



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-3397
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

ROD R. BLAGOJEVICH, GOVERNOR DOUGLAS P. SCOTT, DIRECTOR

618/346-5120
FAX: 618/346-5155

RECEIVED

MAY 17 2008

May 2, 2008

Shell Oil Products U.S.
Mr. Kevin Dyer
17 Junction Drive
PMB #399
Glen Carbon, Illinois 62034

CERTIFIED MAIL 7004 1160 0004 7478 4805
RETURN RECEIPT REQUESTED

Re: Violation Notice, L-2008-01134
1191150002 -Madison County
Shell Oil Products U.S.
Compliance File

Dear Mr. Dyer:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act, 415 ILCS 5/31(a)(1), and is based on a record review completed on March 29th, 2008 by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of alleged violations of environmental statutes, regulations, or permits as set forth in the attachment to this notice. The attachment includes an explanation of the activities that the Illinois EPA believes may resolve the specified alleged violations, including an estimate of a reasonable time period to complete the necessary activities. Due to the nature and seriousness of the alleged violations, please be advised that resolution of the violations may require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this notice. The response must address each alleged violation specified in the attachment and include for each an explanation of the activities that will be implemented and the time schedule for the completion of that activity. If a meeting is requested, it shall be held within 60 days of receipt of this notice. The written response will constitute a proposed Compliance Commitment Agreement ("CCA") pursuant to Section 31 of the Act. The Illinois EPA will review the proposed CCA and will accept or reject it within 30 days of receipt.

If a timely written response to this Violation Notice is not provided, it shall be considered to be a waiver of the opportunity to respond and to meet provided by Section 31(a) of the Act, and the Illinois EPA may proceed with a referral to the prosecutorial authority.

ROCKFORD - 4302 North Main Street, Rockford, IL 61103 - (815) 987-7760 • DES PLAINES - 9511 W. Harrison St., Des Plaines, IL 60016 - (847) 294-4000
ELGIN - 595 South State, Elgin, IL 60123 - (847) 608-3131 • PEORIA - 5415 N. University St., Peoria, IL 61614 - (309) 693-5463
BUREAU OF LAND - PEORIA - 7620 N. University St., Peoria, IL 61614 - (309) 693-5462 • CHAMPAIGN - 2125 South First Street, Champaign, IL 61820 - (217) 278-5800
SPRINGFIELD - 4500 S. Sixth Street Rd., Springfield, IL 62706 - (217) 786-6892 • COLLINSVILLE - 2009 Mall Street, Collinsville, IL 62234 - (618) 346-5120
MARION - 2309 W. Main St., Suite 116, Marion, IL 62959 - (618) 993-7200

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1191150002 –Madison County
Shell Oil Products U.S.
Compliance File

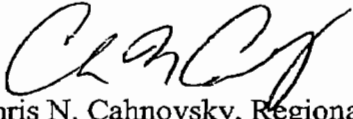
Page 2 of 2

Written communications should be directed to:

Illinois EPA – Bureau of Land
Attn: Mr. Chris Cahnovsky
2009 Mall Street
Collinsville, IL 62234

All communications must include reference to your **Violation Notice L-2008-01134**. If you have questions regarding this matter, please contact Gina Search at 618-346-5120.

Sincerely,



Chris N. Cahnovsky, Regional Manager
Field Operations Section
Bureau of Land

CNC:GRS:jlb/shellvn5208

ATTACHMENT A

1. Pursuant to Section 12(a) of the [Illinois] Environmental Protection Act (415 ILCS 5/12(a)), no person shall cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources, or so as to violate regulations or standards adopted by the Pollution Control Board under this Act.

A violation of Section 12(a) of the [Illinois] Environmental Protection Act (415 ILCS 5/12(a)) is alleged for the following reason: **Causing or threatening or allowing the discharge of any contaminants into the environment so as to cause or tend to cause water pollution.**

Shell Oil Products U.S. is in apparent violation of Section 12(a) of the [Illinois] Environmental Protection Act because they are not in compliance with the applicable groundwater standards contained in 35 IAC 620 Groundwater Quality Standards. The analytical results for samples collected through dates March 1st and April 12th, 2007, indicate that the 35 IAC Part 620 Class I Standards were exceeded 41 times.

2. Pursuant to Section 12(d) of the [Illinois] Environmental Protection Act (415 ILCS 5/12(d)), no person shall deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard.

A violation of Section 12(d) of the [Illinois] Environmental Protection Act (415 ILCS 5/12(d)) is alleged for the following reason: **Causing or threatening or allowing the discharge of any contaminants into the environment so as to cause or tend to cause water pollution. See paragraph 1.**

3. Pursuant to 35 Ill. Adm. Code 620.115, no person shall cause, threaten or allow a Violation of the Act, the IGPA or regulations adopted by the Board thereunder, including but not limited to this Part.

A violation of 35 Ill. Adm. Code 620.115 is alleged for the following reasons: **Shell Oil Products U.S. is in apparent violation of 35 Ill. Adm. Code 620.115 because the facility is not in compliance with 35 Illinois Administrative Code Part 620 and the Illinois Environmental Protection Act.**

4. Pursuant to 35 Ill. Adm. Code 620.301(a), no person shall cause, threaten or allow the release of any contaminant to a resource groundwater such that:

- 1) Treatment or additional treatment is necessary to continue an existing use or to

assure a potential use of such groundwater; or

- 2) An existing or potential use of such groundwater is precluded:

A violation of 35 Ill. Adm. Code 620.301(a) is alleged for the following reason: **See Paragraph 1.**

5. Pursuant to 35 Ill. Adm. Code 620.405, no person shall cause, threaten or allow the release of any contaminant to groundwater so as to cause a groundwater quality standard set forth in this Subpart to be exceeded.

A violation of 35 Ill. Adm. Code 620.405 is alleged for the following reason: **Shell Oil Products U.S. is in apparent violation of 35 Ill. Adm. Code 620.405 because the facility has violated the groundwater quality standards in 35 Illinois Administrative Code 620, Subpart D.**

6. Pursuant to 35 Ill. Adm. Code 620.410(b), except due to natural causes or as provided in 620.450 or subsection (c), concentrations of the following organic chemical constituents shall not be exceeded in Class I groundwater:

Constituent	Standard (ug/L)
Benzene	5.0
Ethylbenzene	700.0
Methyl Tertiary-Butyl Ether	70.0
Toluene	1000.0
Xylenes	10000.0

A violation of 35 Ill. Adm. Code 620.410(b) is alleged for the following reason: **Shell Oil Products U.S. is in apparent violation of 35 Ill Adm. Code 620.410(b) because they the analytical results for samples collected through dates March 1st and April 12th, 2007, indicate that the organic chemical standards listed above were exceeded 41 times.**

SUGGESTED RESOLUTIONS

Within 45 days of receipt of this letter, submit a Compliance Commitment Agreement which includes an outline and timeframe for the following:

- 1) An investigation to determine the rate and extent of groundwater contamination.**
- 2) A statement of the scope of the problem to be mitigated by the remedial action**
- 3) A proposal for remediation actions, including removal of free product, to be implemented at the site.**

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Shell Oil Products U.S.
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4) A proposal for a Vapor Intrusion Migration Pathway Assessment.

The written response to this Violation Notice must include information in rebuttal, explanation, or justification of each alleged violation and must be submitted to the Illinois EPA by certified mail, within 45 days of receipt of this Violation Notice. The written response must also include a proposed Compliance Commitment Agreement that commits to specific remedial actions, includes specified times for achieving each commitment, and may include a statement that compliance has been achieved.



1190905013—Madison County
Shell Oil Products
ILD080012305
Subpart F
Inspector: Gina Search

RCRA Nonfinancial Record Review

Introduction

I completed a RCRA Nonfinancial Record Review for the WRB Refining LLC Wood River Refinery in Roxana, Illinois. Shell Oil Products with the cooperation of ConocoPhillips Company submitted the results of a West Fenceline P-93 Dissolved Phase Benzene Investigation. These results were reviewed to determine the facility's compliance with the 35 IAC 620 Groundwater Quality Standards and the 35 IAC Part 742 Class I remediation objectives.

Background

Shell conducted a subsurface investigation in response to increased benzene concentrations observed in some of the P-93 monitoring wells. The P-93 wells are located near the west fenceline of the refinery North Property. Between March 1st and April 12th 2006, Shell investigated an area between a historic release site and the west fenceline of the WRR. A benzene release occurred on January 30, 1986 from an underground pipeline located just northwest of the Route 111 and Rand Avenue Intersection. Agency personnel recall two pipeline releases occurring in this area. One in release occurred in January 1986 and the other following in February 1986 (See attached memo).

Samples were collected from previously installed wells: P-57, P-58, P-66, P-73, P-75, P-93A and P-93B. Samples were also collected with a geoprobe at various depths at these locations: P-93-02, P-93-03, P-93-05, P-93-06, P-93-09 and P-93-11. The first sample depth was the top of the water table (ranging from 40 to 52 feet bgs). The second sample depth was based on the highest MIP result below the water table (ranging from 58-66 feet bgs). All samples were analyzed by Test America for VOCs via USEPA SW-846 Method 8260B.

Nine cone penetrometer probes were completed to gather information on the geology of the area. The results indicate that the upper 10 feet consists of fill, silts and/or clays. These materials are underlain by sands that extend to bedrock.

Analytical Data Review

The Collinsville Regional Office received the West Fenceline P-93 Dissolved Phase Benzene Investigation in February 2008. The Springfield Permit Section received this report on October 1, 2007. This report contained all of the data for the groundwater

sampling of the existing wells, Cone Penetrometer Data and groundwater profiling for the geoprobe borings.

The data indicates that this a co-mingled plume as there are numerous constituents besides benzene present in the groundwater. The samples collected from the borings closest to the 1986 benzene release site, P-93-11 and P-93-03 contain: Benzene, Ethylbenzene, Toluene, 1,3,5 Trimethylbenzene, 1,2,4-Trimethylbenzene and Xylene. The sample collected from the boring furthest away from the 1986 release site but closest to the P-93 well series, P-93-09, contains: Benzene, Ethylbenzene, Isopropylbenzene, p-Isopropyltoluene, MTBE, Napthalene, n-Propylbenzene, Toluene, 1,3,5-Trimethylbenzene, 1,2,4-Trimethylbenzene and Xylene. In addition to the benzene, many of the contaminants exceeded the 35 IAC 620 Class I standards (see attached tables).

Conoco-Phillips continues to withdraw groundwater to maintain a cone of depression beneath the site. The Second Semiannual Report for 2007 indicates that they pump on average approximately 4000 gpm from the north property wells. These wells are located to the northeast of the 1986 spill release. The Agency has received limited data on the rate and extent of the plume. At this time the concentration and distribution of contaminants has not been accurately defined. Upon review of the groundwater profiling location data, it appears that the plume is being influenced by the northfield well pumping and is moving to the northeast. This movement has caused increased risk to the downgradient receptors, homes and businesses located between the release site and the pumping wells. We have not received any of the soil vapor data collected in the area. There is the potential for residents to be at risk for vapor intrusion. The high concentrations of contaminants present on the surface of the water table and the unconfined sand aquifer present suitable conditions for vapor migration.

The attached tables contain only the detect data. Numerous constituents were not listed in the tables because they were not detected in any of the data. For a complete listing of the VOC analytical list, see attached data.

The highlighted boxes indicate exceedences of the IAC Part 620 Class I groundwater standards. In all the data contained 40 exceedences of the Class I groundwater standards. Out of the nineteen samples collected, eighteen of the samples exceeded the Class I Benzene standard by several orders of magnitude. Six of the samples exceeded the Class I Ethylbenzene standard. Nine samples exceeded the Class I MTBE standard. Five samples exceeded the Class I Toluene standard. Two samples exceeded the Class I Xylene standard.

LNAPL was observed in only two wells, P-73 and P-75, which contained some of the lower levels of benzene detected in the groundwater samples. P-75 had the lowest benzene level detected in the samples at 2780 ug/l compared with P-93-05 that had the highest level detected in the samples at 1,460,000 ug/l.

Summary of Apparent Violations

The following apparent violations are cited as part of the record review initiated by the receipt of these sampling results.

Pursuant to Section 12(a) of the [Illinois] Environmental Protection Act (415 ILCS 5/12(a)), no person shall cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources, or so as to violate regulations or standards adopted by the Pollution Control Board under this Act.

Shell Oil Products U.S. is in apparent violation of Section 12(a) of the [Illinois] Environmental Protection Act because they are not in compliance with the applicable groundwater standards contained in 35 IAC 620 Groundwater Quality Standards. The analytical results for samples collected through dates March 1st and April 12th, 2007 indicate that the 35 IAC Part 260 Class I standards were exceeded 41 times.

Pursuant to Section 12(d) of the [Illinois] Environmental Protection Act, no person shall deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard.

Shell Oil Products U.S. is in apparent violation of Section 12(d) of the [Illinois] Environmental Protection Act because they are not in compliance with the applicable groundwater standards contained in 35 IAC 620 Groundwater Quality Standards. The analytical results for samples collected through dates March 1st and April 12th, 2007 indicate that the 35 IAC Part 260 Class I standards were exceeded 41 times.

Pursuant to 35 Ill. Adm. Code 620.115, no person shall cause, threaten or allow a violation of the Act, the IGPA or regulations adopted by the Board thereunder, including but not limited to this Part.

Shell Oil Products U.S. is in apparent violation of 35 Ill. Adm. Code 620.115 because the facility is not in compliance with 35 Illinois Administrative Code Part 620.

Pursuant to 35 Ill. Adm. Code 620.301(a), no person shall cause, threaten or allow the Release of any contaminant to a resource groundwater such that:

- 1) Treatment or additional treatment is necessary to continue an existing use or to assure a potential use of such groundwater; or
- 2) An existing or potential use of such groundwater is precluded:

Shell Oil Products U.S. is in apparent violation of 35 Ill. Adm. Code 620.405 because the facility has violated the groundwater quality standards in 35

Illinois Administrative Code 620.Subpart D.

Pursuant to 35 Ill. Adm. Code 620.405, no person shall cause, threaten or allow the release of any contaminant to groundwater so as to cause a groundwater quality standard set forth in this Subpart to be exceeded.

Shell Oil Products U.S. is in apparent violation of 35 Ill. Adm. Code 620.405 because the facility has violated groundwater the quality standards in 35 Illinois Administrative Code 620.Subpart D.

Pursuant to 35 Ill. Adm. Code 620.410(b), except due to natural causes or as provided in Section 620.450 or subsection (c), concentrations of the following organic chemical constituents shall not be exceeded in Class I groundwater:

Constituent	Standard (ug/L)
Benzene	5.0
Ethylbenzene	700.0
Methyl Tertiary-Butyl Ether	70.0
Toluene	1000.0
Xylenes	10000.0

Shell Oil Products U.S. is in apparent violation of Section 12(d) of the [Illinois] Environmental Protection Act because they are not in compliance with the applicable groundwater standards contained in 35 IAC 620 Groundwater Quality Standards. The analytical results for samples collected through dates March 1st and April 12th, 2007 indicate that the 35 IAC Part 260 Class I standards were exceeded 40 times.

Table 1 IAC 35 Part 620 Class I Exceedences for Groundwater Monitor Wells

Organic Parameter (UG/L)	Part 620 GW Stds Class I	Section 742 Tier I Objectives Class I	P-57	p-58	P-66	P-73	P-75	P-93A	P-93B
Acetone	NA	700	ND	ND	ND	ND	ND	ND	ND
Benzene	5	5	177000	409000	ND	22400	2780	506000	370000
Bromomethane	NA		ND	ND	ND	ND	N	ND	ND
sec-Butylbenzene	NA	NA	NA	ND	ND	18.1	23.7	N	ND
n-Butylbenzene	NA	NA	ND	ND	13.1	ND	30	ND	ND
tert-Butylbenzene	NA	NA	ND	ND	ND	56	14.6	ND	ND
Carbon disulfide	NA	700	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	5	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	NA	70	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NA	5	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NA	NA	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	1120	ND	ND	1741	29.6	ND	ND
Isopropylbenzene	NA	NA	ND	ND	125	88	103	ND	ND
p-Isopropyltoluene	NA	NA	ND	ND	ND	13.1	ND	ND	ND
Methyl tert-Butyl Ether	70	70	ND	ND	107	40	191	2550	2350
Naphthalene	NA	140	ND	ND	3.31	250	28.6	ND	ND
n-Propylbenzene	NA	NA	ND	ND	142	149	156	ND	ND
Toluene	1000	1000	ND	ND	1.99	8500	16.9	ND	ND
1,3,5-Trimethylbenzene	NA	NA	ND	ND	ND	155	14.6	ND	ND
1,2,4-Trimethylbenzene	NA	NA	ND	ND	1.25	928	66.4	ND	ND
Xylenes, total	10,000.00	10,000	1040	ND	1.85	4530	39.3	ND	ND
o-xylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
m,p-xylene	NA	NA	NA	NA	NA	NA	NA	NA	NA

ND -- Nondetect
NA -- Not Available

Table 1 IAC 35 Part 620 Class I Exceedences for Geoprobe Locations

Organic Parameter (UGIL)	Part 620 GW Sids Class I	Section 742 Tier I Objectives Class I	P-93-02 43 feet bgs	P-93-02 59 feet bgs	P-93-03 40 feet bgs	P-93-03 59 feet bgs	P-93-05 45 feet bgs	P-93-05 58 feet bgs	P-93-06 50 feet bgs	P-93-06 62.5 feet bgs	P-93-06 52 feet bgs	P-93-09 66 feet bgs	P-93-11 41 feet bgs	P-93-11 59 feet bgs
Acetone	NA	700	ND	ND	ND	ND	ND	ND	ND	325	ND	ND	ND	ND
Benzene	5	5	1310000	264000	34800	3650	1460000	52200	1310000	927000	250000	295000	1060000	11800
Bromomethane	NA	NA	ND	ND	ND	ND	ND	ND	ND	4.32	ND	ND	ND	ND
sec-Butylbenzene	NA	NA	ND	ND	ND	ND	ND	ND	ND	4.05	ND	ND	ND	ND
n-Butylbenzene	NA	NA	ND	ND	ND	6.21	ND	6.32	ND	ND	ND	0.59	ND	ND
tert-Butylbenzene	NA	NA	ND	ND	ND	1.08	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	NA	700	ND	ND	ND	ND	2.03	ND	2.03	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	NA	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NA	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NA	NA	ND	ND	ND	ND	ND	ND	2.21	ND	ND	ND	ND	ND
Ethylbenzene	700	700	6200	109000	534	153	5.8	203	ND	401	1260	740	ND	92.6
Isopropylbenzene	NA	NA	ND	ND	15.4	16	3.76	26	ND	45.4	123	15.4	ND	6.18
p-Isopropyltoluene	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.39	ND	ND
Methyl tert-Butyl Ether	70	70	ND	ND	36	ND	16	ND	25900	18600	10100	8570	ND	4.49
Naphthalene	NA	140	ND	ND	70.2	21.4	ND	24.2	ND	104	215	53.1	ND	20.8
n-Propylbenzene	NA	NA	ND	ND	26.1	40.6	2.71	59.6	ND	118	310	26.2	ND	11.6
Toluene	1000	1000	28500	55500	123	4.63	14.7	233	ND	491000	68.5	156	17500	182
1,3,5-Trimethylbenzene	NA	NA	ND	4600	ND	48.2	3.52	40.8	3.05	56.3	485	35	ND	17.2
1,2,4-Trimethylbenzene	NA	NA	9800	16600	129	167	5.37	103	4.31	164	1770	137	6400	52.6
Xylenes, total	10,000.00	10,000	28400	NA	1610	262	14.7	488	ND	791	NA	502	16500	295
o-xylene	NA	NA	NA	NA	470	16	4.97	112	NA	NA	NA	NA	NA	NA
m,p-xylene	NA	NA	NA	NA	1140	246	9.71	376	NA	NA	NA	NA	NA	NA

ND -- Nondetect
NA -- Not Available

DATE: 5/9/08
TO: Kevin Dyer
FROM: Gina Search

MESSAGE: Memo from Record Review report.

05-08-'08 10:21 FROM-IEPA COLLINSVILLE 16183465155 T-853 P002/002 F-707
Page 1 of 1

Search, Gina

From: Powell, Tom
Sent: Thursday, February 28, 2008 4:51 PM
To: Search, Gina
Cc: Bridgewater, Bud
Subject: Shell Oil Benzene releases circa 1986

Gina,

Looking way back in the annals of time, there were two releases of benzene from / at the Shell complex in early 1986.

On or about January 30, 1986 there was a benzene release from , I believe, a Shell pipeline. Ken Mensing accompanied me to the refinery on the 30th. On the 31st, we were conducting air monitoring in homes. Joe Brewster of Shell was the contact at that time .

On Friday February 21, 1986 there was another benzene release that was reported at ~ 7:30 PM (although I was not contacted that evening). A site visit was conducted on February 24, 1986. There were some surface water samples taken on Feb. 26, 1986 relating to this release.

I have not been able to locate these reports within the old ERU files. There is a possibility they are in the BoL files , as I was still working for K Mensing at the time.

Tom Powell
Illinois EPA
Office of Emergency Response / Emergency Operations Unit
2009 Mall St.
Collinsville, IL 62234
618 / 346-5120

4/1/2008