



Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

ILLINOIS EPA RCRA CORRECTIVE ACTION CERTIFICATION

This certification must accompany any document submitted to Illinois EPA in accordance with the corrective action requirements set forth in a facility's RCRA permit. The original and two copies of all documents submitted must be provided.

1.0 Facility Identification

Name WRB Refining LP - Wood River Refinery County Madison
Street Address 900 South Central Ave. Site No. (IEPA) 1191150002
City Roxana, IL 62084 Site No. (USEPA) ILD 080 012 305

2.0 Owner Information

Name Not Applicable
Mail Address _____
City _____
State _____ Zip Code _____
Contact Name _____
Contact Title _____
Phone _____

3.0 Operator Information

Name Equilon Enterprises LLC d/b/a Shell Oil Products US
Mail Address 17 Junction Drive PMB #399
City Glen Carbon
State IL Zip Code 62034
Contact Name Kevin Dyer
Contact Title Principal Program Manager
Phone 618-288-7237

4.0 Type of Submission (check applicable item and provide requested information, as applicable)

☐ RFI Phase I Workplan/Report IEPA Permit Log No. B-43R
☐ RFI Phase II Workplan/Report Date of Last IEPA Letter on Project July 27, 2016
☐ CMP Report; Log No. of Last IEPA Letter on Project B-43R-CA-63
☒ Other (describe): Does this submittal include groundwater information: ☒ Yes ☐ No
Response to IEPA Letter dated July 27, 2016 - Groundwater Conditions near East 3rd & Chaffee Streets in Roxana, IL
Date of Submittal 10/14/16

5.0 Description of Submittal: (briefly describe what is being submitted and its purpose)

Response to IEPA Letter dated July 27, 2016

6.0 Documents Submitted (identify all documents in submittal, including cover letter; give dates of all documents)

Corrective Action Certification and Letter with attachments

7.0 Certification Statement

(This statement is part of the overall certification being provided by the owner/operator, professional and laboratory in items 7.1, 7.2 and 7.3 below). The activities described in the subject submittals have been carried out in accordance with procedures approved by Illinois EPA. 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.

For: Equilon Enterprises LLC d/b/a Shell Oil Products US

Date of Submission: 10/14/16

7.1 Owner/Operator Certification

(Must be completed for all submittals. Certification and signature requirements are set forth in 35 IAC 702.126.) All submittals pertaining to the corrective action requirements set forth in a RCRA Permit must be signed by the person designated below (or by a duly authorized representative of that person):

1. For a Corporation, by a principal executive officer of at least the level of vice president.
2. For a Partnership or Sole Proprietorship, by a general partner or the proprietor, respectively.
3. For a Governmental Entity, by either a principal executive officer or a ranking elected official.

A person is a duly authorized representative only if:

1. the authorization is made in writing by a person described above; and
2. the written authorization is provided with this submittal (a copy of a previously submitted authorization can be used).

Owner Signature: _____

Date: _____

Title: _____

Operator Signature: Kevin Edger

Date: 10/7/16

Title: Senior Principal Program Manager

7.2 Professional Certification (if necessary)

Work carried out in this submittal or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. No one is relieved from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44 (h))

Professional's Signature: Robert B. Billman

Date: 10/14/16

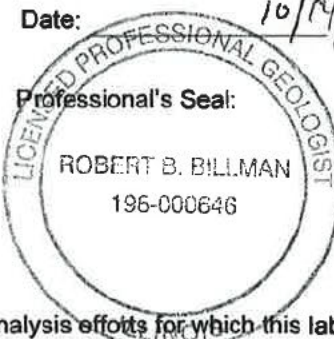
Professional's Name Robert B. Billman

Address AECOM, 1001 Highlands Plaza Drive West, Suite 300

City St. Louis

State MO Zip Code 63110

Phone 314-743-4108

**7.3 Laboratory Certification (if necessary)**

The sample collection, handling, preservation, preparation and analysis efforts for which this laboratory was responsible were carried out in accordance with procedures approved by Illinois EPA.

Name of Laboratory _____

Date: _____

Signature of Laboratory Responsible Officer

Mailing Address of Laboratory

Address _____

City _____

State _____ Zip Code _____

Name and Title of Laboratory Responsible Officer

October 14, 2016

Ms. Joyce L. Munie, PE
Manager, Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois 62794

**Subject: Response to IEPA Letter dated July 27, 2016 – Groundwater Conditions near East 3rd and Chaffer Streets
Roxana, Illinois
1191150002 – Madison County
Equilon Enterprises LLC d/b/a Shell Oil Products US
Log No. B-43R-CA-63**

Dear Ms. Munie;

AECOM Technical Services Inc. (AECOM), on behalf of Shell Oil Products US (SOPUS), is providing this letter in response to the Illinois Environmental Protection Agency's (IEPA's) July 27, 2016 letter. In that letter, the IEPA approved the URS Corporation (now AECOM) letter entitled *Response to IEPA Letter April 8, 2013 – Groundwater Conditions near East 3rd and Chaffer Streets* (Response Letter), which was dated July 29, 2013. The IEPA also included a condition requesting a proposal be submitted to address the potentiometric high in the northern portion of the study area as follows:

Condition 1 (with parts a and b) of the IEPA's July 27, 2016 letter requested "a proposal to install an adequate number of nested wells to monitor the extent of the low-permeability zone", and "...to verify groundwater quality, flow directions, and hydraulic gradients that show pumping overcome potential radial flow."

In the time since the July 29, 2013 response letter was submitted to the IEPA, several additional monitoring wells have been installed within the Village of Roxana in 2013 and 2014 (see attached **Figure 1**). Five new wells (MW-17, MW-22, MW-24, MW-27 and MW-28 – noted on **Figure 1**) were installed and used to further characterize the area, including the extent of the low permeability zone and the potentiometric conditions in vicinity of 3rd and Chaffer Streets. Soil sampling performed during the installation of these wells confirmed the horizontal and vertical extent of the low permeability zone as they were presented in the July 29, 2013 response letter.

These five new monitoring wells, shown on **Figure 1** were added to the Interim Groundwater Monitoring Program and have been used to monitor groundwater quality and flow. The groundwater quality information from these five new monitoring wells coupled with the monitoring wells within the Interim Groundwater Monitoring Program were used to develop the document titled: *Demonstration to Verify the Extent of Groundwater Contamination has been Delineated in Roxana, Illinois*. This document, dated April 16, 2015, was submitted to IEPA. In a letter dated February 23, 2016 (Log No. B-43R-CA-85 and CA-90), IEPA concurred that the extent of groundwater contamination has been

delineated within the Village of Roxana. Based on this concurrence, a *Proposed Groundwater Management Zone* (GMZ), dated May 19, 2016, was submitted for IEPA review and approval. IEPA's response to the proposed GMZ is pending as of the date of this letter.

A review of groundwater flow and benzene concentration data has been performed for each quarter before and since the new groundwater monitoring wells were added to the Interim Groundwater Monitoring Program (4th quarter 2014 through 2nd quarter 2016). **Figures 2 and 3** show the groundwater flow along with superimposed dissolved-phase Benzene concentrations.

The local potentiometric high and associated local radial gradient shown on **Figures 2 and 3** reside within the capture zone of the Wood River Refinery (WRR) pumping wells. The radial gradient on the eastern side of the low permeability zone is towards the WRR cone of depression. On the west and northwest flank of the low permeability zone the radial gradient is initially away from the capture zone in a westerly direction. However, immediately to the west the gradient turns to the south and then to the southeast toward the WRR pumping wells capture zone.

The efficacy of the capture is evidenced by the dissolved phase benzene plume which currently exists only on the southeast flank and crest of the local potentiometric high (**Figures 2 and 3**). The benzene concentrations in wells on the north, west and northwest flank of the potentiometric high have consistently been below the IEPA Tier 1 limit (0.005 mg/L), shown on Exhibit 1 below, and most results have been below the laboratory reporting limit. In addition, the benzene concentrations in ROST-3-MW, which is located on the southwest flank of the potentiometric high (**Figures 2 and 3**), have shown a downward trend and have been below the IEPA Tier 1 limit since 2nd quarter 2015 (Exhibit 2 below).

Exhibit 1

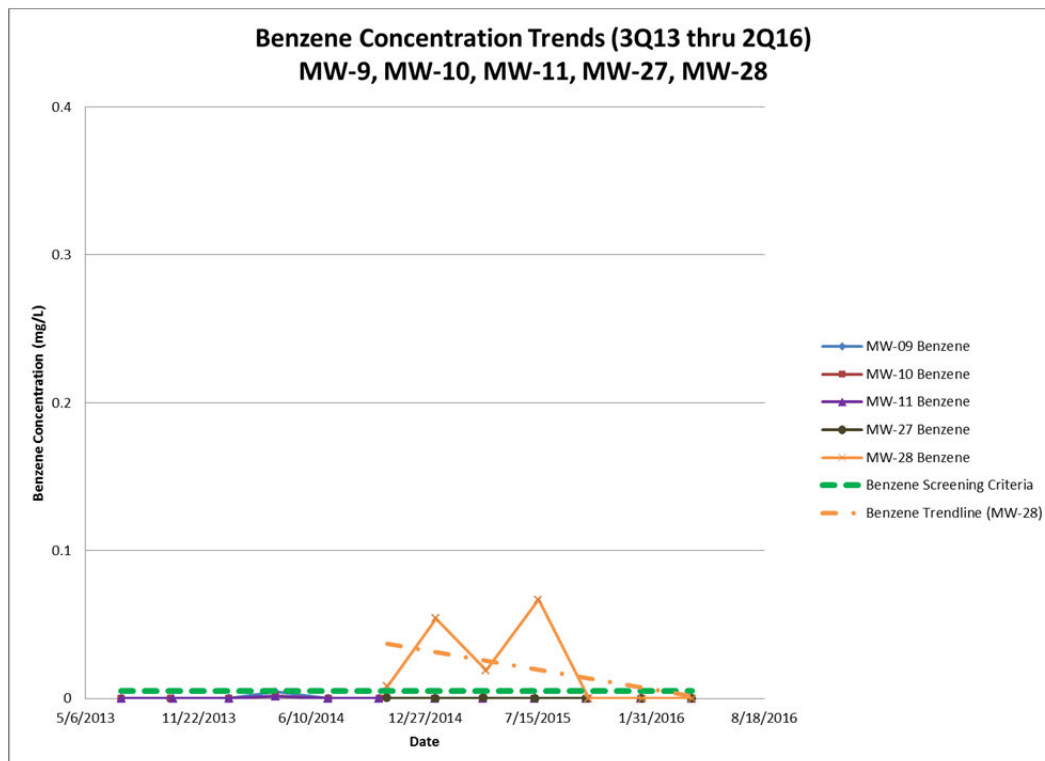
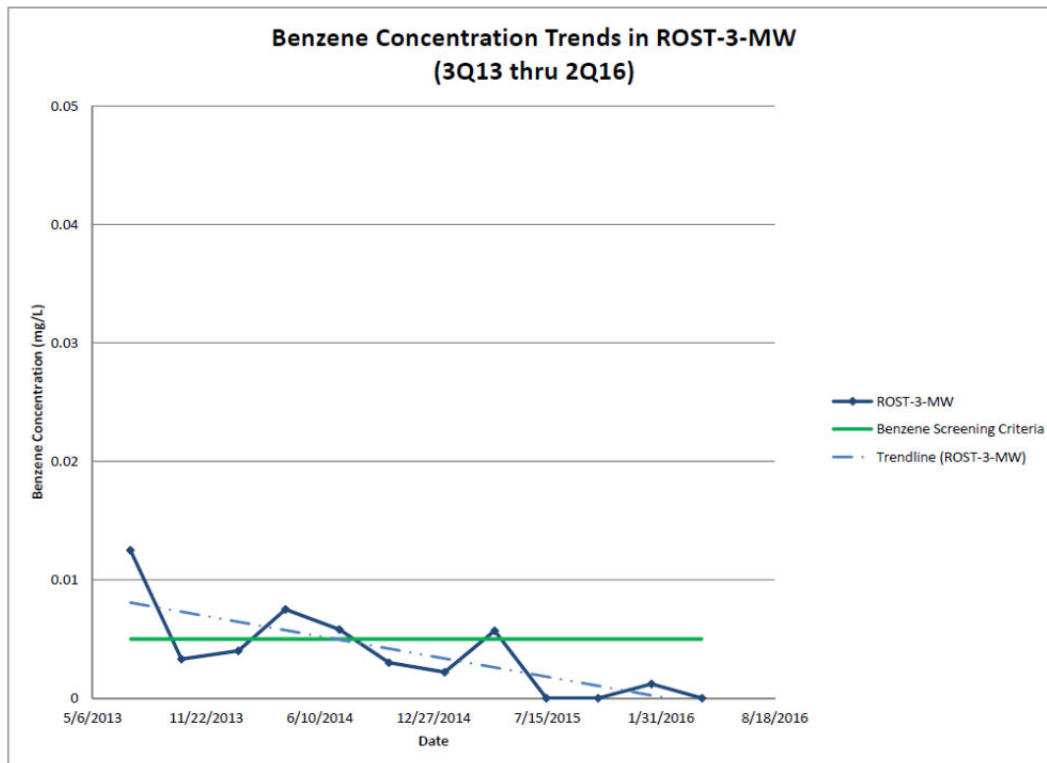


Exhibit 2



The data presented in this letter demonstrates that while the local potentiometric high may have a localized groundwater gradient in a westerly direction on the western flank, the wider capture zone associated with the WRR pumping wells limits any groundwater movement in this direction. This is supported by the groundwater contours and by the benzene data, which demonstrates that dissolved benzene impact is not migrating to the north or west away from the WRR and that pumping is adequate to overcome intermittent radial flow above the local potentiometric high.

Based on the additional monitoring wells that have already been installed and the above presented information, nested wells are not being proposed at this time. However, as requested by Condition 2 of the IEPA's July 27, 2016 letter, an additional section of text will be added to Roxana Interim Groundwater Monitoring Program reports, beginning in the 4th quarter 2016, to provide a more detailed discussion of the potentiometric surface in the ROST-4-PZ area.

If you have any questions or require further information, please contact Bob Billman at bob.billman@aecom.com or 314-743-4108.

Sincerely,
AECOM, on behalf of Shell Oil Products US

Wendy Pennington, PE
Project Engineer

Robert B. Billman
Senior Project Manager

Attachments: **Figure 1** Groundwater Monitoring Wells Installed in 2013 & 2014
Figure 2 Groundwater Flow & Benzene Concentration Contours 2Q15
Figure 3 Groundwater Flow & Benzene Concentration Contours 2Q16

Cc: Kevin Dyer, SOPUS
Eric Petersen, Phillips 66
Project File
Repositories (Roxana Public Library, Roxana Village Hall, Website)

