



January 23, 2013

BY CERTIFIED MAIL

Mr. Steven F. Nightingale, P.E.
Manager, Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois 62794

**Subject: Update to February 4, 2011 Groundwater Flow Control Notification,
Updated Response to Violation Notice L-2011-01126 &
Request to Reduce Groundwater Gauging Frequency
WRB Refining LP, Wood River Refinery
Roxana, Illinois
119115002 – Madison County
Equilon Enterprises LLC d/b/a Shell Oil Products US
Log B-43R**

Dear Mr. Nightingale:

On behalf of Shell Oil Products US (SOPUS), URS Corporation (URS) requests to reduce the frequency of groundwater gauging at the WRB Refining LP Wood River Refinery from weekly to quarterly. On November 8, 2012 URS submitted on behalf of SOPUS an update to SOPUS' February 4, 2011 Groundwater Flow Control Notification letter to the Illinois Environmental Protection Agency (IEPA) and SOPUS' June 10, 2011 Response to Violation Notice L-2011-01126 including a request for reduction of frequency of groundwater gauging. Based on a telephone conversation between Kevin Dyer (SOPUS) and Amy Boley (IEPA) on January 22, 2013, it was requested that Shell revise and resubmit the request regarding groundwater gauging frequency separately, which is hereby provided.

In January 2011, SOPUS began conducting weekly gauging of a subset of the refinery groundwater monitoring wells and selected wells in Roxana in response to learning of temporary reductions in groundwater pumping by the operator of the refinery, WRB Refining LP, an affiliate of Phillips 66 (P66). As reported in a letter to the Illinois Environmental Protection Agency (IEPA) dated February 4, 2011, SOPUS originally believed that "there may have been an instance where control along the west fenceline of the North Property," as required by SOPUS' RCRA permit, may not have been maintained.

Since that time, WRB has conducted maintenance work on several wells and piping and installed new groundwater depression wells. This has resulted in increased pumping rates on a more reliable basis. Additionally, a permit modification was submitted July 29, 2011 to maintain groundwater withdrawal rates at a minimum of 3,000 gallons per minute (gpm) from Main and North Properties. The groundwater contour maps that have been submitted for the Wood River Refinery Corrective Action Program and Roxana Interim Groundwater Monitoring Program (on a semiannual and quarterly basis, respectively) demonstrate capture.

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During 2012, SOPUS developed a groundwater flow model to better understand conditions for groundwater capture. The modeling report was submitted to IEPA on July 27, 2012. One conclusion of the model was that the minimum pumping rates to maintain groundwater capture under differing water level conditions are on the order of 2,500-2,700 gpm (specifically 2,523 to 2,668 gpm as predicted by the model). Based on this and our understanding of the WRB pumping rates, groundwater capture would have been maintained during the period when it was suspect (i.e., January 2011).

In light of the modeling results, we reevaluated the actual measured groundwater data by using smaller contour intervals. Contour maps from before (October and November 2010), during (January 2011), and after (February 2011) the suspect period were produced using a contour interval of 0.25 feet. The maps are included in this submittal as **Figures 1** through **4**. These maps indicate that groundwater capture was maintained along the west fenceline of North Property.

Based on the above information, SOPUS believes it is no longer necessary to continue gauging monitoring wells on a weekly basis to assess groundwater capture. SOPUS requests the Agency's concurrence to stop weekly gauging and return to quarterly gauging as required by the RCRA permit. As a separate but related matter, SOPUS will continue to gauge monitoring wells that display separate phase product on a weekly basis.

If you have any questions concerning this request, please contact Kevin Dyer, SOPUS Principal Program Manager, at kevin.dyer@shell.com (618/288-7237), or me at bob.billman@urs.com (314/743-4108). We look forward to your response.

Sincerely,

A handwritten signature in blue ink that reads "Robert B. Billman".

Robert B. Billman
Senior Project Manager

Enclosures:

- Figure 1 – Groundwater Contour Map, October 2010
- Figure 2 – Groundwater Contour Map, November 2010
- Figure 3 – Groundwater Contour Map, January 2011
- Figure 4 – Groundwater Contour Map, February 2011

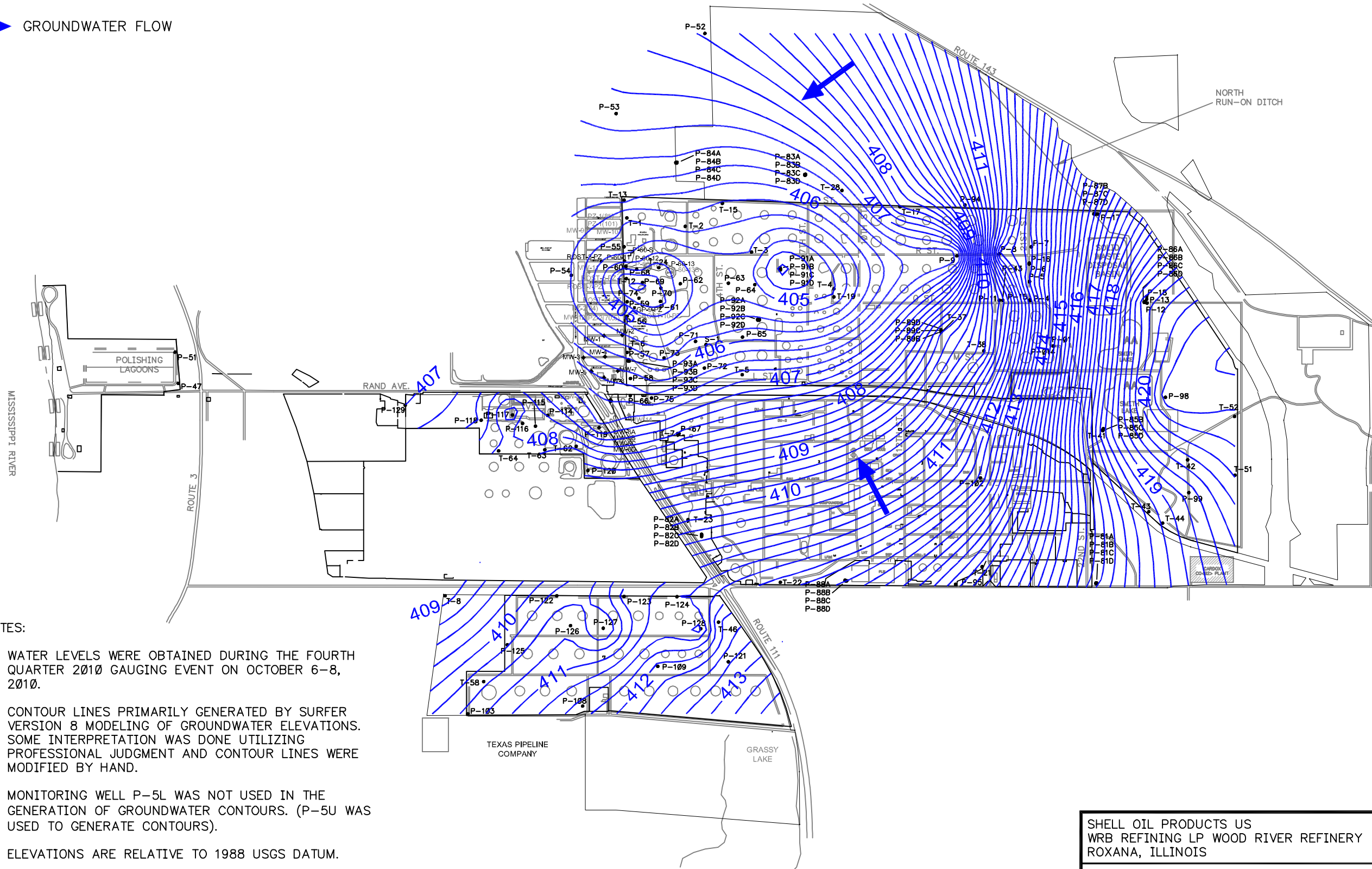
cc: Kevin Dyer, SOPUS
Amy Boley, Illinois Environmental Protection Agency
Mike Bechtol, Phillips 66

LEGEND

• MONITORING WELLS

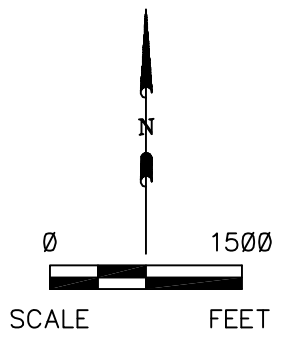
—407— GROUNDWATER CONTOUR (0.25 FEET INTERVAL)

➔ GROUNDWATER FLOW



NOTES:

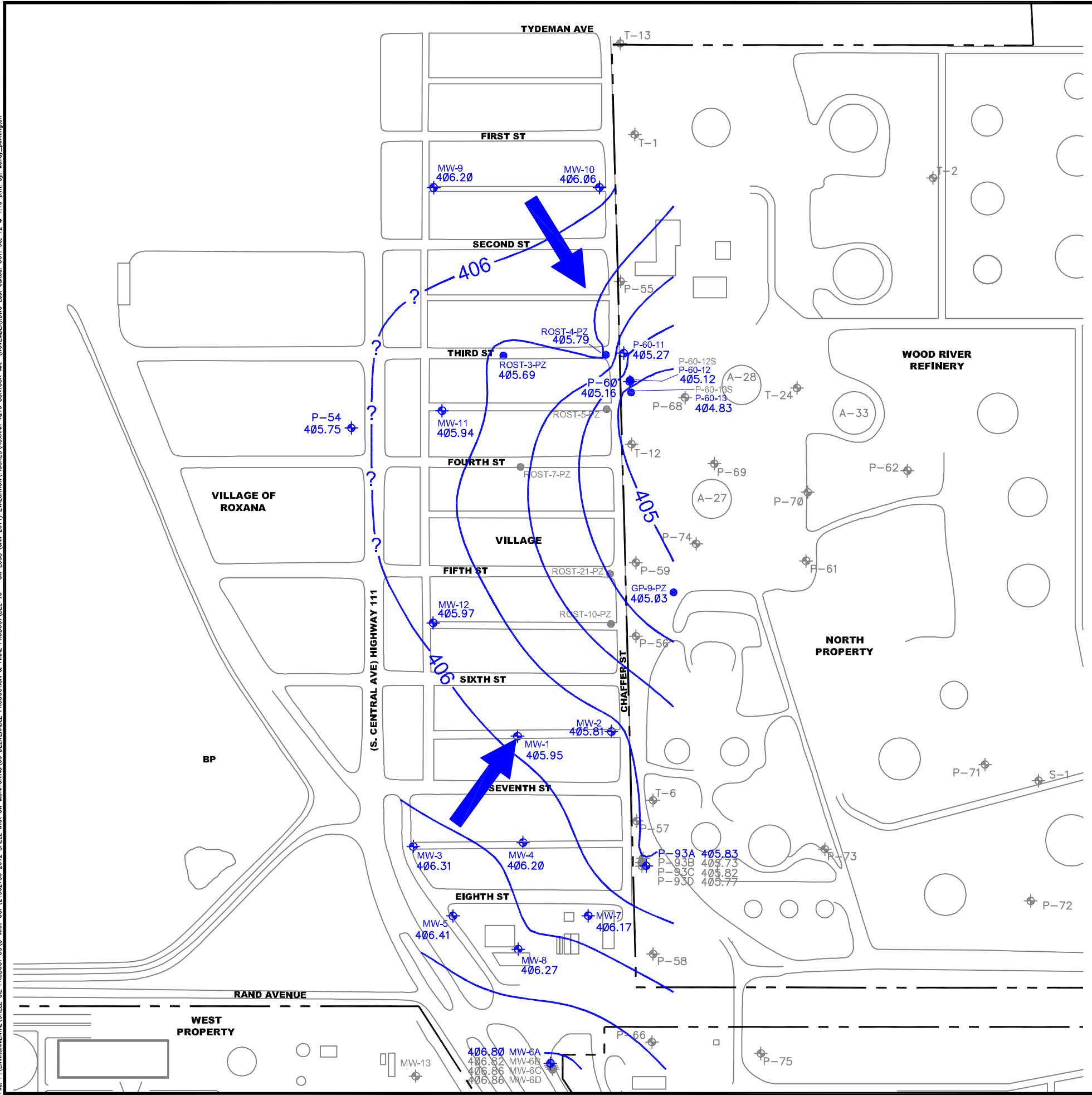
1. WATER LEVELS WERE OBTAINED DURING THE FOURTH QUARTER 2010 GAUGING EVENT ON OCTOBER 6-8, 2010.
2. CONTOUR LINES PRIMARILY GENERATED BY SURFER VERSION 8 MODELING OF GROUNDWATER ELEVATIONS. SOME INTERPRETATION WAS DONE UTILIZING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
3. MONITORING WELL P-5L WAS NOT USED IN THE GENERATION OF GROUNDWATER CONTOURS. (P-5U WAS USED TO GENERATE CONTOURS).
4. ELEVATIONS ARE RELATIVE TO 1988 USGS DATUM.
5. REFINERY GROUNDWATER PUMPING RATES RANGED FROM 3,289 TO 3,316 GALLONS PER MINUTE FOR THE DAYS DURING WHICH THIS GAUGING EVENT WAS PERFORMED.



SHELL OIL PRODUCTS US WRB REFINING LP WOOD RIVER REFINERY ROXANA, ILLINOIS		PROJECT NO. 21562736
URS		
DRN. BY: wmp Oct 2012 DSGN. BY: djd CHKD. BY: b3	Groundwater Contour Map October 2010	FIG. NO. 1

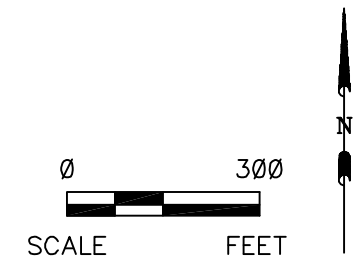
FIG. P:\ENVIRONMENTAL\SHELL_OIL_PRODUCT_US\C-WRR-COP\21562736_2012_SHELL_WRR_GW_MONITORING\OS_DELIVERABLE_PRODUCTION_FINAL_PRODUCT_DEL_10 - GW_LOSS (JAN 2011) EVALUATION\FIGURES\410.GW_CONTOUR.FIGURE.DWG Last edited: OCT. 30, 12 @ 12:47 p.m. by: wendy_pennington

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\C-WRR-COP\21562736_2012_SHELL_WRR_GW_MONITORING\05_DELIVERABLE_PRODUCTION_FINAL_PRODUCT\DEL_10 - GW_LOSS (JAN 2011) EVALUATION\FIGURES\ROXANA_4010_CONTOUR_MAP (NOVEMBER).DWG Last edited: OCT. 30, 12 @ 1:10 p.m. by: wendy_bennington



- LEGEND**
- ◆ MONITORING WELL LOCATION GAUGED (USED FOR CONTOURING)
 - PIEZOMETER LOCATION GAUGED (USED FOR CONTOURING)
 - PIEZOMETER LOCATION GAUGED (NOT USED FOR CONTOURING)
 - ◆ MONITORING WELL LOCATION NOT GAUGED FOR THIS EVENT
 - 405— GROUNDWATER CONTOUR (0.25 FEET INTERVAL)
 - ➔ GROUNDWATER FLOW

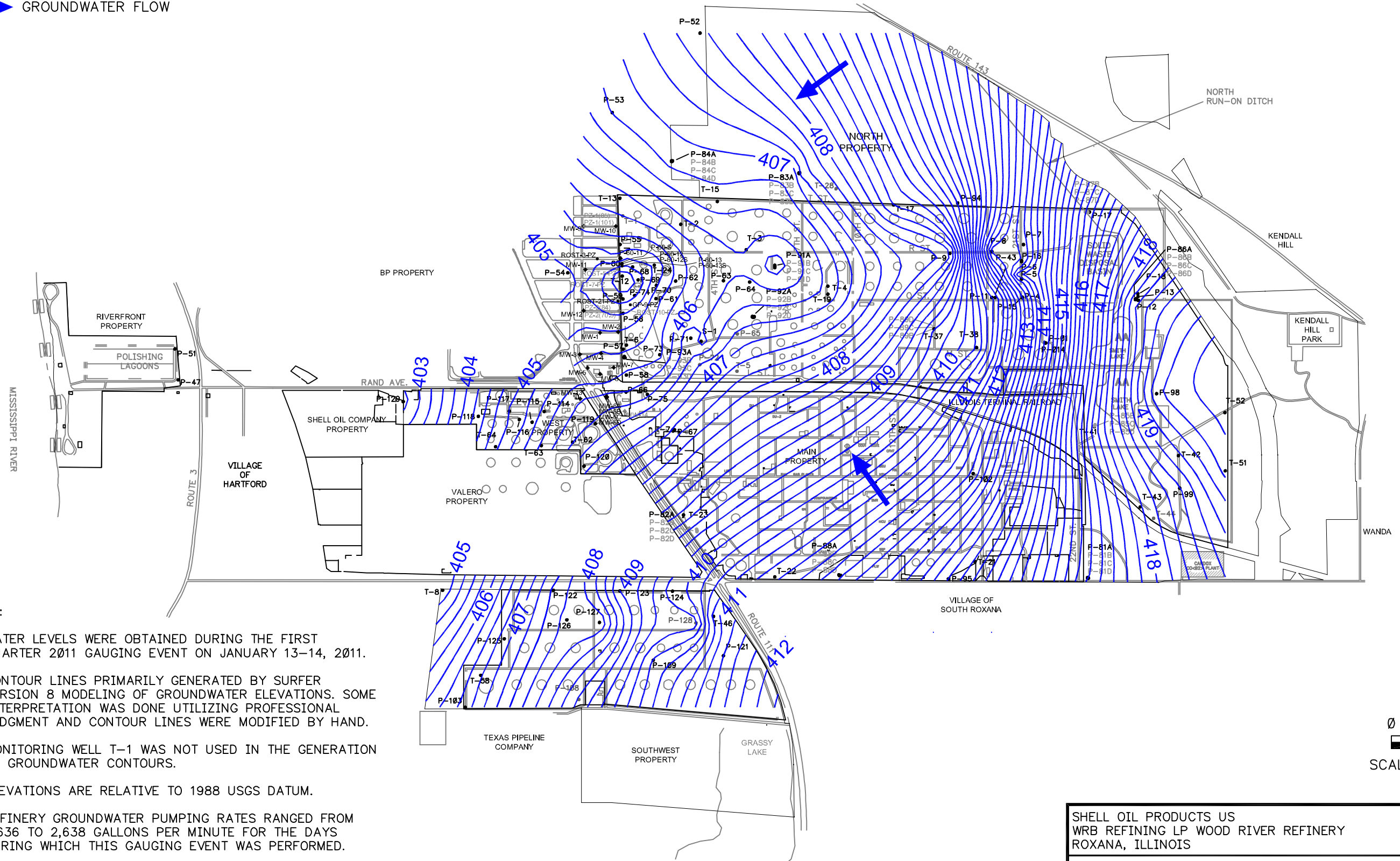
- NOTES:**
- 1) WATER LEVELS WERE OBTAINED DURING THE FOURTH QUARTER 2010 GAUGING EVENT ON NOVEMBER 11-12, 2010.
 - 2) CONTOUR LINES PRIMARILY GENERATED BY SURFER VERSION 8 MODELING OF GROUNDWATER ELEVATIONS. SOME INTERPRETATION WAS DONE UTILITZING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
 - 3) PRODUCT WAS IDENTIFIED IN MONITORING WELL P-60 (0.04 FT*) AND PIEZOMETER P-60-13 (0.37 FT). THE ELEVATIONS PRESENTED ON THIS FIGURE WERE CORRECTED BY A SPECIFIC GRAVITY OF 0.74 FOR THESE WELLS.
 - 4) ELEVATIONS ARE RELATIVE TO 1988 USGS DATUM.
 - 5) REFINERY GROUNDWATER PUMPING RATES RANGED FROM 3,058 TO 3,106 GALLONS PER MINUTE FOR THE DAYS DURING WHICH THIS GAUGING EVENT WAS PERFORMED.
- * INDICATES THAT THE PRODUCT AND/OR WATER LEVEL IS ABOVE THE TOP OF THE WELL SCREEN.



SHELL OIL PRODUCTS US WRB REFINING LP WOOD RIVER REFINERY ROXANA, ILLINOIS		PROJECT NO. 21562736
URS		
DRN. BY: wmp Oct 2012 DSGN. BY: wmp CHKD. BY: b3	Groundwater Contour Map November 2010	FIG. NO. 2

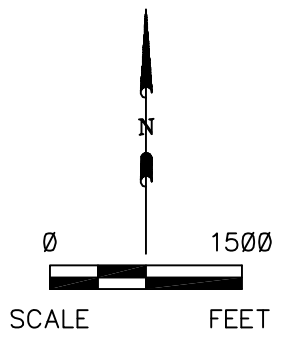
LEGEND

- MONITORING WELLS
- 407— GROUNDWATER CONTOUR (0.25 FEET INTERVAL)
- ➔ GROUNDWATER FLOW



NOTES:

1. WATER LEVELS WERE OBTAINED DURING THE FIRST QUARTER 2011 GAUGING EVENT ON JANUARY 13-14, 2011.
2. CONTOUR LINES PRIMARILY GENERATED BY SURFER VERSION 8 MODELING OF GROUNDWATER ELEVATIONS. SOME INTERPRETATION WAS DONE UTILIZING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
3. MONITORING WELL T-1 WAS NOT USED IN THE GENERATION OF GROUNDWATER CONTOURS.
4. ELEVATIONS ARE RELATIVE TO 1988 USGS DATUM.
5. REFINERY GROUNDWATER PUMPING RATES RANGED FROM 2,636 TO 2,638 GALLONS PER MINUTE FOR THE DAYS DURING WHICH THIS GAUGING EVENT WAS PERFORMED.

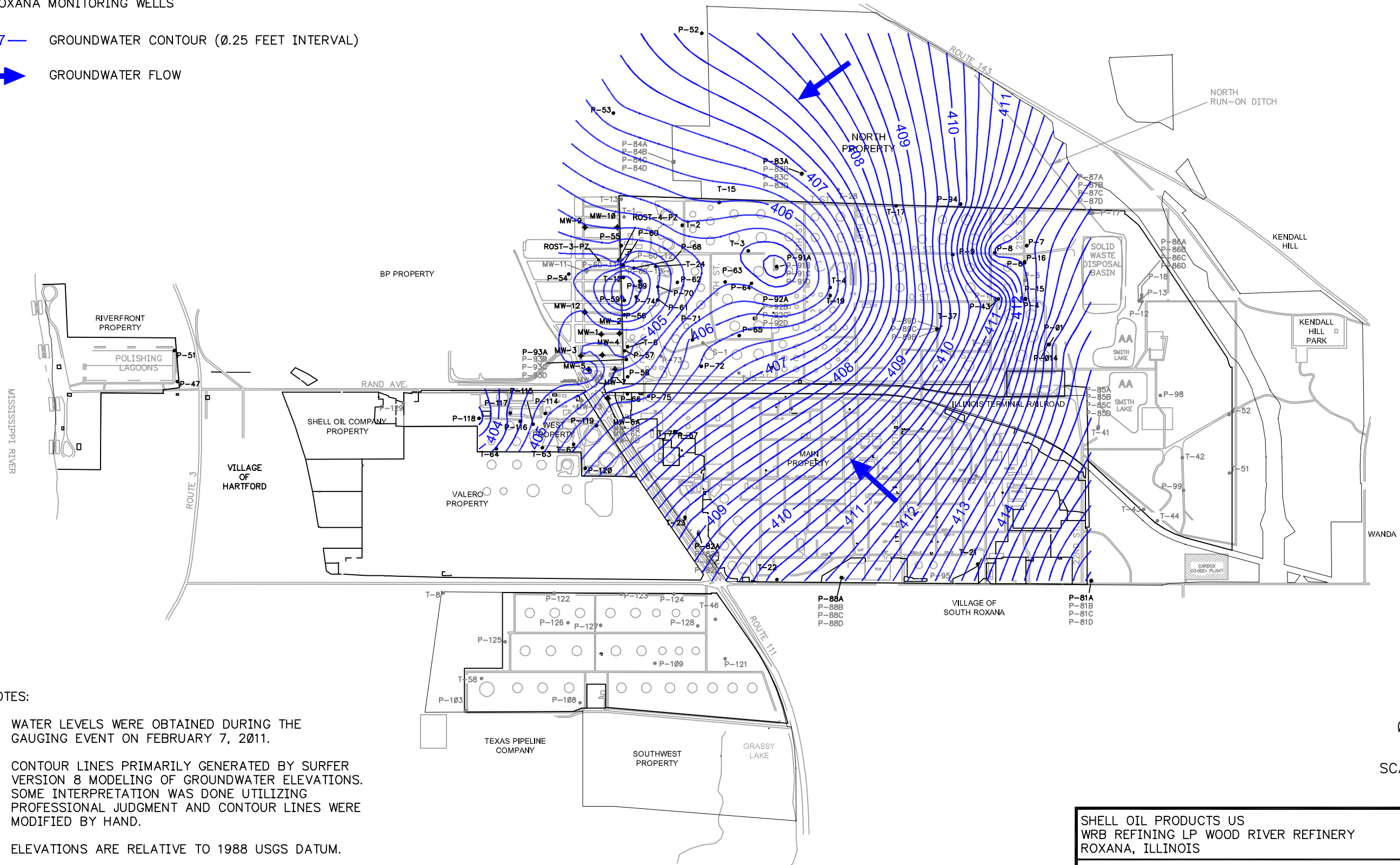


SHELL OIL PRODUCTS US WRB REFINING LP WOOD RIVER REFINERY ROXANA, ILLINOIS		PROJECT NO. 21562736
URS		
DRN. BY: wmp Oct 2012 DSGN. BY: djd CHKD. BY: b3	Groundwater Contour Map January 2011	FIG. NO. 3

FIG. P:\ENVIRONMENTAL\SHELL_OIL_PRODUCT_US\C-WRR-COP\21562736_2012_SHELL_WRR_GW_MONITORING\OS_DELIVERABLE_PRODUCTION_FINAL_PRODUCT\DEL_10 - GW LOSS (JAN 2011) EVALUATION\FIGURES\1011_GW_CONTOUR_FIGURE.DWG Last edited: OCT. 30, 12 @ 1:14 p.m. by: wendy_bennington

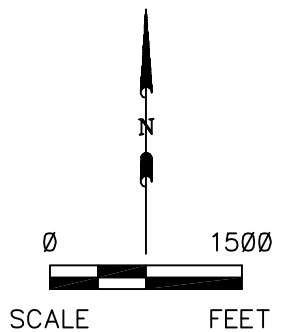
LEGEND

- MONITORING WELLS
- ⊕ ROXANA MONITORING WELLS
- 407— GROUNDWATER CONTOUR (0.25 FEET INTERVAL)
- ➔ GROUNDWATER FLOW



NOTES:

1. WATER LEVELS WERE OBTAINED DURING THE GAUGING EVENT ON FEBRUARY 7, 2011.
2. CONTOUR LINES PRIMARILY GENERATED BY SURFER VERSION 8 MODELING OF GROUNDWATER ELEVATIONS. SOME INTERPRETATION WAS DONE UTILIZING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
3. ELEVATIONS ARE RELATIVE TO 1988 USGS DATUM.
4. REFINERY GROUNDWATER PUMPING RATE WAS 3,495 GALLONS PER MINUTE FOR THE DAY ON WHICH THIS GAUGING EVENT WAS PERFORMED.



SHELL OIL PRODUCTS US WRB REFINING LP WOOD RIVER REFINERY ROXANA, ILLINOIS		PROJECT NO. 21562736
URS		
DRN. BY: wmp Oct 2012 DSGN. BY: djd CHKD. BY: b3	Groundwater Contour Map February 2011	FIG. NO. 4

FIG. P:\ENVIRONMENTAL\SHELL_OIL_PRODUCT_US\C-WRR-COP\21562736_2012_SHELL_WRR_GW_MONITORING\OS_DELIVERABLE_PRODUCTION & FINAL_PRODUCT\DEL_10 - GW LOSS (JAN 2011) EVALUATION\FIGURES\2-7-11_GW_CONTOUR\FIGURE.DWG Last edited: OCT. 30, 12 @ 1:16 p.m. By: wandy_bennington