



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

ALEC MESSINA, DIRECTOR

(618) 346-5120
Fax: 618/ 364-5155

July 2, 2018

Equilon Enterprises LLC dba Shell Oil Products US
Attn: Mr. Kevin Dyer
17 Junction Drive
PMB #399
Edwardsville, IL 62034

Re: 1191150002 - Madison County
Equilon Enterprises LLC dba Shell Oil Products US
Compliance File

Dear Mr. Dyer:

On May 7, 2018, an inspection of your facility was conducted by Gina Search representing the Illinois Environmental Protection Agency. This inspection was conducted in accordance with Sections 4(c) and 4(d) of the Illinois Environmental Protection Act (Act) 415 ILCS 5/4(c) and (d) (1992). The purpose of this inspection was to determine compliance with the [Illinois] Environmental Protection Act and 35 Ill. Adm. Code, Subtitle G.

A copy of this inspection report is enclosed. Please note that this matter is currently under review by the Agency's Division of Legal Counsel. Please contact Melanie Jarvis at 217/782-5544 if you have any questions regarding this inspection.

Sincerely,

Chris N. Cahnovsky, CHMM
Manager, Collinsville/Marion Region
Field Operations Section
Bureau of Land

Enclosure

RECEIVED
JUL 13 2018
BY: _____

**Bureau of Land – Field Operations Section
RCRA Inspection Report**

General Facility Information			
BOL ID:	1191150002	Region:	Collinsville
USEPA ID:	ILD080012305	County:	Madison
Site Name:	Equilon Enterprises LLC dba Shell Oil Products US	Phone:	618-288-7237
Address:	900 S Central Ave	Latitude:	38.84115
City/State/Zip:	Roxana, IL 62084	Longitude:	-90.06372
Inspection Date:	5/7/2018		

Facility Type		
Most Recent Notification Date	Notified As	Regulated As
3/1/2016	TSD	TSD

Evaluation Type
Response/Document Review

Inspection Participants		
Participant	Agency/Bureau	Phone
Gina Search	Collinsville IEPA Field Operations Inspector	618/346-5120

Owner	Operator
Equilon Enterprises LLC dba Shell Oil Products US 160 Greentree Drive Ste 101 Dover, DE 19904	Equilon Enterprises LLC dba Shell Oil Products US Kevin Dyer 17 Junction Drive PO Box 399 Glen Carbon, IL 62034

Part B Permit					
Application Date	Expiration Date	Log #	Current Mod #	Issue Date	Mod Issue Date
5/30/2008	10/28/2020	B-43-R	B-43-R-14, M-20, M-22, M-23, M-24, & M-25	9/23/2010	7/29/2015

TSD Activity Summary				
Activity Process	On Part B	Ever Done	Closed	Done During Inspection
S04 - Surface Impoundment	Yes	Yes	Yes	No

Executive Summary

On May 7, 2018, I completed a RCRA Nonfinancial Record Review for WRB Refining LLC Wood River Refinery located at 900 South Central Avenue in Roxana, Illinois. The 2017 Quarterly Roxana Interim Groundwater Monitoring Program data record review was conducted to review the groundwater corrective action program and determine the facility's compliance with their RCRA Post-Closure Permit, applicable sections of the Illinois Environmental Protection Act ("Act") and 35 Ill. Adm. Code regulations.

Inspection Narrative

Shell has been operating a groundwater corrective action program at the refinery since their RCRA Part B Permit was issued on September 29, 1989. Shell's initial corrective action consisted of a pump and treat program with 19 production wells and 10 hydrocarbon recovery wells that was located in the interior of the property: W64, W75, W66, W67, W70, W62, W69, W57, W40, W73, W76, W39, W47, W72, W74, W42, W41, W60, W59, and W68. Permit reviews completed by the Agency requested that flow meters be installed on the pumping wells. Shell stated that the cost was prohibitive and instead provided a sequence of operation for the production wells to provide the best control of the plume. The pumping wells were operated in the specific order listed above until the process demands for water or the 3000 gallons per minute (gpm) was met, whichever was greater.

In November and December 1989, Shell notified the Agency that control of groundwater flow may not be adequate near the west fence line of the North Property. They were pumping from the above listed interior production wells in the sequence to best control the plume at the required 3000 gpm. Studies were completed and Shell decided to install five additional production wells with associated skimmer wells to increase control of groundwater flow along the North Property west fence line. The wells were to be installed in a north/south orientation with approximately 500 feet separation and approximately 500 feet east of the west fence line. Their studies indicated that pumping each well at 50 gpm would produce a drawdown of approximately one foot in the fence line area.

In 2006, the semi-annual data indicated increasing levels of benzene near the north property west fence at monitoring well P-93. Shell conducted additional investigative work near P-93 and along the western fence line. The results indicated that a contamination plume was migrating towards the refinery from a benzene release site near the intersection of Rand Avenue and Route 111. A plume located to the north in the village was the result of historical refinery releases. The Roxana Study Area was included in the 2010 Renewed RCRA Permit under the Corrective Action Section.

On February 4, 2011 Shell submitted a Groundwater Flow Control Notification for a potential loss of control of groundwater along the west fence line of the North Property. On April 19, 2011, VNL-2011-01126 was issued to Shell and ConocoPhillips due to a loss of control of groundwater flow along the North Property. The alleged violations were cited for failure to ensure the groundwater flow was controlled and failure to maintain the water production wells.

Shell submitted an April 16, 2015 Demonstration to Verify the Extent of Groundwater Contamination in the Roxana Study Area. A February 23, 2016, IEPA letter stated the Agency concurred that the extent of groundwater contamination had been defined within the Village of Roxana. Shell has submitted a Groundwater Management Zone proposal dated May 19, 2016, which is under review by the Agency.

The current groundwater corrective action program consists of seven west fence line production wells and twelve interior production wells. The Permit requires a total of 3000 gallons per minute to be pumped from these wells. There are no flow meters to determine pumping rates at individual wells. Flow meters are not required but have been suggested by the Agency in 2015 and at the start of the corrective action program. There is no required specific order for putting the production wells on line,

and the Agency does not receive information on which wells are pumped in the weekly groundwater pumping and oil recovery skimming well status reports. The quarterly contour maps are the main tool the Illinois EPA is provided to review the overall operation of the system and the effectiveness of the individual components. They are included in the quarterly and semi-annual ground water monitoring reports Shell submits as required by their RCRA Post-Closure Permit.

A review of the 2017 Quarterly Roxana Interim Groundwater Monitoring Program data and contour maps indicates that the water table was relatively flat in the Village of Roxana during the April 2017 gauging event and consistent inward gradient along the west fence line of the North Property was questionable. Review of the 2nd quarter 2017 and 3rd quarter 2017 contour maps indicates flat gradients and questionable inward gradient in the study area. Petroleum impacts in the study area and under the refinery are currently being treated through pumping of the groundwater production wells. The flat gradients weaken the efficacy of the system in the areas undergoing corrective action by pump and treat. Additional corrective measures may be necessary to address the impacted groundwater under the village in a timely manner.

The recent contour maps indicate that the current pumping plan relies heavily on the interior wells and do not depict a distinguishable influence from the six wells positioned closest to the dissolved groundwater plume within the village of Roxana. The following is a summary of the weekly data received for the fence line groundwater pumping wells during 2017.

W-77: On - 2017, but has needed insulating since 1/5/2016. Insulation work had not been completed as of 2/20/2018.

W-78: Off - 5/15/2017- 6/9/2017 no reason provided. Off -7/4/2017-11/29/2017 due to leak in discharge pipe.

W-79: Off - 11/24/2015 - 1/10/2017 no reason was provided. On - 2/22/2017 available for discretionary use, no reason provided. Off - 10/17/2017 available discretionary per PL, no reason provided. On – 11/22/2017 no service entry provided.

W-80: Off - 1/6/2016 won't stay running, needs electrician to check amp, needs cleaned. On - 1/19/2016 no reason provided. Off – 1/26/2016 won't stay running, needs electrician to check amp, needs cleaned, header leak. On - 9/22/2017 sonar jetted on 9/22/2017.

W-81: On – 2017, tripped 5/11/2017 and 5/30/2017, reset OK.

W-85: On – 2017, sonar jetted on 5/19/2017.

W-89: On – 1/01/2017. Off - 3/31/2017, hole in discharge pipe. On – 4/21/2017 discharge pipe repaired. Off – 9/26/2017, testing, can be used. On - 10/03/2017.

Summary of Apparent Violation(s)

Status	Date	Violation	Narrative
Continuing	3/22/2011	21(f)	Failure to comply with 35 Illinois Administrative Code Part 703.
Continuing	3/22/2011	703.121(a)	Failure to comply with Section IV.F.2.a. and Section IV.D.2 of the RCRA Post-Closure Permit.
Continuing	3/22/2011	IV.F.2.a	Rate of groundwater pumping from the Water Production Wells was not high enough to ensure that groundwater flow was adequately controlled in the uppermost aquifer.

Continuing	3/22/2011	IV.D.2	Failure to properly maintain the Water Production Wells.
Continuing	3/22/2011	IV.D.4	Failure to notify the Agency within 30 days of the production wells being taken out of service.