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| Surge Energy inc. |
| Waterflood Progress Report for 2013 |
| Waskada Unit No. 15 |
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# Background

The Waskada Unit No. 15 pressure maintenance project commenced water injection into the Lower Amaranth A Pool in accordance with Manitoba Energy and Mines Order No. PM 54 dated January 29, 1987. This order was then rescinded and replaced by PM 58 dated February 2, 1988.

In 2011, a waterflood progress report was submitted for March 1987 to December 2010. It was noted that no previous pressure maintenance reports for Waskada Unit No. 15 have been found in any files that Surge Energy received when acquiring working interest ownership and Unit Operator status in 2010.

The purpose of this document is to update and summarize the Waskada Unit 15 activity for 2012 and to lay out our proposed future development plans for 2013 and 2014.

# Waskada Unit No. 15

## Original Producers:

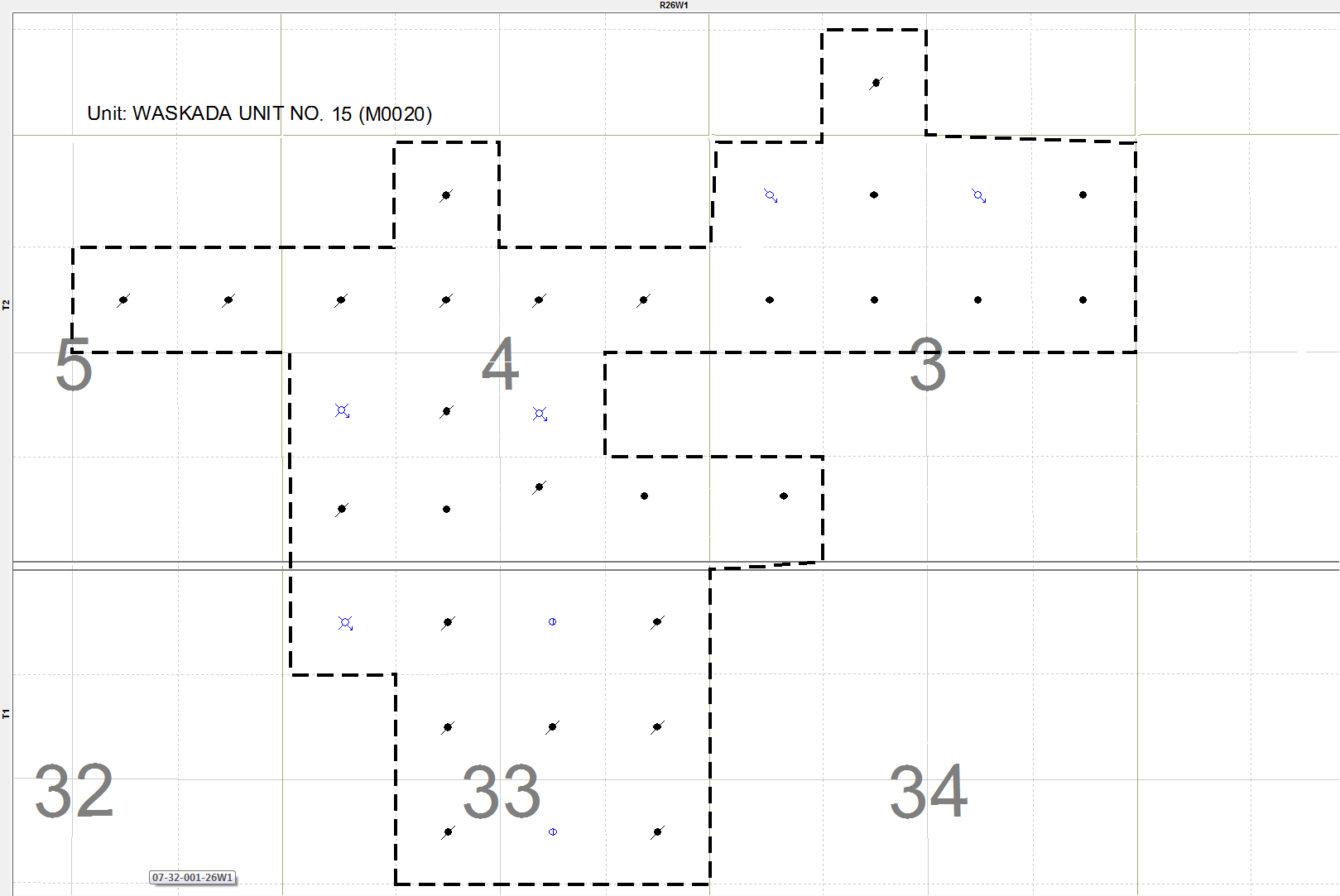


Figure 1: 34 Original Producers - 7 Converted to Injectors

Table 1: 34 Original Producers

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 34 Original Producers | |  | |  | |
| Sec 03, 05, and 10 |  | | **Sec 04** | | **Sec 33** |
| 100/04-03-002-26W1/02 |  | | 100/01-04-002-26W1/00 | | 100/06-33-001-26W1/00 |
| 100/09-03-002-26W1/00 |  | | 100/02-04-002-26W1/00 | | 100/07-33-001-26W1/00 |
| 100/10-03-002-26W1/00 |  | | 100/03-04-002-26W1/00 | | 100/08-33-001-26W1/00 |
| 100/11-03-002-26W1/00 |  | | 100/04-04-002-26W1/00 | | 100/09-33-001-26W1/00 |
| 100/12-03-002-26W1/00 |  | | 100/05-04-002-26W1/00 | | 100/10-33-001-26W1/00 |
| 100/13-03-002-26W1/00 |  | | 102/06-04-002-26W1/00 | | 100/11-33-001-26W1/00 |
| 100/14-03-002-26W1/00 |  | | 100/07-04-002-26W1/00 | | 100/13-33-001-26W1/02 |
| 100/15-03-002-26W1/00 |  | | 100/09-04-002-26W1/00 | | 100/14-33-001-26W1/00 |
| 100/16-03-002-26W1/00 |  | | 100/10-04-002-26W1/00 | | 100/15-33-001-26W1/00 |
| 100/09-05-002-26W1/00 |  | | 100/11-04-002-26W1/00 | | 100/16-33-001-26W1/00 |
| 100/10-05-002-26W1/00 |  | | 100/12-04-002-26W1/00 | |
| 100/03-10-002-26W1/00 |  | | 100/14-04-002-26W1/00 | |

Table 2: 7 of 34 Converted to Injectors

|  |
| --- |
| 7 Converted to Injectors |
| 100/07-33-001-26W1/00 |
| 100/13-33-001-26W1/02 |
| 100/15-33-001-26W1/00 |
| 100/13-03-002-26W1/00 |
| 100/15-03-002-26W1/00 |
| 100/05-04-002-26W1/00 |
| 100/07-04-002-26W1/00 |

Prior to Surge’s acquisition and activity in Waskada during 2010, Unit No. 15 consisted of 34 producers, 7 of which were converted to injection wells with a nine spot injection pattern (Figure 1). Water injection commenced March 1987 and continued through to February 1998 when injection was halted. Scattered injection continued through 2000 to 2002, and then again from 2005 until 2010 when all unit injectors and producing wells were shut in.

## 2010 Activity:

Three horizontal wells were drilled Q4 2010, and came on production in December 2010 (Figure 2).

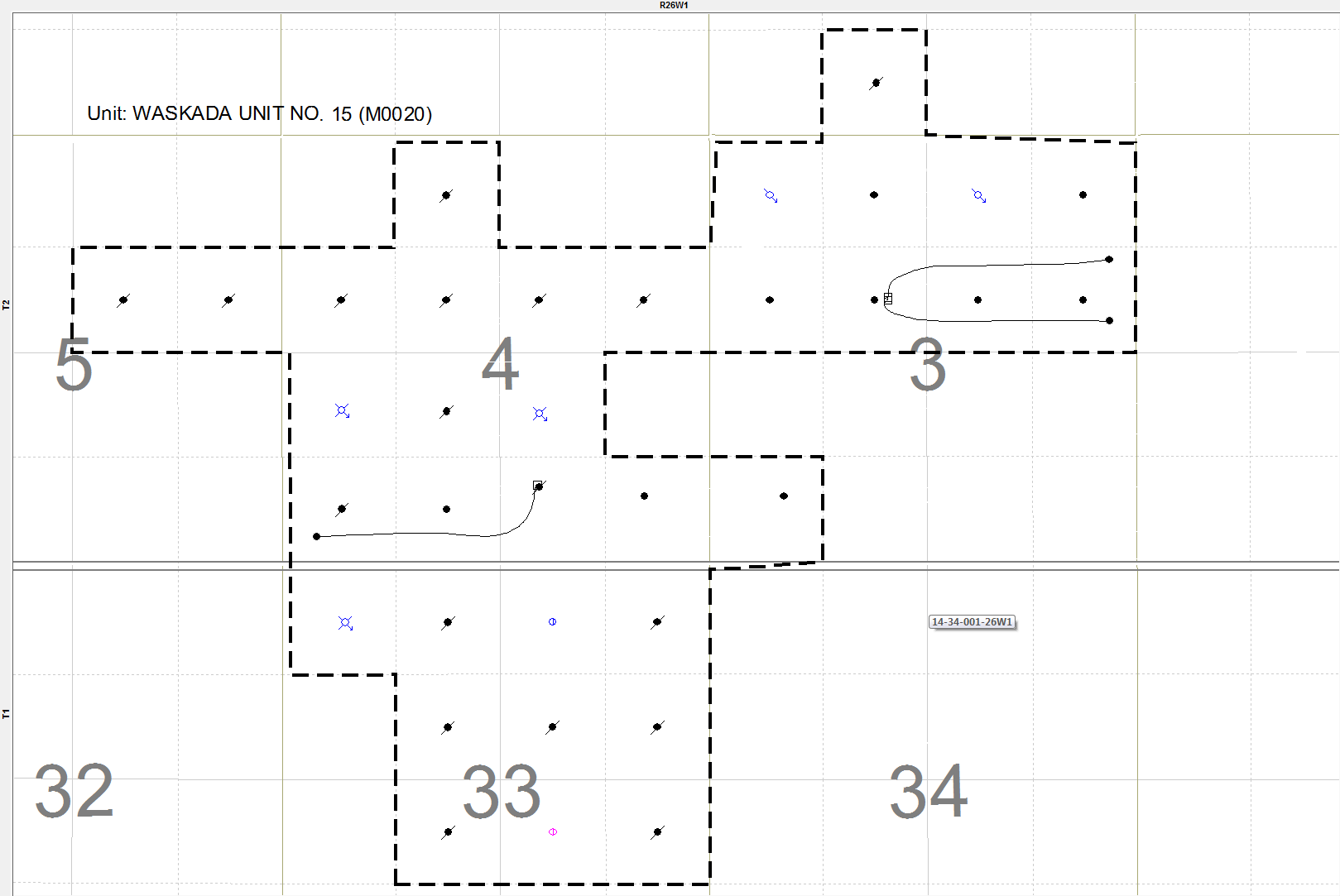


Figure 2: 3 Hz (2010 On Prod)

Table 3: 3 Hz (2010 On Prod)

|  |
| --- |
| 3 Hz (2010 On Prod) |
| 102/09-03-002-26W1/00 |
| 103/09-03-002-26W1/00 |
| 102/04-04-002-26W1/00 |

## 2011 Activity:

Nine more horizontal wells were drilled and came on production in 2011. Figure 3 shows the three horizontal wells from 2010 with the nine horizontal wells from 2011.

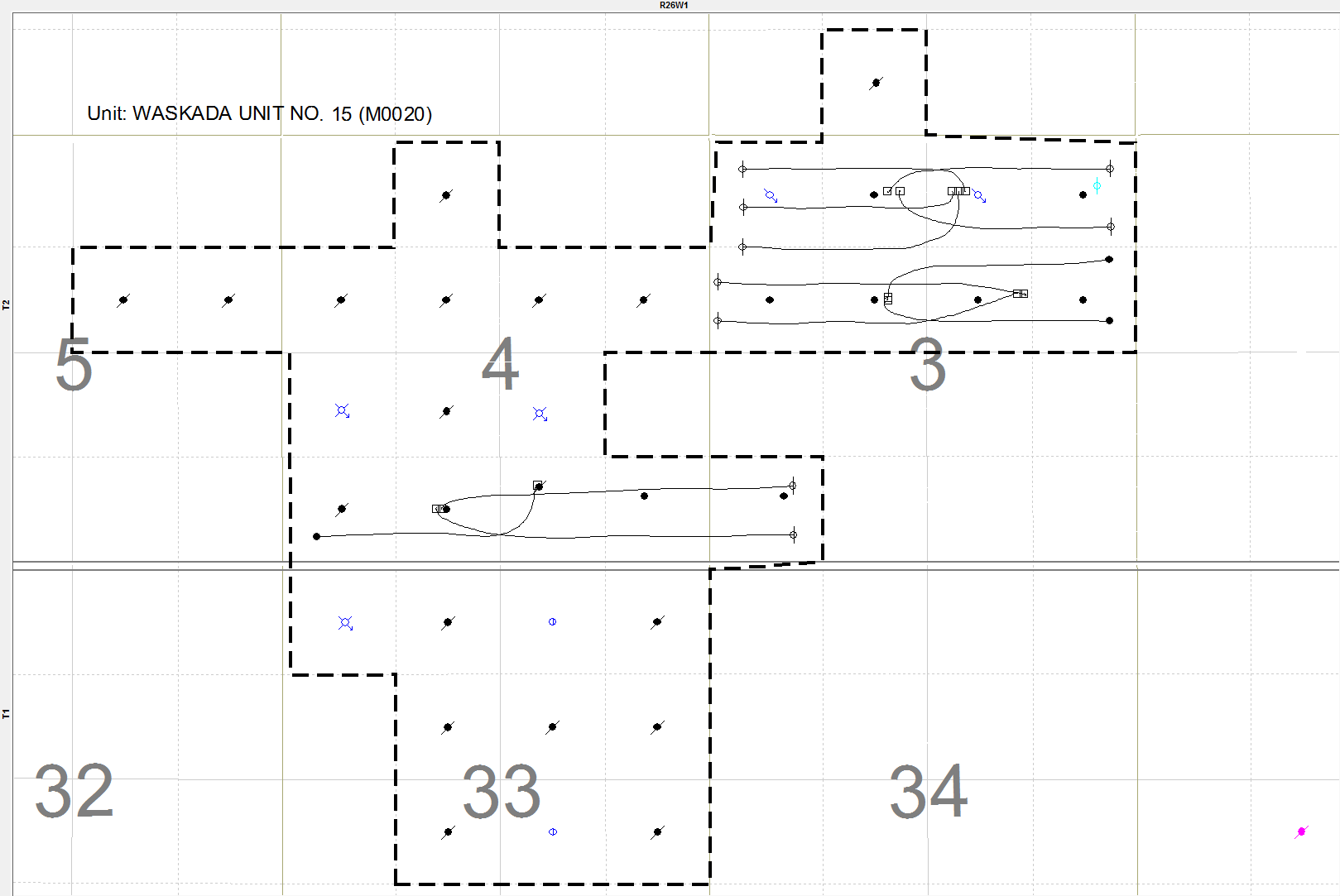


Figure 3: 9 Hz (2011 On Prod) and 1 Vert Disposal

The two horizontal wells in 16-03 came on production Q3 of 2011, and the other 7 horizontal wells came on production through Q4 of 2011. The planned battery facility at 16-03-002-26W1 received approval and was commissioned Q4 2011.

Table 4: 2011 Activity

|  |  |  |
| --- | --- | --- |
| 2011 Activity |  | |
| 9 Hz (2011 On Prod) |  | **1 Vert Dispsoal** |
| 102/04-03-002-26W1/00 |  | 105/16-03-002-26W1/00 |
| 103/04-03-002-26W1/00 |  |  |
| 102/12-03-002-26W1/00 |  |
| 103/12-03-002-26W1/00 |  |
| 104/12-03-002-26W1/00 |  |
| 102/13-03-002-26W1/00 |  |
| 103/13-03-002-26W1/00 |  |
| 102/16-03-002-26W1/00 |  |
| 103/16-03-002-26W1/00 |  |

## 2012 Activity:

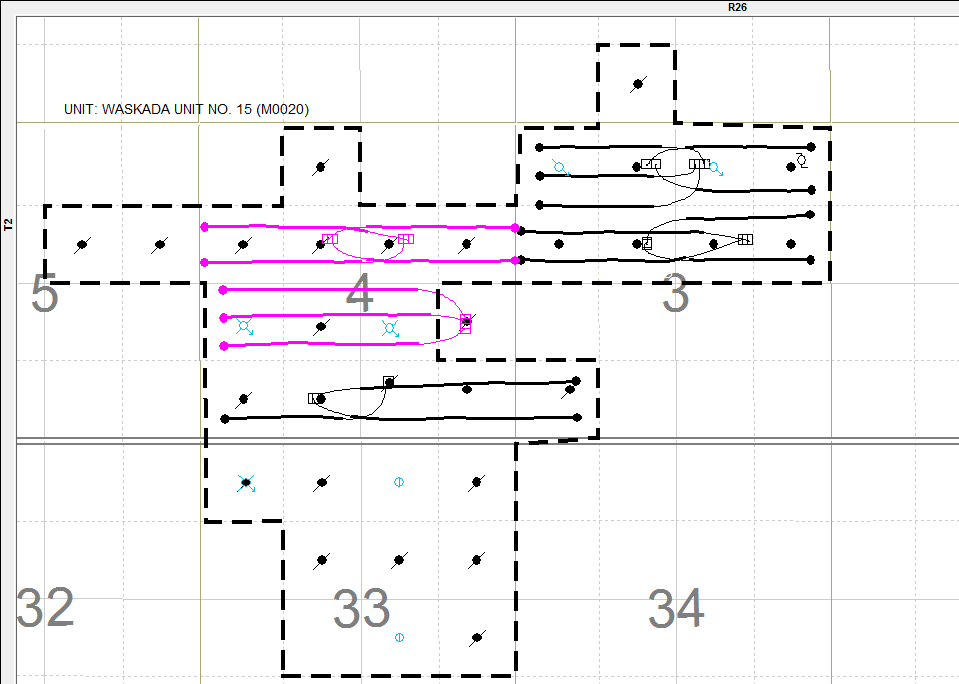


Figure 4: 7 Hz (2012 On Prod)

Figure 4 shows the same wells as figure 3 with the addition of the 7 horizontal wells (in pink) that came on in 2012 (Table 5). Four of these wells were rig released in Q4 of 2011 – the two wells in 09-04 and the two wells in 12-04. Current average pool production up until October 2012 is about 300 bbls/d of oil and 700 bbls/d of water.

Table 5: 2012 Activity

|  |
| --- |
| 2012 Activity |
| 7 Hz (2012 On Prod) |
| 102/09-04-002-26W1 |
| 103/09-04-002-26W1 |
| 103/12-04-002-26W1 |
| 102/12-04-002-26W1 |
| 102/05-04-002-26W1 |
| 103/05-04-002-26W1 |
| 104/05-04-002-26W1 |

Surge has obtained pressures in the Lower Amaranth A Pool from wells: 105/16-03-002-002-26W1, 103/09-04-002-26W1 and 103/12-04-002-26W1 that range between 8,300 to 10,300 kPa. These pressures are at or near the original pool pressure of 8,650 kPa and well above the estimated bubble point pressure of 4,200 kPa. Surge believes these higher pressures may be due to regional aquifer expansion combined with the lower permeability and limited drainage of the pool itself.

## 2013 Activity:

Surge had plans to restart the injection of water into the Lower Amaranth A Pool through a small scale pilot or test using existing horizontal wells. The pilot was planned to start in Q1 of 2013 in section 3 pending results of the existing flood.

In Q1, Surge started field installation of the fiberglass water injection pipeline and did some facility modifications for water injection. Surge also received approval to convert the 103/13-03-002-26W1/00 and 102/12-03-002-26W1/00 into water injectors.

Surge’s go forward plan for the rest of 2013 was to extend the waterflood to include 102/09-03-002-26W1/00 in Q3.

Examining the production performance in the existing waterflood area Surge has decided to hold off on the expansion of the flood for the time being. While the production is currently at Jan 2013 numbers the dip in production during the middle of 2013 has made Surge cautious about aggressive expansion. Surge has decreased injection rates in late 2013 and will examine the effect this has on production going forward.

The approved horizontal water injection converts are outlined in dark blue in figure 5.

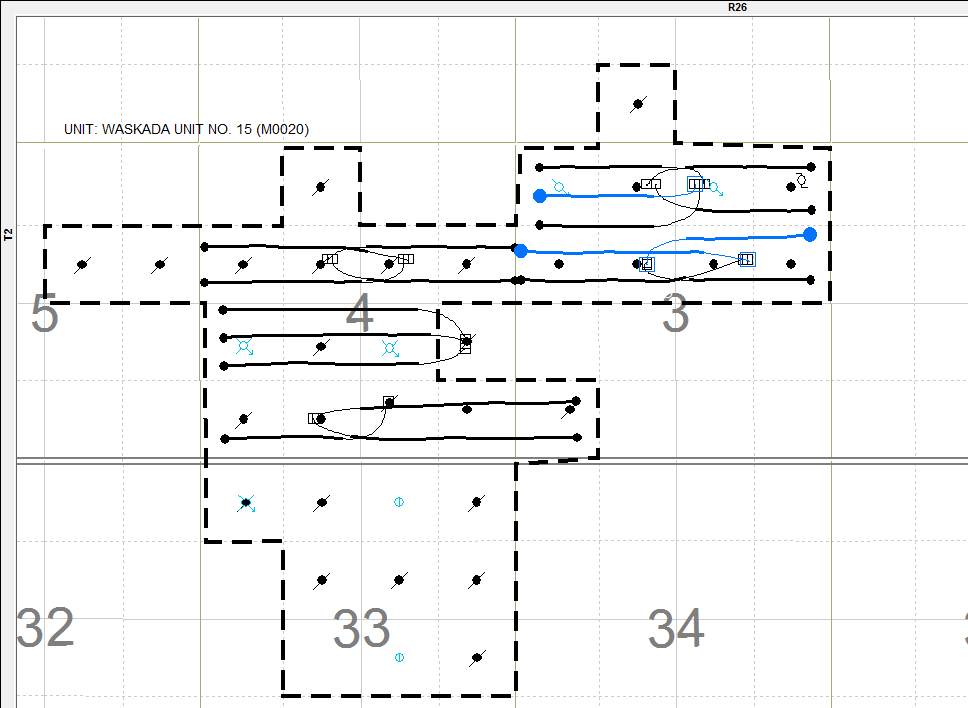
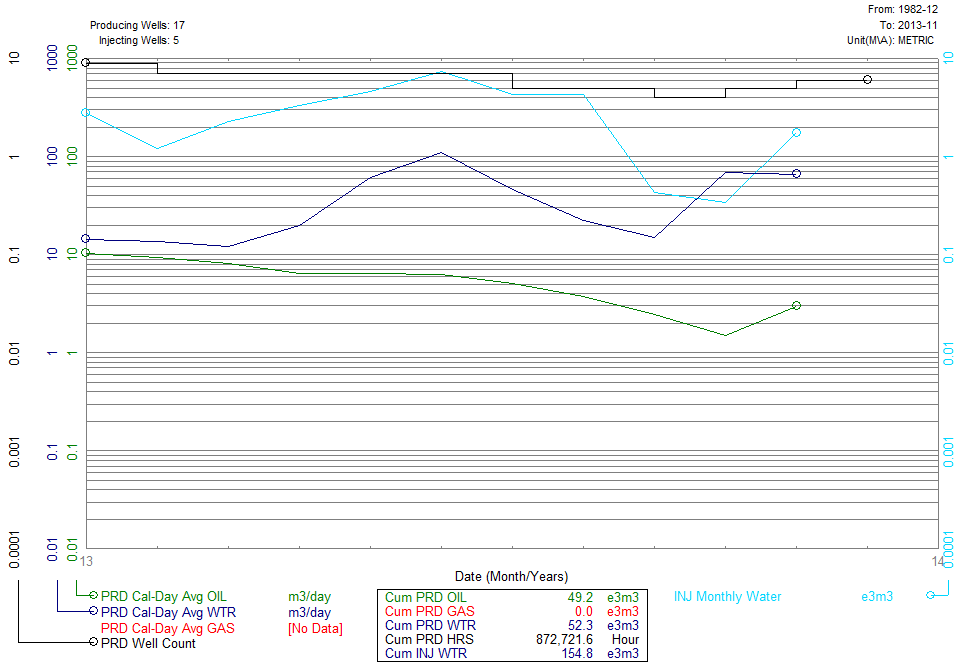


Figure 5: 2013 Planned Activity

## Planned 2014 Activity:

Surge will continue to examine the waterflood performance and deploy capital to expand the flood when appropriate.

# Production 2013



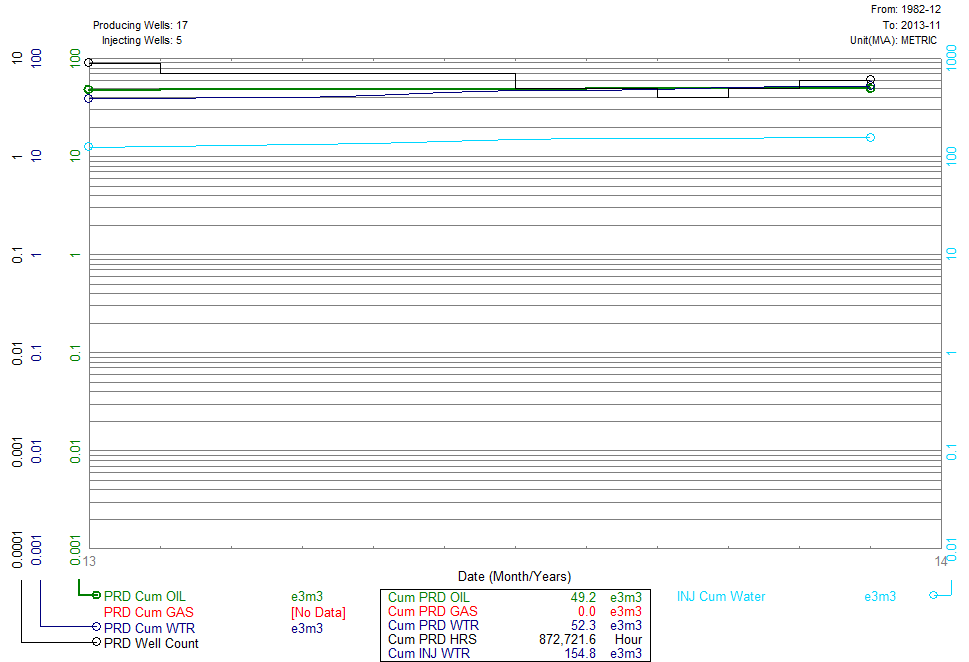


Figure 6: Waskada Unit 15 Production for 2013

Table 6: Waskada Unit 15 Injection & Production Figures

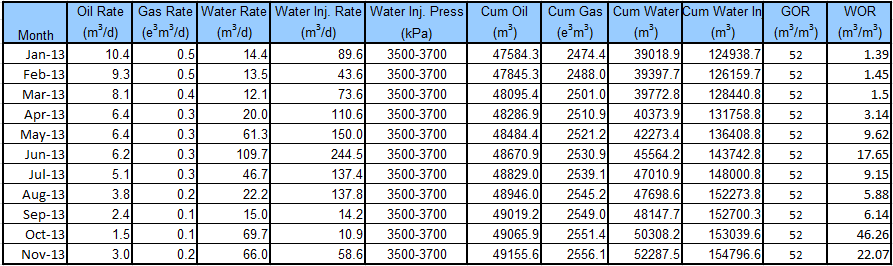


Table 7: Waskada Unit 15 VRR

