



June 16, 2008

Mr. Kurt Neibergall  
Illinois Environmental Protection Agency  
Manager, Office of Community Relations  
1021 North Grand Avenue East  
Springfield, Illinois 62794

**Subject:** Water Well Survey  
Route 111/Rand Avenue Vicinity Investigation  
Roxana, Illinois

Dear Mr. Neibergall:

As requested by the Illinois Environmental Protection Agency (IEPA) in a letter to Shell Oil Products US (SOPUS) dated April 18, 2008, a Water Well Survey (WWS) has been conducted in accordance with 35 Ill. Adm. Code, Part 1600 in the vicinity of the 1986 benzene release which occurred near the intersection of Illinois Route 111 and Rand Avenue in Roxana, Illinois. The purpose of the WWS was to identify public and private water wells and any associated setback zones, regulated recharge areas, and well head protection areas within at least 2,500 feet of the area of impact attributed to the 1986 benzene release.

#### Sources of Information

During the water well survey multiple local and state governmental agencies and were contacted in May 2008 to determine the presence of public and private water wells potentially located within the area of interest. Agencies contacted included the Illinois State Geological Survey, Illinois State Water Survey, IEPA Division of Public Water Supply, Illinois Department of Public Health, Madison County Department of Health, and the Village of Roxana Department of Public Works. A list of contact persons and sources of information provided by each agency is included in **Attachment 1**.

#### Results

The WWS was conducted within at least 2,500 feet of the area of impact associated with the 1986 benzene release. The 1986 benzene release point, the approximate extent of impacted groundwater (based on work conducted in 2006), and water wells located within the WSS area are presented in **Figure 1**. The figure depicts information for wells located at least 2,500 feet from the areal extent of impact, as shown. A total of 13 water wells were identified in the WWS area utilizing the sources of information identified in **Attachment 1**. The location of the wells



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can be viewed in **Figure 1**, and a description of each water well within the WSS area is presented in **Table 1**. No public water wells were identified in the WWS. Only four of the thirteen wells were identified as “in use,” the others were identified as “abandoned” or “sealed.” Three of the four wells were identified as water wells for industrial/commercial operations and one was identified as a private water well.

A discrepancy in the location of the private water well (identified by number “1” on **Figure 1**) was noted in the sources of information used to conduct this WWS. The Illinois State Geological Survey, interactive web-based map entitled *Water and Related Wells in Illinois* plotted the location of this well near the northeast corner of Illinois Route 111 and West Tydeman Avenue. The Village of Roxana was contacted regarding the presence of a private water well at this location. The Village of Roxana, Public Works Director had no knowledge of this private water well but stated that he would attempt to gather additional information. The Public Works Director subsequently forwarded an Illinois Department of Public Health, Division of Environmental Health, Well Construction Report for the private water well in question. This Well Construction Report indicates the actual location is at 736 Tennyson Avenue in Wood River, Illinois, approximately 2,200 feet northwest of the location plotted in the Illinois State Geological Survey web-based map. Both locations of this well are shown in **Figure 1**.

The presence of well set-back zones, well head protection areas, and regulated recharge areas within the WWS was also determined. There were no set-back zones, well head protection areas, or regulated recharge areas relating to public water supply wells identified within the WWS area. The public water supply wells and associated set-back, protection and recharge areas for the Villages of Hartford, Roxana, and Wood River are located outside the WSS area. The private water well identified in this WWS, and subsequently determined to be outside the 2,500 foot search radius, has a setback zone of 200 feet. This setback zone is the standard distance established by IEPA Division of Public Water Supply. The wells identified as being used for industrial/commercial usage do not have set-back zones per IEPA regulations.

The undersigned licensed professional engineer certifies that the contacts and sources of information accessed in this WWS are included in this submittal.



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If you have any questions regarding his submittal, please contact Kevin Dyer of Shell Oil Products US at [kevin.dyer@shell.com](mailto:kevin.dyer@shell.com) (618.288.7237) or Bob Billman at [bob\\_billman@urscorp.com](mailto:bob_billman@urscorp.com) (314.743.4108).

Sincerely,

Robert B. Billman  
Senior Project Manager

Kenneth A. Hagg, P.E.  
Vice President



Enclosures: Table 1  
Figure 1  
Attachment 1

cc: Kevin Dyer, Shell Oil Products US

See last page of table for notes

**Table 1**  
**Water Well Information**  
**Water Well Survey**  
**Route 111 / Rand Avenue Vicinity Investigation**

Well No. Plotted on Map	API No. <sup>1</sup>	Type of Well ISGS Designation <sup>2</sup> (ISWS Designation <sup>3</sup> )	Set Back Zone <sup>4</sup> (feet)	Status <sup>5</sup>	Sources of Information
1	121192549800	Private Water Well	200	Well not listed in available information regarding well status	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i> Illinois Department of Public Health, Division of Environmental Health Well Construction Report Goggle-Earth web-based interactive air photo Rand McNally web-based interactive map
2	121192392600	Water Well for Commercial Operation (Industrial/ Commercial)	NA	In use	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>

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3	121190281300	Water Well (Industrial/ Commercial)	NA	In use	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>
4	121190217100	Water Well (Industrial/ Commercial)	NA	Sealed	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>
5	121190237900	Water Well for Commercial Operations (Industrial / Commercial)	NA	In use	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>

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6	121190167100	Water Well (None given)	NA	Abandoned	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>
7	121190166900	Water Well (Industrial/Commercial)	NA	Abandoned	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>
8	121190166600	Water Well (Industrial/Commercial)	NA	Abandoned	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>

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9	121190166700	Water Well (Industrial/Commercial)	NA	Abandoned	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>
10	121190167000	Water Well (Industrial/Commercial)	NA	Abandoned	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>
11	121190167400	Water Well (Industrial/Commercial)	NA	Abandoned	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>

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12	121190077700	Water Well for Commercial Operations	NA	Abandoned	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>
13	121190167500	Water Well for Commercial Operations (Industrial / Commercial)	NA	Abandoned	Illinois State Geological Survey, Interactive web-based map entitled <i>Water and Related Wells in Illinois</i> Illinois State Water Survey Well Database Illinois State Water Survey IWIP Database IEPA Division of Public Water Supply, Interactive web-based map entitled <i>Source Water Assessment Program (SWAP) ArcIMS Mapping Tool</i>

Notes:

- 1 API No. = American Petroleum Institute Identification number
- 2 ISGS = Illinois State Geological Survey
- 3 ISWS = Illinois State Water Survey
- 4 Set Back Zone is the defined as radial distance around a water well in which the siting of new potential primary and secondary sources (of impact) as well as potential routes (of impact) is prohibited.
- 5 Status of each well as presented in the Illinois State Water Supply IWIP Database. Status of wells were not given in other available sources of information.








The P:\ENVIRONMENTAL\21561979 SDPUS ROUTE 111 RAND AVE VICINITY INVESTIGATION DRAWINGS & FIGURES\ROUTE 111 - ROMANA AREA.DWG Last edited: JAN. 12, 08 @ 4:12 p.m. by: david\_delpire

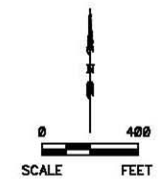


LOCATION BASED ON THE ADDRESS (736 TENNYSON AVENUE, WOOD RIVER, ILLINOIS) DOCUMENTED IN THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH, DIVISION OF ENVIRONMENTAL HEALTH, WELL CONSTRUCTION REPORT FOR THIS WELL. LOCATION PLOTTED ON THIS MAP USING GOOGLE EARTH AND RAND MCNALLY INTERACTIVE WEB-BASED MAPS, AND AERIAL PHOTOGRAPHS.

LOCATION AS PLOTTED ON THE ILLINOIS STATE GEOLOGICAL SURVEY INTERACTIVE WEB-BASED MAP ENTITLED *WATER AND RELATED WELLS IN ILLINOIS*.

- LEGEND**
-  1,000, 2,000 and 3,000 FOOT RADIUS FROM THE 1986 RELEASE POINT (WATER WELL SURVEY AREA).
  -  APPROXIMATE EXTENT OF IMPACT RELATING TO THE 1986 RELEASE BASED ON 2006 SAMPLE RESULTS.
  -  WATER WELLS LOCATED WITHIN THE WATER WELL SURVEY AREA IDENTIFIED AS "IN USE".
  -  WATER WELLS LOCATED WITHIN THE WATER WELL SURVEY AREA IDENTIFIED AS "SEALED" OR "ABANDONED".
  -  SETBACK ZONE OF WATER WELL LOCATED WITHIN THE WATER WELL SURVEY AREA.

- NOTES:**
1. AERIAL PHOTO SPRING 2007 BY SURDEX CORPORATION.
  2. WATER WELL SURVEY INFORMATION OBTAINED IN MAY 2008.
  3. SCALE OF FIGURE IS 1" = 400' IN ORDER TO PRESENT THE INFORMATION IN A MANAGEABLE FORMAT AND SIZE.



SHELL OIL PRODUCTS U.S.  
ROUTE 111/RAND AVENUE VICINITY INVESTIGATION  
ROXANA, ILLINOIS

**ROUTE 111 / ROXANA VICINITY  
WATER WELL SURVEY**

Date: 6/11/08	Project Number: 21561979	Drawing Number: 1
Drawn by: wrmp/djd	Design by: ekf	Checked by:

URS

## ATTACHMENT 1

### WATER WELL SURVEY CONTACT LIST AND SOURCES OF INFORMATION ROUTE 111/RAND AVENUE VICINITY INVESTIGATION

The following agencies, persons working for each agency, and sources of information provided by each agency were used to determine the presence of water supply wells located in the vicinity of the Route 111/Rand Avenue Vicinity Investigation project area.

- Illinois State Geological Survey

Contact Person: Dave Larson, Director  
217.244.2770

Information Source: Interactive, web based map entitled *Water and Related Wells in Illinois* located at: <http://ablation.isgs.uius.edu/website/ilwater/viewer.htm>

- Illinois State Water Survey

Contact Person: Al Wehrmann, Director for Center of Groundwater Science  
217.333.0493

Susie Dodd-Casey, Associate Supportive Scientist  
217.333.9043

Information Sources: Illinois State Water Survey Well Database: T5N, R9W, Sections 26, 27, 34 and 35, Madison County, Illinois

Illinois State Water Survey IWIP Database: T5N, R9W, Sections 26, 27, 34 and 35, Madison County, Illinois

- IEPA Division of Public Water Supply

Contact Persons: Rick Cobb, Deputy Division Manager of Division of Public Water Supplies  
217.785.4787

Janet Christer, FOIA Coordinator, Bureau of Water  
217.782.8482

Information Source: Interactive, web-based map entitled *Source Water Assessment Program (SWAP) ArcIMS Mapping Tools* located at: [www.epa.state.il.us/water/groundwater/source-water-assessment](http://www.epa.state.il.us/water/groundwater/source-water-assessment)

- Illinois Department of Public Health

Contact Person: Jerry Dawlsin, Private Water Program Manager  
217.524.4136

## **ATTACHMENT 1**

### **WATER WELL SURVEY CONTACT LIST AND SOURCES OF INFORMATION ROUTE 111/RAND AVENUE VICINITY INVESTIGATION**

- Madison County Department of Health  
Contact Person: Mary Cooper, Manager  
618.692.8954  
Information Source: Madison County Department of Health FOIA #2008-083 regarding water wells located in Madison County T5N, R9W, Section 26, 27, 34 and 35.
- Village of Roxana, Department of Public Works  
Contact Persons: Glen Dively, Water Department Supervisor  
Marty Reynolds, Director of Public Works