: Katherine Dunn, KDHE
David Garrett, EPA
Brenda Manterola, TPI
Raymond Rahn, TPI
Rob Franke, RBA

Style Definition: Body Text 2: Left, Indent: Left: 0"

LAND TREATMENT UNIT CLOSURE PLAN
TPI PETROLEUM, INC.
ARKANSAS CITY, KANSAS REFINERY

[40 CFR 264.111-264.116, 264.280]

ORIGINAL APPROVAL: JANUARY 25, 2000

Formatted: Font: 14 pt

MODIFICATION 01: AUGUST 2002
MODIFICATION 02: DECEMBER 2005

Submitted to:

Kansas Department of Health and Environment
Topeka, Kansas

Submitted by:

TPI Petroleum, Inc.
San Antonio, Texas

Prepared by:

Deleted: ¶

Earth Tech, Inc.
5555 Glenwood Hills Parkway SE
Grand Rapids, MI 49588-0874

EARTH TECH PROJECT NO. 27002.01

Modification 01 and 02 Completed by:

Deleted: *01*

R&B Associates, Inc.
201 W. Beltline Rd., Suite C-800
Cedar Hill, Texas 75104

RBA Project No. 003 019, 003 018

Deleted:

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BUREAU OF WASTE MANAGEMENT

LAND TREATMENT UNIT CLOSURE PLAN
(40 CFR 264.111 – 264.116, 264.280)

1.0 INTRODUCTION

This plan addresses requirements for closure of a Land Treatment Unit (LTU) at TPI Petroleum, Inc.'s (TPI) Arkansas City Refinery. This closure plan has been prepared to meet the RCRA closure requirements of Chapter 1, Title 40, "Protection of Environment" contained in the Code of Federal Regulations (CFR) and the requirements presented in the RCRA Corrective Action Plan guidance (RCAP), EPA 520-R-94-004 (OSWER Directive 9902.3-2A) as approved by EPA in the Corrective Measures Study (CMS) dated February 2002. Specifically addressed by this plan is Part 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities" as they relate to closure of land treatment units. The applicable rules are 40 CFR 264, Subpart G "Closure and Post-Closure of Hazardous Waste Facilities", Sections 264.111 - 264.116; and Subpart M, "Land Treatment", Section 264.280.

This written closure plan will be implemented beginning November 1998. TPI notified the Kansas Department of Health and Environment (KDHE) of their intent to close the LTU in a letter dated November 6, 1997 and clarified key issues to reach agreement on elements of this plan at a September 15, 1998 meeting in Topeka, Kansas. The plan has been updated as of April 2002 and will be updated and amended as may be required. Modification 02 to this plan was completed December 2005.

Based on 40 CFR 264.111 (c), this plan has been modified to provide for closure of the LTU consistent with corrective action for other Solid Waste Management Units (SWMUs) listed in Part II of the RCRA Permit and to change the frequency of sampling and analysis under Section 3.4. While Modification 01 provides for a consistent approach to closure and corrective action for the LTU and other SWMUs, the KDHE retails sole authority for closure of the LTU as a RCRA regulated unit. Similarly, the EPA retains authority regarding RCRA corrective action as a solid waste management unit (SWMU). Consequently, the KDHE will be actively involved in discussions and documents regarding final cleanup standards and technologies under the corrective action program as these items related to closure of the LTU.

Deleted: this modification

1.1 GENERAL SITE DESCRIPTION

The refinery is located near the southeast corner of Arkansas City in the southwest 1/4 of Section 32, Township 34 South, Range 4 East and the NW 1/4 of Section 5, Township 35 South, Range 4 East in southwestern Cowley County, Kansas. The refinery is located at the confluence of the Arkansas and

3.0 CLOSURE DETERMINATION SAMPLING AND UNSATURATED ZONE MONITORING (40 CFR 264.280(A)(7))

This section describes the sampling and analysis plans for the continued unsaturated zone monitoring required by 40 CFR 264.280(a)(7) which references 40 CFR 264.278. It also establishes the sampling procedures for what is termed the "Closure Determination Sampling". Sampling of the TZ within the LTU will he conducted in accordance with corrective measures implemented under Part II of the Permit, and the requirements outlined in Section 2.6 Data Quality Objectives of the CMS. The results will be used to evaluate cleanup standards applicable to the LTU. While the lysimeters will remain, these will not be utilized during closure pursuant to 40 CFR 264.280(a)(7). The lysimeters are maintained only in the event that TPI determines such sampling may be beneficial.

3.1 CLOSURE DETERMINATION SAMPLING

The RCRA permit issued to TPI in October 1987 defined specific environmental and groundwater monitoring efforts to be undertaken, and maintained, by TPI. These requirements were specified in permit Sections IV. G. and IV. H. During the life of the permit, this monitoring has been conducted in accordance with these sections and all applicable references.

Several options exist for satisfactory closure of the hazardous waste land treatment unit pursuant to 40 CFR 264.280 and applicable Land Treatment Closure/Post Closure Guidance. Closure of the LTU will be completed in accordance with the corrective measures of Part II of the Permit. The closure approach selected will depend on data collected during implementation of this closure plan and the CMS Report and will also determine the scope of post-closure care.

The target practical quantitation limits (PQLs) for PHCs are listed in Table 3. The presence of biomass and other oily waste materials typically result in matrix interferences that increase the quantitation limits above the target PQLs shown in Table 3.

Groundwater sampling will continue as required in Part I of the RCRA Permit.

The soil core sampling required by 40 CFR 264.278 will continue to be conducted as part of the "Closure Determination Sampling" described in this Section.

Deleted: annual

After the final application of waste, the soil-pore liquid monitoring (lysimeter sampling) of the LTU will be terminated within ninety (90) days as authorized by 40 CFR 264.280(1)(7). The lysimeters and the

3.4.3 FREQUENCY

During the first year of Closure Plan implementation, the sampling program will be implemented two (2) times. Soil core samples will be collected annually thereafter until completion of the sampling in 2004. After 2004, sampling will be completed at the time of final closure or as directed by the Secretary.

Deleted: during

Deleted: period

3.4.4 CHAIN-OF-CUSTODY CONTROL

Personnel involved in field sampling activities will receive copies of the approved project-sampling plan to familiarize them with the objectives, sample locations, and chain-of-custody procedures to be followed. The sample collector will:

a. Obtain samples using the appropriate sampling techniques.

b. Attach sample labels securely to the sample container at the time the sample is collected. The label will contain the following items: sample number, the sample type, the date and time taken, the preservative used (if any), and the name of the sample collector. Prepared sample labels will be completed legibly in waterproof ink.

c. Use bound field notebooks to record field measurements, observations, and other pertinent information necessary to reconstruct the sample collection processes for future reference.

d. Take the responsibility for the care and custody of the samples until the samples are properly dispatched to the receiving laboratory. The sample collector will ensure that each container is in his physical possession or in his view at all times, or stored in the locked place where no one can tamper with it.

e. Fill out the appropriate chain-of-custody record which includes: collector's name; sample number; signature of collector; date and time of collection; place and address of collection, waste type; and signatures of persons involved in the chain of possession, inclusive dates of possession.

3.4.5 ANALYTICAL PROCEDURES

The analytical procedures for the soil core analysis are summarized on Table 3. Dilution of the samples may be required if target constituents are present in the soil at concentrations ontside the range of the analytical instrument calibration. Dilutions are performed to bring the constituent concentrations within the instrument calibration range to provide accurate constituent quantitations. Sample dilution does result in a corresponding increase in the instrument detection level and the reporting level or practical quantitation level.

LAND TREATMENT UNIT CLOSURE PLAN
TPI PETROLEUM, INC.
ARKANSAS CITY, KANSAS REFINERY

[40 CFR 264.111-264.116, 264.280]

ORIGINAL APPROVAL: JANUARY 25, 2000

MODIFICATION 01: AUGUST 2002
MODIFICATION 02: DECEMBER 2005

Submitted to:

Kansas Department of Health and Environment
Topeka, Kansas

Submitted by:

TPI Petroleum, Inc.
San Antonio, Texas

Prepared by:

Earth Tech, Inc.
5555 Glenwood Hills Parkway SE
Grand Rapids, MI 49588-0874

EARTH TECH PROJECT NO. 27002.01

Modification 01and 02 Completed by:

R&B Associates, Inc.
201 W. Beltline Rd., Suite C-800
Cedar Hill, Texas 75104

RBA Project No. 003 019, 003 018

LAND TREATMENT UNIT CLOSURE PLAN
(40 CFR 264.111 – 264.116, 264.280)

1.0 INTRODUCTION

This plan addresses requirements for closure of a Land Treatment Unit (LTU) at TPI Petroleum, Inc.'s (TPI) Arkansas City Refinery. This closure plan has been prepared to meet the RCRA closure requirements of Chapter 1, Title 40, "Protection of Environment" contained in the Code of Federal Regulations (CFR) and the requirements presented in the RCRA Corrective Action Plan guidance (RCAP), EPA 520-R-94-004 (OSWER Directive 9902.3-2A) as approved by EPA in the Corrective Measures Study (CMS) dated February 2002. Specifically addressed by this plan is Part 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities" as they relate to closure of land treatment units. The applicable rules are 40 CFR 264, Subpart G "Closure and Post-Closure of Hazardous Waste Facilities", Sections 264.111 - 264.116; and Subpart M, "Land Treatment", Section 264.280.

This written closure plan will be implemented beginning November 1998. TPI notified the Kansas Department of Health and Environment (KDHE) of their intent to close the LTU in a letter dated November 6, 1997 and clarified key issues to reach agreement on elements of this plan at a September 15, 1998 meeting in Topeka, Kansas. The plan has been updated as of April 2002 and will be updated and amended as may be required. Modification 02 to this plan was completed December 2005.

Based on 40 CFR 264.111 (c), this plan has been modified to provide for closure of the LTU consistent with corrective action for other Solid Waste Management Units (SWMUs) listed in Part II of the RCRA Permit and to change the frequency of sampliug and analysis under Section 3.4. While Modification 01 provides for a consistent approach to closure and corrective action for the LTU and other SWMUs, the KDHE retails sole authority for closure of the LTU as a RCRA regulated unit. Similarly, the EPA retains authority regarding RCRA corrective action as a solid waste management unit (SWMU). Consequently, the KDHE will be actively involved in discussions and documents regarding final cleanup standards and technologies under the corrective action program as these items related to closure of the LTU.

1.1 GENERAL SITE DESCRIPTION

The refinery is located near the southeast corner of Arkansas City in the southwest 1/4 of Section 32, Township 34 South, Range 4 East and the NW 1/4 of Section 5, Township 35 South, Range 4 East in southwestern Cowley County, Kansas. The refinery is located at the confluence of the Arkansas and

3.0 CLOSURE DETERMINATION SAMPLING AND UNSATURATED ZONE MONITORING (40 CFR 264.280(A)(7))

This section describes the sampling and analysis plans for the continued unsaturated zone monitoring required by 40 CFR 264.280(a)(7) which references 40 CFR 264.278. It also establishes the sampling procedures for what is termed the "Closure Determination Sampling". Sampling of the TZ within the LTU will be conducted in accordance with corrective measures implemented under Part II of the Permit, and the requirements outlined in Section 2.6 Data Quality Objectives of the CMS. The results will be used to evaluate cleanup standards applicable to the LTU. While the lysimeters will remain, these will not be utilized during closure pursuant to 40 CFR 264.280(a)(7). The lysimeters are maintained only in the event that TPI determines such sampling may be beneficial.

3.1 CLOSURE DETERMINATION SAMPLING

The RCRA permit issued to TPI in October 1987 defined specific environmental and groundwater monitoring efforts to be undertaken, and maintained, by TPI. These requirements were specified in permit Sectious IV. G. and IV. H. During the life of the permit, this monitoring has been conducted in accordance with these sections and all applicable references.

Several options exist for satisfactory closure of the hazardous waste land treatment unit pursuant to 40 CFR 264.280 and applicable Land Treatment Closure/Post Closure Guidance. Closure of the LTU will be completed in accordance with the corrective measures of Part II of the Permit. The closure approach selected will depend on data collected during implementation of this closure plan and the CMS Report and will also determine the scope of post-closure care.

The target practical quantitation limits (PQLs) for PHCs are listed in Table 3. The presence of biomass and other oily waste materials typically result in matrix interferences that increase the quantitation limits above the target PQLs shown in Table 3.

Groundwater sampling will continue as required in Part I of the RCRA Permit.

The soil core sampling required by 40 CFR 264.278 will continue to be conducted as part of the "Closure Determination Sampling" described in this Section.

After the final application of waste, the soil-pore liquid monitoring (lysimeter sampling) of the LTU will be terminated within ninety (90) days as authorized by 40 CFR 264.280(1)(7). The lysimeters and the

3.4.3 FREQUENCY

During the first year of Closure Plan implementation, the sampling program will be implemented two (2) times. Soil core samples will be collected annually thereafter until completion of the sampling in 2004. After 2004, sampling will be completed at the time of final closure or as directed by the Secretary.

3.4.4 CHAIN-OF-CUSTODY CONTROL

Personnel involved in field sampling activities will receive copies of the approved project-sampling plan to familiarize them with the objectives, sample locations, and chain-of-custody procedures to be followed. The sample collector will:

a. Obtain samples using the appropriate sampling techniques.

b. Attach sample labels securely to the sample container at the time the sample is collected. The label will contain the following items: sample number, the sample type, the date and time taken, the preservative used (if any), and the name of the sample collector. Prepared sample labels will be completed legibly in waterproof ink.

c. Use bound field notebooks to record field measurements, observations, and other pertinent information necessary to reconstruct the sample collection processes for future reference.

d. Take the responsibility for the care and custody of the samples until the samples are properly dispatched to the receiving laboratory. The sample collector will ensure that each container is in his physical possession or in his view at all times, or stored in the locked place where no one can tamper with it.

e. Fill out the appropriate chain-of-custody record which includes: collector's name; sample number; signature of collector; date and time of collection; place and address of collection, waste type; and signatures of persons involved in the chain of possession, inclusive dates of possession.

3.4.5 ANALYTICAL PROCEDURES

The analytical procedures for the soil core analysis are summarized on Table 3. Dilution of the samples may be required if target constituents are present in the soil at concentrations outside the range of the analytical instrument calibration. Dilutions are performed to bring the constituent concentrations within the instrument calibration range to provide accurate constituent quantitations. Sample dilution does result in a corresponding increase in the instrument detection level and the reporting level or practical quantitation level.

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
Division of Environment
Bureau of Waste Management

MEMORANDUM

TO: Green File

FROM: Kevin Anderson

DATE: 12-15-05

RE: Meeting with TPI and EPA; Facility Status, Proposed Permit Modifications, CMS Status, and CPT/ROST Information

The meeting was held in KDHE Meadowlark Conference Room from 9:30-1:30, on December 13, 2005. Attendees were TPI: B. Manterola, EPA: D. Garrett, MWH: J. Mednick, R&B Associates- Rob Franke, and KDHE: K. Dunn, M. Kamal, K. Anderson.

Review Facility Status:

- Remediation System Metrics- Mr. Mednick presented summary Tables showing yearly totals of VOCs removed from respective active units at the facility: the Contaminated Surface Impoundment (CSI), Land Treatment Unit (LTU), and Interim Corrective Measures (ICM) product recovery and groundwater recovery/treatment systems. Tables showed that CSI VOC removal has slowed, LTU VOC recovery was still productive, and ICM product recovery in 2005 was significantly less than in 2003 and 2004, while groundwater pumping rate was similar to previous years.

  An additional handout compared historic (2003-November 2005) groundwater pumping, individual well and total product recovery, and river stage data.

- USACE levee status: TPI-Dirt work is essentially done- Dirt work contractor has pulled out; due to time of year seeding may be deferred to spring.

- Update KDHE/EPA with ongoing monitoring well maintenance program- CMW-03 must be replaced due to damage by dirt contractor; will try to mobilize in early January, and survey CMW-03 and CMW-04 and the paired wells at the same time. TPI will be asking for a monitoring extension due to the well issues by end of December 2005.

- KDHE groundwater monitoring O&M inspection (Spring 2006)- Still scheduled for Spring sampling event.

- Location of compliance monitor well CMW-03- TPI wants to move location of replacement well to near the toe of new levee due to inability to get drill rig onto to sloped side of levee.

Permit Review/Modifications:

- Alternate groundwater sampling methods- Want to propose low flow sampling or diffusion bags. KDHE receptive to either method, with justification.

  KDHE- submit effectiveness report; MCLs- or other end point; will end of free product recovery end at about same time as end of permit? TPI- Believes these two events will happen about the same time.

- TPI proposing to revise gradient reversal criteria from 0.2 to 0.1 feet head difference. KDHE- Need to look at differences. Report evaluating the effectiveness of the groundwater corrective action and compliance monitoring program – due April 23, 2006.

- TPI Prosing to remove recovery well RW-80A from the corrective action system, or allow as needed intermittent operation to support product recovery. Justification is that for product recovery MW-80, pulls GW away from recovery system.

- TPI proposes to remove Appendix IX testing requirements from permit – based on results of the Appendix IX sampling conducted in October 2004; KDHE will need to see new list of COCs, but may approve based on justification.

- TPI-Revise sampling plans and O&M plans – remove specific forms from documents (allow more flexibility in field operations)- KDHE asked TPI not to include actual forms, just the information provided in forms; so a permit modification is not needed just to change from one form format to another.

- TPI- Remove "two emergency containment tanks" from permit and from process flow diagrams – affects permit, engineering feasibility plan, etc. #s 7111, 7112; KDHE- make sure demonstrating not part of contingency plan anymore. TPI stated tanks had not been used in ten-year period of ICM. Tanks have been cleaned.

- Modify the LTU soil sampling and reporting frequency to every 24 months-project closing. Withdraw Class 2 Mod. Resubmit as Class 1 Mod. Temporary authorizations for up to 180 days/ each x 2, then either deny or go into effect.

ROST investigation results: See handouts of NAPL Extent inferred from LIF depths 1051-1039; Cross section location map and cross section profiles;

CMS:

- Status of CMS- See attached Table
- Corrective action technologies- See attached summary of technologies considered for CA
- RCRA status of LTU soils- Uncertain which technology or combination of technologies will be used at this point. Included a list of possible technologies (Attached List).
- Discussion of regulatory lead change- EPA receptive to idea, but curious why now and wants to make sure KDHE is supporting EPA decisions. KDHE- stated they would support the change, if approved by EPA, and implement the change with a Permit Modification.

MWH

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DEC 2 0 2005
BUREAU OF WASTE MANAGEMENT

December 14, 2005

Mostafa Kamal, PE
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66620-0001

Re: Withdrawal of Request for Temporary Authorization
LTU Closure Plan Modification
TPI Petroleum, Inc. – Arkausas City, Kansas
U.S. EPA ID No. KSD 087418695

Dear Sir or Madam:

MWH is submitting this notification on behalf of TPI Petroleum, Inc. (TPI). TPI is withrawing their request of December 7, 2005 to the Kansas Department of Health and Environment (KDHE) to grant temporary authorization to implement a Class II permit modification to the Land Treatment Unit (LTU) closure plan.

This is a courtesy notification. No action is required on your part. You are being sent this notice because you are listed on the facility's mailing list maintained by the KDHE. If you wish to be removed from this list, you may contact Mr. Kevin Anderson of the KDHE at (785) 291-3760.

If you have any questions regarding this request, please contact Brenda Manterola of TPI at the following address:

Brenda Manterola
Manager, Non-Operating Sites
TPI Petroleum, Inc.
P.O. Box 696000
San Antonio, Texas 78269-6000

Sincerely,

MWH Americas Inc.

Joseph F. Mednick
Principal Hydrogeologist

cc: Brenda Manterola, TPI
Raymond Rahn, TPI
Katherine Dunn, KDHE
Kevin Anderson, KDHE
David Garrett, EPA

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Suite 2900
Denver, Colorado
80202

Tel: 303 291-2222
Fax: 303 291-2221

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MWH

December 14, 2005

Mr. Kevin Anderson
Environmental Scientist
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

4270169

Re: Withdrawal of Request for Class II Permit Modification
LTU Closure Plan Modification
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Anderson:

MWH on behalf of TPI Petroleum, Inc. (TPI), is withdrawing the request for the Class II permit modification dated December 7, 2005. The request for the permit modification involved modification to the Land Treatment Unit (LTU) closure plan soil sampling frequency. TPI will issue a separate notification to the mailing list indicating the withdrawal of the Class II permit modification request.

We appreciate your assistance with this matter. Please call Brenda Manterola of TPI at 210-345-4619 or call me at (303)-291-2262 if you have any questions regarding this matter.

Sincerely,

MWH Americas, Inc.

Jay Mednick

Cc: Katherine Dunn, KDHE
Rob Franke, RBA
David Garrett, EPA
Brenda Manterola, TPI
Raymond Rahn, TPI

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DEC 13 2005

BUREAU OF WASTE MANAGEMENT

December 7, 2005

Mostafa Kamal, PE
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66620-0001

Re: **Request for Temporary Authorization to Modify the LTU Closure Plan**
TPI Petroleum, Inc. – Arkansas City, Kansas
U.S. EPA ID No. KSD 087418695

Dear Sir or Madam:

MWH is submittiug this notification on behalf of TPI Petroleum, Inc. (TPI). TPI has requested that the Kansas Department of Health and Environment (KDHE) grant temporary authorization to implement a modification to the Land Treatment Unit (LTU) closure plan. The LTU ceased operations on August 1, 1998. The modification will change the soil sampling frequency from annual sampling to every two years. TPI is requesting this modification to streamline the LTU corrective measures with respect to the facility-wide corrective measures approach.

This is a courtesy notification. No action is reqnired on your part. You are being sent this notice because you are listed on the facility's mailing list maintained by the KDHE. If you wish to be removed from this list, you may contact Mr. Kevin Anderson of the KDHE at (785) 291-3760.

If you have any questions regarding this request, please contact Brenda Manterola of TPI at the following address:

Brenda Mauterola
Manager, Non-Operating Sites
TPI Petroleum, Inc.
P.O. Box 696000
San Antonio, Texas 78269-6000

Sincerely,

MWH Americas Inc.

Joseph F. Mednick
Principal Hydrogeologist

cc: Brenda Manterola, TPI
Raymond Rahn, TPI
Katherine Dunn, KDHE
Kevin Anderson, KDHE
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MWH

December 7, 2005

4270169

Mr. Kevin Anderson
Environmental Scientist
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Request for Temporary Authorization – LTU Closure Plan Modification
Class II Permit Modification
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Anderson:

TPI Petroleum, Inc. (TPI) is requesting a Class II permit modification. The permit modification involves a modification to the Land Treatment Unit (LTU) closure plan (Plan). Additionally, TPI requests a 180-day temporary authorization to implement the modified Plan in 2005. TPI is requesting this modification to streamline the LTU corrective measures with respect to the facility-wide solid waste management unit corrective measures approach. The modification entails changing the frequency of the unsaturated zone soil sampling and reporting. Sections 3.1 and 3.4.3 of the Plan currently specify an annual sampling frequency. This modification will change the sampling and reporting frequency to a 24-month interval. The next LTU unsaturated zone soil sampling event will be performed during the fourth quarter of 2006 and the LTU monitoring report will be issued March 1, 2007 and every two years thereafter.

TPI requests this temporary authorization as provided in 40 CFR 270.42 (e). TPI will send notice abont this reqnest for temporary authorization to all persons on the Facility mailing list maintained by KDHE within seven days of submission of this letter. The Plan modification will be submitted to KDHE uuder separate cover before the end of the 180-day temporary authorization period.

We appreciate your assistance with this matter. If there is any additional information you would like at this time, please do not hesitate to call me at (303)-291-2262 or Brenda Manterola, TPI at (210) 345-4619.

Sincerely,

MWH Americas, Inc.

Jay Mednick

Cc: Katherine Dunn, KDHE
Rob Franke, RBA
David Garrett, EPA
Brenda Manterola, TPI
Raymond Rahn, TPI

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K A N S A S

RODERICK L. BREMBY, SECRETARY

DEPARTMENT OF HEALTH AND ENVIRONMENT

KATHLEEN SEBELIUS, GOVERNOR

September 26, 2005

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: Request for Extension
Submittal of Construction Details for CMV-03 and CMV-04 Well Modifications
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

On September 26, 2005, the Kansas Department of Health and Environment (KDHE) received a request for an extension for completion of submittal of Part B Application replacement pages for modifications to Monitoring Wells CMW-03 and CMW-04. Although KDHE appreciates diligence and forethought in asking for the extension, the request is premature.

KDHE does not consider the wells complete until the concrete aprons are poured, above ground protective casings are in place, and wells resurveyed (See KDHE letter dated 2-27-02). Until the earthwork around the wells is completed, it will be impossible to fmish well construction. After the wells are completed, TPI has 45 days to submit the Part B Application replacement pages.

If there are questions with regard to this letter please contact me at (785) 291-3760 or email kanderso@kdhe.state.ks.us.

Respectfully yours,

Kevin Anderson.
Environmental Scientist
Hazardous Waste Permits Section

Cc: David Garrett- EPA Region 7/RCAP Branch
William Bider- Director BWM
Joseph Mednick- MWH
Michael Jones – DEA SCDO/Waste Program

MWH

September 23, 2005

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SEP 26 2005
BUREAU OF WASTE MANAGEMENT

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Request for Extension
Submittal of Construction Details for Monitor Wells CMW-03 and CMW-04
TPI Petroleum, Inc. Arkansas City, Kansas
EPA Identification Number: KSD 087418695

Dear Mr. Anderson,

MWH is submitting this request for extension on behalf of TPI Petroleum, Inc. (TPI). The approved workplan for the referenced monitor well modifications requires TPI to submit the well completion details to KDHE within 45 days of completion of the well modifications (October 16, 2005). Due to the uncertainty associated with the levee earthwork schedule, TPI requests a 30-day extension to the 45-day notification date. The extended notification date will be November 15, 2005. TPI will notify KDHE should an additional extension be necessary.

We appreciate your assistance with this matter. Please contact either Brenda Manterola of TPI at 210/345-4619 or me at 303/291-2262 if you have any questions about this request.

Sincerely,

MWH Americas, Inc.

Jay Mednick

cc: David Garrett, USEPA
Brenda Manterola, TPI
Raymond Rahn, TPI

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MWH

August 31, 2005

4270169

Mr. Kevin Anderson
Environmental Scientist
Corrective Actions Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: 2005 Semiannual RCRA Groundwater Corrective Action Report
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

MWH is submitting this report on behalf of TPI Petroleum, Inc. (TPI) in accordance with the reporting requirements described in Section IV.E.5 of the Arkansas City facility's RCRA Permit for the period January 1, 2005 through June 30, 2005. The data included in this report includes results of the quarterly bioreactor influent stream monitoring and gradient demonstration monitoring, semiannual groundwater monitoring, and operations data for the groundwater recovery system and the Land Treatment Unit (LTU) soil vapor extraction (SVE) and air sparge (AS) system. The groundwater monitoring was conducted in accordance with the procedures presented in the approved Groundwater Sampling and Analysis Plan (SAP). A complete assessment of the semiannual monitoring data will be provided in the annual groundwater monitoring report.

A site location map is included on Figure 1. A digital copy of this report is included on a CD-ROM disk in Attachment 1.

Quarterly Groundwater Level Monitoring

Corrective action groundwater monitoring well water level measurements for the first two quarters of 2005 are summarized on Table 1. The monitor well locations are shown on Figure 2. The groundwater potentiometric surface contour maps for January 24, and May 9, 2005 are shown on Figures 3 and 4 respectively. Groundwater levels were measured in each of the corrective action monitoring wells monthly during the first two quarters of 2005. Monitor well WN-5B was gauged on January 24, 2005 but the measurement is missing.

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May 2005 Semiannual Groundwater Monitoring Event

The semiannual sampling event was conducted between May 10 and May 12, 2005. The groundwater samples collected from the corrective action performance, supplemental information, and background monitor wells were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). TPI included analyses of methyl tert-butyl ether (MTBE), and tert-butyl alcohol (TBA) for this sampling event. Severn Trent Laboratories (STL) in Arvada, Colorado performed the sample analyses. The BTEX and MTBE analytical results and corresponding field data are summarized in Table 2. The field sampling data forms, field logs, and chain-of-custody forms for the sample event are included in Attachment 2. Analytical report Form I's are included in Attachment 3.

Figures 5 through 8 contain chemical concentration isopleth maps for benzene, toluene, ethylbenzene, and total xylenes, respectively.

The groundwater sampling event consisted of first measuring the depth to groundwater in each of the monitor wells to be sampled. The depth to water measurements and calculated groundwater elevations are summarized on Table 1. The groundwater sampling field forms are included in Attachment 2. Dedicated bladder pumps were used to purge and sample the wells. Based upon the static groundwater level measurements, the groundwater flow direction was determined to be northeast. This groundwater flow direction is consistent with data previously collected at the facility.

One field blank and two trip blanks were collected during the sample event. The trip blanks were submitted to the laboratory for each sample day. These field quality assurance samples were analyzed for BTEX, MTBE, and TBA. The laboratory analytical reports are included in Attachment 3. No detections of BTEX, MTBE, or TBA constituents were found in the trip or field blanks. Attachment 4 contains the analytical data validation report for the groundwater samples and blanks analyzed for the May 2005 semiannual monitoring event.

One duplicate sample was collected during the sample event. The sample labeled RCRA-MW-5 was a duplicate groundwater sample collected from monitor well MW-6 on May 12, 2005. All chemical analysis results are similar between the two samples collected from monitor well MW-6.

Quarterly Capture Zone Monitoring

Groundwater level and elevation data from the eight capture zone monitoring wells are summarized on Tables 3 and 4 for the January and May monitoring events, respectively. As is

shown on the tables, the Permit-required head difference of 0.2 feet was met in each of the four well pairs during the quarterly monitoring events. Attachment 2 contains the groundwater level gauging field forms for the two quarterly compliance demonstration monitoring events (January and May, 2005).

Quarterly Bioreactor Influent Sampling

The two groundwater influent lines to the bioreactor tank were sampled during the first and second quarters of 2005. The first quarter samples were collected on January 25, 2005, and the second quarter samples were collected during the semiannual sampling event on May 11, 2005. The analytical results from these samples were flow-weighted according to their respective flow rates measured at the time of sampling. The influent flow and analytical data are summarized on Table 5. The field logbook entries for the quarterly bioreactor samples are included in Attachment 2. The laboratory analytical reports Form I's are included in Attachment 3. TPI also collected samples from the bioreactor effluent and oxidation pond outfall. These results are also included in Attachment 3 in a section labeled "Additional Samples". The bioreactor effluent and outfall samples are all non-detect for the BTEX constituents.

Attachments 2 and 3 also contain data associated with additional samples collected by TPI. These additional samples were collected from the bioreactor effluent and near the NDPES outfall. Groundwater samples were collected from monitor wells WN-7B, WN-8B, MW-12, and RCRA-MW-2 during the January sampling event in addition to the permit required quarterly bioreactor sampling. Groundwater monitor well RCRA-MW-2 (downgradient of the former No. 3A Aeration Lagoon) was also sampled during the May semiannual groundwater sampling event. These additional groundwater samples were collected to provide more frequent measurements of the groundwater quality in the vicinity of the land treatment unit and closed surface impoundments soil vapor extraction and groundwater air sparge systems.

Groundwater Corrective Action: Recovery of Groundwater and Free Product

The groundwater and free product recovery systems functioned normally during the reporting period. Quantities of groundwater and free product recovered during the reporting period are summarized on Table 6 for the system as a whole and for each recovery well. Data for the recovery wells outside the waste management area boundary are also included on Table 6.

LTU Corrective Action System Monitoring

The LTU corrective action system is monitored weekly, monthly, and quarterly in accordance with the schedule and procedures established in the approved system Operation and Maintenance Plan (dated January 2003) and the Engineering Feasibility Plan. For the soil

vapor extraction (SVE) system, weekly monitoring includes overall airflow, operational hours, influent concentrations of flammable gas, inlet vacuum, and inlet and outlet temperatures. SVE air samples are collected on a quarterly basis and submitted to STL in Pensacola, Florida for analysis of total volatile petroleum hydrocarbons (C6-C10). The air sparge (AS) system is monitored weekly and includes air sparge blower operational hours, blower outlet air temperature, air pressure, and airflow.

The airflow at each air sparge well is monitored quarterly using a handheld thermal anemometer. The air sparge airflow monitoring and flow balancing was performed on February 16, and June 24, 2005. The LTU SVE/AS monitoring data for the reporting period are summarized on Tables 7, 8, 9 and 10. The chain-of-custody forms for the SVE inlet air samples are included in Attachment 2, and the corresponding laboratory analytical report Form I's are included in Attachment 3.

Groundwater Corrective Action Well and Monitor Well Maintenance

Recovery well maintenance activities consisted of routine maintenance of product and groundwater pumps.

Please contact either Brenda Manterola, TPI at 210/345-4619 or me at 303/291-2262 if you have any questions or comments about the information presented in this report.

Sincerely,

MWH Americas, Inc.

Jay Mednick
Project Manager

Attachments: Tables 1-10, Figures 1 through 8, Attachments 1-4

Cc: David Garrett, EPA Region 7 w/enc.
Brenda Manterola, TPI w/enc.
Raymond Rahn, TPI w/enc.

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 10, 11, & 12 2005
TPI Petroleum, Inc. Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Sample ID						
		WN-1A	WN-1B	WN-5B	WN-6A	WN-6B	WN-7B	WN-8B
Field Measurements								
Sample Date		05/10/05	05/11/05	05/12/05	05/12/05	05/12/05	05/12/05	05/12/05
Groundwater Elevation (ft amsl)		1049.03	1048.56	1407.48	1046.53	1046.59	1048.05	1047.59
pH (standard units)		7.80	7.35	7.28	7.73	6.94	6.99	7.30
Conductivity @25°C (uS/cm)		1171	958	847	1173	1027	909	855
Turbidity		0.34	0.54	0.97	3.28	0.58	1.15	1.58
Temperature °C		16.2	14.8	16.2	17.2	17.0	17.0	16.0
Laboratory Analyses								
Benzene (ug/L)	5	1 U	1 U	2 U	1 U	**22**	**320**	**46**
Toluene (ug/L)	1000	1 U	1 U	2 U	1 U	3.1 J	15 J	3.2
Ethylbenzene (ug/L)	700	1 U	1 U	0.32 J	1 U	0.42 J	20 U	1.9
Xylenes (total) (ug/L)	10000	2 U	2 U	4 U	2 U	1.6 J	40 U	5.9
MTBE (ug/L)**	20	5 U	5 U	10 U	5 U	20 U	100 U	5 U

MEASUREMENTS	Groundwater Protection Standard	Sample ID					
		RCRA-MW-5 (duplicate of MW-6)	MW-6	MW-12	MW-13	MW-17	RCRA-4
Field Measurements							
Sample Date			05/12/05	05/11/05	05/11/05	05/12/05	05/11/05
Groundwater Elevation (ft amsl)			1043.00	1037.75	1043.00	1046.86	1044.47
pH (standard units)			6.56	7.16	7.69	7.49	6.88
Conductivity @25°C (uS/cm)			1180	981	1048	1021	980
Turbidity			835	7.35	0.68	4.3	18.1
Temperature °C			16.2	18.6	16.7	18.8	14.9
Laboratory Analyses							
Benzene (ug/L)	5	**7400**	**6400**	**33**	1 U	1 U	1 U
Toluene (ug/L)	1000	210	240	0.78 J	1 U	1 U	1 U
Ethylbenzene (ug/L)	700	700	**920**	0.25 J	1 U	1 U	1 U
Xylenes (total) (ug/L)	10000	5000	8100	3.8	2 U	2 U	2 U
MTBE (ug/L)**	20	1000 U	1000 U	5 U	5 U	5 U	5 U

Notes:

U Indicates compound was analyzed for but not detected. Reporting limit shown.
J Indicates an estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).
BOLD Indicates positive detection equal to or above the groundwater protection standard.
"-" Indicates that the parameter was not measured or was not applicable.
Monitor wells WN-1A, WN-6A, WN-12, WN-13 are completed in the lower part of the alluvial aquifer. The other wells are completed at and below the water table in the upper part of the alluvial aquifer.
** KDHE Tier 2 Risk Based Standard - Residential Groundwater Pathway

Table 3 Quarterly Groundwater Capture Zone Compliance Monitoring - January 24, 2005
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1/24/2005	9:15	1063.71	26.79	1036.92	**1.01**	170	RW-35
	CMW-1	1/24/2005	8:50	1059.70	21.77	1037.93		110	RW-40
2	113	1/24/2005	9:05	1072.23	35.33	1036.90	**0.63**	95	RW-45
	CMW-2	1/24/2005	8:45	1061.73	24.20	1037.53		50	RW-50
								118	RW-55
3	118	1/24/2005	9:10	1070.70	32.60	1038.10	**0.44**	240	RW-60
	CMW-3	1/24/2005	8:43	1060.12	21.58	1038.54		215	RW-65
4	MW-1002	1/24/2005	8:35	1072.10	31.94	1040.16	**0.33**	100	RW-70
	CMW-4	1/24/2005	8:40	1058.23	17.74	1040.49		30	RW-75
								30	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								1158	

Notes:

1. A positive head difference indicates groundwater capture.
   Permit Criteria = or > 0.2 feet head difference.

Monitoring results demonstrate permit compliance.

Table 4 Quarterly Groundwater Capture Zone Compliance Monitoring - May 9, 2005
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elevation	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	5/9/2005	9:02	1063.71	26.64	1037.07	**0.66**	150	RW-35
	CMW-1	5/9/2005	9:47	1059.70	21.97	1037.73		30	RW-40
2	113	5/9/2005	9:05	1072.23	35.19	1037.04	**0.39**	95	RW-45
	CMW-2	5/9/2005	9:49	1061.73	24.30	1037.43		70	RW-50
								115	RW-55
3	118	5/9/2005	9:08	1070.70	32.38	1038.32	**0.29**	190	RW-60
	CMW-3	5/9/2005	9:54	1060.12	21.51	1038.61		170	RW-65
4	MW-1002	5/9/2005	10:30	1072.10	31.95	1040.15	**0.21**	50	RW-70
	CMW-4	5/9/2005	10:05	1058.23	17.87	1040.36		30	RW-75
								20	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								920	

Notes:

1. A positive head difference indicates groundwater capture.
   Permit Criteria = or > 0.2 feet head difference.

Depth and head difference are in feet.

Elevations are feet above mean sea level

gpm = gallon per minute

Table 5 Summary of Quarterly Bioreactor Influent Sampling Results
TPI Petroleum, Inc. Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Influent Water Sample	
		1st Quarter Bioreactor	2nd Quarter Bioreactor
Field Measurements			
Sample Date		01/25/05	05/11/05
Total Flow (gpm)		1550	1400
Laboratory Analyses*			
Benzene (ug/L)	5	**50**	**42**
Toluene (ug/L)	1000	1.1	1.1
Ethylbenzene (ug/L)	700	1.8	0.9
Xylenes (total) (ug/L)	10000	5.0	4.6
MTBE (ug/L)**	20	4.5	4.2

Notes:

gpm Indicates gallons per minute measured at the bioreactor influent flow meters.
ug/L Indicates micrograms per liter.

* Results represent flow-weighted averages of the influent samples collected from the east and west influent lines.
** KDHE Tier 2 Risk Based Standard - Residential Groundwater Pathway

Table 8 Summary of LTU SVE System Inlet Air Sample Results
TPI Petroleum, Inc. - Arkansas City, Kansas

Date	SVE Inlet TVPH Concentration (mg/m^3)
1/25/2005	340
5/18/2005	<100

Notes:

1. Air samples submitted to Severn Trent Laboratories, Pensacola, Florida for analysis.
2. TVPH = total volatile petroleum hydrcarbons (C6-C10)

K A N S A S

RODERICK L. BREMBY, SECRETARY

DEPARTMENT OF HEALTH AND ENVIRONMENT

KATHLEEN SEBELIUS, GOVERNOR

April 13, 2005

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 696000
San Antonio, TX 78269-6000

Re: 2004 Annual RCRA Groundwater Monitoring Report
2004 Annual RCRA Groundwater Monitoring Report, Appendix C, and
2004 Annual Land Treatment Unit Sampling Report
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

On March 1, 2005 the Kansas Department of Health and Environment (KDHE) received the 2004 Annual RCRA Groundwater Monitoring Report, Appendix C replacement pages from the same report, and the 2004 Annual Land Treatment Unit Sampling Report. The replacement pages were inserted into Appendix C of the 2004 Annual RCRA Groundwater Monitoring Report. Each of the above reports was reviewed by KDHE and there are no comments at this time.

If there are questions with regard to this letter, please contact me (785) 291-3760 or email kanderso@state.ks.us.

Respectfully yours,

Kevin M. Anderson
Environmental Scientist
Hazardous Waste Permits Section

Cc: Michael Jones- SCDO/DEA/Waste Programs
David Garrett- EPA Region 7/RCAP Branch
William Bider- Director BWM
Joseph Mednick- MWH

MWH

March 1, 2005

RECEIVED 4270169
MAR 0 2 2005
BUREAU OF WASTE MANAGEMENT

Kevin Anderson
Environmental Scientist
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: 2004 Annual Land Treatment Unit Sampling Report
TPI Petroleum, Inc. Arkansas City, Kansas
Permit No.: KSD087418695

Dear Mr. Anderson:

This report documents the results of the Land Treatment Unit (LTU) soil core sampling conducted at the TPI Petroleum, Inc. (TPI) Arkansas City, Kansas facility in December 2004. The soil core sampling was conducted as described in the LTU closure plan.

Site Description

The refinery is located near the southeast corner of Arkansas City in the southwest 1/4 of Section 32, Township 34 South, Range 4 East and the NW 1/4 of Section 5, Township 35 South, Range 4 East in southwestern Cowley County, Kansas. The refinery is located at the confluence of the Arkansas and Walnut Rivers. It is located on flat lying alluvial sediments and soils. The LTU is located in the southern portion of the refinery property. Figure 1 shows the location of the LTU.

The LTU consists of a 3.85-acre soil plot. The LTU is divided into two (2) subplots separated by a roadway. Plot A (the northern portion) is 2.22 acres in area while Plot B (the southern portion) consists of 1.63 acres. The LTU can be divided vertically into a zone of waste incorporation, a treatment zone (TZ), and the area below the treatment zone (BTZ). The depths, relative to the initial soil surface, of the TZ and the unsaturated monitoring zone are as follows:

- The zone of waste incorporation is a maximum of 10 inches from the initial soil surface.
- The treatment zone is a maximum of 4.5 feet from the initial soil surface.
- The unsaturated soil core samples representing BTZ conditions have historically been collected from a depth of 4.5 to 5 feet below the initial land surface as specified in the RCRA Operating Permit.

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Suite 2900
Denver, Colorado
80202

Tel: 303 291-2222
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Sample Collection

Soil boring locations were selected utilizing random grid sampling methodology. The closure plan specifies a grid interval of 20 feet between grid nodes for sampling at the LTU. The area to be gridded was constructed to generally fit the interior perimeter of the unit as shown on Figure 2. All grid nodes are sequentially numbered from 1 to 390. The calculation for the number of sample points is described in the closure plan as the cube root of the number of grid nodes. The number of sample points was calculated to be seven. Prior to the sampling event, a spreadsheet with a random number generating feature was used to determine the seven grid points to be sampled.

At each location, the soil borings were advanced using a direct push (Geoprobe) sampling technique after initial decontamination of the equipment. Within the LTU treatment zone, two samples were collected, one in the upper 1-foot interval and one in the lower portion (3 to 3.5 feet) of the treatment zone. Two samples were collected below the treatment zone, one at 4.5 to 5 feet below the ground surface and another at 8.5 to 9 feet below the ground surface.

Equipment decontamination and quality assurance/quality control procedures were followed as described in the LTU closure plan. All samples were submitted to the laboratory using the appropriate chain-of-custody protocols.

The 2004 sampling event was conducted on December 14, 2004. Table 1 provides a summary of the sampling information, including the sample date, sampling technique, and laboratory analyses requested for the 2004 sampling event. Figure 3 shows the respective LTU sampling locations.

Following the soil sampling, the boreholes were backfilled with bentonite. The LTU soil samples were placed on ice for transport to Severn Trent Laboratories (STL), Inc. – Denver, Colorado. STL Denver performed all analyses except Cation Exchange Capacity, which was performed at Severn Trent Laboratories, Inc. – Burlington, Vermont.

Analytical Results

The laboratory results for the 2004 sampling event are summarized in this report on Table 2 and Table 3. Laboratory Form 1's and chain-of-custody forms for the 2004 sampling event are included in Attachment 1. Attachment 2 contains a summary of the analytical data validation. Data quality flags have been assigned by the laboratory and were retained or adjusted as necessary during the data validation process.

As anticipated, metals, volatile organic compound (VOC) and semivolatile organic compound (SVOC) impacts to the LTU soils were generally located in and just below the treatment zone (3'-3.5' and 4.5'-5' sample depths). Elevated concentrations of lead were found in both zones at sample grid location 75 and in the 3'-3.5' zone at location 101 in the first and duplicate samples. VOC detections were generally limited to benzene, toluene, ethylbenzene and xylenes (BTEX) and

the trimethybenzenes. Carbon disulfide was observed in several samples at low concentrations. SVOC detections were varied, and mainly included anthracene, benzo(a)anthracene, benzo(b)flouranthene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene. Soil samples from the 8.5-9.0 foot depth interval are relatively unimpacted compared to the overlying samples. There were no exceedances of the KDHE risk based criteria in any of the 8.5-9 foot depth interval samples.

The analytical results for the soil samples were compared to Tier II Risk-Based Standards for Kansas (RSK) for the non-residential area soil-to-groundwater and soil pathways. Samples having concentrations of inorganic or organic constituents that exceed their respective non-residential risk based standards for Kansas (RSK) values for a given pathway are highlighted with bold typeface in Table 2 for the soil-to-groundwater pathway and in Table 3 for the soil pathway.

Comparing VOCs results with soil-to-groundwater pathway RSK values, benzene was detected at concentrations exceeding its RSK value in the 3'-3.5' interval (locations 97, 101, 246, and 281) and the 4.5'-5' interval (location 246). The RSK value for 1,2,4-trimethylbenzene was exceeded in the 3'-3.5' interval and the 4'-4.5' interval at location 75. The RSK value for 1,3,5-trimethylbenzene was exceeded in 3'-3.5' interval (locations 75, 101, 191, 246, and 281) and at the 4.5-5 foot interval (locations 75 and 97). There were no VOC exceedances of the non-residential soil pathway criteria.

With respect to SVOCs, chrysene was detected above the non-residential area soil-to-groundwater pathway and soil pathway RSK values in the 3'-3.5' interval (all seven locations) and the 4.5'-5' interval (locations 75, 097, and 281). For the non-residential area soil pathway, the RSK value for benzo(a)pyrene was exceeded in the 3'-3.5' interval at location 101, and in the 4'-4.5' interval at locations 75 and 281.

The development of the RSK values described above incorporated some conservative assumptions about leachate migration to groundwater. These assumptions include:

- soil contamination extends from the surface to the groundwater table;
- there is no chemical or biological degradation in the unsaturated zone;
- there is no attenuation of constituents in the aquifer; and,
- the receptor well is at the source area and screened within the plume.

The specific site information does not conform to these assumptions, since the soil contamination does not extend to the groundwater table and there are no receptor wells at the source area. Based upon these two assumptions alone, the Tier II RSK values are very conservative. This data will be evaluated further during the sitewide corrective measures study process.

The KDHE Tier II RSK values do not contain soil-to-groundwater values for metals, other than arsenic at the present time. To evaluate the inorganic results, the data were compared to the available USEPA soil screening levels (SSL) to assess the migration to groundwater pathway. SSLs were published for all of the inorganics in the target constitueut list with the exception of chromium, cyanide, lead and mercury.

As with the organic constituents, all samples with inorganic concentrations above their respective SSLs, industrial soil PRGs, or Tier II RSKs, are denoted in bold typeface on Table 2 (soil-to-groundwater pathway) and Table 3 (soil pathway). For arsenic, the soil-to-groundwater pathway RSK value was exceeded at each sample location at the 3'-3.5' interval, and at two locations from the 4.5'-5' interval. The lead soil pathway RSK (1000 mg/kg) value was exceeded at two grid locations for the 3'-3.5' interval, aud in one location for the 4.5'-5' zone. Antimony was detected above the SSL level (5 mg/kg) at location 75 in the 3'-3.5' and 4.5'-5' intervals, and in the 3'-3.5' interval at grid location 246. The soil pathway RSK values (Table 3) for arsenic and autimony were not exceeded at any of the seven locations sampled. The SSLs aud PRGs are used only for comparison and are not action levels for this unit. There were no exceedances of the KDHE risk based criteria iu any of the 8.5-9 foot depth interval samples.

If you have any questions about this report please contact either Ms. Brenda Manterola, TPI at (210) 345-4619 or me at (303) 291-2262.

Sincerely,
MWH

Jay Mednick
Principal Hydrogeologist

Attachments: Tables, Figures, Attachments 1 & 2

cc: David Garrett, EPA Region VII
Brenda Manterola, TPI
Raymond Rahn, TPI
Rob Franke, RBA

MWH

February 28, 2005

4270169

Kevin Anderson
Environmental Scientist
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

RECEIVED
MAR 0 1 2005
BUREAU OF WASTE MANAGEMENT

Re: 2004 Annual Groundwater Monitoring Report
TPI Petroleum, Inc. - Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

Please find enclosed the TPI Petroleum, Inc. Arkansas City Refinery Annual Groundwater Monitoring Report for 2003. An electronic copy of the report is included on the CD-ROM included in Appendix F. This report has been prepared in accordance with the above referenced RCRA permit.

If you have any questions regarding this report, please contact Ms. Brenda Manterola, TPI at (210) 345-4619 or me at (303) 291-2262

Sincerely,

MWH

Jay Mednick
Principal Hydrogeologist

Enclosure:

cc: Brenda Manterola, TPI w/enc.
Harold Green, TPI w/enc.
David Garrett, EPA Region 7 w/enc.

1801 California Street
Suite 2900
Denver, Colorado
80202

Tel: 303 291-2222
Fax: 303 291-2221

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MAIL COMPLETED 8700-12 FORM TO: KDHE-BWM 1000 SW Jackson, Suite 320, Topeka, KS 66612-1366	Kansas Department of Health and Environment **Notification of Regulated Waste Activity** (RCRA SUBTITLE C SITE IDENTIFICATION FORM)	

1. Reason for Submittal (See page 2 of the instructions) MARK ALL BOX(ES) THAT APPLY	Reason for Submittal: ☐ To provide Initial Notification of Regulated Waste Activity (to obtain an EPA ID Number) ☒ To provide Subsequent Notification of Regulated Waste Activity (to update information) ☐ As a component of a FIRST–RCRA Hazardous Waste Part A Permit Application ☐ As a component of a REVISED–RCRA Hazardous Waste Part A Permit Application ☐ As a component of the Hazardous Waste Report
2. Site EPA ID Number (See page 3 of the instructions)	EPA ID Number: KSD 087418695 RECEIVED DEC 2 0 2004 BUREAU OF WASTE
3. Site Name (See page 3 of the instructions)	Name: TPI PETROLEUM, INC
4. Site Location Information (See page 3 of the instructions)	Street Address: 1400 M STREET City or Town: ARKANSAS CITY — State: KS County Name: COWLEY — Zip Code: 67005
5. Site Land Type (See page 3 of the instructions)	Site Land Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other
6. North American Industry Classification System (NAICS) Code(s) for the Site (See page 3 of the instructions)	A. 423320 — B. C. — D.
7. Site Mailing Address (See page 4 of the instructions)	Street or P. O. Box: SAME City or Town: State: Country: — Zip Code:
8. Site Contact Person (See page 4 of the instructions)	First Name: BRENDA — MI: B — Last Name: MANTEROLA Phone Number & Extension: 210-345-4619 Email Address: BRENDA.MANTEROLA@VALERO.COM

NO CHANGE 51 — 12-27-04 up

9. Legal Owner and Operator of the Site (See page 4 of the instructions)	A. Name of Site's Legal Owner: TPI PETROLEUM, INC.	Date Became Owner (mm/dd/yyyy): 4/29/98
	Owner Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other	
	B. Name of Site's Operator: SAME	Date Became Operator (mm/dd/yyyy):
	Operator Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other	

10. Type of Regulated Waste Activity (Mark the appropriate boxes for activities that apply to your site. See pages 5–8 of the instructions)

A. **Hazardous Waste Activities**

1. Generator of Hazardous Waste

(Choose only one of the following four classifications)

☒ a. EPA: 1,000 kg/mo (2,200 lbs in any single mo.) or more of non-acute hazardous waste, greater than 1 kg of acute hazardous waste;

or

☐ b(1). KSG Sub-Class 1: 100 kg or more and less than 1,000 kg (220 - 2,200 lbs in any single mo.) of non- acute hazardous waste;

or

☐ b(2). KSG Sub-Class 2: 25 kg or more and less than 100 kg (55 - 220 lbs in any single mo.) of non-acute hazardous waste;

or

☐ c. KSSQG: Less than 25 kg/mo (55 lbs./mo.) of non-acute hazardous waste

In addition, indicate other generator activities. (Mark all that apply)

☐ d. United States Importer of Hazardous Waste

☐ e. Mixed Waste (hazardous and radioactive) Generator

For Items 2 through 6, mark all that apply.

☐ **2. Transporter of Hazardous Waste**

☒ **3. Treater, Storer, or Disposer of Hazardous Waste (at your site)** Note: A hazardous waste permit is required for this activity.

☐ **4. Recycler of Hazardous Waste (at your site)** Note: A hazardous waste permit may be required for this activity.

5. Exempt Boiler and/or Industrial Furnace

☐ a. Small Quantity On-site Burner Exemption

☐ b. Smelting, Melting, and Refining Furnace Exemption

☐ **6. Underground Injection Control**

B. Universal Waste Activities

1. Large Quantity Handler of Universal Waste (accumulate 5,000 kg or more) [refer to Kansas regulations to determine what is regulated]. Indicate types of universal waste generated and/or accumulated at your site. (Mark all boxes that apply):

	Generate	Accumulate
a. Batteries	☐	☐
b. Pesticides	☐	☐
c. Thermostats	☐	☐
d. Lamps	☐	☐
e. Other (specify) _____		☐☐
f. Other (specify) _____		☐☐
g. Other (specify) _____		☐☐

☐ 2. Destination Facility for Universal Waste
Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities (Mark all boxes that apply.)

1. Used Oil Transporter - Indicate Type(s) of Activity(ies)

☐ a. Transporter

☐ b. Transfer Facility

2. Used Oil Processor and/or Re-refiner - Indicate Type(s) of Activity(ies)

☐ a. Processor

☐ b. Re-refiner

☐ 3. Off-Specification Used Oil Burner

4. Used Oil Fuel Marketer - Indicate Type(s) of Activity(ies)

☐ a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner

☐ b. Marketer Who First Claims the Used Oil Meets the Specifications

11. Description of Hazardous Wastes (See page 9 of the instructions)

Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

D001	D002	D007	D008	D018	F005	

12. Comments (See page 9 of the instructions)

13. **Certification.** I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. **(See page 9 of the instructions)**

Signature of owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	BRENDA MANTEROLA, MANAGER	DECEMBER 9, 2004

RETURN COMPLETED 8700-12 FORM TO:

KDHE-BWM

1000 SW JACKSON, SUITE 320

TOPEKA, KANSAS 66612-1366

Revised 7/21/2003

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BUREAU OF WASTE MANAGEMENT

MWH

November 22, 2004

4270169

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Groundwater Recovery Well RW-50
Transmittal of Replacement Page for the Engineering Feasibility Plan and Operation and Maintenance Plan
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

TPI Petroleum, Inc. has completed the replacement of recovery well RW-50. Attached are copies of the well construction diagram for the replacement recovery well to be inserted into the Engineering Feasibility Plan and the Operation and Maintenance Plan.

As noted above, two copies of the well construction diagram are included. The attached diagrams, Figure A-4 and Figure 5-3, replace the same figures in the Operation and Maintenance Plan and Engineering Feasibility Plan respectively.

If you have any questions about the attached information, please contact either Brenda Manterola, TPI at 210/345-4619 or me at 303/291-2262.

Sincerely,

MWH Americas, Inc.

Jay Mednick
Project Manager

Attachments: Figures A-4, 5-3

Cc: Brenda Manterola, TPI
Harold Green, TPI
Kathy Dunn, KDHE
David Garrett, EPA Region VII

1801 California Street
Suite 2900
Denver, Colorado
80202

Tel: 303 291-2222
Fax: 303 291-2221

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MAIL COMPLETED 8700-12 FORM TO: KDHE-BWM 1000 SW Jackson, Suite 320, Topeka, KS 66612-1366	Kansas Department of Health and Environment **Notification of Regulated Waste Activity** (RCRA SUBTITLE C SITE IDENTIFICATION FORM)	

1. Reason for Submittal (See page 2 of the instructions) MARK ALL BOX(ES) THAT APPLY	**Reason for Submittal:** ☐ To provide Initial Notification of Regulated Waste Activity (to obtain an EPA ID Number) ☒ To provide Subsequent Notification of Regulated Waste Activity (to update information) ☐ As a component of a FIRST–RCRA Hazardous Waste Part A Permit Application ☐ As a component of a REVISED–RCRA Hazardous Waste Part A Permit Application ☐ As a component of the Hazardous Waste Report		
2. Site EPA ID Number (See page 3 of the instructions)	**EPA ID Number:** KSD 087418695 RECEIVED NOV 19 2004 BUREAU OF WASTE MANAGEMENT		
3. Site Name (See page 3 of the instructions)	**Name:** TPI PETROLEUM, INC		
4. Site Location Information (See page 3 of the instructions)	**Street Address:** 1400 M STREET		
	City or Town: ARKANSAS CITY	**State:** KS	
	County Name: COWLEY	**Zip Code:** 67005	
5. Site Land Type (See page 3 of the instructions)	**Site Land Type:** ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other		
6. North American Industry Classification System (NAICS) Code(s) for the Site (See page 3 of the instructions)	**A.** 423320	**B.**	
	C.	**D.**	
7. Site Mailing Address (See page 4 of the instructions)	**Street or P. O. Box:** SAME		
	City or Town:		
	State:		
	Country:	**Zip Code:**	
8. Site Contact Person (See page 4 of the instructions)	**First Name:** BRENDA	**MI:** B	**Last Name:** MANTEROLA
	Phone Number & Extension: 210-345-4619	**Email Address:** BRENDA.MANTEROLA@VALERO.COM	

9. Legal Owner and Operator of the Site (See page 4 of the instructions)	A. Name of Site's Legal Owner: TPI PETROLEUM, INC.	Date Became Owner (mm/dd/yyyy): 4/29/98
	Owner Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other	
	B. Name of Site's Operator: SAME	Date Became Operator (mm/dd/yyyy):
	Operator Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other	

10. Type of Regulated Waste Activity (Mark the appropriate boxes for activities that apply to your site. See pages 5–8 of the instructions)

A. Hazardous Waste Activities

1. Generator of Hazardous Waste
(Choose only one of the following four classifications)

☒ a. EPA: 1,000 kg/mo (2,200 lbs in any single mo.) or more of non-acute hazardous waste, greater than 1 kg of acute hazardous waste;

or

☐ b(1). KSG Sub-Class 1: 100 kg or more and less than 1,000 kg (220 - 2,200 lbs in any single mo.) of non- acute hazardous waste;

or

☐ b(2). KSG Sub-Class 2: 25 kg or more and less than 100 kg (55 - 220 lbs in any single mo.) of non-acute hazardous waste;

or

☐ c. KSSQG: Less than 25 kg/mo (55 lbs./mo.) of non-acute hazardous waste

In addition, indicate other generator activities. (Mark all that apply)

☐ d. United States Importer of Hazardous Waste

☐ e. Mixed Waste (hazardous and radioactive) Generator

For Items 2 through 6, mark all that apply.

☐

2. Transporter of Hazardous Waste

3. Treater, Storer, or Disposer of Hazardous Waste (at your site) Note: A hazardous waste permit is required for this activity.

☐

4. Recycler of Hazardous Waste (at your site) Note: A hazardous waste permit may be required for this activity.

5. Exempt Boiler and/or Industrial Furnace

☐

a. Small Quantity On-site Burner Exemption

☐

b. Smelting, Melting, and Refining Furnace Exemption

☐

6. Underground Injection Control

B. **Universal Waste Activities**

1. **Large Quantity Handler of Universal Waste (accumulate 5,000 kg or more) [refer to Kansas regulations to determine what is regulated]. Indicate types of universal waste generated and/or accumulated at your site. (Mark all boxes that apply):**

	Generate	Accumulate
a. Batteries	❑	❑
b. Pesticides	❑	❑
c. Thermostats	❑	❑
d. Lamps	❑	❑
e. Other (specify) _____		❑❑
f. Other (specify) _____		❑❑
g. Other (specify) _____		❑❑

❑ 2. **Destination Facility for Universal Waste**

Note: A hazardous waste permit may be required for this activity.

C. **Used Oil Activities (Mark all boxes that apply.)**

1. **Used Oil Transporter - Indicate Type(s) of Activity(ies)**

❑ a. Transporter

❑ b. Transfer Facility

2. **Used Oil Processor and/or Re-refiner - Indicate Type(s) of Activity(ies)**

❑ a. Processor

❑ b. Re-refiner

❑ 3. **Off-Specification Used Oil Burner**

4. **Used Oil Fuel Marketer - Indicate Type(s) of Activity(ies)**

❑ a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner

❑ b. Marketer Who First Claims the Used Oil Meets the Specifications

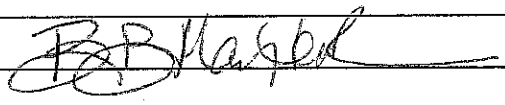
11. **Description of Hazardous Wastes (See page 9 of the instructions)**

Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

D001	D002	D007	D008	D018		

12. Comments (See page 9 of the instructions)

13. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. **(See page 9 of the instructions)**

Signature of owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	BRENDA MANTEROLA, MANAGER	11/16/04

RETURN COMPLETED 8700-12 FORM TO:

KDHE-BWM

1000 SW JACKSON, SUITE 320

TOPEKA, KANSAS 66612-1366

Revised 7/21/2003

MWH

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BWM

October 1, 2004

Kevin Anderson
Environmental Scientist, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Semiannual Groundwater Sampling
Appendix IX Constituent List and Monitor Well Network Confirmation
TPI Petroleum, Inc. - Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

MWH is submitting this letter on behalf of TPI Petroleum, Inc. (TPI) for the above-referenced site. This letter serves as a followup to our telephone conversation on September 22, 2004 during which we discussed the Appendix IX analytical testing for the upcoming semiannual groundwater monitoring event.

As we discussed, the groundwater samples from the upgradient monitor wells; WN-1A and WN-1B, and the downgradient monitor wells MW-12 and RCRA-4 will be tested for the Appendix IX constituents. The groundwater samples from the remaining monitor wells will continue to be tested for benzene, toluene, ethylbenzene, and xylenes (BTEX). A copy of the constituent list is attached for your review and approval. Also included for your review is a table summarizing the analytical methods, sample container types, and sizes, preservatives, and holding times. The table also provides the order in which the sample fractions will be collected.

This monitoring event is designed to satisfy Section IV.D.4 of the facility's hazardous waste management permit. Specifically, the analytical testing requirements for the five year monitoring of the Appendix IX constituents and the three year monitoring of the Groundwater Protection Standards described in Table 5 of the permit.

The groundwater sampling is currently scheduled for the week of October 11, 2004. Site wide

1801 California Street
Suite 2900
Denver, Colorado
80202

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groundwater level gauging will be conducted on October 11. The groundwater sampling will begin on October 12 and should be completed on October 13 or 14.

If you have any questions or comments regarding this matter, please contact Ms. Brenda Manterola, TPI Petroleum, Inc. at (210) 345-4619 or me at (303) 291-2262.

Sincerely,

MWH Americas, Inc.

Jay Mednick
Project Manager

Attachments

cc: Brenda Manterola, TPI
Harold Green, TPI
David Garrett, USEPA Region 7
Rob Franke, RBA

Table 1 Appendix IX Inorganic Constituents
TPI Petroleum, Inc. Arkansas City, Kansas

Inductively Coupled Plasma-Atomic Emission Spectrometry

Compound	RL	Units	MDL	Method
Antimony		10 ug/L	3.2	6010B
Arsenic		15 ug/L	3.4	6010B
Barium		10 ug/L	2.1	6010B
Beryllium		5 ug/L	0.83	6010B
Cadmium		5 ug/L	0.38	6010B
Chromium		10 ug/L	1.2	6010B
Cobalt		10 ug/L	0.91	6010B
Copper		10 ug/L	1.6	6010B
Lead		3 ug/L	1.5	6010B
Nickel		40 ug/L	2	6010B
Selenium		15 ug/L	3.3	6010B
Silver		10 ug/L	0.37	6010B
Thallium		10 ug/L	4.3	6010B
Tin		100 ug/L	4.7	6010B
Vanadium		10 ug/L	2.4	6010B
Zinc		20 ug/L	4.9	6010B

Mercury (Cold-Vapor Technique)

Compound	RL	Units	MDL	Method
Mercury		0.2 ug/L	0.025	7470A

Note:
Reporting Level (RL) and Method Detection Level (MDL) are targets, actual levels may vary.

Table 2 Appendix IX Pesticides, Herbicides, and PCBs
TPI Petroleum, Inc. Arkansas City, Kansas

Organochlorine Pesticides by Gas Chromatography

Compound	RL	Units	MDL	Method
Aldrin	0.05	ug/L	0.01	8081A
alpha-BHC	0.05	ug/L	0.007	8081A
beta-BHC	0.05	ug/L	0.01	8081A
delta-BHC	0.05	ug/L	0.01	8081A
gamma-BHC (Lindane)	0.05	ug/L	0.01	8081A
Chlordane (technical)	0.5	ug/L	0.06	8081A
4,4'-DDD	0.05	ug/L	0.01	8081A
4,4'-DDE	0.05	ug/L	0.006	8081A
4,4'-DDT	0.05	ug/L	0.03	8081A
Dieldrin	0.05	ug/L	0.007	8081A
Endosulfan I	0.05	ug/L	0.007	8081A
Endosulfan II	0.05	ug/L	0.01	8081A
Endosulfan sulfate	0.05	ug/L	0.01	8081A
Endrin	0.05	ug/L	0.01	8081A
Endrin aldehyde	0.05	ug/L	0.02	8081A
Heptachlor	0.05	ug/L	0.01	8081A
Heptachlor epoxide	0.05	ug/L	0.007	8081A
Kepone	1	ug/L	0.36	8081A
Methoxychlor	0.1	ug/L	0.02	8081A
Toxaphene	5	ug/L	0.4	8081A

Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Compound	RL	Units	MDL	Method
Aroclor 1016	1	ug/L	0.14	8082
Aroclor 1221	1	ug/L	0.17	8082
Aroclor 1232	1	ug/L	0.12	8082
Aroclor 1242	1	ug/L	0.24	8082
Aroclor 1248	1	ug/L	0.08	8082
Aroclor 1254	1	ug/L	0.13	8082
Aroclor 1260	1	ug/L	0.09	8082

Chlorinated Herbicides by GC Using Methylation or Pentafluorobenzylation Derivatization

Compound	RL	Units	MDL	Method
2,4-D	4	ug/L	0.26	8151
Dinoseb	0.6	ug/L	0.13	8151
2,4,5-TP (Silvex)	1	ug/L	0.1	8151
2,4,5-T	1	ug/L	0.1	8151

Note:
Reporting Level (RL) and Method Detection Level (MDL) are targets, actual levels may vary.

Table 3 Appendix IX Volatile Oganic Compound Constituents
TPI Petroleum, Inc. Arkansas City, Kansas

Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)					
Compound	**RL**	**Units**	**MDL**	**Units**	**Method**
Acetone	10	ug/L	2.5	ug/L	8260B
Acetonitrile	20	ug/L	5.3	ug/L	8260B
Acrolein	20	ug/L	3.1	ug/L	8260B
Acrylonitrile	20	ug/L	3.1	ug/L	8260B
Benzene	1	ug/L	0.17	ug/L	8260B
Bromodichloromethane	1	ug/L	0.2	ug/L	8260B
Bromoform	1	ug/L	0.23	ug/L	8260B
Bromomethane	2	ug/L	0.22	ug/L	8260B
2-Butanone (MEK)	5	ug/L	2	ug/L	8260B
Carbon disulfide	1	ug/L	0.24	ug/L	8260B
Carbon tetrachloride	1	ug/L	0.2	ug/L	8260B
Chlorobenzene	1	ug/L	0.13	ug/L	8260B
Chloroprene	1	ug/L	0.21	ug/L	8260B
Dibromochloromethane	1	ug/L	0.19	ug/L	8260B
Chloroethane	2	ug/L	0.18	ug/L	8260B
Chloroform	1	ug/L	0.17	ug/L	8260B
Chloromethane	2	ug/L	0.91	ug/L	8260B
Allyl chloride	2	ug/L	0.11	ug/L	8260B
1,2-Dibromo-3-chloropropane (DBCP)	2	ug/L	0.47	ug/L	8260B
1,2-Dibromoethane (EDB)	1	ug/L	0.18	ug/L	8260B
Dibromomethane	1	ug/L	0.31	ug/L	8260B
trans-1,4-Dichloro-2-butene	1	ug/L	0.45	ug/L	8260B
Dichlorodifluoromethane	2	ug/L	0.22	ug/L	8260B
1,1-Dichloroethane	1	ug/L	0.22	ug/L	8260B
1,2-Dichloroethane	1	ug/L	0.26	ug/L	8260B
trans-1,2-Dichloroethene	1	ug/L	0.15	ug/L	8260B
1,1-Dichloroethene	1	ug/L	0.23	ug/L	8260B
1,2-Dichloropropane	1	ug/L	0.18	ug/L	8260B
cis-1,3-Dichloropropene	1	ug/L	0.19	ug/L	8260B
trans-1,3-Dichloropropene	1	ug/L	0.2	ug/L	8260B
1,4-Dioxane	200	ug/L	57	ug/L	8260B
Ethylbenzene	1	ug/L	0.12	ug/L	8260B
Ethyl methacrylate	1	ug/L	0.48	ug/L	8260B
2-Hexanone	5	ug/L	1.7	ug/L	8260B
Iodomethane	1	ug/L	0.19	ug/L	8260B
Isobutyl alcohol	50	ug/L	15	ug/L	8260B
Methacrylonitrile	10	ug/L	2.3	ug/L	8260B
Methylene chloride	5	ug/L	0.21	ug/L	8260B
Methyl methacrylate	1	ug/L	0.57	ug/L	8260B
4-Methyl-2-pentanone	5	ug/L	0.98	ug/L	8260B
Propionitrile	20	ug/L	3.8	ug/L	8260B
Styrene	1	ug/L	0.14	ug/L	8260B

Table 3 Appendix IX Volatile Oganic Compound Constituents
TPI Petroleum, Inc. Arkansas City, Kansas

Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)					
Compound	**RL**	**Units**	**MDL**	**Units**	**Method**
1,1,1,2-Tetrachloroethane	1	ug/L	0.21	ug/L	8260B
1,1,2,2-Tetrachloroethane	1	ug/L	0.21	ug/L	8260B
Tetrachloroethene	1	ug/L	0.26	ug/L	8260B
Toluene	1	ug/L	0.15	ug/L	8260B
1,1,1-Trichloroethane	1	ug/L	0.16	ug/L	8260B
1,1,2-Trichloroethane	1	ug/L	0.27	ug/L	8260B
Trichloroethene	1	ug/L	0.16	ug/L	8260B
Trichlorofluoromethane	2	ug/L	0.24	ug/L	8260B
1,2,3-Trichloropropane	1	ug/L	0.33	ug/L	8260B
1,2,4-Trimethylbenzene	1	ug/L	0.15	ug/L	8260B
1,3,5-Trimethylbenzene	1	ug/L	0.16	ug/L	8260B
Vinyl acetate	2	ug/L	0.56	ug/L	8260B
Vinyl chloride	1	ug/L	0.19	ug/L	8260B
Xylenes (total)	2	ug/L	0.41	ug/L	8260B

Note:
Reporting Level (RL) and Method Detection Level (MDL) are targets, actual levels may vary.

Table 4 Appendix IX Semivolatile Organic Compound Constituents
TPI Petroleum, Inc. Arkansas City, Kansas

Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Compound	RL	Units	MDL	Method
a,a-Dimethylphenethylamine	50	ug/L	11	8270C
Acenaphthene	10	ug/L	0.6	8270C
Acenaphthylene	10	ug/L	0.6	8270C
Acetophenone	10	ug/L	2	8270C
2-Acetylaminofluorene	100	ug/L	2	8270C
4-Aminobiphenyl	50	ug/L	2	8270C
Aniline	10	ug/L	4	8270C
Anthracene	10	ug/L	3	8270C
Aramite	20	ug/L	2	8270C
Benzo(a)anthracene	100	ng/L	6.1	8270C SIM
Benzo(b)fluoranthene	100	ng/L	4.6	8270C SIM
Benzo(k)fluoranthene	10	ug/L	2	8270C
Benzo(ghi)perylene	10	ug/L	1	8270C
Benzo(a)pyrene	100	ng/L	7.1	8270C SIM
Benzyl alcohol	10	ug/L	1	8270C
bis(2-Chloroethoxy)methane	10	ug/L	0.9	8270C
bis(2-Chloroethyl) ether	10	ug/L	3	8270C
bis(2-Ethylhexyl) phthalate	10	ug/L	0.9	8270C
4-Bromophenyl phenyl ether	10	ug/L	0.7	8270C
Butyl benzyl phthalate	10	ug/L	1	8270C
4-Chloroaniline	10	ug/L	3	8270C
Chlorobenzilate	10	ug/L	2	8270C
4-Chloro-3-methylphenol	10	ug/L	0.8	8270C
2-Chloronaphthalene	10	ug/L	0.7	8270C
2-Chlorophenol	10	ug/L	0.8	8270C
4-Chlorophenyl phenyl ether	10	ug/L	0.6	8270C
Chrysene	10	ug/L	0.8	8270C
Diallate	20	ug/L	2	8270C
Dibenz(a,h)anthracene	100	ng/L	6.4	8270C SIM
Dibenzofuran	10	ug/L	0.6	8270C
Di-n-butyl phthalate	10	ug/L	0.8	8270C
1,2-Dichlorobenzene	10	ug/L	0.8	8270C
1,3-Dichlorobenzene	10	ug/L	0.8	8270C
1,4-Dichlorobenzene	10	ug/L	1	8270C
3,3'-Dichlorobenzidine	50	ug/L	8	8270C
2,4-Dichlorophenol	10	ug/L	0.7	8270C
2,6-Dichlorophenol	10	ug/L	2	8270C
Diethyl phthalate	10	ug/L	0.7	8270C
Dimethoate	20	ug/L	2	8270C
4-Dimethylaminoazobenzene	20	ug/L	2	8270C
7,12-Dimethylbenz(a)anthracene	20	ug/L	3	8270C
3,3'-Dimethylbenzidine	20	ug/L	4	8270C
2,4-Dimethylphenol	10	ug/L	4	8270C
Dimethyl phthalate	10	ug/L	0.8	8270C
1,3-Dinitrobenzene	10	ug/L	2	8270C
4,6-Dinitro-2-methylphenol	50	ug/L	6	8270C
2,4-Dinitrophenol	50	ug/L	6	8270C
2,4-Dinitrotoluene	10	ug/L	1	8270C

Table 4 Appendix IX Semivolatile Organic Compound Constituents
TPI Petroleum, Inc. Arkansas City, Kansas

Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Compound	RL	Units	MDL	Method
2,6-Dinitrotoluene	10	ug/L	0.8	8270C
Di-n-octyl phthalate	10	ug/L	1	8270C
Diphenylamine	10	ug/L	2	8270C
Disulfoton	50	ug/L	2	8270C
1,4-Dioxane *	10	ug/L	1	8270C
Ethyl methanesulfonate	10	ug/L	2	8270C
Famphur	200	ug/L	9	8270C
Fluoranthene	10	ug/L	0.7	8270C
Fluorene	10	ug/L	0.6	8270C
Hexachlorobenzene	10	ug/L	0.8	8270C
Hexachlorobutadiene	10	ug/L	1	8270C
Hexachlorocyclopentadiene	50	ug/L	5	8270C
Hexachloroethane	10	ug/L	0.8	8270C
Hexachlorophene **	--	ug/L	--	8270C
Hexachloropropene	100	ug/L	1	8270C
Indeno(1,2,3-cd)pyrene	100	ng/L	45	8270C SIM
Isodrin	10	ug/L	5	8270C
Isophorone	10	ug/L	0.9	8270C
Isosafrole	20	ug/L	3	8270C
Methapyrilene	50	ug/L	20	8270C
3-Methylcholanthrene	20	ug/L	1	8270C
Methyl methanesulfonate	10	ug/L	2	8270C
1-Methylnaphthalene	10	ug/L	0.8	8270C
2-Methylnaphthalene	10	ug/L	0.8	8270C
Methyl parathion	50	ug/L	2	8270C
2-Methylphenol	10	ug/L	0.9	8270C
3-Methylphenol	10	ug/L	0.8	8270C
4-Methylphenol	10	ug/L	0.8	8270C
Naphthalene	10	ug/L	0.8	8270C
1,4-Naphthoquinone	50	ug/L	2	8270C
1-Naphthylamine	10	ug/L	1	8270C
2-Naphthylamine	10	ug/L	1	8270C
2-Nitroaniline	50	ug/L	0.9	8270C
3-Nitroaniline	50	ug/L	0.9	8270C
4-Nitroaniline	50	ug/L	6	8270C
Nitrobenzene	10	ug/L	2	8270C
2-Nitrophenol	10	ug/L	0.8	8270C
4-Nitrophenol	50	ug/L	7	8270C
4-Nitroquinoline-1-oxide	100	ug/L	5	8270C
N-Nitrosodi-n-butylamine	10	ug/L	2	8270C
N-Nitrosodiethylamine	10	ug/L	2	8270C
N-Nitrosodimethylamine	10	ug/L	0.8	8270C
N-Nitrosodiphenylamine	10	ug/L	1	8270C
N-Nitrosodi-n-propylamine	10	ug/L	0.7	8270C
N-Nitrosomethylethylamine	10	ug/L	2	8270C
N-Nitrosomorpholine	10	ug/L	2	8270C
N-Nitrosopiperidine	10	ug/L	2	8270C
N-Nitrosopyrrolidine	10	ug/L	2	8270C

Table 4 Appendix IX Semivolatile Organic Compound Constituents
TPI Petroleum, Inc. Arkansas City, Kansas

Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)				
Compound	**RL**	**Units**	**MDL**	**Method**
5-Nitro-o-toluidine	20	ug/L	2	8270C
2,2'-oxybis(1-Chloropropane)	10	ug/L	0.7	8270C
Parathion	50	ug/L	2	8270C
Pentachlorobenzene	10	ug/L	2	8270C
Pentachloroethane	50	ug/L	2	8270C
Pentachloronitrobenzene	50	ug/L	2	8270C
Pentachlorophenol	50	ug/L	5	8270C
Phenacetin	20	ug/L	2	8270C
Phenanthrene	100	ng/L	5.9	8270C SIM
Phenol	10	ug/L	0.9	8270C
4-Phenylenediamine	100	ug/L	5	8270C
Phorate	50	ug/L	2	8270C
2-Picoline	20	ug/L	3	8270C
Pronamide	20	ug/L	2	8270C
Pyrene	10	ug/L	0.8	8270C
Pyridine	20	ug/L	10	8270C
Safrole	50	ug/L	2	8270C
Sulfotepp	50	ug/L	2	8270C
1,2,4,5-Tetrachlorobenzene	10	ug/L	2	8270C
2,3,4,6-Tetrachlorophenol	50	ug/L	2	8270C
Thionazin	10	ug/L	2	8270C
o-Toluidine	10	ug/L	2	8270C
1,2,4-Trichlorobenzene	10	ug/L	0.9	8270C
2,4,5-Trichlorophenol	10	ug/L	1	8270C
2,4,6-Trichlorophenol	10	ug/L	0.8	8270C
O,O,O-Triethyl phosphorothioate	50	ug/L	2	8270C
1,3,5-Trinitrobenzene	50	ug/L	2	8270C

Notes:
Reporting Level (RL) and Method Detection Level (MDL) are targets, actual levels may vary.
* 1,4-Dioxane analyzed using method 8270C to achieve lower RL and MDL

** The result for hexachlorophene is a presence/absence type of analysis. A single-point standard was run to demonstrate the retention time, instrument response, and mass spectra for the compound. Estimated detection limits range from 30-330 ug/L. The laboratory does not have an MDL for this compound by Method 8270C because, as noted by the EPA (ref. 8270C), the compound is subject to non-reproducible chromatographic performance dne to adsorption to walls of glassware during extraction and storage.
SIM = selected ion monitoring

Table 5 Appendix IX Dioxins, Cyanide and Sulfide Constituents
TPI Petroleum, Inc. Arkansas City, Kansas

The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry (HRGC/LRMS)

Compound	RL	Units	MDL	Method
Total HxCDD		ng/L	2.61	8280A
Total HxCDF		ng/L	1.44	8280A
Total PeCDD		ng/L	2.64	8280A
Total PeCDF		ng/L	1.44	8280A
2,3,7,8-TCDD		ng/L	0.71	8280A
Total TCDD		ng/L	0.71	8280A
Total TCDF		ng/L	0.65	8280A

Total and Amenable Cyanide: Distillation

Compound	RL	Units	MDL	Method
Total Cyanide	0.01	mg/L	0.0028	9010

Acid-Soluble and Acid-Insoluble Sulfides: Distillation

Compound	RL	Units	MDL	Method
Total Sulfide	4	mg/L	0.49	9030B

Note:
Reporting Level (RL) and Method Detection Level (MDL) are targets, actual levels may vary.

TABLE 6 APPENDIX IX CONSTITUENTS

ANALYTICAL METHOD, SAMPLE CONTAINER, PRESERVATIVE, UNIT OF MEASURE, AND HOLDING TIME CRITERIA
TPI PETROLEUM, INC. ARKANSAS CITY, KANSAS

Bottle Collection Order	Analytical Method	Sample Container[(a)]	Preservative	Unit of Measure	Holding Time
1	VOCs (SW-846 8260B)	3, 40-ml clear glass bottles with a Teflon™ septum cap; No head space	HCL; pH < 2 Chill to 4°C	µg/l	14 days from sample collection to analysis (if not preserved: method 524 – 24 hours from sample collection to analysis, all other methods 7 days from sample collection to analysis)
2	VOCs (Acrolein and Acrylonitrile) (8260B)	3, 40-ml clear glass bottles with a Teflon™ septum cap; No head space	Chill to 4°C	µg/l	3 days from sample collection to analysis
3	VOC – Ethylene Dibromide (504.1)	3, 40-ml clear glass bottles with a Teflon™ septum cap; No head space	Sodium thiosulfate Chill to 4°C	µg/l	14 days from sample collection to analysis
4	SVOCs (SW-846 8270C)	Two, 1-liter amber glass bottles with a Teflon™ lined cap	Chill to 4°C	µg/l	7 days from sample collection to extraction 40 days from sample extraction to analysis
5	8270C SIM	Two, 1-liter amber glass bottles with a Teflon™ lined cap	Chill to 4°C	µg/l	7 days from sample collection to extraction 40 days from sample extraction to analysis
6	Metals (except mercury) (SW-846 6010B Trace) Mercury (SW-846 7470A)	500-ml polyethylene bottle with a Teflon™ lined cap	HNO_3; pH < 2 Chill to 4°C	mg/l	180 days from sample collection to analysis 28 days from sample collection to analysis
7	Cyanide (SW-846 9010B)	250-ml polyethylene bottle with a Teflon™ lined cap	NaOH >12 Ascorbic Acid Chill to 4°C	mg/l	14 days from sample collection to analysis

TABLE 6 APPENDIX IX CONSTITUENTS

ANALYTICAL METHOD, SAMPLE CONTAINER, PRESERVATIVE, UNIT OF MEASURE, AND HOLDING TIME CRITERIA
TPI PETROLEUM, INC. ARKANSAS CITY, KANSAS

Bottle Collection Order	Analytical Method	Sample Container[a]	Preservative	Unit of Measure	Holding Time
8	Sulfide (SW-846 9030B)	250-ml polyethylene bottle with a Teflon™ lined cap	ZnAc+NaOH; pH>9 Chill to 4°C	mg/l	7 days from sample collection to analysis
9	Herbicides (SW-846 8151)	Two, 1-liter amber glass bottles with a Teflon™ lined cap	Chill to 4°C	µg/l	7 days from sample collection to extraction 40 days from sample extraction to analysis
10	Pesticides (SW-846 8081A)	Two, 1-liter amber glass bottles with a Teflon™ lined cap	Chill to 4°C	µg/l	7 days from sample collection to extraction 40 days from sample extraction to analysis
11	PCBs (SW-846 8082)	Two, 1-liter amber glass bottles with a Teflon™ lined cap	Chill to 4°C	µg/l	7 days from sample collection to extraction 40 days from sample extraction to analysis
12	Dioxins and Furans (SW-846 8280A)	Two, 1-liter amber glass bottles with a Teflon™ lined cap	Chill to 4°C	ng/l	30 days from sample collection to extraction 45 days from sample extraction to analysis

Notes:

EPA Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846; U.S. EPA Third Edition, Final Update III, December 1996).

Methods for the Determination of Organic Compounds in Drinking Water-Supplement III (EPA/600/R-95-131)

µg/l Microgram per liter
mg/l Milligram per liter
ml Milliliter
HCl Hydrochloric acid
HNO_3 Nitric acid
NaOH Sodium hydroxide
°C Degrees Celsius
VOCs Volatile organic compounds
SVOCs Semi-volatile organic compounds
ZnAc Zinc Acetate

MWH

August 30, 2004

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BUREAU OF WASTE MANAGEMENT

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: August 23, 2004 Gradient Reversal Demonstration
TPI Petroleum, Inc. Arkansas City, Kansas
EPA Identification Number: KSD 087418695

Dear Mr. Anderson:

MWH is submitting this letter on behalf of TPI Petroleum, Inc. TPI monitored the groundwater levels in the eight capture zone monitoring wells on Monday, August 23 to verify gradient reversal while recovery well RW-50 is temporarily out of service. The Permit required head difference criteria was achieved in all four capture zone monitoring well pairs satisfying the condition specified in Permit Section IV.C.2.e. A table summarizing the groundwater level measurements is attached.

If you have any questions abont the attached information, please contact either Brenda Manterola, TPI at 210/345-4619 or me at 303/291-2262.

Sincerely,

MWH Americas, Inc.

Jay Mednick
Project Manager

Attachment

cc: Brenda Manterola, TPI w/enc.
Harold Green, TPI w/enc.
Kathy Dunn, KDHE w/enc.
David Garrett, USEPA w/enc.

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Groundwater Capture Zone Compliance Demonstration Monitoring - August 23, 2004
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	8/23/2004	9:27	1063.73	26.32	1037.41	**1.25**	165	RW-35
	CMW-1	8/23/2004	11:04	1059.71	21.05	1038.66		100	RW-40
2	113	8/23/2004	11:21	1072.25	34.23	1038.02	**0.39**	80	RW-45
	CMW-2	8/23/2004	11:06	1061.74	23.33	1038.41		0	RW-50
								110	RW-55
3	118	8/23/2004	11:20	1070.69	32.26	1038.43	**0.23**	200	RW-60
	CMW-3	8/23/2004	11:10	1060.13	21.47	1038.66		205	RW-65
4	MW-1002	8/23/2004	11:15	1072.12	32.46	1039.66	**0.46**	140	RW-70
	CMW-4	8/23/2004	11:14	1058.27	18.15	1040.12		50	RW-75
								30	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								1080	

Notes:

1. A positive head difference indicates groundwater capture.
   Permit Criteria = or > 0.2 feet head difference.

Recovery well RW-50 was turned off 8/4/04.
Monitoring results demonstrate permit compliance.
RW-50 replacement scheduled start date 8/24/04.

MWH

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AUG 30 2004
BUREAU OF WASTE MANAGEMENT

August 27, 2004

Mr. Kevin Anderson
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: 2004 Semiannual RCRA Groundwater Corrective Action Report
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

MWH is submitting this report on behalf of TPI Petroleum, Inc. (TPI) in accordance with the reporting requirements described in Section IV.E.5 of the Arkansas City facility's RCRA Permit for the period January 1, 2004 through June 30, 2004. The data included in this report includes results of the quarterly bioreactor influent stream monitoring and gradient demonstration monitoring, semiannual groundwater monitoring, and operations data for the groundwater recovery system and the Land Treatment Unit (LTU) soil vapor extraction (SVE) and air sparge (AS) system. The groundwater monitoring was conducted in accordance with the procedures presented in the approved Groundwater Sampling and Analysis Plan (SAP).

A site location map is included on Figure 1. A digital copy of this report is included on a CD-ROM disk in Attachment 1.

May 2004 Semiannual Groundwater Monitoring Event

The semiannnal sampling event was conducted between May 10 and May 12, 2004. The groundwater samples collected from the corrective action performance, supplemental information, and background monitor wells were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). TPI included analyses of methyl tert-butyl ether (MTBE), and tert-butyl alcohol (TBA) for this sampling event. Severn Trent Laboratories (STL) in Arvada, Colorado performed the sample analyses. The BTEX and MTBE analytical results and corresponding field data are summarized in Table 1. The field sampling data forms, field logs, and chain-of-custody forms for the sample event are included in Attachment 2. Analytical report Form I's are included in Attachment 3.

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Groundwater level measurements for the sample event are summarized on Table 2. The monitor well locations are shown on Figure 2. The May 10, 2004 groundwater potentiometric surface contours are shown on Figure 3. Figures 4 through 7 contain chemical concentration isopleth maps for benzene, toluene, ethylbenzene, and total xylenes, respectively.

The groundwater sampling event consisted of first measuring the depth to groundwater in each of the monitor wells to be sampled. The depth to water measurements and calculated groundwater elevations are summarized on Table 2. Well depths were measured on February 24, 2004 and following well development on March 25, 2004. The field forms included in Attachment 2 contain the groundwater level and well depth data. Dedicated bladder pumps were used to purge and sample the wells. Based upon the collected static groundwater level measurements, the groundwater flow direction was determined to be northeast. This groundwater flow direction is consistent with data previously collected at the facility.

One field blank and two trip blanks were collected during the sample event. The trip blanks were submitted to the laboratory for each sample day. These field quality assurance samples were analyzed for BTEX, MTBE, and TBA. The laboratory analytical reports are included in Attachment 3. No detections of BTEX, MTBE, or TBA constituents were found in the trip blanks. A low-level detection of toluene (1.1 ug/L) was found in the field blank collected at monitor well WN-7B, but this did not appear to have any impact on that day's samples. No other target constituents were detected in the field blank. Attachment 4 contains the analytical data validation report for the groundwater samples and blanks analyzed for the May 2004 semiannual monitoring event.

One duplicate sample was collected during the sample event. The sample labeled RCRA-MW-5 was a duplicate groundwater sample collected from monitor well MW-6 on May 11, 2003. All chemical analysis results are similar between the two samples collected from monitor well MW-6.

Quarterly Capture Zone Monitoring

Groundwater level and elevation data from the eight capture zone monitoring wells are summarized on Tables 3 and 4 for the January and May monitoring events, respectively. As is shown on the tables, the Permit-required head difference of 0.2 feet was met in each of the four well pairs during the quarterly monitoring events. Attachment 2 contains the water level gauging field forms for the two quarterly compliance demonstration monitoring events (January and May, 2004).

Quarterly Bioreactor Influent Sampling

The two groundwater influent lines to the bioreactor tank were sampled during the first and second quarters of 2004. The first quarter sample was originally collected on January 15, 2004. However, due to laboratory holding time exceedances, the first quarter samples were resampled on March 24, 2004. The second quarter samples were collected during the semiannual sampling event on May 12, 2004. The analytical results from these samples were flow-weighted according to their respective flow rates measured at the time of sampling. The influent flow and analytical data are summarized on Table 5. The field logbook entries for the quarterly bioreactor samples are included in Attachment 2. The laboratory analytical report Form I's are included in Attachment 3.

Groundwater Corrective Action: Recovery of Groundwater and Free Product

The groundwater and free product recovery systems functioned normally during the reporting period. Quantities of groundwater and free product recovered during the reporting period are summarized on Table 6 for the system as a whole and for each recovery well. Data for the recovery wells outside the waste management area boundary are also included on Table 6.

LTU Corrective Action System Monitoring

The LTU corrective action system is monitored weekly, monthly, and quarterly in accordance with the schedule and procedures established in the approved system Operation and Maintenance Plan (dated January 2003) and the Engineering Feasibility Plan. For the soil vapor extraction (SVE) system, weekly monitoring includes overall airflow, operational hours, influent concentrations of flammable gas, inlet vacuum, and inlet and outlet temperatures. SVE air samples are collected on a quarterly basis and submitted to STL in Pensacola, Florida for analysis of total volatile petroleum hydrocarbons (TVPH). For the air sparge (AS) system, weekly monitoring includes air sparge blower operational hours, outlet temperature, pressure, and airflow. The airflow at each air sparge well head is measured using a thermal anemometer. The air sparge well airflow monitoring is scheduled as quarterly monitoring. The fourth quarter 2003 monitoring was conducted on December 19, 2003 and the first airflow monitoring in 2004 was performed on April 2, 2004. The LTU monitoring data for the reporting period are summarized on Tables 7, 8, 9 and 10. The chain-of-custody forms for the SVE inlet air samples are included in Attachment 2, and the corresponding laboratory analytical report Form I's are included in Attachment 3.

Groundwater Corrective Action Well and Monitor Well Maintenance

Recovery well maintenance activities consisted of routine maintenance of product and groundwater pumps. Cost proposals were solicited in June 2004 to perform well treatment during July 2004 for recovery wells RW-50, RW-55, RW-60, RW-65, RW-70, and RW-75.

Monitor well maintenance performed during the first two quarters of 2004 included well development to reduce well screen occlusion by fine grained sediments in monitor wells WN-1B, WN-6B, WN-7B, MW-6, and CMW-4. Table 11 contains a summary of the monitor well depth information.

Please contact either Brenda Manterola, TPI at 210/345-4619 or me at 303/291-2262 if you have any questions or comments about the information presented in this report.

Sincerely,

MWH Americas, Inc.

Jay Mednick
Project Manager

Attachments: Tables 1-11, Figures 1 through 7, Attachments 1-4

Cc: Harold Green, TPI w/enc.
Brenda Manterola, TPI w/enc.
David Garrett, EPA Region 7 w/enc.

Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results May 11 & 12, 2004
TPI Petroleum, Inc. Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Sample ID						
		WN-1A	WN-1B	WN-5B	WN-6A	WN-6B	WN-7B	WN-8B
Field Measurements								
Sample Date		05/11/04	05/11/04	05/12/04	05/11/04	05/12/04	05/12/04	05/12/04
Groundwater Elevation (ft amsl)		1049.60	1049.64	1048.79	1048.04	1047.97	1049.23	1049.43
pH (standard units)		7.57	6.97	6.94	7.34	6.56	6.76	6.95
Conductivity @25°C (uS/cm)		1351	852	777	1256	995	848	786
Turbidity		None	None	None	None	None	None	None
Temperature °C		16.9	15.1	16.1	17.3	16.9	19.4	17.1
Laboratory Analyses								
Benzene (ug/L)	5	1.0 U	1.0 U	2.0 U	0.3 J	**56**	**260**	**55**
Toluene (ug/L)	1000	1.0 U	1.0 U	2.0 U	1.0 U	4.8	12	3.9 J
Ethylbenzene (ug/L)	700	1.0 U	1.0 U	0.32 J	1.0 U	0.73 J	2.7 J	1.9 J
Xylenes (total) (ug/L)	10000	2.0 U	2.0 U	4.00 U	2.0 U	6.4	21	11
MTBE (ug/L)**	20	5.0 U	5.0 U	10 U	5.0 U	10 U	17 U	10 U

MEASUREMENTS	Groundwater Protection Standard	Sample ID					
		RCRA-MW-5 (duplicate of MW-6)	MW-6	MW-12	MW-13	MW-17	RCRA-4
Field Measurements							
Sample Date		05/11/04	05/11/04	05/11/04	05/11/04	05/12/04	05/11/04
Groundwater Elevation (ft amsl)			1044.59	1040.22	1044.62	1048.56	1044.76
pH (standard units)			6.70	7.05	7.18	7.22	6.54
Conductivity @25°C (uS/cm)			1225	1000	1116	986	758
Turbidity			High	Very Slight	None	None	None
Temperature °C			16.7	18.2	16.7	19.6	14.6
Laboratory Analyses							
Benzene (ug/L)	5	**9500**	**10000**	1.2	1.0 U	1.0 U	1.0 U
Toluene (ug/L)	1000	130 J	150 J	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene (ug/L)	700	660	790	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total) (ug/L)	10000	4600	5900	2.0 U	2.0 U	2.0 U	2.0 U
MTBE (ug/L)**	20	1700 U	1700 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results May 11 & 12, 2004
TPI Petroleum, Inc. Arkansas City, Kansas

Notes:

U Indicates compound was analyzed for but not detected. Reporting limit shown.
J Indicates an estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).
BOLD Indicates positive detection equal to or above the groundwater protection standard.
"-" Indicates that the parameter was not measured or was not applicable.
Monitor wells WN-1A, WN-6A, WN-12, WN-13 are completed in the lower part of the alluvial aquifer. The other wells are completed at and below the water table in the upper part of the alluvial aquifer.
** KDHE Tier 2 Risk Based Standard - Residential Groundwater Pathway

Table 3 Quarterly Groundwater Capture Zone Compliance Monitoring - January 14, 2004
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1/14/2004	10:38	1063.73	27.92	1035.81	**1.48**	185	RW-35
	CMW-1	1/14/2004	10:45	1059.71	22.42	1037.29		120	RW-40
2	113	1/14/2004	10:42	1072.25	35.43	1036.82	**0.55**	80	RW-45
	CMW-2	1/14/2004	10:46	1061.74	24.37	1037.37		45	RW-50
								20	RW-55
3	118	1/14/2004	11:02	1070.69	31.79	1038.90	**0.21**	120	RW-60
	CMW-3	1/14/2004	10:50	1060.13	21.02	1039.11		100	RW-65
4	MW-1002	1/14/2004	10:55	1072.12	32.08	1040.04	**0.21**	85	RW-70
	CMW-4	1/14/2004	10:53	1058.27	18.02	1040.25		5	RW-75
								50	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								810	

Notes:

1. A positive head difference indicates groundwater capture.
   Permit Criteria = or > 0.2 feet head difference.

Monitoring results demonstrate permit compliance.

Table 4 Quarterly Groundwater Capture Zone Compliance Monitoring - May 10, 2004
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	5/10/2004	8:08	1063.73	25.74	1037.99	**1.66**	180	RW-35
	CMW-1	5/10/2004	8:15	1059.71	20.06	1039.65		120	RW-40
2	113	5/10/2004	8:12	1072.25	33.21	1039.04	**0.55**	80	RW-45
	CMW-2	5/10/2004	8:18	1061.74	22.15	1039.59		55	RW-50
								20	RW-55
3	118	5/10/2004	8:32	1070.69	29.70	1040.99	**0.20**	200	RW-60
	CMW-3	5/10/2004	8:20	1060.13	18.94	1041.19		90	RW-65
4	MW-1002	5/10/2004	8:25	1072.12	29.80	1042.32	**0.20**	45	RW-70
	CMW-4	5/10/2004	8:22	1058.27	15.75	1042.52		5	RW-75
								15	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								810	

Notes:

1. A positive head difference indicates groundwater capture.
   Permit Criteria = or > 0.2 feet head difference.

Monitoring results demonstrate permit compliance.

Table 5 Summary of Quarterly Bioreactor Influent Sampling Results
TPI Petroleum, Inc. Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Influent Water Sample	
		1st Quarter Bioreactor	2nd Quarter Bioreactor
Field Measurements			
Sample Date		03/24/04	05/12/04
Total Flow (gpm)		1350	1410
Laboratory Analyses*			
Benzene (ug/L)	5	**106**	**135**
Toluene (ug/L)	1000	1.9	2.0 J
Ethylbenzene (ug/L)	700	6	6.4
Xylenes (total) (ug/L)	10000	16	18
MTBE (ug/L)**	20	11	7.2

Notes:

U Indicates compound was analyzed for but not detected. Reporting limit shown.
J Indicates an estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).
gpm Indicates gallons per minute measured at the bioreactor influent flow meters.
ug/L Indicates micrograms per liter.

* Results represent flow-weighted averages of the influent samples collected from the east and west influent lines.
** KDHE Tier 2 Risk Based Standard - Residential Groundwater Pathway

MWH

August 18, 2004

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BUREAU OF WASTE MANAGEMENT

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section
KDHE Bureau of Waste Mauagement
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Notification of Recovery Well Replacement & Gradient Reversal Demonstration
TPI Petroleum, Inc. Arkansas City, Kansas
EPA Identification Number: KSD 087418695

Dear Mr. Anderson,

MWH is submitting this notification on behalf of TPI Petroleum, Inc. in accordance with the Hazardous Waste Management Facility Permit (Permit), Part 1, Section IV.C.5.d. As we discussed previously, groundwater corrective action recovery well RW-50 was turned off on August 4, 2004 due to a well casing failure which resulted in gravel pack flowing into the well. Two Kansas licensed water well drilling companies were immediately contacted and cost and availability quotes were requested to replace the recovery well. Layne-Western of Wichita, Kansas was selected to replace recovery well RW-50. Layne-Western is planning on mobilizing to Arkansas City on Monday, August 23 and will setup the drill rig and install a temporary 10-foot long (deep) surface conductor casing on Tuesday, August 24. The well drilling should begin on Wednesday, August 25. The well construction and well development should be completed Friday, August 27 or Saturday, August 28.

If the well screen does not arrive Friday, August 20, the schedule may slip some. I will check with Layne-Western on Friday, August 20 to see if the well screen arrived and update you with any changes in schedule this Friday or next Monday.

Permit Section IV.C.5.c states all wells deleted from the recovery and treatment system be plugged and abandoned in accordance with Kansas regulatory requirements. TPI requests permission to maintain the former recovery well RW-50 as a groundwater elevation monitoring well and rename the well as RW-50(OBS).

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TPI monitored the groundwater levels in the eight capture zone monitoring wells on Friday August 13 to verify gradient reversal. The Permit required head difference criteria was achieved in all four capture zone monitoring well pairs satisfying the condition specified in Permit Section IV.C.2.e. The table summarizing the groundwater level measurements is attached.

If you have any questions about the attached information, please contact either Brenda Manterola of Valero Energy Corporation at 210/345-4619 or me at 303/291-2262.

Sincerely,

MWH Americas, Inc.

Jay Mednick

Attachment

cc: Brenda Manterola, Valero
Harold Green, Valero
Kathy Dunn, KDHE
John DeLashmit, USEPA

Groundwater Capture Zone Compliance Monitoring - August 13, 2004
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	8/13/2004	8:26	1063.73	25.53	1038.20	**1.38**	180	RW-35
	CMW-1	8/13/2004	8:00	1059.71	20.13	1039.58		100	RW-40
2	113	8/13/2004	8:18	1072.25	33.35	1038.90	**0.44**	80	RW-45
	CMW-2	8/13/2004	7:58	1061.74	22.40	1039.34		0	RW-50
								105	RW-55
3	118	8/13/2004	8:33	1070.69	31.32	1039.37	**0.20**	195	RW-60
	CMW-3	8/13/2004	8:30	1060.13	20.56	1039.57		210	RW-65
4	MW-1002	8/13/2004	8:06	1072.12	31.47	1040.65	**0.41**	150	RW-70
	CMW-4	8/13/2004	7:50	1058.27	17.21	1041.06		50	RW-75
								25	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								1095	

Notes:

1. A positive head difference indicates groundwater capture.
   Permit Criteria = or > 0.2 feet head difference.

Recovery well RW-50 was turned off 8/4/04.
Monitoring results demonstrate permit compliance.

K A N S A S

RODERICK L. BREMBY, SECRETARY

DEPARTMENT OF HEALTH AND ENVIRONMENT

KATHLEEN SEBELIUS, GOVERNOR

August 11, 2004

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 6060000
San Antonio, TX 78269-6000

Re: TPI Petroleum - Arkansas City Recovery Well RW-50 Status
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

On August 6, 2004, the Kansas Department of Health and Environment (KDHE) received a notification from Jay Mednick of MWH on behalf of TPI, regarding a potential non-compliance in accordance with the Permit Condition I.E.11, and requesting a 30-day waiver of the applicable Permit Conditions. Jay Mednick informed KDHE of the failure, shut down, and replacement of the recovery well RW-50. As acknowledged in the above notification, the failure of RW-50 could result in non-compliance with Permit Condition IV.C.2.c.

The notification outlined well replacement techniques to be used and an estimated timeline of three weeks to have the replacement well in place. Three weeks time to complete the work should be adequate for controlling a potential release to the Walnut River. Mr. Mednick indicated the pumping rates of the adjacent wells were increased to compensate for the shutdown. KDHE recommends continuing the increased rate of water extraction from adjacent wells during the well replacement.

In accordance with Permit Condition IV.C.2.e, if any well fails to operate for greater than seven (7) days and gradient reversal cannot be demonstrated, the Permittee is required to implement Permit Condition IV.C.2.e (i-vi). According to the requirements in Permit Conditions IV.C.2.e (i-vi), if gradient reversal is not achieved within 28 days, well sampling is to begin at monitoring wells CMW-1, CMW-2, CMW-3, and CMW-4 for BTEX constituents. If gradient reversal is not achieved within 60 days, the Corrective Action Contingency Plan shall be implemented.

The new well must be inspected and maintained according to Permit Conditions IV.C.4. In addition, the well replacement activities and demonstration of gradient reversal must be included as a part of the Semi-Annual Groundwater Report as required by Permit Condition IV.E.

The notification asked for a temporary 30-day waiver of applicable Permit Conditions. Provided the above timeframe and tasks are met, no waiver of the Permit Conditions will be necessary. If there are questions with regard to this letter or applicable Permit Conditions to this notification, please contact Kevin Anderson at (785) 291-3760. Please feel free to contact me at (785) 296-1609. Your continued cooperation with KDHE is appreciated.

Sincerely,

Mostafa Kamal, PE, CPM
Chief, Hazardous Waste Permits Section
Bureau of Waste Management

cc: Mark Bradbury- SCDO/DEA/Waste Programs
John Delashmit- EPA Region 7/RCAP Branch
Tina Lowery-EPA Region 7/RCAP Branch
William Bider- BWM
Joseph Mednick- MWH

MWH

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MAY 2 0 2004

BUREAU OF WASTE MANAGEMENT

May 19, 2004

Kevin Anderson
Environmental Scientist, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Response to KDHE Comments
2003 Annual Groundwater Report
2003 Annual Land Treatment Unit Soil Sampling Report
TPI Petroleum, Inc. - Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

This letter is a response to your April 6, 2004 comment letter regarding the subject reports, which were submitted by EnecoTech on behalf of TPI Petroleum, Inc. (TPI) on March 1, 2004 for the above-referenced site.

Comment #1: *Page 3-4. How will well redevelopment of recovery well RW-35 be completed? Please comment on how this will be done, or reference the Part B Permit Application Operations and Maintenance Section.*

Response #1:
The well screen on recovery well RW-35 failed on April 25, 2003. A replacement recovery well was installed adjacent to the original RW-35 location. The replacement recovery well was named RW-35 and the original well was renamed as RW-35(OBS) and is used as a groundwater level monitoring point. There are no plans to redevelop RW-35(OBS) since it is used solely for groundwater level monitoring.

Comment #2: *Page 3-4. Replacement pages for the Part B Permit Application must be submitted for monitoring well MW-17 and recovery well RW-35, which includes maps with surveyed locations of the wells. Additionally, KDHE must be notified 5 days prior to construction work on wells, and a copy of the abandonment form must be submitted 30 days after abandoned wells are plugged (Permit Conditions IV.D.5.a., IV.D.5.b., and IV.D.5.d.).*

Response #2: Recovery well RW-35 failed on April 28, 2003 during the installation of recovery wells RW-11, 21, 31, and 33. On April 29, following evaluation of the situation, which recognized the availability of the drilling contractor who was onsite with the appropriate well construction materials, the drilling contractor was directed to construct a replacement recovery well for RW-35. This was not a planned event and advance notice was not possible in this case. KDHE was notified

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80202

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Fax: 303 291-2221

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by EnecoTech of the well replacement on May 2, 2003. Because the original recovery well was still useful for monitoring purposes, it was left intact and renamed RW-35(OBS). Therefore, no plugging was conducted. A replacement well construction diagram was included in the semiannual groundwater monitoring report. A separate replacement page for the recovery well system operation and maintenance plan is also included with this letter.

A contractor accidentally damaged monitor well MW-17 in July 2003. Notification of replacement was made to the KDHE. The well was re-constructed on September 18, 2003, and the original monitor well was plugged and abaudoned in accordance with KDHE regulations. The required Part B Permit application pages aud Kansas Forms WWC-5P and WWC-5 were submitted to the KDHE on October 30, 2003.

The well location maps have not changed since the replacement well locations (RW-35 and MW-17) are less than 20 feet from the original location. This offset would not be discernable on the map at the scale used in the Part B documents.

Comment # 3: *Page 3-5. The text states "Wells RW-11, RW-21, RW-31, and RW-33 are not RCRA"; however, these wells are RCRA wells under Part II of Permit. Please strike the reference that the wells are not RCRA wells from the text.*

Response #3: A revised Page 3-5 is attached to this letter.

Comment #4: *Table 1. This Table needs to be added to Part B of the Permit Application. The Sampling and Analysis Plan should be updated to include the latest version of the Table. Please submit the replacement pages.*

Response #4: A replacement page containing a revised Table 1 for the Part B Appendix P sampling and analysis plan, was submitted to KDHE on October 30, 2003 with the monitor well MW-17 construction data. A copy of this table is iucluded with this response.

Comment #5: *Figure 1 is a Michigan Refinery. Please supply an appropriate map of the TPI Petroleum Inc, Arkansas City facility for this report.*

Response #5: TPI regrets that an incorrect site location map was inadvertently included in KDHE's copy of the 2003 Groundwater Monitoring Report. The electronic file included in Appendix E of that report has the correct figure. TPI has attached a replacement report page containing the correct figure.

Comment #6: *The trend graphs of each BTEX constituent may be combined into one graph for each well, thus reducing the amount of paper needed in the report. KDHE suggests making an inset of the table on the same page as the graph, removing gridlines, inserting an MCL line (for benzene), and using two lines for the x axis labels (one line for the quarter and one line for the year). The y axis scale should be the same for all wells. An axis break may be inserted in case of out of unusual (large) constituent results. It is unnecessary to redo the graphs in this report, but KDHE would appreciate the graphs be combined in future reports.*

Response #6: TPI will combine the trend graphs for the next annual report. TPI may have to vary the y-axis scale depending upon the monitor well depicted. However, TPI will minimize the variation in y-axis scales to provide a more consistent scale for relative comparison of the groundwater analytical data.

Comment #7: *Table 2. Detection limits at several sample grid point for volatile and semi volatile constituent: 1,2-Dichloroethane, 1.2-Dichloroethene, 1,4-Dioxane, 1,2-Dibromoethane, Tetrachloroethene, Trichloroethene, 2,4-Dinitrotoluene, Nitrobenzene, and Pyridine were considerably above the established criteria. It is unknown whether or not these constituents are actually below their respective criteria. The facility must provide an explanation for the detection limits used for the sampling event. Please denote these constituents in bold and resubmit Table 2 replacement pages.*

Response #7: The "U" flagged data on Table 2 are the method reporting level for the respective analytical test. Elevated reporting levels are the result of the laboratory diluting the samples to stay within the instrument calibration range. The LTU closure plan does list target reporting levels or Practical Quantitation Level's (PQLs) and states that the PQL's are subject to increases caused by matrix interference. TPI is in the process of developing cleanup goals through the RFI/CMS process. These cleanup goals are more applicable to the LTU than the criteria presented on Table 2. Therefore, to prevent confusion, we are resubmitting a revised Table 2 without the criteria comparison. Future reports will describe the data in the context of the cleanup goals for this unit once they have been approved by EPA & KDHE.

If you have any questions regarding this information, please contact Ms. Brenda Manterola, TPI Petroleum, Inc. at (210) 345-4619 or me at (303) 291-2262.

Sincerely,

MWH Americas, Inc.

Jay Mednick
Project Manager

Attachments

cc: Brenda Manterola, TPI
Harold Green, TPI
John DeLashmit, USEPA Region 7
Rob Franke, RBA

MWH

April 28, 2004

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BUREAU OF WASTE MANAGEMENT

Kevin Anderson
Environmental Scientist
Corrective Actions Unit
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Well Development Summary and Semiannual Groundwater Monitoring Event
TPI Petroleum, Inc. - Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

This letter is to update the KDHE on monitor well development activities conducted by EnecoTech Inc. on behalf of TPI Petroleum, Inc. (TPI) on March 25, 2004. The well development activities were conducted in accordance with Section IV.D.3.d of the facility's RCRA permit, which requires that wells demonstrating greater than 10% occlusion be developed prior to the next scheduled sampling event. February 2004 total depth data showed that one monitor well, WN-6B, had screen occlusion of approximately 14.0%. All other corrective action monitoring network wells showed acceptable total depths.

Table 1 summarizes the total depth data collected on February 24, 2004 (prior to development) and on March 25, 2004 (subsequent to development). As the result of development, the well screen occlusion in WN-6B was reduced to 7.5%. Field staff utilized a Brainard-Kilman inertial-type hand pump to disturb and remove sediment from the wells. As a preventive maintenance step, development was also attempted in several other wells, including WN-1B, WN-7B, MW-6, and CMW-4. These results are summarized on Table 1.

TPI is planning to conduct the spring 2004 semiannual groundwater sampling between May 11 and 13, 2004. Sitewide water level gauging will be conducted on May 10, 2004.

If you have any questions regarding these activities, please contact Ms. Brenda Manterola, of TPI at (210) 345-4619 or me at (303) 291-2262.

Sincerely,

MWH Americas, Inc.

Jay Mednick
Project Manager

Attachment: Table 1

cc: Katherine Dunn, KDHE
Harold Green, TPI
Brenda Manterola, TPI

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Suite 2900
Denver, Colorado
80202

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Fax: 303 291-2180

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Table 1 Summary of Groundwater Monitoring Well Total Depth and Screen Occlusion Data Before and After March 2004 Development Activities TPI Petroleum, Inc. Arkansas City, Kansas

Well ID	Baseline Total Depth (ft btoc)	Screen Length (feet)	Total Depth on Feb. 24, 2004 (ft btoc)	Percent Screen Silted[1] Feb. 24, 2004	Total Depth on March 25, 2004 (ft btoc)	Percent Screen Silted[1] March 25, 2004
WN-1A	44.42	15	44.42*	0.0%	--	--
WN-1B	31.14	15	30.00	7.6%	30.02	7.5%
WN-5B	27.04	15	26.96	0.5%	--	--
WN-6A	44.93	15	44.92	0.1%	--	--
WN-6B	29.95	15	27.85	14.0%	28.83	7.5%
WN-7B	32.52	15	31.68	5.6%	31.68	5.6%
WN-8B	32.53	15	32.48	0.3%	--	--
MW-6	25.14	9.6	24.54	6.3%	24.84	3.1%
MW-12	48.77	9.73	48.50	2.8%	--	--
MW-13	37.90	9.76	37.81	0.9%	--	--
MW-17	34.70	17.5	34.53	1.0%	--	--
RCRA-4	24.23	15	23.95	1.9%	--	--
CMW-1	31.44	5	31.35	1.8%	--	--
CMW-2	35.15	5	35.04	2.2%	--	--
CMW-3	33.73	5	33.45	5.6%	--	--
CMW-4	31.77	5	31.55	4.4%	31.55	4.4%
RCRA-7	46.04	10	45.94	1.0%	--	--
118	46.43	7.5	46.43	0.0%	--	--
113	52.06	10	51.99	0.7%	--	--
MW-1002	50.82	10	50.77	0.5%	--	--

1 = Section IV.D.3.d. of the RCRA Permit requires wells to be redeveloped to remove sediment when more than 10% of the screened length is occluded.

ft btoc = feet below top of casing.

* Actual measured depth was 44.83 ft. below top of casing. This is greater than the previously established total depth. It is assumed that the February 24, 2004 data is slightly errant. This will be confirmed when the total depths are measured during the Spring 2004 semiannual sample event.

"--" = these wells were not developed. Depth data not collected at this time.

Development activities were conducted by EnecoTech Inc. personnel on March 25, 2004 using a Brainard-Kilman inertial pump to remove sediment from the wells.

K A N S A S

RODERICK L. BREMBY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

DEPARTMENT OF HEALTH AND ENVIRONMENT

April 6, 2004

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 6060000
San Antonio, TX 78269-6000

Re: Comments on 2003 Annual Groundwater Monitoring Report
Comments on 2003 LTU Sampling Report
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

The Kansas Department of Health and Environment (KDHE) has reviewed the 2003 Annual Groundwater Monitoring Report and the 2003 Land Treatment Unit Sampling Report for the above referenced in Arkansas City, KS. Please address the following comments:

2003 Annual Groundwater Monitoring Report

1. Page 3-4. How will well redevelopment of recovery well RW-35 be completed? Please comment on how this will be done, or reference the Part B Application Operations and Maintenance Section.

2. Page 3-4. Replacement pages for the Part B Application must to be submitted for monitoring well MW-17 and recovery well RW-35, which includes maps with surveyed locations of the wells. Additionally, KDHE must be notified days prior to construction work on wells, and a copy of the abandonment form must be submitted 30 days after abandoned wells are plugged (Permit Conditions IV.D.5.a., IV.D.5.b., and IV.D.5.d.).

3. Page 3-5. The text states "Wells RW-11, RW-21, RW-31, and RW-33 are not RCRA"; however, these wells are RCRA wells under Part II of Permit. Please strike the reference that the wells are not RCRA wells from the text.

4. Table 1. This Table needs to be added to Part B of the Permit Application. The Sampling and Analysis Plan should be updated to include the latest version of the Table. Please submit the

replacement pages.

5. Figure 1 is a Michigan refinery. Please supply an appropriate map of the TPI Petroleum Inc. Arkansas City facility for this report.

6. The trend graphs of each BTEX constituent may be combined into one graph for each well, thus reducing the amount of paper needed in the report. KDHE suggests making an inset of the table on the same page as the graph, removing gridlines, inserting an MCL line (for benzene), and using two lines for the x axis labels (one line for the quarter and one line for the year). The y axis scale should be the same for all wells. An axis break may be inserted in case of out of unusual (large) constituent results. It is unnecessary to redo the graphs in this report, but KDHE would appreciate the graphs be combined in future reports.

2003 Land Treatment Unit Sampling Report

7. Table 2. Detection limits at several sample grid points for volatile and semi volatile constituents: 1,2-Dichloroethane, 1,2-Dichloroethene, 1,4-Dioxane, 1,2-Dibromoethane, Tetrachloroethene, Trichlorethene, 2,4-Dinitritoluene, Nitrobenzene, and Pyridine were considerably above the established criteria. It is unknown whether or not these constituents are actually below their respective criteria. The facility must provide an explanation for the detection limits used for the sampling event. Please denote these constituents in **bold** and resubmit Table 2 replacement pages.

Please respond in writing to the comments by May 5, 2004. If there are any questions, please contact me at (785) 291-3760 or email me at kanderso@state.ks.us.

Respectfully yours,

Kevin M. Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Cc: Mark Bradbury- SCDO/DEA/Waste Programs
John Delashmit- EPA Region 7/RCAP Branch
Tina Lowery-EPA Region 7/RCAP Branch
William Bider- Director BWM
Jeb Smith-Eneco Tech

EnecoTech Inc.
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Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

EnecoTech
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March 1, 2004

01-0138R018

Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

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BUREAU OF WASTE MANAGEMENT

Re: 2003 Annual RCRA Groundwater Report
TPI Petroleum, Inc. - Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Ms. Dunn:

Please find enclosed the TPI Petroleum, Inc. Arkansas City Refinery Annual RCRA Groundwater Report for 2003. An electronic copy of the report is included on the CD-ROM included in Appendix E. This report has been prepared in accordance with the above referenced RCRA permit.

If you have any questions regarding this report, please contact Ms. Brenda Manterola of Valero Energy Corporation at (210) 592-4619 or me at (303) 861-2200.

Sincerely,

ENECOTECH INC.

Jed Smith

Jed Smith, P.E.
Project Manager

Enclosure:

cc: Brenda Manterola, Valero
Harold Green, Valero
John DeLashmit, USEPA Region 7

EnecoTech Inc.
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March 1, 2004

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01-0138R018

Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: 2003 Annual Land Treatment Unit Sampling Report
TPI Petroleum, Inc. Arkansas City, Kansas
Permit No.: KSD087418695

Dear Ms. Dunn:

This report documents the results of the Land Treatment Unit (LTU) soil core sampling conducted at the TPI Petroleum, Inc. (TPI) Arkansas City, Kansas facility in October 2003. The soil core sampling was conducted as described in the LTU closure plan.

Site Description

The refinery is located near the southeast corner of Arkansas City in the southwest 1/4 of Section 32, Township 34 South, Range 4 East and the NW 1/4 of Section 5, Township 35 South, Range 4 East in southwestern Cowley County, Kansas. The refinery is located at the confluence of the Arkansas and Walnut Rivers. It is located on flat lying alluvium soils and sediments. Most of the land around the refinery is cultivated for growing wheat and grain sorghum. The LTU is located in the southern portion of the refinery property. Figure 1 shows the location of the LTU.

The LTU consists of a 3.85-acre soil plot. The LTU is divided into two (2) subplots separated by a roadway. Plot A (the northern portion) is 2.22 acres in area while Plot B (the southern portion) consists of 1.63 acres. The LTU can be divided vertically into a zone of waste incorporation, a treatment zone (TZ), and the area below the treatment zone (BTZ). The dimensions (depth), relative to the initial soil surface, of the TZ and the unsaturated monitoring zone are as follows:

- The zone of waste incorporation is a maximum of 10 inches from the initial soil surface.
- The treatment zone is a maximum of 4.5 feet from the initial soil surface.

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- The unsaturated soil core samples representing BTZ conditions have historically been collected from a depth of 4.5 to 5 feet below the initial land surface as specified in the RCRA Operating Permit.

Sample Collection

Soil boring locations were selected utilizing random grid sampling methodology. The closure plan specifies a grid interval of 20 feet between grid nodes for sampling at the LTU. The area to be gridded was constructed so as to generally fit the interior perimeter of the unit as shown on Figure 2. All grid nodes are sequentially numbered from one to 390. The calculation for the number of sample points is described in the closure plan as the cube root of the number of grid nodes. The number of sample points was calculated to be seven. Prior to the sampling event, a spreadsheet with a random number generating feature was used to determine the seven grid points to be sampled.

At each location, the soil borings were advanced using a direct push (Geoprobe) sampling technique after initial decontamination of the equipment. Within the LTU treatment zone, two samples were collected, one in the upper 1-foot interval and one in the lower portion (3 to 3.5 feet) of the treatment zone. Two samples were collected below the treatment zone, one at 4.5 to 5 feet below the ground surface and another at 8.5 to 9 feet below the ground surface.

Equipment decontamination and quality assurance/quality control procedures were followed as described in the LTU closure plan. All samples were submitted to the laboratory using the appropriate chain-of-custody protocols.

The 2003 sampling event was conducted on October 29, 2003. Table 1 provides a summary of the sampling information, including the sample date, sampling technique, and laboratory analyses requested for the 2003 sampling event. Figure 3 shows the respective LTU sampling locations.

Following the soil sampling, the boreholes were backfilled with bentonite. The LTU soil samples were placed on ice for transport to Severn Trent Laboratories (STL), Inc. – Denver, Colorado. STL Denver performed all analyses except Cation Exchange Capacity, which was performed at Severn Trent Laboratories, Inc. – Burlington, Vermont.

Analytical Results

The laboratory results for the 2003 sampling event are summarized in this report on Table 2. Laboratory Form 1's and chain-of-custody forms for the 2003 sampling event are included in Attachment 1. Attachment 2 contains a summary of the analytical data validation. Data quality flags have been assigned by the laboratory and were retained or adjusted as necessary during the data validation process.

As anticipated, metals, volatile organic compound (VOC) and semivolatile organic compound (SVOC) impacts to the LTU soils were generally located in and just below the treatment zone (3'-3.5' and 4.5'-5' sample depths). Elevated concentrations of lead were found in both zones at the same three sample grid locations (Locations 127, 159, and 183). VOC detections were generally limited to benzene, toluene, ethylbenzene and xylenes (BTEX) and the trimethybenzenes. SVOC detections were varied, and mainly included anthracene, benzo(a)anthracene, benzo(b)flouranthene, benzo(a)pyrene, dibenz(a,h)anthracene, fluorathene, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene.

Samples having concentrations of organic constituents that exceed their respective Tier II Risk-Based Standards for Kansas (RSK) for the non-residential area soil-to-groundwater pathway, are highlighted with bold typeface in Table 2. With respect to the VOCs, benzene was detected at concentrations exceeding its RSK value in the 3'-3.5' interval (four samples) and the 4.5'-5' interval (four samples). Carbon disulfide was detected above its RSK in the 3'-3.5' interval (two locations) and in the 4.5'-5' interval (three locations).

With respect to SVOCs, chrysene was detected above its RSK value in the 3'-3.5' interval (three locations) and the 4.5'-5' interval (four locations). Elevated chrysene concentrations below the RSK were also detected in six additional samples from these same intervals. Indeno(1,2,3-cd)pyrene was deteced above its RSK value in the 3'-3.5' interval (four locations) and the 4.5'-5' interval (three locations).

The development of the RSK values described above incorporated some conservative assumptions about leachate migration to groundwater. These assumptions include:

- Soil contamination extends from the surface to the groundwater table;
- There is no chemical or biological degradation in the unsaturated zone;
- There is no attenuation of constituents in the aquifer; and,
- The receptor well is at the source area and screened within the plume.

The specific site information does not conform to these assumptions, since the soil contamination does not extend to the groundwater table and there are no receptor wells at the source area. Based upon these

two assumptions alone, the Tier II RSK values are very conservative. This data will be evaluated further during subsequent phases of LTU closure.

The KDHE Tier II RSK values do not contain soil-to-groundwater values for metals or cyanide at the present time. To assess these inorganic results, the data was compared to the USEPA soil screening levels (SSL) to assess the migration to groundwater pathway. In the absence of a SSL the data is compared to the USEPA preliminary remediation goals (PRGs) for industrial soil. SSLs were published for all of the inorganics in the target constituent list with the exception of chromium (III), cyanide, lead and mercury. Therefore, the PRGs for chromium (III), cyanide, and lead were utilized. For mercury, the KDHE Tier II RSK value for non-residential soil was used, since an industrial soil PRG has not been published for total mercury.

All samples with inorganic concentrations above their respective SSLs, PRGs, or Tier II RSKs, are denoted in bold typeface on Table 2. To summarize the inorganic results, the lead PRG (750 mg/kg) was exceeded at three grid locations (127, 159, and 183) in both the 3'-3.5' and 4.5'-5' depth intervals. Antimony was detected in one sample (Location 127, 3'-3.5' interval) at a concentration slightly above its SSL of 5 mg/kg. The SSLs and PRGs are used only for comparison and do not necessarily reflect action levels for this unit.

If you have any questions about this report please contact either Ms. Brenda Manterola of Valero Energy Corporation at (210) 592-4619 or me at (303) 861-2200 x129.

Sincerely,
ENECOTECH INC.

Jed Smith, P.E.
Project Manager

Attachments: Figures, Tables, Attachments 1 & 2

cc: John DeLashmit, EPA Region VII
Brenda Manterola, Valero
Harold Green, Valero
Rob Franke, RBA

N:\ARKCITY\138R014\005\2003 LTU Report\Draft 2003 ltu annual report.doc

OMB#: 2050-0024, Expires 10/31/2005

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BUREAU OF WASTE MANAGEMENT

MAIL THE COMPLETED FORM TO: The appropriate EPA Regional or State Office.

United States Environmental Protection Agency

RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal (see instructions on page 9)

MARK ALL BOX(ES) THAT APPLY

A. Reason for Submittal:

- ☐ To provide initial notification (to obtain an EPA ID Number for hazardous waste, universal waste or used oil activities).
- ☐ To provide subsequent notification (to update site identification information).
- ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application.
- ☐ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #)
- ☒ As a component of Hazardous Waste Report.

2. Site EPA ID Number (see instructions on page 10)

EPA ID Number: KSD087418695

3. SiteName (see instructions on page 11)

Site Name: TPI Petroleum, Inc. Ark City Refinery

4. Site Location Information (see instructions on page 10)

Street Address: 1400 South M. Street

City, Town or Village: Arkansas City | State: KS

County Name: COWLEY | Zip Code: 67005

5. Site Land Type (see instructions on page 10)

Site Land Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other

6. North American Industry Classification System (NAICS) Code(s) for the Site (see instructions on page 10)

A. 32410 (INACTIVE) | B.

C. | D.

7. Site Mailing Address (see instructions on page 11)

Street or P.O. Box: 1400 South M. Street

City, Town or Village: Arkansas City

State: KS | Zip Code: 67005

Country: UNITED STATES

8. Site Contact Person (see instructions on page 11)

First Name: Brenda | MI: B | Last Name: Manterola

Phone Number: 2103454619 | Extension: 4619 | Email Address: brenda.manterola@valero.com

9. Operator and Legal Owner of the Site (see instructions on page 11 and 12)

Name of Site's Operator: TPI Petroleum, Inc. | Date Became Operator (mm/dd/yyyy): 01/01/1998

Operator Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other

Name of Site's Legal Owner: TPI Petroleum, Inc. | Date Became Owner (mm/dd/yyyy): 01/01/1998

Owner Type: ☒ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other

EPA ID NO: KSD 087 418 695

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BUREAU OF WASTE MANAGEMENT

9. Legal Owner (Continued) Address	Street or P. O. Box:	1400 SOUTH M. STREET	
	City, Town, or Village:	ARKANSAS CITY	
	State:	KS	Zip Code: 67005
	Country:	UNITED STATES	

10. Type of Regulated Waste Activity
Mark "Yes" or "No" for all activities; complete any additional boxes as instructed. (See instructions on pages 11 to 15.)

A. Hazardous Waste Activities
Complete all parts for 1 through 6.

Y ☒ N ☐ 1. Generator of Hazardous Waste
If "Yes", choose only one of the following - a, b, or c.

☒ a. LQG: Greater than 1,000 kg./mo. (2,200 lbs./mo.) of non-acute hazardous waste; or

☐ b1. KSG sub class 1: 100 to 1,000 kg./mo. (220 - 2,200 lbs./mo.) of non-acute hazardous waste; or

☐ b2. KSG sub class 2: 25 to less than 100 kg./mo. (55-220 lbs./mo.) of non-acute hazardous waste; or

☐ c. KSSQG: Less than 25 kg./mo. (55 lbs./mo.) of non-acute hazardous waste

In addition, indicate other generator activities.

Y ☐ N ☒ d. United States Importer of Hazardous Waste

Y ☐ N ☒ e. Mixed Waste (hazardous and radioactive) Generator

Y ☐ N ☒ 2. Transporter of Hazardous Waste

Y ☐ N ☒ 3. Treater, Storer, or Disposer of Hazardous Waste (at your site) Note: A hazardous waste permit is required fo this activity.

Y ☐ N ☒ 4. Recycler of Hazardous Waste (at you site) Note: a permit may be required

Y ☐ N ☒ 5. Exempt Boiler and/or Industrial Furnace
If "Yes", mark each that applies.
☐ a. Small Quantity On-site Burner Exemption
☐ b. Smelting, Melting, and Refining Furnace Exemption

Y ☐ N ☒ 6. Underground Injection Control

B. Universal Waste Activities

Y ☐ N ☒ 1. Large Quantity Handler of Universal Waste (accumulate 5,000 kg or more) [refer to Kansas regulations to determine what is regulated]. Indicate types of universal waste generated and/or accumulated at your site. If "Yes", mark all boxes that apply:

	Generate	Accumulate
a. Batteries	☐	☐
b. Pesticides	☐	☐
c. Thermostats	☐	☐
d. Lamps	☐	☐
e. Other (specify) _____	☐	☐
f. Other (specify) _____	☐	☐
g. Other (specify) _____	☐	☐

Y ☐ N ☒ 2. Destination Facility for Universal Waste
Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities
Mark all boxes that apply.

Y ☐ N ☒ 1. Used Oil Transporter
If "Yes", mark each that applies.
☐ a. Transporter
☐ b. Transfer Facility

Y ☐ N ☒ 2. Used Oil Processor and/or Re-ref
If "Yes", mark each that applies.
☐ a. Processor
☐ b. Re-refiner

Y ☐ N ☒ 3. Off-Specification Used Oil Burne

Y ☐ N ☒ 4. Used Oil Fuel Marketer
If "Yes", mark each that applies
☐ a. Marketer Who Directs Ship Off-Specification Used Oil
Off-Specification Used Oil
☐ b. Marketer Who First Claims Used Oil Meets the Specif

EPA ID No. KSD087418695

11. Description of Hazardous Wastes (see instructions on page 16)

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

F037	K050					

B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-regulated hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if needed for more waste codes.

12. Comments (see instructions on page 17)

The Ark City Refinery is an inactive refinery that is undergoing closure. Wastes generated in 2003 were a result of cleaning and closure activities and not manufacturing.

RECEIVED
FEB 17 2004
BUREAU OF WASTE MANAGEMENT

13. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons direcly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (see instructions on page 17)

Signature of owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
BBManterola	Brenda B Manterola, Manager	02/12/2004

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
2003 Hazardous Waste Report
MONITORING FEES

FORM MF

Pd 4-2.

Site Location Address:

KSD087418695
TPI PETROLEUM
1400 S M ST
ARKANSAS CITY, KS 67005

Site Mailing Address:

KSD087418695
BRENDA B MANTEROLA
TPI PETROLEUM
1400 S M ST
ARKANSAS CITY, KS 67005

WHO MUST COMPLETE THIS FORM? Every "EPA generator" must complete this form.

INSTRUCTIONS: Kansas Administrative Regulation 28-31-10(g) requires that hazardous waste generators of regulated quantities pay an annual monitoring fee for the total quantity of hazardous waste generated during each calendar year. This form should be submitted before March 1, 2004. Please return this form along with a check made payable to: **"KDHE - BWM"** for the quantity of waste subject to the monitoring fee.

EXEMPTION: Hazardous wastes which was reclaimed onsite to recover substantial amounts of either energy or materials are exempt. However, monitoring fees shall be paid on any hazardous waste residues produced during reclamation.

FEE CALCULATIONS All quantities must be calculated in tons (1 ton = 2,000 pounds). If the density of the liquid is unknown, use a conversion factor of 1 gallon = 8 pounds.

A.	Enter the total quantity of hazardous waste generated in 2003:	986	Tons
B.	Enter the total quantity of hazardous waste generated in 2003 for which you can claim an exemption.	0	Tons
C.	Total quantity of hazardous waste generated in 2003 which is subject to monitoring fee subtract (B) Amount from (A) Amount to get (C). **If this quantity is zero do not submit any fees.** Use this figure to determine the fee payment below.	986	Total Tons

FEE PAYMENT Use the figure from C (above) to determine the monitoring fee payment for the hazardous waste generated in 2003.

A. Total Quantity Generated in 2003	Amount
Less than or equal to 5 tons	$100
Greater than 5 tons but less than or equal to 50 tons	$500
Greater than 50 tons but less than or equal to 500 tons	$1,000
Greater than 500 tons	$5,000

TOTAL MONITORING FEE ENCLOSED (according to the above table) $ 5,000.00

Please attach copies of all manifests for hazardous waste shipments made during 2003

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

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STRATEGIES FOR ENVIRONMENTAL RESPONSIBILITY

October 30, 2003

01-0138R018

Mr. Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

RECEIVED
NOV 0 3 2003
BUREAU OF WASTE MANAGEMENT

Re: Transmittal of RCRA Part B Permit Application Appendix P
Groundwater Sampling and Analysis Plan Revised Pages
Replacement of Monitor Well MW-17
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Mr. Anderson:

EnecoTech is submitting the enclosed revised pages for Appendix P of the RCRA Part B Permit Application on behalf of TPI Petroleum, Inc. (TPI). Appendix P contains the groundwater sampling and analysis plan for the facility. TPI replaced monitoring well MW-17 on September 18, 2003 after a contractor accidentally damaged the well. The enclosed pages consist of a replacement well construction diagram for monitor well MW-17 to be inserted in Appendix A and a replacement Table 1 containing the monitoring well completion data.

GeoCore Inc., a Kansas licensed water well contractor constructed replacement monitor well MW-17 and plugged the former MW-17. Also enclosed for your file is the KDHE Bureau of Water well completion form (WWC-5) for the new MW-17 and the well plugging form (WWC-5P) for the former MW-17. Smith & Oakes, Inc., a licensed land surveying company surveyed the well location and top of casing elevation for monitor well MW-17. The well construction diagram contains the survey information.

If you have any questions about the attached information, please contact either Brenda Manterola of Valero Energy Corporation at 210/592-4619 or myself at 303/861-2200 ext. 129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachments: Revised Groundwater Sampling and Analysis Plan: Table 1 and monitor well MW-17 construction diagram
KDHE Forms: WWC-5 and WWC-5P

Cc: Brenda Manterola, Valero
Harold Green, Valero
John DeLashmit, USEPA Region 7

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WATER WELL RECORD Form WWC-5 KSA 82a-1212

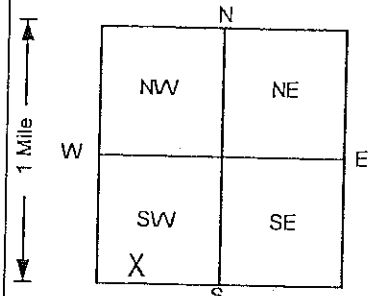
1 LOCATION OF WATER WELL: County: Cowley | Fr n SE ¼ SW ¼ SW ¼ | Section Numbe 32 | Township Number T 34 S | Range Number R 4 (E)/W

Distance and direction from nearest town or city street address of well if located within city?
TPI Refinery; Arkansas City, Kansas

2 WATER WELL OWNER: TPI Petroleum, Inc.
RR#, St. Address, Box # : 1400 S. M Street
City, State, ZIP Code : Arkansas City, KS 67005

Board of Agriculture, Division of Water Resources Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 32 ft. ELEVATION: 0
Depth(s) Groundwater Encountered 1. 17.5 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL ft. below land surface measured on mo/day/yr
Pump test data: Well water was NA ft. after hours pumping gpm
Est. Yield NA gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 10.5 in. to 33 ft., and in. to ft.
WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden only (10) Monitoring well
Was a chemical/bacteriological sample submitted to Department? Yes No ✓; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes No ✓

5 TYPE OF BLANK CASING USED:
1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile
(2) PVC 4 ABS 6 Asbestos-Cement 9 Other (specify below)
7 Fiberglass
CASING JOINTS: Glued Clamped Welded Threaded ✓
Blank casing diameter 2 in. to 11 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 36 in., weight lbs./ft. Wall thickness or gauge No. Sch 40

TYPE OF SCREEN OR PERFORATION MATERIAL
1 Steel 3 Stainless steel 5 Fiberglass (7) PVC 10 Asbestos-cement
2 Brass 4 Galvanized steel 6 Concrete tile 8 RMP (SR) 11 Other (specify)
9 ABS 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE:
1 Continuous slot (3) Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes
7 Torch cut 10 Other (specify)

SCREEN-PERFORATED INTERVALS: From 14 ft. to 31.5 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 12 ft. to 33 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement (2) Cement grout (3) Bentonite 4 Other
Grout Intervals: From 0 ft. to 10.5 ft., From 10.5 ft. to 12 ft., From ft. to ft

What is the nearest source of possible contamination:
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage (16) Other (specify below)
13 Insecticide storage
Direction from well? How many feet? 0 Refinery

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	13.2	Sand, Yellow			
13.2	13.6	Sand, clay, Gray			
13.6	14.5	Sand, Light Gray			
14.5	33	Sand, Medium Gray			
					MW17R (replacement), Tag # , Abovegrade
					Project Name: EnecoTech - Total
					GeoCore # 562, #

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION. This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 9/18/2003 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 527 This Water Well Record was completed on (mo/day/yr) 10/2/2003 under the business name of GeoCore, Inc. by (signature) Dale Reed

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

OFFICE USE ONLY T R E/W SEC. ¼ ¼ ¼

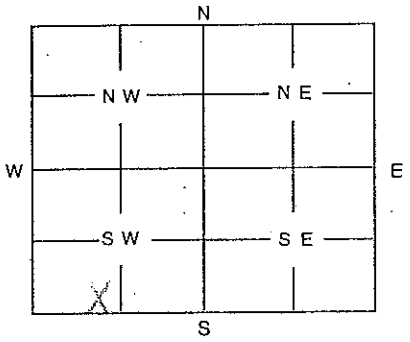
ER WELL PLUGGING RECORD Form WWC-5P KS a-1212 ID NO. _____

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Cowley	SE ¼ SE ¼ ¼	23	34	4 E

Distance and direction from nearest town or city street address of well if located within city?
TPC 1 Loc 4 mi S Cedar KS

2 WATER WELL OWNER: TPC Pipeline Inc
RR #, St. Address, Box #: 14000 S 177th Street
City, State, ZIP Code : Arkansas City KS 67005
Board of Agriculture, Division of Water Resources
Application Number:

3 MARK WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF WELL 92 ft
WELL'S STATIC WATER LEVEL 17.5 ft.

WELL WAS USED AS:

1 Domestic	5 Public Water Supply	9 Dewatering
2 Irrigation	6 Oil Field Water Supply	(10) Monitoring Well
3 Feedlot	7 Domestic (Lawn & Garden)	11 Injection Well
4 Industrial	8 Air Conditioning	12 Other

Was a chemical / bacteriological sample submitted to Department? Yes ..... No ✓
If yes, mo/day/yr sample was submitted .....

Water Well Disinfected: Yes ..... No ✓

5 TYPE OF BLANK CASING USED:

1 Steel	3 RMP (SR)	5 Wrought	7 Fiberglass	9 Other (Specify below)
(2) PVC	4 ABS	6 Asbestos-Cement	8 Concrete Tile	

Blank casing diameter 2 in. Was casing pulled? Yes ✓ No ..... If yes, how much 92
Casing height above or below land surface ..... in.

6 GROUT PLUG MATERIAL: 1 Neat cement 2 Cement grout (3) Bentonite 4 Other .....

Grout Plug Intervals: From 32 ft. to 0 ft., From ..... ft. to ..... ft., From ..... to ..... ft.

What is the nearest source of possible contamination:

1 Septic tank	6 Seepage pit	11 Fuel storage	(16) Other (specify below)
2 Sewer lines	7 Pit privy	12 Fertilizer storage	Pipeline Interest
3 Watertight sewer lines	8 Sewage lagoon	13 Insecticide storage	
4 Lateral lines	9 Feedyard	14 Abandoned water well	
5 Cess Pool	10 Livestock pens	15 Oil well/Gas well	

Direction from well? East How many feet? .....

FROM	TO	PLUGGING MATERIALS
0	32	Bentonite

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was plugged under my jurisdiction and was completed on (mo/day/year) 3/15/23 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 5417 This Water Well Record was completed on (mo/day/year) 3/15/23 under the business name of Layne Christensen by (signature) [signature]

INSTRUCTIONS: Use typewriter or ball point pen. Please press firmly and print clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 785/296-3565. Send one to Water Well Owner and retain one for your records.

Table 1 Groundwater Monitoring Well Completion Data

Identification		Survey Data			Well Completion							
Well ID	Monitoring Program	Measuring Point. Elev (ft. AMSL)	Northing (ft)	Easting (ft)	Well Depth (ft btoc)	Screened Interval (ft bgs)	Pump Intake[1] (ft bgs)	Pump Type[3]	Casing DIA. (in)	Alluvial Zone Monitored	Location	Avg. Depth to Water (ft bgs)
WN-1A	CA & Comp	1066.95	-2601.00	1197.00	44.35	30-45	37	B	2	Deep	Upgradient of LTU	15.12
WN-1B	CA & Comp	1066.55	-2596.00	1200.00	31.14	13-28	21	B	2	Shallow	Upgradient of LTU	15.32
WN-5B	CA	1064.82	-2259.00	1457.00	27.04	11.6 -26.0	19	B	2	Shallow	Downgradient of LTU	13.74
WN-6A	CA	1065.72	-1894.00	1440.00	44.93	29-44	37	B	2	Deep	Downgradient of LTU	13.86
WN-6B	CA	1064.54	-1895.00	1447.00	29.95	13-28	21	B	2	Shallow	Downgradient of LTU	13.96
WN-7B	CA	1064.82	-2262.77	1043.36	32.52	16-31	24	B	2	Shallow	Upgradient of LTU	12.61
WN-8B	CA	1065.01	-1990.00	1053.00	32.53	15-30	23	B	2	Shallow	Crossgradient of LTU	12.68
MW-6	CA	1062.39	-1303.68	1878.78	25.14	10.76-20.36	18	B	2	Shallow	Upgradient of CSI	13.69
MW-12	CA	1071.97	-879.83	2210.83	48.77	35-44.73	40	B	2	Deep	Downgradient of CSI	26.13
MW-13	CA	1063.00	-1311.11	1891.08	37.90	25-34.76	30	B	2	Deep	Upgradient of CSI	13.59
MW-17	CA	1065.30	-1869.42	1194.39	34.90	14.05-31.55	25	B	2	Shallow	Downgradient of LTU	16.50
RCRA-4	CA	1061.43	-1520.00	3349.00	24.23	6.5-21.5	18	B	4	Shallow	Down/Crossgradient	13.42
CMW-1	Comp/CPZ	1059.71	-574.35	2189.10	31.44	23-28	26[2]	R	2	Shallow	Downgradient of WMA	14.11
CMW-2	Comp/CPZ	1061.74	-704.00	2279.65	35.15	26.5-31.5	30[2]	R	2	Shallow	Downgradient of WMA	16.14
CMW-3	Comp/CPZ	1060.13	-983.69	2578.98	33.73	25-30	28[2]	R	2	Shallow	Downgradient of WMA	14.92
CMW-4	Comp/CPZ	1058.27	-1128.94	2770.51	31.77	23.5-28.5	26.5[2]	R	2	Shallow	Downgradient of WMA	13.28
RCRA-7	CPZ	1063.73	-647.64	2054.37	46.04	33.0-43.0	NA	B	2	Shallow	Downgradient of WMA	19.86
113	CPZ	1072.25	-770.86	2162.01	52.06	38.8-48.8	NA	B	2	Shallow	Downgradient of WMA	29.81
118	CPZ	1070.69	-1059.37	2453.61	46.43	36.2-43.7	NA	B	2	Shallow	Downgradient of WMA	29.27
MW-1002	CPZ	1072.12	-1169.51	2699.09	50.82	37.7-47.7	NA	B	2	Shallow	Downgradient of WMA	17.99

Notes:

Well coordinates are based on the plant coordinate system.

Average depth to groundwater is based on measurements between June 1999 and May 2000 inclusive. MW-17 data based on measurements between February 2002 and July 2003.

Monitor well 118 data based on measurements between December 2001 and September 2003.

LTU = land treatment unit

CSI = closed surface impoundments

WMA = waste management area

CA = corrective action

Comp = compliance

Monitor well WN-7B resurveyed in October 2002 following minor damage to protective cover by construction equipment.

CPZ = capture zone

BTOC = below top of casing

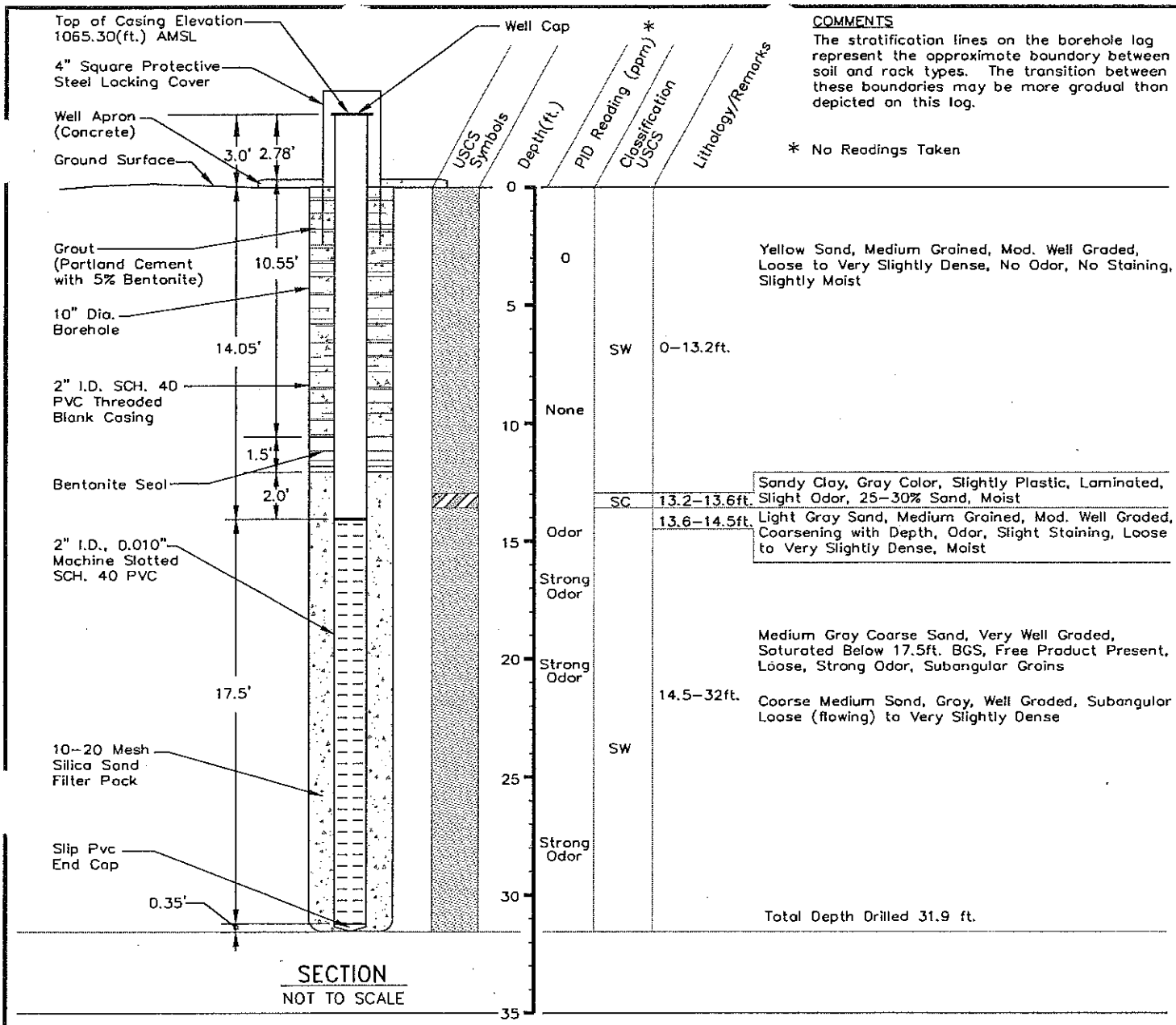
BGS = below ground surface

NA = not available - new well with insufficient data or no pump.

1 = pump depths may vary depending on water level and recharge rate

2 = These wells may be sampled with a bailer

3 = B indicates bladder pump and R indicates bailer



SECTION
NOT TO SCALE

COMMENTS
The stratification lines on the borehole log represent the approximate boundary between soil and rock types. The transition between these boundaries may be more gradual than depicted on this log.

* No Readings Taken

LOCATION (Plant Coordinates)

NORTHING -1869.423(ft.)
EASTING 1194.391(ft.)

ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL (AMSL)

NOTE: PVC CASING CONNECTIONS ARE THREADED AND FLUSH JOINTED

BUILT BY: GEOCORE SERVICES, INC.
DATE COMPLETED: 9/18/03

EnecoTech
ENVIRONMENTAL CONSULTANTS

Figure No.:

MONITORING WELL MW-17 CONSTRUCTION DIAGRAM

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-018	DESIGNED BY: JFM	APPROVED BY: JFM	
18-MW_17S	DRAWN BY: LKB	DATE: 9/29/03	REV:

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

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RECEIVED
SEP 0 2 2003
BUREAU OF WASTE MANAGEMENT

August 29, 2003

99-0138R-018

Mr. Kevin Anderson
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: 2003 Semiannual RCRA Groundwater Corrective Action Report
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

This semiannual monitoring report is being submitted to the KDHE in accordance with the reporting requirements described in Section IV.E.5 of the facility RCRA Permit. The report presents data results of the groundwater sampling and analysis conducted during the Spring 2003 semiannual groundwater sampling event. The semiannual groundwater sampling event was conducted on April 15-17, 2003, in order to complete the groundwater corrective action groundwater quality semiannual monitoring requirements set forth in Section IV.D.4.c. of the facility's RCRA Permit. The groundwater samples were collected in accordance with the procedures presented in the approved Groundwater Sampling and Analysis Plan (SAP). Quarterly bioreactor influent sample results and capture zone monitor well gauging data from the first two quarters of 2003 (i.e., the reporting period) have also been included in this report. Finally, the report presents the operational data collected from the LTU area corrective action system during the reporting period. A site location map is included on Figure 1. A digital copy of this report is included on a CD-ROM disk in Attachment 1.

April 2003 Semiannual Groundwater Monitoring Event

The groundwater samples collected from the corrective action performance, supplemental information, and background monitor wells were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). Severn Trent Laboratories (STL) – Denver performed the sample analyses. The laboratory analytical results and corresponding field data are summarized in Table 1. The field sampling data forms, field logs, and chain-of-custody forms for the sample event are included in Attachment 2. Analytical report Form 1's are included in Attachment 3.

Groundwater level measurements for the sample event are summarized on Table 2. A monitor well location map is presented on Figure 2. The April 14, 2003 potentiometric surface contours are shown on Figure 3. Figures 4 through 7 contain chemical concentration isopleth maps for benzene, toluene, ethylbenzene, and total xylenes, respectively.

The groundwater sampling event consisted of first measuring the groundwater level and total depth in each of the monitor wells to be sampled. The field forms included in Attachment 2 contain the groundwater level and well depth data. Dedicated bladder pumps were used to purge and sample the wells. Prior to measuring groundwater levels, the groundwater sample collection pump was removed from each well to provide access to the bottom of the well for a total depth measurement. Removing the sample collection pump and associated pump tubing resulted in a temporary lowering of the groundwater level in the well. Sufficient time was allowed for the groundwater to re-stabilize prior to level gauging. Based upon the collected static groundwater level measurements, the groundwater flow direction was determined to be northeast. This flow direction is consistent with data previously collected at the facility.

One field blank was collected during the sample event, and a trip blank was submitted to the laboratory for each sample day. These field quality assurance samples were analyzed for BTEX. The laboratory analytical reports are included in Attachment 3. No detections of BTEX constituents were found in the trip blanks. A low-level detection of toluene (0.12 ug/L, J-flagged) was found in the field blank, but this did not appear to have any impact on that day's samples. Attachment 4 contains the analytical data validation report for the groundwater samples and blanks analyzed for this Spring 2003 semiannual monitoring event.

One duplicate sample was collected during the sample event. The sample labeled RCRA-MW-5 was a duplicate groundwater sample collected from monitor well WN-8B on April 17, 2003. All chemical analysis results are similar between the two samples collected from monitor well WN-8B.

Quarterly Capture Zone Monitoring

Groundwater level and elevation data from the eight capture zone monitoring wells are summarized on Tables 3 and 4 for the January and April monitoring events, respectively. As is shown on the tables, the Permit-required head difference of 0.2 feet was met in each of the four well pairs during the quarterly monitoring events. Attachment 2 contains the water level gauging field forms for the two quarterly compliance demonstration monitoring events (January and April, 2003).

Quarterly Bioreactor Influent Sampling

The two groundwater influent lines to the bioreactor tank were sampled quarterly, in January and April 2003. The analytical results from these samples were flow-weighted according to their respective flow rates measured at the time of sampling. The influent flow and analytical data are summarized on Table 5. The field logbook entries for the quarterly bioreactor samples are included in Attachment 2. The laboratory analytical report Form 1's are included in Attachment 3.

Groundwater Corrective Action: Recovery of Groundwater and Free Product

The groundwater and free product recovery systems functioned normally during the reporting period. Quantities of groundwater and free product recovered during the reporting period are summarized on Table 6 for the system as a whole and for each recovery well.

LTU Corrective Action System Monitoring

The LTU corrective action system is monitored weekly, monthly, and quarterly in accordance with the schedule and procedures established in the approved system Operation and Maintenance Plan (dated January 2003) and the Engineering Feasibility Plan. For the soil vapor extraction (SVE) system, weekly monitoring includes overall airflow, operational hours, influent concentrations of flammable gas, inlet vacuum, and inlet and outlet temperatures. SVE air samples are collected on at least a quarterly basis and submitted to STL – Pensacola, Florida for analysis of total volatile organic compounds (TVPH). For the air sparge (AS) system, weekly monitoring includes air sparge blower outlet temperature, pressure, operational hours, and airflow. On a quarterly basis, the air flow at each air sparge well head is measured using thermal anemometry. The LTU monitoring data for the reporting period are summarized on Tables 7, 8, 9 and 10. The chain-of-custody forms for the SVE inlet air samples are included in Attachment 2, and the corresponding laboratory analytical report Form 1's are included in Attachment 3.

Groundwater Corrective Action Well and Monitor Well Maintenance

During the reporting period, only one well (RW-35) required significant O&M activities. On April 26, 2003, a portion of the well screen in RW-35 apparently broke through, resulting in gravel pack and aquifer sands filling up the lower portion of the well. TPI Petroleum installed a replacement well approximately 15' away from the damaged well. The new RW-35 was started up on May 1, 2003. The original well (i.e., RW-35 Old) is still useful for groundwater surface and product depth measurements, and as such has been left intact.

The replacement RW-35 recovery well was constructed by Davis Environmental Drilling, of Mustang, Oklahoma, a Kansas-licensed water well contractor (No. 607). A construction diagram along with survey data for the replacement RW-35 is included with this report as Figure 8.

If you have any questions or comments about the information presented in this report, please contact either Brenda Manterola, of Valero Energy Corporation at 210/592-4619 or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachments: Tables 1-10, Figures 1 through 8, Attachments 1-4

Cc: Harold Green, Valero Energy Corporation
Brenda Manterola, Valero Energy Corporation
John DeLashmit, EPA Region VII

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Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results April 15-17, 2003
TPI Petroleum, Inc. Arkansas City, Kansas
Page 1 of 2

MEASUREMENTS	Groundwater Protection Standard	Sample ID					
		WN-1A	WN-1B	WN-5B	WN-6A	WN-6B	WN-7B
Field Measurements							
Sample Date		04/15/03	04/15/03	04/17/03	04/16/03	04/16/03	04/16/03
Groundwater Elevation (ft amsl)		1049.95	1049.94	1049.14	1048.40	1048.34	1049.59
pH (standard units)		7.16	7.41	7.40	6.95	6.46	7.16
Conductivity @25°C (uS/cm)		1413	897	874	1349	1295	1073
Turbidity (NTU)		1.28	0.74	0.78	6.42	1.42	6.89
Temperature °C		16.4	15.7	16.1	17.3	16.8	19.1
Laboratory Analyses							
Benzene (ug/L)	5	1.0 U	1.0 U	1.0 U	1.0 U	**130** D	**520** D
Toluene (ug/L)	1000	1.0 U	1.0 U	1.0 U	1.0 U	2.9	7.9 D
Ethylbenzene (ug/L)	700	1.0 U	1.0 U	0.37 J	1.0 U	0.61 J	25 D
Xylenes (total) (ug/L)	10000	2.0 U	2.0 U	0.91 J	2.0 U	4.0	25 D

MEASUREMENTS	Groundwater Protection Standard	Sample ID						
		RCRA-MW-5[1]	WN-8B	MW-6	MW-12	MW-13	MW-17	RCRA-4
Field Measurements								
Sample Date		04/17/03	04/17/03	04/16/03	04/16/03	04/16/03	04/17/03	04/15/03
Groundwater Elevation (ft amsl)		1049.82	1049.82	1045.13	1040.84	1045.18	1048.67	1043.48
pH (standard units)		8.01	8.01	6.82	7.13	7.52	7.45	6.79
Conductivity @25°C (uS/cm)		901	901	1174	1425	1468	1119	999
Turbidity (NTU)		1.28	1.28	9.59	0.52	3.9	12.2	17.0
Temperature °C		16.2	16.2	16.3	18.4	16.7	17.8	15.6
Laboratory Analyses								
Benzene (ug/L)	5	**130** D	**150** D	**1800** D	**9.5**	1.0 U	1.0 U	1.0 U
Toluene (ug/L)	1000	5.6	5.3	60 D	0.26 J	1.0 U	1.0 U	1.0 U
Ethylbenzene (ug/L)	700	2.7	2.6	160 D	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total) (ug/L)	10000	10	9.8	1500 D	1.5 J	2.0 U	2.0 U	2.0 U

Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results April 15-17, 2003
TPI Petroleum, Inc. Arkansas City, Kansas

Notes:

1 = RCRA-MW-5 is a field duplicate of WN-8B.
U Indicates compound was analyzed for but not detected. Reporting limit shown.
J Indicates an estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).
D Indicates that the compound was identified in an analysis at a secondary dilution factor.
BOLD Indicates positive detection equal to or above the groundwater protection standard.
"-" Indicates that the parameter was not measured or was not applicable.
Monitor wells WN-1A, WN-6A, WN-12, WN-13 are completed in the lower part of the alluvial aquifer. The other wells are completed at and below the water table in the upper part of the alluvial aquifer.

Table 3 Quarterly Groundwater Capture Zone Compliance Monitoring - January 27, 2003
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1/27/2003	09:39	1063.73	25.63	1038.10	0.30	280	RW-35
	CMW-1	1/27/2003	09:32	1059.71	21.31	1038.40		130	RW-40
2	113	1/27/2003	09:30	1072.25	34.39	1037.86	0.30	110	RW-45
	CMW-2	1/27/2003	09:34	1061.74	23.58	1038.16		50	RW-50
								20	RW-55
3	118	1/27/2003	09:37	1070.69	32.18	1038.51	0.20	170	RW-60
	CMW-3	1/27/2003	09:42	1060.13	21.42	1038.71		170	RW-65
4	MW-1002	1/27/2003	09:40	1072.12	32.57	1039.55	0.20	130	RW-70
	CMW-4	1/27/2003	09:45	1058.27	18.52	1039.75		20	RW-75
								50	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								1130	

Notes:

1. A positive head difference indicates groundwater capture.

Permit Criteria = or > 0.2 feet head difference.

Table 4 Quarterly Groundwater Capture Zone Monitoring - April 14, 2003
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	4/14/2003	08:32	1063.73	23.90	1039.83	0.49	280	RW-35
	CMW-1	4/14/2003	08:38	1059.71	19.39	1040.32		130	RW-40
2	113	4/14/2003	08:35	1072.25	32.51	1039.74	0.40	110	RW-45
	CMW-2	4/14/2003	08:41	1061.74	21.60	1040.14		50	RW-50
								20	RW-55
3	118	4/14/2003	08:45	1070.69	29.89	1040.80	0.22	130	RW-60
	CMW-3	4/14/2003	08:50	1060.13	19.11	1041.02		170	RW-65
4	MW-1002	4/14/2003	08:48	1072.12	30.29	1041.83	0.21	150	RW-70
	CMW-4	4/14/2003	08:54	1058.27	16.23	1042.04		30	RW-75
								40	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								1110	

Notes:

1. A positive head difference indicates groundwater capture.
   Permit Criteria = or > 0.2 feet head difference.

Table 5 Summary of Quarterly Bioreactor Influent Sampling Results
TPI Petroleum, Inc. Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Influent Water Sample	
		1st Quarter Bioreactor	2nd Quarter Bioreactor
Field Measurements			
Sample Date		01/21/03	04/16/03
Total Flow (gpm)		1130	1160
Laboratory Analyses*			
Benzene (ug/L)	5	74	108
Toluene (ug/L)	1000	1.4 J	1.7 J
Ethylbenzene (ug/L)	700	3	6.8
Xylenes (total) (ug/L)	10000	16	22

Notes:

U Indicates compound was analyzed for but not detected. Reporting limit shown.
J Indicates an estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).
gpm Indicates gallons per minute measured at the bioreactor influent flow meters.
ug/L Indicates micrograms per liter.

* Results represent flow-weighted averages of the influent samples collected from the east and west influent lines.

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BUREAU OF WASTE MANAGEMENT

March 1, 2003

99-0138R018

Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: 2002 Annual Land Treatment Unit Sampling Report
TPI Petroleum, Inc. Arkansas City, Kansas
Permit No.: KSD087418695

Dear Ms. Dunn:

This report documents the results of the Land Treatment Unit (LTU) soil core sampling conducted at the TPI Petroleum, Inc. (TPI) Arkansas City, Kansas, facility in December 2002. The soil core sampling was conducted as described in the LTU closure plan.

Site Description

The refinery is located near the southeast corner of Arkansas City in the southwest 1/4 of Section 32, Township 34 South, Range 4 East and the NW 1/4 of Section 5, Township 35 South, Range 4 East in southwestern Cowley County, Kansas. The refinery is located at the confluence of the Arkansas and Walnut Rivers. It is located on flat lying alluvium soils and sediments. Most of the land around the refinery is cultivated for growing wheat and grain sorghum. The LTU is located in the southern portion of the refinery property. Figure 1 shows the location of the LTU.

The LTU consists of a 3.85-acre soil plot. The LTU is divided into two (2) subplots separated by a roadway. Plot A (the northern portion) is 2.22 acres in area while Plot B (the southern portion) consists of 1.63 acres. The LTU can be divided vertically into a zone of waste incorporation, a treatment zone (TZ) and below the treatment zone (BTZ). The dimensions (depth) relative to the initial soil surface, of the TZ and the unsaturated monitoring zone are as follows:

- The zone of waste incorporation is a maximum of 10 inches from the initial soil surface.
- The treatment zone is a maximum of 4.5 feet from the initial soil surface.

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The unsaturated soil core samples representing BTZ conditions have historically been collected from a depth of 4.5 to 5 feet below the initial land surface as specified in the RCRA Operating Permit.

Sample Collection

Soil boring locations were selected utilizing random grid sampling methodology. The closure plan specifies a grid interval of 20 feet between grid nodes for sampling at the LTU. The area to be gridded was constructed so as to generally fit the interior perimeter of the unit as shown on Figure 2. All grid nodes are sequentially numbered from one to 390. The calculation for the number of sample points is described in the closure plan as the cube root of the number of grid nodes. The number of sample points was calculated to be seven. A spreadsheet with a random number generating feature was used to determine the seven grid points to be sampled prior to the sampling event. Two replacement locations were selected, in the same manner, due to the presence of water in the northeast corner of the LTU grid area.

At each location, the soil borings were advanced using a direct push (Geoprobe technique) sampling technique after initial decontamination of the equipment. Within the LTU treatment zone, two samples were collected, one in the upper 1-foot interval and one in the lower portion (3 to 3.5 feet) of the treatment zone. Two samples were collected below the treatment zone, one 4.5 to 5-foot below the ground surface and another 8.5 to 9 feet below the ground surface.

Equipment decontamination and quality assurance/quality control procedures were followed as described in the LTU closure plan. All samples were submitted to the laboratory using the appropriate chain-of-custody protocols.

The 2002 sampling event was conducted on December 4-5 and December 20, 2002. The December 20, 2002 sampling was conducted at select locations for VOCs only, in order to replace earlier VOC soil samples that arrived at the laboratory with loose lids and lost preservative. Table 1 provides a summary of the sampling information including the sample dates, sample technique and laboratory analyses requested during the 2002 sampling event. Figure 3 shows the respective LTU sample locations.

Following the soil sampling, the boreholes were backfilled with bentonite. The LTU soil samples were placed on ice for transport to Severn Trent Laboratories (STL), Inc. – Denver, Colorado. STL – Denver performed all analyses except Cation Exchange Capacity, which was performed at Severn Trent Laboratories, Inc. – Burlington, Vermont.

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Analytical Results

The laboratory results for the 2002 sampling event are summarized in this report on Table 2. Laboratory Form 1's and chain-of-custody forms for the 2002 sampling event are included in Attachment 1. Attachment 2 contains a summary of the analytical data validation. Data quality flags have been assigned by the laboratory and were retained or adjusted as necessary during the data validation process.

As anticipated, metals, volatile organic compound (VOC) and semivolatile organic compound (SVOC) impacts to the LTU soils were generally located in the upper layers (3-3.5' and 4.5-5' sample depths). Elevated concentrations of lead were found in the 3'-3.5' layer at three sample grid locations. VOC detections were generally limited to benzene, toluene, ethylbenzene and xylenes (BTEX) and the trimethybenzenes. SVOC detections were varied, and mainly included anthracene, benzo(a)anthracene, benzo(a)pyrene, chrysene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene, with occasional detections of other SVOCs.

Samples having concentrations of organic constituents that exceed their respective Tier II Risk-Based Standards for Kansas (RSK) for the non-residential area soil-to-groundwater pathway, are highlighted with bold typeface in Table 2. With respect to the VOCs, benzene was detected at concentrations exceeding its RSK value in the 3'-3.5' interval (five samples), 4.5'-5' interval (two samples), and the 8.5'-9' interval (one sample, an estimated results just above the RSK). Carbon disulfide was detected above its RSK at two grid locations, 97 and 100, in the 3'-3.5' depth interval. 1,2,4-trimethylbenzene was detected above its RSK value in two samples in the 3'-3.5' interval.

With respect to SVOCs, chrysene was the only compound detected above its RSK value. Elevated chrysene concentrations were found in five samples in the 3'-3.5' interval, and three samples in the 4.5'-5' interval.

The development of the RSK values described above incorporated some conservative assumptions about leachate migration to groundwater. These assumptions include:

- Soil contamination extends from the surface to the groundwater table;
- There is no chemical or biological degradation in the unsaturated zone;
- There is no attenuation of constituents in the aquifer; and,
- The receptor well is at the source area and screened within the plume.

The specific site information does not conform to these assumptions, since the soil contamination does not extend to the groundwater table and there are no receptor wells at the source area. Based upon these

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two assumptions alone, the Tier II RSK values are very conservative. This data will be evaluated further during subsequent phases of LTU closure.

The KDHE Tier II RSK values do not contain values for metals at the present time. To assess the metals results, the data is compared to the USEPA soil screening levels (SSL) to assess the migration to groundwater pathway. In the absence of a SSL the data is compared to the USEPA preliminary remediation goals (PRGs) for industrial soil. SSLs were published for all of the inorganics in the target constituent list with the exception of chromium (III), cyanide, lead and mercury. Therefore, the PRGs for chromium (III), cyanide, and lead were utilized. For mercury, the KDHE Tier II RSK value for non-residential soil was used, since an industrial soil PRG has not been published for total mercury. All samples with metals concentrations above their respective SSLs, PRGs, or Tier II values, are denoted in bold typeface on Table 2.

Antimony was detected in one sample at its SSL of 5 mg/kg. The result was reported as estimated, as the concentration is between the method detection level (MDL) and the method practical quantitation level (PQL). The industrial soil PRG for lead is 750 mg/kg. The lead PRG was exceeded at three grid locations, at the 3-3.5 foot depth interval. The PRGs are used just for comparison and do not necessarily reflect action levels for this unit.

If you have any questions about this report please contact either Ms. Brenda Manterola of Valero Energy Corporation at (210) 592-4619 or me at (303) 861-2200 x129.

Sincerely,
ENECOTECH INC.

Jay Mednick
Project Manager

Attachments: Figures, Tables, Attachments 1 & 2

cc: Jeffrey Robichaud, EPA Region VII
Brenda Manterola, Valero
Harold Green, Valero
Rob Franke, RBA

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February 28, 2003

99-0138R018

Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

RECEIVED
MAR 0 3 2003
BUREAU OF WASTE MANAGEMENT

Re: 2002 Annual RCRA Groundwater Report
TPI Petroleum, Inc. - Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Ms. Dunn:

Please find enclosed the TPI Petroleum, Inc. Arkansas City Refinery Annual RCRA Groundwater Report for 2002. An electronic copy of the report is included on the CD-ROM included in Appendix F. This report has been prepared in accordance with the above referenced RCRA permit.

If you have any questions regarding this report, please contact Ms. Brenda Manterola of Valero Energy Corporation at (210) 592-4619 or me at (303) 861-2200.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Enclosure:

cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffrey Robichaud, USEPA Region 7

K A N S A S

RODERICK L. BREMBY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

DEPARTMENT OF HEALTH AND ENVIRONMENT

February 5, 2003

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 6060000
San Antonio, TX 78269-6000

Re: Revised Land Treatment Unit SVE-AS Operation and Maintenance Plan Application and Engineering Feasibility Plan
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola:

The Kansas Department of Health and Environment (KDHE) has received and reviewed the Revised Operations and Maintenance (O&M) Plan text. KDHE has also examined the revised drawings for the Part B Application and Engineering Feasibility Plan for the Land Treatment Unit (LTU) Soil Vapor Extraction (SVE) & Air Sparge (AS) System. The O&M plan text modifications have been made as requested by KDHE. There are no comments regarding changes to the drawings. KDHE accepts modifications to the O&M Plan and the Engineering Feasibility Plan for the LTU. The respective plans on file at KDHE have been updated with the corresponding replacement pages.

If there are any questions regarding this letter, you may contact me at kanderso@kdhe.state.ks.us or (785) 291-3760.

Sincerely,

Kevin M. Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Cc: Mark Bradbury- SCDO/DEA/Waste Programs
Jeffrey Robichaud- EPA Region 7/RCAP Branch
Joseph Mednick- Eneco Tech
Demetra Salibury-EPA Region 7/RCAP Branch

Blue

K A N S A S

RODERICK L. BREMBY, SECRETARY

DEPARTMENT OF HEALTH AND ENVIRONMENT

KATHLEEN SEBELIUS, GOVERNOR

January 24, 2003

Brenda B. Manterola
Environmental Manager
Valero Energy Corporation
P. O. Box 696000
San Antonio, Texas 78269-6000

Re: Response to O&M Inspection Report Deficiencies
TPI Petroleum, Inc., Arkansas City
EPA ID No. KSD 087418695

Dear Ms. Manterola,

The Kansas Department of Health and Environment (KDHE) has reviewed your response to the deficiencies identified in the KDHE Operation and Maintenance Inspection Report. KDHE accepts your response as adequately addressing all deficiencies.

KDHE appreciates your continued cooperation and compliance with hazardous waste regulations at the site and willingness to take a proactive approach to cleanup of the facility. If you have any question regarding this letter, please contact me at (785) 296-6561 or kdunn@kdhe.state.ks.us.

Sincerely,

Katherine Dunn

Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section

cc: Mark Bradbury - DEA/SCDO/Waste Programs
Jeffery Robichaud - RCAP Branch/EPA Region 7
Jay Mednick - Eneco Tech

KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

December 31, 2002

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 6060000
San Antonio, TX 78269-6000

Re: Operations and Maintenance Plan
Land Treatment Unit Soil Vapor Extraction & Air Sparge System
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola:

The Kansas Department of Health and Environment (KDHE) BWM has received and reviewed the Operations and Maintenance Plan for the Land Treatment Unit Soil Vapor Extraction (SVE) & Air Sparge (AS) System. The plan gives an overview of startup, preventive maintenance, operational monitoring, and health and safety issues for the Land Treatment Unit remedial system.

The KDHE requests modifications to the plan text based on the following comments:

- Identify all acronyms used (e.g., LEL, HOA, NLGI, RAI and RAI-J, sfpm, and TEFC) to minimize reader confusion.
- Provide an adequate measure of contingency. During maintenance, repairs, or unforeseen events the system will be down. An estimate of how long the system will be down is needed.
- Provide an estimate of effective life of the SVE/AS system. Include a time frame for expected life of the SVE/AS system and parameters to assess a reasonable technological endpoint for the system.

Please make these changes in writing to the plan by January 31, 2003. We appreciate your assistance in this matter. If there are any questions regarding this letter, you may contact me at kanderso@kdhe.state.ks.us or (785) 291-3760.

Sincerely,

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Cc: Mark Bradbury- SCDO/DEA/Waste Programs
Jeffrey Robichaud- EPA Region 7/RCAP Branch
Joseph Mednick- Eneco Tech
Demetra Salibury-EPA Region 7/RCAP Branch

TPI PETROLEUM, INC.
a Valero Company

Brenda B. Manterola
Manager, Environmental

RECEIVED
DEC 17 2002
BUREAU OF WASTE MANAGEMENT

Date: December 13, 2002

To: Facility Mailing List

Re: **Notification of Permit Modifications for the TPI Petroleum, Inc. Facility in Arkansas City, Kansas**

Dear Sir or Madam:

In October 2001, the Kansas Department of Health and Environment (KDHE) and the U.S. Environmental Protection Agency (EPA) renewed the Arkansas City Facility's Hazardous Waste Management Facility Permit. This permit is for the post-closure care of the former Total Petroleum refinery which was closed in August of 1996. Recently, TPI Petroleum, Inc. made modifications to this permit. These modifications are outlined below.

- December 31, 2001, TPI Petroleum, Inc. became a wholly-owned subsidiary of Valero Energy Corporation.
- September 19, 2002, the KDHE approved modifications to the facility's Land Treatment Unit Closure Plan.
- October 4, 2002, the installation of recovery well RW-80A was completed.
- November 14, 2002, the Contingency Plan outlining procedures to be followed in case of an emergency were updated.

This notification is for information only. No action is required on your part. You are receiving this letter because you are listed on the facility's mailing list maintained by the KDHE.

If you have any questions regarding this information, please contact Ms. Brenda B. Manterola at (210) 592-4619.

cc: Katherine Dunn, KDHE-Topeka, KS
Jeffery Robichaud, EPA Region VII-Kansas City, KS

VALERO
ENERGY CORPORATION
Post Office Box 696000 • San Antonio, Texas 78269-6000 • Telephone (210) 592-2000

Brenda B. Manterola
Manager, Environmental

November 14, 2002

Overnight Express Mail

Ms. Katherine Dunn
Chief, Corrective Action Unit
KDHE-Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66620-0001

RECEIVED
NOV 15 2002
BUREAU OF WASTE MANAGEMENT

Re: **Class 1 Permit Modification for Revised Contingency Plan**
TPI Petroleum, Inc. - Arkansas City, Kansas
E.P.A. Id. Number KSD 087418695

Dear Ms. Dunn:

The RCRA Contingency Plan for the above referenced facility has been modified. The modification includes updating information for the designated Emergency Coordinator and Alternate as well as emergency equipment. A copy of the revised Plan has been attached for your records. Notice of this modification will be sent to all persons listed on the facility mailing list within 90 days of the date of this letter.

If you have any questions regarding these changes, please do not hesitate to contact me at (210) 592-4619 or Harold Green at (620) 442-5100 ext. 684.

Sincerely

Brenda B. Manterola

attachment

cc: Jeff Robichaud, U.S. EPA Region VII
Harold Green, TPI Petroleum, Inc.

APPENDIX G

CONTINGENCY PLAN

TPI Petroleum, Inc.
Arkansas City, Kansas

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TABLES

Table 1 List of Emergency Response Equipment Maintained by TPI Petroleum, Inc.
Table 2 List of Primary and Alternate Emergency Response Coordinators

ATTACHMENTS

Attachment 1 Written Agreements with Local Emergency Response Agencies
Attachment 2 Plan Amendment Form

APPENDIX G

CONTINGENCY PLAN
(40 CFR 264 and 265 Subpart D)

1.0 CONTINGENCY PLAN

1.1 PURPOSE AND IMPLEMENTATION OF THE CONTINGENCY PLAN [40 CFR §264.51 AND §265.51]

This contingency plan has been prepared to describe the procedures that will be implemented if a fire, explosion, or release of hazardous waste were to occur at the TPI Petroleum, Inc. Arkansas City Closed refinery (facility). This plan addresses two types of units: 1) the permitted units; and 2) the non-permitted 90-day storage areas. Since the permitted units are regulated under 40 CFR Part 264 and the non-permitted storage units are subject to the requirements of 40 CFR Parts 262 and 265, both §264 and §265 are referenced in this section.

The permitted units consist of the:

- Land Treatment Unit (LTU)
- Closed 3A aerated lagoon
- Closed Surface Impoundments #1 and #2

Hazardous waste has not been accepted into the LTU since TPI initiated closure of this unit on August 1, 1998. The Contingency Plan addresses issues associated with closure of the LTU and the closed surface impoundments #1 and #2, and 3A as well anticipated corrective action activities and facility demolition. A release from the closed units is not expected.

Currently, hazardous waste is not generated. However, if hazardous waste is generated, the facility has designated the following waste management areas:

- Drum storage at the Wastewater Treatment Plant
- Roll-off bin storage and container storage area in the Heat Exchanger Bundle Cleaning Area
- Satellite accumulation area in the laboratory

The units listed above are subject to the relevant sections of 40 CFR Parts 262 and 265 if hazardous waste is generated and stored. A site map showing the locations of the closed units, container storage areas and roll-off bin storage area is shown in Figure 1.

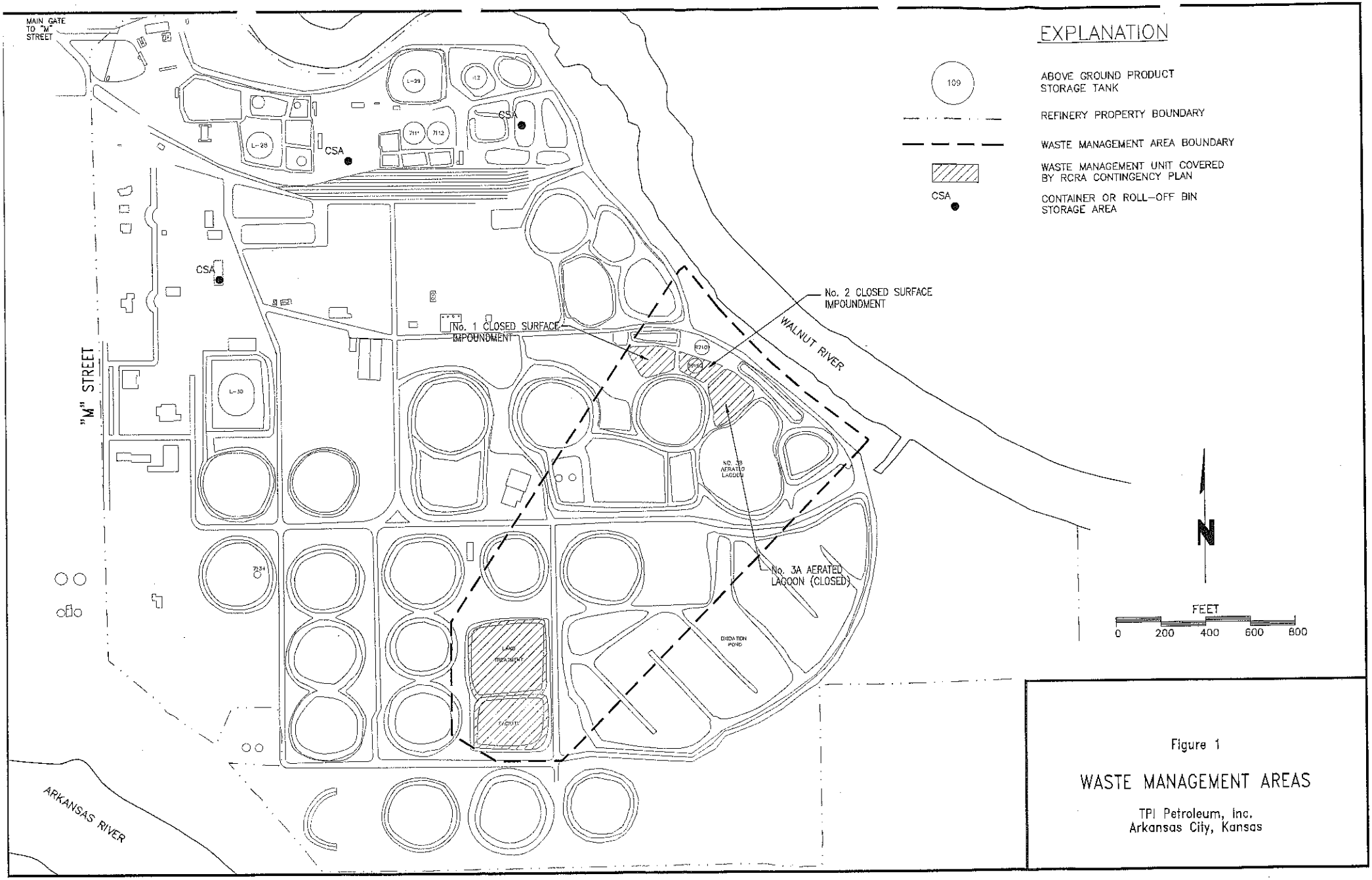

Figure 1

WASTE MANAGEMENT AREAS

TPI Petroleum, Inc.
Arkansas City, Kansas

1.2 COORDINATED EMERGENCY SERVICES [40 CFR §264.52(c) AND §265.52(c)]

Coordinated emergency services agreements have been established in writing with the Arkansas City Fire/EMS and Police Department as well as the Arkansas City Memorial Hospital. Copies of these written agreements are included as Attachment 1 to this Plan.

The Arkansas City Fire/EMS and Police Departments are well staffed and trained to respond to an emergency situation at the facility. Prior to the shutdown of the facility, TPI sent several members of the local fire department to special training on procedures for responding to industrial fires. The Arkansas City Fire/EMS Department has also participated with TPI personnel in mock emergency exercises and drills at the facility. Finally, the Fire Chief and the Fire Marshall have toured the facility to acquaint themselves with the operational changes at the facility.

1.3 EMERGENCY EQUIPMENT [40 CFR §264.52(e) AND §265.52(e)]

The potential of a significant release from the LTU and surface impoundments are low given that these units are closed and no longer accepting waste. The container storage areas and roll-off bin storage area only manage waste during closure or maintenance activities. Table 1 contains a list of the emergency equipment available at the facility. This equipment can be used in the event there is a spill or release from a container or rolloff bin, or during maintenance activities. Communication at the refinery is by cell phones carried by the Senior Environmental Specialist and Environmental Coordinator.

1.4 EVACUATION PLAN [40 CFR §264.52(f) AND §265.52(f)]

An evacuation of the facility will be ordered when there is a serious threat to the health and safety of the employees or contractors working on site. This threat may be due to a major fire or uncontrolled release of hazardous waste or hazardous materials. There are only two employees onsite associated with the closed facility: the Senior Environmental Specialist and the Environmental Coordinator. An outside security firm provides security at night, weekends and holidays.

The Senior Environmental Specialist ordering an evacuation, will immediately notify the local police and fire department that the facility is evacuating its personnel. The Arkansas City Police and Fire Department resources will be utilized if evacuation of surrounding residential areas is necessary.

Evacuation routes for the facility will be posted in the main office and lab (remaining active buildings) for all employees and visitors to review. The evacuation routes will also be discussed during contractor orientation. In the event an evacuation is ordered, the safety routes, based on current weather conditions, will be utilized. Evacuated employees are to report to the front gate.

Employees or contractors are to remain at the front gate until they are given the all clear signal from their supervisor or the senior personnel at the site.

Figure 2 depicts the evacuation routes and the front gate (safe assembly area for the facility).

1.5 EMERGENCY COORDINATOR [40 CFR§264.55 and §265.55]

The Senior Environmental Specialist has been selected as the primary Emergency Coordinator for this facility. The Alternate Emergency Coordinator is the Environmental Coordinator. The names, addresses, daytime, evening and cell phone numbers of these individuals are provided in Table 2.

Both the Emergency Coordinator and his Alternate have the authority to coordinate and commit all necessary resources to implement the contingency plan. In addition, both individuals are thoroughly familiar with:

- the contents of this contingency plan,
- the location and characteristics of waste handled,
- the characteristics, quantity, and location of all hazardous wastes stored at the facility,
- the location of all records within the facility, and
- the physical layout of the facility.

Both employees and any onsite contractors should report potential or actual emergency situations to the Emergency Coordinator (or his designated Alternate when he is not available).

1.6 EMERGENCY PROCEDURES [40 CFR §264.56 and §265.56]

This section of the contingency plan outlines the procedures that will be implemented in the event of a fire, explosion, or release of hazardous waste.

1.6.1 EMERGENCY PROCEDURES IN THE EVENT OF A FIRE

Emergency procedures to be followed in the event of a fire involving hazardous waste at the facility are listed below:

1. Stop work.
2. Turn off any equipment, if in use.
3. Immediately leave the affected area.
4. Notify the facility office at extension 684 or by communicating with the two-way radio. Give your name, location, and extent of fire.
5. Move upwind of the fire and prevent others from entering the area.

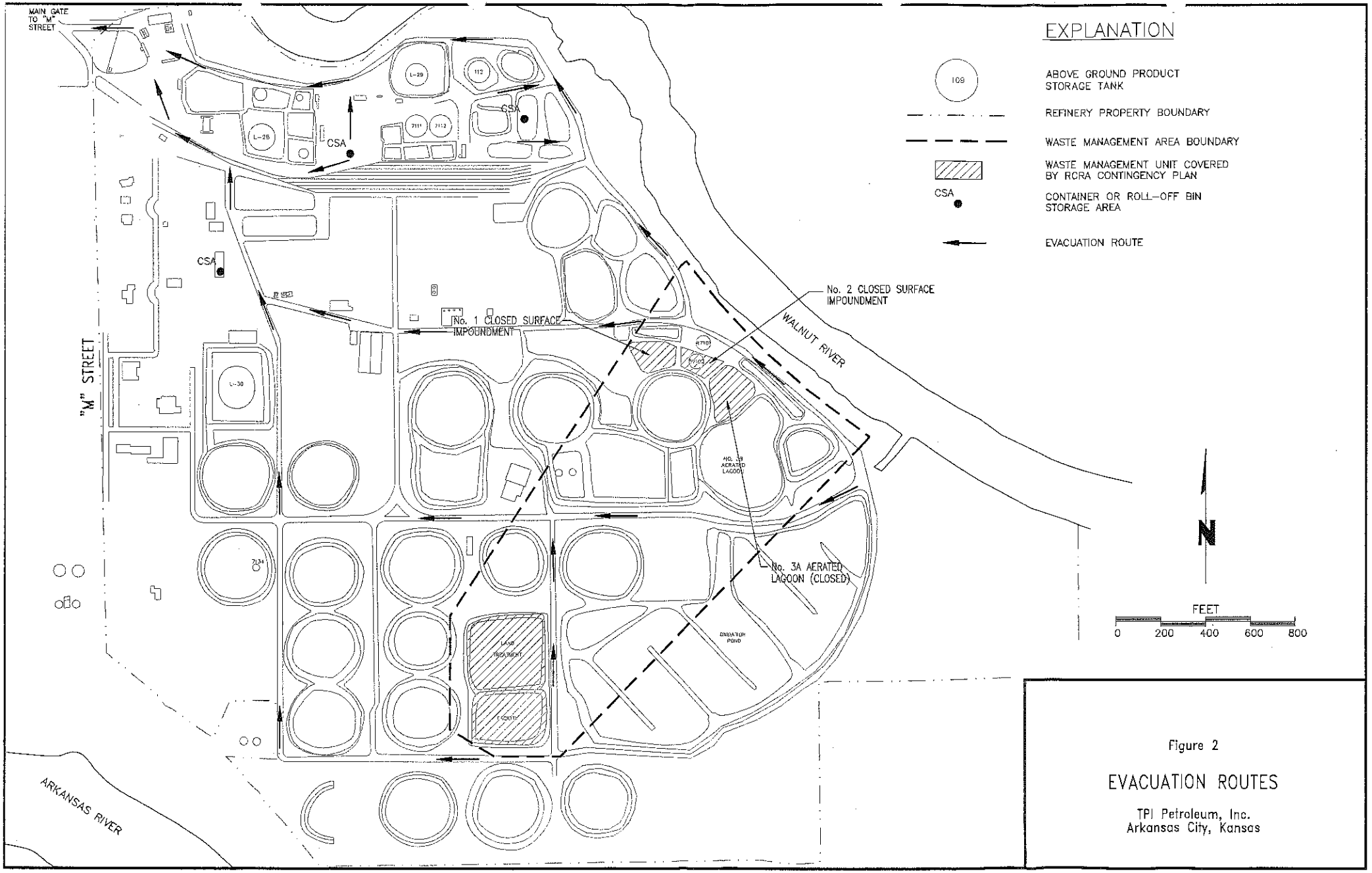

Figure 2

EVACUATION ROUTES

TPI Petroleum, Inc.
Arkansas City, Kansas

If the fire is in the incipient stage (i.e. it is small and can be easily extinguished), it may be appropriate for the onsite personnel to extinguish the fire. If the fire is significant, the Emergency Coordinator or his Alternate will immediately notify the Arkansas City Fire/EMS and Police Departments. All individuals responding to the emergency situation will be under the direction of the Emergency Coordinator.

The Emergency Coordinator, with assistance from the Fire Chief, will be responsible for completing the following actions:

1. Direct the Police Department to deny entry to the facility to all non-emergency personnel.
2. Identify the waste and/or material that caused the explosion.
3. Evaluate the hazards and risks associated with the explosion and any subsequent fire.
4. Determine whether evacuation of personnel from nearby residences and offices is necessary.
5. If required, notify the police to begin evacuation of residences and offices.
6. Direct the Fire Department to contain and extinguish the fire.
7. Monitor the cleanup operation to ensure that the cause of the explosion is eliminated and all waste residue is properly cleaned-up, contained, and stored on-site.
8. Ensure that the affected area is properly decontaminated.
9. Ensure all equipment that is used in the emergency response is decontaminated, repaired or replaced, if required and ready for reuse.

1.6.3 Emergency Procedures in the Event of a Small Spill of Hazardous Waste

The following procedures will be implemented in the event of a spill of 55-gallons or less of hazardous waste at the facility.

1. Stop work.
2. Turn off any equipment, if in use.
3. Place absorbent materials around the spilled material to prevent it from reaching soils, surface waters, or storm drain (see Table 1)
4. Notify the facility office at extension 684 or by communicating with the two-way radio. Give your name, location, and nature and extent of the spill.
5. Move upwind of the spill and prevent others from entering the area.

The Emergency Coordinator or his Alternate will determine if additional support is needed from either the local emergency response organization or contract response groups. All individuals responding to the emergency situation will be under the direction of the Emergency Coordinator.

The Emergency Coordinator will be responsible for completing the following actions:

1. Deny entry to the facility to all non-emergency personnel.
2. Identify the waste and/or material that was spilled.
3. Evaluate the hazards and risks associated with the spill, including potential impacts if the spill reached soils, surface waters, or storm drains.
4. Determine whether evacuation of personnel from nearby residences and offices is necessary.
5. If required, notify the police to begin evacuation of residences and offices.
6. If they have had the required training, direct facility personnel to clean-up the spilled waste materials. The spilled waste will be cleaned-up using shovels if the material is a sludge or solid. If the spilled waste is a liquid, absorbent will be placed to collect the material. All visible stained soils will also be removed during this clean-up activity.
7. Monitor the cleanup operation to ensure that the cause of the spill is eliminated and all waste residue is properly cleaned-up, contained, and stored on-site.
8. Ensure that the affected is properly decontaminated.
9. Ensure all equipment that is used in the emergency response is decontaminated, repaired or replaced, if required and ready for reuse.

1.6.4 Emergency Procedures in the Event of a Large Spill of Hazardous Waste

The following procedures will be implemented in the event of a spill of more than 55 gallons of hazardous waste at the facility.

1. Stop work.
2. Turn off any equipment, if in use.
3. If you can do so without harming yourself or others, place absorbent materials around the spilled material to prevent it from reaching soils, surface waters, or storm drain.
4. Notify the Senior Environmental Specialist on-site at extension 684 or by communicating with the two-way radio. Give your name, location, and nature and extent of the spill.
5. Move upwind of the spill and prevent others from entering the area.

The Emergency Coordinator or his Alternate will determine if additional support is needed from either the local emergency response organizations or contract response groups. All individuals responding to the emergency situation will be under the direction of the Emergency Coordinator.

The Emergency Coordinator will be responsible for completing the following actions:

1. Deny entry to the facility to all non-emergency personnel.
2. Identify the waste and/or material that was spilled.
3. Evaluate the hazards and risks associated with the spill, including potential impacts if the spill reached soils, surface waters, or storm drains.

4. Determine whether evacuation of personnel from nearby residences and offices necessary.
5. If required, notify the police to begin evacuation of residence and offices.
6. Direct emergency response personnel in the containment and clean-up of the spill.
7. Monitor the cleanup operation to ensure that the cause of the spill is eliminated and all waste residue is properly cleaned-up, contained, and stored on-site.
8. Ensure that the affected area is properly decontaminated.
9. Ensure all equipment that is used in the emergency response is decontaminated, repaired or replaced, if required and ready for reuse.

1.7 CARE OF EQUIPMENT

Emergency equipment that is used in an emergency situation will be examined, cleaned and/or replaced or repaired, as necessary. Fire extinguishers will be certified annually.

1.8 COPIES OF THE CONTINGENCY PLAN [40 CFR §264.53 and §265.53]

Copies of this plan and all revisions will be maintained in the main office and mailed to emergency providers. The Senior Environmental Specialist will keep a log that records the changes made to the Contingency Plan (Attachment 2).

A copy of the contingency plan will be provided to the Arkansas City Fire/EMS and Police Departments as well as the Arkansas City Memorial Hospital. Any emergency response contractors that could be called upon to respond to an emergency situation at the site will be provided a copy of this plan.

1.9 AMENDMENTS TO THE CONTINGENCY PLAN [40 CFR §264.54 and §265.541]

It will be the responsibility of the Senior Environmental Specialist to review and immediately amend this contingency plan if one or more the following conditions occur:

- the facility permit is revised;
- the plan fails in an emergency;
- the facility makes a change in the following that materially increases the potential for fires, explosions, or release of hazardous waste or constituents:
  - design,
  - construction,
  - operation,
  - maintenance, or
  - other circumstances.

- the facility changes the response necessary in an emergency; and
- the list of emergency equipment changes.

The Senior Environmental Specialist is responsible for ensuring (by return of signed receipt) that amendments to this plan are distributed. The amendments must be sent to all individuals, local emergency response departments, and response contractors that have copies of the contingency plan. A plan amendment form is in Attachment 2.

1.10 REPORTING AND NOTIFICATION [40 CFR §264.56(j) and §265.56(j)]

Following the response to an emergency situation, certain reporting and notification procedures will be completed. The Senior Environmental Specialist will notify the KDHE when the cleanup effort is completed. In addition to this verbal notification, a written incident report will be prepared by the facility and submitted to KDHE within 15 days of the incident.

The incident reports will include the following elements:

1. facility name, address, and telephone number;
2. owner's name, address, and telephone number;
3. date, time, and type of incident;
4. quantity and name of the waste involved;
5. extent of injuries, if any;
6. assessment of actual or potential hazards to the outside population and/or environment, if applicable;
7. quantity of waste recovered during response and clean-up operations; and
8. disposition of waste recovered during response and clean-up operations.

When cleanup procedures are complete and all emergency equipment is cleaned, repaired, and/or replaced, the Emergency Coordinator will notify KDHE.

The facility operating record will be updated by the Senior Environmental Specialist to indicate that an incident involving the implementation of the contingency plan has occurred at the site. The operating record will reflect the date, time and details of the incident, including a discussion of the cleanup activities.

Table 1
List of Emergency Equipment Located at the Facility (a)
TPI Petroleum, Inc.
Arkansas City Closed Refinery

Description	Location	Capabilities
Spill Recovery Equipment		All materials used to absorb liquid spills of hazardous waste. The absorbed material can then be shoveled into another containment drum for disposal.
Sorbent Pads	Laboratory or Office Building	
Sorbent Fiber	Laboratory or Office Building	
Shovels	Laboratory or Office Building	
Vacuum Truck	Auxilary Warehouse	
55-gallon DOT Hazardous Waste Drums	Fire House	
Personal Decontamination Equipment		
Eyewash	Laboratory or Office Building	Personnel decontamination
Rubber boots	Laboratory or Office Building	
Rubber gloves	Laboratory or Office Building	
Respirators	Laboratory or Office Building	
Goggles and full face splash shields	Laboratory or Office Building	
Disposal Tyvek suits	Laboratory or Office Building	
Explosion/LEL monitor	Laboratory or Office Building	
Oxygen monitor	Laboratory or Office Building	
Plastic sheeting	Laboratory or Office Building	
Water hoses	Laboratory or Office Building	
5-gallon pump up sprayer	Laboratory or Office Building	
Scrub brushes	Laboratory or Office Building	
Two-Way Communication System	Cell phones carried by both employees on site	Communication in an emergency

Table 1
List of Emergency Equipment Located at the Facility (a)
TPI Petroleum, Inc.
Arkansas City Closed Refinery

Description	Location	Capabilities
Fire Extinguishers (b)		
9# Ansul	Fire House	Halon for Type B and C fires
10# Buffalo	Laboratory	CO2 for Type B and C fires
10# Kidde	Laboratory	CO2 for Type B and C fires
10# Kidde	Laboratory	CO2 for Type B and C fires
5# Ansul	Laboratory	CO2 for Type B and C fires
5# Badger	Laboratory	CO2 for Type B and C fires
10# PSH	Laboratory	CO2 for Type B and C fires
5# Ansul	Main Office (Engineering Bldg)	Foray for Type A, B and C fires
9# Ansul	Main Office (Engineering Bldg)	Halon for Type B and C fires
9# Ansul	Main Office (Engineering Bldg)	Halon for Type B and C fires
9# Ansul	Main Office (Engineering Bldg)	Halon for Type B and C fires
9# Ansul	Main Office (Engineering Bldg)	Halon for Type B and C fires
10# Badger	Bio Reactor MCC	CO2 for Type B and C fires
30# Ansul (c)	Near Heat Exchange Bundle Cleaning Pad	Powdered dry chemical for Type B and C fires

Notes:
(a) Equipment to respond to a release of hazardous waste or other emergency per 40CFR 264 and 265 Subpart D
(b) These are for use in the container storage areas or rolloff bin area where hazardous waste may be stored. For site closure and cleanup activities involving equipment demolition or removal, the contractor will provide an appropriate fire extinguisher that will be available at the job site.
(c) This fire extinguisher is located at the ArkCity Asphalt Terminal contiguous to the closed refinery.

TABLE 2

LIST OF PRIMARY AND ALTERNATE EMERGENCY RESPONSE COORDINATORS

Primary Emergency Coordinator

Harold Green
Senior Environmental Specialist

Phone	(620) 442-5100, ext. 684
Cell:	(620) 446-1741
Home phone	(620) 442-5817
Home Address	Rural Route 1, Box 384, Arkansas City, KS 67005

Alternative Emergency Coordinator

Raymond Rahn
Environmental Coordinator

Phone	(620) 442-5100, ext. 668
Cell:	(620) 446-1739
Home Phone:	(620) 442-0288
Home Address:	605 S. D. Street, Arkansas City, KS 67005

ATTACHMENT 1

WRITTEN AGREEMENTS WITH LOCAL EMERGENCY RESPONSE AGENCIES

TOTAL

TOTAL PETROLEUM, INC.

Mr. Oren Skiles
Police Chief
City of Arkansas City
Police Department
Central and 1st Streets
Arkansas City, Kansas 67005-2622

Subject: Mutual Aid Agreement Between Total Petroleum, Inc and the Police Department

Dear Mr. Skiles:

Pursuant to Section 264.37 of Title 40 of the Code of Federal Regulations, this letter shall constitute a letter of mutual aid agreement between Total Petroleum, Inc. and the Arkansas City Police Department.

Total Petroleum, Inc. agrees to provide the Arkansas City Police Department with a copy of the facility's RCRA Contingency Plan. Total Petroleum will also conduct annual site tours for Police Department personnel. As a result of these activities, the following information will be provided to the Department:

- The layout of the Terminal, including the locations of emergency response equipment maintained by Total Petroleum,
- Properties of hazardous waste handled at the facility and associated hazards,
- Locations where Terminal personnel will typically be working,
- Locations of entrances to and roads inside the Terminal, and
- Locations of evacuation routes within the Terminal.

The Arkansas City Police Department agrees to provide Total Petroleum with the following services upon notification by a Total representative:

TOTAL

- Assistance limiting site access, if required, during an emergency situation at the site, and

- Assistance evacuating local residence and business, if such evauaction is deemed necessary.

Over the years, Total Petroleum and the Arkansas City Police Department have developed an effective working relationship. We look forward to maintaining this relationship into the future. Total Petroleum appreciates the support and assistance it has received from the Police Department.

Agreed to:

Harold Green
Operations Manager
Arkansas City Terminal

Oren K. Skiles
Police Chief - Arkansas City, KS

TOTAL

TOTAL PETROLEUM, INC.

Mr. Eddie W. Moore
Fire Chief
City of Arkansas City
Fire/EMS Department
115 South D Street
Arkansas City, Kansas 67005-2622

Subject: Mutual Aid Agreement Between Total Petroleum, Inc and the Fire/EMS Department

Dear Mr. Moore:

Pursuant to Section 264.37 of Title 40 of the Code of Federal Regulations, this letter shall constitute a letter of mutual aid agreement between Total Petroleum, Inc. and the Arkansas City Fire/EMS Department.

Total Petroleum, Inc. agrees to provide the Arkansas City Fire/EMS Department with a copy of the facility's RCRA Contingency Plan. Total Petroleum will also conduct annual site tours for Fire/EMS Department personnel. As a result of these activities, the following information will be provided to the Department:

- The layout of the Terminal, including the locations of emergency response equipment maintained by Total Petroleum,
- Properties of hazardous waste handled at the facility and associated hazards,
- Locations where Terminal personnel will typically be working,
- Locations of entrances to and roads inside the Terminal, and
- Locations of evacuation routes within the Terminal.

The Arkansas City Fire/EMS Department agrees to provide Total Petroleum with the following services upon notification by a Total representative:

TOTAL

TOTAL TOWER 900 19TH STREET DENVER, COLORADO 80202-2523 TELEPHONE 303 291-2220
P.O. BOX 500 DENVER, COLORADO 80201-0500 FAX 303 291-2104

- Response to fires, explosions or release/spills of hazardous wastes or other materials within the refinery, and

- Ambulance service in the event of a serious injury or illness requiring immediate medical attention.

Over the years, Total Petroleum and the Arkansas City Fire/EMS Department have developed an effective working relationship. We look forward to maintaining this relationship into the future. Total Petroleum appreciates the support and assistance it has received from the Fire/EMS Department.

Agreed to:

Harold Green
Operations Manager
Arkansas City Terminal

Eddie W. Moore
Fire Chief - Arkansas City, KS

LAM:cmg

TOTAL PETROLEUM, INC.

Mr. Webster Russell
Administrator
South Central Kansas Regional Medical Center
216 W. Birch Street
Arkansas City, Kansas 67005

Subject: Mutual Aid Agreement Between Total Petroleum, Inc and the Medical Center

Dear Mr. Russell:

Pursuant to Section 264.37 of Title 40 of the Code of Federal Regulations, this letter shall constitute a letter of mutual aid agreement between Total Petroleum, Inc. and the South Central Kansas Regional Medical Center (Medical Center).

Total Petroleum, Inc. agrees to provide the Medical Center with a copy of the facility's RCRA Contingency Plan. Total Petroleum will also provide copies of relevant material safety data sheets. As a result of these activities, the following information will be provided to the Medical Center:

- Properties of hazardous waste handled at the facility and associated hazards, and
- Types of injuries or illnesses that could result from fires, explosions, or releases at the facility.

The Medical Center agrees to provide medical attention to personnel from the Total Petroleum site.

Over the years, Total Petroleum and the Medical Center have developed an effective working relationship. We look forward to maintaining this relationship into the future. Total Petroleum appreciates the support and assistance it has received from the Medical Center.

Agreed to:

Harold Green
Operations Manager
Arkansas City Terminal

Webster Russell
S.C. KS Regional Medical Center

TOTAL TOWER 900 19TH STREET DENVER, COLORADO 80202-2523 TELEPHONE 303 291-2220
P.O. BOX 500 DENVER, COLORADO 80201-0500 FAX 303 291-2104
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ATTACHMENT 2

PLAN AMENDMENT FORM

PLAN AMENDMENT FORM
TPI PETROLEUM, INC.
ARKANSAS CITY CLOSED REFINERY

Date of Change	Reason for Change
March 1998	Original plan submitted with Part B RCRA Permit Application (1985). Renewal Application dated March 1998
November 2002	Facility closed, plan reflects potential emergencies related to closed hazardous waste storage units, active container and rolloff bin storage areas and equipment removal and cleaning.

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

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October 24, 2002

RECEIVED
OCT 2 8 2002
BUREAU OF WASTE MANAGEMENT

99-0138R-018

Ms. Katherine Dunn
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

CERTIFIED MAIL

Re: Startup Notification for Soil Vapor Extraction and Air Sparge System
Land Treatment Unit Corrective Action
TPI Petroleum, Inc. Arkansas City Refinery
Facility ID: KSD087418695

Dear Ms. Dunn:

EnecoTech Inc. is submitting this letter on behalf of TPI Petroleum, Inc. (TPI). The purpose of this letter is to notify the Kansas Department of Health and Environment (KDHE) of the startup of the Land Treatment Unit soil vapor extraction and air sparge system at TPI's Arkansas City, Kansas facility in compliance with Sections IV.C.1.b and IV.H.1 of the facility's hazardous waste permit. TPI will submit as-built drawings for the Part B Application and Engineering Feasibility Plan by December 22, 2002.

If you have any questions or comments regarding this information, please call Brenda Manterola of Valero at (210) 592-4619 or Jay Mednick at (303) 861-2200 ext. 129.

Sincerely,

ENECOTECH INC.

Jay Mednick

cc: Brenda Manterola, Valero
Harold Green, Valero
Kevin Anderson, KDHE
Jeffery Robichaud, EPA

N:\ARKCITY\138R014\005\RCRAPRMT\LTU Corrective Action\Corresp\ltu sve-as startup notificationt.doc

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October 24, 2002

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

99-0138R018

CERTIFIED MAIL

Re: Groundwater Recovery Well RW-80A
Transmittal of Replacement Page for the Engineering Feasibility Plan and Operation and Maintenance Plan
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson,

TPI Petroleum, Inc. has completed the replacement of recovery well RW-80A. Attached are two copies of the well construction diagram for the replacement recovery well RW-80A. A copy of the Water Well Plugging Record, Form WWC-5P is also enclosed for your records. This form was submitted to the Kansas Department of Health and Environment, Bureau of Water on September 4, 2002 following the plugging and abandonment of the original recovery well RW-80A.

The replacement recovery well construction was completed at the conclusion of the surveying on October 4, 2002. The well was placed into operation on August 12, 2002.

As noted above, two copies of the well construction diagram are included. The attached diagrams, Figure A-10 and Figure 5-6, replace the same figures in the Operation and Maintenance Plan and Engineering Feasibility Plan respectively.

If you have any questions about the attached information, please contact either Brenda Manterola, of Valero Energy Corporation at 210/592-4619 or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachments: Figures A-10, 5-6 and form WWC-5P
Cc: Brenda Manterola, Valero
Harold Green, Valero
Kathy Dunn, KDHE
Jeffery Robichaud, EPA Region VII

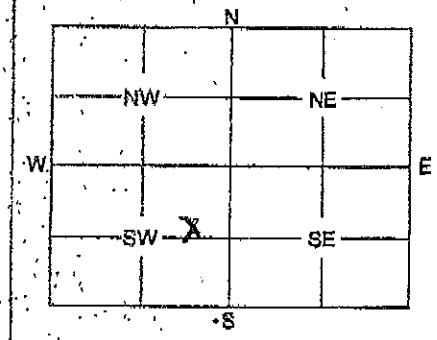
WATER WELL PLUGGING RECORD Form WWC-5P KSA 82a-1212 ID NO.

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Cowley	SE¼ NE¼ SW¼	32	34S	4 (E) W

Distance and direction from nearest town or city street address of well if located within city?

2 WATER WELL OWNER: TPI Petroleum, Inc.
RR #, St. Address, Box #: 1400 So. M St
City, State, ZIP Code: Arkansas City, KS 67005
Board of Agriculture, Division of Water Resources Application Number:

3 MARK WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF WELL 37 ft.
WELL'S STATIC WATER LEVEL 13 ft.

WELL WAS USED AS:

1 Domestic	5 Public Water Supply	(9) Dewatering
2 Irrigation	6 Oil Field Water Supply	10 Monitoring Well
3 Feedlot	7 Domestic (Lawn & Garden)	11 Injection Well
4 Industrial	8 Air Conditioning	12 Other

Was a chemical / bacteriological sample submitted to Department? Yes ..... No X
If yes, mo/day/yr sample was submitted .....
Water Well Disinfected: Yes X No .....

5 TYPE OF BLANK CASING USED:

(1) Steel	3 RMP (SR)	5 Wrought	7 Fiberglass	9 Other (Specify below)
2 PVC	4 ABS	6 Asbestos-Cement	8 Concrete Tile	

Blank casing diameter 10 in. Was casing pulled? Yes ..... No X If yes, how much .....
Casing height above or (below) land surface 3.6 in.

6 GROUT PLUG MATERIAL: 1 Neat cement (2) Cement grout 3 Bentonite 4 Other .....
Grout Plug Intervals: From 3 ft. to 6 ft., From ..... ft. to ..... ft., From ..... to ..... ft.

What is the nearest source of possible contamination:

1 Septic tank	6 Seepage pit	(11) Fuel storage (old)	16 Other (specify below)
2 Sewer lines	7 Pit privy	12 Fertilizer storage	
3 Watertight sewer lines	8 Sewage lagoon	13 Insecticide storage	
4 Lateral lines	9 Feedyard	14 Abandoned water well	
5 Cess pool	10 Livestock pens	15 Oil well/Gas well	

Direction from well? ..... How many feet? .....

FROM	TO	PLUGGING MATERIALS
0'	3'	Compacted Soil
3'	6'	Cement Grout
6'	37'	Washed Filter Pack Sand

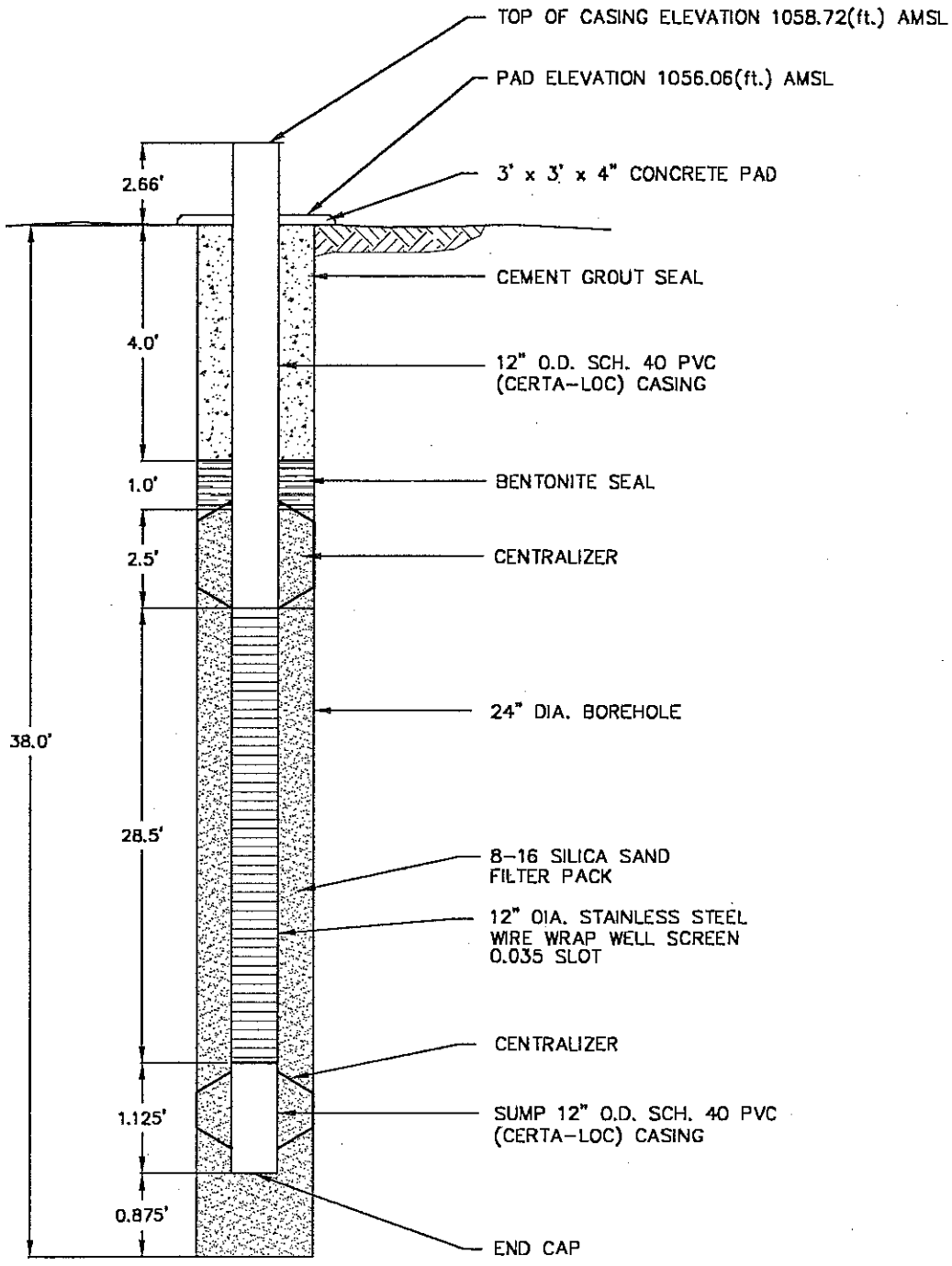
RW-80A

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was plugged under my jurisdiction and was completed on (mo/day/year) 8/27/02 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. ..... This Water Well Record was completed on (mo/day/year) 9/4/02 under the business name of TPI Petroleum, Inc. by (signature) Harold Brown

INSTRUCTIONS: Use typewriter or ball point pen. Please press firmly and print clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Ste. 420, Topeka, Kansas 66612-1367. Telephone: 785/296-5522. Send one to Water Well Owner and retain one for your records.

Replacement Page

Engineering Feasibility Plan



SECTION
NOT TO SCALE

BUILT BY: LAYNE-WESTERN
DATE DRILLED: 7/31/02
SURVEY DATE: 10/4/02

LOCATION (Plant Coordinates)

NORTHING -1170.33(ft.)
EASTING 2861.30(ft.)

ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL (AMSL)

EnecoTech
ENVIRONMENTAL CONSULTANTS

Figure No.: 5-6

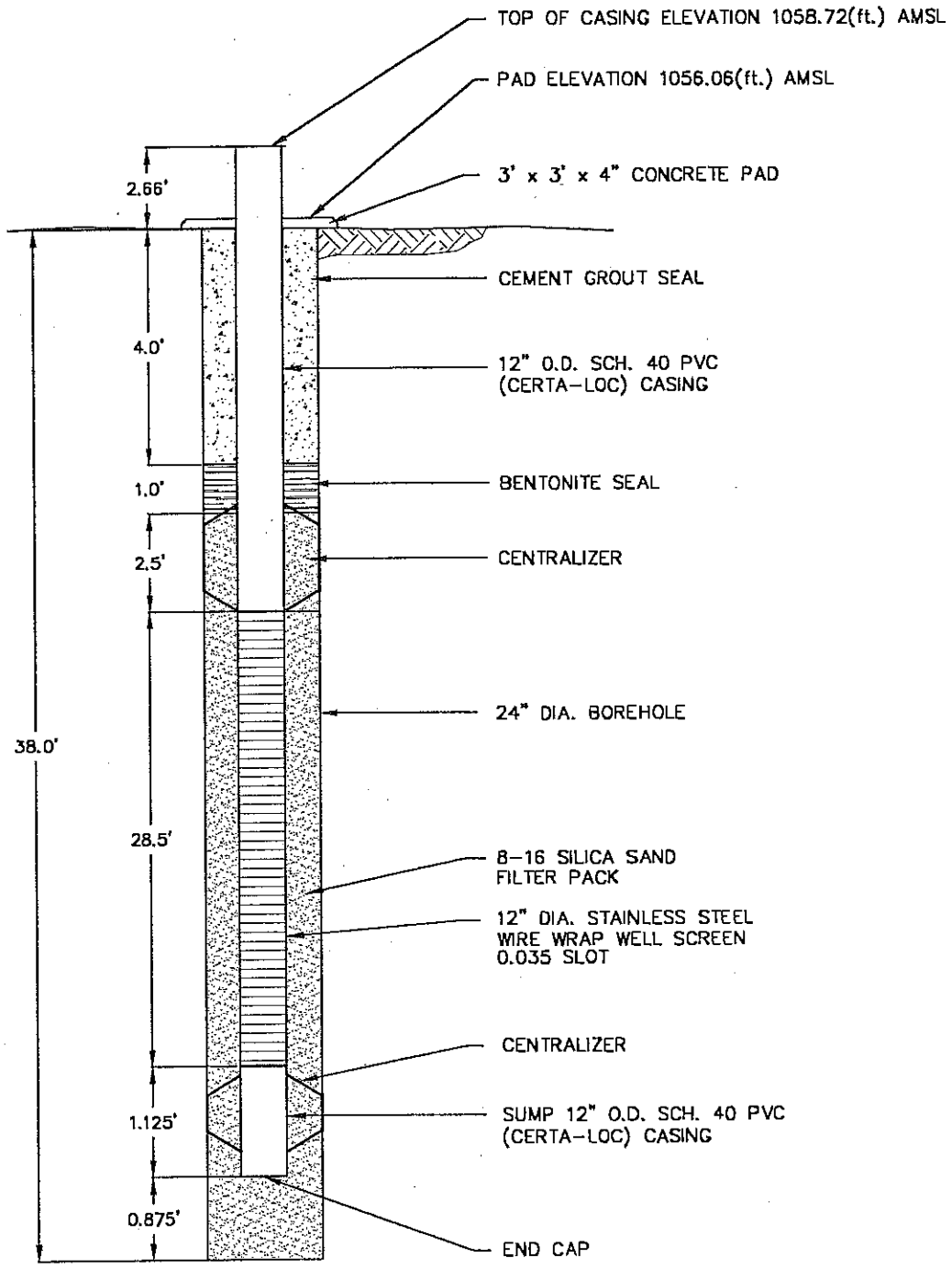
RECOVERY WELL RW-80A CONSTRUCTION DIAGRAM

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

1386-017	DESIGNED BY: JFM	APPROVED BY:	
RW-80A	DRAWN BY: LKG	DATE: 9/5/02	REV:

Replacement Page

Groundwater Recovery Well Operation and Maintenance Plan



SECTION
NOT TO SCALE

BUILT BY: LAYNE-WESTERN
DATE DRILLED: 7/31/02
SURVEY DATE: 10/4/02

LOCATION (Plant Coordinates)

NORTHING -1170.33(ft.)
EASTING 2861.30(ft.)

ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL (AMSL)

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ENVIRONMENTAL CONSULTANTS

Figure No.: A-10

RECOVERY WELL RW-80A CONSTRUCTION DIAGRAM

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

1388-017	DESIGNED BY: JFM	APPROVED BY:	
RW-80A	DRAWN BY: LKB	DATE: 9/5/02	REV:

KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

September 19, 2002

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 6060000
San Antonio, TX 78269-6000

Re: Permit Modification 01 to Land Treatment Unit Closure Plan
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

This letter is notification that the Kansas Department of Health and Environment (KDHE) approves the request for modification to the Land Treatment Unit Closure Plan, Appendix I of the Part B Permit Application, dated May 1, 2002, and received May 3, 2002. This approval for the modification is made subsequent to the effective date of the renewal permit, October 24, 2001. Approval is given only for this modification of the Land Treatment Unit Closure Plan. Any subsequent modifications must be addressed in separate correspondence.

In accordance with 40 CFR 270.42, this Class 1[1] permit modification requires the permittee to send notice of the modification to all persons on the facility mailing list within 90 calendar days after KDHE approves the request. This notice must specify changes made to permit conditions and supporting documents referenced by the permit and explain why they are necessary. When submitting the changes, please make sure all copies of the Part B Permit Application are updated to include the modified plan.

I apologize for the delay in sending written approval for the modification. If there are any questions regarding this letter, you may contact me at kanderso@kdhe.state.ks.us or (785) 291-3760.

Sincerely,

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Cc: Mark Bradbury- SCDO/DEA/Waste Programs
Jeffrey Robichaud- EPA Region 7/RCAP Branch
Joseph Mednick- EnecoTech
Rob Franke-R&B Associates, Inc.

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

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BUREAU OF WASTE MANAGEMENT

September 16, 2002

99-0138R018

Kevin M. Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Response to KDHE May 2002 Groundwater Sampling Report Comments
Semiannual RCRA Groundwater Corrective Action Report
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. Anderson:

EnecoTech Inc. is submitting this response to KDHE's July 25, 2002 letter on behalf of TPI Petroleum, Inc. (TPI). This letter addresses the five comments pertaining to the May 2002 semiannual groundwater sampling event conducted at the TPI Arkansas City facility in accordance with the RCRA permit requirements. The responses are provided below.

Comment 1: Tables 2 and 3, density of product and elevations to tops of casings are not included in the report. Please furnish this information.

Response 1: Monitoring wells WN-7B, WN-8B and MW-6 contained 0.01 feet, 0.79 feet and a trace of product respectively as indicated on Table 2. Groundwater elevations are corrected in the presence of free product to account for the difference in density between the groundwater and the free product. The product density used in the calculation is 0.8.

We are including a revised Table 2, which contains the top of casing elevations. Table 3 contains the top of casing elevations (measuring point elevations). Table 3 contains the depth to groundwater measurements for the capture zone monitoring wells used to monitor the groundwater gradient control. These wells do not contain free product. If product is detected in the capture zone monitoring wells during a monitoring event, the product density will be determined if sufficient volume is available. However, the occurrence of free product is an unlikely event by design. These monitoring wells are screened in the lower part of the aquifer to prevent product from entering the well.

Comment 2: Table 3, total well depths were not submitted for Capture Zone Monitoring Wells. Please include total well depths for Capture Zone Monitoring Wells.

Response 2: The total well depths for capture zone monitoring wells were not measured during this sampling event. The well depths are to be monitored on an annual basis in accordance with the RCRA permit, Section IV, Table 5. The capture zone well depths will be measured during the next semiannual

groundwater sampling event. The capture zone well depths recorded on the well construction diagrams are listed below.

Well ID	Well Depth (ft below measuring point)
CMW-1	31.44
CMW-2	35.15
CMW-3	33.73
CMW-4	31.77
RCRA-7	46.04
113	52.06
118	46.43
MW-1002	50.82

Comment 3: Field logs were not presented with the report. Please include copies of the field logs.

Response 3: Copies of the field logs are attached to this letter. In the future, the logbook entries will be included in the reports.

Comment 4: Data should be submitted in electronic format. Please include data on electronic disk.

Response 4: A CD-ROM disk is included with this letter. An Adobe Acrobat PDF file containing the semiannual report is included on the CD-ROM.

Comment 5: Any samples above the GWPS due to matrix interference should be documented and a statement acknowledging this fact should be included in discussion. Please include this information.

Response 5: There were no samples with concentrations exceeding the GWPS due to matrix interference during the May 2002 semiannual groundwater-sampling event.

If you have any questions or comments about these responses, please contact either Brenda Manterola, of Valero Energy Corporation at 210/592-4619 or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachments:
Cc: Harold Green, Valero Energy Corporation
Brenda Manterola, Valero Energy Corporation
Jeffery Robichaud, EPA Region VII

Table 2 Summary of Groundwater Level Measurements
RCRA Corrective Action Groundwater Monitoring
TPI Petroleum, Inc. Arkansas City, Kansas

Station	Date	Measuring Point Elevations (ft amsl)	Depth to LNAPL (ft BTOC)	Depth to Water (ft BTOC)	LNAPL Thickness (ft)	Corrected Groundwater Elev. (ft AMSL)	Data Collected
WN-1A	04/30/02	1066.95	ND	18.76	0.00	1048.19	WQ
WN-1B	04/30/02	1066.55	ND	18.76	0.00	1047.79	WQ
WN-5B	04/30/02	1064.82	ND	18.18	0.00	1046.64	WQ
WN-6A	04/30/02	1065.72	ND	19.51	0.00	1046.21	WQ
WN-6B	04/30/02	1064.54	ND	18.84	0.00	1045.70	WQ
WN-7B	04/30/02	1064.75	17.28	17.29	0.01	1047.47	WQ
WN-8B	04/30/02	1065.10	17.62	18.41	0.79	1047.32	WQ
MW-6	04/30/02	1062.39	20.27	20.27	Trace	1042.12	WQ
MW-12	04/30/02	1071.97	ND	34.83	0.00	1037.14	WQ
MW-13	04/30/02	1063.00	ND	20.91	0.00	1042.09	WQ
MW-17	04/30/02	1065.71	ND	19.66	0.00	1046.05	WQ
RCRA-4	04/30/02	1061.43	ND	17.91	0.00	1043.52	WQ

Notes:
ND = LNAPL not detected
LNAPL = light non aqueous phase liquid
ft = feet
BTOC = below top of casing
AMSL = above mean sea level
WQ = water quality sample collection

4-30-02

0811

Onsite Lance Whisman & Steve Mayer of EnecoTech

Gauge depth to water of all sample wells

Well	DTP	DTW	TD
~~MW-6A~~	—	19.51	44.93
	—	19.51	—
MW-6B	—	18.84	29.96
	—	18.84	—
MW-17	—	19.66	34.70
	—	19.66	—
MW-5B	—	18.18	27.04
	—	18.18	—
MW-1A	—	18.76	44.35
	—	18.76	—
MW-1B	—	18.76	31.14
	—	18.76	—
MW-7B	17.28	17.29	32.45
	17.28	17.29	—
MW-8B	17.62	18.41	32.53
	17.62	18.41	—

4-30-02

Well	DTP	DTW	TD
MW-6	sheen	20.27	25.14
	sheen	20.27	—
MW-13	—	20.91	37.90
	—	20.91	—
MW-12	—	34.83	48.77
	—	34.83	—
RCRA-4	—	17.91	24.23
	—	17.91	—

Load equipment

Lunch 11:25 – 12:10

Load well wizard trailer

Regulator does not fit air bottle.

Treads are stripped.

Switch bottles Harold and ramon will try to fix treads on bottle or replace.

↓ LW

4

4-30-02

Well head PID reading 0.0 ppm

Setup for WN-1A 1320

Start pumping

Calibrate All meters

Orion pH temp

Orion conductivity

turbidity

YSI dissolved O_2 (DO)

WN-1A DO readings

1 vol	1.26
2 vol	1.25
3 vol	1.25
4 vol	1.27

Sample WN-1B at 1410

Setup for WN-1B

Start pumping 1414

Well head PID reading 0.0 ppm

WN-1B DO readings

1 vol	1.90
2 vol	1.75
3 vol	1.72
4 vol	1.74

5

4-30-02

WN-1B (cont.)

Sample WN-1B at 1530

Move to WN-6A well

Well head PID reading 0.0 ppm

Set up and start pumping 1536

DO readings

1 vol	1.70
2 vol	1.00
3 vol	1.10
4 vol	1.05

Sample WN-6A with matrix spike and matrix spike duplicate taken at 1632

Pack up and store equipment

Offsite 1655

LW

5-1-02

Onsite Lance Whisman &
Brent Neece of EnecoTech
Partly cloudy 80°F Wind → N 10-15 mph

Setup trailer and equipment
Calibrate all meters.

Setup at MW-12
Start pumping at 1030
Well head PID reading 0.0
DO meter readings 1 vol 1.65
2 vol 0.92
3 vol 1.07
4 vol 0.85

Sample MW-12 at 1105 hw

Field Blank sample taken with DI water around well. at 1110

Move to MW-13 location

5-1-02
Well head PID reading 0.0 ppm
Setup and start pumping at 1120.

DO meter readings 1 vol 1.31
2 vol 1.22
3 vol 1.11
4 vol 1.15

Sample MW-13 at 1205

Check broken connection joint on MW-6.

Lunch 1230-1320
Calibrate all meters
Take air joint from MW-3A pump and replace on MW-6 after heavy decon.
Well head PID reading 18.2 ppm
MW-6 pump not in water
Start to hand bail. at 1420
Heavy hydrocarbon odor and sheen

hw

5-1-02

cont. MW-6

DO readings
1 vol 0.34
2 vol 0.42
3 vol 0.41
4 vol 1.00

Sample MW-6 at 1445

Pump purge water at waste water treatment area

Move to RCRA-4 location

Well head PID reading 0.1 ppm 1515

Setup and start pumping at ~~1530~~ 1540 LW

Need to hand bail with bailer

DO meter readings 1 vol 0.52
2 vol 1.02
3 vol 0.86
4 vol 0.50

Sample RCRA-4 at 1615

Move to MW-5B at 1620

Well head PID reading 0.0 ppm

↓ LW

5-1-02

cont. MW-5B

Begin pumping at 1625

~~Purge~~

DO readings 1.55 1 vol
1.77 2 vol
1.39 3 vol
1.60 4 vol

Sample MW-5B at 1715

Trip Blank 2 labeled and placed in cooler.

Pack up equipment

Offsite at 1730

↓ LW

5-2-02

0808

Onsite Lance Wiseman & Brent Neece of EnecoTech

Windy cloudy 45-50°F wind North 10-25 mph.

Change out air bottles on trailer.

Pack more ice on samples.

Move to WN-6B location

Calibrate all meters

PID calibrated to 101 ppm.

Well head PID reading 3.5 ppm

Start pumping at 0910

DO meter readings 1 vol 1.23

2 vol 0.59

~~3 vol~~

Pump stopped at 4 gallons. Hand bail 10 gallons slight obstruction in well at 32-33 ft.

Sample WN-6B at 1005

Sample taken after 10 gallons

5-2-02

cont. WN-6B

Obstruction would not allow bailer to sink on down for a full bailer of water.

Move to MW-17 location

Put new pump in well.

Well Head PID reading 0.0 ppm

Start pumping at 1020

DO readings

1 vol	2.14
2 vol.	1.15
3 vol.	0.92
4 vol.	0.90

Sample MW-17 at 1105

Move to WN-7B location

Well head PID reading 0.0 ppm

Start pumping at 1115

DO readings

1 vol	1.34
2 vol	1.19
3 vol	1.00
4 vol	2.19

↓ LW

5-2-02

WN-7B cont. Sample WN-7B at 1158

Move to WN-8B

Well head PID reading 3.5 ppm

Start pumping at 1205

DO readings (LW)

1 vol	~~1.34~~	1.94
2 vol	~~1.19~~	1.87
3 vol	~~1.00~~	1.78
4 vol	~~2.19~~	1.70

Sample WN-8B at 1245

Duplicate of WN-8B taken at 1245 but called RCRA-5 and showed on Chain of Custody as sampled at 1400.

Move to Bioreactors

5-2-02

Sample West Bioreactor at 1320

Parameters
pH 6.93
temp 19.0 °C
conductivity 179
turbidity 21
DO 0.61

Sample East bioreactor at 1330

Parameters
pH 7.06
temp 18.2° C
conductivity 193
turbidity 14
DO 4.27

Dump all purge water at ~~to~~ the wastewater treatment area.

Store all equiment Offsite 1415

↓ LW

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September 16, 2002

Katherine Dunn
Environmental Scientist
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

99-0138R018

CERTIFIED MAIL

Re: Response to KDHE Comments
KDHE Final Operation and Maintenance Inspection Report
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Ms. Dunn:

EnecoTech Inc. is submitting this response to KDHE's Operation and Maintenance Inspection Final Report (Final O&M Report), July 25, 2002 on behalf of TPI Petroleum, Inc. (TPI). This letter addresses the comments that were not incorporated in the final operation and maintenance report.

Comment 1: In reviewing the analytical data from this sampling event, KDHE noted the detection limit for Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, 1,4 Dioxane, Indeno(1,2,3-cd)pyrene, Nitrobenzene, Phenanthrene, Pyridine, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene was above the groundwater protection standard established by Permit Condition IV.B.1. In accordance with Permit Condition IV.B.3., Groundwater Detection Limit, TPI must provide supporting documentation to explain why detention limits for each hazardous constituent exceeded the groundwater protection standard. This documentation must be included in the groundwater corrective action report required by Permit Condition IV.E.

Response 1: As discussed with KDHE, at the present, benzene is the primary constituent of concern with toluene, ethylbenzene and xylenes. That is not to say the other permit constituents are not of concern, however, during the initial phase of the corrective action these constituents are present at concentrations far greater than the other constituents. As a result, it can be expected that elevated concentrations of the BTEX constituents will require the laboratory to dilute the groundwater samples to bring the concentrations within the calibration range of their instrumentation. As samples are diluted to address analytical requirements, there is a corresponding increase in the method reporting level. In some instances, the laboratory reporting levels will exceed the GWPS for certain constituents. However, the BTEX constituents will be reported accurately. As the groundwater corrective action continues, the constituent concentrations will decline and the need to dilute samples will diminish with improved analytical reporting levels.

The analysis of the semivolatile organic constituents listed in the comment are performed using USEPA SW-846 Method 8270B in accordance with the approved groundwater sampling and analysis plan. The GWPS listed in the RCRA permit for these constituents are below the current method detection levels for the instrumentation. TPI will continue to work with their contract laboratory to address this issue.

Comment 2: All monitoring wells within the corrective action monitoring system must have legible, identification. KDHE noted during the inspection that wells WN- I A, WN-5B, RCRA-4, and RCRA-7 need legible identification on the outside outer protective casing. The identification on RCRA-4 was fixed during the inspection. During the inspection, the sampling team stated that well identification for all wells was to be remarked at the completion of the sampling event.

Response 2: As noted in the comment this situation was rectified during the inspection. TPI will maintain the monitor wells including maintenance of well identification and protective caps.

Comment 3: All monitoring wells must have a cap on the inner casing. RCRA-7 did not have a protective cap on the inner casing. A protective cap was placed on the well prior to the conclusion of the May 1-2, 2001 sampling event.

Response 3: As noted in the comment this situation was rectified during the inspection. TPI will maintain the monitor wells including maintenance of well identification and protective caps.

Comment 4: All wells within the corrective action monitoring network must have a benchmark to use for the purposed of measuring groundwater elevations and total well depths. To ensure that the elevations used for the capture zone monitoring are accurate, KDHE recommends all wells within the corrective action monitoring network be surveyed from a common benchmark and each mark clearly identified on the top of the well casing. In addition, KDHE recommends calculations of head differential for the capture zone monitoring be completed in the field.

Response 4: This comment has been addressed as noted in the Final O&M Inspection Report. In addition to resurveying these monitor wells, a new field form has been added to the groundwater sampling and analysis plan for the calculation of head differences in the field for capture zone monitoring wells.

Comment 5: The procedures as outlined in the SAP must be followed. This includes collection of field blanks during each sampling event. Field log sheets do not indicate field blanks were collected during the May 2001 sampling event.

Response 5: Field blanks were not collected during this sampling event due to an oversight. The field blanks will be collected in the future.

Comment 6: The original well log and the current total depth of some monitoring wells show unacceptable discrepancies in the total depth. Discrepancies may be due to excessive siltation in the wells or incorrect measurement of the wells during installation. Permit Condition IV.D.3.d.requires

redevelopment of wells which have silted in over 10% of the screened area. Each well listed in Table 6 with a change in depth greater than 10% must be redeveloped. This includes monitoring wells WN-IA, WN-5B, WN-6A, WN-6B, and WN-7B. In addition, the facility must propose a method to determine the actual depth of monitoring well MW-6, which measured deeper than original well logs. The total depth of each monitoring well must be established to adequately evaluate each monitoring well annually.

Response 6: All monitoring wells with a change in depth greater than 10% were redeveloped. The total well depth was determined using a weighted tape measure and confirmed by installing 1-inch diameter threaded PVC casing to the bottom of the well. The 1-inch casing length was measured to determine the monitor well depths. Table 1 in the Groundwater Sampling and Analysis Plan has been revised to reflect this data.

Comment 7: During the inspection, KDHE observed problems with one of the two oil/water interface probes used to measure PSH and groundwater levels. KDHE recommends all monitoring equipment be inspected and in good working condition prior to each sampling event.

Response 7: This comment has been addressed as noted in the Final O&M Inspection Report. TPI will maintain its monitoring equipment in good working order.

If you have any questions or comments about the information presented in this report, please contact either Brenda Manterola, of Valero Energy Corporation at 210/592-4619 or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachments:

Cc: Brenda Manterola, Valero
Harold Green, Valero
Kevin Anderson, KDHE
Jeffery Robichaud, EPA Region VII

RBA
R&B ASSOCIATES, INC.

201 W. Beltline Rd., Suite C800
Cedar Hill, Texas 75104-2060
Phone: (972) 293-6722
Fax: (972) 293-3956

August 12, 2002

RECEIVED
AUG 16 2002
BUREAU OF WASTE MANAGEMENT

Kevin M. Anderson, Environmental Scientist
Corrective Action Unit, Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

RE: Response To Comments - Class 1A Permit Modification Request – Land Treatment Unit TPI Petroleum, Inc. – Arkansas City, KS - EPA ID No. KSD 087418695

Dear Mr. Anderson:

On behalf of Ms. Brenda Manterola, with TPI Petroleum, Inc., please accept the following responses to your letter of July 26, 2002. A response to each comment is provided below and a revised version of the text has been attached. Specific pages that have been changed have also been attached showing underlined additions and strikeouts for deleted text.

First comment:

Page 1, paragraph 3, the word "duel" should be replaced with "dual".

Response:

The word has been deleted in favor of the revised text described under the response to the second comment.

Second Comment:

Page 1, paragraph 3, the KDHE has sole authority for closure of the LTU. Please make the appropriate changes to the text.

Response:

The text was intended to clarify that the LTU is both a RCRA regulated unit and a solid waste management unit (SWMU) resulting in some overlapping review and closure/corrective action procedures. The text has been modified to clarify that KDHE has sole authority for closure of the LTU as a RCRA regulated unit.

Third Comment:

Page 9, refers to a tiller in this section. A tiller is a separate attachment to a tractor usually a rototiller. Is the disk mentioned on page 6 to be used for tillage or a rototiller, or both? Please clarify this point.

Response:

The term "tiller" has been removed in favor of the term "tillage equipment". Generally, the term is intended to refer to plowing, turning, or otherwise, mixing and aerating the material. A disk attached to a tractor is normally used to till the soil/waste. Should it become necessary to add nutrients or biosolids to

further enhance degradation, we anticipate using the disk to "till" the material into the waste. However, if we are unable to achieve the necessary depth or degree of desired mixing, a separate rototiller, soil stabilizer, or even a backhoe may be used to till the material at depth. We anticipate developing these options more fully in the Corrective Measures Report (CMS).

Fourth Comment:

Page 9, point #5, when (time of year) will soil cores used for soil testing be taken?

Response:

Soil core sampling is conducted during the November/December timeframe. The Annual Land Treatment Unit Sampling Report is typically completed within 90-days of the sampling event. The last annual report was submitted on March 1, 2002 following the December 13-14, 2001 sampling event. If and when non-food vegetation is introduced to the LTU, it will be necessary to re-evaluate the timing for obtaining the soil core samples.

Fifth Comment:

Page 20, background comparisons and risk-based constituent level evaluations section states removal of Risk Assessment (RA), but discussion continues about RA. Is RA a part of the CA in the LTU Closure Plan or has it been removed?

Response:

The originally approved closure plan required completion of a risk assessment specific to the LTU. The modified closure plan removes the procedures associated with a new or separate risk assessment relying instead on the risk assessment performed during the RFI. The reference to a risk assessment in the text is intended to verify that the cleanup goals will be prepared considering site-specific conditions. The text of the closure plan has been edited to further clarify that the reference to the risk assessment is indeed, the risk assessment prepared in accordance with the RFI.

Thank you for your comments regarding the proposed modification. Please let me know if you need additional information of have additional comments regarding the revised text of the closure plan. Following your approval, TPI will provide notice to the facility mailing list regarding this modification.

Please contact Ms. Brenda Manterola at (210) 592-4619 or me at (972) 293-6722 if you have questions or require additional information. You may also contact us via e-mail at brenda.manterola@valero.com or rfranke@rba-inc.net.

Sincerely,

Rob Franke, P.E.
R&B ASSOCIATES, INC.

cc w/ enclosure: Brenda Manterola, Manager, Environmental
Jeffery Robichaud, EPA Region 7, RCAP Branch
Jay Mednick, EnecoTech

LAND TREATMENT UNIT CLOSURE PLAN
TPI PETROLEUM, INC.
ARKANSAS CITY, KANSAS REFINERY

[40 CFR 264.111-264.116, 264.280]

ORIGINAL APPROVAL: JANUARY 25, 2000

MODIFICATION 01: ~~MAY~~AUGUST 2002

Submitted to:

Kansas Department of Health and Environment
Topeka, Kansas

Submitted by:

TPI Petroleum, Inc.
San Antonio, Texas

Prepared by:

Earth Tech, Inc.
5555 Glenwood Hills Parkway SE
Grand Rapids, MI 49588-0874

EARTH TECH PROJECT NO. 27002.01

Modification 01Completed by:

R&B Associates, Inc.
201 W. Beltline Rd., Suite C-800
Cedar Hill, Texas 75104

RBA Project No. 003 019

LAND TREATMENT UNIT CLOSURE PLAN
(40 CFR 264.111 – 264.116, 264.280)

1.0 INTRODUCTION

This plan addresses requirements for closure of a Land Treatment Unit (LTU) at TPI Petroleum, Inc.'s (TPI) Arkansas City Refinery. This closure plan has been prepared to meet the RCRA closure requirements of Chapter 1, Title 40, "Protection of Environment" contained in the Code of Federal Regulations (CFR) and the requirements presented in the RCRA Corrective Action Plan guidance (RCAP), EPA 520-R-94-004 (OSWER Directive 9902.3-2A) as approved by EPA in the Corrective Measures Study (CMS) dated February 2002. Specifically addressed by this plan is Part 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities" as they relate to closure of land treatment units. The applicable rules are 40 CFR 264, Subpart G "Closure and Post-Closure of Hazardous Waste Facilities", Sections 264.111 - 264.116; and Subpart M, "Land Treatment", Section 264.280.

This written closure plan will be implemented beginning November 1998. TPI notified the Kansas Department of Health and Environment (KDHE) of their intent to close the LTU in a letter dated November 6, 1997 and clarified key issues to reach agreement on elements of this plan at a September 15, 1998 meeting in Topeka, Kansas. The plan has been updated as of April 2002 and will be updated and amended as may be required.

Based on 40 CFR 264.111 (c), this plan has been modified to provide for closure of the LTU consistent with corrective action for other Solid Waste Management Units (SWMUs) listed in Part II of the RCRA Permit. While this modification provides for a consistent approach to closure and corrective action for the LTU and other SWMUs, ~~there remains~~the KDHE ~~duel authority regarding closure of the LTU between the EPA and the KDHE. Specifically, EPA authority exists over corrective action for SWMUs and KDHE authority exists~~retails sole authority for closure of the LTU as a RCRA regulated ~~hazardous~~unit. Similarly, the EPA retains authority regarding RCRA corrective action as a solid waste management unit ~~under RCRA~~ (SWMU). Consequently, the KDHE will be actively involved in discussions and documents regarding final cleanup standards and technologies under the corrective action program as these items related to closure of the LTU.

1. Continue to monitor and till the fields as determined by the Closure Determination Sampling, to enhance continued degradation of the oil. Once the oil content of the soil has stabilized or has decreased to approximately 1 to 2 percent, tilling may be discontinued. The fields will be tilled on a monthly basis from April to October until this time or as otherwise approved by the KDHE as part of the corrective measures implementation. The tilling will be done using a tractor-drawn disk apparatus.

2. Continue to maintain the LTU so that the soil pH is between 6.5 and 8.0 standard units. The need for pH adjustment will be determined by review of soil core pH results and the routine use of field soil pH test kits.

3. Continue to fertilize the LTU as necessary to supply adequate nitrogen (N) and phosphorus (P). The soil nitrogen, phosphorus, potassium (N-P-K) levels will be monitored on an annual basis using field soil fertility kits.

4. Continue to maintain the proper moisture content by tilling the soil and by maintaining the LTU run-on and run-off management systems. The LTU soil will be maintained with approximate soil moisture content between 40 and 70 percent field capacity. Portable or field soil moisture meters will be utilized.

5. Apply lime, water, or fertilizer at rates determined by soil testing and consultation with the county agricultural agent, U.S. Department of Agriculture. The soil conditions that enhance bioremediation are the same as those for agricultural productivity. Continued waste loading will not occur, and it is anticipated that nutrient or soil supplements will not be required to foster continued degradation of the residual wastes. Should such be necessary, the material would be applied at the necessary rate using broadcast spreader attachments to the tractor.

6. Continue to decontaminate the ~~tiller~~tillage equipment using a steam cleaner or high-pressure water washer. The decontamination rinse water will be collected and managed in the Refinery wastewater treatment system.

7. Continue all operations necessary to maximize degradation, transformation, and immobilization of hazardous constituents within the treatment zone as required under Section 264.273 (a).

8. Control the migration of hazardous waste constituents from the treated area into the groundwater by maintaining the run-on/runoff control system as required by Section 264.273 (b)-(e). This minimizes the amount of water available for transport of hazardous constituents through the soil.

9. Control the release of contaminated runoff from the facility into surface water by maintaining the runoff control system as required by Section 264.273 (b)-(e).

10. Continue unsaturated zone (soil core) monitoring as described in Section 3 of this Closure Plan, and continue groundwater monitoring as described in Section 15 of the Permit Application. In accordance with Section 264.280 (a)(7), soil pore liquid monitoring will be terminated. As noted later, the lysimeters will remain in place, and the sampling plan for these devices remains in this

8. The pH meter will be calibrated to laboratory standards prior to use. The meter(s) should also be calibrated after every two lysimeters.

9. A chain-of-custody form will be completed for each ice chest. Laboratory specified chain-of-custody procedures will be followed at all times while the samples are in the custody of TPI.

10. Background concentrations PHC were established pursuant to the 1987 permit but will be redefined for use in this closure plan. Background sampling methodology was discussed in Section 3.2.4.

3.6 BACKGROUND COMPARISONS AND RISK-BASED CONSTITUENT LEVEL EVALUATIONS (40 CFR 264.280(D))

Closure Determination Sampling will be used to determine how the LTU will be closed after completion of the closure period. As described in Section 1.3, General Closure Plan, it is not likely that the LTU will be "clean-closed" due to general groundwater contamination in the area. Consequently, final closure will be completed in place~~or~~ (with or without additional treatment) or ex situ by removal of material not meeting closure standards. The original closure plan identified a risk assessment process that would be used to determine acceptable levels of constituents that could remain in place or used as cleanup levels. The modified closure plan removes the separate risk assessment process deferring to the corrective action process and a consistent cleanup level for SWMUs identified in Part II of the RCRA Permit.

The development and negotiation of cleanup standards under the CMS process will include review and consultation with representatives of KDHE to the extent the standards are applicable to the LTU. The cleanup standards are the levels at which constituents may remain in the environment without posing an unacceptable risk. The cleanup level will be developed based on site-specific land use and exposure assumptions including the risk assessment that was prepared as part of the RCRA Facility Investigation (RFI).

As described in the CMS Work Plan, the EPA Region 9 Preliminary Remediation Goals (PRGs) represent a generic risk level of 1EE-6. These standards will be used as the initial "point of departure" for the screening purposes as initial standards. The PRGs will be revised based on site-specific considerations, land use assumptions, actual constituent levels, background levels of constituents or if a selected corrective action warrants such a change.

The PRGs will be modified into cleanup standards using the risk assessment that was completed ~~risk assessment,~~under the RFI effort, a comparison to background constituent levels, and the site-specific fate

and transport model. The following general steps will be used to develop the cleanup standards based on site-specific constituents of concern and site-specific exposure assumptions:

- The exposure scenario (conceptual site model) presented in the RFI report will be used to identify constituent exposure and migration pathways associated with surface water and sediments.

- Constituents of Concern (COCs) will be identified for each complete pathway based on the RFI risk assessment results and typical refinery constituents. For an incomplete pathway, it may be necessary to identify a cleanup standard or action level to assure that site workers and off site receptors are protected during corrective action implementation.

- For each COC, the available analytical data will be compared to the Region 9 PRGs as the initial point of departure. The initial list of constituents for which remediation goals will be developed will be based on this initial comparison. For example, some constituents that exceed or nearly exceed the Region 9 PRGs, will likely be subject to cleanup standards while other constituents that are not likely to be present, may be removed from further consideration for cleanup standards.

- Modifications to the Region 9 PRGs will be developed based on site-specific considerations such as land use assumptions, analytical capabilities, and site-specific exposure assumptions in the risk assessment and site specific fate and transport mechanisms.

- The constituents and constituent levels associated with each SWMU will also be compared to the site screening levels and background levels. If insufficient data exists on which to make such a comparison, it may be necessary to obtain additional data as described later in this plan.

- If the constituent level exceeds the screening level and background level, the SWMU will be considered subject to corrective action. If the constituent levels do not exceed the screening level or background level, no further action will be contemplated for the SWMU.

- DQOs will be used as part of the QA/QC Plan to verify that a sufficient quality and quantity of data are available on which to make the determinations described above.

3.6.1 SCREENING LEVEL RISK ASSESSMENT

The Closure Determination Sampling Program established in this Closure Plan will provide information adequate to evaluate residual constituent concentrations in the LTU treatment zone or unsaturated zone relative to health-based cleanup levels established under the CMS work effort. Further, the collection of samples at various depths and locations beneath the LTU TZ, over time, will allow evaluation of the relative mobility of these constituents.

This information will be used to determine whether closure of the LTU at acceptable risk levels can be achieved as defined below. The data obtained after treatment is believed to be complete will be evaluated in tiered manner to determine the extent to which untreated residual contamination may pose a

Katherine Dunn
07/31/02 02:46 PM

To: JayMednick@EnecoTech.com
cc:
Subject: Re: TPI Arkansas City - Gradient Monitoring Data

Thank you for the information on the gradient monitoring. One question on the data - why is RW-75 operating at 20 GPM? This rate is lower than the rate submitted with the quarertly monitoring data, although gradient control is demonstrated. According to the January and Feburary 2002 date the well was operating at 75 GPM and 40 GPM respectively.

Katherine Dunn
KDHE Bureau of Waste Management
Hazardous Waste Permits Section
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366
(785) 296-6561
"Jay Mednick" <JayMednick@EnecoTech.com>

"Jay Mednick" <JayMednick@EnecoTech.com>
07/31/02 02:14 PM
Please respond to JayMednick

To: KAnderso@kdhe.state.ks.us, KDunn@kdhe.state.ks.us
cc: Brenda.Manterola@valero.com, Harold.Green@valero.com
Subject: TPI Arkansas City - Gradient Monitoring Data

Kathy & Kevin, attached are two PDF files containing the results of the capture zone groundwater elevation monitoring conducted last week and this week. As requested, TPI will monitor the capture zone groundwater levels weekly until the replacement recovery well for RW-80A is completed. The attached data confirm the necessary gradient control is being achieved.

Please contact either Brenda Manterola of Valero at 210/592-4619 or myself at 303/861-2200 ext. 129 if you have any questions about this information.

Thank you.

Jay

Jay Mednick

voice (303) 861-8096 ext. 129
fax (303) 861-2201

EnecoTech Inc.
1580 Lincoln Street, Suite 1000
Denver, Colorado 80203

7-30-02 operational gradient summary. 7-25-02 quarterly compliance summary.

Quarterly Groundwater Capture Zone Monitoring - July 25, 2002
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	7/25/2002	12:00	1063.73	25.10	1038.63	**0.27**	280	RW-35
	CMW-1	7/25/2002	12:06	1059.71	20.81	1038.90		130	RW-40
2	113	7/25/2002	11:57	1072.25	34.02	1038.23	**0.30**	115	RW-45
	CMW-2	7/25/2002	12:03	1061.74	23.21	1038.53		60	RW-50
								15	RW-55
3	118	7/25/2002	11:50	1070.69	31.88	1038.81	**0.31**	180	RW-60
	CMW-3	7/25/2002	11:53	1060.13	21.01	1039.12		185	RW-65
4	MW-1002	7/25/2002	11:48	1072.12	31.75	1040.37	**0.37**	150	RW-70
	CMW-4	7/25/2002	11:45	1058.27	17.53	1040.74		20	RW-75
								0	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								1135	

Notes:

1. A positive head difference indicates groundwater capture.

Permit Criteria = or > 0.2 feet head difference.

Groundwater (Operational) Capture Monitoring - July 30, 2002
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	7/30/2002	8:12	1063.73	25.50	1038.23	**0.50**	250	RW-35
	CMW-1	7/30/2002	8:14	1059.71	20.98	1038.73		130	RW-40
2	113	7/30/2002	8:18	1072.25	34.13	1038.12	**0.28**	110	RW-45
	CMW-2	7/30/2002	8:16	1061.74	23.34	1038.40		55	RW-50
								15	RW-55
3	118	7/30/2002	8:21	1070.69	32.00	1038.69	**0.31**	180	RW-60
	CMW-3	7/30/2002	8:25	1060.13	21.13	1039.00		160	RW-65
4	MW-1002	7/30/2002	8:23	1072.12	31.95	1040.17	**0.40**	150	RW-70
	CMW-4	7/30/2002	8:29	1058.27	17.70	1040.57		20	RW-75
								0	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								1070	

Notes:

1. A positive head difference indicates groundwater capture.

Permit Criteria = or > 0.2 feet head difference.

Katherine Dunn
07/26/02 10:42 AM

To: JayMednick@EnecoTech.com
cc: brenda_manterola@udscorp.com, Kevin Anderson/Kdhe@Kdhe
cc: brenda_manterola@udscorp.com, Kevin Anderson/Kdhe@Kdhe
Subject: Re: TPI Petroleum, Arkansas City - Replacement Recovery Well RW-80A

Jay,

KDHE concurs with your assessment of a Class 1 permit modification for this well replacement. Your e-mail mentioned an attachment of the capture zone measurement data, but there is no attachment to the e-mail. Please provide the attachment. During the time RW-80A is not operational, KDHE requests TPI conduct weekly capture zone monitoring to demonstrate hydraulic control during this period. KDHE plans to be on-site next week. We will contact you or Brenda on a firm date.

A letter commenting on the LTU closure plan went out today. Once we have a response to the letter, KDHE will most likely approve the modification to the closure plan. If efforts can be coordinated, I suggest TPI combine the mailing list notification of the LTU closure plan, replacement of RW-80A, and Valero buy-out of UDS in one mailing.

As a follow up to our phone conversation last week about documents maintained for the information repository, TPI is responsible for maintaining current copies of the documents. But, the documents do not have to be maintained at the library. It may be easier to maintain the documents at the facility and return them to the library when public participation activities warrant. A Class 2 or 3 modification would require the documents to be available for review at the information repository.

Please continue to update KDHE on progress of the LTU SVE/AS system and RW-80A well replacement activities.

Katherine Dunn
KDHE Bureau of Waste Management
Hazardous Waste Permits Section
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366
(785) 296-6561
"Jay Mednick" <JayMednick@EnecoTech.com>

"Jay Mednick" <JayMednick@EnecoTech.com>
07/25/02 04:28 PM
Please respond to JayMednick

To: KDunn@kdhe.state.ks.us
cc: Brenda.Manterola@valero.com, KAnderso@kdhe.state.ks.us, Harold.Green@valero.com
Subject: TPI Petroleum, Arkansas City - Replacement Recovery Well RW-80A

The purpose of this e-mail is to notify you that TPI Petroleum will be replacing recovery well RW-80A at the Arkansas City facility. On July 8, facility personnel discovered a mixture of gravel pack and perhaps formation material had flowed into RW-80A to a depth of approximately 23 feet below the top of the casing blocking the pump intake screen causing the pump to stop operating. Capture zone monitoring wells CMW-3, 118, CMW-4, and MW-1002 were gauged in the afternoon of July 8 and all four pairs of capture zone monitoring wells were gauged on July 15 to determine gradient conditions. The capture zone measurement data are attached to this e-mail. As indicated by the two tables, the gradient reversal is being maintained with RW-80A temporarily out of service.

The sand has filled the well casing such that approximately 14 feet

(50%) of the well screen has been blocked by the sand. Attempts to remove the sand were not successful and measures to prevent future sand inflow while possible would result in a lower efficiency well with a reduced casing diameter. TPI has determined that the best course is to replace the RW-80A and plug and abandon the existing RW-80A. The well plugging and abandonment will be carried out in accordance with KDHE regulations and the appropriate plugging and abandonment form will be completed and submitted to KDHE. A copy of the plugging and abandonment form will be sent to your attention.

Layne-Western located in Wichita, Kansas will construct the replacement well. This well will also be named RW-80A. The location of the replacement well will be approximately 10 to 20 feet northwest of the existing RW-80A depending upon access constraints. The location and casing elevation of the new well will be surveyed on the same coordinate system as the other recovery wells.

A comparison of the major design specifications is presented below.

* The well depth and screened interval will be identical to the existing RW-80A.
* The well casing diameter will be increased from 10 inches to 12 inches.
* The borehole diameter will be increased from 18 inches to approximately 26 inches.
* The width of the annular space between the casing and the borehole will increase from 4 inches (existing RW-80A) to 7 inches.
* The blank casing will be constructed from schedule 40 PVC compared with schedule 40 steel in the original RW-80A.
* The screen will be constructed from stainless steel compared with galvanized steel in the original RW-80A.
* The well screen slot size and filter pack will remain the same.

Layne-Western is scheduled to mobilize to the site on Friday July 26. They will likely set the shallow conductor (~<10 feet deep) casing Friday afternoon and continue with the construction beginning on Monday July 29. We anticipate this well will be completed and operational by the end of the week (August 2). We will notify you if there are any significant changes to this schedule.

We believe this well replacement constitutes a Class 1 permit modification. TPI will
provide formal notice to KDHE within 7 days after the completion of the well construction activities are complete. That is when the well becomes operational.

TPI will also submit the appropriate replacement pages to the Engineering Feasibility Plan and recovery well Operation and Maintenance plan within 45 days of completion of these activities.

Please contact either Brenda Manterola of Valero at 210/592-4619 or myself at 303/861-2200 ext. 129 if you have any questions or concerns about this matter.

Thank you.

Jay Mednick
Jay Mednick
voice (303) 861-8096 ext. 129
fax (303) 861-2201
EnecoTech Inc.
1580 Lincoln Street, Suite 1000
Denver, Colorado 80203

Groundwater (Operational) Capture Monitoring - July 8, 2002
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
3	118	7/8/2002	~ 3 p.m.	1070.69	30.84	1039.85	**0.23**	180	RW-60
	CMW-3	7/8/2002	~ 3 p.m.	1060.13	20.05	1040.08		175	RW-65
4	MW-1002	7/8/2002	~ 3 p.m.	1072.12	30.94	1041.18	**0.36**	160	RW-70
	CMW-4	7/8/2002	~ 3 p.m.	1058.27	16.73	1041.54		20	RW-75
								Down	RW-80A

Notes:

1. A positive head difference indicates groundwater capture.

Permit Criteria = or > 0.2 feet head difference.

Groundwater (Operational) Capture Monitoring - July 15, 2002
TPI Petroleum, Inc. - Arkansas City, Kansas

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	7/15/2002	11:06	1063.73	24.56	1039.17	**0.36**	280	RW-35
	CMW-1	7/15/2002	11:08	1059.71	20.18	1039.53		130	RW-40
2	113	7/15/2002	11:12	1072.25	33.43	1038.82	**0.42**	110	RW-45
	CMW-2	7/15/2002	11:10	1061.74	22.50	1039.24		70	RW-50
								20	RW-55
3	118	7/15/2002	11:15	1070.69	31.37	1039.32	**0.33**	180	RW-60
	CMW-3	7/15/2002	11:20	1060.13	20.48	1039.65		190	RW-65
4	MW-1002	7/15/2002	11:17	1072.12	31.31	1040.81	**0.38**	150	RW-70
	CMW-4	7/15/2002	11:23	1058.27	17.08	1041.19		20	RW-75
								0	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								1150	

Notes:

1. A positive head difference indicates groundwater capture.

Permit Criteria = or > 0.2 feet head difference.

Blue

KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

July 26, 2002

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 6060000
San Antonio, TX 78269-6000

Re: Class 1[1] Permit Modification Request-Land Treatment Unit
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

The Kansas Department of Health and Environment (KDHE) BWM has reviewed the May 2002 modification and redline/strikeout version to the approved Land Treatment Unit (LTU) Closure Plan. After inspection of the documents, KDHE has the following comments.

- Page 1, paragraph 3, the word "duel" should be replaced with "dual".
- Page 1, paragraph 3, the KDHE has sole authority for closure of the LTU. Please make the appropriate changes to the text.
- Page 9, refers to a tiller in this section. A tiller is a separate attachment to a tractor usually a rototiller. Is the disk mentioned on page 6 to be used for tillage, or a rototiller, or both? Please clarify this point.
- Page 9, point #5, when (time of year) will soil cores used for soil testing be taken?
- Page 20, background comparisons and risk-based constituent level evaluations section states removal of Risk Assessment (RA), but discussion continues about RA. Is RA a part of the CA in the LTU Closure Plan or has it been removed?

Please address these comments by August 25, 2002. We appreciate your assistance in this matter. If there are any questions regarding this letter, you may contact Kevin Anderson at kanderso@kdhe.state.ks.us or (785) 291-3760.

Sincerely,

Kevin M. Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Cc: Mark Bradbury- SCDO/DEA/Waste Programs
Jeffrey Robichaud- EPA Region 7/RCAP Branch
Joseph Mednick- Eneco Tech
Demetra Salisbury-EPA Region 7/RCAP Branch
Rob Franke-R&B Associates, Inc.

Purple

KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

July 25, 2002

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 6060000
San Antonio, TX 78269-6000

Re: Response to May 2002 Groundwater Sampling
Semiannual RCRA Groundwater Corrective Action Report
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

The Kansas Department of Health and Environment (KDHE) BWM has examined the results of the April 30, May 1, and May 2, 2002 Groundwater Sampling Semiannual RCRA Groundwater Corrective Action Report, dated June 19, 2002 and received June 24, 2002. Upon inspection of the report, KDHE requests more information related to the sampling event, results, and procedures.

- Tables 2 and 3, density of product and elevations to tops of casings are not included in the report. Please furnish this information.
- Table 3, total well depths were not submitted for Capture Zone Monitoring Wells. Please include total well depths for Capture Zone Monitoring Wells.
- Field logs were not presented with the report. Please include copies of field logs.
- Data should be submitted in electronic format. Please include data on electronic disk.
- Any samples above GWPS due to matrix interference should be documented and statement acknowledging this fact should be included in discussion. Please include this information.

Please address these comments. We appreciate your assistance in this matter. If there are any questions regarding this letter, you may contact Kevin Anderson at kanderso@kdhe.state.ks.us or (785) 291-3760.

Sincerely,

Kevin M. Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Cc: Mark Bradbury- SCDO/DEA/Waste Programs
Jeffrey Robichaud- EPA Region 7/RCAP Branch
Joseph Mednick- Enecco Tech
Demeta Salisbury-EPA Region 7/RCAP Brauch

KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

July 25, 2002

Brenda B. Manterola
Environmental Manager
Valero Energy Corporation
P. O. Box 696000
San Antonio, Texas 78269-6000

Re: Operation and Maintenance Inspection Final Report
TPI Petroleum, Inc., Arkansas City
EPA ID No. KSD087418695

Dear Ms. Manterola:

Enclosed is a copy of the final report for the Operation and Maintenance Inspection preformed by the Kansas Department of Health and Environment (KDHE) at the TPI Petroleum, Inc. (TPI) facility in Arkansas City, Kansas on May 1-2, 2001. Several of your comments on the draft of this document along with comments from the EPA were incorporated into the final report and text revised accordingly.

Although many of the deficiencies noted during this inspection have been addressed by the facility, TPI must submit adequate responses to the following deficiencies to KDHE by September 16, 2002.

1. In reviewing the analytical data from this sampling event, KDHE noted the detection limit for Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, 1,4 Dioxane, Indeno(1,2,3-cd)pyrene, Nitrobenzene,Phenanthrene, Pyridine, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene was above the groundwater protection standard established by Permit ConditionIV.B.1. In accordance with Permit Condition IV.B.3., Groundwater Detection Limit, TPI must provide supporting documentation to explain why detention limits for each hazardous constituent exceeded the groundwater protection standard. This documentation must be included in the groundwater corrective action report required by Permit Condition IV.E.

If you have any question or comments regarding this report, you may contact me at kdunn@kdhe.state.ks.us or (785) 296-6561. Your cooperation in this matter is appreciated.

Sincerely,

Katherine Dunn

Katherine Dunn
Environmental Scientist
Chief, Corrective Action Unit
Hazardous Waste Permits Section

Enclosure - Operation and Maintenance Inspection Final Report

cc: Demetra Salisbury - EPA Region 7/ARTD/RCAP (w/enclosure)
Mark Bradbury - DEA/SCDO/Waste Program (w/enclosure)
Jay Mednick, P.G. - EnecoTech, Inc. (w/enclosure)

Green

KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

July 22, 2002

Brenda B. Manterola
Environmental Manager
Valero Energy Corporation.
P. O. Box 696000
San Antonio, Texas 78269-6000

Re: Class 2 Permit Modification Approval
TPI Petroleum, Inc., Arkansas City
EPA ID No. KSD087418695

Dear Ms. Manterola:

On November 7, 2001, the Kansas Department of Health and Environment (KDHE) received a request for a Class 2 permit modification and Temporary Authorization (TA) for the installation and operations of four (4) additional recovery wells to enhance the corrective action system of the above reference facility. KDHE approved the TA on November 16, 2001, in accordance with 40 CFR 270.42(e)(3) and required replacement pages for the Part B Permit Application to be submitted for KDHE review after the completion of the well installation activities.

On November 13, 2001, you informed the public of this request through a public notice in the *The Arkansas City Traveler*. In addition, TPI held a public meeting on December 5, 2001 from 4:30 p.m. to 6:00 p.m., at the Sunflower Credit Union, Arkansas City, Kansas. TPI and KDHE representative were available to answer questions regarding the facility and the proposed modification. The 60-day public comment period ended on January 14, 2002. No public comments were received by KDHE.

TPI verbally informed KDHE that well installation activities were completed on January 28, 2002. On April 23, May 7, and May 28, 2002, TPI submitted replacement pages for the Part B Permit Application associated with this Class 2 permit modification to KDHE. After review of this request and Part B Permit Application replacement pages, KDHE approves this Class 2 permit modification.

I.G.3. Within one hundred and fifty (150) calendar days of the effective date of Part I of this Permit, the Permittee shall submit a Waste Reduction Report. This report shall include the waste minimization certification and supporting documents and a waste reduction impact statement, as defined below.

I.G.3.a. An identification of the annual amount and types of hazardous wastes and/or hazardous constituents that are generated;

I.G.3.b. An identification of the source of generation of hazardous wastes and/or hazardous constituents for each waste stream;

I.G.3.c. An analysis of technically and economically feasible hazardous waste reduction techniques for the facility, including a description of any techniques that were implemented since 1984, at a minimum; and

I.G.3.d. A program and schedule for implementing the feasible hazardous waste and/or hazardous constituent reduction techniques.

I.H. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE SECRETARY

All reports, notifications, or other submissions which are required by this Permit shall be reported or sent directly to the following:

Chief of the Hazardous Waste Permits Section
Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366
Telephone Number (785) 296-1600

I.I. CONFIDENTIAL INFORMATION

In accordance with 40 CFR 270.12 and K.S.A. 65-3447, the Permittee may claim confidential any information required to be submitted by this Permit.

Table 3 - Corrective Action Monitoring Network

Well Number	Monitoring Frequency	Compliance Well Association	Gradient
CMW-1	quarterly	Capture Zone Monitoring	Down gradient
CMW-2	quarterly	Capture Zone Monitoring	Down gradient
CMW -3	quarterly	Capture Zone Monitoring	Down gradient
CMW-4	quarterly	Capture Zone Monitoring	Down gradient
113	quarterly	Capture Zone Monitoring	Down gradient
118	quarterly	Capture Zone Monitoring	Down gradient
MW-1002	quarterly	Capture Zone Monitoring	Down gradient
RCRA-7	quarterly	Capture Zone Monitoring	Down gradient
WN-5B	semiannually	Corrective Action Performance	Down gradient
WN-6A	semiannually	Corrective Action Performance	Down gradient
WN-6B	semiannually	Corrective Action Performance	Down gradient
WN-7B	semiannually	Corrective Action Performance	Cross gradient
WN-8B	semiannually	Corrective Action Performance	Cross gradient
MW- 6	semiannually	Corrective Action Performance	Down gradient
MW-13	semiannually	Corrective Action Performance	Down gradient
MW-17	semiannually	Corrective Action Performance	Down gradient
MW-12	semiannually	Supplemental Information Well	Down gradient
RCRA-4	semiannually	Supplemental Information Well	Down gradient
WN-1A	semiannually	Background	Up gradient
WN-1B	semiannually	Background	Up gradient

IV.B.6. Compliance Period

The compliance period for which the GWPS of 40 CFR 264.92 applies to the Waste Management Area shall be the number of years equal to the active life of the Waste Management Area [40 CFR 264.96]. The active life includes any waste management activities prior to permitting and the closure period. The active life of the Waste Management Area commenced in 1956 when #1 Surface Impoundment and #2 Surface Impoundment were placed into operation and will conclude with closure certification of the Land Treatment Unit. Therefore, the compliance period is no less than 45 years. The compliance period shall begin once the closure certification for the Land Treatment Unit has been accepted by the Secretary.

If the GWPS concentration limits are being exceeded at the end of the compliance period at or beyond the point of compliance, the Permittee's groundwater corrective action program shall continue until the Permittee demonstrates that these limits have not been exceeded at and beyond the point of compliance for a period of three consecutive years.

IV.B.7. Implementation of Corrective Action Program

The Permittee shall implement a corrective action program to ensure compliance with the groundwater protection standard. [40 CFR 264.100(d)]

IV.C. CORRECTIVE ACTION PROGRAM

The Waste Management Area, as defined in Permit Condition IV.A., is subject to the corrective action program requirements of 40 CFR 264.100, as incorporated by reference in K.A.R. 28-31-1, and this Permit until corrective action requirements contained in 40 CFR Part 264 Subpart F and this Permit have been satisfied. The corrective action program for the Waste Management Area shall consist of a program to ensure that groundwater quality will achieve compliance with the GWPS in a reasonable time period. This program shall consist of continuous operation of the groundwater containment and recovery system, installation and operation of a soil vapor extraction/air sparge system for the Land Treatment Unit, and groundwater monitoring in accordance with Permit Condition IV.D. The recovery system shall continue to operate until the GWPS established in Permit Condition IV.B. has not been exceeded for a period of three consecutive years at and beyond the point of compliance. [40 CFR 264.100 (c)]

IV.C.1. Groundwater Corrective Action Systems

IV.C.1.a. The corrective action system for the Waste Management Area shall consist of continuous operation of the groundwater containment and recovery system. This system consists of the following:

Table 4 - Groundwater Containment and Recovery System

Recovery Wells (10)	RW-35	RW-60
	RW-40	RW-65
	RW-45	RW-70
	RW-50	RW-75
	RW-55	RW-80A

IV.C.3. Removal of Hazardous Constituents

The Permittee shall conduct a corrective action program to remove any hazardous constituents that exceed the GWPS in groundwater between the compliance point and the downgradient facility property boundary, in accordance with the procedures specified in the Engineering Feasibility Plan, Section 15 of the Part B Permit Application. [40 CFR 264.100 (e)]

IV.C.3.a. The corrective action program to remove and/or treat in place the hazardous constituents that exceed the GWPS limits in the groundwater shall consist of ten recovery wells (RW-35, RW-40, RW-45, RW-50, RW-55, RW-60, RW-65, RW-70, RW-75, and RW-80A) and a soil vapor extraction/air sparge system for the LTU.

IV.C.3.b. The groundwater containment and recovery system and the soil vapor extraction/air sparge system will be operated in accordance with the parameters specified in the Engineering Feasibility Plan, Section 15 of the Part B Permit Application.

IV.C.3.c. The groundwater from the recovery wells will be sampled at the influent sampling port of the bioreactor at least quarterly as part of the monitoring to evaluate the performance of the corrective action program. The Permittee shall report this information to the Secretary in accordance with Permit Condition IV.E.

IV.C.3.d. Sampling and analysis of the hazardous constituents in the groundwater in accordance with Permit Condition IV.D. will be used to monitor and evaluate the progress and effectiveness of the corrective action system. The Permittee shall report this information to the Secretary in accordance with Permit Condition IV.E.

IV.C.3.e. The Permittee may submit a request to the Secretary to discontinue the operation of the soil vapor extraction/air sparge system if an evaluation of the system indicates there are no additional corrective action benefits from continued operation of the system.

IV.C.3.f. If the recovery and containment system fails to operate within the parameters listed in Permit Condition IV.C.3.b, the Permittee shall implement the Corrective Action Contingency Plan of the Engineering Feasibility Plan, Section 15 of the Part B Permit Application.

required by this Permit. The Secretary may choose to provide oversight of any portion of the system's construction or modification.

IV.C.6. Extension of Corrective Action Beyond Term of Permit

If corrective action is required beyond the term of this Permit, the term of this Permit and the corrective action shall be extended until the groundwater protection standard has not been exceeded for three (3) consecutive years.

IV.D. CORRECTIVE ACTION GROUNDWATER MONITORING PROGRAM

During the term of this Permit, the Permittee shall establish and maintain a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. Groundwater monitoring shall be conducted to comply with the requirements specified below which are in compliance with that portion of 40 CFR 264.97 applicable to groundwater monitoring programs conducted in accordance with 40 CFR 264.100 and the following additional requirements.

IV.D.1. Groundwater Monitoring System

IV.D.1.a. The Permittee shall maintain the wells established in Permit Condition IV.B.5. (Table 3) as the groundwater corrective action monitoring system.

IV.D.1.b. The Permittee shall report the surveyed elevation of the monitoring wells when the wells are installed. The total depth of wells and elevation of the following should be reported: top of casing, ground surface and/or apron elevation, and the protective casing, the top and bottom of the well screen, gravel pack, and well seals.

IV.D.1.c. All groundwater monitoring wells at the facility shall be maintained. This includes those wells which have been excluded from the groundwater monitoring program, but used for supplemental information and capture zone evaluation.

IV.D.2. Design and Installation of Monitoring System

The Permittee's groundwater monitoring system shall be designed and installed during the compliance period in a manner which ensures:

IV.H.2. The Permittee shall submit a work plan to the Secretary within thirty (30) days after the issuance of the final design plan for levee improvements for any modifications to the groundwater monitoring and recovery system which may be necessary due to levee improvement activities along the Walnut River.

I.G.3. Within one hundred and fifty (150) calendar days of the effective date of Part I of this Permit, the Permittee shall submit a Waste Reduction Report. This report shall include the waste minimization certification and supporting documents and a waste reduction impact statement, as defined below.

I.G.3.a. An identification of the annual amount and types of hazardous wastes and/or hazardous constituents that are generated;

I.G.3.b. An identification of the source of generation of hazardous wastes and/or hazardous constituents for each waste stream;

I.G.3.c. An analysis of technically and economically feasible hazardous waste reduction techniques for the facility, including a description of any techniques that were implemented since 1984, at a minimum; and

I.G.3.d. A program and schedule for implementing the feasible hazardous waste and/or hazardous constituent reduction techniques.

I.H. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE SECRETARY

All reports, notifications, or other submissions which are required by this Permit shall be reported or sent directly to the following:

Chief of the Hazardous Waste Permits Section
Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366
Telephone Number (913) 296-1600

I.I. CONFIDENTIAL INFORMATION

In accordance with 40 CFR 270.12 and K.S.A. 65-3447, the Permittee may claim confidential any information required to be submitted by this Permit.

Table 3 - Corrective Action Monitoring Network

Well Number	Monitoring Frequency	Compliance Well Association	Gradient
CMW-1	quarterly	Capture Zone Monitoring	Down gradient
CMW-2	quarterly	Capture Zone Monitoring	Down gradient
CMW -3	quarterly	Capture Zone Monitoring	Down gradient
CMW-4	quarterly	Capture Zone Monitoring	Down gradient
113	quarterly	Capture Zone Monitoring	Down gradient
118*	quarterly	Capture Zone Monitoring	Down gradient
MW-1002	quarterly	Capture Zone Monitoring	Down gradient
RCRA-7	quarterly	Capture Zone Monitoring	Down gradient
WN-5B	semiannually	Corrective Action Performance	Down gradient
WN-6A	semiannually	Corrective Action Performance	Down gradient
WN-6B	semiannually	Corrective Action Performance	Down gradient
WN-7B	semiannually	Corrective Action Performance	Cross gradient
WN-8B	semiannually	Corrective Action Performance	Cross gradient
MW- 6	semiannually	Corrective Action Performance	Down gradient
MW-13	semiannually	Corrective Action Performance	Down gradient
MW-17*	semiannually	Corrective Action Performance	Down gradient
MW-12	semiannually	Supplemental Information Well	Down gradient
RCRA-4	semiannually	Supplemental Information Well	Down gradient
WN-1A	semiannually	Background	Up gradient
WN-1B	semiannually	Background	Up gradient

* to be constructed

IV.B.6. Compliance Period

The compliance period for which the GWPS of 40 CFR 264.92 applies to the Waste Management Area shall be the number of years equal to the active life of the Waste Management Area [40 CFR 264.96]. The active life includes any waste management activities prior to permitting and the closure period. The active life of the Waste Management Area commenced in 1956 when #1 Surface Impoundment and #2 Surface Impoundment were placed into operation and will conclude with closure certification of the Land Treatment Unit. Therefore, the compliance period is no less than 45 years. The compliance period shall begin once the closure certification for the Land Treatment Unit has been accepted by the Secretary.

If the GWPS concentration limits are being exceeded at the end of the compliance period at or beyond the point of compliance, the Permittee's groundwater corrective action program shall continue until the Permittee demonstrates that these limits have not been exceeded at and beyond the point of compliance for a period of three consecutive years.

IV.B.7. Implementation of Corrective Action Program

The Permittee shall implement a corrective action program to ensure compliance with the groundwater protection standard. [40 CFR 264.100(d)]

IV.C. CORRECTIVE ACTION PROGRAM

The Waste Management Area, as defined in Permit Condition IV.A., is subject to the corrective action program requirements of 40 CFR 264.100, as incorporated by reference in K.A.R. 28-31-1, and this Permit until corrective action requirements contained in 40 CFR Part 264 Subpart F and this Permit have been satisfied. The corrective action program for the Waste Management Area shall consist of a program to ensure that groundwater quality will achieve compliance with the GWPS in a reasonable time period. This program shall consist of continuous operation of the groundwater containment and recovery system, installation and operation of a soil vapor extraction/air sparge system for the Land Treatment Unit, and groundwater monitoring in accordance with Permit Condition IV.D. The recovery system shall continue to operate until the GWPS established in Permit Condition IV.B. has not been exceeded for a period of three consecutive years at and beyond the point of compliance. [40 CFR 264.100 (c)]

IV.C.1. Groundwater Corrective Action Systems

IV.C.1.a. The corrective action system for the Waste Management Area shall consist of continuous operation of the groundwater containment and recovery system. This system consists of the following:

Table 4 - Groundwater Containment and Recovery System

Recovery Wells (6)	RW-35 RW-40 RW-50 RW-60 RW-70 RW-80A

IV.C.3. Removal of Hazardous Constituents

The Permittee shall conduct a corrective action program to remove any hazardous constituents that exceed the GWPS in groundwater between the compliance point and the downgradient facility property boundary, in accordance with the procedures specified in the Engineering Feasibility Plan, Section 15 of the Part B Permit Application. [40 CFR 264.100 (e)]

IV.C.3.a. The corrective action program to remove and/or treat in place the hazardous constituents that exceed the GWPS limits in the groundwater shall consist of six recovery wells (RW-35, RW-40, RW-50, RW-60, RW-70, and RW-80A) and a soil vapor extraction/air sparge system for the LTU.

IV.C.3.b. The groundwater containment and recovery system and the soil vapor extraction/air sparge system will be operated in accordance with the parameters specified in the Engineering Feasibility Plan, Section 15 of the Part B Permit Application.

IV.C.3.c. The groundwater from the recovery wells will be sampled at the influent sampling port of the bioreactor at least quarterly as part of the monitoring to evaluate the performance of the corrective action program. The Permittee shall report this information to the Secretary in accordance with Permit Condition IV.E.

IV.C.3.d. Sampling and analysis of the hazardous constituents in the groundwater in accordance with Permit Condition IV.D. will be used to monitor and evaluate the progress and effectiveness of the corrective action system. The Permittee shall report this information to the Secretary in accordance with Permit Condition IV.E.

IV.C.3.e. The Permittee may submit a request to the Secretary to discontinue the operation of the soil vapor extraction/air sparge system if an evaluation of the system indicates there are no additional corrective action benefits from continued operation of the system.

IV.C.3.f. If the recovery and containment system fails to operate within the parameters listed in Permit Condition IV.C.3.b, the Permittee shall implement the Corrective Action Contingency Plan of the Engineering Feasibility Plan, Section 15 of the Part B Permit Application.

required by this Permit. The Secretary may choose to provide oversight of any portion of the system's construction or modification.

IV.C.6. Extension of Corrective Action Beyond Term of Permit

If corrective action is required beyond the term of this Permit, the term of this Permit and the corrective action shall be extended until the groundwater protection standard has not been exceeded for three (3) consecutive years.

IV.D. CORRECTIVE ACTION GROUNDWATER MONITORING PROGRAM

During the term of this Permit, the Permittee shall establish and maintain a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. Groundwater monitoring shall be conducted to comply with the requirements specified below which are in compliance with that portion of 40 CFR 264.97 applicable to groundwater monitoring programs conducted in accordance with 40 CFR 264.100 and the following additional requirements.

IV.D.1. Groundwater Monitoring System

IV.D.1.a. The Permittee shall maintain the wells established in Permit Condition IV.B.5. (Table 3) as the groundwater corrective action monitoring system.

IV.D.1.b. The Permittee shall report the surveyed elevation of the monitoring wells when the wells are installed. The total depth of wells and elevation of the following should be reported: top of casing, ground surface and/or apron elevation, and the protective casing, the top and bottom of the well screen, gravel pack, and well seals.

IV.D.1.c. All groundwater monitoring wells at the facility shall be maintained. This includes those wells which have been excluded from the groundwater monitoring program, but used for supplemental information and capture zone evaluation.

IV.D.1.d. The Permittee shall complete construction of wells MW-17 and 118 within sixty (60) days of the effective date of this Permit.

IV.D.2. Design and Installation of Monitoring System

The Permittee's groundwater monitoring system shall be designed and installed during the compliance period in a manner which ensures:

IV.H.2. The Permittee shall complete construction of monitoring wells MW-17 and 118 within sixty (60) days of the effective date of this permit. Installation must be completed in accordance with the well installation plans approved by the Secretary.

The Permittee shall submit applicable pages and as-built drawing for the Part B Permit Application to the Secretary within sixty (60) of the completion of these wells.

IV.H.3. The Permittee shall submit a detailed report evaluating of the efficiency and effectiveness of the groundwater containment and recovery system to the Secretary within 180 days of the effective date of this permit. Included with this report, the Permittee shall submit a permit modification for the Operation and Maintenance Plan to include any additional activities necessary to maintain or improve the efficiency and effectiveness of the groundwater containment and recovery system.

IV.H.4. The Permittee shall submit a work plan to the Secretary within thirty (30) days after the issuance of the final design plan for levee improvements for any modifications to the groundwater monitoring and recovery system which may be necessary due to levee improvement activities along the Walnut River.

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

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STRATEGIES FOR ENVIRONMENTAL RESPONSIBILITY

BUREAU OF WASTE MANAGEMENT
JUL 19 2002
RECEIVED

July 16, 2002

99-0138R018

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Transmittal of Revised Monitor Well Logs
Groundwater Sampling and Analysis Plan & Engineering Feasibility Plan
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:

Please find enclosed revised monitor well and borehole lithologic logs for monitor well MW-17 and capture zone monitoring wells RCRA-7, 113, 118, and MW-1002. These five well logs should be inserted into Appendix A of the Groundwater Sampling and Analysis Plan and the four capture zone monitoring well logs should be inserted into Appendix B of the Engineering Feasibility Plan.

If you have any questions about the attached information, please contact either Brenda Manterola of Valero Energy Corporation at 210/592-4619 or myself at 303/861-2200 ext. 129.

Sincerely,

ENECOTECH INC.

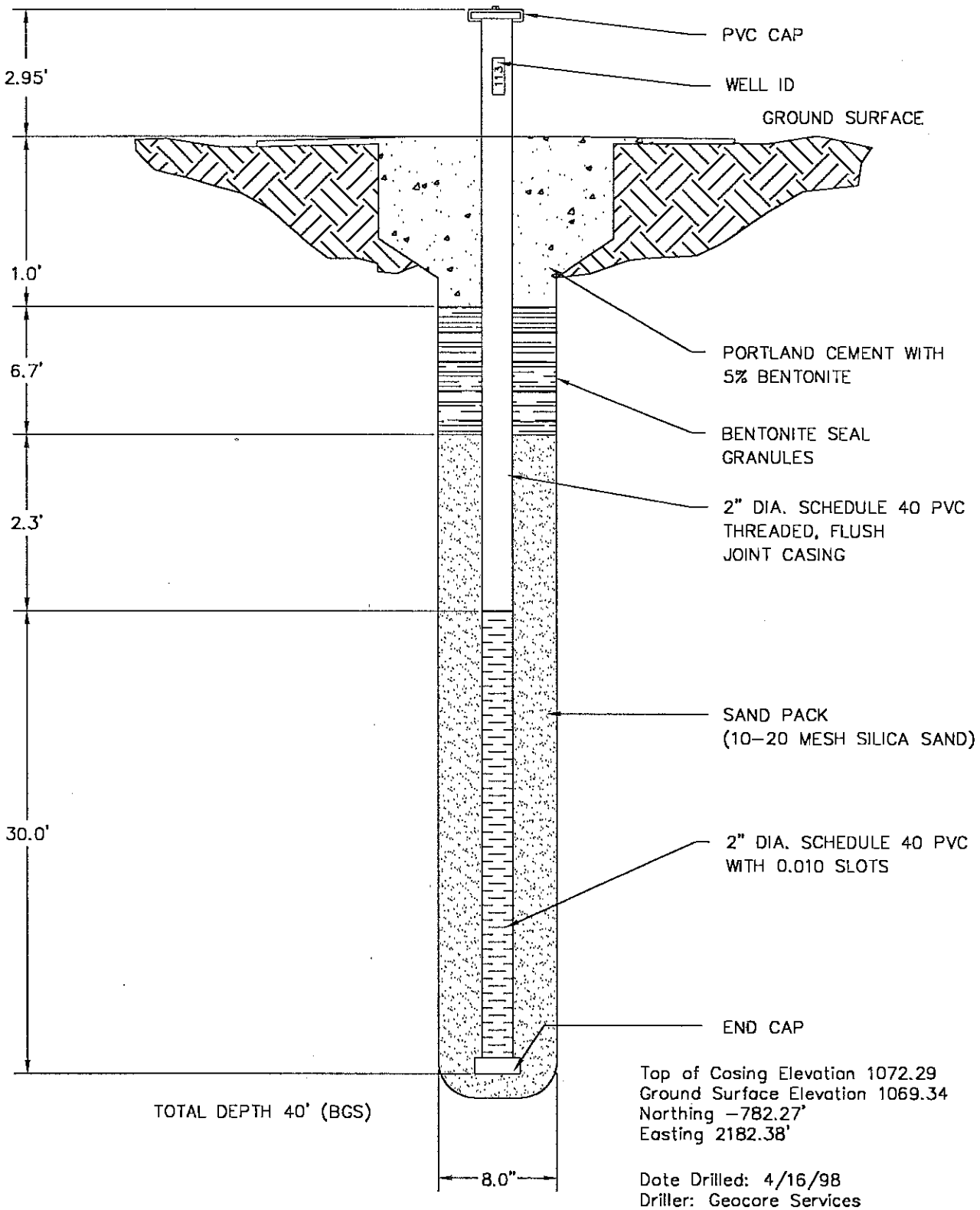
Jay Mednick.
Project Manager

Enc. Monitor well logs.

Cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffrey Robichaud, USEPA Region 7

old pages
replaced 7-22-02

FOR INSERTION INTO THE GROUNDWATER SAMPLING AND ANALYSIS PLAN APPENDIX A



Top of Cosing Elevation 1072.29
Ground Surface Elevation 1069.34
Northing −782.27'
Easting 2182.38'

Date Drilled: 4/16/98
Driller: Geocore Services
Design By: Lance Whisman

EnecoTech®
ENVIRONMENTAL CONSULTANTS

Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY
ARKANSAS CITY, KANSAS

PIEZOMETER #113
CONSTRUCTION DIAGRAM

File No.: 138R–016	ACAD File No.: 138R_PIEZ1	Date: 10/27/00	REV.:
Drawn By: LKB	Design By: JFM	Checked By:	Approved By:	Figure No.:

RCRA MONITORING WELL No. 7

Date Completed: 6-23-81
6" Hole with Hollow Stem Auger

Location: S.E. of Tank No. 102
See Location Map in Text

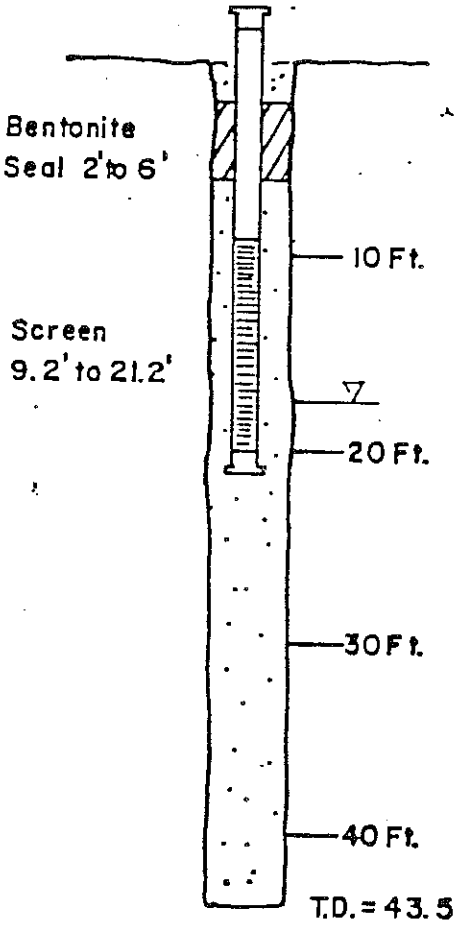
Ground Elevation: 1060.6

Casing: 2" PVC

Top of Casing Elevation: 1063.37

Screen: 2" Plastic (ABS), Continuous Slot (0.030")

Static Water Level: 1045.96 (10-2-81)



Gravel

Fine loamy sand with silty black clay

Fine grey silty sand

Tan fine-medium sand

Grey medium sand, saturated

Grey coarse silty sand, saturated

Grey fine silty, very wet, sand

Gravel
Refusal

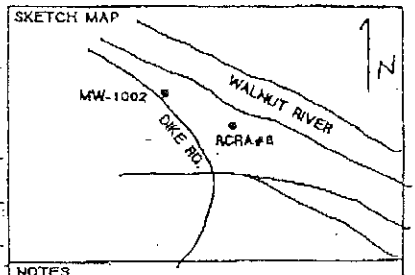
GROUNDWATER TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS

DRILLING LOG

WELL NUMBER MW-1002

PROJECT Total-Arkansas City, KS
OWNER Total Petroleum, Inc.
LOCATION Arkansas City, KS
PROJECT NUMBER 422-875-8750
DATE DRILLED 5/04/88
TOTAL DEPTH OF HOLE 31.5'
DIAMETER 10.0"
SURFACE ELEVATION
WATER LEVEL INITIAL 24.0'
24-HRS.
SCREEN DIA. 4.0"
LENGTH 15.0'
SLOT SIZE 0.040
CASING DIA. 4.0"
LENGTH 19.5'
TYP PVC
DRILLING COMPANY Layne-Western
DRILLING METHOD Hollow stem
DRILLER Bob Dewild
LOG BY Barry McFarland

SKETCH MAP



NOTES

DEPTH (FEET)	WELL CONSTRUCTION	NOTES	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
1–2		top of casing 3.5' above ground	2.0		Very dark brown, wet, medium plastic, medium stiff, SILTY CLAY
3–9		bentonite chips			Very dark brown to black, moist, low-medium plastic, soft-medium stiff, SILTY SANDY CLAY (with black staining and odor)
10–16			10.0		Black, moist, low plastic, soft-medium stiff, FILL (COKE with some clay seams)
17–18		perforated 16.5-31.5			
19–24			19.5		Dark grey to greyish brown, wet-very wet, loose-medium dense, fine grained SAND (with sludge deposits and some clay)
25–26			25.0		Dark grey to grey, saturated, medium size grains, medium dense, SAND (with heavy sludge deposits, strong odor)

GROUNDWATER TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS

DRILLING LOG

WELL NUMBER MW-1002

PROJECT Total-Arkansas City, KS OWNER Total Petroleum, Inc.
LOCATION Arkansas City, KS PROJECT NUMBER 422-875-8750
DATE DRILLED 5/04/88 TOTAL DEPTH OF HOLE 31.5' DIAMETER 10.0"
SURFACE ELEVATION _____ WATER LEVEL INITIAL 24.0' 24-HRS. _____
SCREEN DIA. 4.0" LENGTH 15.0' SLOT SIZE 0.040
CASING DIA. 4.0" LENGTH 19.5' TYP PVC
DRILLING COMPANY Layne-Western DRILLING METHOD Hollow stem
DRILLER Bob Dewild LOG BY Barry McFarland

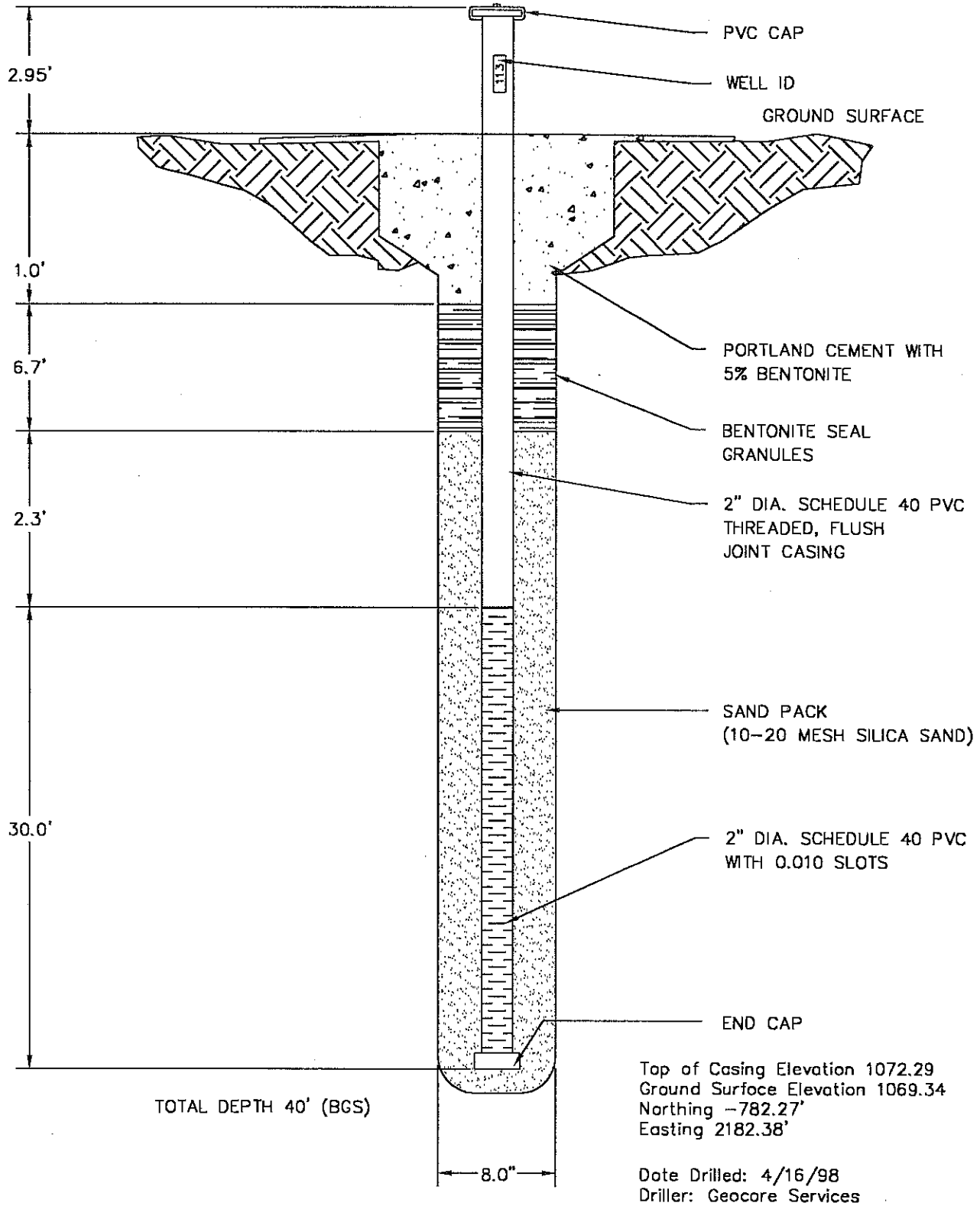
SKETCH MAP

PG. 2 OF 2

NOTES

DEPTH (FEET)	WELL CONSTRUCTION	NOTES	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
27		coarse sand & fine gravel pack	27.0		As above but medium and coarse grains (with occasional gravels to ½" diameter)
28					
29					
30					
31		bottom of hole 31.5'	31.5		
32					

FOR INSERTION INTO THE ENGINEERING FEASIBILITY PLAN APPENDIX B



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ENVIRONMENTAL CONSULTANTS

Project: TPI PETROLEUM, INC.	PIEZOMETER #113 CONSTRUCTION DIAGRAM
ARKANSAS CITY REFINERY ARKANSAS CITY, KANSAS	

File No.: 138R-016	ACAD File No.: 138R_PIEZ1		Date: 10/27/00	REV.:	
Drawn By: LKB	Design By: JFM	Checked By:	Approved By:	Figure No.:	

LOCATION MAP B-113

EnecoTech ENVIRONMENTAL CONSULTANTS
9726 East 42nd Street
Suite 224
Tulsa, Oklahoma 74146

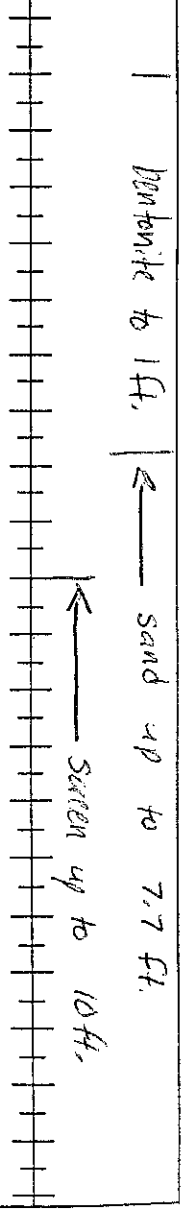
TEST HOLE/WELL LOG

Page 1 of 2

Test/Well Number: B-113	Project: Alli City
Date: 4-16-98	Project Number: 01-0138R-014
Logged By: 4/16-98	Drilled By: Geocore
Elevation:	Detector: PID
Drilling Method: H.S.A.	Sampling Method:
Gravel Pack: Silica Sand	Seal: Bentonite
Grout: Cement-Bentonite	
Casing Type: PVC	Diameter: 2" Length: 13'
Hole Dia:	Depth to Liquid:
Screen Type: PVC	Slot: 10 slot
Diameter: 2" Length: 30'	Total Depth: 40'
Depth to Water: 24.78	

Soil/ Rock Type	Color	Moisture Content	% Fines	Structure	Vapor	Staining	Sample #	Depth	Sample Recovery	Penetration Resistance	LITHOLOGY/REMARKS
								2			Gravel, Fill Material 0-3 ft.
					72			4			Sandy clay, some silt Dark brown (odor) 3-10ft.
								6			
								8			
					429			10			Fine sand grey odor 10-25ft.
								12			
					1378			14			
								16			
								18			
					1820			20			

WELL COMPLETION



LOCATION MAP

EnecoTech
ENVIRONMENTAL CONSULTANTS

9726 East 42nd Street
Suite 224
Tulsa, Oklahoma 74146

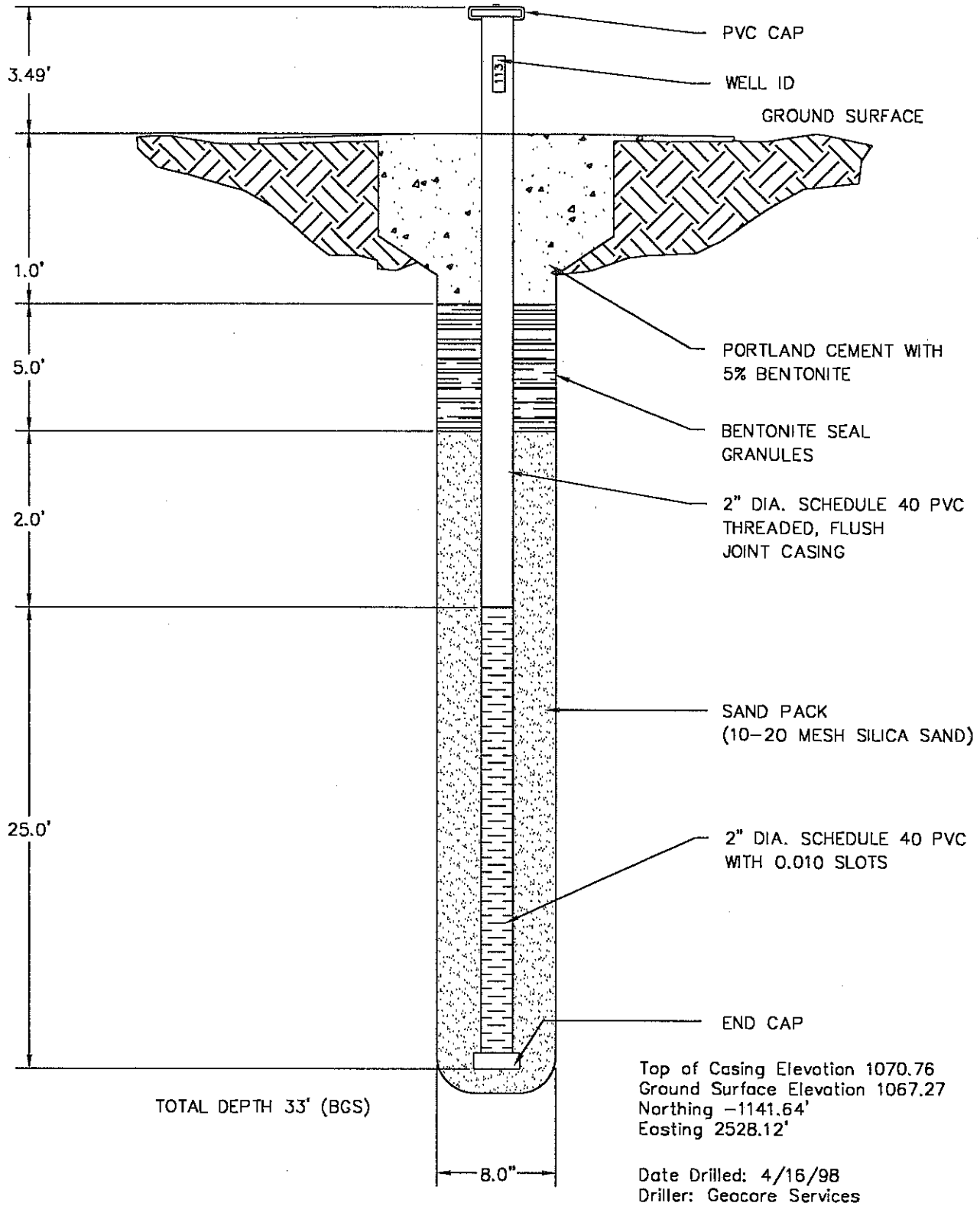
TEST HOLE/WELL LOG

Page 2 of 2

Test/Well Number: B-113	Project:
Date:	Project Number:
Logged By:	Drilled By:

Elevation:	Detector:	Drilling Method:	Sampling Method:
Gravel Pack:		Seal:	Grout:
Casing Type:		Diameter: Length:	Hole Dia: / Depth to Liquid:
Screen Type:	Slot:	Diameter: Length:	Total Depth: / Depth to Water:

Soil/ Rock Type	Color	Moisture Content	% Fines	Structure	Vapor	Staining	Sample #	Depth	Sample Recovery	Penetration Resistance	LITHOLOGY/REMARKS	WELL COMPLETION
					1514			22				
								24			Coarse grain sand (fine to coarse) (gravel) stained 25-40 ft.	
								26				
								28				
								30				
								32			Fine grain sand, very clayey, very silty grey Grey stained (odor) 32-40ft.	
								34				
								36				
								38				
								40			Bottom 40 ft.	



Top of Casing Elevation 1070.76
Ground Surface Elevation 1067.27
Northing -1141.64'
Easting 2528.12'

Date Drilled: 4/16/98
Driller: Geocore Services
Design By: Lance Whismon

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ENVIRONMENTAL CONSULTANTS

Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY
ARKANSAS CITY, KANSAS

PIEZOMETER #114
CONSTRUCTION DIAGRAM

File No.:	ACAD File No.:	Date:	REV.:
138R-016	138R_PIEZ2	10/27/00	

Drawn By:	Design By:	Checked By:	Approved By:	Figure No.:
LKB	JFM			

LOCATION MAP B-114

EnecoTech
ENVIRONMENTAL CONSULTANTS

9726 East 42nd Street
Suite 224
Tulsa, Oklahoma 74146

TEST HOLE/WELL LOG

Page 1 of 2

Test/Well Number: B-114	Project: Ark City
Date: 4-16-98	Project Number: 01-0138R-014
Logged By: L.W	Drilled By: Geocore

Elevation:	Detector: PID	Drilling Method: H.S.A.	Sampling Method:
Gravel Pack: Silica sand		Seal: bentonite	Grout: cement
Casing Type: PVC		Diameter: 2" Length: 5	Hole Dia: 2" Depth to Liquid:
Screen Type: PVC	Slot: 10 slot	Diameter: 2" Length: 28	Total Depth: 33' Depth to Water: 23.38

Soil/Rock Type	Color	Moisture Content	% Fines	Structure	Vapor	Staining	Sample #	Depth	Sample Recovery	Penetration Resistance	LITHOLOGY/REMARKS	WELL COMPLETION
											Gravel sand 0-2ft.	
								2			Brown sandy silty 2-5ft.	bentonite 6-1ft.
								4				
					7							
								6			Dark brown sandy clay 5ft.-10ft.	sand up to 6 ft.
								8				
					72			10			Grey sand 10ft.-23ft. fine sand	screen to 8ft.
								12				
								14				
					50						water between 15-20ft.	
								16				
								18				
					57			20				

LOCATION MAP

EnecoTech
ENVIRONMENTAL CONSULTANTS

9726 East 42nd Street
Suite 224
Tulsa, Oklahoma 74146

TEST HOLE/WELL LOG

Page 2 of 2

Test/Well Number: B-114	Project:
Date:	Project Number:
Logged By:	Drilled By:

Elevation:	Detector:	Drilling Method:	Sampling Method:
Gravel Pack:		Seal:	Grout:
Casing Type:		Diameter: Length:	Hole Dia: / Depth to Liquid:
Screen Type:	Slot:	Diameter: Length:	Total Depth: / Depth to Water:

Soil/ Rock Type	Color	Moisture Content	% Fines	Structure	Vapor	Staining	Sample #	Depth	Sample Recovery	Penetration Resistance	LITHOLOGY/REMARKS	WELL COMPLETION
								22				
											Grey sand coarse 23-33ft. stained	
					7			24				
								26				
								28				
					7			30				
								32				
								33			Bottom 33 ft.	

RCRA MONITORING WELL No. 7

Date Completed: 6-23-81
6" Hole with Hollow Stem Auger

Location: S.E. of Tank No. 102
See Location Map in Text

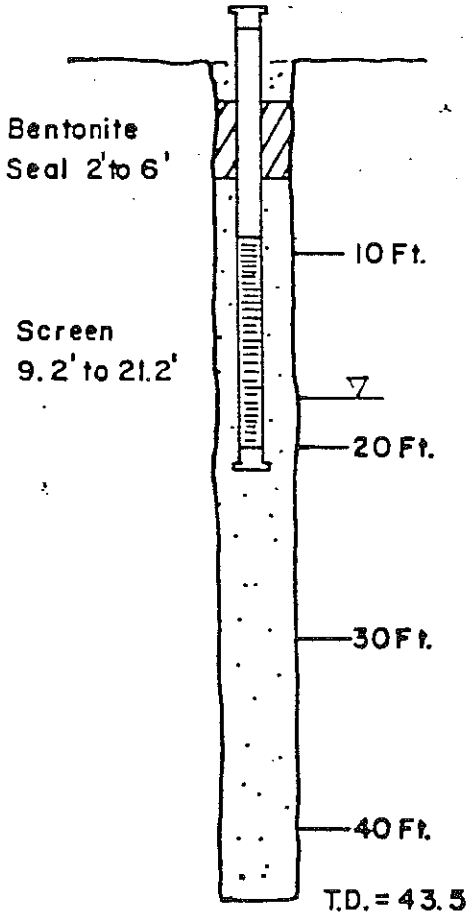
Ground Elevation: 1060.6

Casing: 2" PVC

Top of Casing Elevation: 1063.37

Screen: 2" Plastic (ABS), Continuous Slot (0.030")

Static Water Level: 1045.96 (10-2-81)



Gravel

Fine loamy sand with silty black clay

Fine grey silty sand

Tan fine-medium sand

Grey medium sand, saturated

Grey coarse silty sand, saturated

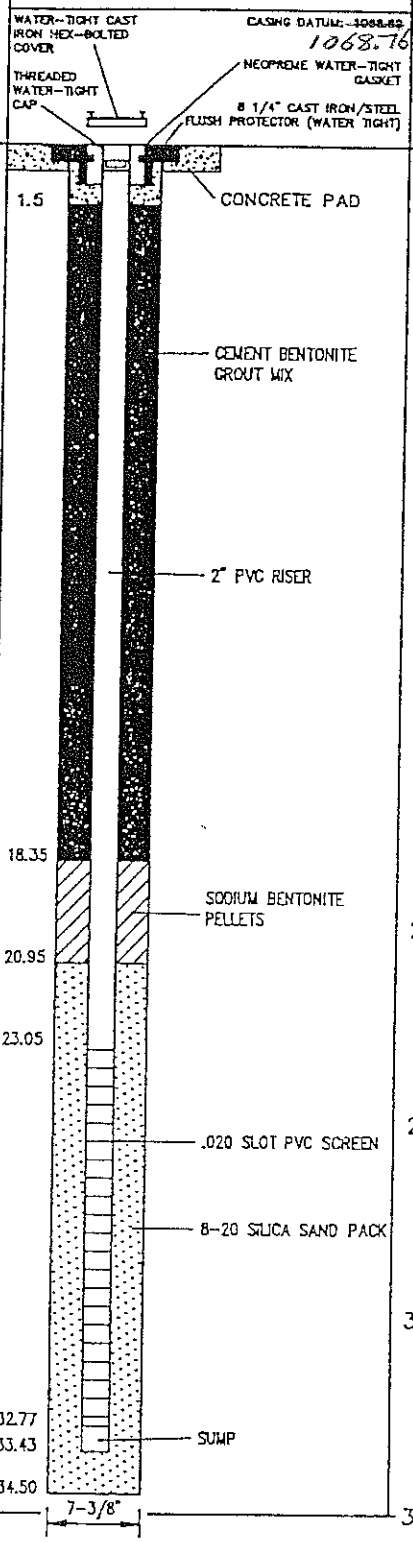
Grey fine silty, very wet, sand

Gravel
Refusal

WELL COMPLETION RECORD

GEOLOG. UNIT	DEPTH (FEET)	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	SAMPLE INTERVAL	"N" VALUE
	0	GROUND SURFACE: ~~1060.55~~ 1069.39'				
	0.8	GRAVELY SILTY SAND: 10% GRAVEL, 30% SILT 60% SAND, FINE TO MEDIUM GRAIN SILICA, ROUNDED, 10YR4/2, DARK GRAYISH BROWN, EARTHY ODOR, ORGANIC, RICH DRY, LOOSE	GC GP SP		1	3.0
	1.0	GRAVELY CLAY: MEDIUM STIFF, 7.5YR5/6, BROWN, 15% GRAVEL, 85% CLAY			2	NR
	3.0	1/2" LAYER BLACK ASPHALT, VITREOUS				
		SILTY SAND: 35% SILT, 65% SAND, FINE SILICA, 10YR5/4, YELLOWISH BROWN, DRY				
	5	SILTY SANDY CLAY: 30% SILT, 20% SAND, 50% CLAY, LOW TO MEDIUM PLASTIC, MOIST, FIRM, 10YR3/2, VERY DARK GRAYISH BROWN, BLACK HYDROCARBON STAINS FROM 6.0 TO 8.0'	CL		3	3.8
					4	NR
	10	SILTY CLAY: 40% SILT, 60% CLAY, SOFT, LOW TO MEDIUM PLASTIC, MOIST, 10YR3/2, VERY DARK BROWN	CL		5	3.0
					6	
	13.0	SANDY CLAY: 40% SILT, 60% CLAY, LOW PLASTIC, MOIST, MEDIUM STIFF, 10YR3/1, VERY DARK GRAY	CL			NR
	15				7	1.5
	16.0	SAND: FINE TO COARSE GRAIN, WELL GRADED, SILICA, SUBROUND TO ROUND, VERY LOOSE, STRONG HYDROCARBON ODOR, 2.5YR6/2, LIGHT GRAYISH BROWN, MOIST, INCREASING GRAIN SIZE WITH DEPTH, INCREASING MOISTURE AT 20.0'	SW			NR
	20	SAND GRAINS 10YR 8/0, WHITE QUARTZ TO 2.5YR 5/6, RED, PROBABLY FELDSPAR			8	0.5
						NR
▽ 25.00 ▽ 24.83	25	GROUNDWATER ENCOUNTERED AT 25.0'				NR
	30					NR
	34.5	TOTAL DEPTH 34.5 FEET				
	35					

WELL COMPLETION DETAIL



DEPTH (FEET)

CME CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HOURS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/SQ. FT.)
NR: NO RECOVERY
NS: NOT SAMPLED

JOB NAME/NUMBER *TOTAL/91008.02*

BORING NUMBER *RCRA BH-1 (MW-1)*

DATE DRILLED 9/9/91
DRILLING METHOD HSA
DRILLED BY PSI
LOGGED BY DHC
CHECKED BY BJS
DRAWN BY: BDR

ROBERTS/SCHORNICK
& ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS
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NORMAN, OKLAHOMA 73072
(405) 321-3895

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BUREAU OF WASTE MANAGEMENT

July 10, 2002

99-0138R018

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Transmittal of Engineering Feasibility Plan Revised Pages
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:
Please find enclosed revised pages from the Engineering Feasibility Plan for the TPI Petroleum, Inc. Arkansas City facility. The enclosed text reflects the deletion of the discussion pertaining to the planned installation of monitor well MW-17.

If you have any questions about the attached information, please contact either Brenda Manterola of Valero Energy Corporation at 210/592-4619 or myself at 303/861-2200 ext. 129.

Sincerely,

ENECOTECH INC.

Jay Mednick.
Project Manager

Enc. Engineering Feasibility Plan Revised Table of Contents and Section 6 Text

Cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffrey Robichaud, USEPA Region 7

old pages
replaced 7-22-0

TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY

ENGINEERING FEASIBILITY PLAN

U.S. EPA ID No.: KSD087418695

Prepared for:

Ultramar Diamond Shamrock Corporation
San Antonio, Texas

Prepared by:

EnecoTech Inc.
Denver, Colorado

Revision: 1, August 3, 2000
Revision: 2, October 20, 2000
Revision: 3, March 19, 2001

EnecoTech Inc. Project No.: 01-0138R016.009

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6.0 CORRECTIVE ACTION MONITORING PROGRAM

Two corrective action systems have been selected for the facility. The WMA ICM groundwater corrective action near the downgradient boundary of the waste management area and the LTU SVE-AS system at the edge of the LTU. This section describes the monitoring programs for these two systems.

6.1 LTU ICM Groundwater Corrective Action Monitoring Program

Groundwater monitoring will consist of two phases, corrective action monitoring and compliance monitoring. The corrective action monitoring program (CAMP) is designed to meet the requirements of CFR 264.100 and to verify the effectiveness of the corrective action and to monitor the progress of the cleanup effort towards achieving the cleanup goals within the designated waste management area. This will be done by monitoring groundwater quality within the waste management area and by evaluating the capture zone of the LTU ICM groundwater recovery system. The water quality testing will be used to monitor the progress and effectiveness of the corrective action, and the capture zone monitoring will be used to demonstrate there is no discharge of hazardous constituents to the Walnut River.

The corrective action groundwater quality monitoring described in this section involves the use of indicator compounds. During the course of the corrective action, TPI may increase the number of analytical constituents tested to include the entire list of the GWPS. Testing of the GWPS constituents will provide an indication of when the transition to groundwater compliance monitoring should be recommended.

Once the groundwater analyses conducted in the CAMP demonstrate the water quality within the plume meets the GWPS, TPI will submit a request to KDHE to begin the compliance monitoring program as a Class I permit modification. Upon receiving KDHE approval, TPI shall implement the compliance monitoring program. The groundwater sampling and analysis plan (SAP) for the corrective action and compliance monitoring programs is included in Appendix P of the RCRA Part B Permit Application. This section of the Engineering Feasibility Plan describes the various elements of the corrective action monitoring program including the groundwater sampling and the capture zone monitoring.

6.1.1 Waste Management Area

As allowed by Sections 264.95(b)(2) and 264.97(b), the four regulated units have been incorporated into

one waste management area. The waste management area is defined as the area encompassing the land treatment unit (LTU) to the west and the former surface impoundments #1, #2, and #3A to the east extending to the point of compliance near the Walnut river boundary. The groundwater modeling presented in this Engineering Feasibility Plan shows the groundwater flow direction and supports the definition of the waste management area boundaries.

6.1.2 Corrective Action Monitoring Well Network

The progress of the groundwater corrective action will be monitored using a monitoring well network that meets the requirements of Section 264.97(a). The monitoring well network is comprised of two upgradient wells, eight corrective action performance monitoring wells and two supplemental wells listed on Table 6-1. Figure 6-1 shows the corrective action groundwater monitoring well network and the four point of compliance wells. In addition, the groundwater pumped from the LTU ICM groundwater recovery wells will be sampled prior to entering the groundwater treatment system and the effluent from the treatment system will be sampled. This information will describe the quality of the groundwater at the recovery wells, the contaminant mass removal, and the performance of the groundwater treatment system. The groundwater corrective action monitoring wells are designed to monitor groundwater quality in the uppermost (alluvial aquifer) groundwater zone upgradient, within, and downgradient of the waste management area. The groundwater compliance monitoring wells will be used to measure the groundwater level elevation during the corrective action monitoring phase of the permit for the groundwater capture zone evaluation.

Monitoring well MW-17 will be constructed within 60 days of approval of this plan. The monitoring well will be constructed from threaded, 2-inch diameter schedule 40 PVC casing and machine slotted PVC casing well casing. A PVC end cap will be threaded to the bottom of the screened interval. The PVC riser will extend approximately three feet above the ground surface. No glue or other solvents will be used in the monitoring well construction. The slot opening and filter pack will be sized to the formation to provide sediment free groundwater samples. The filter pack will extend from the base of the screened interval to no more than two feet above the top of the screened interval. The remaining annular space will be sealed using grout. A locking protective well casing will be installed to prevent tampering with the monitoring well and a concrete well apron will be placed at the ground surface. The well apron will be three feet in diameter, four inches thick and will slope away from the well casing to prevent water pooling.

A licensed land surveyor will survey the location and elevation of the monitoring well. The monitoring well locations will be surveyed using the plant coordinate system to within 0.1 feet and the elevations of the casing measuring point will be to within 0.01 feet.

6.1.3 Groundwater Corrective Action Monitoring

The corrective action monitoring wells listed in Table 6-1 will be sampled according to the procedures presented in the SAP presented in Appendix P of the RCRA Part B permit application.

6.1.3.1 Groundwater Quality Monitoring

Groundwater corrective action samples, including the bioreactor influent water, will be analyzed for indicator compounds to monitor the performance and progress of the corrective actions. The sampling of the bioreactor influent will provide a composite representation of water quality conditions at the ICM recovery system. . The treated groundwater will be discharged to the Walnut River under the NPDES permit system.

The BTEX compounds were selected as the indicator compounds because of their high frequency of detection, mobility in the groundwater and elevated concentrations. These indicator compounds will be analyzed in the laboratory using USEPA SW-846 Method 8260B or currently promulgated version. The corrective action monitoring wells and the bioreactor influent and effluent streams will be monitored semiannually. The water samples will be analyzed by a KDHE certified laboratory.

Corrective Action Groundwater Quality Criteria

The purpose of the groundwater quality monitoring is to determine the progress of the groundwater corrective action. The concentrations of the indicator compounds will be monitored over time to determine trends. The criterion for the indicator compound monitoring is that the trend in the concentrations is decreasing over time. No two adjacent monitoring events can be used to describe a trend. Trends will be monitored over the period of three or more years and take into account seasonality and corrective action operations.

6.1.3.2 Capture Zone Monitoring

The groundwater levels will be monitored at four pairs of wells to determine the groundwater flow direction. These well pairs are: CMW-1 and RCRA-7, CMW-2 and 113, CMW-3 and 118 , and, CMW-4 and MW-1002 . The well locations are shown on Figure 6-2. Groundwater levels will be measured using an oil/water interface probe. The depth to free product (if present) and the oil/water or air/water interface will be measured to the nearest 0.01 feet and recorded in a bound field logbook. Density corrections for free product will be used to calculate a corrected groundwater level. The groundwater level elevation will be calculated by subtracting the corrected depth to water from the surveyed measuring point elevation. The groundwater capture zone monitoring will be performed on a quarterly schedule.

Capture Zone Demonstration Criteria

The groundwater capture zone between the LTU ICM recovery wells and the Walnut River will be created by continuous groundwater pumping from the six LTU ICM recovery wells (RW-35, RW-40, RW-50, RW-60, RW-70 and RW-80A). The combined pumping rate from these wells should average approximately 600-800 gpm. The groundwater pumping rate and hours of operation will be monitored and recorded. The capture zone will be monitored using the eight capture zone monitoring wells described previously. The criteria for the capture zone is a flat or a reversed hydraulic gradient between the recovery wells and the river. The capture zone evaluation monitoring will be conducted quarterly. There will be no groundwater discharge to the Walnut River if the gradient is flat or reversed. This criterion will be demonstrated by comparison of the groundwater level elevations in the capture zone monitoring well pairs listed on Table 6-1.

If free product is present on top of the water table, the groundwater elevation will be calculated using a density correction to account for the free product. The formula for calculating the corrected groundwater elevation in the presence of free product is:

$$CWL = (PT \times D) + IE$$

Where:

CWL = corrected water level elevation (feet above mean sea level)

PT = product thickness (feet, measured in well)

D = density of free product

IE = oil-water interface elevation (feet above mean sea level) = well casing measuring point elevation – depth to oil-water interface

If the groundwater level elevation measurement data indicates there is flow toward the river the groundwater levels will be re-measured within seven days. The facility may elect to re-survey the measuring point elevations of the capture zone monitoring wells to verify they have not changed due to damage to the well during high river levels or frost heaving etc. Simultaneously, the recovery well performance will be evaluated and corrective actions taken if necessary. Corrective actions may include replacement of worn pumps, recovery well redevelopment, and well replacement.

An alternate compliance criteria to demonstrating containment of groundwater from the refinery will be the groundwater quality in the groundwater compliance wells (CMW-1, -2, -3 and -4). If gradient control can not be demonstrated using groundwater level measurements during a particular monitoring event, groundwater samples will be collected within 30 days of re-measuring the water levels and analyzed for the BTEX indicator compounds. The BTEX analysis will be performed using USEPA SW-846 Method 8260B. Concentrations of BTEX below the groundwater protection standards listed in the RCRA Part B Permit Application will demonstrate compliance with the requirement to contain the groundwater from the waste management area. Groundwater samples will be collected only in the compliance monitoring well(s) in the vicinity of the location where gradient control has not been achieved.

Based upon a conservative groundwater flow velocity of 7 feet per day (Section 2.1.10.4) it will take approximately 14 days for groundwater at RW-80A to reach the Walnut River and 24 to 30 days between recovery wells RW-35 and RW-70. These travel times are based on a non-operating groundwater recovery well. However, if a recovery well(s) is not operating, the groundwater hydraulic gradient will be less and the groundwater travel times will increase.

6.1.4 Reporting

Corrective action monitoring reports will be submitted to KDHE on a semiannual schedule. Semiannual reports containing both capture zone and groundwater quality monitoring data will be submitted to KDHE on March 1 and September 1 for the previous six month period (July through December information will be reported on March 1 and January through June information will be reported on September 1). The reports will include the following data:

- field forms for water level monitoring and groundwater sampling;

- summary table presenting the results of the laboratory analyses ;
- laboratory analytical results – summary forms ;
- chain-of-custody forms ;
- discussion of the sampling event and any variance from the groundwater sampling plan ;
- discussion of any laboratory quality control issues and recommended corrective action ;
- groundwater pumping rate and percentage of time in operation; and,
- groundwater treatment system influent and effluent samples analyses.

The March 1 monitoring report will serve as the annual groundwater monitoring report. This report will provide additional analyses including presentation of time versus concentration graphs to show trends in groundwater quality. These graphs will present data from the start of the corrective action. The annual report will include a summary of the operations for the previous year and recommendations on the operation of the corrective action system for the following year.

6.2 LTU SVE-AS Corrective Action Monitoring Program

The LTU SVE-AS system consists of a network of soil vapor extraction and air sparge wells and an air sparge blower and a SVE blower. The KDHE Bureau of Air and Radiation will establish the compliance monitoring requirements in the construction permit for the system. TPI will comply with requirements specified by the KDHE Bureau of Air and Radiation for this system.

6.2.1 Operational Monitoring

Operational data will be collected during the operation of the system as outlined below.

Air Sparge System

- Air flow rate at individual sparge wells (monthly)
- Air flow rate and temperature at the blower (weekly)
- Cumulative operating time in hours (weekly)

Soil Vapor Extraction System

- Air temperature (weekly)
- Air velocity and flow (weekly)

- Vacuum (weekly)
- PID (weekly)

Air samples will be collected from the SVE outlet on a quarterly basis. The air sample will be analyzed for total petroleum hydrocarbons, gasoline range (TPHgro) and BTEX. This data will be used to monitor the performance of the SVE-AS system.

6.2.2 Operational Reporting

Semiannual reports will be submitted to KDHE on March 1 and September 1 for the previous six month period (July through December information will be reported on March 1 and January through June information will be reported on September 1). The reports will contain a narrative summary description of the operation of the system during the previous six months. The report will include a tabulation of the operational monitoring information described in Section 6.2.1

6.3 Corrective Action Contingency Plan

As discussed previously, the corrective action system for the groundwater at the property boundary downgradient of the LTU and the closed surface impoundments is the LTU ICM groundwater recovery and treatment system. If it is determined that impacted groundwater is migrating off-site based upon groundwater level measurements and groundwater quality data, corrective action contingencies will be implemented.

Initially, the contingency will be to verify that the release is real. The facility will prepare and submit an assessment plan to KDHE for approval. The assessment plan will review the current monitoring network and assess whether it is still appropriate. The assessment plan will recommend a focussed evaluation of the groundwater gradient and flow direction and the groundwater quality providing recommendations and if necessary design modifications to the system including contingency corrective action measures.

The additional corrective action may be in the form of additional groundwater recovery wells or construction and operation of an SVE-AS system between the recovery wells and the Walnut River. Additional recovery wells will be constructed with 10-inch diameter steel casing and galvanized steel well screen. The pumps will be plumbed into the bioreactor treatment system. This system is capable of handling at a minimum an additional 1000 gpm on top of the current 950 gpm flow rate.

However, if it is determined SVE-AS technology would be more appropriate to apply, then SVE-AS wells would be designed like the SVE-AS wells for the LTU corrective action as depicted on Figures 5-13 and 5-14. SVE-AS pilot testing conducted in the vicinity of the bioreactor tanks indicate that the effective ROI for the SVE wells in this area is 53 feet and the AS ROI is estimated to be 17 feet. An SVE well spacing of 60 feet (30-foot radius) and an AS well spacing of 30 feet (15-foot radius) is considered appropriate for this area. As with the LTU design, the well spacing is conservative, however, the closer spacing will reduce the cleanup time.

The contingency technologies if necessary would be implemented within 180 days of the determination of their need and with the approval of KDHE.

Corrective action monitoring will continue through the permit period as required by the RCRA permit. If during the operation of the contingency corrective action the monitoring results indicate the contingency action is no longer necessary, TPI will request that operation of the contingency corrective action system be terminated. Corrective action monitoring will resume as described in Sections 6.1.

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June 19, 2002

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JUN 2 4 2002
BUREAU OF WASTE MANAGEMENT

99-0138R-018

Ms. Katherine Dunn
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612

Re: May 2002 Groundwater Sampling
Semiannual RCRA Groundwater Corrective Action Report
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Ms. Dunn:

The purpose of this report is to present to the KDHE the results of the groundwater sampling and analysis conducted during the Spring, 2002 semiannual groundwater sampling event. This sampling event was conducted on April 30, May 1, and May 2, 2002 to complete the groundwater corrective action groundwater quality semiannual monitoring requirements set forth in Section IV.D.4.c. of the facility RCRA Permit. The groundwater samples were collected in accordance with the procedures presented in approved Groundwater Sampling and Analysis Plan (SAP). Data from the April 29, 2002 quarterly capture zone monitor well gauging event have also been included with this report.

The groundwater samples collected from the corrective action performance, supplemental information, background monitor wells, and bioreactor influent were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). Severn Trent Laboratories (STL) – Denver performed the sample analyses. The laboratory analytical results and corresponding field data are summarized in Table 1, attached. The laboratory report Form 1s, field sampling and chain-of-custody forms for the sample event are included in Attachment 1.

Groundwater level measurements for the sample event are summarized on Table 2. Groundwater level and elevation data from the quarterly capture zone well monitoring are summarized on Table 3. A monitor well location map is presented on Figure 1. The April 30, 2002 potentiometric surface contours are shown on Figure 2. Figures 3 through 6 contain chemical concentration isopleth maps for benzene, toluene, ethylbenzene, and total xylenes, respectively.

The groundwater sampling event consisted of first measuring the groundwater level and total depth in each of the monitor wells to be sampled. The field forms included in Attachment 1 contain the groundwater level and well depth data. Groundwater levels in the eight capture zone monitoring wells were gauged on April 29, 2002. The groundwater level gauging data demonstrated compliance with the permit conditions. The groundwater level data are summarized on Table 3. Dedicated bladder pumps were used to purge and sample the wells, except in the case of WN-6B, MW-6, and RCRA-4. At these three wells, polyethylene bailers were utilized in lieu of pumps, because the groundwater levels in the wells fell beneath the pump intake levels.

Prior to measuring groundwater levels on April 30, the groundwater sample collection pump was removed from each well to provide access to the bottom of the well for a total depth measurement. Removing the sample collection pump and associated pump tubing resulted in a temporary lowering of the groundwater level in the well. Sufficient time was allowed for the groundwater to re-stabilize prior to level gauging. Based upon the collected static groundwater level measurements, the groundwater flow direction was determined to be northeast. This flow direction is consistent with data previously collected at the facility.

One field blank was collected during the sample event, and a trip blank was submitted to the laboratory for each sample day. These field quality assurance samples were analyzed for BTEX. The laboratory analytical reports are included in Attachment 1. No detections of BTEX constituents were found in the field or trip blanks.

One duplicate sample was collected during the sample event. RCRA-MW-5 was a duplicate sample collected from WN-8B on May 2, 2002. All chemical analysis results appeared to be qualitatively similar between two samples collected from monitor well WN-8B.

If you have any questions or comments about the information presented in this report, please contact either Brenda Manterola, of Valero Energy Corporation at 210/592-4619 or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachments: Tables 1-3, Figures 1 through 6, Attachments 1-3

Cc: Harold Green, Valero Energy Corporation
Brenda Manterola, Valero Energy Corporation
Jeffery Robichaud, EPA Region VII

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EnecoTech
STRATEGIES FOR ENVIRONMENTAL RESPONSIBILITY

Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results April 30, May 1 and 2, 2002
TPI Petroleum, Inc. Arkansas City, Kansas

MEASUREMENTS	Groundwater Protection Standard	Sample ID						
		WN-1A	WN-1B	WN-5B	WN-6A	WN-6B[1]	WN-7B	RCRA-MW-5[2]
Field Measurements								
Sample Date		04/30/02	04/30/02	05/01/02	04/30/02	05/02/02	05/02/02	05/02/02
Groundwater Elevation (ft amsl)		1048.19	1047.79	1046.64	1046.21	1045.70	1047.47	-
pH (standard units)		7.25	7.18	6.60	7.31	6.72	7.24	-
Conductivity @25°C (uS/cm)		159	224	262	249	223	269	-
Turbidity (NTU)		2	1	4	29	E3	4	-
Temperature °C		15.7	17.5	17.4	18.7	15.7	16.4	-
Laboratory Analyses								
Benzene (ug/L)	5	1.0 U	1.0 U	4.0 U	**5.0**	**300** D	**100** D	**100** D
Toluene (ug/L)	1000	1.0 U	1.0 U	4.0 U	1.0 U	6.0 J	7.6	3.8 J
Ethylbenzene (ug/L)	700	1.0 U	1.0 U	4.0 U	1.0 U	10 U	3.1 J	10 U
Xylenes (total) (ug/L)	10000	2.0 U	2.0 U	8.0 U	2.0 U	7.8 J	19 D	20 U

MEASUREMENTS	Groundwater Protection Standard	Sample ID						
		WN-8B	MW-6[1]	MW-12	MW-13	MW-17	RCRA-4[1]	R-7101 INF.*
Field Measurements								
Sample Date		05/02/02	05/01/02	05/01/02	05/01/02	05/02/02	05/01/02	05/02/02
Groundwater Elevation (ft amsl)		1047.23	1042.12	1037.14	1042.09	1046.05	1043.52	-
pH (standard units)		7.06	6.52	6.81	7.17	7.25	6.64	**
Conductivity @25°C (uS/cm)		265	249	237	271	279	250	183
Turbidity (NTU)		69	E3	2	1	28	E3	19
Temperature °C		16.1	17.5	19.4	18.2	16.0	17.4	18.7
Laboratory Analyses								
Benzene (ug/L)	5	**86** D	**11000** D	**180** D	0.59 J	**5.1**	1 U	**180.6** D
Toluene (ug/L)	1000	4.2 J	**3100** D	2.3 J	1.0 U	0.56 J	1 U	3.1 D
Ethylbenzene (ug/L)	700	10 U	**1600** D	2.5 J	1.0 U	1.0 U	1 U	24.0 J
Xylenes (total) (ug/L)	10000	9.1 J	9100 D	13 D	2.0 U	1.7 J	2 U	33 D

Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results April 30, May 1 and 2, 2002
TPI Petroleum, Inc. Arkansas City, Kansas

Notes:

1 = In accordance with the Sampling & Analysis Plan, well water purging and sampling utilized polyethylene bailer due to the low groundwater elevations encountered. The groundwater elevation was not high enough to complete purging and sampling with the in-well pump.

2 = RCRA-MW-5 is a field duplicate of WN-8B.

U Indicates compound was analyzed for but not detected. Reporting limit shown.

J Indicates an estimated value. Used primarily when the compound was detected between the method detection level and the practical quantitation limit (PQL).

D Indicates that the compound was identified in an analysis at a secondary dilution factor.

BOLD Indicates positive detection equal to or above the groundwater protection standard.

E3 Indicates that water sample turbidity was in excess of instrument limits (1000 NTU).

"-" Indicates that the parameter was not measured or was not applicable.

* Samples were collected from both the East and West influent lines to the bioreactor tank, R-7101. Results represent flow-weighted averages, with the East line at 400 gpm and the West line at 850 gpm. Field data from the two influent lines have also been flow-weighted, with the exception of pH.

** East line pH was 7.06 and West side pH was 6.93.

Monitor wells WN-1A, WN-6A, WN-12, WN-13 are completed in the lower part of the alluvial aquifer. The other wells are completed at and below the water table in the upper part of the alluvial aquifer.

Table 3 Groundwater Gradient Monitoring Measurement Form
TPI Petroleum, Inc. Arkansas City, Kansas

	WELL: CMW-1 DATE: 4/29/02 TIME: 10:21am	
1	MEASURING POINT ELEV.	1059.71
2	DEPTH TO WATER	22.45
3	DEPTH TO PRODUCT	ND
4	PRODUCT THICKNESS (2-3)	0.00
5	(DEPTH TO WATER + (PROD THICK*D))	22.45
6	GROUNDWATER ELEVATION (1-5)	1037.26
Groundwater Elevation Difference (CMW-1 - RCRA-7)		0.40

	WELL: RCRA-7 DATE: 4/29/02 TIME: 10:15 am	
1	MEASURING POINT ELEV.	1063.73
2	DEPTH TO WATER	26.87
3	DEPTH TO PRODUCT	ND
4	PRODUCT THICKNESS (2-3)	0.00
5	(DEPTH TO WATER + (PROD THICK*D))	26.87
6	GROUNDWATER ELEVATION (1-5)	1036.86

	WELL: CMW-2 DATE: 4/29/02 TIME: 10:28 am	
1	MEASURING POINT ELEV.	1061.74
2	DEPTH TO WATER	24.87
3	DEPTH TO PRODUCT	ND
4	PRODUCT THICKNESS (2-3)	0.00
5	(DEPTH TO WATER + (PROD THICK*D))	24.87
6	GROUNDWATER ELEVATION (1-5)	1036.87
Groundwater Elevation Difference (CMW-2 - 113)		0.29

	WELL: 113 DATE: 4/29/02 TIME: 10:34 am	
1	MEASURING POINT ELEV.	1072.25
2	DEPTH TO WATER	35.67
3	DEPTH TO PRODUCT	ND
4	PRODUCT THICKNESS (2-3)	0.00
5	(DEPTH TO WATER + (PROD THICK*D))	35.67
6	GROUNDWATER ELEVATION (1-5)	1036.58

	WELL: CMW-3 DATE: 4/29/02 TIME: 10:38 am	
1	MEASURING POINT ELEV.	1060.13
2	DEPTH TO WATER	22.81
3	DEPTH TO PRODUCT	ND
4	PRODUCT THICKNESS (2-3)	0.00
5	(DEPTH TO WATER + (PROD THICK*D))	22.81
6	GROUNDWATER ELEVATION (1-5)	1037.32
Groundwater Elevation Difference (CMW-3 - 118)		0.28

	WELL: 118 DATE: 4/29/02 TIME: 10:43 am	
1	MEASURING POINT ELEV.	1070.69
2	DEPTH TO WATER	33.65
3	DEPTH TO PRODUCT	ND
4	PRODUCT THICKNESS (2-3)	0.00
5	(DEPTH TO WATER + (PROD THICK*D))	33.65
6	GROUNDWATER ELEVATION (1-5)	1037.04

	WELL: CMW-4 DATE: 4/29/02 TIME: 10:52 am	
1	MEASURING POINT ELEV.	1058.27
2	DEPTH TO WATER	19.51
3	DEPTH TO PRODUCT	ND
4	PRODUCT THICKNESS (2-3)	0.00
5	(DEPTH TO WATER + (PROD THICK*D))	19.51
6	GROUNDWATER ELEVATION (1-5)	1038.76
Groundwater Elevation Difference (CMW-4 - MW-1002)		0.34

	WELL: MW-1002 DATE: 4/29/02 TIME: 10:47 am	
1	MEASURING POINT ELEV.	1072.12
2	DEPTH TO WATER	33.70
3	DEPTH TO PRODUCT	ND
4	PRODUCT THICKNESS (2-3)	0.00
5	(DEPTH TO WATER + (PROD THICK*D))	33.70
6	GROUNDWATER ELEVATION (1-5)	1038.42

Notes: 1. Measuring Point Elevations as of 1/1/02

2. ND = product not detected

3. D = product density

KANSAS
DEPARTMENT OF HEALTH & ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

June 6, 2002

Mr. Jay Mednick
EnecoTech Inc.
1580 Lincoln Street, Suite 1000
Denver, CO 80203

RE: LTU Class V Air Sparge Application
TPI Petroleum, Inc., Arkansas City, Kansas
AS-1 through AS-21

Dear Mr. Mednick:

The Kansas Department of Health & Environment's Geology Section KDHE/GS administers the Underground Injection Control (UIC) program and has completed its review of the above referenced air sparging application.

The Kansas Department of Health and Environment (KDHE) Bureau of Waste Management (BWM) retains authority for the overall approval and oversight of the remediation project. Approval to commence operations of the air sparging wells must therefore be obtained from BWM.

This letter serves only as notice that the 21 **proposed** air sparging wells meet UIC Program requirements. The KDHE/GS does not intend to issue formal permits for this type of well at this time. If significant changes in the injection procedure or to the injection system (well locations or number of wells) are planned, you **must submit** the proposal to KDHE (BWM **and GS**) for review and approval.

Kansas Regulations require the wells to be constructed at least 12 inches above ground and wells with below ground tees to connect lines to the wells require waivers. If you plan to construct the wells flush with ground surface or have tees to the wells, you must first get approval from KDHE. The person you will need to speak with is Mr. Don Taylor. His telephone number is (785) 296-5522.

Only Kansas Licensed Water Well Contractors should be considered when constructing the air sparge wells unless you use the well construction crews employed by KDHE. Once the project is completed, the wells must be plugged by completely filling the inside from top to bottom with a KDHE approved grout. If you have any questions, please call me at (785) 296-1843 or email at khoeffne@kdhe.state.ks.us.

Sincerely,

Kirk Hoeffner, L.G.
Unit Chief, Underground Injection Control Program
Geology Section
Bureau of Water

C: John Goetz - KDHE/SCDO
Katherine Dunn - KDHE/BWM
File: TPI Petroleum, Inc., Cowley Co. Class V - General

e:/hoeffner/tpi petroleum inc. 6-5-02

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Denver, Colorado 80203
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June 4, 2002

99-0138R018
RECEIVED
JUN 0 6 2002
BUREAU OF WASTE MANAGEMENT

Mr. Ralph Walden
Air Construction Permit Section
Bureau of Air and Remediation
Kansas Department of Health and Environment
1000 SW Jackson, Suite 310
Topeka, Kansas 66612-1366

Re: Revised SVE-AS Well Location Map
Application for KDHE Construction Approval
LTU Soil Vapor Extraction System
TPI Petroleum, Inc., Arkansas City, Kansas
KDHE Source ID: 0350051

Dear Mr. Walden:

Please update EnecoTech's May 14 application with the attached revised Figure 2. We have received approval for this revision from Kathy Dunn and Kevin Anderson of the KDHE Bureau of Waste Management. If you have any questions about this matter, please contact either Brenda Manterola, of Valero Energy Corporation at 210/592-4619 or myself at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachment : Figure 2

cc: Brenda Manterola, Valero
Katherine Dunn, KDHE Bureau of Waste Management
Kevin Anderson, KDHE Bureau of Waste Management
Harold Green, Valero

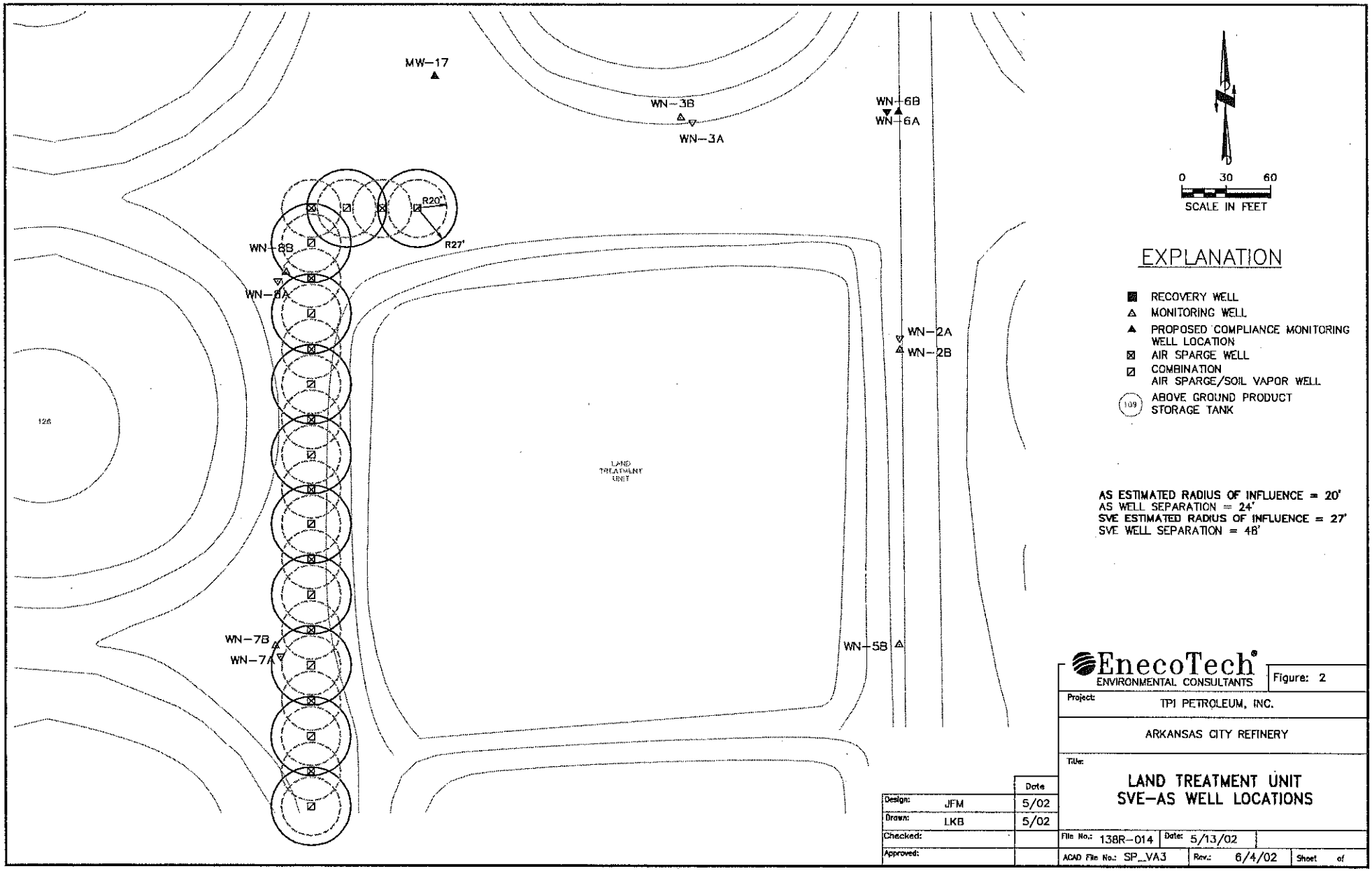

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Figure: 2

Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY

Title:

LAND TREATMENT UNIT SVE-AS WELL LOCATIONS

		Date
Design:	JFM	5/02
Drawn:	LKB	5/02
Checked:		
Approved:		

File No.: 138R-014 Date: 5/13/02

ACAD File No.: SP_VA3 Rev.: 6/4/02 Sheet of

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June 4, 2002

Mike Cochran
Chief, Geology Section
Bureau of Water
Kansas Department of Health and Environment
1000 SW Jackson St., Suite 420
Topeka, Kansas 66612-1367

99-0138R018

Re: Revised Figure 6
Underground Injection Authorization to Operate Air Sparging Wells
LTU Soil Vapor Extraction/Air Sparge System
TPI Petroleum, Inc. Arkansas City, Kansas

Dear Mr. Cochran:

Please update EnecoTech's May 14 application with the attached revised Figure 6. We have received approval for this revision from Kathy Dunn and Kevin Anderson of the KDHE Bureau of Waste Management. If you have any questions about this matter, please contact either Brenda Manterola, of Valero Energy Corporation at 210/592-4619 or myself at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachment : Figure 6

cc: Brenda Manterola, Valero
Katherine Dunn, Chief, Corrective Action Unit, KDHE Bureau of Waste Management
Kevin Anderson, KDHE Bureau of Waste Management
Harold Green, Valero

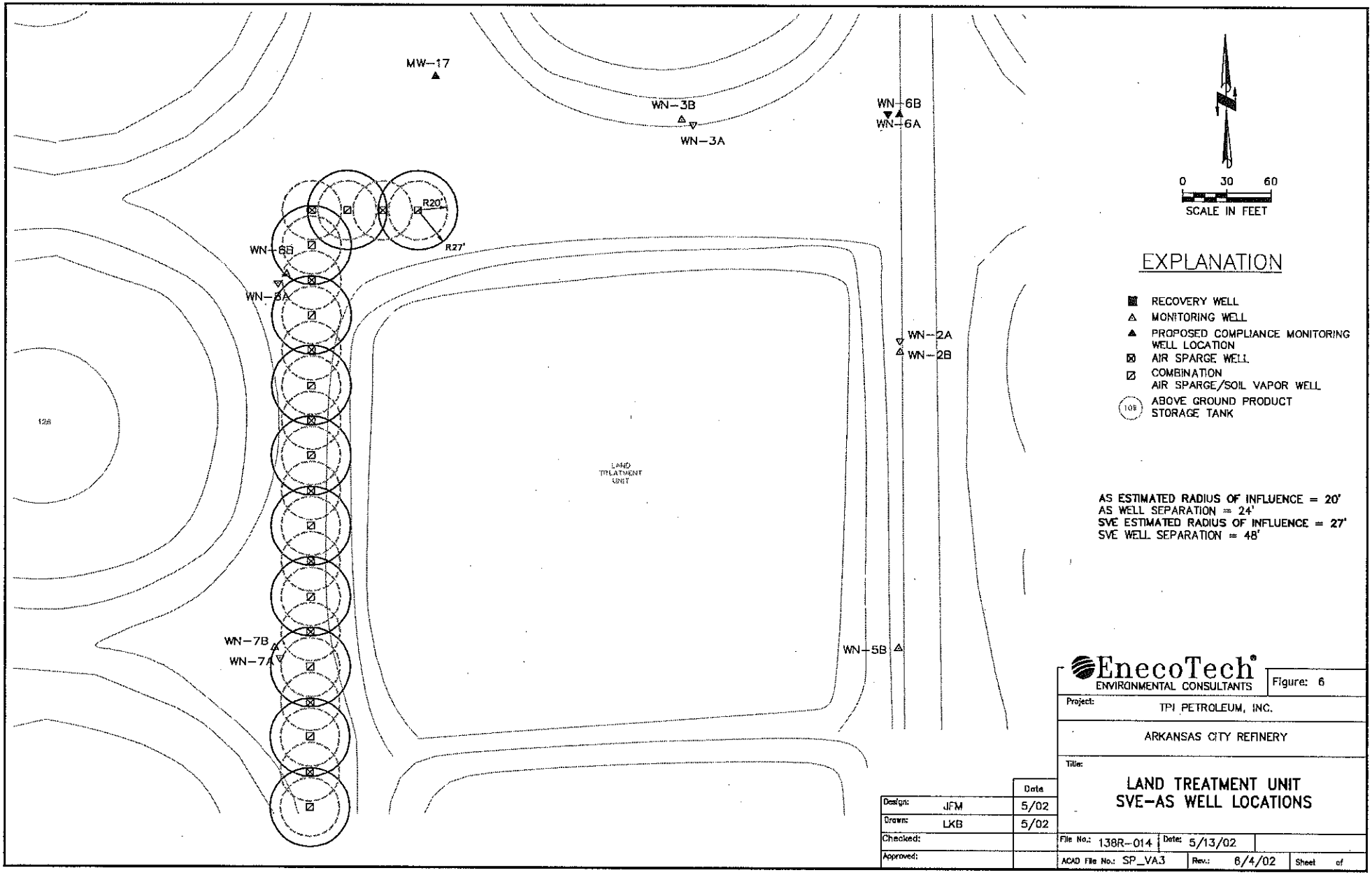

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Figure: 6

Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY

Title: LAND TREATMENT UNIT SVE-AS WELL LOCATIONS

		Date
Design:	JFM	5/02
Drawn:	LKB	5/02
Checked:		
Approved:		

File No.: 138R-014 | Date: 5/13/02

ACAD File No.: SP_VA3 | Rev.: 6/4/02 | Sheet of

KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

June 4, 2002

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 6060000
San Antonio, TX 78269-6000

Re: Change in location of AS/SVE adjacent to Land Treatment Unit
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

This letter is a followup to the request for a change in location of the AS/SVE system for the LTU and conference call on 6-04-02 with KDHE BWM (Katherine Dunn and Kevin Anderson) and Valero (Brenda Manterola and Jay Mednick). The BWM is in agreement with the proposed change and concurs no permit modification is necessary since no change in function of the corrective action system is anticipated. Therefore, KDHE BWM approves the change subject to subsequent agreement with BAR and BOW and Valero concerning the change. Valero is currently seeking bids for the work and anticipates a start date of about two to three weeks from today (depending on concurrence, weather, availability of contractor, etc.). Valero intends to notify KDHE ASAP of the projected construction start date of the new system, so that arrangements can be made for oversight of the system.

We appreciate your assistance in this matter. If there are any questions regarding this letter, you may contact Katherine Dunn at kdunn@kdhe.state.ks.us or (785) 296-6561, or Kevin Anderson at kanderso@kdhe.state.ks.us or (785) 291-3760.

Sincerely,

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Cc: Mark Bradbury- SCDO/DEA/Waste Programs
Jeffrey Robichaud- EPA Region 7/RCAP Branch
Joseph Mednick- EnecoTech
Rob Franke-R&B Associates, Inc.

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RECEIVED
MAY 3 1 2002
BUREAU OF WASTE MANAGEMENT

May 28, 2002

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

99-0138R018

Re: Transmittal of Revised Closure/Post Closure Cost Estimate
Part B Permit Application Appendix L - Table 6
Class II Permit Modification for Additional Recovery Wells RW-45, RW-55, RW-65 and RW-75
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:

EnecoTech is submitting the enclosed cost information on behalf of TPI Petroleum, Inc. (TPI). The revised cost estimate addresses the remaining Class II permit modification deliverable for the four additional groundwater recovery wells installed at TPI's Arkansas City facility. The enclosed Table 6 replaces Table 6 in Appendix L of the Part B Permit Application.

The cost estimate includes costs in current dollars for operations and maintenance, spare parts, electricity and system monitoring and reporting. The costs are based upon using a third party contractor to conduct the post-closure care activities. The annual operations and maintenance costs include annualized costs for biannual well treatment by a water well contractor. The spare parts cost include maintaining an inventory of chemicals to treat each of the 10 recovery wells every four to six months by the site operations and maintenance personnel.

The revised electricity cost is $38,632. This is less than the value presented in the June 8, 2000 cost estimate ($41,600) which was inadvertently miscalculated. A portion of the system monitoring and reporting item has been allocated into the operation and maintenance cost item. This has resulted in a decrease in the system monitoring and reporting item. An additional increase in the operation and maintenance cost item reflects the four additional recovery wells. The net increase in the annual cost estimate is approximately $20,000, and over 20 years the increase is approximately $400,000. The

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APPENDIX L – TABLE 6
ICM GROUNDWATER RECOVERY SYSTEM
OPERATION & MAINTENANCE COST ESTIMATES

Revised May 14, 2002

ITEM	DESCRIPTION	AMOUNT
Operation & Maintenance/year	Labor to monitor and operate recovery well system, including well treatment costs.	$80,260
Spare/Replacement Parts	Costs include well treatment chemicals, replacement water and product pumps and motors.	$17,790
Electricity Costs	Electricity cost based upon 145 HP system, a KG&E High Load Factor (HLF) rate of $0.02580/kW-hr, and a capacity charge of $10.94 per month per kW. HP to KW conversion is KW= HP * 0.7457.	$38,632
System Monitoring & Reporting/year	Costs for recovery well components semiannual and annual reports, routine recordkeeping and annual well specific capacity testing.	$30,800
ICM Total Annual Costs		**$167,482**
TOTAL ICM O&M COSTS	***20 years x total annual cost Note: 20 years will be required for the life of the permit (i.e., for 10 years)***	***$3,349,646***

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MAY 16 2002
BUREAU OF WASTE MANAGEMENT

May 14, 2002

Mike Cochran
Chief, Geology Section
Bureau of Water
Kansas Department of Health and Environment
1000 SW Jackson St., Suite 420
Topeka, Kansas 66612-1367

99-0138R018

Re: Underground Injection Authorization to Operate Air Sparging Wells
LTU Soil Vapor Extraction/Air Sparge System
TPI Petroleum, Inc. Arkansas City, Kansas

Dear Mr. Cochran:

EnecoTech Inc. (EnecoTech) is submitting the enclosed application on behalf of TPI Petroleum, Inc. (TPI). TPI has submitted plans to the Bureau of Waste Management, Hazardous Waste Permits Section for remediating the petroleum hydrocarbon impacted groundwater and soil at the land treatment unit (LTU) at their Arkansas City facility. This plan has been reviewed and approved by the Hazardous Waste Permits Section. Installation of the LTU treatment system is required under the facility RCRA permit.

The plan involves the use of soil vapor extraction and air sparge technologies to remediate the groundwater and soil at the LTU. The air sparge component involves injecting ambient air under pressure into the groundwater. The soil vapor extraction component will recover the petroleum hydrocarbon vapors in the unsaturated zone soils. The attached application describes two well construction types: air sparge and soil vapor extraction. There will be a total of 32 wells installed at the land treatment unit. Twenty-one (21) of the wells will be used for air sparging and 11 wells will be used for vapor extraction.

If you have any questions regarding this application or require additional information, please contact either Brenda Manterola at 210/592-4619 or me at (303) 861-2200 ext. 129. We appreciate your assistance with this matter.

Sincerely,

ENECOTECH INC.

Jay Mednick

Enc. Class V Underground Injection Control Application

cc: Brenda Manterola, Valero Energy Corporation
Katherine Dunn, Chief, KDHE Bureau of Waste Management Corrective Action Unit

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CLASS V
UNDERGROUND INJECTION CONTROL
APPLICATION FOR AUTHORIZATION TO OPERATE AIR SPARGING WELL
IN CONJUNCTION WITH
A GROUNDWATER REMEDIATION PROJECT

Submit to:

Kansas Department of Health
and Environment
Bureau of Water
Environmental Geology Unit
1000 SW Jackson St., Suite 420
Topeka, KS 66612-1367

Date: 11/16/01
Legal Description of Well(s)
SE ¼ of SW ¼ of SW ¼ of
Sec. 32, T 34S, R 4E
Facility Name: TPI Petroleum, Inc
Well(s): 32
County: Cowley

In conformity with K.S.A.65-171d

TPI Petroleum, Inc.,

1400 South M Street, Arkansas City, Kansas 67005 (620) 442-5100
(Address) (Telephone Number)

hereby makes application to the Kansas Department of Health and Environment (KDHE) to inject air into or above an underground source of fresh or usable water by means of an injection well(s) for the purpose of remediation of contamination.

This application concerns the air sparging wells except where indicated.

1. The applicant shall provide documentation with this application that the KDHE Bureau of Environmental Remediation has approved a remediation plan that includes the use of the proposed injection well(s). Briefly describe the contamination to be remediated.

Response
KDHE Bureau of Waste Management will transmit approval documentation directly to the Bureau of Water. The air sparge system is required under the facility RCRA Permit. The purpose of the system is to remove petroleum hydrocarbons from the groundwater.

2. Describe the function of the well(s) within the scope of the remediation project.

Response
The wells will function as air sparge points. Air will be injected into the groundwater.

3. Describe the air mixture to be injected.

Response
The air mixture to be injected will be ambient air pressurized with a mechanical blower.

4. Provide a lithologic description of the injection zone. Provide the approximate depth to groundwater.

Response

The injection zone is comprised of poorly to well graded sands and gravelly sands. There are little or no fines present. The depth to groundwater is approximately 10-15 feet below ground surface.

Injection Zone(s):

Geologic Name(s)	Depth to Top	Depth to Bottom
Recent Alluvium	**0**	**46 feet**

5. Well Completion:

Borehole, casing and grout information.

Borehole Size	Casing or Tubing Size	Material	Weight lbs/ft	Wall Thickness or Gauge No.
1. 6" dia. AS well	**2" diameter**	**PVC**	**0.67 lbs/ft**	**0.154**
2. 6" dia. SVE well	**2" diameter**	**PVC**	**0.67 lbs/ft**	**0.154**

Casing Seat Depth	Type of Grout	Amount of Grout	Grouted Interval from:	Grouted Interval to:
1. 28' bgs	**High solids sodium bentonite clay grout.**	**3.8 cubic feet**	**0.5' bgs**	**23.5' bgs**
2. 16.5' bgs	**High solids sodium bentonite clay grout.**	**0.4 cubic feet**	**0.5' bgs**	**3' bgs**

Screen or perforation material: **PVC**
Type of screen or perforation opening: **KVA Inc. Spargepoint Bubbler or PVC slotted screen**

Screen or perforation intervals:

from: **26.5' bgs**	to: **28.0' bgs**
from:	to:

Gravel pack intervals:

from: **26.0' bgs**	to: **28.0' bgs**
from:	to:

K.A.R. 28-30-6(b) requires constructed or reconstructed wells be sealed by grouting the annular space between the casing and the well bore from ground level to a minimum of 20 feet, or to a minimum of five feet into the first clay or shale layer if one is present, whichever is greater. If a pitless well adapter or unit is being installed, the grouting

shall start below the point at which the pitless well adapter or unit attaches to the well casing and shall continue a minimum of 20 feet below this point, or to a minimum of five feet into the first clay or shale layer, whichever is greater. If groundwater is encountered at a depth less than the minimum grouting requirement, the grouting requirement may be modified to meet local hydrogeologic conditions if approved by KDHE. To facilitate grouting, the grouted interval of the well bore shall be drilled to a minimum diameter at least three inches greater than the maximum outside diameter of the well casing.

Provide information describing the seal to be used on top of the well casing. This seal shall be water tight. If a pitless well adapter is to be used, provide information describing the design of the pitless adapter. The pitless well adapter shall be so designed and fabricated to prevent soil and subsurface waters from entering the well.

If the wellhead is to be completed below the finished ground level, the wellhead shall be enclosed in a KDHE approved water tight vault. The top of the vault shall be sloped to allow drainage away from the vault. If the wellhead of the soil vapor extraction (SVE) well(s) is to be completed below the finished ground level, the wellhead shall also be enclosed in a KDHE approved water tight vault. Provide a schematic drawing depicting the proposed SVE well(s) completion at the surface and subsurface. The vault design for the air sparging well(s) and SVE well(s) should conform to the design depicted in Attachment I. Attachment I depicts a monitoring well, but the vault design also applies to injection wells and SVE wells. Completion of the wellhead below the finished ground level requires from KDHE a waiver to regulation K.A.R. 28-30-6(e).

6. Provide a detailed schematic drawing depicting the proposed well(s) completion at the surface and subsurface.

Response

Two types of wells will be constructed: an air sparge well (attached Figure 1) and a soil vapor extraction well (attached Figure 2). The vapor extraction well will be used to remove hydrocarbon vapors from the unsaturated zone. The attached diagrams illustrate the above ground and below ground completions.

7. Air Injection Rate:

Air to be injected at a minimum rate of **3** scfm to a maximum rate of **10** scfm.

8. Injection Pressure:

Maximum wellhead injection pressure will be **15** psig.
Minimum wellhead injection pressure will be **5** psig.

9. Provide a plugging and abandonment plan for the well(s). The plugging plan must include the type of grout, estimated volume of grout, and a description of the grout emplacement procedure. Include a diagram depicting how the well(s) will be plugged. KDHE requires the well(s) to be filled with a KDHE approved grout from the bottom of the well to three feet below ground level.

Response

All wells will be abandoned in accordance with K.A.R. 28-30-7. A high solids sodium bentonite clay grout will be used to fill the well casing to within three feet of the ground surface. We estimate it will require 0.6 and 0.3 cubic feet of grout to fill the well casing to within three feet of the ground surface at for the air sparge and soil vapor extraction wells, respectively. The well casing(s) will then be cut off three feet below the ground surface and removed. The plugged well will be covered with three feet of compacted surface silts and clays. Diagrams depicting how the wells will be plugged are attached as Figures 3 and 4.

10. Provide a map of the site showing the location of the proposed air sparging well(s), monitoring wells and SVE wells.

Response

Figure 5 shows the location of the facility and Figure 6 shows the locations of the air sparge and soil vapor extraction wells. The wells will be located around the northwest perimeter of the Land Treatment Unit.

11. The well(s) shall be constructed by a water well contractor licensed by KDHE. Provide the contractor's name, business address and KDHE license number.

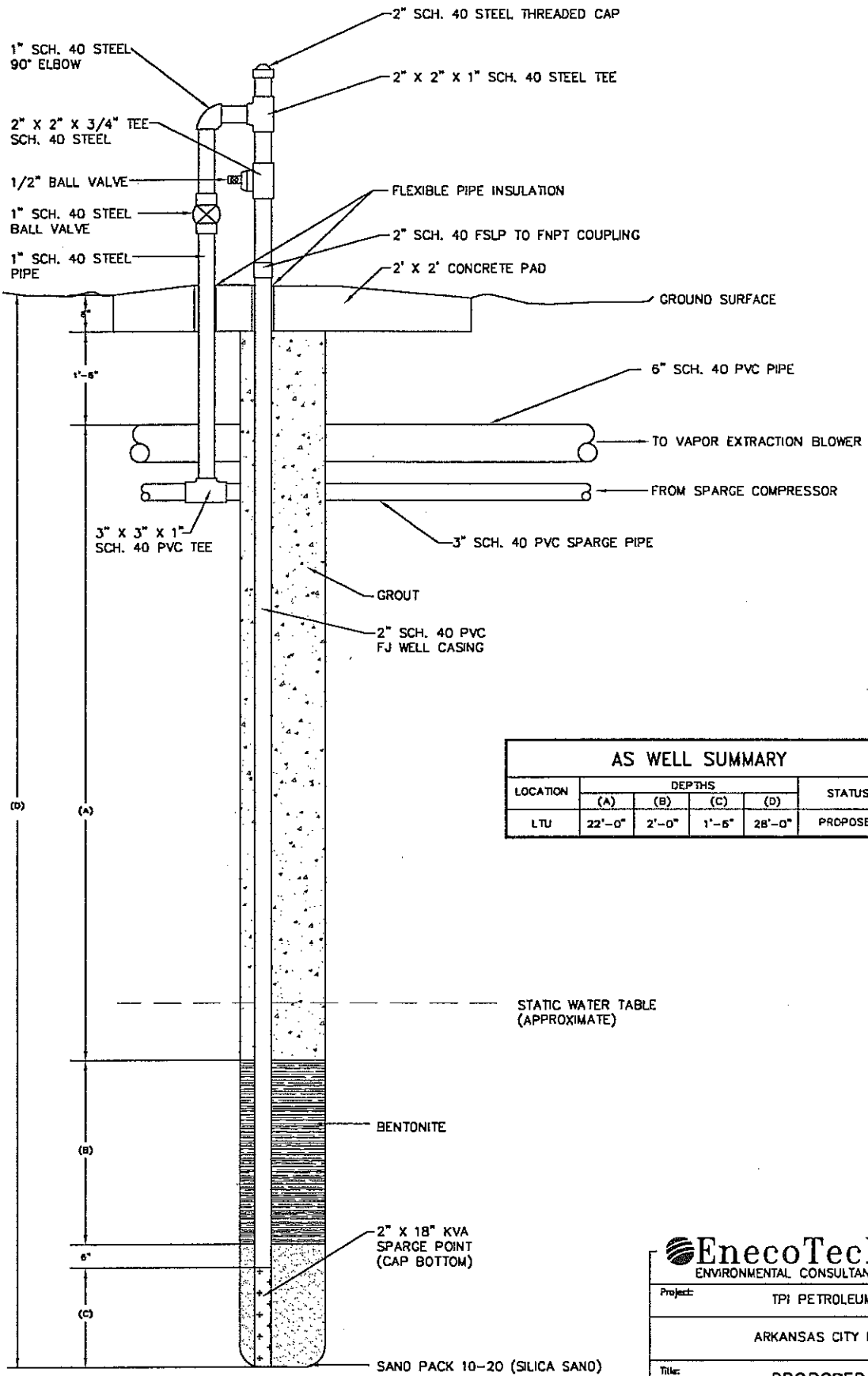
Response

Bids for construction of the air sparge and soil vapor extraction wells are currently being obtained from KDHE-licensed water well contractors.

12. Within 30 days after construction or reconstruction of the air sparging and SVE well(s) the water well contractor shall submit a report of such work to KDHE on the KDHE water well record form WWC-5.

To whom should future correspondence regarding this application be addressed:

Jay Mednick
EnecoTech, Inc.
1580 Lincoln Street, Suite 1000
Denver, Colorado 80203
(303) 861-2200 ext. 129
E-mail: JayMednick@EnecoTech.com



AS WELL SUMMARY					
LOCATION	DEPTHS				STATUS
	(A)	(B)	(C)	(D)	
LTU	22'-0"	2'-0"	1'-6"	28'-0"	PROPOSED

SECTION A-A
NOT TO SCALE

PRELIMINARY - FOR BIDDING PURPOSES ONLY

		Date
Design:	JFM	7/99
Drawn:	LKB	7/99
Checked:		
Approved:		

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Figure: 1

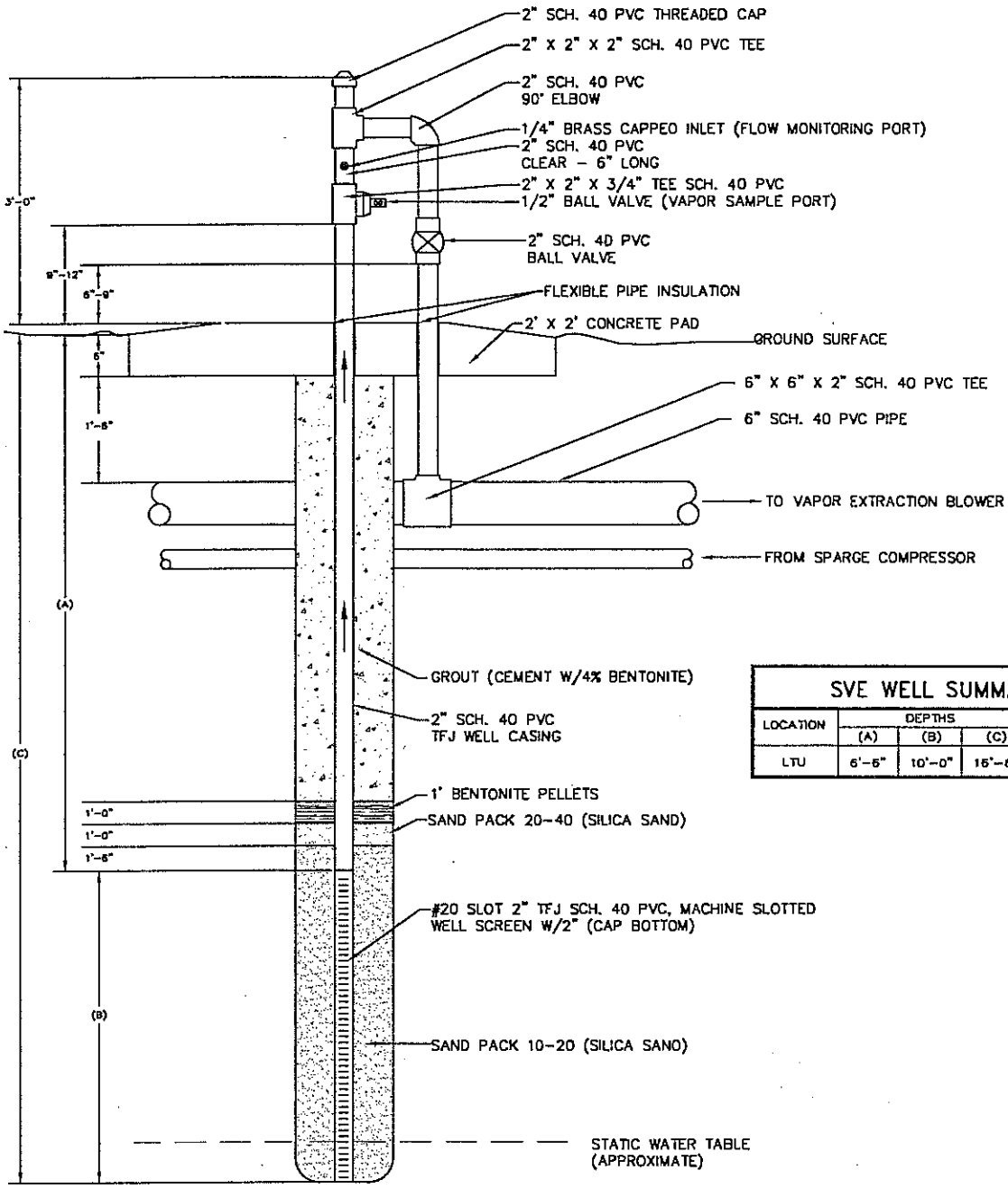
Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY

Title: PROPOSED LTU AIR SPARGE WELL COMPLETION DIAGRAM

File No.: 138R-014 Date: 7/14/99

ACAD File No.: WEL1B Rev.: 11/12/01 Sheet 1 of 1



SVE WELL SUMMARY				
LOCATION	DEPTHS			STATUS
	(A)	(B)	(C)	
LTU	6'-6"	10'-0"	16'-6"	PROPOSED

SECTION A-A
NOT TO SCALE

NOTE:
1. TFJ INDICATES THREADED, FLUSH JOINTED.

PRELIMINARY - FOR BIDDING PURPOSES ONLY

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Figure: 2

Project: TPI PETROLEUM, INC.

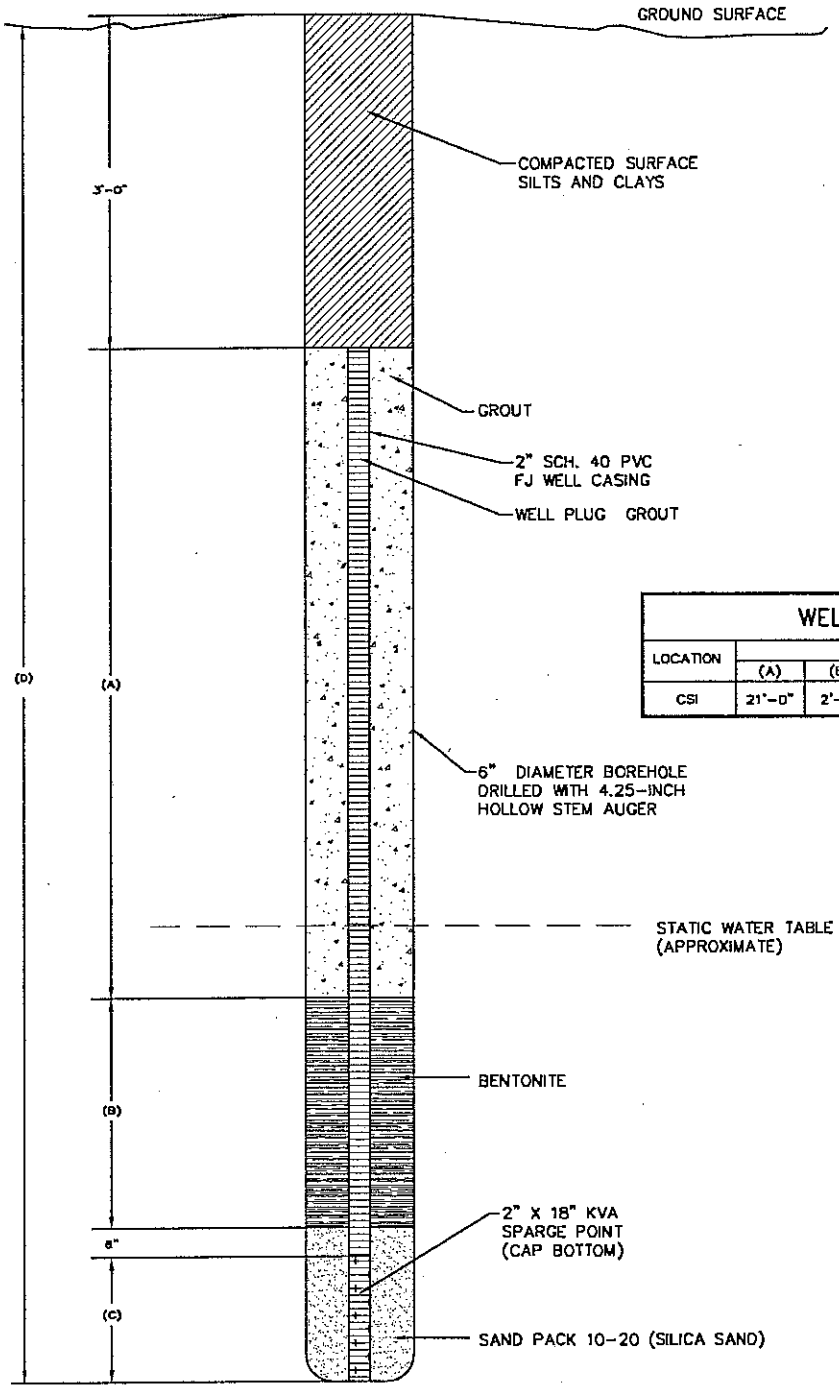
ARKANSAS CITY REFINERY

Title: PROPOSED LTU
SOIL VAPOR EXTRACTION WELL
COMPLETION DIAGRAM

		Date
Design:	JFM	02/00
Drawn:	LKB	02/00
Checked:		
Approved:		

File No.: 138R-014 Date: 2/25/00

ACAD File No.: WEL3B.DWG Rev.: 11/12/01 Sheet 1 of 1



WELL SUMMARY					
LOCATION	DEPTHS				STATUS
	(A)	(B)	(C)	(D)	
CSI	21'-0"	2'-0"	1'-6"	28'-0"	PROPOSED

NOT TO SCALE

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Figure: 3

Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY

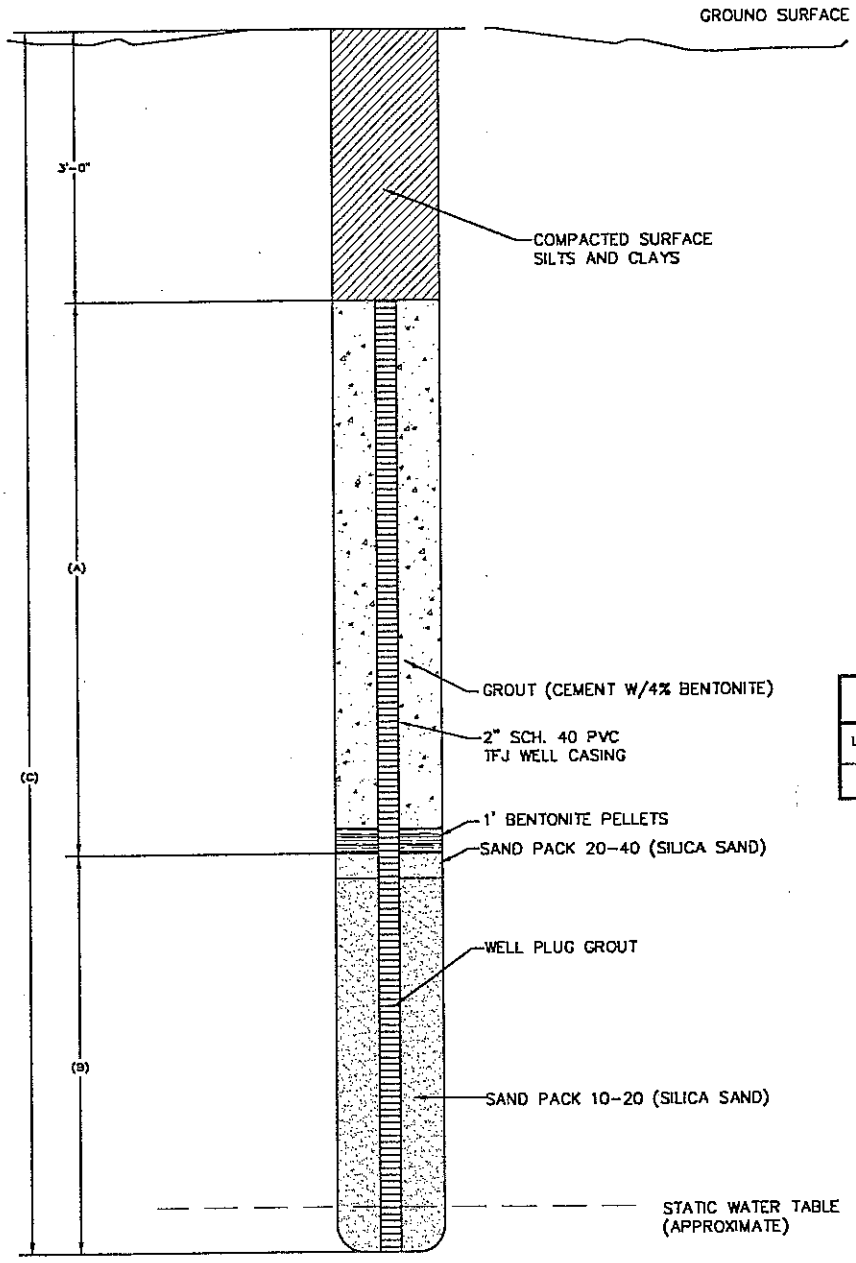
Title:

AIR SPARGE WELL ABANDONMENT DIAGRAM

		Date
Design:	JFM	7/99
Drawn:	LKB	7/99
Checked:	JFM	10/99
Approved:	JFM	10/99

File No.: 138R-014 | Date: 7/14/99

ACAD File No.: WELAB1B | Rev.: 11/12/01 | Sheet 1 of 1



NOT TO SCALE

SVE WELL SUMMARY				
LOCATION	DEPTHS (A)	(B)	(C)	STATUS
CSI	1'-0"	12'-6"	16'-6"	PROPOSED

NOTE:
1. TFJ INDICATES THREADED, FLUSH JOINTED.

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Figure: 4

Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY

Title: SOIL VAPOR EXTRACTION WELL ABANDONMENT DIAGRAM

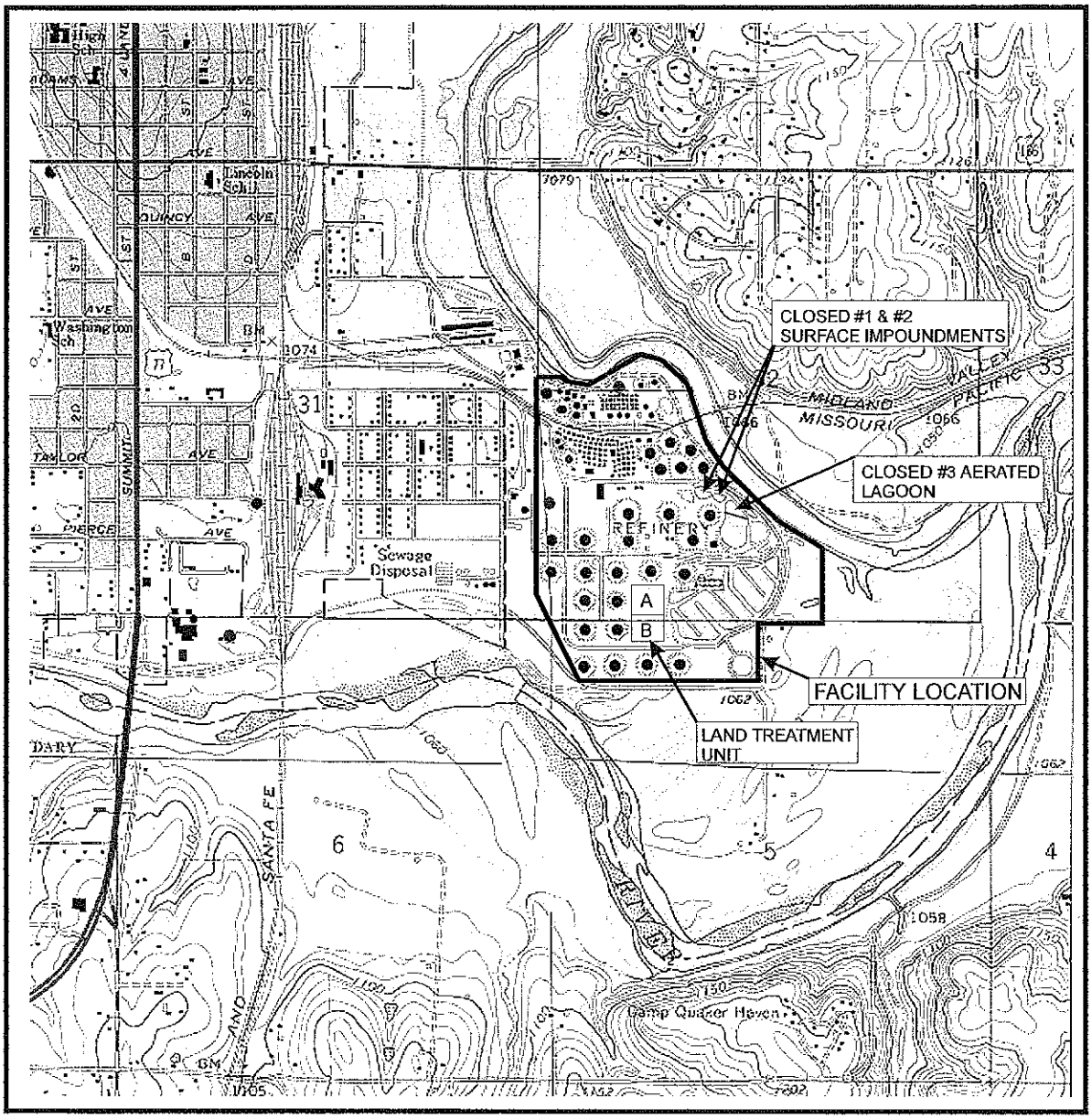
		Date
Design:	JFM	7/99
Drawn:	LKB	7/99
Checked:	JFM	10/99
Approved:	JFM	10/99

File No.: 138R-014 Date: 11/12/01

ACAD File No.: WELAB1C Rev.:

Sheet 1 of 1

R 4 E



T 34 S

T 35 S

SCALE 1: 24,000

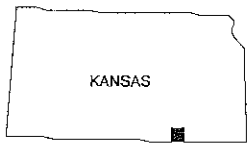
1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

0 .5 0 1 KILOMETER

CONTOUR INTERVAL: 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ARKANSAS CITY, KANS.
N3700-W9700/7.5
1965
PHOTOREVISED 1979
AMS 6558 II SE-SERIES V878



QUADRANGLE LOCATION

EnecoTech®
ENVIRONMENTAL CONSULTANTS

FIGURE: 5

SITE LOCATION MAP

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-011	DESIGNED BY: J F M	APPROVED BY:	
138R11F1.CDR	DRAWN BY: L K B	DATE: 2/25/97	REV:

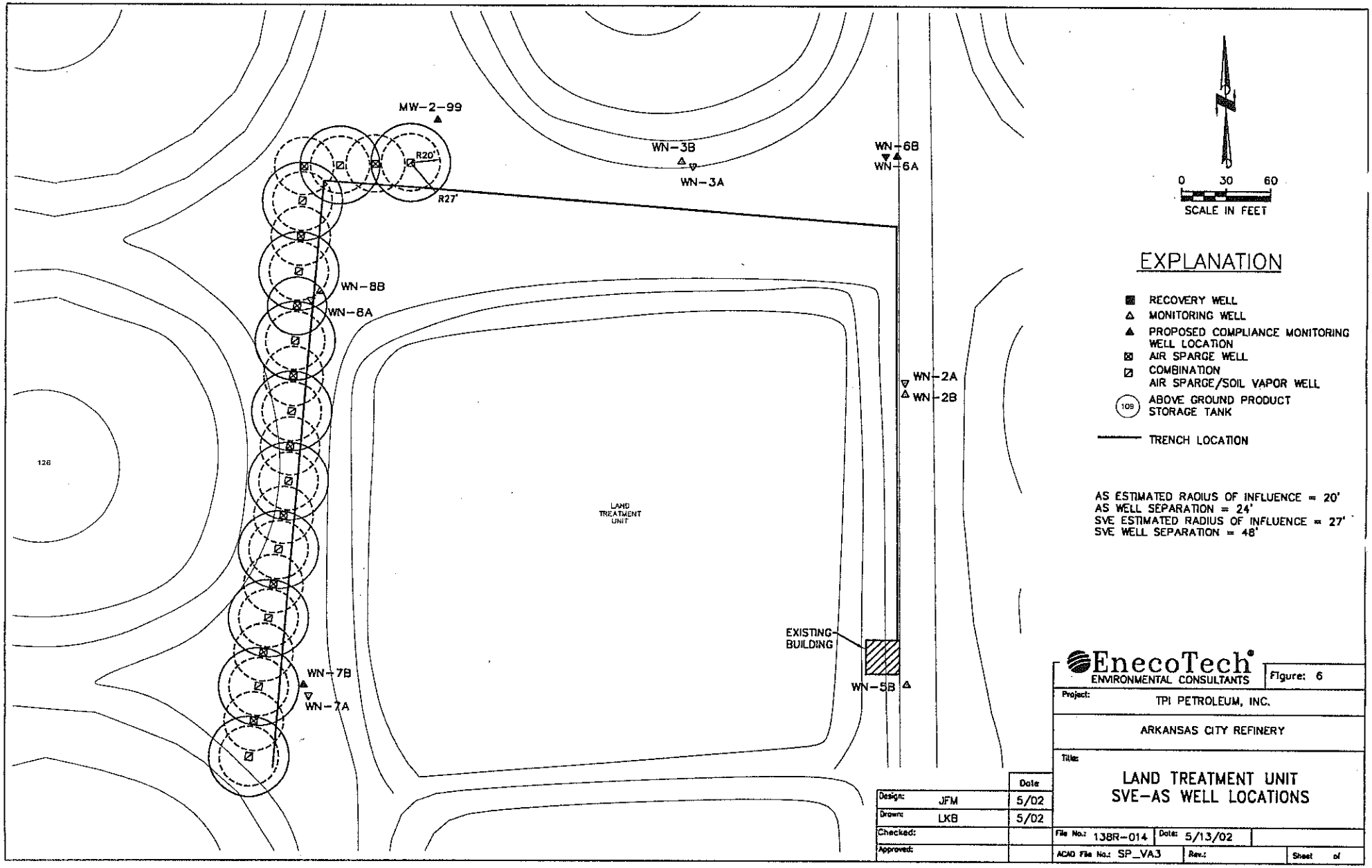


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Figure: 6

Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY

Title:

LAND TREATMENT UNIT SVE-AS WELL LOCATIONS

		Date
Design:	JFM	5/02
Drawn:	LKB	5/02
Checked:		
Approved:		

File No.: 138R-014 Date: 5/13/02

ACAD File No.: SP_VAJ Rev.: Sheet of

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

EnecoTech
STRATEGIES FOR ENVIRONMENTAL RESPONSIBILITY

RECEIVED
MAY 16 2002
BUREAU OF WASTE MANAGEMENT

May 14, 2002

99-0138R018

Mr. Ralph Walden
Air Construction Permit Section
Bureau of Air and Remediation
Kansas Department of Health and Environment
1000 SW Jackson, Suite 310
Topeka, Kansas 66612-1366

Re: Application for KDHE Construction Approval
LTU Soil Vapor Extraction System
TPI Petroleum, Inc., Arkansas City, Kansas
KDHE Source ID: 0350051

Dear Ralph:

EnecoTech Inc. (EnecoTech) has been contracted by TPI Petroleum, Inc. to design, install and operate an air sparging and soil vapor extraction (AS/SVE) system at the above-referenced site. Please find attached a Notification of Construction or Modification and Soil Remediation Operations form for the proposed AS/SVE system. This system is being installed under the requirements of the facility RCRA permit.

Figure 1 shows the site map. Following is the additional information required for the Notification of Construction or Modification form.

1. Activity Proposed:

Installation of a Soil Vapor Extraction (SVE) and Air Sparge (AS) system to remediate groundwater and soil petroleum hydrocarbon impacts at the site listed above. Figure 2 is a layout drawing of the 32 proposed wells (11 SVE and 21 AS). Figures 3 and 4 show the construction details for the air sparge wells and soil vapor extraction wells, respectively.

2. Process description and associated flow diagram:

Atmospheric air is pumped into the ground under the water table via a series of AS wells. As the air bubbles up through the water, bioremediation is enhanced and some of the more volatile hydrocarbons are volatilized and carried up into the vadose zone. Air from the vadose zone is collected under vacuum in a series of SVE wells and piped into the remediation enclosure. Inside this enclosure the contaminated air is directed through a knockout tank to remove water. The remaining air then travels through a vacuum blower, a silencer and is then discharged to the atmosphere through a stack located above the building. The treatment building and stack will be located directly east of the dividing line between LTU section A and LTU section B, shown on Figure 1. A general flow diagram, Figure 5a, and the associated legend, Figure 5b, have been attached for your reference.

Recycled Paper

3. System Controls:

The system will be controlled based on monitoring of temperatures at key system points, air sparge line pressures, flow rates and knockout tank liquid level. System operation will be monitored regularly by onsite personnel. No air emission controls are currently planned for the system.

4. Estimated BTEX and TVPH emissions:

Based on air samples collected during the SVE pilot test conducted at the site on April 28, 1999, concentrations of TVPH and BTEX are anticipated to be within the following range:

Chemical Parameter	Minimum Conc. (mg/m^3)	Maximum Conc. (mg/m^3)
TVPH	51.0	9030
Benzene	2.30	510
Toluene	0.90	91.0
Ethylbenzene	1.90	35.0
Xylene (total)	1.80	21.0

Analytical results corresponding to these ranges are attached. TVPH and BTEX concentrations are expected to be toward the high end of their respective ranges during the initial months of operation. Our experience with similar systems has been that these high levels will drop off after this initial startup period. Emissions design data are included on the attached Soil Remediation Operations form.

Please notify us at your earliest convenience as to the status of the construction approval or other applicable response, so that system construction may proceed at this site. If you have any questions or need additional information, please contact either Brenda Manterola of Valero at 210/592-4619 or Jay Mednick at (303) 861-2200 ext. 129.

Sincerely,

ENECOTECH INC.

Jed Smith, P.E.
Senior Staff Engineer

Jay Mednick
Principal

Attachments : KDHE Soil Remediation Operations Form, KDHE Notification of Construction Form

cc: Brenda Manterola, Valero Energy Corporation
Katherine Dunn, Chief, KDHE Bureau of Waste Management, Corrective Action Unit

Recycled Paper

Kansas Department of Health and Environment
Bureau of Air and Radiation
Phone (785) 296-6422 Fax (785) 291-3953

Notification of Construction or Modification
(K.A.R. 28-19-300 Construction permits and approvals; applicability)

Check one: ☐ Applying for a Permit under K.A.R. 28-19-300(a) ■ Applying for an Approval under K.A.R. 28-19-300(b)*

1) Source ID Number: 0350051

2) Mailing Information:
Company Name: VALERO ENERGY CORPORATION, ATTN: BRENDA MANTEROLA
Address: P.O. BOX 696000
City, State, Zip: SAN ANTONIO, TX 78269-6000

3) Source Location: TPI PETROLEUM, INC., 1400 SOUTH 'M' STREET
City, County, State, Zip: ARKANSAS CITY, COWLEY COUNTY, KANSAS, 67005
Section, Township, Range: SECTION 32, TOWNSHIP 34 S, RANGE 4 EAST
Latitude & Longitude Coordinates: 37° 02' 44" NORTH, 97° 00' 53" WEST

4) NAICSC/SIC Code (Primary): CLOSED PETROLEUM REFINERY

5) Primary Product Produced at the Source: NONE

6) Would this modification require a change in the current operating permit for your facility? No.

If no, please explain: NO CURRENT OPERATING PERMIT

7) Person to Contact at the Site: HAROLD GREEN Phone: (620) 442-5100 EXT. 684
Title: OPERATIONS MANAGER

8) Person to Contact Concerning Permit: BRENDA MANTEROLA Phone: (210) 592-4619
Title: MANAGER, ENVIRONMENTAL

Please read before signing:

Reporting forms provided may not adequately describe some processes. Modify the forms if necessary. Include a written description of the activity being proposed, a description of where the air emissions are generated and exhausted and how they are controlled. A simple diagram showing the proposed activity addressed in this notification which produces air pollutants at the facility (process flow diagrams, plot plan, etc.) with emission points labeled must be submitted with reporting forms. Information that, if made public, would divulge methods or processes entitled to protection as trade secrets may be held confidential. See the reverse side of this page for the procedure to request information be held confidential. A copy of the Kansas Air Quality Statutes and Regulations will be provided upon request.

Name and Title : JAY MEDNICK, PRINCIPAL

Address: 1580 LINCOLN STREET, SUITE 1000

DENVER, COLORADO 80203

Signature: _____ Date: 5 / 14 / 02 Phone: (303) 861-2200

* If you do not know whether to apply for a permit or an approval, follow approval application procedures.

Kansas Department of Health and Environment
Division of Environment
Bureau of Air and Radiation

SOIL REMEDIATION OPERATIONS
(Soil Vents)

1) Source ID Number: 00350051

2) Company/Source Name: TPI PETROLEUM INC.

3) Emission Unit Identification: LTU SVE SYSTEM

4) Normal Operating Schedule: 24 hrs/day 7 days/wk

5) Estimated Maximum Duration of Project: 120 months

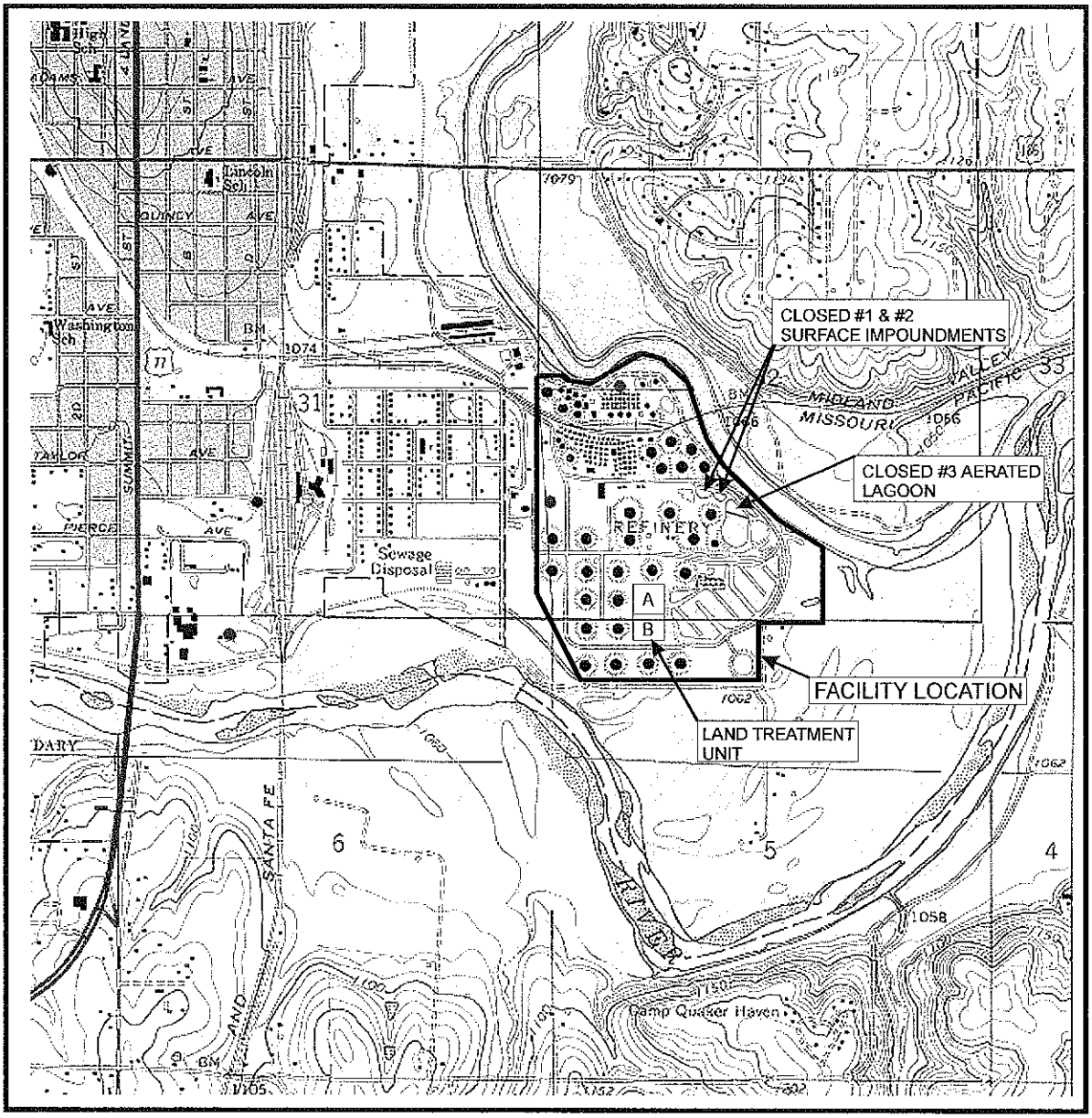
6) Soil Venting System:
   Number of Soil Venting Wells: 11 Process Area: 15,000 ft^2
   Maximum Air Flow: 510 scfm Inlet Pressure: 23 in Hg Absolute

7) Discharge Information:
   Stack Vent Designation No.: LTU SVE STACK VENT #1
   Discharge Height: 15 ft.
   Stack/Vent Diameter: 0.50 ft.
   Discharge Temperature: 90 °F
   Discharge Rate: 690 acfm
   Velocity: 59 fps

8) VOCs and Concentrations In Discharged Air Stream (Data used to design the system):

VOC (include total petroleum hydrocarbons)	Concentration ppmv ; please specify units
BENZENE	510 mg/m^3
TOLUENE	91.0 mg/m^3
XYLENE	21.0 mg/m^3
ETHYL BENZENE	35.0 mg/m^3
TOTAL PETROLEUM HYDROCARBONS	9,030 mg/m^3

R 4 E



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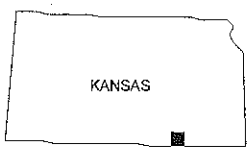
1 0 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

0 .5 0 1 KILOMETER

CONTOUR INTERVAL: 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ARKANSAS CITY, KANS.
N3700-W9700/7.5
1965
PHOTOREVISED 1979
AMS 6558 II SE-SERIES V878



QUADRANGLE LOCATION

EnecoTech®
ENVIRONMENTAL CONSULTANTS

FIGURE: 1

SITE LOCATION MAP

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-011	DESIGNED BY:	J F M	APPROVED BY:	
138R11F1.CDR	DRAWN BY:	L K B	DATE: 2/25/97	REV:

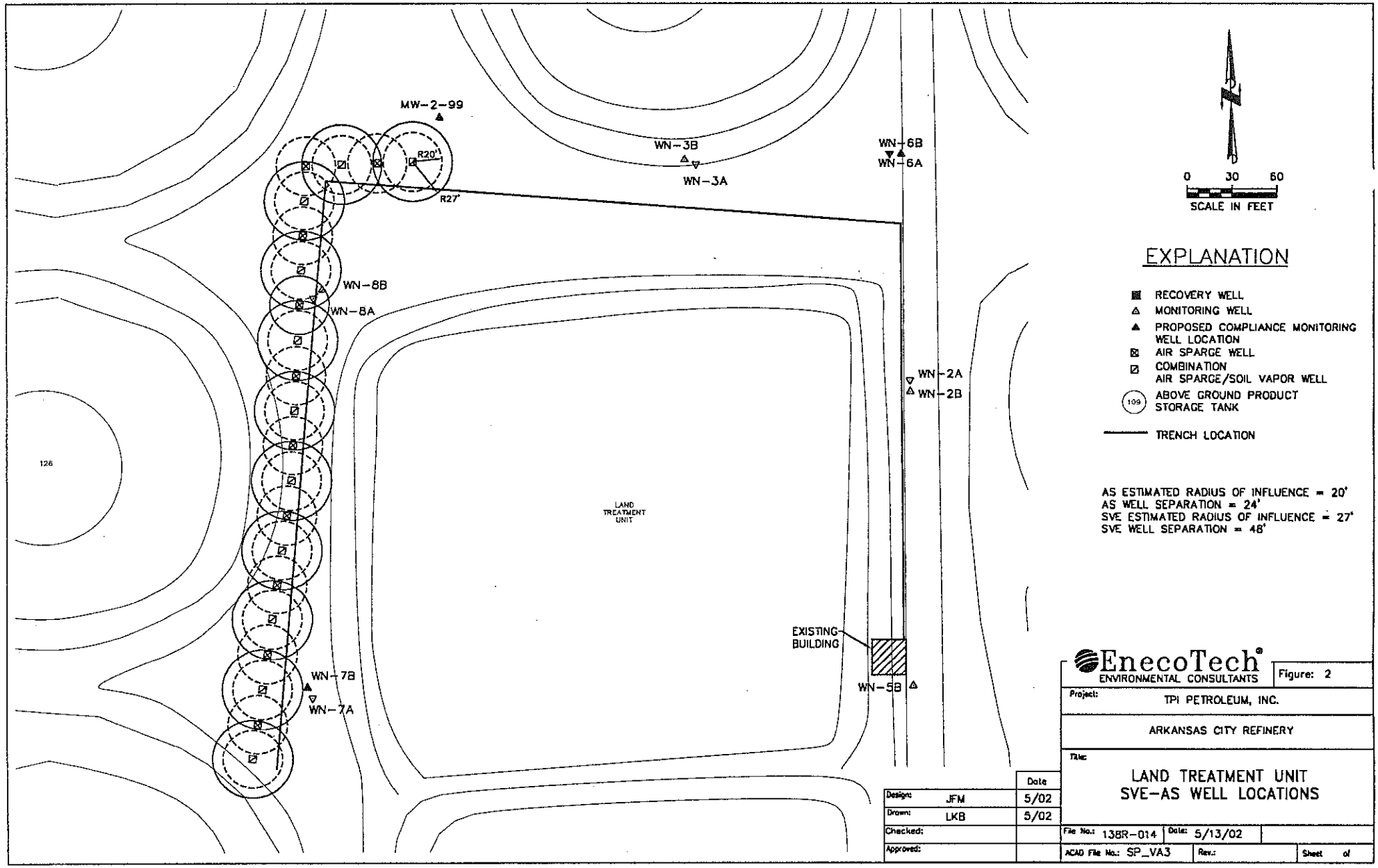


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Figure: 2

Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY

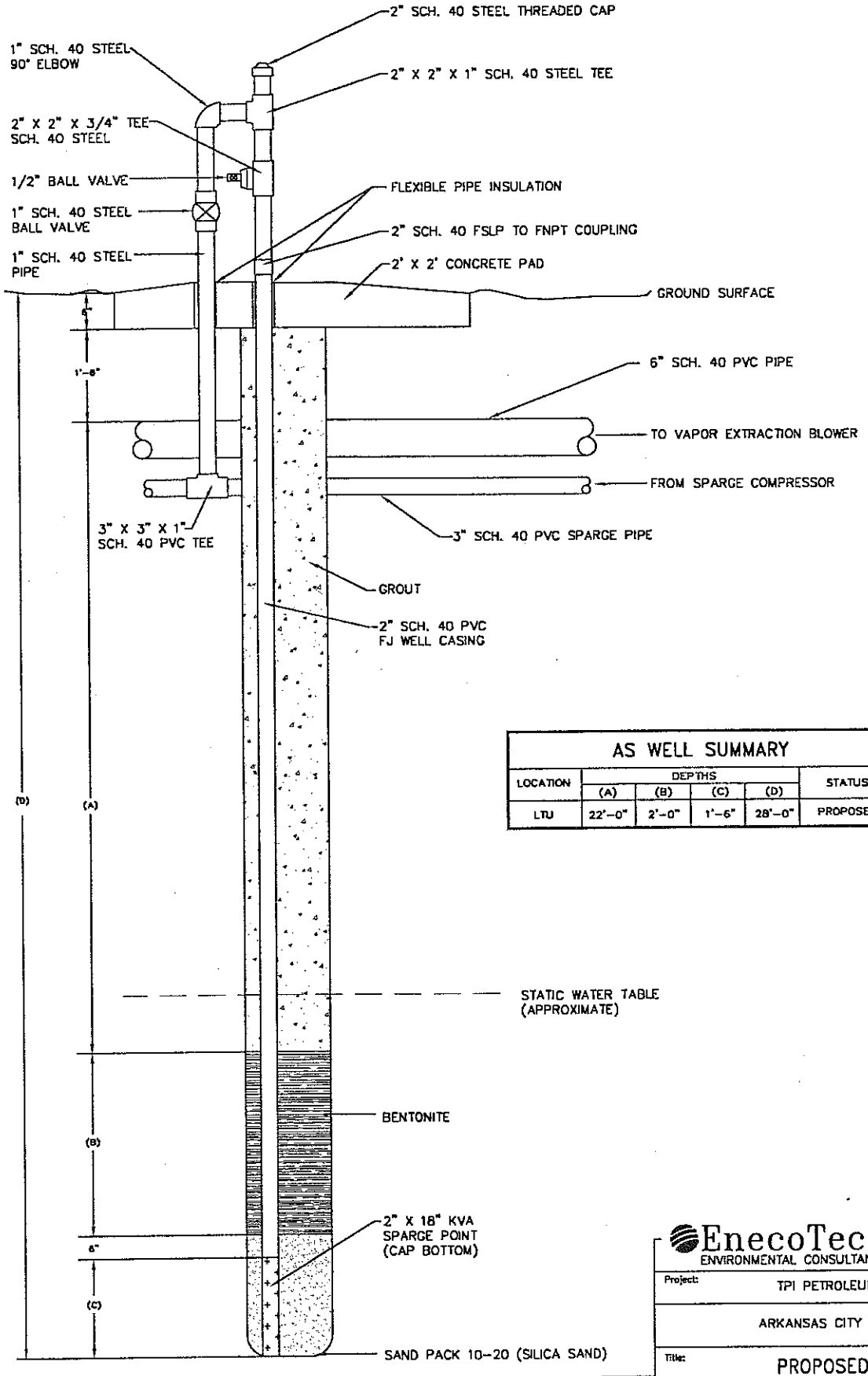
Title:

LAND TREATMENT UNIT SVE-AS WELL LOCATIONS

		Date
Design:	JFM	5/02
Drawn:	LKB	5/02
Checked:		
Approved:		

File No.: 138R-014 Date: 5/13/02

ACAD File No.: SP_VA3 Rev.: Sheet of



SECTION A-A
NOT TO SCALE

AS WELL SUMMARY					
LOCATION	DEPTHS				STATUS
	(A)	(B)	(C)	(D)	
LTU	22'-0"	2'-0"	1'-6"	28'-0"	PROPOSED

PRELIMINARY - FOR BIDDING PURPOSES ONLY

		Date
Design:	JFM	7/99
Drawn:	LKB	7/99
Checked:		
Approved:		

EnecoTech® ENVIRONMENTAL CONSULTANTS

Figure: 3

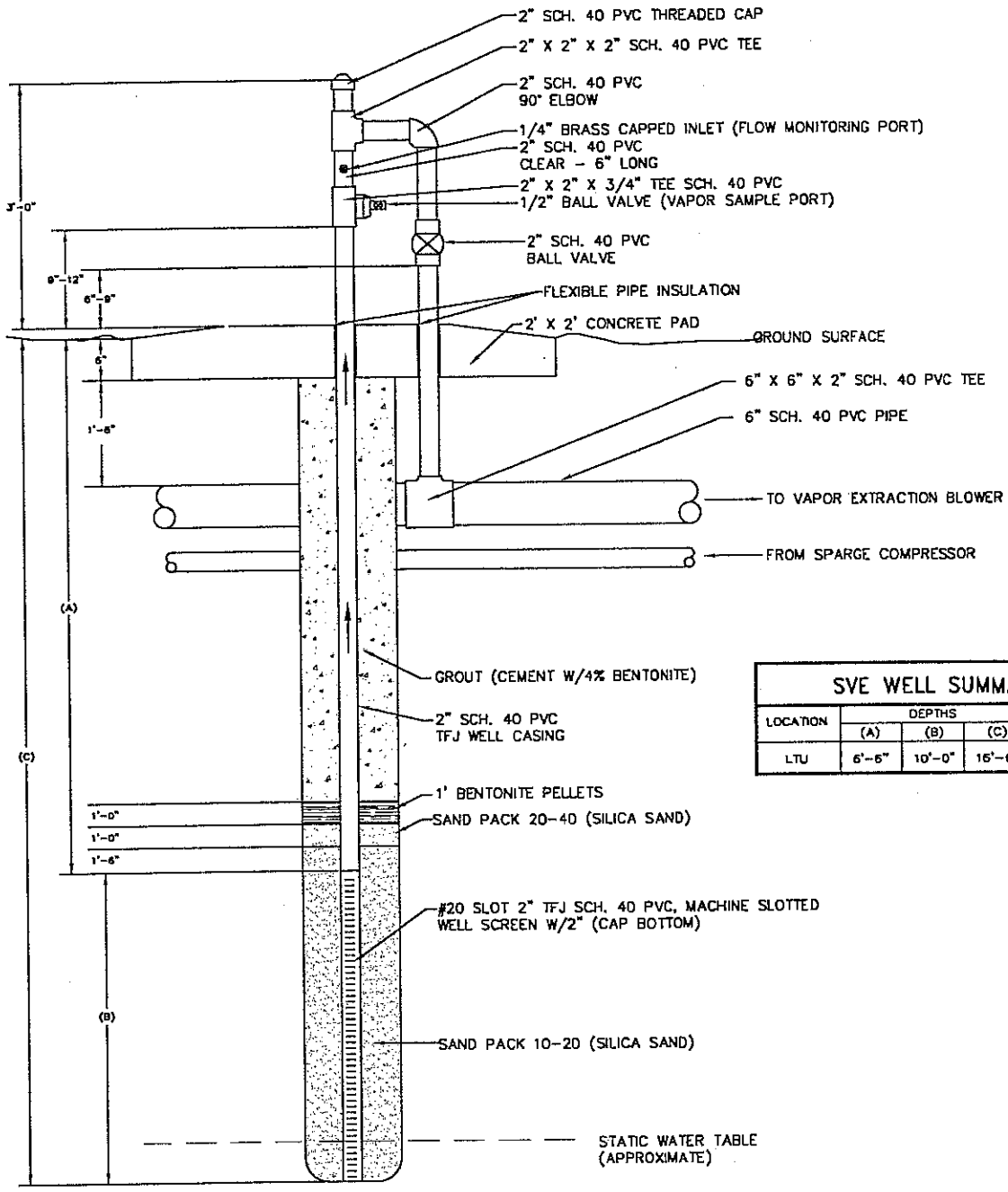
Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY

Title: PROPOSED LTU AIR SPARGE WELL COMPLETION DIAGRAM

File No.: 138R-014 | Date: 7/14/99

ACAD File No.: WEL1B | Rev.: 11/12/01 | Sheet 1 of 1



SVE WELL SUMMARY				
LOCATION	DEPTHS (A)	DEPTHS (B)	DEPTHS (C)	STATUS
LTU	6'-6"	10'-0"	16'-6"	PROPOSED

SECTION A-A
NOT TO SCALE

NOTE:
1. TFJ INDICATES THREADED, FLUSH JOINTED.

PRELIMINARY - FOR BIDDING PURPOSES ONLY

EnecoTech® ENVIRONMENTAL CONSULTANTS

Figure: 4

Project: TPI PETROLEUM, INC.

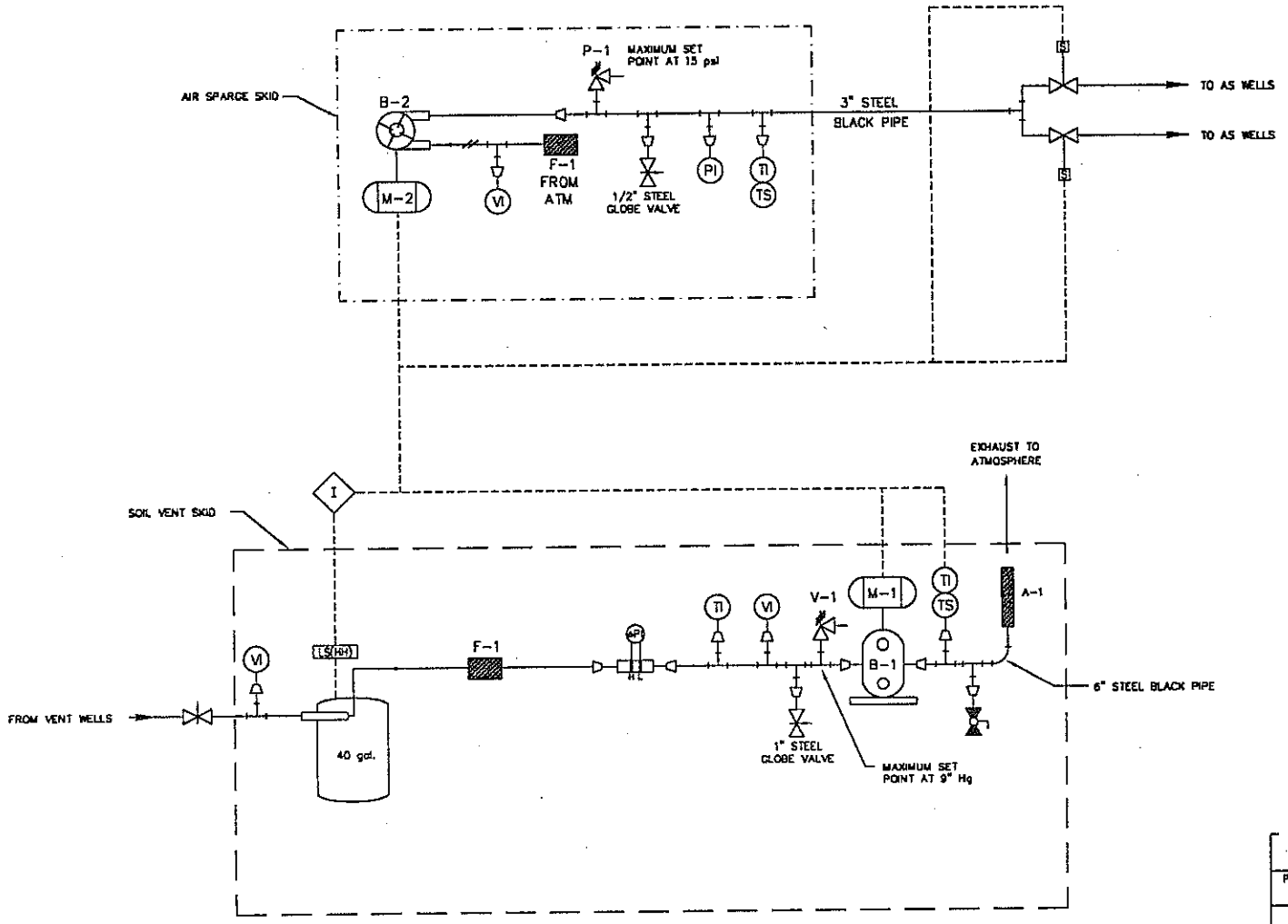
ARKANSAS CITY REFINERY

Title: PROPOSED LTU SOIL VAPOR EXTRACTION WELL COMPLETION DIAGRAM

		Date
Design:	JFM	02/00
Drawn:	LKB	02/00
Checked:		
Approved:		

File No.: 138R-014 Date: 2/25/00

ACAD File No.: WEL3B.DWG Rev.: 11/12/01 Sheet 1 of 1



NOTES:

M-1 = 20 Hp, 460V, 3 ø
B-1 = 510 SCFM @ 8" Hg @ 1000 FT. msl
M-2 = 15 Hp, 460V, 3 ø
B-2 = 85 SCFM @ 15 psi @ 1000 FT. msl

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ENVIRONMENTAL CONSULTANTS

Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY
ARKANSAS CITY, KANSAS

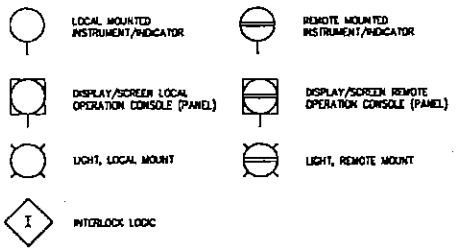
Title: AIR SPARGE/SOIL VAPOR EXTRACTION PROCESS FLOW AND INSTRUMENTATION DIAGRAM

		Date
Design:	JFM	7/99
Drawn:	LKB	
Checked:		
Approved:		

File No.: 138R-014 | Date: 5/13/02 | Figure No.: 5a

ACAD File No.: AIR_SOIL | Rev.: | Sheet of

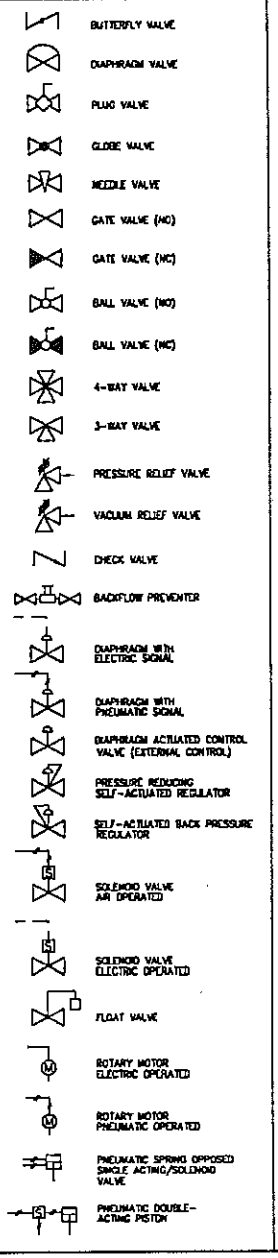
INSTRUMENT SYMBOLS



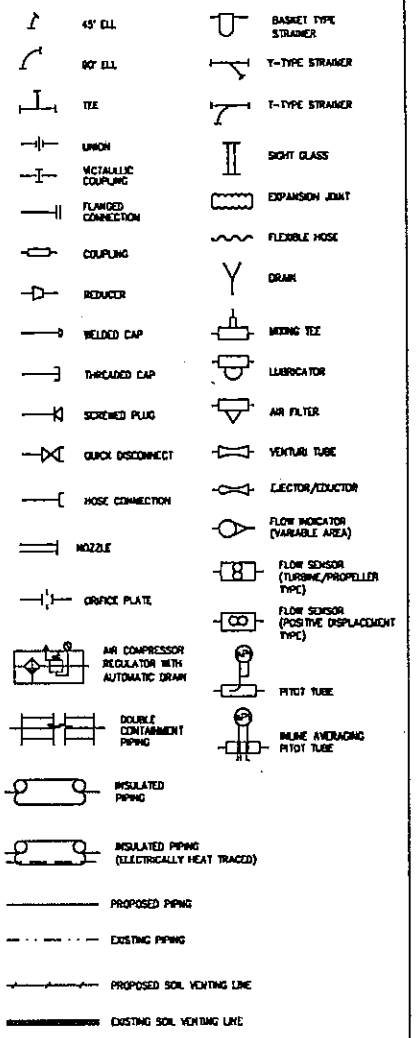
IDENTIFICATION LETTERS

FIRST LETTER PROCESS VARIABLE	SECOND LETTER READOUT/PASSIVE FUNCTION	THIRD LETTER OUTPUT FUNCTION	MODIFIER
ANALYSIS	ALARM		
BURNER/COMBUSTION			
CONDUCTIVITY		CONTROL	
DENSITY			DIFFERENTIAL
VOLTAGE	SENSOR (PRIMARY ELEMENT)		
FLOW RATE			RATIO
	GLASS VIEWING DEVICE		
HAND			HIGH
CURRENT (ELECTRIC)	INDICATING		
POWER			SCAN
TIME		CONTROL STATION	TIME RATE OF CHANGE
LEVEL	LIGHT		LOW
MOISTURE			MIDDLE
	ORIFICE RESTRICTOR		
PRESSURE	POINT (TEST CONNECTION)		
	TOTALIZE		
RADIATION	RECORDER		
SPEED		SWITCH	SAFETY
TEMPERATURE		TRANSMIT	
MULTIVARIABLE	MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
VACUUM		VALVE	
WEIGHT FORCE	WELL		
EXPLOSION			X- AXIS
			Y -AXIS
			Z -AXIS

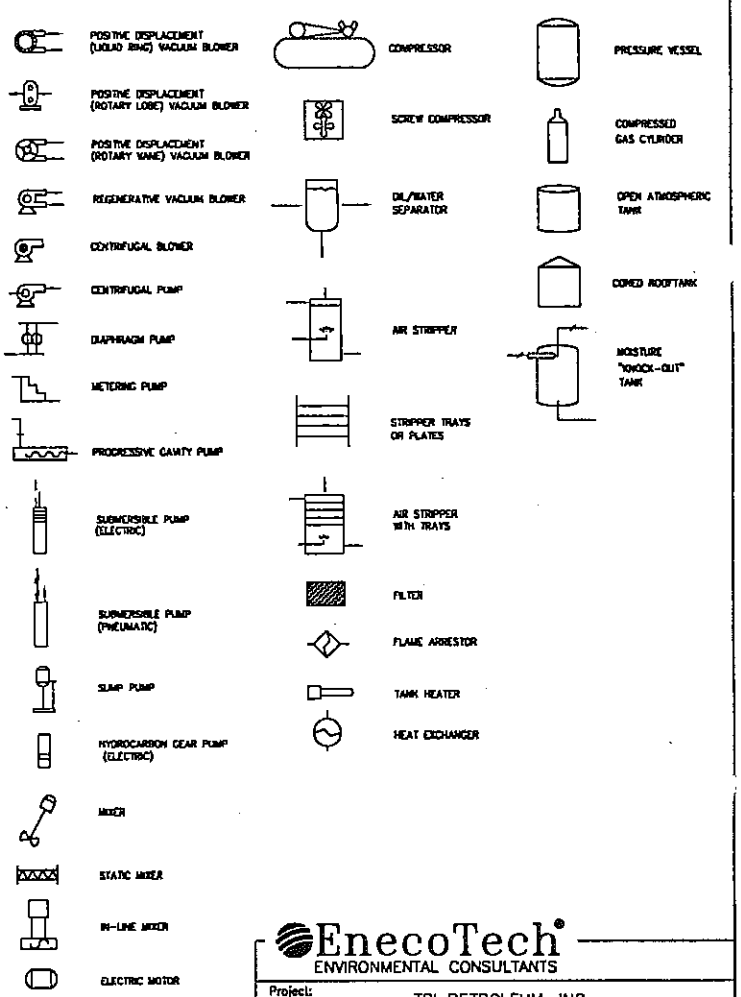
VALVE SYMBOLS



PIPING SYMBOLS



MECHANICAL SYMBOLS



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		Date
Design:	BAS	10/94
Drawn:	LKB	11/94
Checked:	CES	1/95
Approved:	GAG	3/95

Project: TPI PETROLEUM, INC.

ARKANSAS CITY REFINERY
ARKANSAS CITY, KANSAS

Title: LEGEND FOR PROCESS FLOW AND INSTRUMENTATION DIAGRAMS

File No.: 138R-014 | Date: 5/02 | Figure No.: 5b

ACAD File No.: LEGEND | Rev.: 7/99 | Sheet 1 of 1

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

ENECOTECH, INC. 6060

1580 LINCOLN STREET, STE 1000
DENVER, CO 80203

Project: 01-0138R-014
Project Name: ARK CITY
Sampler: BRUCE SMITH

Lab Number: 99-A60096
Sample ID: WN-3B
Sample Type: Air Bags
Site ID:

Date Collected: 4/28/99
Time Collected: 16:10
Date Received: 4/29/99
Time Received: 9:00

Analyte	Result	Units	PQL	Date	Time	Analyst	Method
Toluene	91.0	mg/m3	0.500	4/29/99	15:40	T McCollum	EPA-18
Benzene	510.	mg/m3	0.500	4/29/99	15:40	T McCollum	EPA-18
Xylene	21.0	mg/m3	0.500	4/29/99	15:40	T McCollum	EPA-18
Ethyl benzene	35.0	mg/m3	0.500	4/29/99	15:40	T McCollum	EPA-18
TRPH Lo (>C4-C10)	9030	mg/m3	5.00	4/29/99	15:40	T McCollum	EPA-18

Report Approved By: Michael A Dunn Report Date: 4/29/99

Theodore J. Duello, Ph.D., Lab Director
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Services
Eric Smith, Assistant Technical Director
Russell Morgan, Technical Services

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

ENECOTECH, INC. 6060

1580 LINCOLN STREET, STE 1000
DENVER, CO 80203

Project: 01-0138R-014
Project Name: ARK CITY
Sampler: BRUCE SMITH

Lab Number: 99-A60095
Sample ID: SVE-1
Sample Type: Air Bags
Site ID:

Date Collected: 4/28/99
Time Collected: 15:30
Date Received: 4/29/99
Time Received: 9:00

Analyte	Result	Units	PQL	Date	Time	Analyst	Method
Toluene	0.900	mg/m3	0.500	4/29/99	15:12	T McCollum	EPA-18
Benzene	2.30	mg/m3	0.500	4/29/99	15:12	T McCollum	EPA-18
Xylene	1.80	mg/m3	0.500	4/29/99	15:12	T McCollum	EPA-18
Ethyl benzene	1.90	mg/m3	0.500	4/29/99	15:12	T McCollum	EPA-18
TRPH Lo (C4-C10)	51.0	mg/m3	5.00	4/29/99	15:12	T McCollum	EPA-18

Report Approved By: Michael H. Dunn Report Date: 4/29/99

Theodore J. Duello, Ph.D., Lab Director
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Services
Eric Smith, Assistant Technical Director
Russell Morgan, Technical Services

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Denver, Colorado 80203
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STRATEGIES FOR ENVIRONMENTAL RESPONSIBILITY

May 7, 2002

RECEIVED
MAY 1 0 2002
BUREAU OF WASTE MANAGEMENT

99-0138R018

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Transmittal of RCRA Part B Permit Application Appendix P
Groundwater Sampling and Analysis Plan Revised Pages
Class II Permit Modification for Additional Recovery Wells RW-45,
RW-55, RW-65 and RW-75
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:

EnecoTech is submitting revised pages for Appendix P of the RCRA Part B Permit Application on behalf of TPI Petroleum, Inc. (TPI). Appendix P contains the groundwater sampling and analysis plan for the facility. These revised pages reflect the addition of the four new groundwater recovery wells (RW-45, RW-55, RW-65 and RW-75) and the new groundwater capture zone monitoring wells (RCRA-7, 113, 118 and MW-1002) and groundwater monitoring well MW-17. We are submitting this information in partial fulfillment of the requirements to complete the Class II permit modification. Revised financial assurance information will be submitted under separate cover. The specific revisions to the groundwater sampling plan are outlined below. The replacement pages are enclosed with this letter. A strikeout/highlight copy of the revised text is also enclosed.

Table of Contents: The table of contents has been revised to reflect the addition of Section 2.4 and Figure 5.

Section 2.4 Groundwater Hydraulic Gradient Monitoring: This section has been added to the sampling plan to address the quarterly groundwater capture zone monitoring.

Section 4.4 Fluid Level Measurements: The list of monitoring wells in paragraph 3 has been revised to reflect the addition of monitor wells 118 and MW-1002 to the capture zone monitoring network, replacing monitor wells RCRA-MW-1 and 114.

Table 1 Groundwater Monitoring Well Completion Data: This table has been revised to incorporate data from the recently constructed capture zone monitoring wells (RCRA-7, 113, 118 and MW-17),

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monitor well MW-17. The well depth data have been revised to reflect field verified monitoring depth measurements.

Figure 2 Corrective Action Groundwater Monitoring Program: This figure has been revised to include the newly installed groundwater recovery wells (RW-45, RW-55, RW-65 and RW-75) and the groundwater capture zone monitoring well network.

Figure 5 Groundwater Gradient Monitoring Measurement form: This is a new form for use during the quarterly groundwater level monitoring at the eight capture zone monitoring wells. The measuring point elevations in monitor wells CMW-3 and CMW-4 will be resurveyed following the levee improvements.

Appendix A: A complete set of well construction diagrams for the groundwater monitoring network are enclosed to replace the previous contents of Appendix A.

If you have any questions about the attached information, please contact either Brenda Manterola of Valero Energy Corporation at 210/592-4619 or myself at 303/861-2200 ext. 129.

Sincerely,

ENECOTECH INC.

Jay Mednick.
Project Manager

Attachments: Revised Groundwater Sampling and Analysis Plan, Redlined pages, Table 1, Figures 2 and 5 and Appendix A.

Cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffrey Robichaud, USEPA Region 7

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Appendix A Monitoring Well Construction Logs

Appendix B Field Instrument Manuals

- Oil Water Interface Probe
- pH Meter Manual
- Conductivity Meter Manual
- Turbidimeter Manual

Monitoring well MW-17 shown on Figure 2 will be constructed within 30 days after the effective date of the renewal permit. The monitoring well will be constructed from threaded, 2-inch diameter schedule 40 PVC casing and machine slotted PVC casing well casing. A PVC end cap will be threaded to the bottom of the screened interval. The PVC riser will extend approximately three feet above the ground surface. No glue or other solvents will be used in the monitoring well construction. The slot opening and filter pack will be sized to the formation to provide sediment free groundwater samples. The filter pack will extend from the base of the screened interval to no more than two feet above the top of the screened interval. The remaining annular space will be sealed using grout. A locking protective well casing will be installed to prevent tampering with the monitoring well and a concrete well apron will be placed at the ground surface. The well apron will be three (3) feet in diameter, four (4) inches thick and will slope away from the well casing to prevent water pooling.

A licensed land surveyor will survey the location and elevation of the monitoring well. The monitoring well locations will be surveyed using the plant coordinate system to within 0.1 feet and the elevations of the casing measuring point will be to within 0.01 feet.

2.3. Groundwater Quality Monitoring

Groundwater corrective action samples will be analyzed for indicator compounds to monitor the performance and progress of the corrective actions. Benzene, toluene, ethylbenzene and xylenes (BTEX) were selected as the indicator compounds because of their high frequency of detection, mobility in the groundwater and elevated concentrations. These indicator compounds will be analyzed in the laboratory using USEPA SW-846 Method 8260B or currently promulgated version. The corrective action wells will be monitored semiannually, generally in April or May and September or October. The water samples will be analyzed by a KDHE certified laboratory. Table 2 lists the analytical methods, sample bottle specifications, sample preservation requirements and sample holding times.

2.4. Groundwater Hydraulic Gradient Monitoring

The RCRA permit requires that a reverse groundwater hydraulic gradient be maintained throughout the groundwater corrective action phase. TPI will demonstrate that a reverse hydraulic gradient is maintained between the recovery wells and the Walnut River by comparing the groundwater elevations between the following capture zone monitoring well pairs: (CMW-1 and RCRA-7), (CMW-2 and 113), CMW-3 and

118), and (CMW-4 and MW-1002). This demonstration will be done quarterly in accordance with the applicable procedures contained in Sections 4.4 and 4.5 of this plan. A sample of the groundwater gradient monitoring field form is presented in Figure 5.

of the monitoring wells and benchmark will be performed by a land surveyor registered by the State of Kansas. The benchmark elevation and the monitoring well casing elevations will be verified every three years starting in 2001. If the well inspection indicates the well casing has been damaged and the top of casing elevation has changed, then the well will be resurveyed once the repairs have been made.

4.4. Fluid Level Measurements

Prior to initiating groundwater-sampling activities, the fluid levels (groundwater and free product) will be measured at each well using an oil/water interface probe. Fluid level measurements will be taken from the surveyed measuring point at the top of the well casing. The fluid levels will be measured with an accuracy of 0.01 feet. The interface probe is graduated in continuous increments of 0.01 feet. The fluid levels for the entire monitoring network will be measured prior to the sampling in a upgradient to downgradient well sequence and within a single 24-hour interval. The fluid level monitoring sequence will occur in well groups from upgradient to downgradient. The sequence within the groups can be varied. The groups are as follows:WN-1A and WN-1B

1. WN-5B, WN-6A, WN-6B, MW-17, WN-8B and WN-7B
2. MW-6, MW-13, MW-12, RCRA-4,
3. RCRA-7, CMW-1, CMW-2, 113, ~~RCRA-MW-1~~118, CMW-3, ~~114~~ MW-1002 and CMW-4

The following describes the methods by which the fluid level data will be acquired:

- Upon arrival at the first well on the schedule, the date, time, ambient temperature, general weather conditions, and individuals present at the sampling event, including team members and any observers will be logged.
- After entering the general information, the condition of the well will be documented, including whether or not the lock was in place, and evidence of tampering, if there is any water standing near the well, and the condition of the apron.
- The sampling personnel will use several pairs of new and clean disposable gloves during the fluid level monitoring and groundwater sampling at each well. One pair of gloves will be used to measure the fluid levels and decontaminate the oil/water interface probe. A second set of gloves

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May 2, 2002

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MAY 06 2002
BUREAU OF WASTE MANAGEMENT

99-0138R018

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Modification of Monitoring Wells CMW-3 and CMW-4 – Response to KDHE Concerns
USACE Levee Improvement Project
TPI Petroleum, Inc. - Arkansas City, Kansas
E.P.A. ID No.: KSD 087418695

Dear Mr. Anderson:

The purpose of this letter is to respond to the three concerns KDHE identified in their February 27, 2002 letter regarding the modification of monitor wells CMW-3 and CMW-4. EnecoTech Inc. has prepared this letter on behalf of TPI Petroleum, Inc. (TPI).

First Concern
If damage occurs to a well during construction of the levee, well replacement may be necessary.

Response: TPI recognizes it is ultimately responsible for the well replacement should the well become damaged beyond repair. TPI will coordinate with the U.S. Army Corps of Engineers (USACE) during the levee construction activities. The USACE recognizes that reasonable care must be taken by their contractors to prevent damage to the wells.

Second Concern
During the extension of the wellheads and subsequent backfill operations, and until the well apron is in place, the potential for movement of contaminants around the well casing, and into the well is possible. KDHE's position is to maintain Quality Assurance and protect the integrity of the wells.

Response: The existing annular seal between the well casing and the borehole will not be compromised during the wellhead extension. The well apron will be trimmed to approximately 8-inches in diameter to accommodate the 9-inch corrugated metal pipe sleeve shown on Figure 1. TPI will provide the necessary oversite during the well extension activities as would be provided during new well construction to maintain the integrity of the wells.

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Third Concern

KDHE realizes that well aprons may not be finished until levee improvement activities near the wells are complete, but a surveyed elevation of each well is needed to comply with Permit Condition IV.C.2.c prior to well completion. Surveyed elevations for groundwater depth measurements should be completed and submitted to KDHE prior to the next scheduled sampling event. Part B pages should be submitted within 45 days of completion of all well modifications.

Response: TPI will survey the top of casing elevation for monitor wells CMW-3 and CMW-4 following the completion of the well casing extension and submit the elevation survey data to KDHE prior to the next scheduled sampling event. The construction of the well aprons will be completed after the USACE levee improvement activities are completed at the two monitor wells. TPI will submit to KDHE the affected Part B pages containing the well completion details for monitor wells CMW-3 and CMW-4 following completion of the well extension activities including the construction of the well aprons.

If you have any questions about this matter, please contact either Brenda Manterola of Valero at 201/592-4619 or me at 303/861-2200 ext.129. We appreciate your assistance with this matter.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachment: Figure 1 – monitoring well modification diagram

Cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffery Robichaud, EPA Region 7
Fred Kloeckler, USACE Tulsa District

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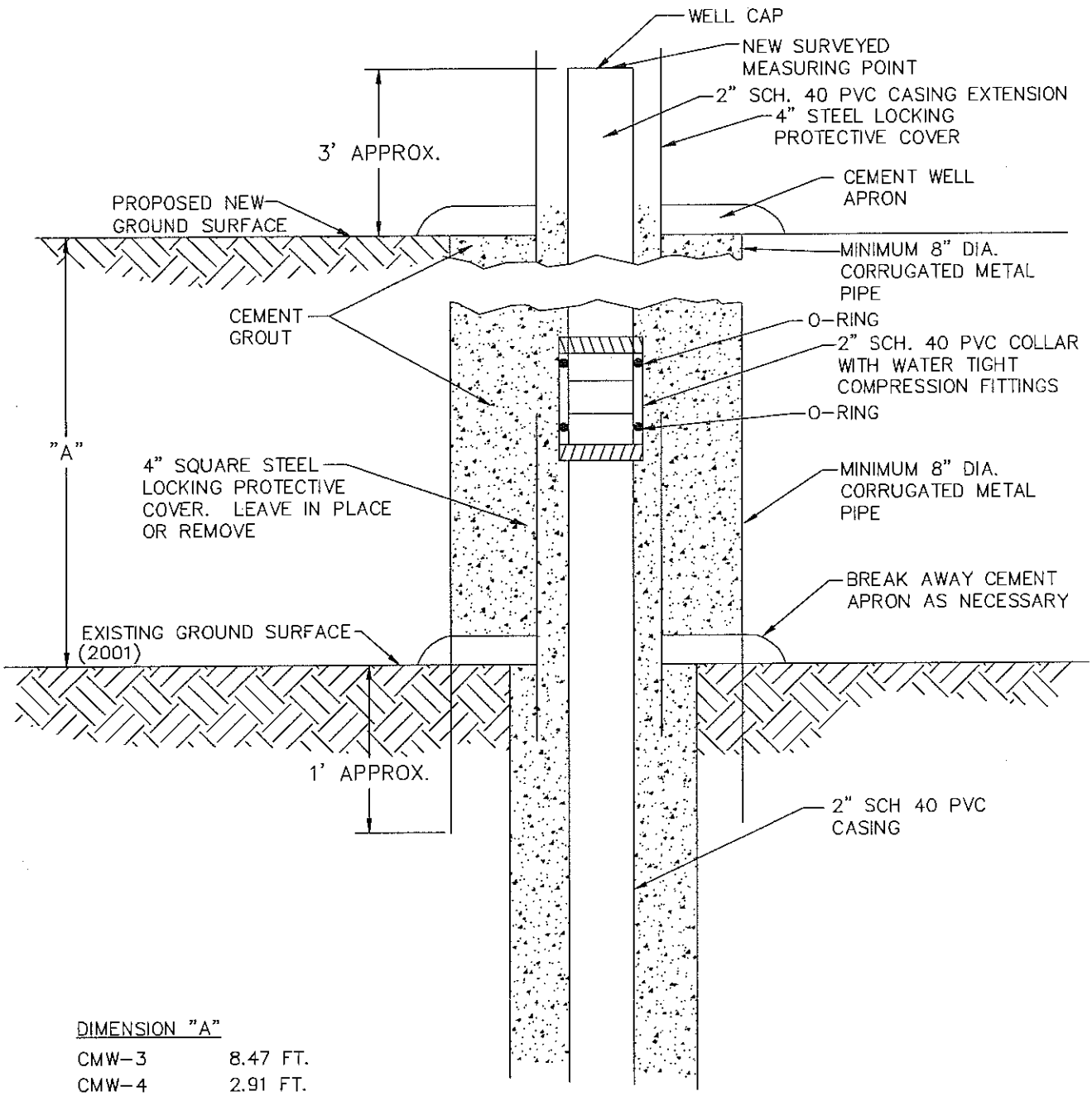

DIMENSION "A"

CMW-3	8.47 FT.
CMW-4	2.91 FT.

SECTION

NOT TO SCALE

NOTES:

ALL PVC CASINGS ARE THREADED AND FLUSH JOINTED.

MODIFICATIONS WILL ADDRESS GROUND LEVEL CHANGE AS A RESULT OF PLANNED LEVEE IMPROVEMENTS.

EnecoTech
ENVIRONMENTAL CONSULTANTS

Figure No.: 1

PROPOSED MONITORING WELL STICKUP MODIFICATION FOR MONITORING WELLS CMW-3 & CMW-4

PROJECT: TPI PETROLEUM, INC. - ARKANSAS CITY REFINERY

1388R-018	DESIGNED BY: JFM	APPROVED BY: JFM	
STICKUP_MOD	DRAWN BY: LKB	DATE: 2/4/02	REV:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

April 30, 2002

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MAY 0 2 2002

BUREAU OF WASTE MANAGEMENT

Katherine Dunn
Kansas Department of Health and Environment
Division of Environment, Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

Dear Ms. Dunn,

Re: Draft Operation and Maintenance Inspection Report
~~TPI Petroleum, Inc., Arkansas City, Kans~~as

In a transmittal letter dated March 15, 2002, the Kansas Department of Health and Environment requested Environmental Protection Agency (EPA) review of a draft Operation and Maintenance (O&M) Inspection Report for the TPI Petroleum, Inc. facility in Arkansas City, Kansas. The EPA has now completed review of the draft O&M Report, as requested. This review found the report to be a thorough and well written evaluation of well conditions and sampling procedures at the referenced facility. The following few comments are provided for areas of the report where minor clarification would be helpful.

Comments:

1. Page ii, 4th bulleted item

The first sentence here indicates that an "unacceptable discrepancy in the total depth"exists between original well logs and current total depth but doesn't specify what is unacceptable. This information is provided on page 26, where the text indicates that redevelopment is required when greater than 10% of a well's screen is occluded. However, for clarity, I recommend that this criteria be reiterated here.

2. Page 12, Section 4.1, 1st bulleted item

The word "zylenes" should be "xylenes".

3. Page 36, Section 7.1, 1st sentence

The text should refer to "TPI" here rather than "Farmland".

RECYCLE
PAPER CONTAINS RECYCLED FIBERS

4. Page 38, Section 7.2, item 1, 2nd sentence

The text here indicates that TPI must provide "supporting documentation" if the detection limit for a hazardous constituent exceeds the groundwater protection standard but it is unclear what is meant by "supporting documentation". I recommend that this be clarified.

If you have any questions about this review, please call me at (913) 551-7849.

Sincerely,

William J. Johnson, Ph.D., R.G.
RCRA Corrective Action and Permits Branch
Air, RCRA, and Toxics Division

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BUREAU OF WASTE MANAGEMENT

April 23, 2002

99-0138R018

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Transmittal of RCRA Part B Permit Application and Engineering Feasibility Plan Revised Pages
Class II Permit Modification for Additional Recovery Wells RW-45, RW-55, RW-65 and RW-75
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:

EnecoTech is submitting revised pages for the RCRA Part B permit application and the Engineering Feasibility Plan on behalf of TPI Petroleum, Inc. (TPI). These revised pages reflect the addition of the four new groundwater recovery wells (RW-45, RW-55, RW-65 and RW-75) and the new groundwater capture zone monitoring wells (RCRA-7, 113, 118 and MW-1002). We are submitting this information in partial fulfillment of the requirements to complete the Class II permit modification. Revisions to the groundwater sampling and analysis plan and revised financial assurance information will be submitted under separate cover. The specific revisions to the Part B and the EFP are outlined below. The replacement pages are enclosed with this letter. A strikeout/highlight copy of the revised text and table is also enclosed.

RCRA Part B

Figure 15-30: This figure has been revised to show the additional groundwater recovery wells.

Engineering Feasibility Plan

Cover Page: The cover page has been revised to indicate the EFP has been prepared for TPI Petroleum, Inc.

Table of Contents – List of Figures: The title of Figure 5-1a has been revised to reflect the addition of recovery well RW-45 and the list of figures has been revised to reflect the addition of the new recovery wells. Figures 5-6-2, 5-6-3, 5-6-4 and 5-6-5 have been added for recovery wells RW-45, RW-55, RW-65 and RW-75 respectively. The title of Figure 5-9 has been revised to be consistent with the actual figure title. A revised copy of the entire table of contents is enclosed to replace the former table of contents.

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Section 6: We have enclosed a complete Section 6 to replace the former copy. The specific Section 6 revisions are outlined below.

Section 6.1.3.2 Capture Zone Monitoring: The text has been revised to reflect replacing monitor wells RCRA-MW-1 and 114 with new monitor well 118 and rebuilt monitor well MW-1002 respectively.

Section 6.1.3.2 Capture Zone Demonstration Criteria: The text in the first sentence has been revised to include 10 groundwater recovery wells with the addition of recovery wells RW-45, RW-55, RW-65 and RW-75. Second sentence text has been revised to indicate the range in groundwater pumping rate is 1000-1300 gallon per minute.

Section 6.3 Corrective Action Contingency Plan: The text in the fourth paragraph has been revised to indicate a well casing diameter of 10-inches or larger will be used and the reference to galvanized well screen has been deleted.

Table 6-1 Groundwater Corrective Action Monitoring Well Network: This table has been revised by adding capture zone monitoring wells 118 and MW-1002 and deleting the references to monitor wells RCRA-MW-1 and 114.

Appendix B: Well construction diagrams for capture zone monitoring wells RCRA-7, 113, 118 and MW-1002 are enclosed and should be placed into Appendix B replacing previous versions of this information.

If you have any questions about the attached information, please contact either Brenda Manterola of Valero Energy Corporation at 210/592-4619 or myself at 303/861-2200 ext. 129.

Sincerely,

ENECOTECH INC.

Jay Mednick.
Project Manager

Attachments: Part B Revised Figure 15-30; Engineering Feasibility Plan Revised Table of Contents, Text, Figures and Table 6-1.

Cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffrey Robichaud, USEPA Region 7

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BUREAU OF WASTE MANAGEMENT

April 22, 2002

99-0138R018

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Transmittal of Revised Groundwater Recovery Well O&M Plan
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:

Attached is a copy of the revised operation and maintenance plan for the groundwater recovery well system at TPI Petroleum, Inc.'s Arkansas City refinery. EnecoTech Inc. is submitting this document on behalf of Valero Energy Corporation pursuant to the temporary authorization for the installation and operation of the four additional groundwater recovery wells.

The revised O&M plan includes operation and maintenance information on the new recovery wells and includes information on well treatment procedures to address potential biofouling and mineral encrustation of the well screens.

If you have any questions about the attached information, please contact either Brenda Manterola of Valero Energy Corporation at 210/592-4619 or myself at 303/861-2200 ext. 129.

Sincerely,

ENECOTECH INC.

Jay Mednick.
Project Manager

Attachments: WWC-5P forms for wells: RCRA-7, 113 & MW-1002

Cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffrey Robichaud, USEPA Region 7

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BUREAU OF WASTE MANAGEMENT

April 22, 2002

99-0138R018

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Transmittal of Well Plugging Records
Monitor Wells: RCRA-7, 113 and MW-1002
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:

Attached are copies of the Kansas Department of Health (KDHE) Bureau of Water (BOW) water well plugging records (Form WWC-5P) for the above referenced monitor wells. The original water well plugging records have been submitted to the KDHE BOW as required by the regulations. As described on the records, the monitor wells were abandoned according to the state regulations and the casings were cutoff three feet below the ground surface. Replacement monitor wells with the same identification have been constructed as approved by KDHE. The monitor well construction diagrams for the replacement wells are included in the 2001 annual groundwater monitoring report for the facility.

If you have any questions about the attached information, please contact either Brenda Manterola of Valero Energy Corporation at 210/592-4619 or myself at 303/861-2200 ext. 129.

Sincerely,

ENECOTECH INC.

Jay Mednick.
Project Manager

Attachments: WWC-5P forms for wells: RCRA-7, 113 & MW-1002

Cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffrey Robichaud, USEPA Region 7

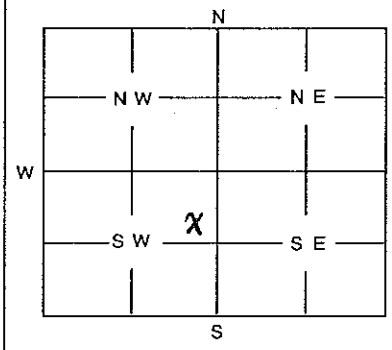
WATER WELL PLUGGING RECORD Form WWC-5P KSA 82a-1212 ID NO. _____

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Cowley	SE¼NE¼SW¼	32	34S	4E

Distance and direction from nearest town or city street address of well if located within city?
1400 South M Street, Arkansas City, KS 67005

2 WATER WELL OWNER: TPI Petroleum, Inc.
RR #, St. Address, Box #: 1400 South M Street
City, State, ZIP Code : Arkansas City, KS 67005
Board of Agriculture, Division of Water Resources Application Number:

3 MARK WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF WELL 22 ft
WELL'S STATIC WATER LEVEL > 22 ft.

WELL WAS USED AS:

1 Domestic	5 Public Water Supply	9 Dewatering
2 Irrigation	6 Oil Field Water Supply	(10) Monitoring Well
3 Feedlot	7 Domestic (Lawn & Garden)	11 Injection Well
4 Industrial	8 Air Conditioning	12 Other

Was a chemical / bacteriological sample submitted to Department? Yes ..... No X
If yes, mo/day/yr sample was submitted .....

Water Well Disinfected: Yes ..... No X

5 TYPE OF BLANK CASING USED:

1 Steel	3 RMP (SR)	5 Wrought	7 Fiberglass	9 Other (Specify below)
(2) PVC	4 ABS	6 Asbestos-Cement	8 Concrete Tile	

Blank casing diameter 2 in. Was casing pulled? Yes ..... No X ..... If yes, how much .....
Casing height above or (below) land surface 36 in.

6 GROUT PLUG MATERIAL: 1 Neat cement (2) Cement grout 3 Bentonite 4 Other .....
Grout Plug Intervals: From 3 ft. to 6 ft., From ..... ft. to ..... ft., From ..... to ..... ft.

What is the nearest source of possible contamination:

1 Septic tank	6 Seepage pit	(11) OLD Fuel storage	16 Other (specify below)
2 Sewer lines	7 Pit privy	12 Fertilizer storage	.....
3 Watertight sewer lines	8 Sewage lagoon	13 Insecticide storage	
4 Lateral lines	9 Feedyard	14 Abandoned water well	
5 Cess Pool	10 Livestock pens	15 Oil well/Gas well	

Direction from well? ..... How many feet? .....

FROM	TO	PLUGGING MATERIALS
0'	3'	Compacted Soil
3'	6'	Cement Grout
6'	22'	Washed Filter Pack Sand 8-16 mesh

RCRA-7

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was plugged under my jurisdiction and was completed on (mo/day/year) 12/14/01 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. ..... This Water Well Record was completed on (mo/day/year) 1/14/02 under the business name of TPI Petroleum, Inc.
by (signature) Howard Allen

INSTRUCTIONS: Use typewriter or ball point pen. Please press firmly and print clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 785/296-3565. Send one to Water Well Owner and retain one for your records.

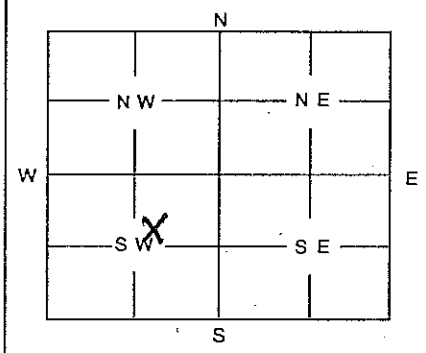
WATER WELL PLUGGING RECORD Form WWC-5P KSA 82a-1212 ID NO. _____

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Cowley	SE ¼ NE ¼ SW ¼	32	34S	4E

Distance and direction from nearest town or city street address of well if located within city?
1400 South M Street, Arkansas City, KS 67005

2 WATER WELL OWNER: TPI Petroleum, Inc
RR #, St. Address, Box #: 1400 South M Street
City, State, ZIP Code : Arkansas City, KS 67005
Board of Agriculture, Division of Water Resources Application Number:

3 MARK WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF WELL 40 ft
WELL'S STATIC WATER LEVEL 32 ft.
WELL WAS USED AS:

1 Domestic	5 Public Water Supply	9 Dewatering
2 Irrigation	6 Oil Field Water Supply	(10) Monitoring Well
3 Feedlot	7 Domestic (Lawn & Garden)	11 Injection Well
4 Industrial	8 Air Conditioning	12 Other

Was a chemical / bacteriological sample submitted to Department? Yes ..... No X
If yes, mo/day/yr sample was submitted .....
Water Well Disinfected: Yes ..... No X

5 TYPE OF BLANK CASING USED:

1 Steel	3 RMP (SR)	5 Wrought	7 Fiberglass	9 Other (Specify below)
(2) PVC	4 ABS	6 Asbestos-Cement	8 Concrete Tile	

Blank casing diameter 2 in. Was casing pulled? Yes ..... No X If yes, how much .....
Casing height above or (below) land surface 36 in.

6 GROUT PLUG MATERIAL: 1 Neat cement (2) Cement grout 3 Bentonite 4 Other .....
Grout Plug Intervals: From 3 ft. to 6 ft., From ..... ft. to ..... ft., From ..... to ..... ft.

What is the nearest source of possible contamination:

1 Septic tank	6 Seepage pit	(11) Old Fuel storage	16 Other (specify below)
2 Sewer lines	7 Pit privy	12 Fertilizer storage	
3 Watertight sewer lines	8 Sewage lagoon	13 Insecticide storage	
4 Lateral lines	9 Feedyard	14 Abandoned water well	
5 Cess Pool	10 Livestock pens	15 Oil well/Gas well	

Direction from well? ..... How many feet? .....

FROM	TO	PLUGGING MATERIALS
0'	3'	Compacted Soil
3'	6'	Cement Grout
6'	40'	Washed Filter Pack Sand 8-16 mesh

well # 113

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was plugged under my jurisdiction and was completed on (mo/day/year) 12/14/01 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. ..... This Water Well Record was completed on (mo/day/year) 1/14/02 under the business name of TPI Petroleum, Inc
by (signature) Harold Dixon

INSTRUCTIONS: Use typewriter or ball point pen. Please press firmly and print clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 785/296-3565. Send one to Water Well Owner and retain one for your records.

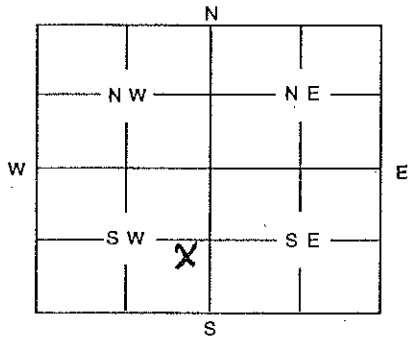
WATER WELL PLUGGING RECORD Form WWC-5P KSA ...a-1212 ID NO. _____

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Cowley	NE¼ SE¼ SW¼	32	34S	4E

Distance and direction from nearest town or city street address of well if located within city?
1400 South M Street, Arkansas City, KS 67005

2 WATER WELL OWNER: TPI Petroleum, Inc
RR #, St. Address, Box #: 1400 South M Street
City, State, ZIP Code : Arkansas City, KS 67005
Board of Agriculture, Division of Water Resources Application Number:

3 MARK WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF WELL 31.5 ft
WELL'S STATIC WATER LEVEL 29 ft.

WELL WAS USED AS:

1 Domestic	5 Public Water Supply	9 Dewatering
2 Irrigation	6 Oil Field Water Supply	(10) Monitoring Well
3 Feedlot	7 Domestic (Lawn & Garden)	11 Injection Well
4 Industrial	8 Air Conditioning	12 Other

Was a chemical / bacteriological sample submitted to Department? Yes ..... No X
If yes, mo/day/yr sample was submitted .....

Water Well Disinfected: Yes ..... No X

5 TYPE OF BLANK CASING USED:

1 Steel	3 RMP (SR)	5 Wrought	7 Fiberglass	9 Other (Specify below)
(2) PVC	4 ABS	6 Asbestos-Cement	8 Concrete Tile	

Blank casing diameter 4 in. Was casing pulled? Yes ..... No X If yes, how much .....
Casing height above or (below) land surface 3.6 in.

6 GROUT PLUG MATERIAL: 1 Neat cement (2) Cement grout 3 Bentonite 4 Other .....

Grout Plug Intervals: From 3 ft. to 6 ft., From ..... ft. to ..... ft., From ..... to ..... ft.

What is the nearest source of possible contamination:

1 Septic tank	6 Seepage pit	(11) OLO Fuel storage	16 Other (specify below)
2 Sewer lines	7 Pit privy	12 Fertilizer storage	
3 Watertight sewer lines	8 Sewage lagoon	13 Insecticide storage	
4 Lateral lines	9 Feedyard	14 Abandoned water well	
5 Cess Pool	10 Livestock pens	15 Oil well/Gas well	

Direction from well? ..... How many feet? .....

FROM	TO	PLUGGING MATERIALS
0'	3'	Compacted Soil
3'	6'	Cement Grout
6'	31.5'	washed fitter pack sand 8-16 mesh

MW-1002

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was plugged under my jurisdiction and was completed on (mo/day/year) 12/14/01 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. ..... This Water Well Record was completed on (mo/day/year) 1/14/02 under the business name of TPI Petroleum, Inc by (signature) Harold Dean

INSTRUCTIONS: Use typewriter or ball point pen. Please press firmly and print clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 785/296-3565. Send one to Water Well Owner and retain one for your records.

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

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RECEIVED
APR 2 2 2002
BUREAU OF WASTE MANAGEMENT

April 19, 2002

99-0138R018

Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Report on the Effectiveness of the New Groundwater Recovery Wells (RW-45, 55, 65 & 75)
TPI Petroleum, Inc. Arkansas City, Kansas
Permit No.: KSD087418695

Dear Ms. Dunn:

The purpose of this report is to describe the effectiveness of the new groundwater recovery wells constructed at the TPI Petroleum, Inc. (TPI) Arkansas City facility in January 2002. Four additional groundwater recovery wells (RW-45, RW-55, RW-65 and RW-75) were installed under a temporary authorization issued to TPI on November 16, 2001. The locations of these wells are shown on Figure 1.

The new recovery wells have been located between existing groundwater recovery wells to maintain the necessary groundwater gradient and flow direction control while distributing the necessary groundwater pumping rate across more wells. An additional benefit of more wells is to provide additional pumping capacity and redundancy in the recovery well system. Lowering the individual groundwater pumping rate will reduce the rate of biofouling and mineral clogging in the recovery wells.

As discussed in the Progress Report submitted to KDHE on October 25, 2001, TPI implemented some well design changes based upon the operational data from the existing wells. These design changes included casing material and well casing diameter. The new recovery wells are constructed with Schedule 40 PVC blank casing instead of steel blank casing. PVC casing was selected because it is non-corrodible and will not contribute to iron fouling in the well. The PVC casing is more resistant to the chemicals used in the well treatment. The well casing diameter was increased to 12-inches. Due to the PVC casing wall thickness, approximately 0.375-inches, the inside diameter of the well casing will be approximately 11.25-inches. Increasing the well casing diameter provides easier installation and removal of pump equipment for maintenance or replacement.

New Well Installation

The well installation was completed on January 28, 2002. The wells were installed by Layne Western of

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Wichita, Kansas. The Layne Western driller is licensed in the State of Kansas. Groundwater and product lines were installed by L.G. Pike Construction of Arkansas City, Kansas, and the electrical installation was performed by Valero Energy Corporation personnel at the facility. EnecoTech personnel oversaw the recovery well construction.

Each of the new recovery wells was equipped with a Grundfos 230S150-4 Teflon fitted submersible pump with a 15 hp electric motor. The pumps are designed to have a maximum discharge rate of 320 gallons per minute (gpm) against 100 feet head. A McCrometer propeller flow meter with a gpm register and totalized flow register was installed on each of the new wells.

Recovery Well Operations

Operational data collected to date includes groundwater pumping rates and groundwater pumping levels within each of the recovery wells and hydraulic gradient monitoring using four pairs of monitoring wells. Figures 2 through 7 contain hydrographs of the groundwater pumping levels in recovery wells RW-35, 40, 50, 60, 70 and 80A. The groundwater level hydrographs contain monthly measurement data for the period January 2001 through February 2002 with the exception of the hydrograph for recovery well RW-35, which is for the period March 2001 through February 2002. There is insufficient data to create hydrographs for the new recovery wells at this time. The decline in the water levels on the recovery well pumping level hydrographs reflect the increase in pumping rate following the well treatment conducted during the third quarter of 2001. This decrease in pumping level is superimposed on the declining aquifer water levels. The groundwater levels in the aquifer are dropping as a result of reduced groundwater recharge due to lower river levels due to the lack of precipitation since the summer of 2001.

Figures 8 through 13 contain graphs of recovery well pumping rates for the period September 10, 2001 through March 8, 2002. The pumping rate graphs contain daily (weekday) pumping rates from each of the groundwater recovery wells. The graphs (Figures 9-13) for recovery wells RW-40 through RW-80A show a decrease in pumping rate during January 2002 coinciding with the startup of the four new recovery wells. Figure 8 shows the pumping rate in RW-35. The pumping rates in RW-35 were being adjusted in late December 2001 and early January 2002 to optimize the pumping rate. Generally, the pumping rates in the individual recovery wells remained consistent since the new recovery wells were brought online. Other fluctuations are a result of optimizing the pumping rates to achieve the inward groundwater flow with a head differential of 0.2 feet between the capture zone monitoring wells pairs.

Groundwater Gradient Demonstration

Groundwater level measurements from the four pairs of capture zone monitoring wells collected on January 22, 2002 and February 21, 2002 are tabulated on Tables 1 and 2 respectively. Groundwater elevations differences (head differences) in the capture zone well pairs ranged from 0.21 to 0.33 feet on January 22, 2002 and ranged between 0.22 and 0.34 feet on February 21, 2002.

Conclusions

The addition of the four recovery wells (RW-45, RW-55, RW-65 and RW-75) provided additional

pumping capacity and redundancy in the recovery well system as illustrated with the lowered pumping rates in January 2002. Lowering of pumping rates in the recovery wells will reduce the rate of biofouling and mineral clogging of the gravel pack and the well screen. Operation and maintenance of the system will be optimized to maintain the long-term effectiveness and efficiency of the recovery well system. A revised operation and maintenance (O&M) plan for the recovery well system will be submitted to KDHE in April to address additional monitoring and maintenance issues with respect to biofouling and mineral clogging. The revised O&M plan will include updated information including the new recovery wells.

The effectiveness of the system is demonstrated through the measurement of the groundwater level elevation in the four pairs of capture zone monitoring wells. Groundwater level measurements collected following the construction of the new recovery wells demonstrated that the permit-required gradient reversal is being achieved.

If you have any questions about the information presented in this document, please contact Brenda Manterola of Valero Energy Corporation at 210/592-4619 or Jay Mednick of EnecoTech Inc. at 303/861-2200 ext. 129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachments: Figures 1-13 and Tables 1-2.
Cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffrey Robichaud, USEPA Region 7

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Tables

Table 1 Groundwater Capture Monitoring - January 22, 2002

Well Pair		Date	Approx. Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	1/22/2002	3:25	1063.73	26.20	1037.53	**0.33**	280	RW-35
	CMW-1	1/22/2002	3:29	1059.71	21.85	1037.86		125	RW-40
2	113	1/22/2002	3:34	1072.25	35.07	1037.18	**0.26**	100	RW-45
	CMW-2	1/22/2002	3:40	1061.74	24.30	1037.44		70	RW-50
								50	RW-55
3	118	1/22/2002	3:44	1070.69	32.92	1037.77	**0.23**	160	RW-60
	CMW-3	1/22/2002	3:51	1060.13	22.13	1038.00		130	RW-65
4	MW-1002	1/22/2002	3:56	1072.12	33.42	1038.70	**0.21**	170	RW-70
	CMW-4	1/22/2002	4:02	1058.27	19.36	1038.91		75	RW-75
								100	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								1260	

Notes:

1. A positive head difference indicates groundwater capture.

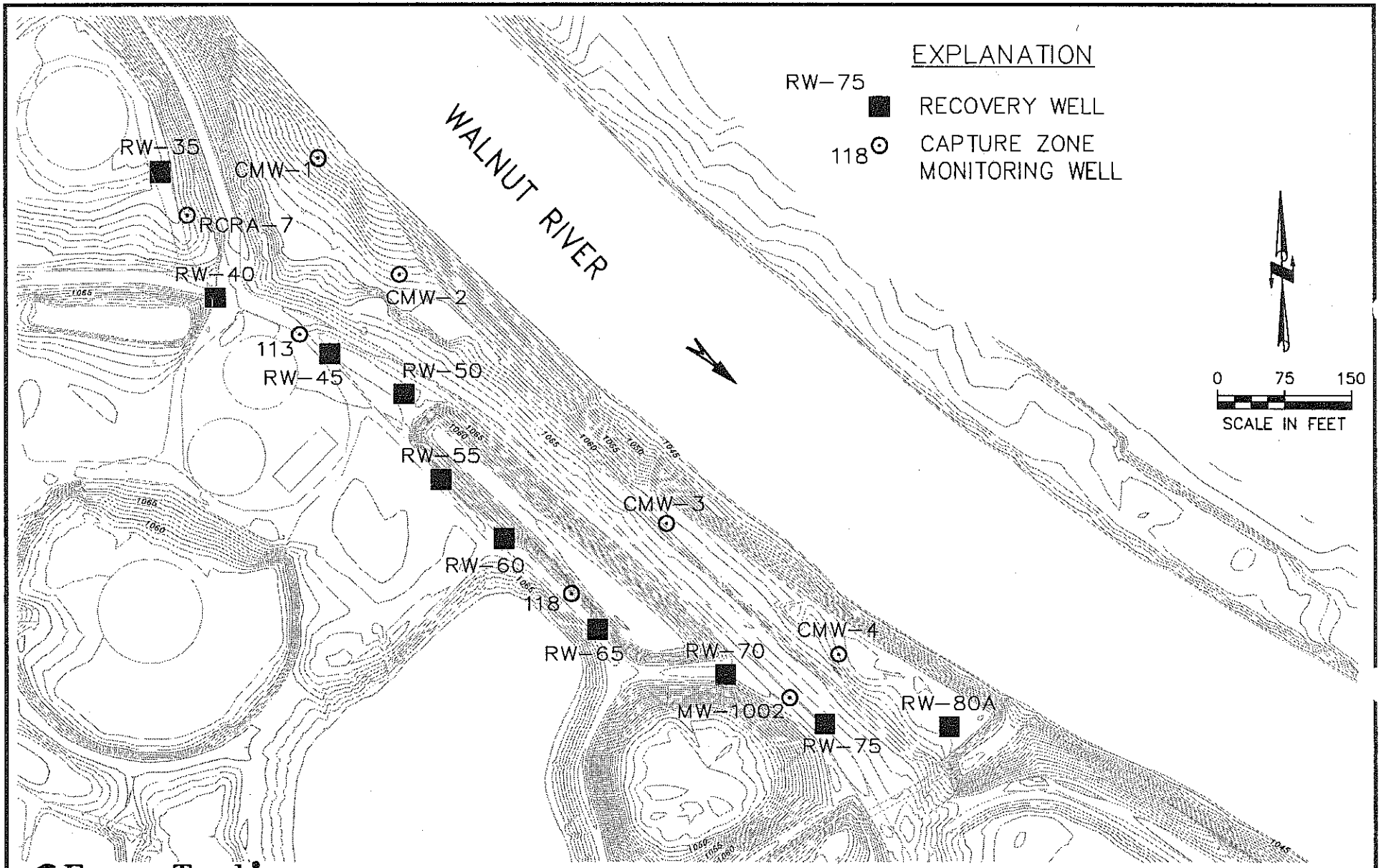
Table 2 Groundwater Capture Monitoring - February 21, 2002

Well Pair		Date	Time	Casing Elevation	Depth to Water	Water Elev.	Head Difference[1]	Pumping Rate (gpm)	Recovery Well
1	RCRA-7	2/21/2002	10:30	1063.73	26.49	1037.24	**0.26**	280	RW-35
	CMW-1	2/21/2002	10:35	1059.71	22.21	1037.50		125	RW-40
2	113	2/21/2002	10:47	1072.25	35.47	1036.79	**0.26**	100	RW-45
	CMW-2	2/21/2002	10:40	1061.74	24.69	1037.05		85	RW-50
								40	RW-55
3	118	2/21/2002	10:56	1070.69	33.59	1037.11	**0.22**	165	RW-60
	CMW-3	2/21/2002	11:15	1060.13	22.81	1037.33		140	RW-65
4	MW-1002	2/21/2002	11:03	1072.12	33.94	1038.18	**0.34**	180	RW-70
	CMW-4	2/21/2002	11:09	1058.27	19.75	1038.52		40	RW-75
								85	RW-80A
Cumulative Groundwater Flow (well flow meters) gpm								1240	

Notes:

1. A positive head difference indicates groundwater capture.

Figures



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ENVIRONMENTAL CONSULTANTS

Project: ARKANSAS CITY REFINERY

TPI PETROLEUM, INC.
ARKANSAS CITY, KANSAS

RECOVERY WELL AND CAPTURE ZONE MONITORING NETWORKS

File No.: 138R–016	ACAD No.: CPZNTWRK2	Drawn: LKB	Designed: JFM	Checked:	Approved:	Date: 10/18/01	Rev.:	Figure No.: 1

Figure 2 RW-35 Groundwater Pumping Level and Product Level Hydrograph

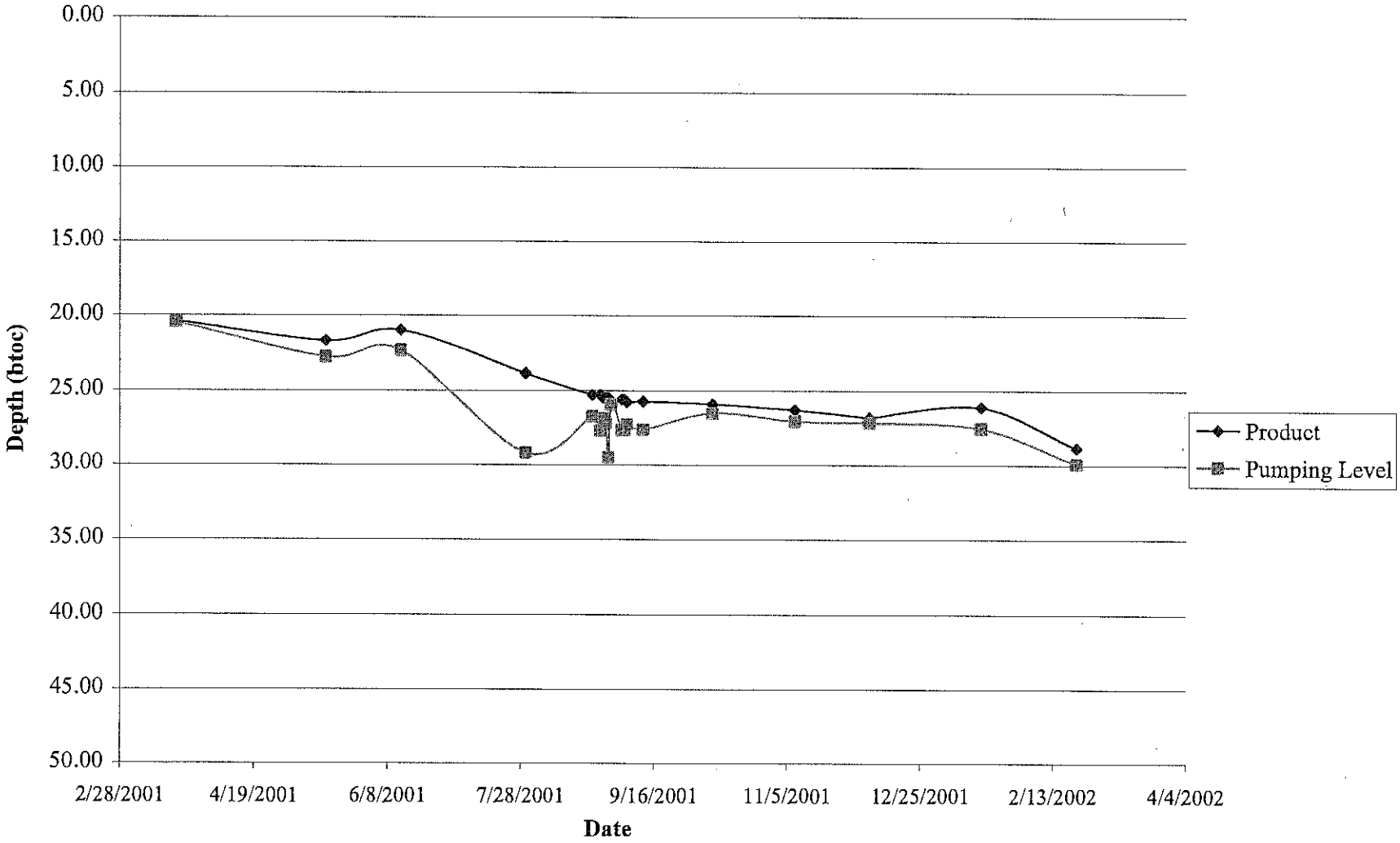

Figure 3 RW-40 Groundwater Pumping Level and Product Level Hydrograph

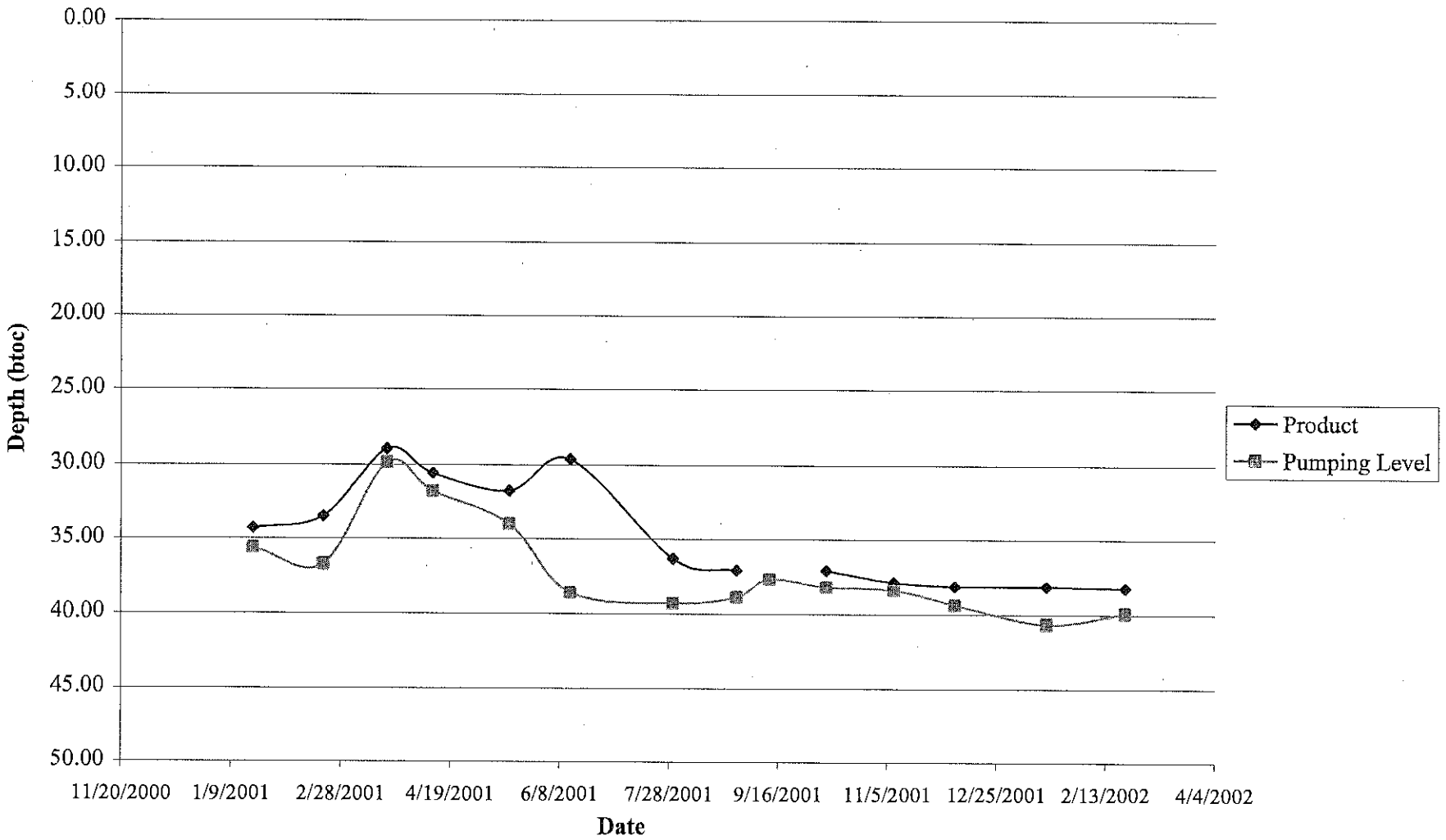

Figure 4 RW-50 Groundwater Pumping Level and Product Level Hydrograph

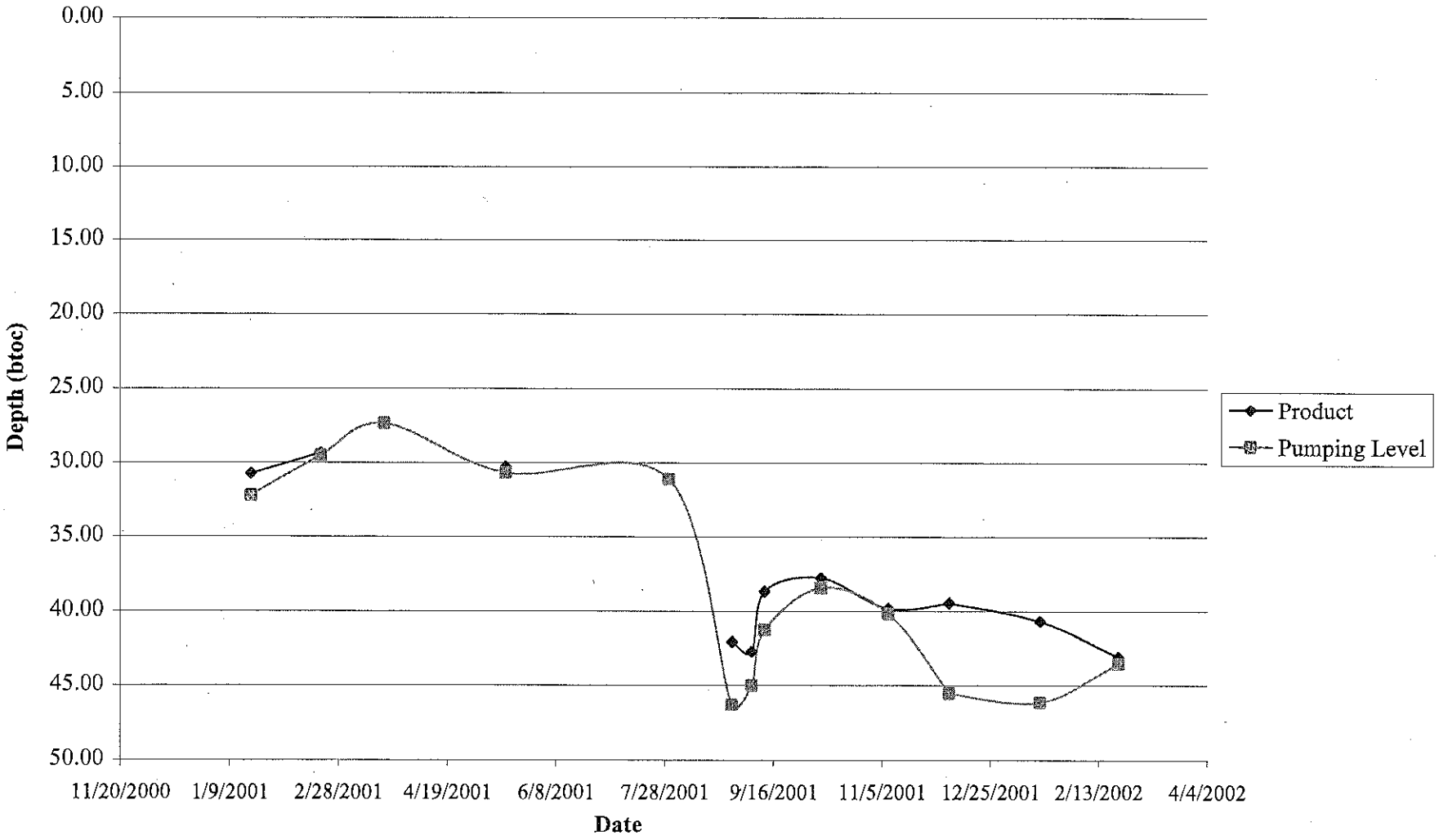

Figure 5 RW-60 Groundwater Pumping Level and Product Level Hydrograph

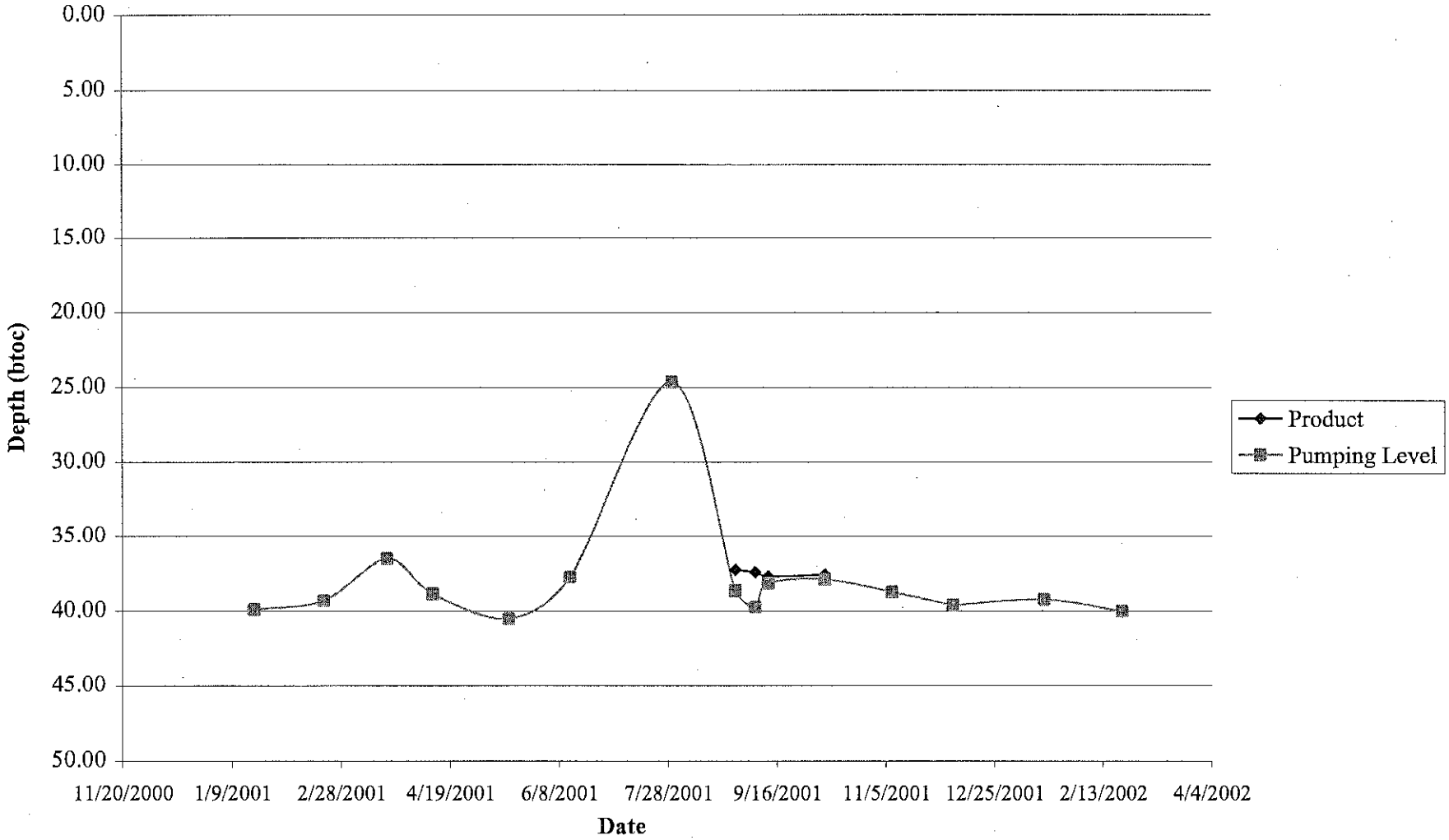

Figure 6 RW-70 Groundwater Pumping Level and Product Level Hydrograph

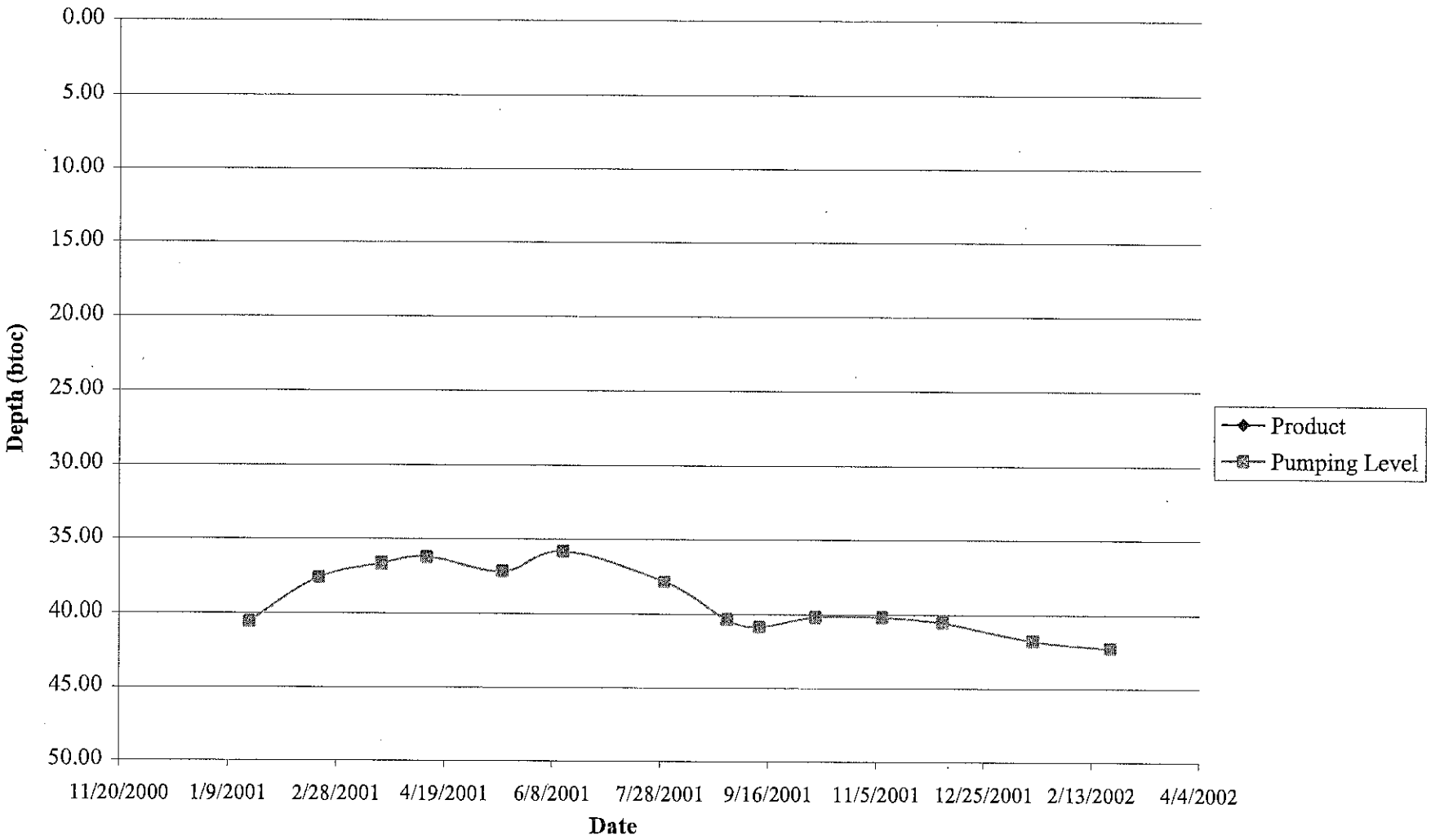

Figure 7 RW-80A Groundwater Pumping Level and Product Level Hydrograph

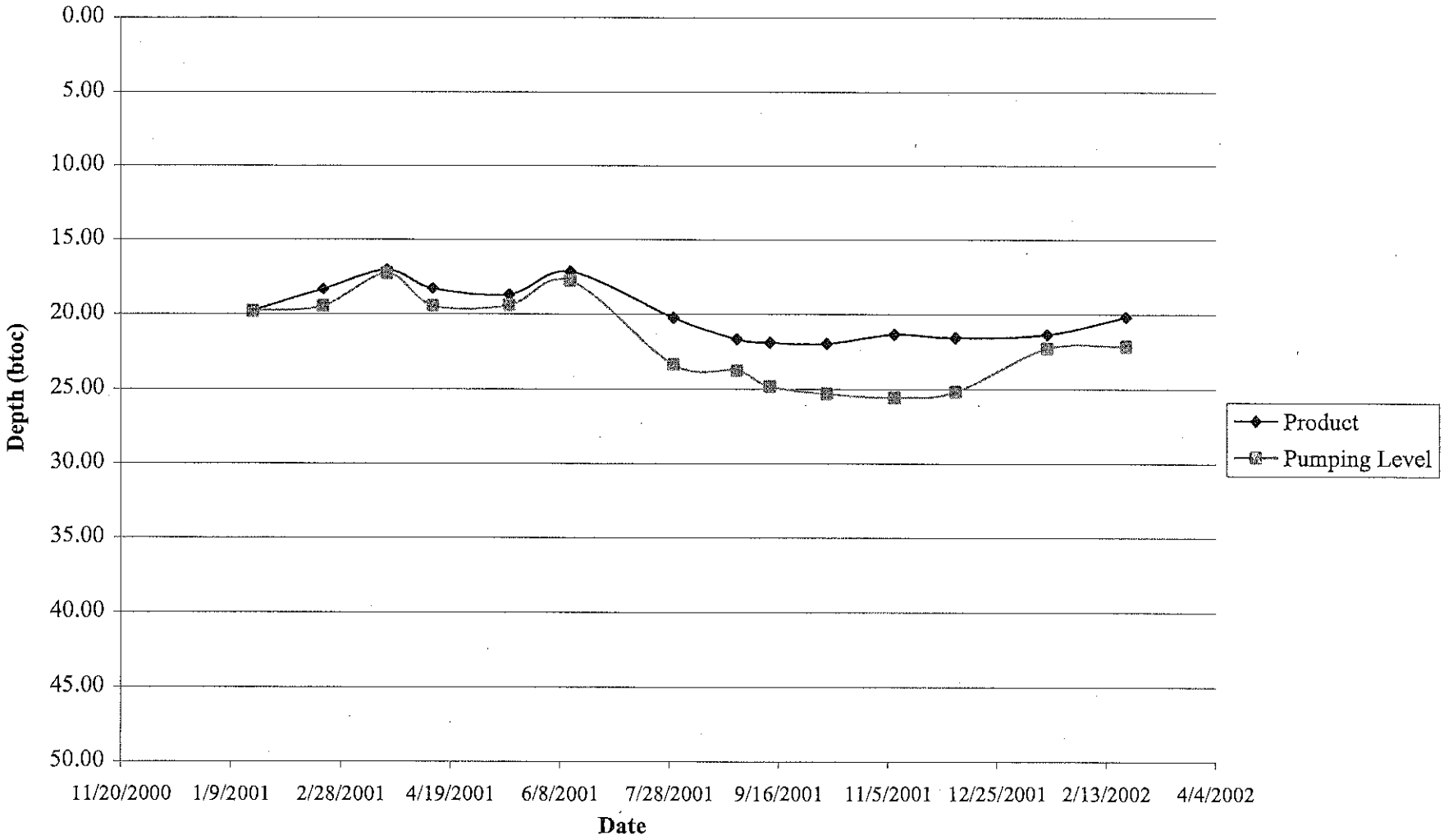

Figure 8 Recovery Well RW-35 Pumping Rate

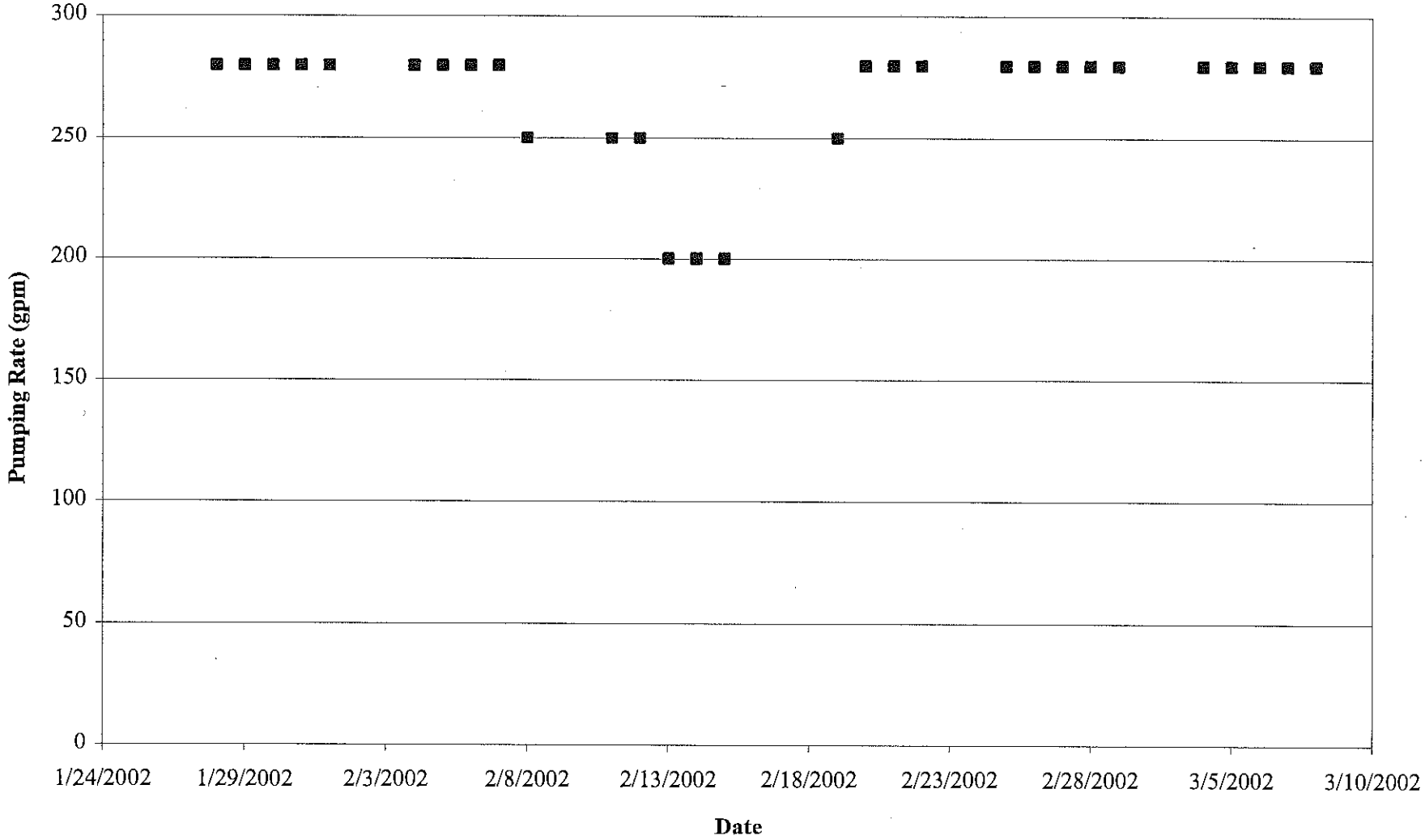

Figure 9 Recovery Well RW-40 Pumping Rate

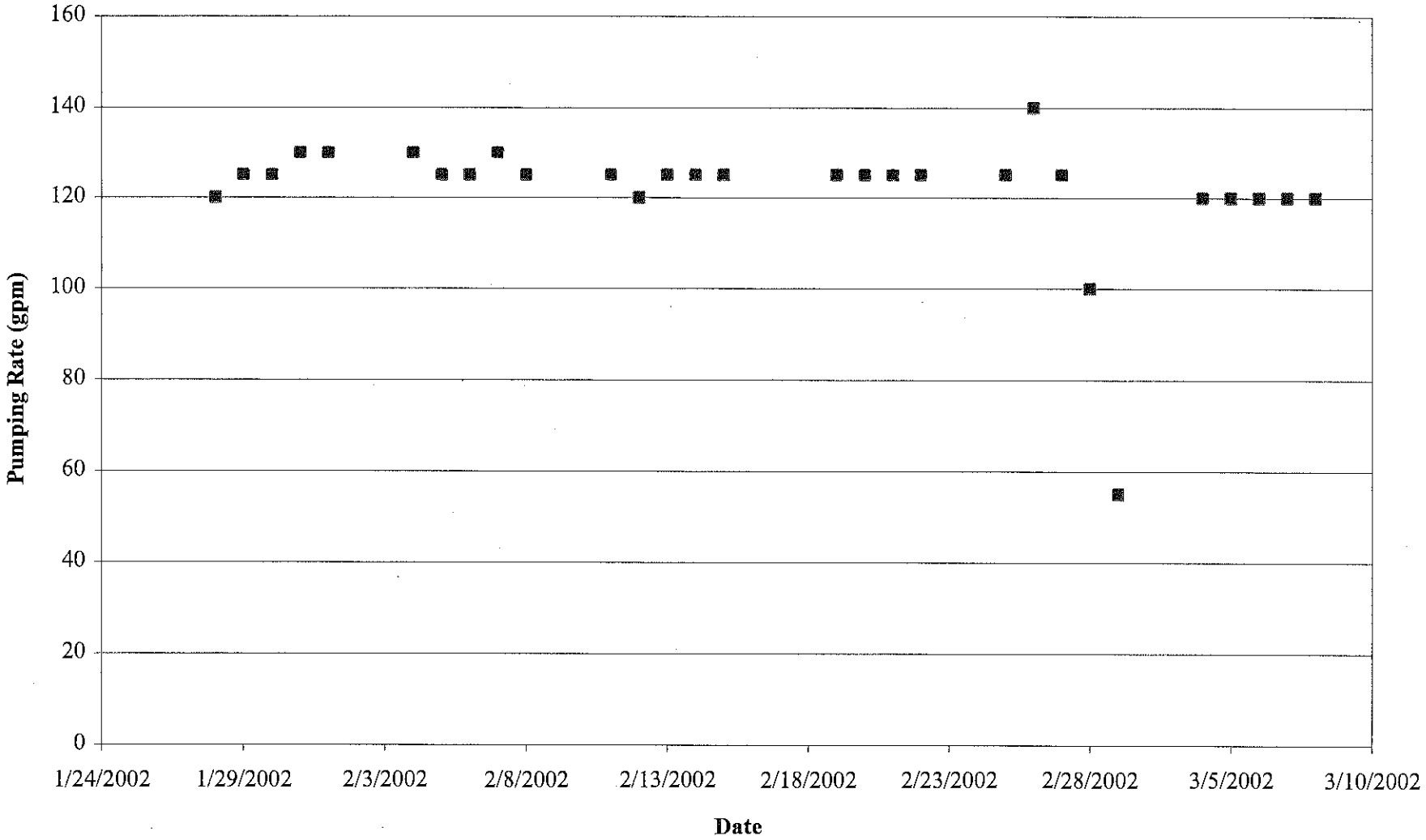

Figure 10 Recovery Well RW-50 Pumping Rate

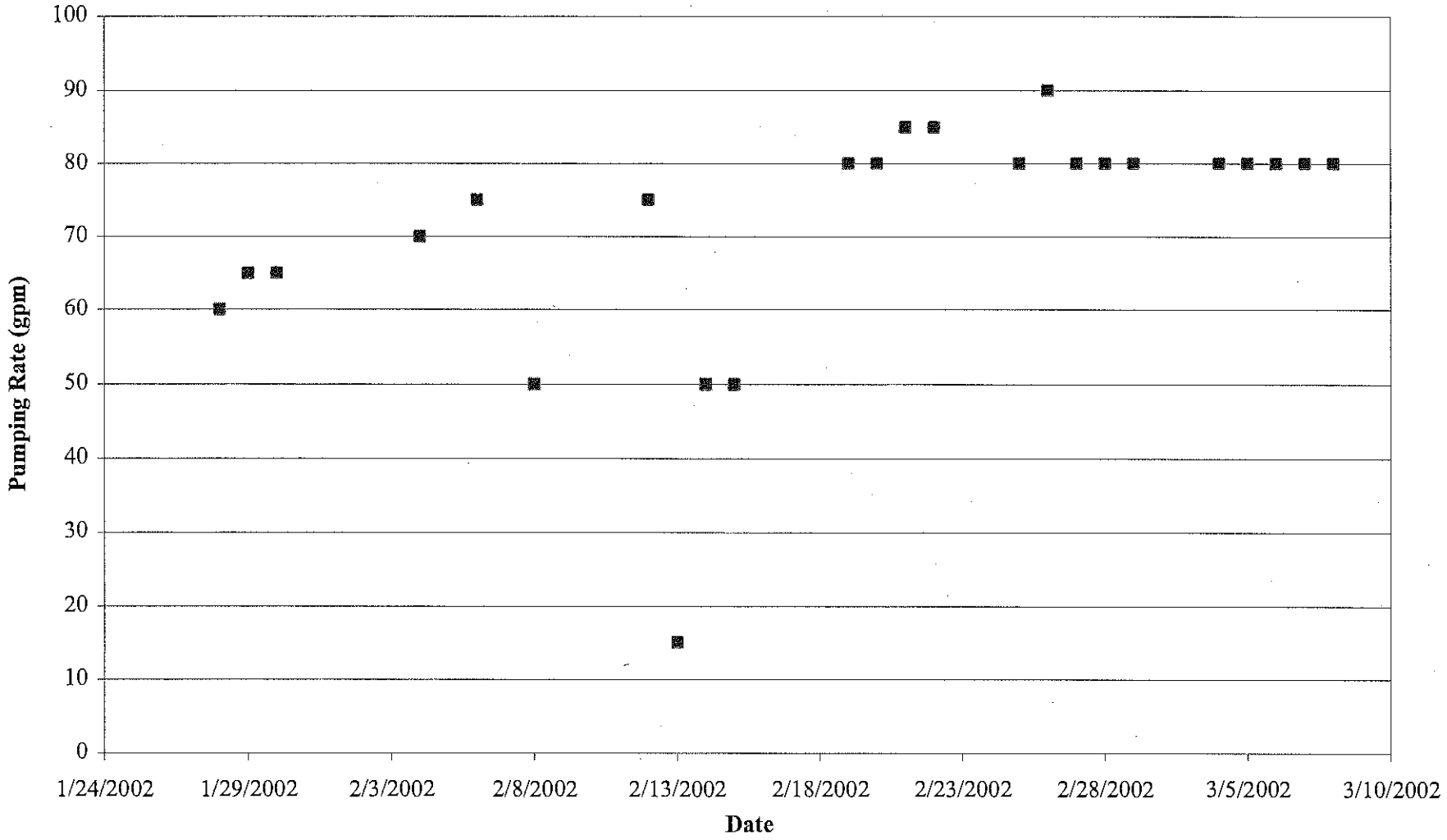

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Figure 11 Recovery Well RW-60 Pumping Rate

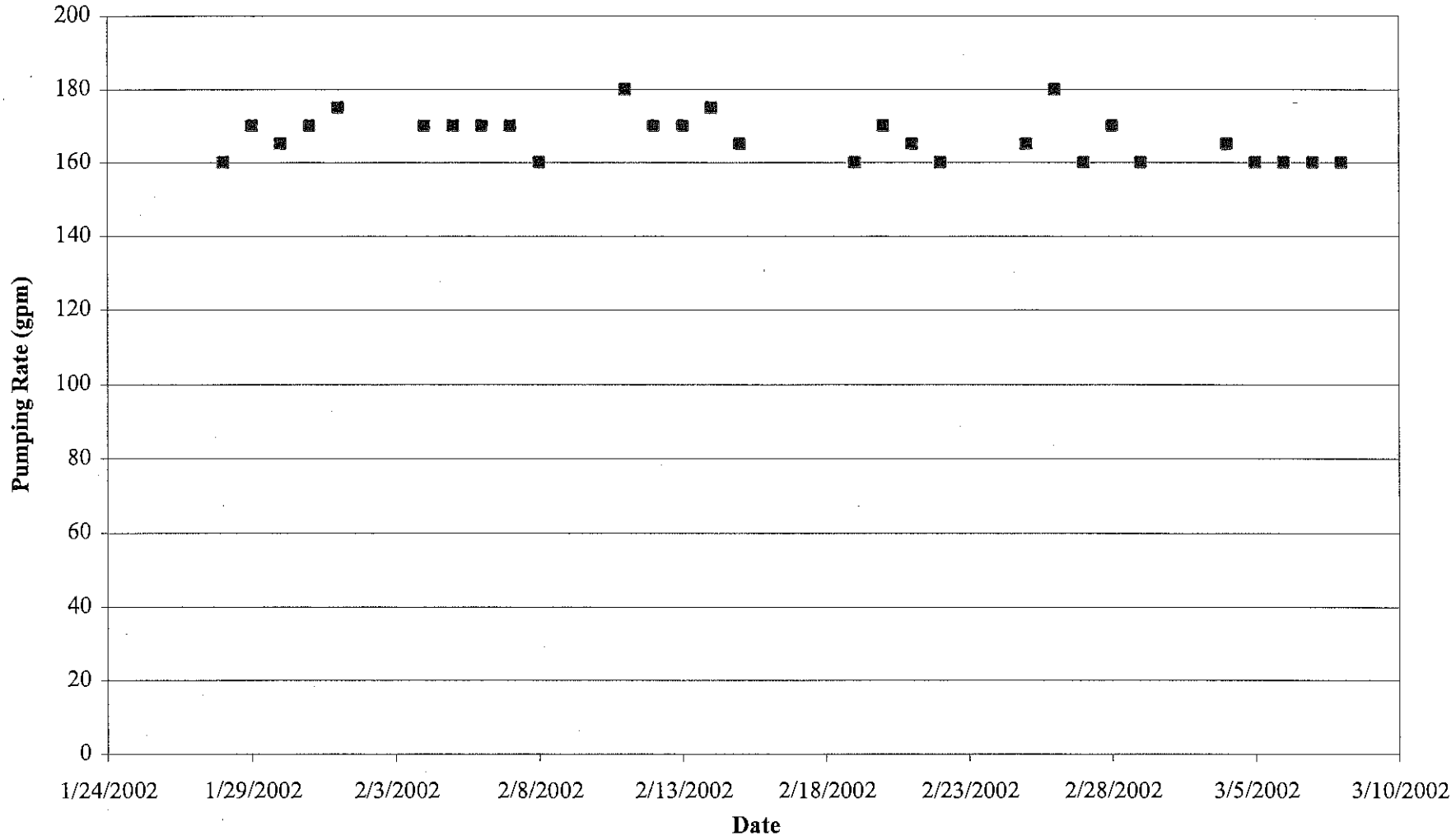

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Figure 12 Recovery Well RW-70 Pumping Rate

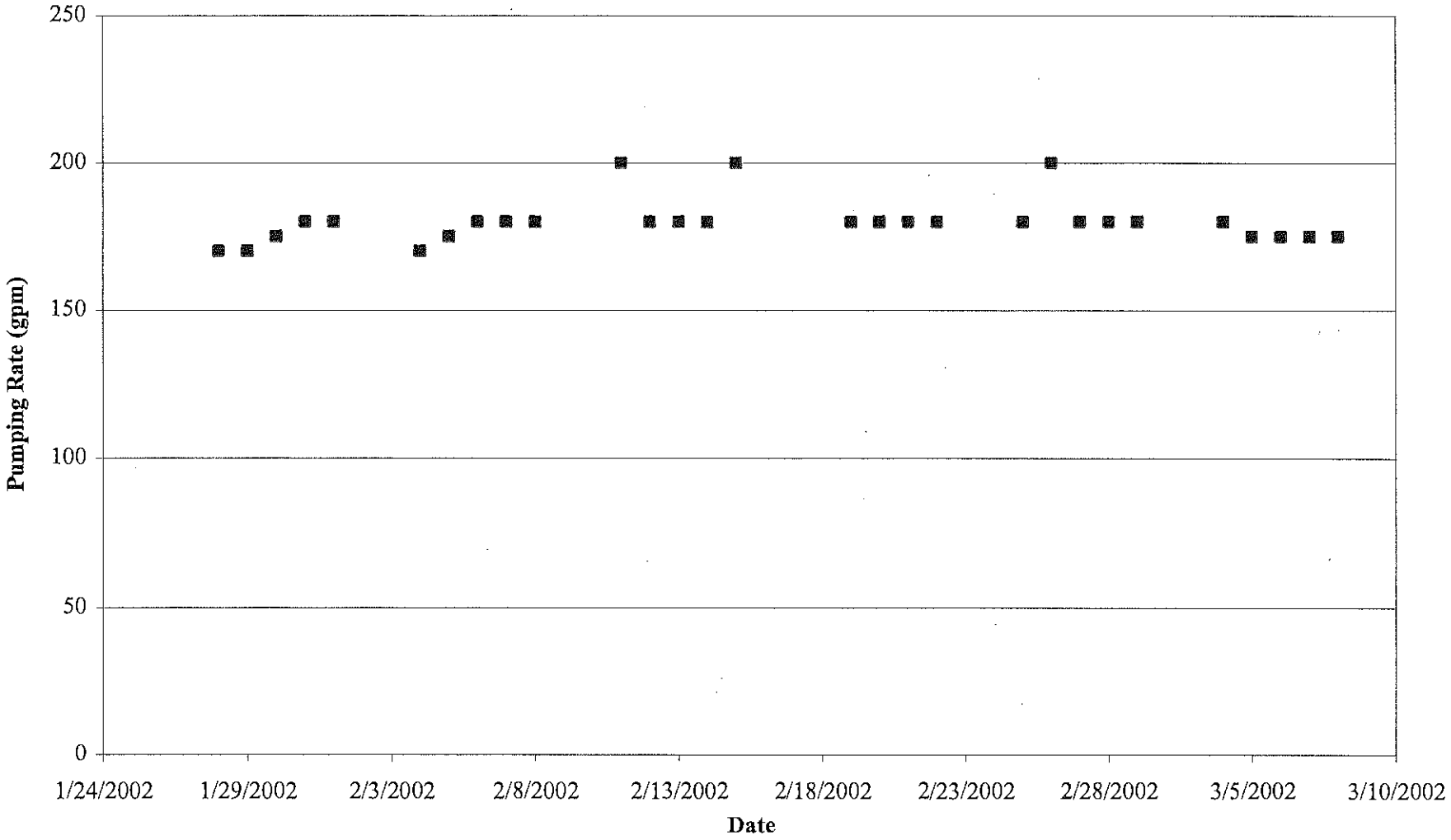

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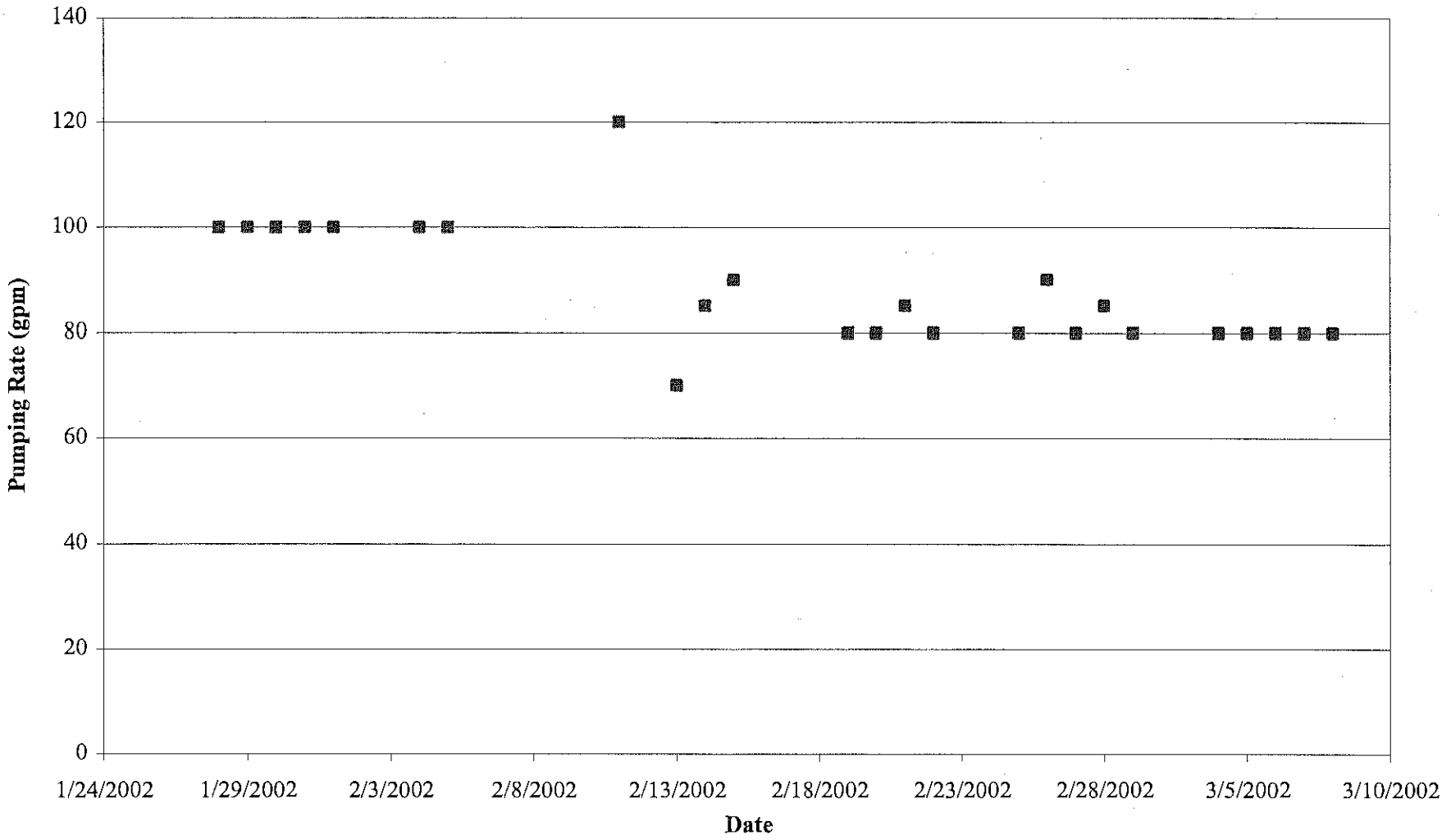
Figure 13 Recovery Well RW-80A Pumping Rate



EnecoTech Inc.

Green

KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

March 25, 2002

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 6060000
San Antonio, TX 78269-6000

Re: Class 1[1] Permit Modification Request - Land Treatment Unit
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

The Kansas Department of Health and Environment (KDHE) BWM has reviewed your request for a Class 1[1] permit modification of Section 5.6 of the approved Land Treatment Unit (LTU) Closure Plan. Upon inspection of the 2001 LTU Annual Closure Report, and discussion during a conference call between KDHE and TPI representatives on March 21, 2002, KDHE is making the following three recommendations.

The first recommendation concerns the Class 1[1] Modification request for a one year extension of the closure period for the LTU. It is the opinion of KDHE that it is unlikely that cleanup standards can be established, achieved, and closure completed in one year. If it takes more than one year to complete closure, another modification in accordance with 40 CFR 270.42 will be required. KDHE recommends time not limited by years, but instead, based on implementing corrective measures of Part II of the Permit and rate of degradation , thereby allowing sufficient time for closure of the LTU.

Second, KDHE concurs with your request to base the LTU closure on cleanup standards and technologies established by the corrective measures study (CMS) under Part II of the Permit. In using the cleanup standards under Part II of the Permit, it is imperative that KDHE be actively involved in discussions and documents regarding final cleanup numbers and technologies related to the CMS which impact LTU closure. Unanswered questions about the LTU closure plan remain.

Before KDHE can approve the request, replacement pages for the LTU Closure Plan must be submitted to KDHE for review. Replacement pages should address the approach proposed for

evaluating alternatives for final closure of the unit consistent with Part II of the Permit. KDHE questions the detection limits for the three previous reporting years. These exceeded PQLs in the closure plan. KDHE suggests Valero review the sampling and analysis protocol for the LTU to ensure sample data is useful for determining a final remedy for LTU closure. Changes necessary to select the final remedy should be incorporated in the closure plan modification.

Third, revisions to the LTU Closure Cost Estimate and associated financial assurance must be included in the permit modification. Additionally, KDHE recommends combining the Class 1 modification for the Part B Application to reflect the purchase of Ultramar Diamond Shamrock by Valero Energy Corporation with this Class 1^1 modification.

Please address these recommendations by April 26, 2002. To expedite KDHE's review of the closure plan modification, please submit modified pages for insertion into the Part B Permit Application with a highlight/~~strikeout~~ copy of each modified page. We appreciate your assistance in this matter. If there are any questions regarding this letter, you may contact Katherine Dunn at kdunn@kdhe.state.ks.us or (785) 296-656, or Kevin Anderson at kanderso@kdhe.state.ks.us or (785) 291-6730.

Sincerely,

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

Cc: Mark Bradbury- SCDO/DEA/Waste Programs
Jeffrey Robichaud- EPA Region 7/RCAP Branch
Joseph Mednick- Eneco Tech
Rob Franke-R&B Associates, Inc.

EnecoTech Inc.
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Denver, Colorado 80203
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March 1, 2002

99-0138R018

Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

RECEIVED
MAR 0 6 2002
BUREAU OF WASTE MANAGEMENT

Re: 2001 Annual RCRA Groundwater Report
TPI Petroleum, Inc. - Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. VanGaasbeek:

Please find enclosed the TPI Petroleum, Inc. Arkansas City Refinery Annual RCRA Groundwater Report for 2001. This report has been prepared in accordance with the above referenced RCRA permit.

If you have any questions regarding this report, please contact Ms. Brenda Manterola of Valero Energy Corporation at (210) 592-4619 or me at (303) 861-2200.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Enclosure:

cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffrey Robichaud, USEPA Region 7

Green

KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

February 27, 2002

Brenda Manterola
Environmental Manager
Valero Energy Corporation
P.O. Box 6060000
San Antonio, TX 78269-6000

Re: Work Plan for Modification of Monitoring Wells CMW-3 and CMW-4
USACE Levee Improvement Project
TPI Petroleum Inc. - Arkansas City
EPA ID# KSD 087418695

Dear Ms. Manterola,

The Kansas Department of Health and Environment (KDHE) is in receipt of the work plan for modification of CMW-3 and CMW-4 monitoring wells at the TPI site in Arkansas City, Kansas. Upon inspection of the plan, we concur that use of compression couplings to extend pipe casings to meet grade changes for the levee improvement is the best approach for modifying the two wells in accordance with RCRA regulations, and to preserve well integrity. The proposed plan is approved as written, with three caveats.

The first concern is if damage occurs to a well during construction of the levee, well replacement may be necessary. If this does occur, then TPI is ultimately responsible for the well replacement. Reasonable care by contractors must be taken to prevent damage to well components. A mutual understanding by all parties concerning liability for the well in the event a well is damaged is needed.

The second concern is that during the extension of the wellheads and subsequent backfill operations, and until the well apron is in place, the potential for movement of contaminants around the well case, and into the well is possible. KDHE's position is to maintain Quality Assurance and protect integrity of the wells.

The third concern is the completion date of the well modifications and submission of Part B Application pages. KDHE realizes that well aprons may not be finished until levee improvement activities near the wells are complete, but a surveyed elevation of each well is needed to comply with Permit Condition IV.C.2.c prior to well completion. Surveyed elevations for groundwater depth measurements should be completed and submitted to KHDE prior to the

next scheduled sample event. Part B replacement pages should be submitted within 45 days of completion of all well modifications.

Please clarify your intentions in the plan by addressing these concerns within 30 days. We appreciate your assistance in this matter. If you have any questions regarding this letter, you may contact either Katherine Dunn at kdunn@kdhe.state.ks.us or (785) 296-656, or Kevin Anderson at kanderson@kdhe.state.ks.us or (785) 291-6730.

Sincerely,

Kevin Anderson
Environmental Scientist
Corrective Action Unit
Hazardous Waste Permits Section

c: Mark Bradbury- SCDO/DEA/Waste Programs
Jeffrey Robichaud- EPA Region 7/RCAP Branch
Joseph Mednick- EnecoTech

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ENERGY CORPORATION
Post Office Box 696000 • San Antonio, Texas 78269-6000 • Telephone (210) 592-2000

Brenda B. Manterola
Manager, Environmental

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BUREAU OF WASTE MANAGEMENT

February 22, 2002

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
Kansas Department of Health & Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Class 1[1] Permit Modification Request – Land Treatment Unit
TPI Petroleum, Inc. - Arkansas City, Kansas
EPA Identification Number: KSD 087418695

Dear Ms. Dunn:

The purpose of this letter is to submit a request for a Class 1[1] permit modification [40 CFR 270.42(a)] for the above referenced facility in accordance with Section III.B.3 of the facility's post-closure permit and Section 5.6 of the approved Land Treatment Unit (LTU) Closure Plan.

This permit modification request is for a change in the LTU Closure Plan to extend the closure period for the LTU another year. This permit modification does not affect the ongoing groundwater corrective action program, the planned completion of the LTU SVE system or other conditions of the permit. This extension is necessary for the following reasons:

The purpose of the one-year continuation of the closure period is to evaluate progress in achieving additional degradation of waste material and to evaluate alternatives for final closure of the unit consistent with the SWMUs under the HSWA portion (Part II) of the permit. Consequently, we anticipate preparation of an amended closure plan that will provide for closure of the LTU consistent with the cleanup standards and technologies established under the corrective measure study (CMS).

Under the approved closure plan, a 1 to 3 year closure period was contemplated. The closure period began in August 1998 and closure determination sampling events have been conducted in June/July 1999, December 1999, November 2000, and December 2001. The effect of the requested modification will be to continue closure operation and maintenance for another year through January 2003. This modification will not affect the other conditions of the closure plan or the RCRA permit. Specifically, TPI will continue the post-closure activities, general area maintenance activities and the groundwater monitoring program at the LTU.

Following approval of this modification by the KDHE, TPI will notify the persons on the TPI mailing list that the closure period has been extended.

If you should have any questions or require additional information, please contact me at (210) 592-4619.

Sincerely,

Brenda B. Manterola

cc: Jeff Robichaud, EPA Region VII-Kansas City, KS
Harold Green, TPI
Jay Mednick, EnecoTech
Rob Franke, RBA

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
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February 14, 2002

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BUREAU OF WASTE MANAGEMENT

Kathy Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Work Plan for Modification of Monitoring Wells CMW-3 and CMW-4
USACE Levee Improvement Project
TPI Petroleum, Inc. - Arkansas City, Kansas
E.P.A. ID No.: KSD 087418695

Dear Ms. Dunn:

This letter contains the work plan for necessary modifications to the groundwater monitoring system as a result of improvements to the levee along the Walnut River. EnecoTech has developed this work plan on behalf of TPI Petroleum, Inc. (TPI) as required by Section IV.H.4 of the RCRA Hazardous Waste Management Permit. The design for the monitoring well modification presented in this work plan is acceptable to the United States Army Corps of Engineers (USACE).

Following consultation with the USACE is has been determined that the only RCRA corrective action/compliance monitoring wells impacted by the levee improvement project will be monitor wells CMW-3 and CMW-4. The footprint of the improved levee will extend over the location of monitoring wells CMW-3 and CMW-4. As a result of the levee improvement, the USACE has indicated the ground surface at monitoring well locations CMW-3 and CMW-4 will be raised 8.47 and 2.91 feet respectively.

TPI will add casing to increase the height of the two affected monitoring wells. The monitoring well locations will remain the same as previously identified in the Part B. The 2-inch diameter PVC well casing height will be increased by adding additional PVC casing material to the existing casing stickup.

In developing this approach to the monitoring well modification, EnecoTech has considered techniques that will not affect the integrity of the monitoring wells or the quality of groundwater samples collected from the wells. Technical criteria identified during the development of this workplan included providing a watertight connection between the original well casing and the extension, maintaining the structural integrity and alignment of the well casing and being capable of assembly in the field. Furthermore, the connection must not involve the use of any glues or solvents. We considered and eliminated threading the original well casing and extension PVC casing material to provide the connection between the two

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casings due to concern over weakening the schedule 40 PVC casings at the connection, and the risk of PVC shavings falling into the well. The use of a PVC slip coupling was also eliminated because it involves the use of glue.

The additional PVC casing will be attached to the existing PVC well casing using a 2-inch PVC compression coupling. The compression coupling contains Buna-N o-rings to provide a watertight seal. The compression couplings are readily assembled in the field, and will maintain the structural integrity of the monitor well. The PVC compression fitting does not constrict the inside diameter of the well casing. An 8-inch or larger diameter corrugated metal pipe (CMP) will be placed around the PVC casing and the annulus between the PVC well casing and the annulus will be filled with cement grout. A steel locking protective casing will be installed over the PVC well casing. A diagram illustrating the well modification is included in Figure 1. The final monitor well casings will stick up approximately three feet above the final grade.

Upon completion of the well modifications, a licensed land surveyor will record the elevation of the well casing measuring point to the nearest 0.01 feet and the location coordinates to the nearest 0.1 feet. The survey information and revised well completion information and well diagrams will be submitted to KDHE with revised Part B pages. The USACE Walnut River levee improvement construction for the refinery side of the river is presently scheduled to begin in mid to late July 2002. KDHE will be notified at least five working days prior to conducting the well modifications described in this work plan. Final as-builts for monitoring wells CMW-3 and CMW-4 will be submitted to KDHE within 45-days of completion of the well modifications in the form of Part B replacement pages.

If you have any questions about the work plan, please contact either Brenda Manterola of Valero at 201/592-4619 or me at 303/861-2200 ext.129. We appreciate your assistance with this matter.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachment: Figure 1 – monitoring well modification diagram

Cc: Brenda Manterola, Valero
Harold Green, Valero
Jeffery Robichaud, EPA Region 7
Fred Kloeckler, USACE Tulsa District

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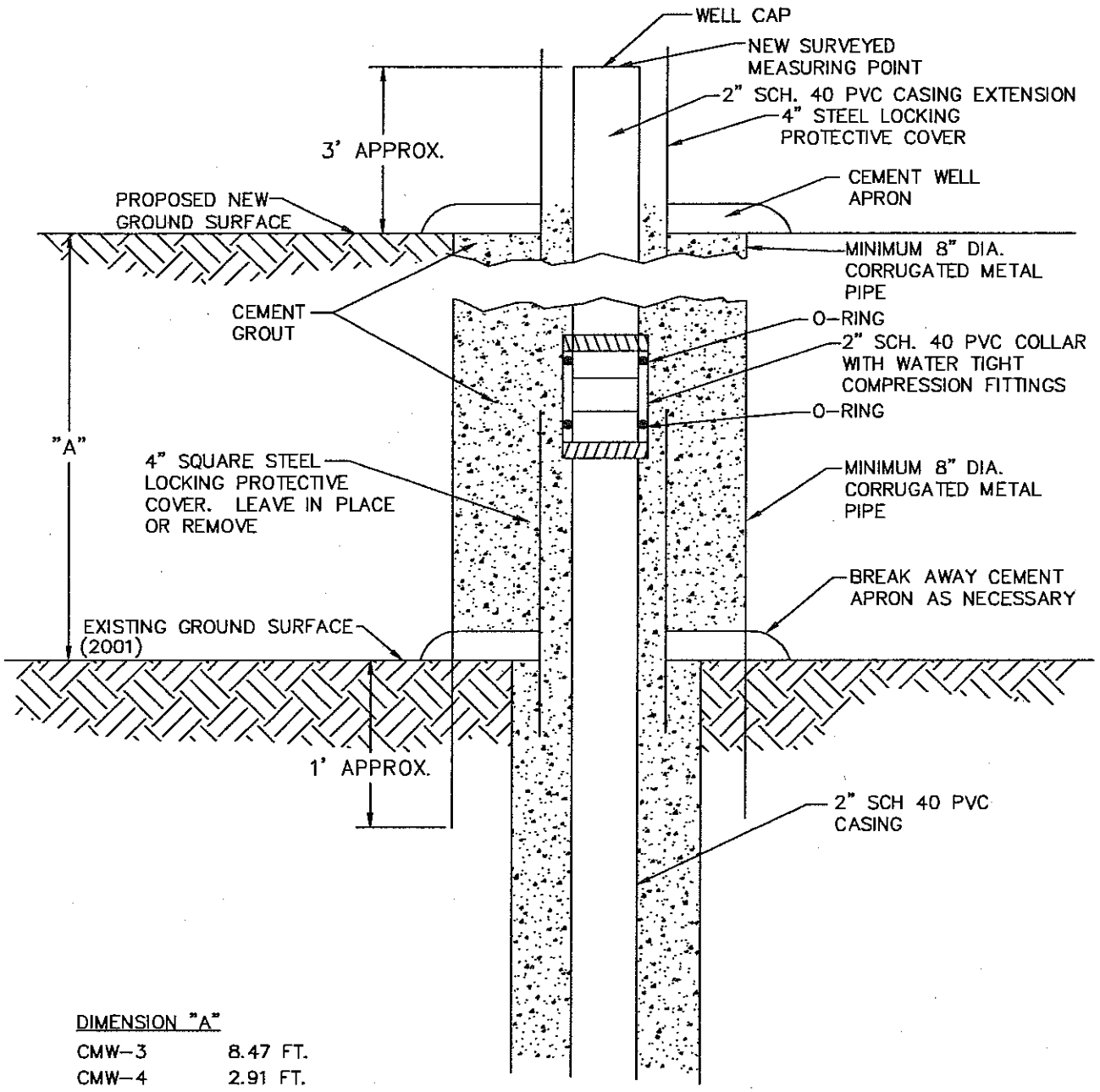

DIMENSION "A"

CMW-3	8.47 FT.
CMW-4	2.91 FT.

SECTION

NOT TO SCALE

NOTES:

ALL PVC CASINGS ARE THREADED AND FLUSH JOINTED.

MODIFICATIONS WILL ADDRESS GROUND LEVEL CHANGE AS A RESULT OF PLANNED LEVEE IMPROVEMENTS.

EnecoTech
ENVIRONMENTAL CONSULTANTS

Figure No.: 1

PROPOSED MONITORING WELL STICKUP MODIFICATION FOR MONITORING WELLS CMW-3 & CMW-4

PROJECT: TPI PETROLEUM, INC. - ARKANSAS CITY REFINERY

1358-018	DESIGNED BY: JFM	APPROVED BY: JFM	
STICKUP_MOD	DRAWN BY: LKB	DATE: 2/4/02	REV:

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February 14, 2002

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BUREAU OF WASTE MANAGEMENT

99-0138R018

Jeffery Robichaud
United States Environmental
Protection Agency – Region 7
901 North 5th Street
Kansas City, Kansas 66101

Re: Transmittal of Walnut River Sediment Quality Data - RFI
TPI Petroleum, Inc. Arkansas City, Kansas
U.S. EPA ID No.: KSD 087418695

Dear Mr. Robichaud:

The purpose of this letter is to transmit the data on sediment quality in the Walnut River at the TPI Petroleum, Inc. (TPI) former refinery in Arkansas City, Kansas. The sediment samples were collected during the RFI Phase I investigation under the surface water and sediment characterization phase.

The sediment samples were collected on November 11, 1989. Sediment samples were collected from three locations; upstream of the facility, immediately downstream (5 to 10 feet) of the NPDES outfall, and at the downstream boundary of the facility as shown on the attached Figure 1. These locations were selected to detect any changes attributable to refinery operations. The sampling consisted of obtaining 5 to 10 sediment samples taken to a depth of 8 to 12 inches in a cross-section of the river bottom. The samples at each location were composited into a single sample for laboratory analysis. The samples were analyzed for the Modified Skinner List and the results are presented on the attached Table 1.

The analytical results presented on Table 1 indicate trace concentrations of nine of the target constituents. There does not appear to be a significant difference between the upstream and downstream sediment data. The results for the organic compounds are very low and close to the analytical method's practical quantitation level. Of the nine constituents detected, seven were detected at the upstream location (No.1) while seven constituents were detected in the samples collected at the NDPES outfall (No.2) and six constituents were detected at the downstream location (No.3).

The sediment data have been evaluated by comparing the analytical results to the USEPA sediment screening values (USEPA Science and Technology publication EPA 823-R-97-006) and Ecotox Thresholds (USEPA OSWER publication EPA 540/F-95/038). Table 1 provides a comparison of the sediment chemical results with screening values and Ecotox Thresholds (ET's). In each of the cases of

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positive detections for the target chemicals, the concentrations are below their respective screening value or ET. The results of the sediment sampling do not indicate the trace level concentrations of chemicals detected exceed relevant benchmarks.

If you have any questions about the enclosed information, please contact either Brenda Manterola of Valero Energy Corporation at 210/592-4619, or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Principal

Enc. Figure 1 and Table 1

Cc: Kathy Dunn, KDHE
Brenda Manterola, Valero
Rob Franke, R&B Associates

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SUMMARY OF WALNUT RIVER SEDIMENT SAMPLE RESULTS
TPI PETROLEUM, INC. ARKANSAS CITY

Sample Location		Walnut River North (Upstream) No. 1	Walnut River Outfall No. 2	Walnut River South (Downstream) No. 3	Screening Values for Sediment
Sample Date		11/9/1989	11/9/1989	11/9/1989	
Media		Sediment	Sediment	Sediment	
Volatiles	***Units***				
Xylene	ug/Kg	**9.9**	**6.2**	**2.4**	25 (3)
Trichloroethylene	ug/Kg	0.6 U	0.6 U	0.6 U	1600 (3)
Toluene	ug/Kg	0.4U	0.4U	0.4U	670 (3)
Styrene	ug/Kg	0.5U	0.5U	0.5U	NA
Methyl Ethyl Ketone	ug/Kg	50U	50U	50U	NA
Ethyl Dibromide	ug/Kg	1.0U	1.0U	1.0U	NA
Ethylbenzene	ug/Kg	**1.7**	**1.7**	0.7U	3600 (3)
Chloroform	ug/Kg	0.5U	0.5U	0.5U	NA
Chlorobenzene	ug/Kg	**1.8**	0.4U	0.4U	820 (3)
Carbon tetrachloride	ug/Kg	0.7U	0.7U	0.7U	NA
Carbon disulfide	ug/Kg	10U	10U	10U	NA
Benzene	ug/Kg	0.4U	**0.7**	0.4U	57 (3)
Acetone	ug/Kg	10U	10U	10U	NA
1,4-Dioxane	ug/Kg	50U	50U	50U	NA
1,2-Dichloroethane	ug/Kg	0.6U	0.6U	0.6U	NA
1,1-Dichloroethylene	ug/Kg	0.6U	0.6U	0.6U	NA
Semi-Volatiles					
Quinoline	mg/Kg	0.5U	0.5U	0.5U	NA
Pyridine	mg/Kg	0.5U	0.5U	0.5U	NA
Pyrene	mg/Kg	0.5U	0.5U	0.5U	0.66 (4)
Phenanthrene	mg/Kg	0.5U	0.5U	0.5U	0.85 (2)
Naphthalene	mg/Kg	0.5U	0.5U	0.5U	0.48 (3)
Methyl chrysene	mg/Kg	0.5U	0.5U	0.5U	NA
Indene	mg/Kg	0.5U	0.5U	0.5U	NA
Fluorene	mg/Kg	0.5U	0.5U	0.5U	0.54 (4)
Fluoranthene	mg/Kg	0.5U	0.5U	0.5U	0.6 (4)
Dimethylphthalate	mg/Kg	0.5U	0.5U	0.5U	0.16 (6)
Diethylphthalate	mg/Kg	0.5U	0.5U	0.5U	0.2 (6)
Dichlorobenzene (5)	mg/Kg	0.5U	0.5U	0.5U	0.34 (3)
Dibenzofuran	mg/Kg	0.5U	0.5U	0.5U	2 (3)
Dinbz(a,h)anthracene	mg/Kg	0.5U	0.5U	0.5U	0.23 (6)
Dimbz(a,h)acridine	mg/Kg	0.5U	0.5U	0.5U	NA
Di-n-octylphthalate	mg/Kg	0.5U	0.5U	0.5U	NA
Di-n-butylphthalate	mg/Kg	**0.7**	**3.2**	**0.9**	11 (3)
Chrysene	mg/Kg	0.5U	0.5U	0.5U	2.8 (6)
Butylbenzylphthalate	mg/Kg	0.5U	0.5U	0.5U	11 (3)
bis(2-ethylhexyl)phthalate	mg/Kg	0.5U	0.5U	0.5U	1.3 (6)

SUMMARY OF WALNUT RIVER SEDIMENT SAMPLE RESULTS
TPI PETROLEUM, INC. ARKANSAS CITY

Sample Location		Walnut River North (Upstream) No. 1	Walnut River Outfall No. 2	Walnut River South (Downstream) No. 3	Screening Values for Sediment
Semi-Volatiles (Continued)	***Units***				
Benzo(k)fluoranthene	mg/Kg	0.5U	0.5U	0.5U	NA
Benzo(b)fluoranthene	mg/Kg	0.5U	0.5U	0.5U	3.6 (6)
Benzo(a)pyrene	mg/Kg	0.5U	0.5U	0.5U	0.43 (4)
Benzo(a)anthracene	mg/Kg	0.5U	0.5U	0.5U	1.6 (6)
Anthracene	mg/Kg	0.5U	0.5U	0.5U	0.96 (6)
Acenaphthene	mg/Kg	0.5U	0.5U	0.5U	0.016 (4)
7,12-Dimethylbenz(a)anthracene	mg/Kg	0.5U	0.5U	0.5U	NA
2-Methylnaphthalene	mg/Kg	0.5U	0.5U	0.5U	0.67 (6)
1-Methylnaphthalene	mg/Kg	0.5U	0.5U	0.5U	NA
Phenol	mg/Kg	0.5U	0.5U	0.5U	0.42 (6)
Cresols	mg/Kg	0.5U	0.5U	0.5U	0.63 (6)
Benzenethiol	mg/Kg	0.5U	0.5U	0.5U	NA
4-Nitrophenol	mg/Kg	0.5U	0.5U	0.5U	NA
2,4-Dinitrophenol	mg/Kg	5.0U	5.0U	5.0U	NA
2,4-Dimethylphenol	mg/Kg	0.5U	0.5U	0.5U	0.029 (6)
Metals	***Units***				
Antimony, total	mg/Kg	10U	10U	10U	150 (6)
Arsenic, total	mg/Kg	2U	2U	2U	8.2 (1,4)
Barium, total	mg/Kg	**100**	**120**	**100**	NA
Cadmium, total	mg/Kg	2U	2U	2U	1.2 (4)
Chromium, total	mg/Kg	**10**	**10**	**12**	81 (1,4)
Cobalt, total	mg/Kg	10U	10U	10U	NA
Lead, total	mg/Kg	**23**	**31**	**8**	47 (4)
Mercury, total	mg/Kg	0.1U	0.1U	0.1U	0.15 (1,4)
Nickel, total	mg/Kg	10U	10U	**0.09**	21 (4)
Selenium, total	mg/Kg	1U	1U	1U	NA
Vanadium, total	mg/Kg	200U	200U	200U	NA

Notes:
ug/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
U = not detected above the analytical method practical quantitation level. The PQL is printed next to the U qualifier.
Ecotox Threshold (ET) values from ECO Update, USEPA, January 1996. EPA 540/F-95/038
NA = not available in Ecotox Upate or USEPA publication 823-R-97-006, The Incidence and Severity of Sediment Contamination in Surface Waters of the United States. Volume 1: National Sediment Quality Survey.
1 = value is for total of all chemical forms.
2 = USEPA Freshwater Sediment Quality Criteria (SQC). Assumes 1 percent organic carbon.
3 = EPA sediment quality benchmark (SQB) calculated from ambient water quality criteria (AWQC) fresh water values.
4 = effects range - low (Long, E.R., et al. 1995. Incidence of Adverse Biological Effects Within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management 19 (1): 81-97.
5 = ET for 1,2 Dichlorobenzene.
6 = Apparent effects threshold-low (AET-L). USEPA National Sediment Quality Survey. USEPA 823-R-97-006, Appendix D.

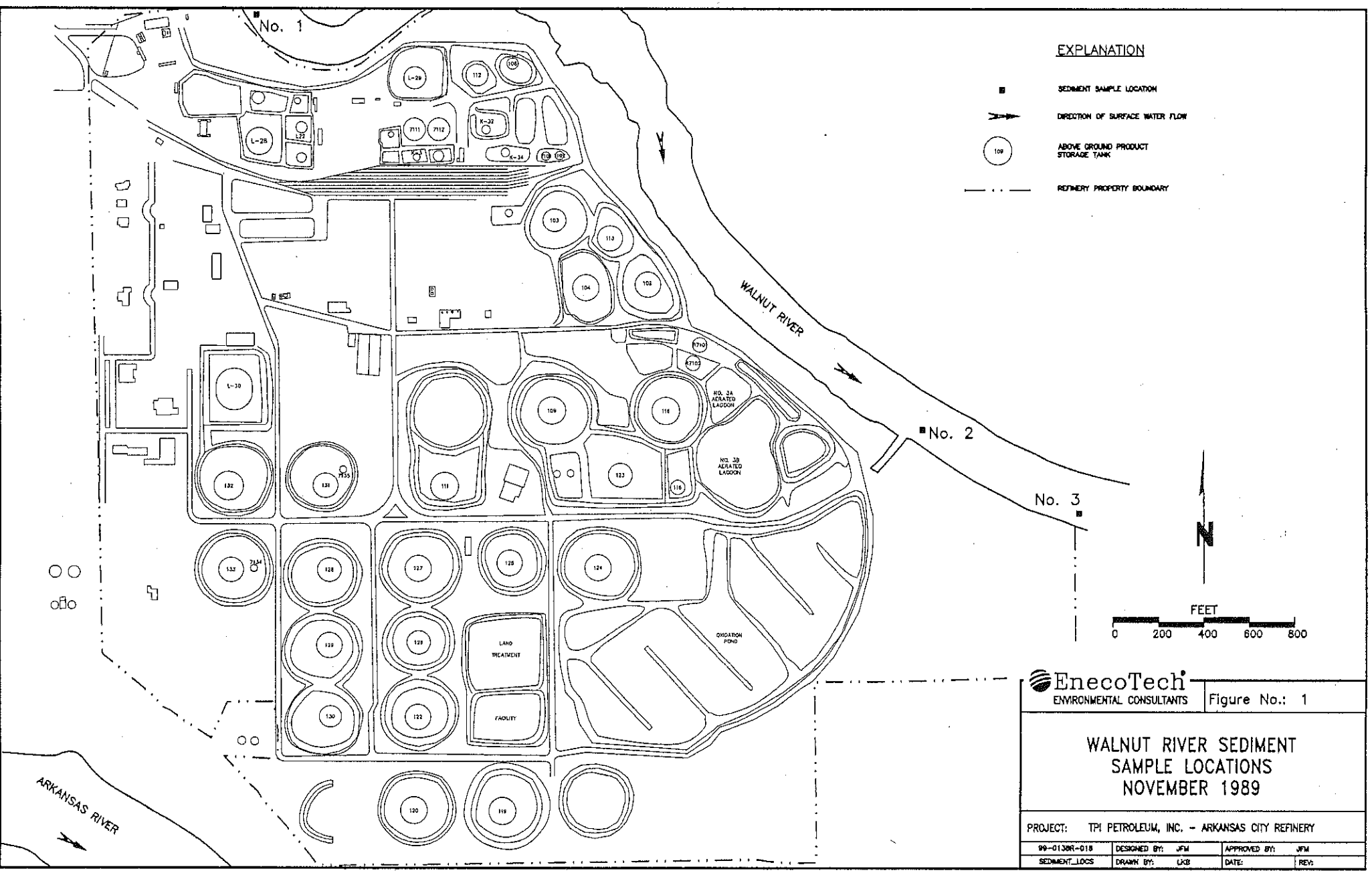

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Figure No.: 1

WALNUT RIVER SEDIMENT SAMPLE LOCATIONS NOVEMBER 1989

PROJECT: TPI PETROLEUM, INC. - ARKANSAS CITY REFINERY

99-0130R-018	DESIGNED BY: JFM	APPROVED BY:	JFM
SEDIMENT_LOCS	DRAWN BY: LKB	DATE:	REV:

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February 4, 2002

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BUREAU OF WASTE MANAGEMENT

Kathy Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Groundwater Gradient Reversal Monitoring Report – January 22, 2002
TPI Petroleum, Inc. - Arkansas City, Kansas
E.P.A. ID No.: KSD 087418695

Dear Ms. Dunn:

The purpose of this letter is to report the results of the quarterly groundwater gradient demonstration in accordance with Section IV.C.2.c of the RCRA permit. The quarterly demonstration of the reverse hydraulic gradient was conducted on January 22, 2002. The groundwater level measurements were obtained in accordance with the procedures contained in the Groundwater Sampling and Analysis Plan and the Engineering Feasibility Plan, Section 15 of the Part B Permit Application.

The results of the groundwater level measurements are presented on the attached Table 1. The data presented on Table 1 indicate the measured groundwater head differential ranged between 0.21 feet and 0.33 feet between the Walnut River and the recovery well system across the four pairs of capture zone monitoring wells.

The groundwater monitoring demonstration results indicate the reverse hydraulic gradient is demonstrated as required by permit section IV.C.2.c. Additional information pertaining to this monitoring event will be included in the semi-annual groundwater monitoring report in accordance with permit section IV.E.4.

If you have any questions regarding this information, you may contact either Brenda Manterola of Valero at 210/592-4619 or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC

Jay Mednick
Project Manager

Cc: Brenda Manterola, Valero
Harold Green, Valero
Jeff Robichaud, EPA Region 7

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TABLE 1 GROUNDWATER GRADIENT REVERSAL DEMONSTRATION JANUARY 2002
E.P.A. ID No.: KSD087418695
TPI PETROLEUM, INC.
ARKANSAS CITY, KANSAS

Monitoring Well	Date	Time (p.m.)	Casing Elevation (ft amsl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Ground Water Elev. (amsl)	Head Difference[1] (ft)
RCRA-7	1/22/2002	3:25	1063.73	ND	26.20	1037.53	**0.33**
CMW-1 (RFI2-5C)	1/22/2002	3:29	1059.71	ND	21.85	1037.86	
113	1/22/2002	3:34	1072.25	ND	35.07	1037.18	**0.26**
CMW-2	1/22/2002	3:40	1061.74	ND	24.30	1037.44	
118	1/22/2002	3:44	1070.69	ND	32.92	1037.77	**0.23**
CMW-3	1/22/2002	3:51	1060.13	ND	22.13	1038.00	
MW-1002	1/22/2002	3:56	1072.12	ND	33.42	1038.70	**0.21**
CMW-4	1/22/2002	4:02	1058.27	ND	19.36	1038.91	

Notes:

1. A positive head difference indicates groundwater capture.

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99
Revised 11/8/00

RCRA Corrective Action
Environmental Indicator (EI) RCRA Info code (CA725)

Current Human Exposures Under Control

Facility Name: TPI Petroleum
Facility Address: Arkansas City, KS
Facility EPA ID #: KSD087418695

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   _X_ If yes - check here and continue with #2 below.

   ___ If no - re-evaluate existing data, or

   ___ if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRA Info national database ONLY as long as they remain true (i.e., RCRA Info status codes must be changed when the regulatory authorities become aware of contrary information).

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **"contaminated"** [1] above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria [e.g., Maximum Contaminant Levels (MCLs), the maximum permissible level of a contaminant in water delivered to any user of a public water system under the Safe Drinking Water Act] from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	X			*See Below[A]/Benzene,bis(2-ethylhexyl)phthalate, Lead, Antimony, Cadmium, Chromium, Lead & Nickel*
Air (indoors) [2]		X		*See Below[B]*
Surface Soil (e.g., <2 ft)	X			*See Below[C]/ 1,4-dioxane, Benzene, Benzo(a)anthracene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Benzo(b)fluoranthene, Chloroform, Lead, Arsenic, Antimony*
Surface Water		X		*See Below[D]*
Sediment		X		*See Below[E]*
Subsurf. Soil (e.g., >2 ft)	X			*See Below[C]/1,4-dioxane, Benzene, Benzo(a)anthracene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Benzo(b)fluoranthene, Chloroform, Lead, Arsenic, Antimony*
Air (outdoors)		X		*See Below[B]*

____ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

X If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

____ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

[A] Groundwater contamination has been documented at the site in excess of standards. The Phase II RFI indicates elevated levels of both organic and inorganic contaminants. Three organic compounds (benzene, tetrachloroethylene, and trichloroethylene) were found at or exceeding MCLs. Eight inorganic compounds (Antimony, Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel, and Vanadium) were found to exceed either the MCL or Kansas Tier II Risk Based Ground Water Standards. The summary table found below provides information regarding these samples.

*Summary of Ground Water Sample Contaminants**						
Contaminant	*# detects*	*# samples*	*min*	*max*	*Standards*	
					MCL	*KDHE Tier 2*
Benzene (ppb)	*7*	*21*	*2.5*	*220*	*5*	*5*
Tetrachloroethylene (ppb)	*3*	*21*	*2*	*5*	*5*	*5*
Trichloroethylene (ppb)	*5*	*21*	*1*	*5*	*5*	*5*
Antimony (ppm)	*1*	*21*	*0.0025*	*0.0076*	*.006*	*.006*
Arsenic (ppm)	*16*	*21*	*.00165*	*0.0328*	*.001*	*.05*
Cadmium (ppm)	*5*	*21*	*.00015*	*.0213*	*.005*	*.005*
Chromium (ppm)	*17*	*21*	*.0006*	*0.179*	*0.1*	*0.1*
Lead (ppm)	*12*	*21*	*.00105*	*0.046*	*0.015*	*0.015*
Mercury (ppm)	*9*	*21*	*0.00005*	*0.00024*	*.002*	*.002*
Nickel (ppm)	*21*	*21*	*0.00096*	*0.210*	-	*0.1*
Vanadium (ppm)	*19*	*21*	*0.00045*	*0.139*	-	*0.11*

*TPI Petroleum RFI, 2000

[B] *Air contamination (both indoor and outdoor) has not been documented in excess of applicable standards. Additionally, since refinery operations are inactive, no current or future reasonable releases are expected from processes or tanks. Accordingly any release would not be expected to be in excess of applicable standards. However, current activities at the plant do include demolition and excavation activities which may result in introduction of subsurface soil gas to ambient air in the vicinity of workers or construction workers. As part of the RFI, the facility conducted a soil vapor study to document gas levels across the facility. Elevated soil gas concentrations were found across the northern portion of the facility. The highest concentration detected at the 5 foot depth was 320 ppm, at the 10 foot depth 429 ppm, and at the 15 foot depth greater than 400 ppm. These values could be expected to be encountered during demolition/excavation activities, although currently contamination of air is not reasonably expected to occur in excess of applicable standards.*

[C] *Soil contamination (both surface and subsurface) has been documented in excess of standards at several locations throughout the facility (RFI, 2000). Seven organic contaminants (1,4-dioxane, benzene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chloroform, and dibenz(a,h)anthracene) were found at levels in surface soil exceeding EPA Region IX's Preliminary Remediation Goals (PRGs). Three inorganic compounds (antimony, arsenic, and lead) were also found to exceed standards. The same seven organic contaminants were found in sub-surface soil exceeding PRGs, while only lead and arsenic exceeding PRGs in subsurface soil. The following tables provide the results of soil contamination at the facility that exceeds EPA Region IX's PRGs.*

*Results of Surface Soil Sampling**						
Contaminant	***# detects***	***# samples***	***min***	***max***	***Region IX PRGs***	
					Residential	***Industrial***
1,4-dioxane (ppb)	*1*	*86*	*830*	*24,000*	*44*	*2,200*
benzene (ppb)	*68*	*133*	*1*	*15,000*	*650*	*1,500*
benzo(a)anthracene (ppb)	*111*	*133*	*19*	*45,000*	*620*	*2,900*
benzo(a)pyrene (ppb)	*111*	*133*	*23*	*29,000*	*62*	*290*
benzo(b)fluoranthene (ppb)	*106*	*133*	*19*	*27,000*	*620*	*2,900*
chloroform (ppb)	*2*	*86*	*2*	*240*	*240*	*520*
dibenz(a,h)anthracene (ppb)	*88*	*133*	*30*	*15,000*	*62*	*290*
antimony (ppm)	*82*	*134*	*0.14*	*38.6*	*31*	*820*
arsenic (ppm)	*134*	*134*	*1.2*	*75*	*0.39*	*2.7*
lead (ppm)	*165*	*165*	*2.5*	*728*	*400*	*750*

*TPI Petroleum RFI, 2000

*Results of Sub-surface Soil Sampling**						
Contaminant	***# detects***	***# samples***	***min***	***max***	***Region IX PRGs***	
					Residential	***Industrial***
1,4-dioxane (ppb)	*1*	*88*	*3,030*	*50,000*	*44*	*2,200*
benzene (ppb)	*85*	*135*	*1*	*12,000*	*650*	*1,500*
benzo(a)anthracene (ppb)	*82*	*134*	*24*	*20,000*	*620*	*2,900*
benzo(a)pyrene (ppb)	*77*	*134*	*18*	*20,000*	*62*	*290*

*Results of Sub-surface Soil Sampling**						
Contaminant	***# detects***	***# samples***	***min***	***max***	***Region IX PRGs***	
					Residential	***Industrial***
benzo(b)fluoranthene (ppb)	*68*	*134*	*30*	*9,400*	*620*	*2,900*
chloroform (ppb)	*11*	*135*	*1*	*2,000*	*240*	*520*
dibenz(a,h)anthracene (ppb)	*52*	*134*	*39*	*4,400*	*62*	*290*
arsenic (ppm)	*134*	*134*	*0.89*	*15.1*	*0.39*	*2.7*
lead (ppm)	*165*	*165*	*1.9*	*874*	*400*	*750*

**TPI Petroleum RFI, 2000*

[D] Surface water contamination may occur via storm water runoff from process areas, direct groundwater discharge to the river, and NPDES permitted discharge. However, contamination in surface water is not known or reasonably expected to exceed applicable standards for any contaminants. Results of data from a 1990 Surface Water and Sediment Characterization Report indicate levels of contamination, upstream, downstream, at the facility's outfall. The river was sampled on a seasonal quarterly basis to determine characteristics over time. Trace heavy metals and organic contaminants were found in both upstream, downstream, and at the facility's discharge point as provided in the tables below.

*Results of Fall 1989 Surface Water Sampling at the facility**							
Contaminant	***Surface***			***Mid-Depth***			***MCL***
	Up	***Dis***	***Down***	***Up***	***Dis***	***Down***	
Xylene (ppb)	*2*	*-*	*-*	*-*	*-*	*.6*	*10,000*
Trichloroethylene (ppb)	*5.1*	*5.2*	*4.8*	*-*	*-*	*-*	*5*
Toluene (ppb)	*5.5*	*6.0*	*-*	*-*	*-*	*-*	*1,000*
Carbon Tetrachloride (ppb)	*-*	*3.3*	*-*	*-*	*-*	*-*	*5*
Mercury (ppm)	*.0003*	*-*	*-*	*.0003*	*.0002*	*-*	*.002*
Barium (ppm)	*-*	*0.4*	*0.3*	*0.3*	*0.3*	*0.4*	*2*
Lead (ppm)	*-*	*-*	*-*	*.063*	*.032*	*.08*	*.015*
Nickel (ppm)	*-*	*-*	*-*	*.14*	*.13*	*-*	*-*

**Surface Water & Sediment Characterization Report, 1990*

*Results of Winter1989/1990 Surface Water Sampling at the facility**							
Contaminant	***Surface***			***Mid-Depth***			***MCL***
	Up	***Dis***	***Down***	***Up***	***Dis***	***Down***	
Xylene (ppb)	-	-	*4J*	*1J*	-	*18*	*10,000*
Ethyl benzene (ppb)	-	-		-	-	*4J*	*700*
Chloroform	*1J*	*1J*	*1J*	*1J*	-	-	*0.1***
Chromium	-	-	-	*.0052*	*.0072*	-	*0.1*
Mercury (ppm)	-	-	-	-	-	*.00054*	*.002*
Barium (ppm)	*.138*	*.134*	*.140*	*.138*	*.137*	*.138*	*2*
Lead (ppm)	*.003*	*.003*	*.0068*	*.0038*	*.0124*	*.0126*	*.015*
Nickel (ppm)	-	-	*.0209*		*.048*	*.0488*	-
Vanadium	-	-	-	*.0101*	*.0113*	-	-

Surface Water & Sediment Characterization Report, 1990
** Total Trihalomethanes*

*Results of Spring 1990 Surface Water Sampling at the facility**							
Contaminant	***Surface***			***Mid-Depth***			***MCL***
	Up	***Dis***	***Down***	***Up***	***Dis***	***Down***	
Barium (ppm)	*0.182*	*0.173*	*0.169*	*0.185*	*0.165*	*0.183*	*2*
Lead (ppm)	-			*.0137*	*.0152*	*.0103*	*.015*
Nickel (ppm)	-				*.0424*	*.0342*	-

Surface Water & Sediment Characterization Report, 1990

*Results of Summer 1990 Surface Water Sampling at the facility**							
Contaminant	***Surface***			***Mid-Depth***			***MCL***
	Up	***Dis***	***Down***	***Up***	***Dis***	***Down***	
Barium (ppm)	*0.146*	*0.150*	*0.153*	*0.148*	*0.152*	*0.158*	*2*
Lead (ppm)	*0.005*			*0.063*	*0.0074*	*0.0102*	*0.015*
Nickel (ppm)	*0.0188*	*0.0193*		*0.022*	*0.026*	*0.0443*	-

Surface Water & Sediment Characterization Report, 1990

[E] *Sediments located at the facility have not been documented in excess of standards for the contaminants found at the facility. Sediment data exists from a 1990 Surface Water & Sedimentation Characterization Report. This report characterizes sediment samples taken upstream, downstream, and at the facility's discharge point into the Walnut River. Xylene, benzene, ethylbenzene, chlorobenzene, Di(N)Butylphthalate, Barium, Chromium, Lead, and Nickel. As depicted below, it appears that minor contamination of sediments is found in the vicinity of the facility, however none of the samples exceeded EPA Region IX's PRGs for residential soil. MCLs for water are also shown for comparative purposes.*

Results of 1989 Sediment Sampling at the facility*					
Contaminant	***Upstream***	***Discharge***	***Downstream***	***Reg IX PRG (Res.)***	***MCL***
Xylene (ppb)	*9.9*	*6.2*	*2.4*	*210,000 ppb*	*10,000 ppb*
Benzene (ppb)	*ND*	*0.7*	*ND*	*650 ppb*	*5 ppb*
EthylBenzene (ppb)	*1.7*	*ND*	*ND*	*230,000 ppb*	*700 ppb*
Chlorobenzene (ppb)	*1.8*	*ND*	*ND*	*150,000 ppb*	*100 ppb*
Di(N) Butylphthalate (ppb)	*0.7*	*3.2*	*0.9*	*6,100,000 ppb*	-
Barium (ppm)	*100*	*120*	*100*	*5,400*	*2 ppm*
Chromium (ppm)	*10*	*10*	*12*	*2,100 ppm*	*0.1 ppm*
Lead (ppm)	*23*	*31*	*8*	*400 ppm*	*.015 ppm*
Nickel (ppm)	*ND*	*ND*	*.09*	*1,600 ppm*	-

**Surface Water & Sediment Characterization Report, 1990*

Footnotes:

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	No	**Yes**	No	**Yes**	No	No	No
~~Air (indoors)~~							
Soil (surface, e.g., <2 ft)	No	**Yes**	No	**Yes**	No	**Yes**	No
~~Surface Water~~							
~~Sediment~~							
Soil (subsurface e.g., >2 ft)	No	**Yes**	No	**Yes**	No	No	No
~~Air (outdoors)~~							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated") as identified in #2 above.

2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

_____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

__X__ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

_____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

A direct and complete pathway exists for worker and construction worker exposure to groundwater at the facility. the facility currently operates a groundwater treatment system that recovers free product from groundwater. Workers who operate this system may be expected to come in contact with groundwater in day-to-day operation of the system. Likewise, any construction workers that may install additional monitoring wells or extraction wells at the facility may also be expected to come in contact with groundwater during well installation and development. It is unlikely that any other direct exposure pathways exist for groundwater/worker contact at the site. No direct and/or complete pathway is expected for residents as ground water flows northeasterly towards the Walnut River and away from residences found to the west of the facility. Additionally, residents of Arkansas City utilize surface water, and no drinking water wells are found in the immediate vicinity of the facility (RFI, 2000). No day care facilities are located on site and site reconnaissance of the immediate neighborhood surrounding the facility found no day care facilities (Memo: Total Petroleum Trip Report, 2001 (EPA, 2001)). The facility is entirely enclosed by fencing, and site reconnaissance during a visit to the site found no indications of trespassing at the site (EPA, 2001). Additionally groundwater wells are locked. Accordingly, no direct and/or complete pathway exists for contaminated groundwater to reach trespassers. The only observed incidences of a possible complete pathway to recreation was identified by a seeps from groundwater to surface water at two locations at the facilities boundary. Sheet piling was installed at both of these areas, and currently a free-product recovery system is operated which captures ground water for treatment. Evaluation during a site visit and during the conduct of the RFA did not identify contamination in either of these areas (EPA, 2001, RFA 1992). Accordingly, no direct and/or complete pathway exists for contaminated groundwater to reach humans via recreational sources. No aboveground or belowground vegetables, crops, or fruit bearing trees were found at the facility which would be exposed to contaminated soil. The site reconnaissance also did not identify any farms in the immediate vicinity of the facility where humans might be exposed to contaminated groundwater, and as indicated previously ground water flows northeasterly towards the Walnut River and away from residences found to the west of the facility.

A direct and complete pathway exists for worker and construction worker exposure to surface soil and subsurface soil at the facility. No active refinery activities currently take place at the facility, with the exception of asphalt storage. The facility is undergoing demolition activities for all existing former refinery processes. Workers and construction workers can be expected to be exposed to surface soil during both remediation activities and demolition activities. Residences are located to the west of the facility boundary, however background samples taken at the western borders of the facility did not indicate contamination. Additionally, groundwater flow is northeasterly to easterly in the vicinity of the facility, so there is no reasonable expectation that contaminants may have migrated to subsurface soils under residences via the groundwater. No day care facilities are located on site and site reconnaissance of the immediate neighborhood surrounding the facility found no day care facilities. The facility is entirely enclosed by fencing, and site reconnaissance during a visit to the site found no indications of trespassing at the site. There is a remote but complete pathway for contaminated surface soil to reach recreation activities such as hunting, fishing, and boating. The majority of the facility is either covered by concrete (in older process areas) while most other areas are covered with local ground cover.

However, some areas do witness exposed soil, and future demolition activities are likely to continue to expose such soil along the southern and eastern perimeter of the facility which may be blown via strong winds (the prevailing wind is from the south at an annual mean speed of 13 mph) to either the north and recreation activities on the Walnut River, or to the south and recreation activities in the Kaw Wildlife Reserve. Subsurface soil does not have the same direct and complete pathway for contaminants to reach recreation sources. No aboveground or belowground vegetables, crops, or fruit bearing trees were found at the facility which would be exposed to contaminated soil. The site reconnaissance also did not identify any farms in the immediate vicinity of the facility which might be exposed to contaminated surface soil should wind deposited surface soil be carried off-site. Accordingly, no direct or complete pathway currently exists for contaminated surface or subsurface soil to reach food

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

4 Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

____ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

__X__ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

While an exposure pathway exists for surface soil contaminants to reach recreational sources, this exposure can not be reasonably expected to be significant as it is unlikely to exceed in either intensity, frequency or duration, acceptable contaminant levels. Additionally, as noted in Section 3, the only reasonably complete exposure pathway to recreational sources is surface soil, thereby negating the cumulation of contaminants from multiple exposure pathways.

Although groundwater contamination exceeds MCLs for several contaminants, worker or construction worker exposure to contaminants in ground water is expected to be insignificant. Due to the nature of ongoing work and remediation, any exposure can reasonably be expected to be incidental and consist primarily of dermal contact. However, worker and construction worker exposure to contaminants in surface soil and subsurface soil may be expected to be significant. Sampling data from the RFI indicates that contaminant levels may exceed Risk Based Standards for several contaminants. Since workers and construction workers are expected to continue demolition and remediation activities at the site, there exists the potential for significant exposure to soil and subsurface soil.

[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially

"unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

5 Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

__X__ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

_____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s):

As previously indicated, any significant exposures that are expected to occur at the facility are likely to be associated with future remediation and corrective action activities and current interim measures work. Sampling data from the RFI indicates that contaminant levels may exceed MCLs or Risk Based Standards for several contaminants, which are likely to be encountered during remediation activities. As part of these activities, the facility will be required to develop and submit to EPA for approval, a Health and Safety Plan (HSP) that will address exposure to potential contaminants during remediation. All future remediation work at the facility will be conducted in accordance with this HSP. Adherence to this HSP will ensure that any exposure to contaminants of concern will be therefore acceptable, and will not expose either workers or construction workers to levels of contaminants without proper protection. All current work is in accordance with an existing HSP for interim measures activities.

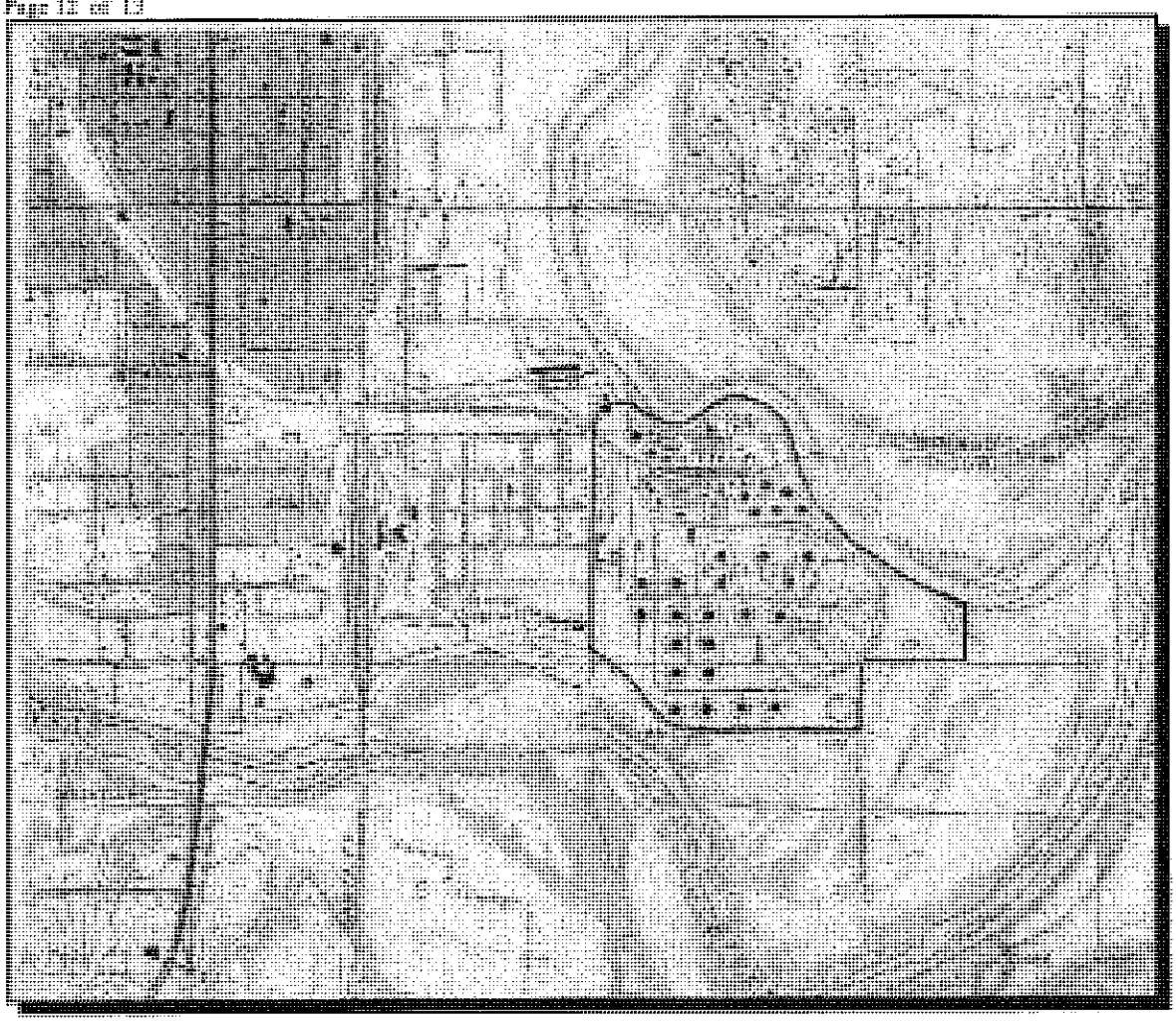
6. Check the appropriate RCRA Info status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

__X__ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the TPI Petroleum facility, EPA ID #KSD087418695, located at Arkansas City, Kansas under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

____ NO - "Current Human Exposures" are NOT "Under Control."

____ IN - More information is needed to make a determination.

Completed by original signed by Date January 8, 2002
Jeffery Scott Robichaud
Environmental Engineer



Map of
Total Petroleum Facility, Arkansas City, Kansas

Supervisor original signed by Date January 8, 2002
John Smith
Chief, RCAP Branch
Region 7

Locations where References may be found:

The referenced documents may be found in the EPA Region 7 RCRA Records center and at the Kansas Department of Health and Environment.

Contact telephone and e-mail numbers:

Jeffery S. Robichaud

913-551-7146
robichaud.jeffery@epa.gov

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

Kansas Permit No.: I-WA18-PO02

Federal Permit No.: KS-0000434

KANSAS WATER POLLUTION CONTROL PERMIT AND
AUTHORIZATION TO DISCHARGE UNDER
THE NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM

Pursuant to the Provisions of Kansas Statutes Annotated 65-164 and 65-165, the Federal Water Pollution Control Act as amended, (33 U.S.C. 1251 et seq; the "Act"),

Owner:	TPI Petroleum, Inc.
Owner's Address:	P.O. Box 696000 San Antonio, TX 78269
Facility Name:	TPI Petroleum, Inc.
Facility Address:	1400 South M Street Arkansas City, Kansas 67005
Facility Location:	SE¼ Section 32, Township 34S, Range 4E; Cowley County, Kansas
Receiving Stream:	Walnut River, Walnut River Basin

is authorized to discharge from the wastewater treatment facility described herein, in accordance with effluent limitations and monitoring requirements as set forth herein.

This permit shall become effective January 1, 2002, will supersede all previous wastewater permits and/or agreements in effect for the facility described herein between the Kansas Department of Health and Environment and the permittee, and will expire December 31, 2005.

FACILITY DESCRIPTION:

This is a former oil refinery now being operated as an asphalt storage and distribution terminal. Contaminated groundwater from oil recovery system, boiler blowdown, laboratory wastewater and storm water runoff from process areas is treated in a wastewater treatment system prior to discharge.

The wastewater treatment system consists of: an influent screen, lift station (formerly the API separator), two oil/water separation tanks operated in parallel, pH adjustment before and after oil/water separation, one extended aeration bio-reactor tank with one backup bio-reactor tank, and a series of four facultative lagoons. Alternatively, bio-reactor effluent may be routed through an aerated pond 3B. Design flow is 1.75 mgd.

Continued on next page

Secretary, Kansas Department of Health and Environment

December 20, 2001
Date

FACILITY DESCRIPTION Continued

Industrial storm water runoff is managed according to a storm water pollution prevention plan to ensure the quality of the storm water discharge is in compliance with the surface water quality. Domestic waste is discharged to the city sanitary sewer system.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in this permit. The effluent limitations shall become effective on the dates specified herein. Such discharges shall be controlled, limited, and monitored by the permittee as specified. There shall be no discharge of floating solids or visible foam in other than trace amounts.

Monitoring reports shall be submitted monthly, on or before the 28th day of the following month. In the event no discharge occurs, written notification is still required.

ABBREVIATIONS USED: BOD_5 = Biological Oxygen Demand 5 days;

Effective Date	EFFLUENT LIMITATIONS Final Upon Issuance		MONITORING REQUIREMENTS	
Outfall Number and Effluent Parameter(s) Units	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
001 - Discharge to Walnut River from #4 Oxidation Pond (at the weir)				
Flow - MGD	Monitor	Monitor	Daily	Weir
Sulfate [2] - mg/L	Monitor	Monitor	Monthly	grab
Chloride [2] - mg/L	Monitor	Monitor	Monthly	grab
BOD_5 [2] - mg/l	15	23	Monthly	grab
Total Suspended Solids [2] - mg/l	41	62	Monthly	grab
Fluoride [2] - mg/l		11	Monthly	grab
Whole effluent toxicity	See Supplemental Condition #1		Annually	grab
Benzene, Final - µg/l	2.6	3.9	Monthly [1]	grab
Interim until January 31, 2004	5	7.5		
Oil & grease - mg/l	5	7.5	Monthly [1]	grab
Total Lead [2] - µg/l	Monitor	Monitor	Monthly	grab
pH - Standards Units	Between the range 6.0 to 9.0		Monthly [1]	grab
Ammonia (as N) - mg/l			Monthly [1]	grab
Dec. thru February	10	10		
March	6.8	10		
April	6	9		
May	5	7		
June & September	3	5		
July & August	2.5	4		
October	5.7	9		

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

November 9 10

[1] At the start of operation of the treatment system; or after a modification to the wastewater treatment system which is likely to affect the quality or quantity of the discharge; or if the discharge fails to meet the permit limits, all parameters marked "[1]" shall be sampled weekly until the discharge is in compliance for at least four (4) consecutive weeks. Monthly monitoring may be resumed thereafter. The term "operation" as used above shall mean discharge from the treatment system.

[2] After monitoring for full twelve months, KDHE may agree to waive further monitoring for any of these parameters if the monitoring data indicates no reasonable potential exists to violate permit limitations or cause potential adverse impacts to the environment. Also, KDHE may modify this permit to include permit limits for any parameter for which the monitoring data indicates reasonable potential exists which could cause adverse impacts to the environment

B. STANDARD CONDITIONS

In addition to the specified conditions stated herein, the permittee shall comply with the attached Standard Conditions dated August 1, 1996.

C. SCHEDULE OF COMPLIANCE

None

D. SUPPLEMENTAL CONDITIONS

1. Whole Effluent Toxicity:

a. Chronic Whole Effluent Toxicity (WET) testing shall be conducted once within 180 days from the issuance of this permit and then annually. The No Observed Effect Concentration, NOEC, shall be equal to or greater than 43% effluent. Test results less than 43% are violations of this permit. The test procedures shall be in accordance with the EPA document, Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, third edition, July 1994, (EPA/600/4-91/002) using test organisms *Pimephales promelas* (fathead minnow) and *Ceriodaphnia dubia* (water flea) within a dilution series containing and surrounding the NOEC provided above. KDHE reserves the right to increase testing frequency based upon compliance history and toxicity testing results.

b. If the WET test results indicate the NOEC is equal to or greater than 43% effluent, the effluent has passed the toxicity test and the test report shall be due with the next scheduled Discharge Monitoring Report.

D. SUPPLEMENTAL CONDITIONS (Continued)

c. If the WET test results indicate the NOEC is less than 43% effluent, the effluent has failed the toxicity test and the permittee shall immediately notify KDHE by telephone at (785) 296-5517 and submit to KDHE a copy of the test report within five days of receipt of the information. KDHE reserves the right to require the permittee to take such actions as are reasonable to identify and remedy any identified or predicted toxic conditions in the receiving stream outside of the mixing zone which is caused by the permittee's effluent.

d. The Permittee shall coordinate sampling for this test with other requirements of this permit. The permittee shall use a laboratory approved by KDHE for Whole Effluent Toxicity testing as well as all other permit monitoring parameters as required by the attached standard conditions.

2. Changes in Discharges of Pollutant Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 µg/l);

(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application.

b. That any activity has occurred or will occur which result in any discharge, on a non-routine or infrequent basis, of a pollutant which is not limited in the permit if that discharge will exceed the highest of the following notification levels".

(1) Five hundred micrograms per liter (500 µg/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application.

3. In the event the Environmental Protection Agency amends or promulgates the BPT, BAT, and/or BCT effluent guideline limitations for a specific

D. SUPPLEMENTAL CONDITIONS (Continued)

Point Source Category or any of the subcategories covering your industry, this permit will be modified to incorporate the new limitation(s).

4. The use of earthen lagoons for the handling and treatment of certain types of industrial wastes is currently being reevaluated by the Kansas Department of Health and Environment. This is an ongoing effort resulting from increased emphasis, at both the state and federal level, in addressing source control as a mechanism for eliminating or minimizing the potential for groundwater contamination. The facility addressed by this permit has yet to be fully evaluated. As such, the Department may require the installation of groundwater monitoring wells or other necessary improvements to the wastewater handling and disposal system. The permittee will be notified and consulted concerning any monitoring well installation requirements or possible lagoon system modifications at a later time. The installation of any monitoring wells or any modifications to the wastewater system will require coordination with all KDHE bureaus and prior approval by the Department.

5. Toxic Substances - Water Treatment Additives. If the permittee utilizes or changes water treatment additives:

   a. After the mixing zone provided by Kansas Water Quality Standards, the discharge of water treatment additives shall not be harmful to human, animal or plant life uses in the receiving water, as determined by laboratory testing or by field bioassessment procedures approved by KDHE.

   b. The permittee shall keep an ongoing log of the water treatment chemicals used, their potential concentration in the facility discharge, and the associated toxicity data for each chemical. A sample chemical additives evaluation log can be obtained from KDHE.

   c. The permittee shall provide KDHE, upon request, toxicity tests and/or a chemical additives evaluation log the permittee uses to determine if the requirements in the paragraphs above are being achieved. In the event the data indicate the requirements in the paragraphs above are not achieved, KDHE reserves the right to amend the facility's NPDES permit to specify additional terms and conditions for toxic substances.

6. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301 (b)(2), (C), and (D), 304 (b)(2), and 307 (a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

   a. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit, or

D. **SUPPLEMENTAL CONDITIONS** (Continued)

b. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

7. The permittee shall notify the Department and apply for a permit modification one hundred and eighty (180) days in advance of any facility or process changes which may alter the present quality or quantity of the discharge.

8. This permit does not authorize any discharge of storm water associated with construction activity at this facility.

9. The permittee shall develop and implement, within one year of the effective date of this permit, a storm water pollution prevention (SWP2) plan in accordance with the **ATTACHMENT A**.

ATTACHMENT A

STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS AND GUIDELINES

The permittee shall develop and implement within one year of the effective date of this permit, a storm water pollution prevention plan (SWP2 plan) which is specific to the industrial activities and site characteristics occurring at the location described in this Permit. The permittee shall fully implement the provisions of the SWP2 plan required under this permit as a condition of this permit.

The purpose of the SWP2 plan is: to ensure the design, implementation, management, and maintenance of "Best Management Practices" (BMPs) in order to reduce the amount of pollutants in storm water discharges associated with the industrial activities at the facility.

The SWP2 plan shall evaluate BMPs from each of three major classes: managerial/administrative; structural controls; and non-structural controls.

The permittee shall evaluate, select, install, utilize, operate, and maintain the BMPs in accordance with the concepts and methods described in Environmental Protection Agency (EPA) document number EPA 832-R-92-006, entitled ***Storm water Management for Industrial Activities*** - *Developing Pollution Prevention Plans and Best Management Practices*, published in September, 1992[1]; and the U.S. Environmental Protection Agency's *Final NPDES Storm Water Multi-Sector General Permit for Industrial Activities*; Notice dated Sept. 29, 1995, and subsequent modifications.

The permittee shall have the SWP2 plan prepared by, or under the supervision of, and sealed by a Kansas licensed professional engineer. The SWP2 plan shall be reviewed and re-certified for compliance with accepted engineering standards for storm water pollution prevention at least once every five years. The Plan shall contain, at a minimum, the following items:

1. Pollution Prevention Team - Specific individual(s) shall be identified within the facility organization as members of a Storm Water Pollution Prevention Team who are responsible for developing, implementing, maintaining and revising the Plan. Each member's responsibilities shall be clearly identified in the Plan. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

2. Description of potential pollutant sources - pollutant sources which may reasonably be expected to add significant amounts of pollutants to the storm water discharge shall be described. The description shall include, at a minimum:

   a. Map - a site map identifying: the outline drainage areas of each storm water outfall; the location of: significant materials exposed to precipitation; storage tanks; scrap yards and general refuse areas; fuel storage and distribution areas; vehicle and equipment maintenance and storage areas; loading/unloading areas; waste treatment, storage or disposal areas; short and long term material storage areas (including but not limited to: supplies, construction materials, plant equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizers, and pesticides); landfills; construction sites; stock piles; major spills or leaks; surface water bodies; and existing structural control measures to reduce pollutants in storm water runoff (such as bermed areas, grassy swales, etc.).

   b. Inventory of Exposed Materials - a narrative description of: significant materials handled, treated, stored, leaked, spilled, or disposed of, in a manner to allow exposure to storm water within the period starting 3 years prior to the date of this permit; existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and any treatment the storm water receives. A list of significant spills and leaks of toxic /hazardous materials in exposed areas shall be maintained and kept updated.

   c. Sampling Data - a summary of existing sampling data.

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[1] The EPA Manual entitled *Storm water Management for Industrial Activities - Developing Pollution Prevention Plans and Best Management Practices*, and the *Final NPDES Storm Water Multi-Sector General Permit for Industrial Activities*; Notice dated Sept. 29, 1995 are available through the EPA Water Resources Center, at (202) 260-7786, e-mail waterpubs@epamail.epa.gov or the National Technical Information Services (NTIS). The NTIS publication number is PB92-235969. The NTIS order desk phone number is (800) 553-6847.

ATTACHMENT A (Continued)

d. Risk Identification and Summary of Potential Pollutant Sources - A narrative description of the potential pollutant sources and pollutant parameter of concern shall be identified.

3. Measures and Controls - A description of storm water management controls appropriate for the facility which addresses the following minimum components, including a schedule for implementing such controls to the extent practical:

a. Good housekeeping requiring the maintenance of areas in a clean, orderly manner including handling and storage areas (exposed to precipitation) for raw metals, scrap metals, fines, paints and other process areas.

b. Preventive Maintenance - Including timely inspection and maintenance of storm water management devices, like oil water separators, catch basins etc.

c. Spill Prevention and Response Procedures - Appropriate material handling procedure, storage requirements, use of equipment such as diversion valves, and procedures for cleaning up spills should be identified. Availability of the necessary equipment to implement a clean up should be addressed. The following areas should be addressed:

(1) Metal fabrication and finishing areas - include measures for maintaining clean, dry, orderly conditions and use of dry clean-up techniques;

(2) Receiving, Unloading and Storage Areas and Raw Material Storage Areas - include measures to prevent spills & leaks; easy access for spill clean-up; quick and correct identification of materials; and train employees on clean-up techniques.

(3) Storage of Equipment - include procedures for proper clean-up and/or covering of equipment before storing outdoors.

(4) Storage of Metal Working Fluids - measures to identify proper controls.

5. Cleaners and Rinse Water - Include measures to control spills, build-up and disbursement of sand from sand blasting, and use of less toxic cleaners.

(6) Lubricating Oils and Hydraulic Fluids - include procedures for using detecting and control devices to reduce, prevent, and contain leaks and overflows.

(7) Chemical Storage Areas - include program to inspect containers, and identify proper disposal and spill controls to prevent storm water contamination.

d. Inspections: Identification of qualified facility personnel to inspect at appropriate intervals designated equipment and storage areas for raw metal, finished product, materials and chemicals, recycling, equipment, paint, fueling and maintenance; and loading, unloading, and waste management areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained on-site for at least 3 years after the date of the inspection.

e. Employee Training: Employee training programs to inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management, at all levels of responsibility, of the components and goals of the storm water pollution prevention plan. The pollution prevention plan shall consider periodic dates for such training, but in all cases training must be held at least annually.

f. Record keeping and Internal Reporting Procedures: A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges, and inspections and maintenance activities shall be included in the plan.

g. Non-storm Water Discharges -include a certification that the discharge has been tested or evaluated for the presence of dry weather flows. The certification should include all potential significant sources of dry weather flows, all analytical data for quality and quantity of such flows, and signature of the authorized

ATTACHMENT A (Continued)

person. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the dry weather flow component(s) of the discharge.

h. Sediment and Erosion Control: Measures to minimize erosion in areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion. At a miuimum cousider structural, vegetative, and/or stabilization measures to limit erosion. Must include measures to miuimize erosion related to the high volume of traffic from heavy equipment for delivery to and from the facility and for equipment operating at the facility on a daily basis such as forklifts, cranes etc.

i. Management of Runoff: Describe and consider the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. Include that the measures that the permittee determines to be reasonable and appropriate should be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see Item 3.c) shall be considered when determining reasonable and appropriate measures to implement.

4. Comprehensive Site Compliance Evaluation - Qualified personnel shall conduct site compliance evaluations, at least once a year. Such evaluations shall provide for:

a. Visual inspection of areas contributing to a storm water discharge associated with industrial activity for evidence of, or the potential for, pollutants entering the drainage system. Evaluation of measures to reduce pollutant loadings to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. A visual evaluation of equipment needed to implement the plan, such as spill response equipment and contaiument drums, shall be made to determine it is functioning properly and drums are not corroded.

b. A report summarizing the scope of the evaluatiou, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and any actions taken shall be made and retained as part of the storm water pollution prevention plan. Where a report does not identify any incidents of noncompliance, a certification that the facility is in compliance with the storm water pollution prevention plan and this permit needs to be included in the plan.

5. Monitoring and Record Keeping Requirements.

a. Visual Examination of Storm Water Quality: The permittee shall perforin and document at least one visual examination of a storm water discharge associated with industrial activity from each identified storm water outfall. Visual examination reports shall be maintained in the Plan. Each report shall include the date and time, name of the person performing examination, nature of discharge (runoff or snow melt), visual quality of the discharge (i.e., color, odor, clarity, floating solids, suspended solids, foam, oil sheen, and other indicators of storm water pollution) and probable sources of any observed contamination.

b. To ensure the adequacy of the best management practices developed within the SWP2 Plan, the permittee needs to periodically monitor[2] the storm water discharges during wet weather events for potential contaminants which may reasonably be expected to be present in the discharge. Record of all storm water monitoring reports, unless otherwise indicated in this permit, shall be kept on file.

6. The Plan shall be re-evaluated and modified in a timely manner, but in no case more than twelve (12) weeks after:

a. a change in design, constructiou, operation or maintenance that has a significant effect on the potential for the discharge of pollutants to the waters of the State, or

b. the permittee's inspections (including the regular comprehensive site compliance evaluation required herein) indicate deficiencies in the SWP2 plan or any BMP; or

c. a visual inspection of contributing areas or a visual inspection of the storm water discharges or monitoring

[2]For sampling methods and procedures please refer to " ***NPDES STORM WATER SAMPLING GUIDANCE DOCUMENT, EPA 833-B-92-001***". This document can be obtained by calling the Storm Water Hotline (703) 821-4823 or the National Technical Information Service (NTIS) at (703) 487-4650.

ATTACHMENT A (Continued)

of the storm water discharges indicate the Plan appears to be ineffective in eliminating or significantly minimizing pollutants from sources identified in the Plan.

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DEC 1 0 2001
OF WASTE MANAGEMENT

Brenda B. Manterola
Project Manager
EH&S - Operations

December 4, 2001

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: **Evidence of Publication Notice for Class 2 Modification**
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:

On Wednesday, November 14, 2001 notice of the 60 day public comment period and upcoming public meeting for the pending class 2 permit modification was published in *The Arkansas City Traveler*. Pursuant to 40 CFR 270.42(b)(2) the attached provides evidence of this publication.

If you have any questions or require additional information, please contact me at (210) 592-4619.

Sincerely,

Brenda B. Manterola

cc: Jay Mednick, EnecoTech

The Arkansas City Traveler

Arkansas City, Kansas | 132nd Year, No. 75 | Wednesday, November 14, 2001 | 50 cents | 14 Pages

TPI Petroleum, Inc.
Announces a

60-DAY PUBLIC COMMENT PERIOD
and
PUBLIC MEETING

Wednesday, December 5, 2001
4:30 p.m. to 6:00 p.m.
Sunflower Credit Union
1610 North Summit
Arkansas City, Kansas

TPI Petroleum, Inc.. has submitted a permit modification request to the Kansas Department of Health and Environment (KDHE) to enhance the groundwater recovery system at the closed refinery located at 1400 South M Street, Arkansas City, KS.

The purpose of the meeting is to discuss issues relating to the permit modification request. Public comments on the proposed permit modification may be submitted in writing (postmarked no later than January 14, 2002) to:

Katherine Dunn, Hazardous Waste Permits Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366
(785) 296-6561

The permittee's compliance history during the life of the permit being modified is also available from the Agency contact person listed above.

Additional information regarding the reqnest may be viewed at the Arkansas City Public Library located 120 East 5th Avenue, Arkansas City, Kansas.

Additional information may also be obtained from Brenda Manterola at (210) 592-4619.

KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

November 16, 2001

Brenda Manterola
Ultramar Diamond Shamrock
P. O. Box 696000
San Antonio, Texas 78269-6000

Temporary Authorization Approval

Re: Temporary Authorization for Installation and Operation of Four Additional Recovery Wells
TPI Petroleum, Inc. - Arkansas City
EPA ID # KSD087418695

Dear Ms. Manterola:

The Kansas Department of Health and Environment (KDHE) has received your request, submitted on November 7, 2001, for a Class 2 permit modification and request for temporary authorization for the installation and operation of four (4) additional recovery wells. KDHE has reviewed the associated work plan submitted on November 5, 2001 and approves the request for temporary authorization in accordance with 40 CFR 270.42(e). This approval is based on the need to enhance the corrective action system. The period of this temporary authorization will be limited to 180 days from the initiation of the work plan.

Within 45 days of the completion of the well installation activities, replacement pages for the Part B Permit Application must be submitted to KDHE for review. The replacement pages must incorporate the new recovery wells into the corrective action program, detail the operation and maintenance requirements for the wells, and provide a revised cost estimate for corrective action and associated financial assurance. At the conclusion of the public comment period, KHDE will review the Class 2 modification request and associate replacement pages for the Part B Permit Application.

During this temporary authorization period, TPI is required to meet all applicable permit conditions and any other applicable state, federal and/or local requirements. If you have any questions regarding this letter, you may contact me at kdunn@kdhe.state.ks.us or (785) 296-6561.

Sincerely,

Katherine Dunn

Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section

cc: Jeff Robichaud - EPA Region 7/RCAP
Mark Bradbury - DEA/SCDO/Waste Program
Jay Mednick - Eneco Tech

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BUREAU OF WASTE MANAGEMENT

Brenda B. Manterola
Project Manager
EH&S - Operations

November 7, 2001

Overnight Express Mail

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: **Request for Temporary Authorization to Install and Operate Four Additional Groundwater Recovery Wells**
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:

TPI Petroleum, Inc. (TPI) is requesting temporary authorization to facilitate the timely construction of four additional groundwater recovery wells at its' Arkansas City, Kansas facility in accordance with 40 CFR 270.42 (e). The additional recovery wells are necessary to improve the operational efficiency of the groundwater corrective action system. Enclosed with this request for temporary authorization is a request for a Class II permit modification. A work plan for the installation of the four additional groundwater recovery wells will be provided under a separate cover.

If you have any questions about this request or require additional information, please contact me at (210) 592-4619 or Jay Mednick, EnecoTech, at (303) 861-2200.

Sincerely,

Brenda B. Manterola

cc: Harold Green, UDS
Jay Mednick, EnecoTech
Jeffery Robichaud, EPA Region VII-Kansas City, KS

Ultramar Diamond Shamrock Corporation
6000 N. Loop 1604 W | San Antonio, Texas 78249-1112
210 592-4619 | 210 592-2304 fax
brenda_manterola@udscorp.com

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Brenda B. Manterola
Project Manager
EH&S - Operations

November 7, 2001

Overnight Express Mail

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

RECEIVED
NOV 08 2001
BUREAU OF WASTE MANAGEMENT

Re: **Class II Permit Modification Request**
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:

The purpose of this letter is to submit a request for a Class II permit modification (40 CFR 270.42 (b)(ii)) for the above referenced facility in accordance with Section IV.C.5 of the facility's post-closure care permit and 40 CFR 270.42 (b).

This permit modification request is for the installation of four additional corrective action groundwater recovery wells. These wells are needed to improve the operational efficiency of the groundwater corrective action system specified in the facility's hazardous waste management permit (40 CFR 270.42 (b)(iii)).

The following information will be updated after the installation of the new recovery wells:

- Part B permit application - Groundwater Sampling and Analysis Plan will be revised to reflect the addition of the four recovery wells;
- Part B permit application - Engineering Feasibility Plan will be revised to reflect the addition of the four recovery wells;
- Recovery Well Operation and Maintenance Plan;
- Permit Section IV.A Unit Description will need to be revised to indicate 10 recovery wells;
- Permit Section IV.C.1.a , Table 4 will need to be revised to include recovery wells RW-45, RW-55, RW-65 and RW-75; and,
- Permit Section IV.C.3.a. will need to be revised to reflect 10 wells.

If you have any questions about this request or require additional information, please contact me at (210) 592-4619 or Jay Mednich, EnecoTech, at (303) 861-2200.

Sincerely,

Brenda B. Manterola

cc: Harold Green, UDS
Jay Mednick, EnecoTech
Jeffery Robichaud, EPA Region VII-Kansas City, KS

Ultramar Diamond Shamrock Corporation
6000 N. Loop 1604 W | San Antonio, Texas 78249-1112
210 592-4619 | 210 592-2304 fax
brenda_manterola@udscorp.com

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

EnecoTech
STRATEGIES FOR ENVIRONMENTAL RESPONSIBILITY

November 5, 2001

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BUREAU OF WASTE MANAGEMENT

99-0138R017

Ms. Katherine Dunn
Chief, Corrective Action Facilities Unit
KDHE Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

Re: Recovery Well Construction Workplan
Proposed Recovery Wells: RW-45, RW-55, RW-65 and RW-75
TPI Petroleum, Inc. Arkansas City, Kansas
E.P.A. Identification Number: KSD 087418695

Dear Ms. Dunn:

TPI Petroleum, Inc. (TPI) has determined that four additional groundwater recovery wells at their Arkansas City, Kansas facility will improve the efficiency of the groundwater corrective action prescribed in Section IV.C of the facility's RCRA permit. This modification to the number of recovery wells established in Permit Condition IV.C.1 will require a Class II permit modification. The request for a Class II permit modification will be submitted separately.

This letter provides the workplan for the four additional recovery wells. The facility location is shown on Figure 1. The new recovery wells will be constructed to improve the operational efficiency of the groundwater corrective action system. The location of the proposed new recovery wells is illustrated on Figure 2. The addition of the four new recovery wells increases the number of corrective action recovery wells from six to 10.

The new recovery wells will be constructed in the uppermost aquifer at the site along the downgradient boundary of the waste management area. The uppermost aquifer occurs in the unconsolidated Quaternary-age alluvial deposits at the site. These deposits consist of clay, silt, sand, and gravel. The saturated zone is located within the permeable sand and gravel layers. For additional information on the hydrogeology, please refer to the Engineering Feasibility Plan (March 19, 2001).

Layne-Christensen, of Wichita, Kansas, has been contracted to construct the four new recovery wells. The new recovery wells will be constructed with 12-inch diameter schedule 40 PVC blank casing and 12-inch diameter, stainless steel, beveled 0.040-inch slot, wire wrap well screen. The proposed well construction diagrams for recovery wells RW-45, RW-55, RW-65 and RW-75 are shown on Figures 3, 4,

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5 and 6 respectively. The well screens will extend from above the water table, to intercept free product, to bedrock. A four-foot sump will be added to the bottom of the well screen for the pump installation.

PVC casing was selected for the new recovery wells. PVC is non-corrodible and will not contribute to iron fouling in the well. The PVC casing is also resistant to the chemicals used in the well treatment. The well casing diameter selected is 12-inches. Due to the PVC casing wall thickness, approximately 0.75-inches, the inside diameter of the well casing will be approximately 11.25-inches. Increasing the well casing diameter provides easier installation and removal of pump equipment for maintenance or replacement.

The borehole will be advanced using a reverse circulation drill rig. This technique will not require the use of bentonite drilling fluid. The borehole diameter will be approximately 26-inches between ground surface and bedrock. A 12-inch diameter borehole will be advanced approximately four feet into bedrock to accommodate a four-foot sump. Drill cuttings will be temporarily contained onsite while waiting on analytical results to determine the appropriate method of disposal. Water produced during the well construction activities will be managed in the facility's wastewater treatment system.

The annular space between the well screen and the borehole to four feet above the well screen, will be filled with 8-16 mesh silica sand pack. The remaining annulus will be grouted to the surface with a cement-bentonite grout.

Following construction the wells will be developed by bailing, surging and pumping.

EnecoTech personnel will provide health and safety oversight during the well construction.

The new wells will be connected to the existing water treatment and recovered product collection system. The water pumps and product pumps will be of the same type as those currently operating at the site. The new wells will each be equipped with 15-hp submersible pumps capable of pumping 250 gallons per minute. The new recovery wells will be connected to the existing subsurface piping and the recovered groundwater will be treated in the Bioreactor tank and oxidation pond system. ORS brand product recovery pumps will be installed in the new wells as needed. The product pumps will be connected into the existing product collection manifold and conveyed to Tank 7132. Overall, the pumping rate from the system is expected to remain similar to the current rate of approximately 1000 gallons per minute. The water treatment system is capable of handling increased flow rates as described in the Engineering Feasibility Plan.

The new recovery wells will be operated and maintained in accordance with the corrective action program permit conditions, included in Section IV.C of the permit.

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Please contact Brenda Manterola of Ultramar Diamond Shamrock at 210/592-4619 or me at 303/861-2200 if you require any additional information.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Enc. Figures 1-6

Cc: Harold Green, UDS
Brenda Manterola, UDS
Jeffery Robichaud, EPA Region VII-Kansas City, KS

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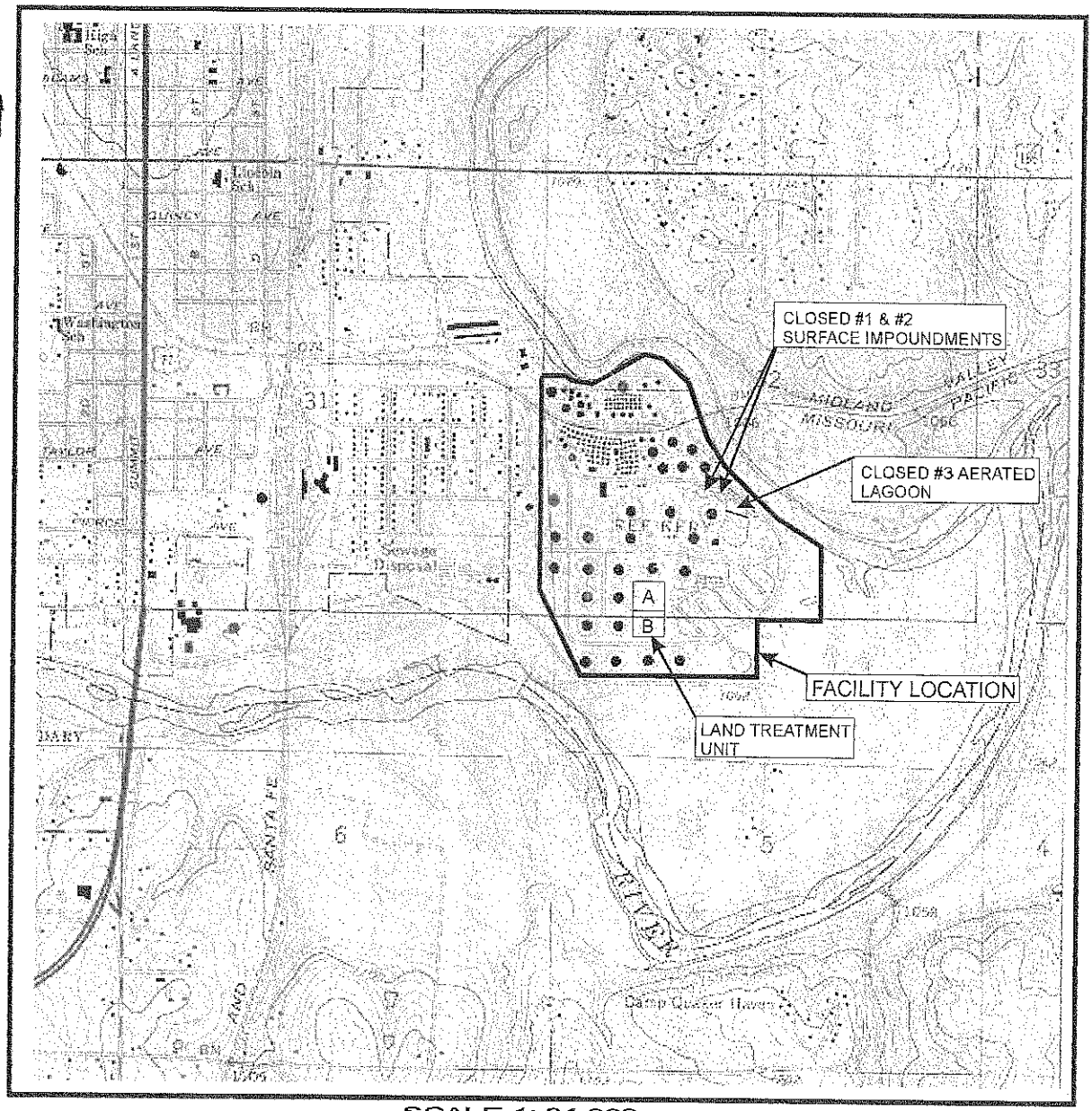

SCALE 1: 24,000

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1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

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NATIONAL GEODETIC VERTICAL DATUM OF 1929

ARKANSAS CITY, KANS.
N3700-W9700/7.5
1965
PHOTOREVISED 1979
AMS 6558 II SE-SERIES V878

QUADRANGLE LOCATION

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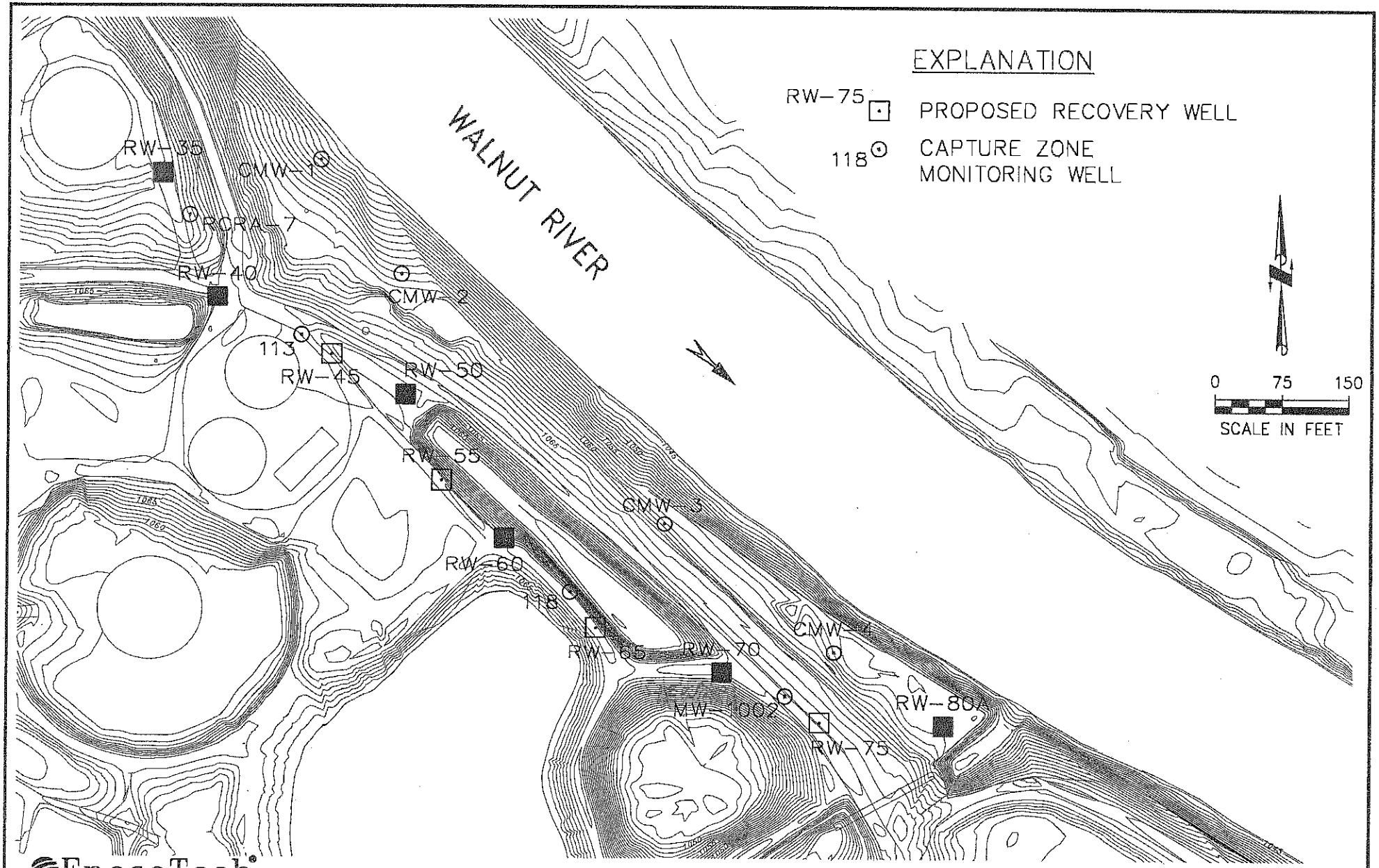
FIGURE: 1

SITE LOCATION MAP

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-011	DESIGNED BY: J F M	APPROVED BY:	
138R11F1.CDR	DRAWN BY: L K B	DATE: 2/25/97	REV:



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Project: ARKANSAS CITY REFINERY

TPI PETROLEUM, INC.
ARKANSAS CITY, KANSAS

RECOVERY WELL AND CAPTURE ZONE MONITORING NETWORKS

File No.: 138R-016	ACAD No.: CPZNTWRK2	Drawn: LKB	Designed: JFM	Checked:	Approved:	Date: 10/18/01	Rev.:	Figure No.: 2

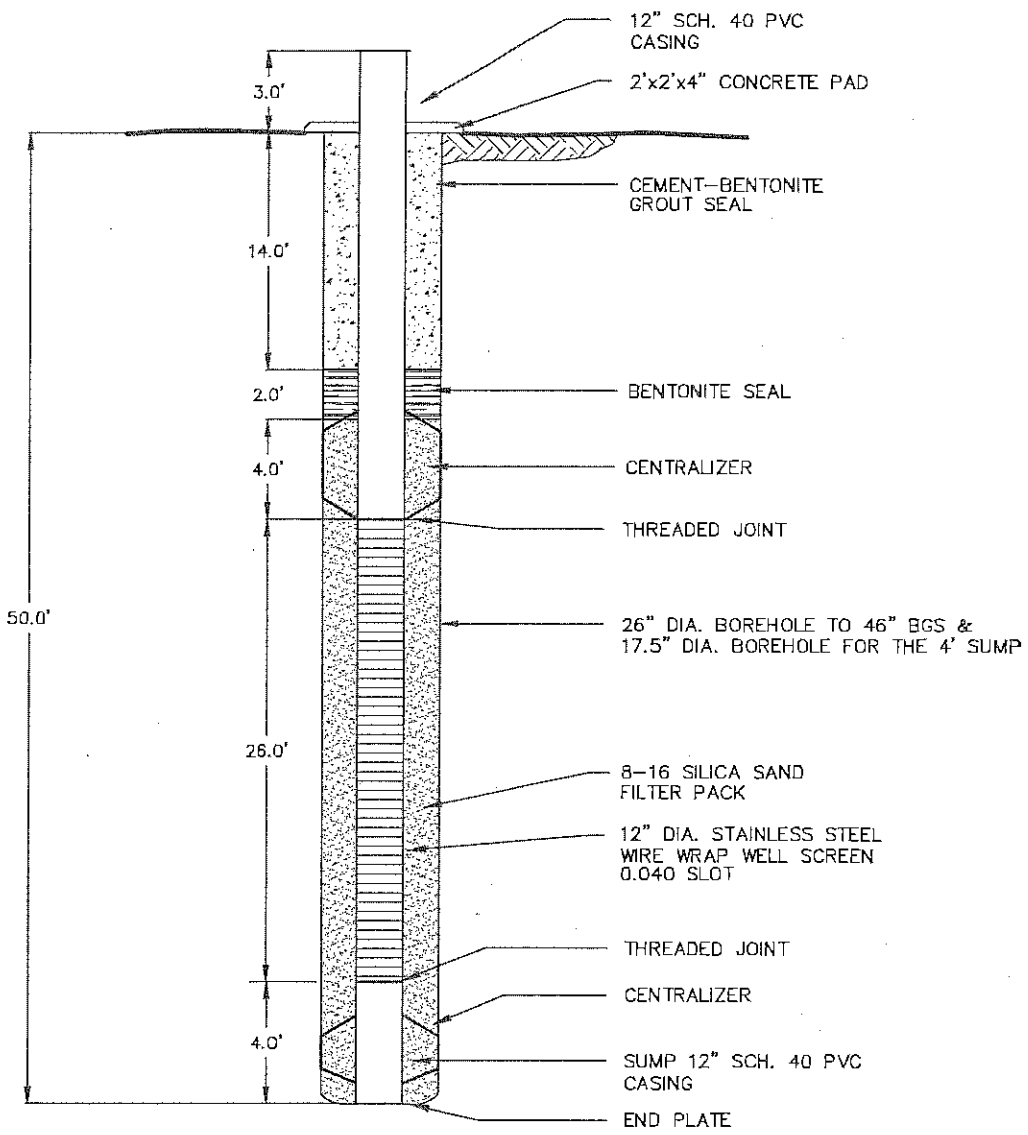

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Figure No.: 3

PROPOSED RECOVERY WELL RW-45

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-017	DESIGNED BY: JFM	APPROVED BY: JFM	
17-45_DM	DRAWN BY: LKB	DATE: 10/29/01	REV:

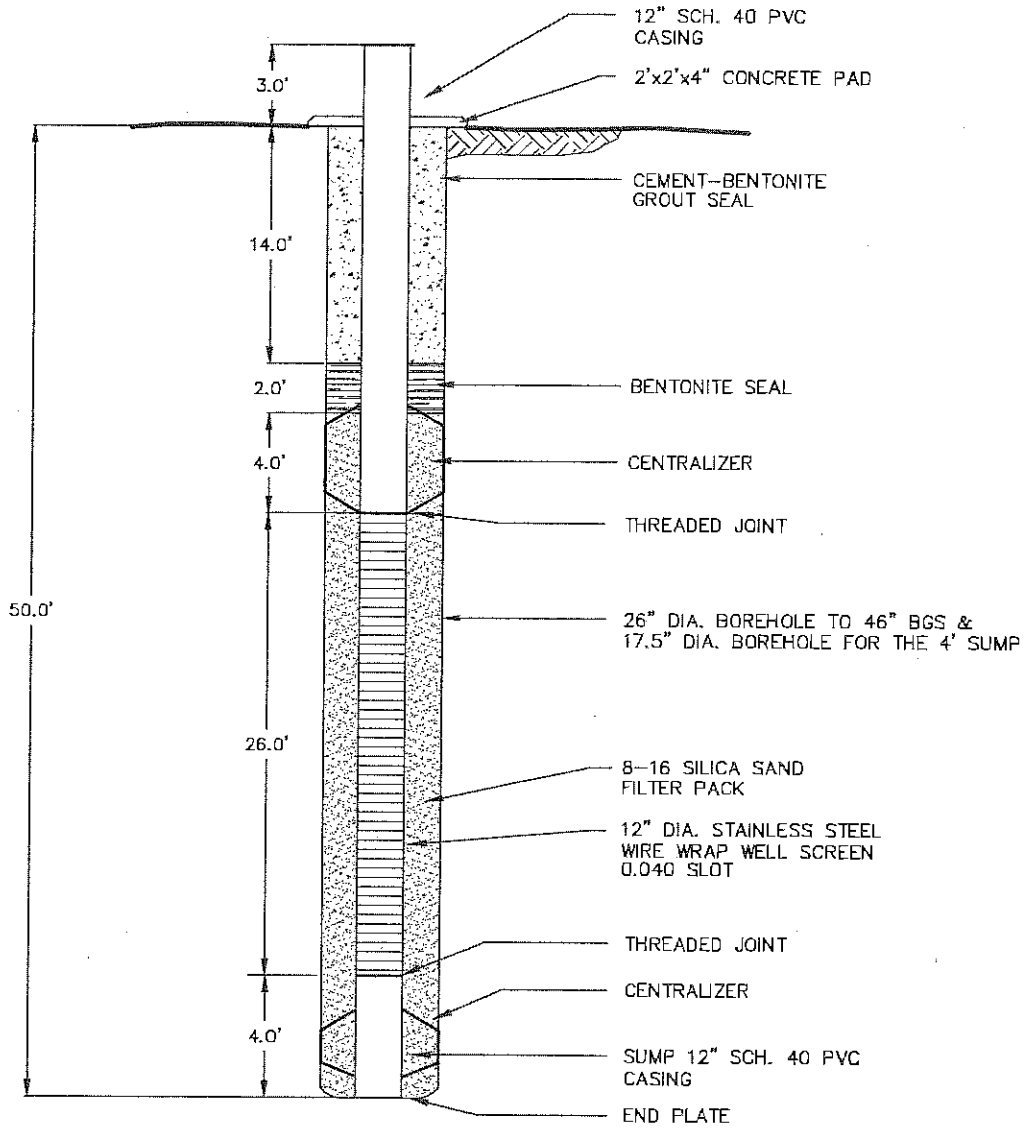

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Figure No.: 4

PROPOSED RECOVERY WELL RW-55

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY			
138R-017	DESIGNED BY: JFM	APPROVED BY: JFM	
17-55_DM	DRAWN BY: LKB	DATE: 10/29/01	REV.

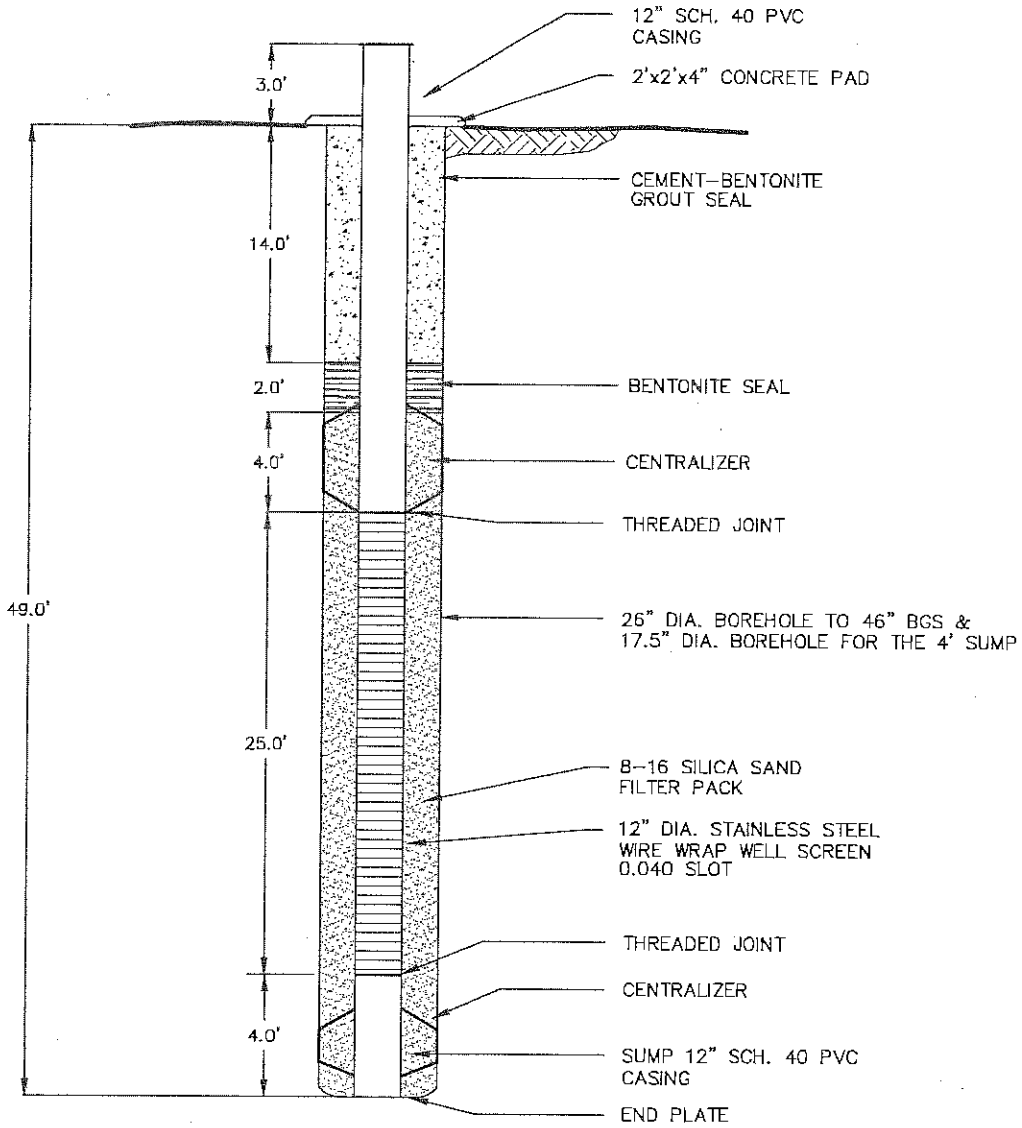

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Figure No.: 5

PROPOSED RECOVERY WELL RW-65

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-017	DESIGNED BY: JFM	APPROVED BY: JFM	
17-65_DM	DRAWN BY: LKB	DATE: 10/29/01	REV:

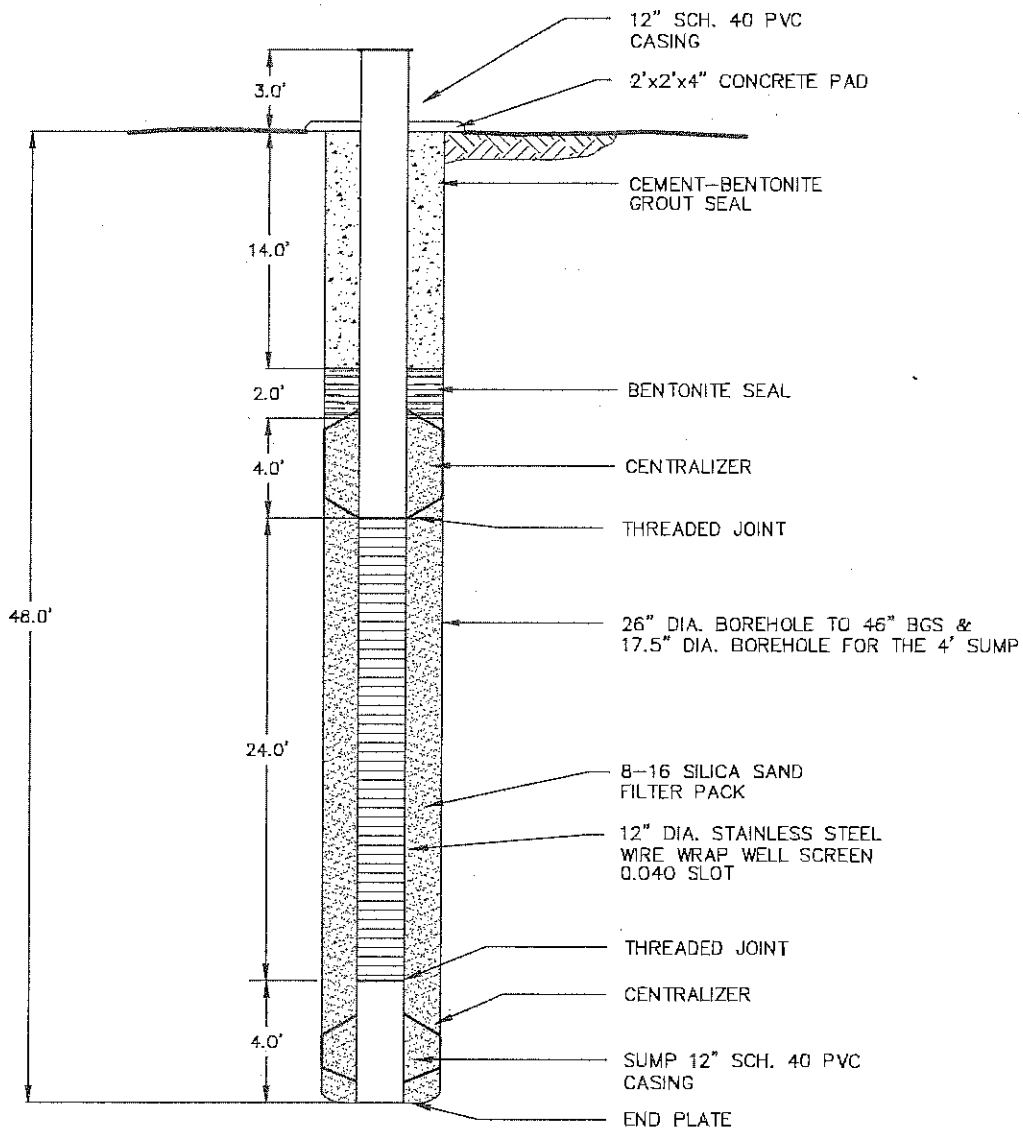

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Figure No.: 6

PROPOSED RECOVERY WELL RW-75

PROJECT: TPI PETROLEUM INC. – ARKANSAS CITY REFINERY

1388-017	DESIGNED BY: JFM	APPROVED BY: JFM	
17-7S_0W	DRAWN BY: LKB	DATE: 10/29/01	REV:

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KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

September 26, 2001

Brenda B. Manterola
Senior Environmental Coordinator
Ultramar Diamond Shamrock Corp.
P. O. Box 696000
San Antonio, Texas 78269-6000

Re: Monitoring Well Construction Workplans
Permit Condition IV.H.2.
TPI Petroleum, Inc., Arkansas City
EPA ID No. KSD087418695

Dear Ms. Manterola:

The Kansas Department of Health and Environment (KDHE) has reviewed the workplans dated August 23, 2001 and September 21, 2001 for the construction of monitoring wells MW-17 and 118 (Permit Condition IV.H.2.) and replacement wells RCRA-7, MW-1002, and 113. KDHE approves the construction of the above mentioned wells in accordance with the proposed workplans. In accordance with Permit Condition IV.C.5.d., the Secretary must be notified at least (5) working days prior to construction of the wells.

The well installations must be completed in accordance with the approved workplans by December 24, 2001. Since monitoring wells RCRA-7, MW-1002, and 113 are replacement wells, the former wells must be plugged and abandoned in accordance with K.S.A. 82a-1213 and K.A.R. 28-30-7. In accordance with Permit Condition IV.D.5.d., well plugging and abandonment methods and certification shall be submitted to the Secretary within thirty (30) days from the date the wells are removed from the corrective action program.

Following completion of the construction of these wells, the applicable page for the Part B Application must be submitted to KDHE within thirty (30) days, but no later than January 24, 2002. In addition, the information required in Permit Condition IV.D.1.b. must be submitted to KDHE with the March 2002 semi-annually report.

If you have any questions regarding this letter, you may contact me at (785) 296-6561. KDHE appreciates your cooperation in this matter.

Sincerely,

Katherine Dunn

Katherine Dunn
Environmental Scientist
Chief, Corrective Action Facilities Unit
Hazardous Waste Permits Section

cc: Ken Herstowski - EPA Region 7/ARTD/RCAP
Mark Bradbury - DEA/SCDO/Waste Program
Jay Mednick, P.G. - EnecoTech, Inc.

Enecotech Inc
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

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September 21, 2001

99-138R016

Mr. Max VanGaasbeek
Environmental Scientist
Hazardous Waste Facilities Unit
Bureau of Waste Management
Kansas Department of Health and Environment
Forbes Field, Building 740
Topeka, Kansas 66620-0001

RECEIVED
SEP 24 2001
BUREAU OF WASTE MANAGEMENT

Re: Monitor Well MW-17 Construction Workplan
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. VanGaasbeek:

The purpose of this letter is to present the workplan for the installation of groundwater monitoring well MW-17. Monitor well MW-17 is specified in the RCRA Part B Permit Application and Part 1 of the RCRA Hazardous Waste Management Facility Permit for the TPI Petroleum, Inc. (TPI) Arkansas City, Kansas Facility. Monitor well MW-17 is included in the corrective action performance monitoring well network and will be located downgradient of the Land Treatment Unit (LTU). The following information describes the hydrogeologic setting, well construction technique, and well design parameters.

Monitor well MW-17 will be constructed in the uppermost aquifer at the site downgradient of the LTU. The uppermost aquifer occurs in the unconsolidated Quaternary-age alluvial deposits at the site. These deposits consist of clay, silt, sand, chert, and limestone gravel. The saturated zone is located within the permeable sand and gravel layers. For additional information on the hydrogeology, please refer to the Engineering Feasibility Plan (March 19, 2001). The planned location for monitor well MW-17 is shown on Figure 2 of the Groundwater Sampling and Analysis Plan presented in Appendix P of the RCRA Part B Permit Application. A copy of Figure 2 is attached to this workplan. Groundwater level data from nearby monitoring wells (WN-8B and WN-3B) indicate that groundwater can be expected at 12-15 feet below ground surface at the location of monitor well MW-17.

Monitor well MW-17 will be constructed in a manner consistent with the other corrective action performance monitoring wells. The borehole will be advanced using the hollow stem auger (HSA) drilling technique. A six-inch inside diameter HSA will be used to provide additional annular space for the monitor well screen filter pack. The borehole will be sampled using either a split spoon sampler or a four or five foot long sample barrel. Soil samples will be collected down to the water table. Below the water table, soil samples will be collected from the drill cuttings. The soil lithology will be logged using the Unified Soil Classification System based upon visual observations in the field. A photoionization detector (PID) will be used to screen the soil samples and provide health and safety monitoring for the personnel constructing the monitor well.

The monitoring well has been designed to provide groundwater level elevations and representative

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groundwater samples. The groundwater level elevations will be used with elevation data from the other monitor wells to construct groundwater potentiometric surface contour maps to describe groundwater flow direction and aid in quantifying groundwater flow velocity. The groundwater samples will be used in conjunction with analytical data from the other corrective action performance monitoring wells to assess the performance of the corrective action system. The following lists the well construction specifications:

- Total well depth will be 32 feet;
- Screen length will be 15 feet;
- Blank casing length will be 20 feet (17 feet below ground and 3 feet stickup);
- Casing inside diameter will be two-inches;
- Casing and screen joints will be flush threaded (no glues or solvents will be used);
- Screen slot size will be 0.020-inches machine slotted;
- Casing and screen will be manufactured from schedule 40 PVC;
- A threaded end cap will be placed at the bottom of the well screen;
- Well screen filter pack will be 10-20 mesh silica sand;
- A three-foot diameter (or width) cement well apron will be constructed around the top of the well to prevent water from pooling at the well head;
- A steel, locking, well cover will be installed to protect the well and prevent unauthorized access;
- The well name will be clearly marked on the outside of the well casing; and,
- The coordinates of the well location and top of casing elevation will be surveyed by a licensed land surveyor. The well location will be surveyed to the nearest 0.1 feet and the casing elevation will be surveyed to 0.01 feet.

A schematic diagram of the well construction details is attached.

TPI would like to construct this monitor well while equipment and personnel are mobilized to the site to install the replacement capture zone monitoring wells. Please contact Brenda Manterola of Ultramar Diamond Shamrock at 210/592-4619 or me at 303/861-2200 if you require any additional information pertaining to the information presented herein. Once we have your approval to construct MW-17, we will prepare a schedule and notify you when the work will commence so you may inspect the installation.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Enc.

Cc: Kathy Dunn, KDHE
Harold Green, UDS
Brenda Manterola, UDS

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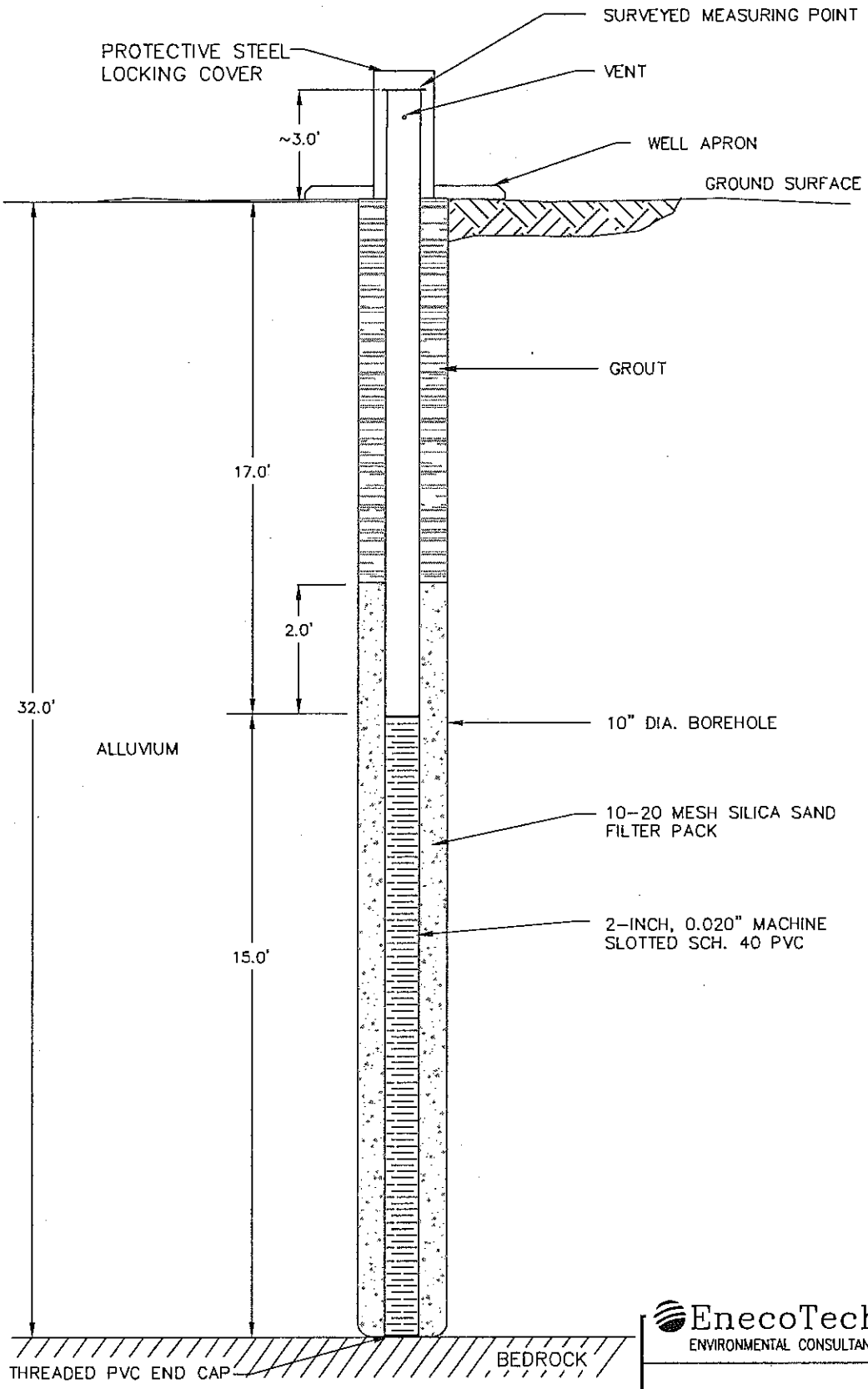

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NOTE:
PVC CASING CONNECTIONS ARE THREADED AND FLUSH JOINTED.

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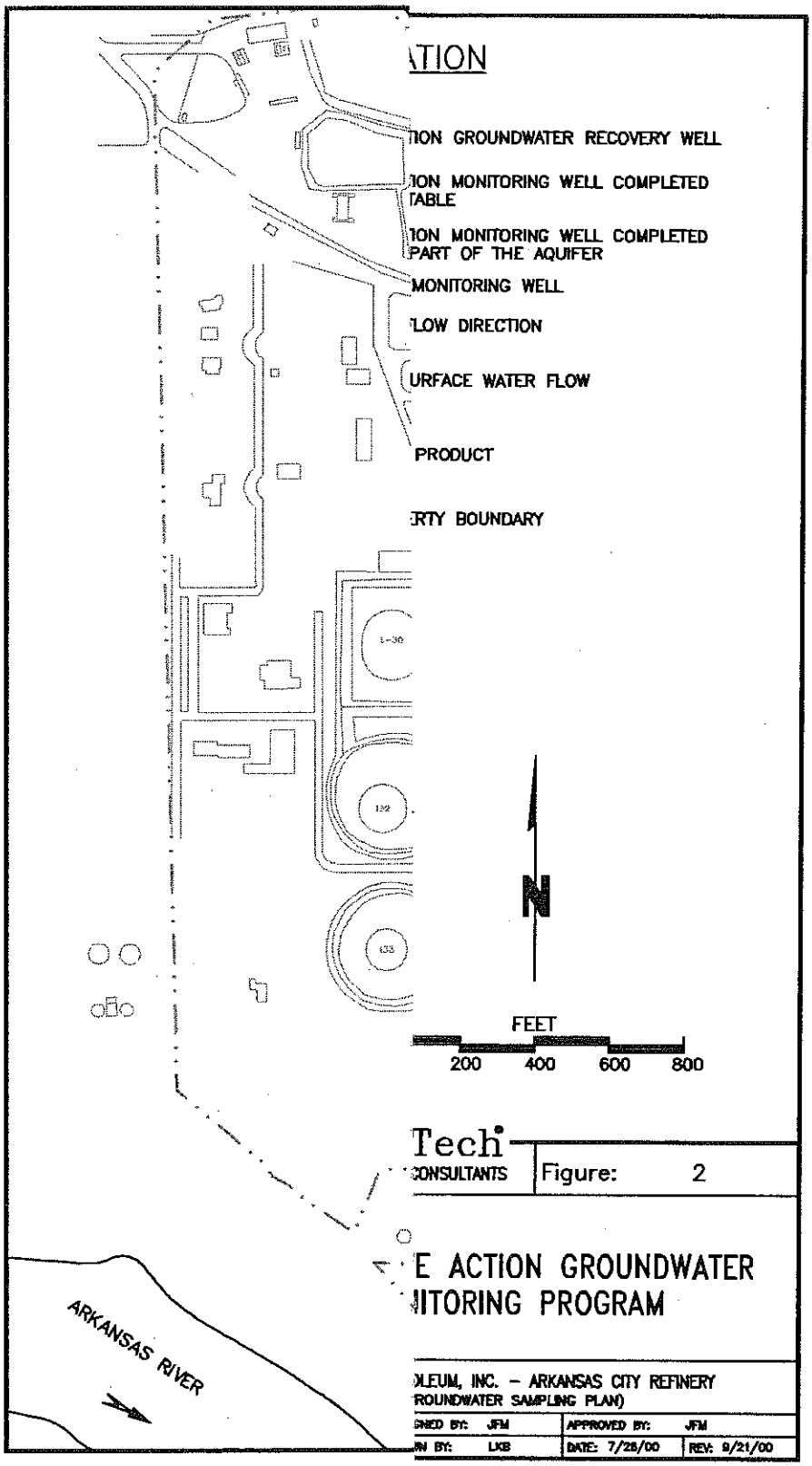
Figure No.: 1

MONITORING WELL MW-17
WELL CONSTRUCTION DIAGRAM

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-016	DESIGNED BY: JFM	APPROVED BY: JFM	
MW_17-WELDIA	DRAWN BY: LKB	DATE: 8/24/01	REV: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MONITORING WELL
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CONSULTANTS
Figure: 2
E ACTION GROUNDWATER
NITORING PROGRAM
OLEUM, INC. – ARKANSAS CITY REFINERY
ROUNDWATER SAMPLING PLAN)
GNED BY: JFM
APPROVED BY: JFM
WN BY: LKB
DATE: 7/28/00
REV: 9/21/00
ARKANSAS RIVER

Progress Report

RECEIVED
SEP 24 2001
BUREAU OF WASTE MANAGEMENT

To: Kathy Dunn, Max VanGaasbeek, KDHE

CC: Brenda Manterola, Steve Nichols, UDS

From: Jay Mednick, EnecoTech

Date: September 21, 2001

Re: PROGRESS REPORT - TPI Petroleum, Inc. Arkansas City – Recovery Well Project

---

This progress report presents the results of the well treatment conducted during July 2001. The objective of the well treatment is to enhance control of the groundwater gradient by improving the efficiency of the recovery wells.

As discussed in the previous progress report, treatment of recovery well RW-40 was initiated on June 26 and completed on June 29, 2001. Recovery wells RW-50, RW-60 and RW-70 were treated between July 11 and July 24, 2001. The well treatment followed the same approach as used on RW-40. Quantities of acid, polymer and sodium hypochlorite used in the well treatment were varied depending upon the response of the chemical in the individual wells. The well treatment consisted of the following major steps:

1. Clean and disinfect all equipment before placing it into the well, including the water pump and discharge pipe.
2. Conduct a pre-treatment step discharge test.
3. Remove the water pump from well.
4. Perform the acid treatment, consisting of lowering the pH in the well to between 1 to 3 and swabbing the well for approximately 4.5 hours, leaving the well to stand overnight while maintaining the low pH.
5. The following day swab the well for an additional two hours.
6. Install the water pump and pump the low pH water to a portable treatment tank. Neutralize the water and transfer the neutralized water to the facility water treatment system.
7. Conduct the "After Acid Treatment" step discharge test.
8. Remove the water pump from the well.
9. Conduct the chlorination step consisting of the addition of sodium hypochlorite to the well to provide approximately 200 ppm of free chlorine in the water.

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10. Swab the well for approximately six hours, allow the water to stand in the well overnight while maintaining the chlorine level at approximately 200 ppm.
11. Install the water pump the next day and pump the chlorine to the facility water treatment system.
12. Conduct the "After Chlorine Treatment" step discharge test.
13. Place the recovery well back into operation.

The well treatment was conducted by Layne Christenson Company with assistance from UDS site personnel and EnecoTech personnel. The duration of the well treatment was approximately three days per well.

Pumping Rates

Table 1 compares the pre and post-well treatment pumping rates for recovery wells RW-40, RW-50, RW-60 and RW-70. System pumping rates on September 7, 2001 are listed on Table 2 and the average daily pumping rates for April through August 2001 are listed on Table 3. The data presented on these tables illustrate the increase in groundwater pumping rate since the completion of the well treatment. The pumping rates in RW-40, RW-50, RW-60 and RW-70 increased by 125%, 453%, 14% and 50% respectively. The pre-treatment pumping rate in RW-40 had not declined significantly and therefore only showed a 14% pumping rate increase.

RW-50 produced approximately 200 gpm during the final step discharge test, and maintained a pumping rate of between 120 and 150 gpm for about five weeks following the well treatment. Recently, the pumping rate decreased to about 75 gpm as the pump was cycling on and off due to low water levels in the well. Before the well treatment conducted in July, the groundwater pumping rate at recovery well RW-50 had declined over time to approximately 27 gpm. The well treatment improved the performance of RW-50, however, TPI will continue to closely monitor and evaluate this well.

Specific Capacity

An additional measure of the well performance improvement is the specific capacity of the well. Specific capacity of a well is its yield per unit of drawdown. The specific capacity is expressed as gallons per minute per foot of drawdown. Because of aquifer dewatering effects in an unconfined aquifer, the relationship between drawdown and yield is not linear.

The specific capacity data from recovery wells RW-40, RW-50, RW-60 and RW-70 are summarized on Table 4. The plots of pumping rate versus water level and drawdown are attached to this progress report.

These plots present the pre-treatment, post-acid treatment and post-chlorination treatment step discharge test results. The specific capacities of the wells improved significantly. Most of the improvement occurred as expected following the acid treatment step. There was some additional improvement following the chlorination step, however, the purpose of the chlorination is to kill the bacteria floating in the well.

Monitoring Results

Water samples were collected from recovery wells RW-40, RW-50, RW-60 and RW-70 on September 4, 2001 to assess the bacteria content in the aquifer following the well treatment. The water samples were submitted to Water Systems Engineering, Inc. in Ottawa, Kansas for analysis. The tests will include sulfate reducing and anaerobic bacteria, heterotrophic plate count, and cell count made by analysis for adenosine triphosphate (ATP) method. These results should be available by September 21, 2001.

Groundwater level monitoring data from the capture zone monitoring wells have been submitted to KDHE under a separate letter. The increased groundwater pumping rates have resulted in lowering the groundwater levels below the bottom of some of the capture zone monitoring wells. For this reason, gradient data are not readily available.

Future Steps

TPI has prepared workplans for the installation of replacement capture zone monitoring wells (RCRA-7, 113, 114 and MW-1002). With KDHE approval, these wells will be installed within the next two to three weeks.

The results of the water quality monitoring in recovery well RW-50 and additional well performance data will be assessed to determine the need for additional chemical treatment in RW-50.

TPI is evaluating the installation of additional recovery wells. The scenarios being evaluated involve one to four additional recovery wells.

Please contact either Brenda Manterola of Ultramar Diamond Shamrock at 210/592-4619 or me at 303/861-2200 if you have any questions about the information presented in this report.

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TABLES

TABLE 1 COMPARISON OF PRE AND POST TREATMENT GROUNDWATER PRODUCTION RATES

Recovery Well	Pre-Treatment Pumping Rate (gallons per minute)	Post-Treatment Pumping Rate (gallons per minute)	Percent Increase in Pumping Rate
RW-40	80	180	125
RW-50	27	150	453
RW-60	175	200	14
RW-70	150	225	50

Note: Post-Treatment flow rates were recorded within a day or two following the completion of the well treatment. The pumping rates have varied since the well treatment depending upon the aquifer thickness fluctuations.

TABLE 2 RECOVERY WELL PUMPING RATES ON SEPTEMBER 7, 2001

Recovery Well	Pumping Rate (gpm)	Recovery Well	Pumping Rate (gpm)
RW-35	200	RW-60	200
RW-40	165	RW-70	210
RW-50	75	RW-80A	120

Note:

gpm = gallons per minute

Total pumping rate on 9-7-01 = 970 gallons per minute. Recovery wells RW-10, RW-20 and RW-30 account for an additional 50 gpm.

TABLE 3 AVERAGE DAILY GROUNDWATER PUMPING RATES APRIL THROUGH AUGUST 2001

Month	Average Daily Pumping Rate (gpm)
April	685
May	672
June	721
July	876
August	1163

Note:

gpm = gallons per minute

TABLE 4 COMPARISON OF SPECIFIC CAPACITIES - PRE AND POST WELL TREATMENT

	SPECIFIC CAPACITY (gpm/ft)			
	RW-40	**RW-50**	**RW-60**	**RW-70**
BEFORE TREATMENT	32.5 (measured between 40 and 80 gpm)	14.1 (measured between 18 & 27 gpm)	17.5 (measured at 200 gpm)	15.6 (measured at 150 gpm)
AFTER ACID TREATMENT STEP	36.4 (measured at 160 gpm)	33.3 (measured between 45 & 55 gpm)	51 (measured at 200 gpm)	33 (measured at 200 gpm)
AFTER CHLORINATION TREATMENT STEP	42.3 (measured at 200 gpm)	13.5 (measured at 207 gpm)	57.7 (measured at 200 gpm)	33.4 (measured at 200 gpm)

Note:

gpm = gallons per minute

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
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RECEIVED
SEP 24 2001
BUREAU OF WASTE MANAGEMENT

September 20, 2001

99-0138R016

Mr. Max VanGaasbeek
Environmental Scientist
Hazardous Waste Facilities Unit
Bureau of Waste Management
Kansas Department of Health and Environment
Forbes Field, Building 740
Topeka, Kansas 66620-0001

Re: Proposed Replacement Corrective Action Capture Zone Monitoring Well Design
~~TPI Petroleum, Inc.~~ Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Mr. VanGaasbeek:

Enclosed is the proposed well design for the replacement capture zone monitoring well described in EnecoTech's correspondence to Ms. Kathy Dunn dated August 23, 2001. With KDHE's approval of the replacement well design, TPI will schedule the replacement well construction. TPI will notify KDHE of the construction schedule in the event KDHE representatives want to be present during the well construction.

Please call me at 303/861-2200 ext. 129 or Brenda Manterola of Ultramar Diamond Shamrock at 210/592-4619 if you have any questions or comments pertaining to this matter.

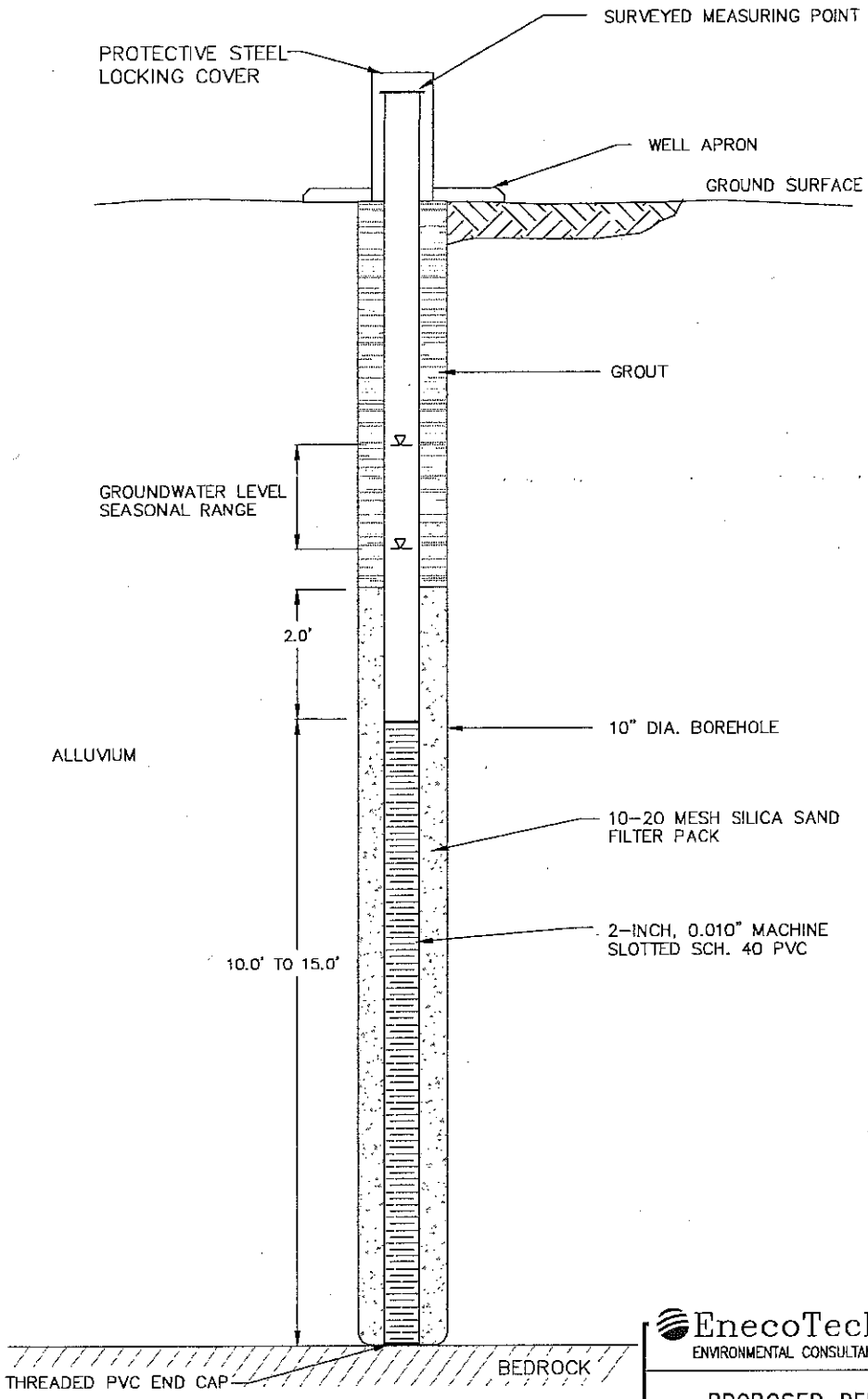
Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Encl.: monitor well design diagram

Cc: Kathy Dunn, KDHE
Harold Green, UDS
Brenda Manterola, UDS



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NOTE:
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Figure No.:

PROPOSED REPLACEMENT WELL SCHEMATIC FOR CAPTURE ZONE MONITORING WELLS RCRA-7, 113, MW-1002 AND NEW WELL 118

PROJECT: TPI PETROLEUM INC. - ARKANSAS CITY REFINERY

138R-016	DESIGNED BY: JFM	APPROVED BY: JFM	
WELDIA	DRAWN BY: LKB	DATE: 8/24/01	REV:

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99
Revised 11/8/00

RCRA Corrective Action
Environmental Indicator (EI) RCRA Info code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: TPI PETROLEUM
Facility Address: Arkansas City, KS
Facility EPA ID #: KSD087418695

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   ___X___ If yes - check here and continue with #2 below.

   _____ If no - re-evaluate existing data, or

   _____ if data are not available, skip to #8 and enter"IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future. _

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRA Info national database ONLY as long as they remain true (i.e., RCRA Info status codes must be changed when the regulatory authorities become aware of contrary information).

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria [e.g., Maximum Contaminant Levels (MCLs), the maximum permissible level of a contaminant in water delivered to any user of a public water system under the Safe Drinking Water Act]) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

__X__ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

_____ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): Free Phase Petroleum Hydrocarbons are present beneath the facility. Contaminants of concern include benzene, toluene, and ethyl benzene. Maximum Contaminant Levels (MCL) are 5 micrograms per liter (ug/l), 1000 ug/l and 700 ug/l, respectively.

Example Case - From "Summary of Site-Wide Groundwater Quality Data - December 1998, Arkansas City Refinery, TPI Petroleum, Inc." April 21, 1999

RCRA MW-3

Benzene	12000
Toluene	1200
Ethyl benzene	1600

Footnotes:

[1]"Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

__X__ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

_____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - skip to #8 and enter "NO" status code, after providing an explanation.

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): A groundwater extraction and non-aqueous phase liquid recovery system is used to contain contaminated groundwater and remove free phase Petroleum hydrocarbons. (See Section 15 of July 2000 Permit Renewal Application and Engineering Feasibility Plan, 8/3/00 and revised 3/19/01.)

Compliance Monitoring Well Data dated 6/7/01 show benzene, toluene, ethyl benzene and xylene are below ambient water quality criteria. Kansas has determined that the Walnut River water quality must be protective of food procurement uses. The levels are 650 ug/l for benzene, 2200 ug/l for toluene and 3900 ug/l for ethyl benzene. (See 9/20/01, Facsimile Transmittal for Summary of Compliance Monitoring Data.)

[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

___X___ If yes - continue after identifying potentially affected surface water bodies.

_____ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): Surface water samples collected during RFI in 1999 did not detect benzene, toluene, eethyl benzene or xylene. (See June 2000 RFI Report, Table 5-10.) Monitoring to demonstrate control of the contaminated groundwater is conducted in accordance with an approved groundwater monitoring plan. (See Appendix P of July 2000 Permit Renewal Application.)

Compliance monitoring data shows groundwater discharged into surface water is below MCLs (See response to #3).

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

__X__ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): Contaminant concentrations in groundwater discharges to surface water are below ambient water quality criteria (See response to #3

[3] As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,[5] appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s):_____

[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

__X__ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

_____ If no - enter "NO" status code in #8.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): Continued operation of interim measures and quarterly groundwater monitoring. (See Groundwater Monitoring Plan Appendix P of July 2000 Permit Renewal Application.

The groundwater monitoring system is evaluated annually to determine if it is still adequate (See September 2001 Post Closure Permit, Section IV).

8. Check the appropriate RCRA Info status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

__X__ YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the TPI Petroleum facility, EPA ID # KSD087418695, located at Arkansas City, KS. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

_____ NO - Unacceptable migration of contaminated groundwater is observed or expected.

_____ IN - More information is needed to make a determination.

Completed by (signature) Original signed by Date 9/20/01
(print) Kenneth V. Herstowski
(title) Project Manager

Supervisor (signature) Original signed by Date _____
(print) John Smith
(title) Chief, RCAP Branch
(EPA Region or State) EPA Region 7

Locations where References may be found:

RCRA Records Center
U.S. EPA, Region 7
901 N. 5th Street
Kansas City, KS 66208

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September 14, 2001

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BUREAU OF WASTE MANAGEMENT

99-0138R016

Ms. Katherine Dunn
Environmental Scientist
Hazardous Waste Facilities Unit
Bureau of Waste Management
Kansas Department of Health and Environment
Forbes Field, Building 740
Topeka, Kansas 66620-0001

Re: RCRA Corrective Action Groundwater Monitoring Results
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Ms. Dunn:

The purpose of this letter is to present to the KDHE the results of the groundwater sampling and analysis conducted during May and June 2001. The May 2001 groundwater sampling was conducted under the Temporary Authorization issued by KDHE on April 14, 2001. TPI Petroleum, Inc. (TPI) sampled the groundwater corrective action performance and supplemental monitoring wells on May 1 and 2, 2001 and sampled the compliance monitoring wells on May 17, 2001. The groundwater samples were collected in accordance with the procedures presented in approved Groundwater Sampling and Analysis Plan (SAP) under temporary authorization from KDHE to implement the new SAP.

The groundwater samples collected from the corrective action performance and supplemental monitoring wells sampled on May 1 and 2 were analyzed for the Skinner List constituents. The May 1 and 2 sampling event was overseen by yourself and Mr. Max VanGaasbeek. The May 17 sampling event was overseen by Mr. VanGaasbeek, the water samples from these wells were analyzed for the "Short" Skinner List constituents. TPI resampled the compliance monitoring wells on June 7, 2001, these water samples were analyzed for benzene, toluene, ethylbenzene and total xylenes.

Southwest Laboratory of Oklahoma (SWL) in Broken Arrow, Oklahoma analyzed the water samples collected during the two sampling events in May and Severn Trent Laboratory (STL) in Denver Colorado analyzed the water samples collected in June. The laboratory analytical results are summarized on the attached Tables 1, 2 and 3 for the May 1 and 2, May 17 and June 7 sampling events respectively. The laboratory report Form 1s, field sampling and chain-of-custody forms for each of the sampling events are included in Attachments 1, 2 and 3 respectively. A monitoring well location map is presented on Figure 1 and the water level measurements are summarized on Table 4. Figures 2 through 7 contain chemical concentration isopleth maps for benzene, toluene, ethylbenzene, total xylenes, 1-methylnaphthalene, 2-methylnaphthalene, and phenols respectively.

The groundwater sampling conducted on May 1 and 2 consisted of first measuring the groundwater level in each of the monitoring wells to be sampled and the total well depths. The field forms included in Attachments 1, 2 and 3 contain the groundwater level and well depth data. Groundwater levels in the eight capture zone

monitoring wells were also gauged on May 1 and are summarized on Table 4. The groundwater levels in the capture zone monitoring wells reflect the recovery well pre-treatment operations data.

Prior to measuring water levels on May 1, the groundwater sample collection pump was removed from each well to provide access to the bottom of the well for total depth measurements. Removing the sample collection pump and associated pump tubing resulted in a temporary lowering of the groundwater level in the well. Water levels measured in wells following the removal of the pumps may not be representative of the static groundwater level at the time of monitoring. For this reason we have not prepared a groundwater potentiometric surface contour map. Two of the 11 wells (WN-5B and RCRA-4) sampled on May 1 and May 2, did not contain a sample collection pump and therefore provided representative static groundwater level elevation data in conjunction with the eight capture zone monitoring wells. In the future, TPI will either measure the static groundwater level prior to removing the sample collection pump, provided the interface probe can access the water table, or remove the sample collection pumps from each of the wells before beginning the water level gauging, thereby providing time for the groundwater levels to return to their static level.

Based upon the collected static groundwater level measurements, the groundwater flow direction was determined to be northeast. This flow direction is consistent with data previously collected at the facility.

KDHE collected split groundwater samples during the two sampling events conducted in May. The groundwater samples and sample fractions that were split with KDHE personnel are indicated on Tables 1 and 2.

If you have any questions or comments about the information presented in the letter, please contact either Brenda Manterola, of Ultramar Diamond Shamrock at 210/592-4619 or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachments: Tables 1-4, Figures 1 through 8, Attachments 1-3

Cc: Harold Green, UDS
Brenda Manterola, UDS
Max VanGaasbeek, KDHE

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Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results May 1 & 2, 2001
TPI Petroleum, Inc. Arkansas City, Kansas

WELL ID:	WN-1A	WN-1B[1]	WN-5B	WN-6A	WN-6B	WN-7B	WN-8B[1]	RCRA-MW-5[2]	MW-6[1]	MW-12	MW-13	RCRA-4
FIELD MEASUREMENTS												
Sample Date	05/01/01	05/01/01	05/02/01	05/02/01	05/02/01	05/02/01	05/02/01	05/02/01	05/02/01	05/02/01	05/02/01	05/02/01
Groundwater Elevation (ft amsl)	1050.00	1050.04	1051.62	1050.54	1048.76	1049.93	1050.02		1046.29	1043.78	1046.32	1045.08
pH (standard units)	8.02	7.58	7.10	7.72	7.11	7.36	7.16	--	7.46	7.30	6.92	7.12
Conductivity @25°C (umhos/cm)	565	375	393	480	369	406	410	--	480	479	373	352
Temperature °C	16.8	16.2	16.8	18.6	17.8	16.9	17.9	--	18.1	17.9	17.8	17.8
LABORATORY ANALYSES												
Volatile Organic Compounds (ug/L)												
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	5 U	5 U	2 J	2 U	**320** D	**1100** D	**190**	**180**	**3500** D	5 U	5 U	5 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	18	10 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U
1,4-Dioxane	500 U	500 U	500 U	500 U	500 U	500 U	1000 U	500 U	500 U	500 U	500 U	500 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	**140**	5 U	5 U	5 U
1,2-Dibromoethane	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	2 J	**55**	**2** J	2 J	**17**	5 U	5 U	5 U
Xylenes (total)	5 U	5 U	5 U	5 U	**5**	**21**	**10**	**7**	**260**	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U
1,2,4-Trimethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	**41**	5 U	5 U	5 U
Semi-Volatile Organic Compounds (ug/L)												
Phenol	10 U	10 U	10 U	10 U	5 J	**28**	4 J	4 J	**84**	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 J	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	8 J	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 J	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**8**	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U	**14**	10 U	10 U	**11**	10 U	10 U	10 U
1-Methylnaphthalene	10 U	10 U	**49**	10 U	**15**	**21**	**14**	**14**	**59**	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	**44**	10 U	8 J	**13**	9 J	**10**	**23**	10 U	10 U	10 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Semi-Volatile Organic Compounds (ug/L) Continued												
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results May 1 & 2, 2001
TPI Petroleum, Inc. Arkansas City, Kansas

WELL ID:	WN-1A	WN-1B[1]	WN-5B	WN-6A	WN-6B	WN-7B	WN-8B[1]	RCRA-MW-5[2]	MW-6[1]	MW-12	MW-13	RCRA-4
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo (a) anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	**18**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 J	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo (b) fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo (a) pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyridine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
7,12-Dimethylbenz(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Metals & Cyanide (ug/L)												
Antimony	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Arsenic	3.3 U	3.8 J	3.3 U	5.3 J	9.4 J	6.9 J	3.3 U	3.3 U	8.2 J	**16.4**	3.3 U	**17.5**
Barium	**116**	**223**	**1000**	**265**	**1320**	**726**	**779**	**808**	**1140**	**702**	**417**	**253**
Beryllium	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Cadmium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chromium	2.2 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2 J	1.0 U	1.7 J
Lead	**3.7**	1.3 J	1.2 U	1.2 U	1.2 U	1.7 J	**10.7**	1.2 U	1.2 U	1.2 U	1.2 J	**3.9**
Mercury	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	5.3 J	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Selenium	2.8 U	2.8 U	2.8 U	2.8 J	2.8 UJ	2.8 UJ	2.8 U	2.8 U	2.8 UJ	2.8 UJ	2.8 UJ	2.8 UJ
Silver	0.9 U	0.9 U	0.95 J	0.96 J	0.9 U	0.9 U	0.9 U	0.9 U	1.0 J	0.9 U	0.9 U	0.9 U
Vanadium	1.6 J	1.0 U	1.0 UJ	1.0 J	1.0 U	1.0 J	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	2.6 J
Zinc	**47.3**	13.5 J	7.6 J	6.7 UJ	**21.9**	15.4 J	**145**	3.1 J	8.0 J	15.1 J	8.8 J	**33.7**
Cyanide	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Notes:

1 = KDHE collected a split sample of each of the sample fractions at this location.

2 = RCRA-MW-5 is a field duplicate of WN-8B.

U Indicates compound was analyzed for but not detected.

J Indicates an estimated value. Used primarily when the compound was detected below the practical quantitation limit (PQL).

D This flag identifies all compounds identified in an analysis at a secondary dilution factor.

BOLD Indicates positive detection above the quantitation level.

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 17, 2001
TPI Petroleum, Inc. Arkansas City, Kansas

WELL ID:	CMW-1[1]	CMW-2[1]	CMW-3[1]	CMW-4[1]
FIELD MEASUREMENTS				
Sample Date	05/17/01	05/17/01	05/17/01	05/17/01
Groundwater Elevation (ft amsl)	1043.24	1043.31	1043.26	1043.22
pH (standard units)	6.81	6.68	6.94	7.26
Conductivity @25°C (umhos/cm)	258	295	405	373
Temperature °C	17.8	18.9	20.5	17.8
LABORATORY ANALYSES				
Volatile Organic Compounds (ug/L)				
1,1-Dichloroethene	--	--	--	--
Carbon Disulfide	5 U	5 U	5 U	5 U
2-Butanone	--	--	--	--
Chloroform	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--
Benzene	5 U	1400 D	10	3 J
1,2-Dichloroethane	--	--	--	--
Trichloroethene	5 U	5 U	5 U	5 U
1,4-Dioxane	--	--	--	--
Toluene	5 U	10	5 U	
1,2-Dibromoethane	--	--	--	--
Tetrachloroethene	--	--	--	--
Chlorobenzene	--	--	--	--
Ethylbenzene	5 U	180	8	5 U
Xylenes (total)	5 U	56	8	5 U
Styrene	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--
Semi-Volatile Organic Compounds (ug/L)				
Phenol	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--
2-Methylphenol	--	--	--	--
4-Methylphenol	--	--	--	--
Nitrobenzene	--	--	--	--
2,4-Dimethylphenol	--	--	--	--
Naphthalene	10 U	18	10 U	10 U
1-Methylnaphthalene	--	--	--	--
2-Methylnaphthalene	--	--	--	--
Acenaphthene	--	--	--	--
Semi-Volatile Organic Compounds (ug/L) Continued				
2,4-Dinitrotoluene	--	--	--	--
Fluorene	10 U	10 U	10 U	10 U
Phenanthrene	--	--	--	--
Anthracene	--	--	--	--
Di-n-butylphthalate	--	--	--	--

Table 2 Summary of RCRA Corrective Action Groundwater Monitoring Results May 17, 2001
TPI Petroleum, Inc. Arkansas City, Kansas

WELL ID:	CMW-1[1]	CMW-2[1]	CMW-3[1]	CMW-4[1]
Fluoranthene	--	--	--	--
Pyrene	--	--	--	--
Butylbenzylphthalate	--	--	--	--
Benzo (a) anthracene	--	--	--	--
Chrysene	--	--	--	--
bis(2-Ethylhexyl)phthalate	--	--	--	--
Di-n-octylphthalate	--	--	--	--
Benzo (b) fluoranthene	--	--	--	--
Benzo (a) pyrene	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	--	--
Dibenzo(a,h)anthracene	--	--	--	--
Pyridine	--	--	--	--
7,12-Dimethylbenz(a)anthracene	--	--	--	--
Metals & Cyanide (ug/L)				
Antimony	--	--	--	--
Arsenic	**12.7**	**28.8**	**47.6**	**20.2**
Barium	**753**	**469**	**131**	**527**
Beryllium	0.4 U	0.4 U	0.4 B	0.56 B
Cadmium	2.0 U	2.0 U	2.0 U	2.0 U
Chromium	1.0 U	1.0 U	1.0 U	**5.3**
Lead	1.2 U	**10.4**	2.4 B	**4.1**
Mercury	0.16 B	0.1 U	0.18 B	**0.21**
Nickel	2.0 U	2.3 B	3.7 B	9.0 B
Selenium	2.8 U	2.8 U	2.8 U	2.8 U
Silver	0.9 U	0.9 U	0.9 U	0.9 U
Vanadium	4.6 B	5.1 B	4.2 B	**16.7**
Zinc	5.2 B	**69.7**	19 B	**28.9**
Cyanide	4.3 B	3.5 B	6.9 B	2.7 B

Notes:

1 = KDHE collected a VOC fraction split sample at this sample location.

-- = Not analyzed.

U Indicates compound was analyzed for but not detected.

J Indicates an estimated value. Used primarily when the compound was detected below the practical quantitation limit (PQL).

D This flag identifies all compounds identified in an analysis at a secondary dilution factor.

BOLD Indicates positive detection above the quantitation level.

Table 3 Summary of RCRA Corrective Action Groundwater Monitoring Results June 7, 2001
TPI Petroleum, Inc. Arkansas City, Kansas

WELL ID:	CMW-1		CMW-2		CMW-3		CMW-4	
FIELD MEASUREMENTS								
Sample Date	06/07/01		06/07/01		06/07/01		06/07/01	
Groundwater Elevation (ft amsl)	1043.70		1043.87		1043.64		1043.82	
Turbidity NTU	74		6		74		16	
Conductivity @25°C (umhos/cm)	342		363		414		412	
Temperature °C	73.0		68.2		70.2		70.0	
LABORATORY ANALYSES								
Volatile Organic Compounds (ug/L)								
1,1-Dichloroethene	--		--		--		--	
Carbon Disulfide	--		--		--		--	
2-Butanone	--		--		--		--	
Chloroform	--		--		--		--	
1,1,1-Trichloroethane	--		--		--		--	
Benzene	1.0	U	320		22		1.0	U
1,2-Dichloroethane	--		--		--		--	
Trichloroethene	--		--		--		--	
1,4-Dioxane	--		--		--		--	
Toluene	0.52	J	10	U	0.83	J	1.0	U
1,2-Dibromoethane	--		--		--		--	
Tetrachloroethene	--		--		--		--	
Chlorobenzene	--		--		--		--	
Ethylbenzene	1.0	U	25		6.4		1.0	U
Xylenes (total)	2.0	U	20	U	7.2		2.0	U
Styrene	--		--		--		--	
1,3,5-Trimethylbenzene	--		--		--		--	
1,2,4-Trimethylbenzene	--		--		--		--	
Semi-Volatile Organic Compounds (ug/L)								
Phenol	--		--		--		--	
1,4-Dichlorobenzene	--		--		--		--	
1,2-Dichlorobenzene	--		--		--		--	
2-Methylphenol	--		--		--		--	
4-Methylphenol	--		--		--		--	
Nitrobenzene	--		--		--		--	
2,4-Dimethylphenol	--		--		--		--	
Naphthalene	--		--		--		--	
1-Methylnaphthalene	--		--		--		--	
2-Methylnaphthalene	--		--		--		--	
Acenaphthene	--		--		--		--	
Semi-Volatile Organic Compounds (ug/L) Continued								
2,4-Dinitrotoluene	--		--		--		--	
Fluorene	--		--		--		--	
Phenanthrene	--		--		--		--	
Anthracene	--		--		--		--	
Di-n-butylphthalate	--		--		--		--	

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Steven C. Nichols, P.E.
General Manager
Non-Operating Sites

September 6, 2001

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BUREAU OF WASTE MANAGEMENT

Mr. James L. Gilliland
Financial Assurance Accountant
Bureau of Waste Management
Kansas Department of Health & Environment
Forbes Field, Building 740
Topeka, Kansas 66620-0001

Re: Financial Assurance - Corporate Guarantees
TPI Petroleum, Inc. Arkansas City, Kansas Facility

Dear Mr. Gilliland:

Ultramar Diamond Shamrock Corporation (UDS) provides financial assurance for the TPI Petroleum, Inc. (TPI) hazardous and solid waste facilities at our Arkansas City, Kansas facility. For 2001, UDS is providing financial assurance through a corporate guarantee approved by the KDHE.

This letter serves two purposes. First, to inform you that there is a proposed merger between UDS and Valero Energy Corporation (Valero) whereby Valero will be the surviving corporation. The proposed merger is currently being reviewed by the Federal Trade Commission (FTC) and has not received approval yet. Also, the UDS and Valero stockholder votes are still pending. Currently, we expect the merger will be completed during the last quarter of 2001 (between October and December) and TPI will remain a subsidiary under the new surviving corporation, Valero. Based on projections, the new Valero will easily pass the financial tests which will allow it to use corporate guarantees to provide RCRA financial assurance for it's subsidiary companies. A consolidated, independently audited financial statement for the new Valero will be available late in the first quarter 2002 (around March 31, 2002).

The second purpose of this letter is to seek the KDHE's advice on how to proceed with financial assurance mechanisms for the time between closing of the merger and when the consolidated financial statements are prepared. While we believe by law the surviving Valero will assume UDS's financial assurance and guarantee obligations, UDS and Valero want to maintain continuous compliance with our financial assurance requirements and, therefore, would like to discuss this issue with you at your earliest convenience.

Ultramar Diamond Shamrock Corporation
P.O. Box 696000 | San Antonio, Texas 78269-6000
210 592-4616 | 210 592-2304 fax
www.udscorp.com

Please contact me at (210) 592-4616 so we may discuss this issue. If you need any additional data to complete your review, do not hesitate to ask.

Sincerely,

Steve Nichols

cc: Ms. Katherine Dunn, KDHE

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201
August 28, 2001

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Ms. Katherine Dunn
Environmental Scientist
Hazardous Waste Facilities Unit
Bureau of Waste Management
Kansas Department of Health and Environment
Forbes Field, Building 740
Topeka, Kansas 66620-0001

99-0138R016

Re: RCRA Corrective Action Monitoring Well and Recovery Well Relocation
USACE Planned Levee Improvements
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Ms. Dunn:

Following a meeting on July 25, 2001 between TPI Petroleum Inc. (TPI), Kansas Department of Health and Environment (KDHE), United States Army Corps of Engineers (USACE), and City of Arkansas City, Kansas representatives, TPI and KDHE have determined it may become necessary to relocate certain monitoring wells, recovery wells, and associated equipment. Interruption of the operation or access to this equipment may also occur during the levee improvements.

Due to the planned levee improvements, TPI has determined that the following may be required:

- Relocate monitoring wells CMW-1, CMW-2, CMW-3 and CMW-4;
- Add stickups to CMW-1, CMW-2, CMW-3 and CMW-4;
- Resurvey CMW-1, CMW-2, CMW-3 and CMW-4;
- Relocate or add a stickup to recovery well RW-80A; and,
- Temporarily suspend operation of recovery wells.

Once the USACE have finalized their plans, TPI will submit to KDHE a detailed workplan to address well relocations, temporary suspension of groundwater pumping, and other associated activities.

If you have any questions or comments about the information presented in the letter, please contact either Brenda Manterola, of Ultramar Diamond Shamrock at 210/592-4619 or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Cc: Harold Green, UDS
Brenda Manterola, UDS

EnecoTech Inc.
1580 Lincoln Street • Suite 1000
Denver, Colorado 80203
(303) 861-2200 • Fax (303) 861-2201

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August 23, 2001

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BUREAU OF WASTE MANAGEMENT

99-0138R016

Ms. Katherine Dunn
Environmental Scientist
Hazardous Waste Facilities Unit
Bureau of Waste Management
Kansas Department of Health and Environment
Forbes Field, Building 740
Topeka, Kansas 66620-0001

Re: Transmittal of Groundwater Level Measurements and Capture Zone Monitoring Well Replacement Plan
TPI Petroleum, Inc. Arkansas City, Kansas

Dear Ms. Dunn:

Attached is a tabulation of the groundwater levels in monitoring wells CMW-1, CMW-2, CMW-4 and their counterpart capture zone monitoring wells RCRA-7, 113, and MW-1002. As we have previously discussed, CMW-3 does not have a valid counterpart for determination of groundwater flow direction. For this reason, water levels for monitoring well CMW-3 have not been included. As previously agreed, a new well designated as 118 is scheduled to be installed to serve as a counterpart capture zone monitoring well with monitoring well CMW-3.

Additionally, I will point out that as we have discussed in the past, the survey control for these capture zone monitoring wells were made on different occasions over the span of several years and by different personnel. TPI will contract with a Kansas licensed land surveyor to resurvey each of the capture zone monitoring well pairs and establish the necessary survey control.

Per our discussions, TPI agrees that monitoring wells RCRA-7 and MW-1002 are too shallow to serve their new intended purpose. Therefore, replacement wells are being scheduled for installation in the next couple of weeks. A replacement well for monitoring well 113, currently paired with CMW-2 is also planned with a well of similar design as the proposed replacement wells for RCRA-7 and MW-1002. The proposed design for these replacement wells is presented below. The attached Figure 1 shows the proposed locations for the replacement capture zone monitoring wells.

The new wells will be constructed to penetrate the full thickness of the alluvial aquifer, approximately 40 feet below ground surface. The boreholes will be drilled using hollow stem auger drilling equipment. A Kansas registered well driller will construct the monitoring wells. The wells will be constructed from 2-inch inside diameter, schedule 40 PVC, threaded and flush jointed casing. Approximately 10 to 15 feet of

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0.010-inch machine slotted PVC will be placed at the bottom of each well and the remainder of the riser pipe will be constructed from solid PVC casing. The screen length will be sized to prevent free product from entering the well casing. No glues or solvents will be used in the well construction. The filter pack surrounding the well screen will be a 10-20 mesh silica sand, and it will extend approximately two feet above the top of the screened interval. The remainder of the annulus to the ground surface will be grouted in place according to Kansas regulations. A cement apron will be constructed around the well and a locking steel protective cover will be placed at the ground surface. The well ID will be clearly marked on the outside of the protective well casing. The survey measuring point will be clearly identified on the PVC well casing.

We will contact you once we have a date scheduled for the well installation should you want to observe the monitoring well installations. We anticipate the work to take between three and four days to complete. The surveying may be scheduled several days after the wells are constructed.

If you have any questions or comments about the information presented in the letter, please contact either Brenda Manterola, of Ultramar Diamond Shamrock at 210/592-4619 or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachment: Table of water levels, Figure 1

Cc: Harold Green, UDS
Brenda Manterola, UDS
Max VanGaasbeek, KDHE

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COMPARISON OF GROUNDWATER ELEVATIONS
IN CAPTURE ZONE MONITORING WELLS
TPI PETROLEUM, INC. ARKANSAS CITY, KANSAS

Gradient Controlled by Recovery Well(s): RW-35 & RW-40				Pumping Rate (gpm)		Remarks
Date Measured	CMW-1	RCRA-7	Head Difference (ft)[1]	RW-35	RW-40	
8/16/01	1040.10	Water in Sump	----	200	170	Water and 1.59 feet of product in RCRA-7 sump
7/30/01	1041.01	Water in Sump	----	200	200	
6/13/01	1044.46	1044.46	0.00	200	90	
5/16/01	1043.24	1043.23	0.01	200	100	
4/11/01	1042.78	1043.80	-1.02	200	90	
3/21/01	1044.86	1043.17	1.69	200	ND	
2/20/01	1042.88	1041.6	1.28	130	ND	
1/19/01*	1042.55	1042.35	0.20	0	154	
11/27/00	1043.12	1041.3	1.82	0	135	
10/30/00	1043.04	1042.91	0.13	0	144	
9/11/00	1041.74	1042.03	-0.29	0	163	
8/28/00	1042.42	1042.85	-0.43	0	162	
6/29/00	1044.47	1044.27	0.20	0	225	
5/23/00	1042.67	1043.32	-0.65	0	230	
4/12/00	1043.98	1043.65	0.33	0	233	
1/12/00	1042.27	1041.64	0.63	0	244	

Gradient Controlled by Recovery Well(s): RW-40 & RW-50				Pumping Rate (gpm)		Remarks
Date Measured	CMW-2	113	Head Difference (ft)[1]	RW-40	RW-50	
8/16/01	1039.69	1039.37	0.32	170	150	3 feet of product on the water table in well 113
7/30/01	1043.16	1041.03	2.13	200	0	
6/13/01	1044.41	1044.27	0.14	90	27	
5/16/01	1043.31	1043.53	-0.22	100	27	
4/11/01	1043.91	1044.07	-0.16	90	0	
3/21/01	1044.96	1044.96	0.00	ND	0	
2/20/01	1042.93	1042.57	0.36	ND	0	
12/21/00	1042.46	1041.34	1.12	154	40	
11/27/00	1043.14	1043.18	-0.04	135	0	
10/30/00	1042.98	1042.83	0.15	144	0	
9/11/00	1041.55	1039.94	1.61	163	49	
8/28/00	1042.33	1040.98	1.35	162	49	
6/29/00	1044.07	1043.74	0.33	225	80	
5/23/00	1042.34	1041.04	1.30	230	97	
4/12/00	1043.76	1042.44	1.32	233	68	
1/12/00	1042.05	1039.24	2.81	244	59	

COMPARISON OF GROUNDWATER ELEVATIONS
IN CAPTURE ZONE MONITORING WELLS
TPI PETROLEUM, INC. ARKANSAS CITY, KANSAS

Gradient Controlled by Recovery Well(s): RW-70 & RW-80A				Pumping Rate (gpm)		Remarks
Date Measured	CMW-4	MW-1002	Head Difference (ft)[1]	RW-70[2]	RW-80A	
8/16/01	1040.17	Dry	----	220	120	MW-1002 was dry
7/30/01	1038.83	Dry	----	210	125	
6/13/01	1044.47	1044.35	0.12	130	130	
5/16/01	1043.22	1043.25	-0.03	140	135	
4/11/01	1043.64	1043.63	0.01	130	130	
3/21/01	1044.65	1044.55	0.10	166	130	
2/20/01	1042.76	1042.7	0.06	135	130	
1/19/2001*	1041.89	1042.11	-0.22	133	130	
12/21/00	1041.83	1041.83	0.00	85	135	
11/27/00	1042.32	1042.23	0.09	167	130	
10/30/00	1042.26	1042.43	-0.17	177	130	
9/11/00	1041.09	1041.32	-0.23	200	130	
8/28/00	1041.68	1041.6	0.08	157	130	
7/27/00	1042.57	1042.44	0.13	170	130	
6/29/00	1044.07	1043.78	0.29	160	130	
5/23/00	1042.39	1042.28	0.11	204	130	
4/12/00	1043.76	1043.56	0.20	190	130	
3/23/00	1043.74	1044.16	-0.42	185	125	
1/12/00	1041.83	1041.65	0.18	308	130	

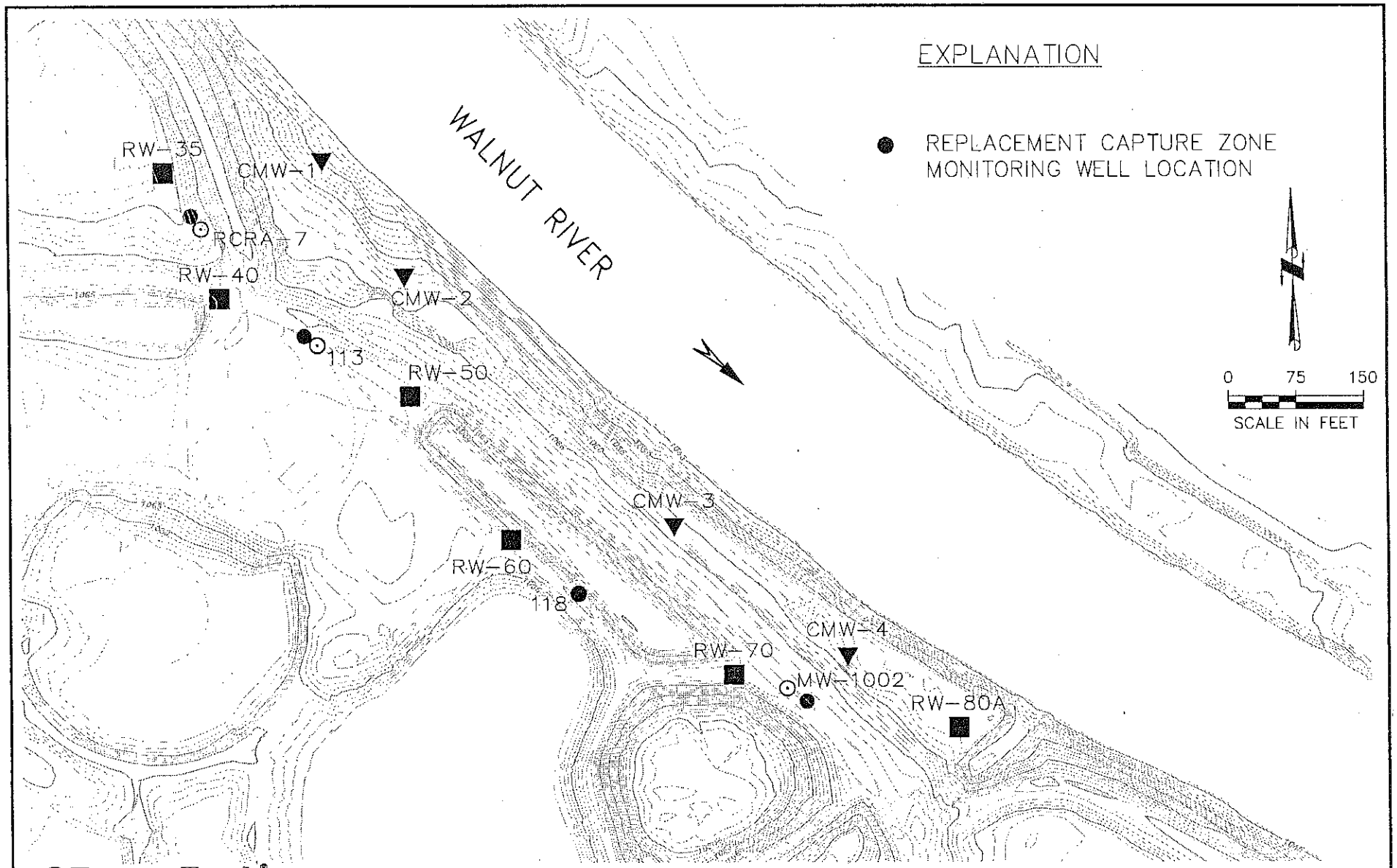
Notes:

1 - Positive head difference indicates gradient control.

2 - Flow meter on RW-70 may be approximately up to +/- 50 gpm. Flow meter replaced in June 2001.

ND indicates no data - flow meter may be inoperable.

* The pumping rate data from 1/18/01 is reported.



EnecoTech
ENVIRONMENTAL CONSULTANTS

Project: ARKANSAS CITY REFINERY

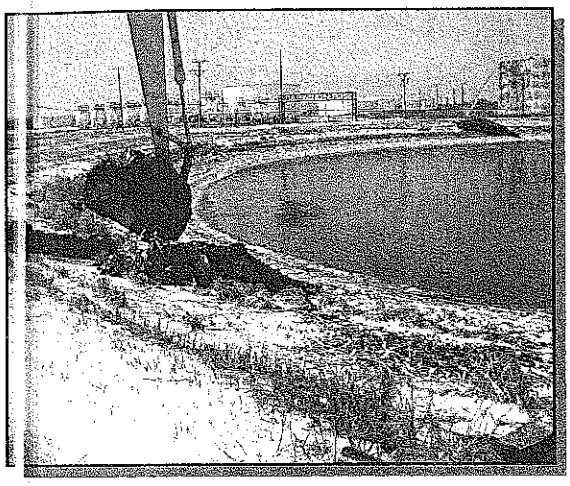
TPI PETROLEUM, INC.
ARKANSAS CITY, KANSAS

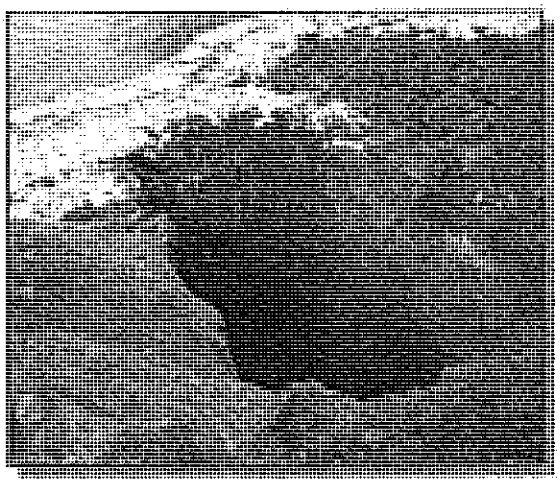
CAPTURE ZONE MONITORING NETWORK WITH REPLACEMENT WELL LOCATIONS

File No.: 138R-016	ACAD No.: CPZNTWRK	Drawn: LKB	Designed: JFM	Checked:	Approved:	Date: 8/15/01	Rev.:	Figure No.:

Ultramar Diamond Shamrock
Ark City Refinery
Technical Memo for Evaluation of 3B Lagoon

(PPT Petroleum, Inc.
3B Lagoon (SWMU 3) Evaluation
June, 2001





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June 2001

Project Goals:

- **Determine if the free oil is contained within the lagoon area or if it extends beyond the boundary of the lagoon area.**
- **Determine if the free oil is influenced by changing ground water levels and likely to contribute to groundwater contamination.**
- **Determine the approximate depth and volume of sediment contaminated with the free oil.**

R&B ASSOCIATES, INC.
Offices in McKinney and Cedar Hill
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McKinney, Texas 75069
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RBA

Technical Memorandum
For 3B Lagoon Evaluation
TPI Petroleum, Inc. Ark City Refinery

R&B Associates, Inc.

1.0 Introduction

This technical memorandum provides a summary of the work completed and findings from the TPI Petroleum, Inc. 3B Lagoon (SWMU 3) investigation. Three objectives were identified for the interim action at the sump area SWMU. The objectives listed in Section 3.0 of this memorandum were met during the investigation completed at the SWMU. The specific findings and results are also described in this memorandum.

2.0 Background

The 3B Lagoon is referred to as SWMU 3 in the RFI Report. This lagoon was formerly a part of the wastewater treatment system receiving water from the bioreactors and discharging to the shell trap where the water was then pumped to the oxidation ponds prior to final discharge.

In December 1999, the water from the bioreactors was piped directly to the oxidation ponds leaving the 3B Lagoon and Shell trap available for emergency service or upset conditions. Since the 3B Lagoon was taken out of service, the water level has decreased significantly through evaporation, infiltration, and the final flow to the Shell trap. As the reduced water level revealed the bank of the lagoon, there is evidence of oil seeps around the banks and sidewall of the lagoon.

Samples of soil near the lagoon were obtained and analyzed during the Phase I RFI. These analyses indicate the presence of PNAs, benzene, ethyl benzene, xylene, and lead above background levels. During the Phase II RFI investigation, one-sediment sample was taken form the 3B Lagoon. This sample confirmed the presence of these contaminants as well as arsenic and chromium (reference Page 23 of RFI Report and Table 5-9). Additional samples were obtained during this investigation and analyzed for TCLP metals, BTEX, TPH, and volatiles. These data are provided and discussed in this memorandum.

3.0 Objectives and Results

The objectives associated with the limited investigation are listed below and followed by a discussion of how the objectives were met.

1. *Determine if the free oil is contained within the lagoon area or if it extends beyond the boundary of the lagoon area.*

2. *Determine if the free oil is influenced by changing ground water levels and likely to contribute to groundwater contamination.*

3. *Determine the approximate depth and volume of sediment contaminated with the free oil.*

The three objectives of this effort were achieved. More detailed conclusions associated with the investigative work are provided in Section 8.

Four trenches were excavated as part of this investigation effort. The observations made during the trench effort indicate that visually contaminated soil extends beyond the immediate limits of the lagoon. The extent of visually contaminated material beyond the confines of the lagoon varied among the four trenches.

There was not a clear delineation between oil – sediment – and stained soils. Rather, the oil appeared to be absorbed in the soil and sediment matrix. RBA speculates that the oil is "released" as a function of temperature more than as a function of water level. However, in one instance, thick oil appeared to seep from the exposed edge of the trench. It appears that during times of warm weather, the oil more-readily seeps from the sediment-soil material and rises to the top of the water contained in the lagoon. This is based on a comparison between the amounts of oil observed on surface water during the initial investigation (refer to the initial technical memorandum, Appendix 1 and that observed during the February (cold weather) investigation.

An estimated quantity of potentially contaminated material has been calculated based on the trench data as described in Section 8 of this memorandum.

4.0 Field Action

Specific actions performed during the limited investigation include:

1. A total of four trench excavations were completed into the bank of the lagoon. The depth of the four trenches ranged from 4 to 10 feet deep.

2. A field survey was conducted to determine if the lagoon appears to be hydraulically connected to groundwater. This information has in turn been used to estimate whether or not the PSH/oil is infiltrating into the pond or if the oil is contained within the sediments of the pond. This included a survey of the water surface elevation and comparing the result to ground water level measurements in the area. The water level data on which this evaluation was based is provided in Appendix 2 and was supplied by EnecoTech.

5.0 Data

This section provides a summary of the data that was obtained during the limited investigation:

1. Samples of visually contaminated soil and sediment were obtained from the excavations. Two of the samples that were analyzed for TCLP metals, BTEX, TPH, and volatile organics. The two samples analyzed were considered representative of material near the bottom (NB) and near the surface (NS) of the excavation. These data are presented in the following table. The laboratory data sheets are provided in Appendix 3.

Analytical Data for Excavated Waste Analysis - Sump Area

TPI Petroleum, Inc., Arkansas City, Kansas Refinery

Analyte	Sample ID 3B Trench #1 NB	3B Trench #1 NS	Maximum Detected	Average Detected	TCLP Regulatory Level
BTEX (detection limit)					
Benzene (mg/Kg) (0.4)	ND	ND			
Toluene (mg/Kg) (0.5)	ND	ND			
Ethylbenxene (mg/Kg) (0.5)	ND	ND			
Xylenes, total (mg/Kg) (0.5)	ND	ND			
TCLP Metals (detection limit mg/L)					
Arsenic (mg/Kg) (0.025)	ND	ND	ND	ND	5.0
Barium (mg/Kg) (0.003)	0.375	1.14	1.14	0.758	100.0
Cadmium (mg/Lg) (0.003)	ND	ND	ND	ND	1.0
Chromium (mg/Kg) (0.0003)	0.071	3.39	3.39	1.731	5.0
Lead (mg/Kg) (0.037)	2.1	0.103	2.1	1.102	5.0
Mercury (mg/Kg) (0.009)	ND	ND	ND	ND	0.2
Selenium (mg/Kg) (0.037)	ND	ND	ND	ND	1.0
Silver (mg/Kg) (.0.25)	ND	ND	ND	ND	5.0
TPH (mg/Kg)					
Petroleum Hydrocarbons, TR (mg/Kg) (10)	20000	110000			
Volatile Organic Compounds (detection limit ug/Kg) (detected compounds only)					
1,2,4 - Trimethylbenzene (mg/Kg) (3)	ND	70			
1,3,5-Trimethylbenzene (mg/Kg) (3)	ND	330			
Xylenes, Total (mg/Kg) (3)	ND	15			

ND - Not Detected
NA - Not analyzed
Report Date: 4/2001

NB - Near the Bottom of the excavation
NS - Near the Surface of the excavation

2. Elevation survey information was obtained for the surface water elevation at the time of the trench excavation. The elevation of the bottom of the lagoon has been estimated based on a topographic survey dated January 26, 1994.

3. The fluctuation in groundwater elevation in the area of the 3B Lagoon is presented on the graphs provided with a line showing the elevation of the bottom of the sump. The survey notes and ground water elevation data used to prepare this figure are provided in Appendix 2.

4. Photographic documentation was obtained during the trench excavation investigation effort. Copies of the photographs are provided on CD ROM and selected prints are attached to this memorandum.

5. Four trenches were excavated around the lagoon. The information obtained from the trenches was used to prepare cross-sections of the lagoon area and estimate the quantity of each material observed. The quantity calculations and cross-sections are provided in Appendix 4. The following are the observations

associated with the four trenches completed around the 3B Lagoon on February 9, 2001:

- General observations – snow/rain, cold - approximately 20 degrees F, cloudy, water was about 2 to 4 feet deep (estimated), no ice present on water, edge of pond was very soft although oil was not visibly seeping as was observed during hot summer weather.

- First trench: Northeast corner of 3B Lagoon. Surface was plastic clay-like material. Dark gray material extended to 5 feet deep. Brown sand texture and oil-stained sands extended to light gray sand at 10-foot depth.

- Second Trench: Northwest site of 3B Lagoon, south of discharge pipe from bioreactors. Spongy light brown material at 0 to 6 inches (possibly biomass contained in the lagoon). Plastic black material 1 to 4 feet deep, clean brown sand at 4 feet extending to 10 feet deep. Near discharge from bioreactors.

- Third Trench: Southwest side of 3B Lagoon. 1 to 2 feet deep brown spongy sediment layer material similar to second trench. Sludge was 5 feet deep beginning from the existing water line. Brown sands extended to 10-foot depth. Excavated laterally from lagoon to determine extent of staining. Concluded that sludge/stain extends laterally to within 2 to 3 feet of the top of the berm (probably, the former water surface elevation).

- Fourth Trench: Southeast side of 3B Lagoon. Noticed (refer to photograph) oil material seeping from side of excavation at 0 to 3 foot depth with brown/oil stained sands extending to 9 to 10 foot depth. At 9 to 10 feet deep brown (apparently clean) sand encountered.

6.0 Health and Safety Considerations

Health and safety requirements imposed by site management were followed as described in the Technical Memorandum plan.

7.0 Waste Disposal

Waste disposal was not required during this effort. Soils and sediment excavated during the trench effort were replaced in the excavation and compacted with the bucket of the backhoe.

8.0 Conclusions

The following are the conclusions resulting from the effort:

1. *Determine if the free oil is contained within the lagoon area or if it extends beyond the boundary of the lagoon area.* – There was no clear evidence that free oil (that observed on the surface and within the top layer of sediment) extends beyond the top one to two feet of sediment.

2. *Determine if the free oil is influenced by changing ground water levels and likely to contribute to groundwater contamination.* – The predominant groundwater levels appear to be approximately three feet below the bottom of the lagoon. The underlying sands show evidence of staining indicative of migration although there was no evidence of free oil migration.

3. *Determine the approximate depth and volume of sediment contaminated with the free oil.* Appendix 4 includes cross section drawings of the lagoon. The estimated depth of each stratum is based on the four trenches excavated around the lagoon. Although this data is limited, it provides a rough order-of-magnitude estimate of material quantities as shown in the following table:

Matrix (Material)	Description	Estimated Volume (Cubic Yards)
Black/Brown Spongy Material	Appears to be organic matter from lagoon with high oil content	3,600
Sludge/Black Clay	Thick, cohesive material ranging from pure oil sludge appearance to varying amounts of clay content. High plasticity.	20,100
Stained soils	Stained sandy soils, petroleum odor with varying amount of apparent staining.	22,100
Total Potentially Impacted Material		*~45,800*

4. The oil layer on the 3B Lagoon observed during periods of warm weather appears to be contained in the upper foot (approximately) of the sediment and soil matrix.

5. The sediments and stained soils do not exhibit the characteristics of a hazardous waste although petroleum related contaminants appear to be present.

9.0 Recommendations

1. TPI Petroleum, Inc. refinery staff have a practice of removing floating oil from the surface of the lagoon using a vacuum truck. This practice should continue.

2. TPI Petroleum, Inc. should consider the 3B lagoon as one of the top one-third priority SWMUs for which remediation decisions will be evaluated. The basis for this recommendation is the size of the lagoon, its proximity to the closed 3A Lagoon, and the clear presence of oil and contaminated soils.

3. TPI Petroleum, Inc. should continue best management practices such as the following:

   - Overflow prevention;
   - Maintain dikes; and
   - Limit discharge and overflow from the lagoon (continue operating discharge pipe from bioreactors to oxidation lagoons).

4. TPI Petroleum, Inc. should not implement new corrective action or additional interim action at the SWMU until remediation goals have been developed and accepted by EPA in order to avoid action potentially inconsistent with a final action.

5. TPI petroleum, Inc. should continue implementation of the interim actions already underway to maintain control over additional migration of free oil or contaminants from the lagoon. The actions that should continue include the SVE system, ICM system, and regular groundwater monitoring.

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March 1, 2001

99-0138R018

Katherine Dunn
Chief, Corrective Action Unit
Hazardous Waste Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366

BUREAU OF WASTE MANAGEMENT
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Re: 2001 Annual Land Treatment Unit Sampling Report
TPI Petroleum, Inc. Arkansas City, Kansas
Permit No.: KSD087418695

Dear Ms. Dunn:

This report documents the results of the Land Treatment Unit (LTU) soil core sampling conducted at the TPI Petroleum, Inc. (TPI) Arkansas City, Kansas facility in December, 2001. The soil core sampling was conducted as described in the LTU closure plan.

Site Description

The refinery is located near the southeast corner of Arkansas City in the southwest 1/4 of Section 32, Township 34 South, Range 4 East and the NW 1/4 of Section 5, Township 35 South, Range 4 East in southwestern Cowley County, Kansas. The refinery is located at the confluence of the Arkansas and Walnut Rivers. It is located on flat lying alluvium soils and sediments. Most of the land around the refinery is cultivated for growing wheat and grain sorghum. The LTU is located in the southern portion of the refinery property. Figure 1 shows the location of the LTU.

The LTU consists of a 3.85-acre soil plot. The LTU is divided into two (2) subplots separated by a roadway. Plot A (the northern portion) is 2.22 acres in area while Plot B (the southern portion) consists of 1.63 acres. The LTU can be divided vertically into a zone of waste incorporation, a treatment zone (TZ) and below the treatment zone (BTZ). The dimensions (depth) relative to the initial soil surface, of the TZ and the unsaturated monitoring zone are as follows:

- The zone of waste incorporation is a maximum of 10 inches from the initial soil surface.
- The treatment zone is a maximum of 4.5 feet from the initial soil surface.

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The unsaturated soil core samples representing BTZ conditions have historically been collected from a depth of 4.5 to 5 feet below the initial land surface as specified in the RCRA Operating Permit.

Sample Collection

Soil boring locations were selected utilizing random grid sampling methodology. The closure plan specifies a grid interval of 20 feet between grid nodes for sampling at the LTU. The area to be gridded was constructed so as to generally fit the interior perimeter of the unit as shown on Figure 2. All grid nodes are sequentially numbered from one to 390. The calculation for the number of sample points is described in the closure plan as the cube root of the number of grid nodes. The number of sample points was calculated to be seven. A calculator with a random number generating feature was used to determine the seven grid points to be sampled prior to the sampling event.

At each location, the soil borings were advanced using a direct push (Geoprobe technique) sampling technique after initial decontamination of the equipment. Within the LTU treatment zone, two samples were collected, one in the upper 1-foot interval and one in the lower portion (3 to 3.5 feet) of the treatment zone. Two samples were collected below the treatment zone, one 4.5 to 5-foot below the ground surface and another 8.5 to 9 feet below the ground surface.

Equipment decontamination and quality assurance/quality control procedures were followed as described in the LTU closure plan. All samples were submitted to the laboratory using the appropriate chain-of-custody protocols.

The 2001 sampling event began on December 13, 2001 and was completed December 14, 2001. Table 1 provides a summary of the sampling information including the sample dates, sample technique and laboratory analyses requested during the 2001 sampling event. Figure 3 shows the respective LTU sample locations.

Following the soil sampling, the boreholes were backfilled with bentonite to prevent hazardous constituents from channeling down the hole. The LTU soil samples were placed on ice for transport to Severn Trent Laboratories (STL), Inc. – Denver, Colorado. STL – Denver performed all analyses except Cation Exchange Capacity, which was performed at Severn Trent Laboratories, Inc. – Burlington, Vermont.

Analytical Results

The laboratory results for the 2001 sampling event are summarized in this report on Table 2. Laboratory Form 1's and chain-of-custody forms for the 2001 sampling event are included in Attachment 1.

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Attachment 2 contains a summary of the analytical data validation. Data quality flags have been assigned by the laboratory and were retained or adjusted as necessary during the data validation process.

As anticipated, metals, volatile organic compound (VOC) and semivolatile organic compound (SVOC) impacts to the LTU soils were generally located in the upper layers (3-3.5' and 4.5-5' sample depths). Elevated concentrations of lead and total chromium were found in the upper layers at the majority of sample grid locations. VOC detections were generally limited to benzene, toluene, ethylbenzene and xylenes (BTEX) and the trimethybenzenes. SVOC detections were generally limited to 1-methylnaphthalene, 2-methylnaphthalene and naphthalene, with occasional detections of other SVOCs.

Table 3 lists the organic constituents that exceed their respective Tier II Risk-Based Standards for Kansas (RSK) for the non-residential area soil-to-groundwater pathway. Kansas has not developed metals criteria for the soil to groundwater pathway, therefore; the metals are not included in Table 3. Of the VOCs, benzene was detected at concentrations exceeding its RSK value in the 3'-3.5' interval (five samples), 4.5'-5' interval (four samples), and the 8.5'-9' interval (one sample). Carbon disulfide was detected above its RSK at grid location 154 at the 3'-3.5' depth interval. The carbon disulfide result at grid location 154 is considered to be anomalous. While carbon disulfide has been observed elsewhere in the LTU, it is generally present at much lower concentrations likely a result of microbiological degradation processes occurring in the LTU. 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected above their RSK values in several samples in the 3'-3.5' and 4.5'-5' intervals. For the SVOCs, chrysene was detected above its RSK value four times in the 3'-3.5' interval, twice in the 4.5'-5' interval and once in the 8.5'-9' interval. Indeno(1,2,3-cd)pyrene was detected above its RSK value once with an estimated concentration in the 3'-3.5' interval, and 2,4-dinitrotoluene was detected above its RSK value once with an estimated concentration in the 4.5'-5' interval.

The development of the RSK values described above incorporated some conservative assumptions about leachate migration to groundwater. These assumptions include:

- Soil contamination extends from the surface to the groundwater table;
- There is no chemical or biological degradation in the unsaturated zone;
- There is no attenuation of constituents in the aquifer; and,
- The receptor well is at the source area and screened within the plume.

The specific site information does not conform to these assumptions, since the soil contamination does not extend to the groundwater table and there are no receptor wells at the source area. Based upon these

two assumptions alone, the Tier II RSK values are very conservative. This data will be evaluated further during subsequent phases of LTU closure.

The KDHE Tier II RSK values do not contain values for metals at the present time. To assess the metals results, the data are compared to the USEPA soil screening levels (SSL) to assess the migration to groundwater pathway. In the absence of a SSL the data are compared to the USEPA preliminary remediation goals (PRGs) for industrial soil. SSLs were published for all of the inorganics in the target constituent list with the exception of chromium (III), cyanide, lead and mercury.

The only SSL exceedances occurred with antimony (SSL=5 mg/Kg) at three grid locations in the 3-3.5 foot depth interval and one location at the 4.5-5 foot depth interval. In each instance, the concentration is reported as estimated as the result is between the method detection level (MDL) and the method practical quantitation level (PQL). The concentrations ranged between 5.1 J mg/kg and 7.5 J mg/kg.

The industrial soil PRG for lead is 750 mg/kg. The lead PRG was exceeded at four grid locations at the 3-3.5 foot depth interval and at one grid location at the 4.5-5 foot depth interval. In each instance, the concentrations are reported as estimated since the result was between the MDL and the PQL. The PRGs are used just for comparison and do not necessarily reflect action levels for this unit.

If you have any questions about this report please contact either Ms. Brenda Manterola of Valero Energy Corporation at (210) 592-4619 or me at (303) 861-2200 x129.

Sincerely,
ENECOTECH INC.

Jay Mednick
Project Manager

Attachments: Figures, Tables, Attachments 1 & 2

cc: Jeffrey Robichaud, EPA Region VII
Brenda Manterola, Valero
Harold Green, Valero
Rob Franke, RBA

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February 28, 2001

99-0138R016

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Ms. Katherine Dunn
Environmental Scientist
Hazardous Waste Facilities Unit
Permits Section
Bureau of Waste Management
Kansas Department of Health and Environment
Forbes Field, Building 740
Topeka, Kansas 66620-0001

Re: Annual Land Treatment Unit Closure Sampling Report
TPI Petroleum, Inc. Arkansas City, Kansas
Permit No.: KSD087418695

Dear Ms. Dunn:
This report documents the results of the Land Treatment Unit (LTU) soil core sampling conducted at the TPI Petroleum, Inc. (TPI) Arkansas City, Kansas facility in 2000. The soil core sampling was conducted as described in the LTU closure plan (January 25, 2000).

Site Description
The refinery is located near the southeast corner of Arkansas City in the southwest 1/4 of Section 32, Township 34 South, Range 4 East and the NW 1/4 of Section 5, Township 35 South, Range 4 East in southwestern Cowley County, Kansas. The refinery is located at the confluence of the Arkansas and Walnut Rivers. It is located on flat lying alluvium soils and sediments. Most of the land around the refinery is cultivated for growing wheat and grain sorghum. The LTU is located in the south of the refinery property. Figure 1 shows the location of the LTU.

The LTU consists of a 3.85-acre soil plot. The LTU is divided into two (2) subplots separated by a roadway. Plot A (the northern portion) is 2.22 acres in area while Plot B (the southern portion) consists of 1.63 acres. The LTU can be divided vertically into a zone of waste incorporation, a treatment zone (TZ) and below the treatment zone (BTZ). The dimensions (depth) relative to the initial soil surface, of the TZ and the unsaturated monitoring zone are as follows:

- The zone of waste incorporation is a maximum of 10 inches from the initial soil surface.
- The treatment zone is a maximum of 4.5 feet from the initial soil surface.

The unsaturated soil core samples representing BTZ conditions have historically been collected from a depth of 4.5 to 5 feet below the initial land surface as specified in the RCRA Operating Permit.

Sample Collection
Soil boring locations were selected utilizing random grid sampling methodology. The closure plan specifies a grid interval of 20 feet between grid nodes for sampling at the LTU. The area to be gridded was constructed so as to generally fit the interior perimeter of the unit as shown on Figure 2. All grid nodes are sequentially numbered from one to 390. The calculation for the number of sample points is described in the closure plan as the cube root of the number of grid nodes. The number of sample points

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was calculated to be seven. A random number table, or calculator with a random number generating feature, was used to determine the seven grid points to be sampled during each sampling event.

At each location, the soil borings were advanced using a direct push (Geoprobe technique) sampling technique after initial decontamination of the equipment. Within the LTU treatment zone, two samples were collected, one in the upper 1-foot interval and one in the lower portion (3 to 3.5 feet) of the treatment zone. Two samples were collected below the treatment zone, one 4.5 to 5-foot below the ground surface and another 8.5 to 9 feet below the ground surface.

Equipment decontamination and quality assurance/quality control procedures were followed as described in the LTU closure plan. All samples were submitted to the laboratory using the appropriate chain-of-custody protocols.

The 2000 sampling event began on November 21, 2000 and was completed on November 22, 2000. Table 1 provides a summary of the sampling information including the sample dates, sample technique and laboratory analyses requested during the 2000 sampling event. Figure 3 shows the sample locations for the November 2000 sampling event.

Following the soil sampling, the boreholes were backfilled with bentonite to prevent hazardous constituents from channeling down the hole. The LTU soil samples were placed on ice for transport to Southwest Laboratory of Oklahoma for analysis.

Analytical Results

The laboratory results for the 2000 sampling event are summarized in this report on Table 2. Laboratory Form 1's and chain-of-custody forms for the 2000 sample event are included in Attachment 1.

The analytical results summary tables present the results of the laboratory analyses with data quality flags assigned during the data validation process. These data quality flags are defined in the summary tables. The U, DL, RA, RE, N and * flags are assigned by the laboratory.

If you have any questions about this report please contact either Ms. Brenda Manterola of TPI at (210) 592-4619 or me at (303) 861-2200 x129.

Sincerely,
ENECOTECH INC.

Jay Mednick
Project Manager

Attachments: figures, tables, laboratory analytical results and chain-of-custody forms
cc: Ken Herstowski, EPA
Brenda Manterola, TPI
Harold Green, TPI

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January 31, 2001

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99-0138R016

Ms. Katherine Dunn
Chief, Corrective Action Unit
Bureau of Waste Management
Kansas Department of Health and Environment
Forbes Field, Building 740
Topeka, Kansas 66620-0001

Re: RCRA Corrective Action Groundwater Monitoring Results
TPI Petroleum, Inc. Arkansas City, Kansas
EPA ID No.: KSD087418695

Dear Ms. Dunn:

The purpose of this letter is to present to the KDHE the results of the groundwater sampling and analysis conducted during the second groundwater semi-annual sampling event in 2001. TPI Petroleum, Inc. (TPI) sampled the groundwater corrective action performance and supplemental monitoring wells on October 9 and 10, 2001. The groundwater samples were collected in accordance with the procedures presented in approved Groundwater Sampling and Analysis Plan (SAP). Groundwater concentration isopleth maps will be submitted for this event with the 2001 annual groundwater report.

The groundwater samples collected from the corrective action performance and supplemental monitoring wells were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX).

Severn Trent Laboratory (STL) in Denver, Colorado analyzed the groundwater samples. The laboratory analytical results are summarized on Table 1. The laboratory report Form 1s, field sampling and chain-of-custody forms for each of the sampling events are included in Attachments 1, 2 and 3 respectively. A monitoring well location map is presented on Figure 1 and the water level measurements are summarized on Table 2.

If you have any questions or comments about the information presented in the letter, please contact either Brenda Manterola, of Valero Energy Corporation at 210/592-4619 or me at 303/861-2200 ext.129.

Sincerely,

ENECOTECH INC.

Jay Mednick
Project Manager

Attachments: Tables 1 and 2, Figure 1, and Attachments 1-3

Cc: Harold Green, Valero
Brenda Manterola, Valero

Table 1 Summary of RCRA Corrective Action Groundwater Monitoring Results October 9 & 10, 2001
TPI Petroleum, Inc. Arkansas City, Kansas

WELL ID:	WN-1A	WN-1B	WN-5B	WN-6A	WN-6B	WN-7B	RCRA-MW-5[1]	WN-8B	MW-6	MW-12	MW-13	RCRA-4	BIOREACTOR INFLUENT
FIELD MEASUREMENTS													
Sample Date	10/09/01	10/09/01	10/10/01	10/10/01	10/10/01	10/10/01	10/10/01	10/10/01	10/09/01	10/09/01	10/09/01	10/09/01	10/10/01
Groundwater Elevation (ft amsl)	1048.80	1048.55	1047.52	1046.75	1046.73	1048.3		1048.26	1043.69	1040.12	1043.65	1043.73	
pH (standard units)	7.41	6.90	6.89	6.95	6.86	7.03	-	6.93	6.90	6.84	7.06	6.86	6.94
Conductivity @25°C (umhos/cm)	1.04	1.00	0.78	1.06	0.83	0.78	-	9.91	0.81	0.97	1.07	0.78	11.18
Temperature °C	18.8	19.6	17.3	16.7	17.7	17.6	-	17.6	17.6	18.9	19.3	20.3	18.4
LABORATORY ANALYSES													
Volatile Organic Compounds (ug/L)													
Benzene	1 U	1 U	0.73 J	**1.2**	**350 D**	**77 D**	**89 D**	**140 D**	**4600 D**	**9.8**	1 U	1 U	**300 D**
Toluene	1 U	1 U	2 U	1 U	6.4 J	4.7 J	5 J	3.7 J	**590 D**	1 U	1 U	1 U	**38 D**
Ethylbenzene	1 U	1 U	2 U	1 U	20 U	10 U	10 U	10 U	150 J	1 U	1 U	1 U	**4.5 J**
Xylenes (total)	2 U	2 U	4 U	2 U	40 U	**31 D**	**35 D**	20 U	**1200 D**	2 U	2 U	2 U	**55 D**

Notes:

1 = RCRA-MW-5 is a field duplicate of WN-7B.

U Indicates compound was analyzed for but not detected.

J Indicates an estimated value. Used primarily when the compound was detected below the practical quantitation limit (PQL).

D This flag identifies all compounds identified in an analysis at a secondary dilution factor.

BOLD Indicates positive detection above the quantitation level.