

**Virden Roselea Unit #1**  
**2013 Annual EOR Report**

## **Executive Summary**

In 2013 oil production in the Virden Roselea Unit #1 (VRU #1) was 63 m<sup>3</sup>/d (396 bbl/d) totaling 23 e<sup>3</sup>m<sup>3</sup> (144.7 mmbbl). Annual production was down 9.8% from 2012 to 2013. By the end of 2013 cumulative oil production from the VRU #1 was 2 946 e<sup>3</sup>m<sup>3</sup> (18.5 mmbbl). The original forecasted recovery was 845 e<sup>3</sup>m<sup>3</sup> (5.3 mmbbl) on primary recovery and 2 300 e<sup>3</sup>m<sup>3</sup> (14.4 mmbbl) total primary plus secondary recovery.

In December 2013 there were 60 producing oil wells and 20 water injectors active in the unit. One horizontal well was drilled and brought on production in September 2013. One injector (100/05-25-010-26W1/00) was treated with acid in an attempt to improve injectivity, without success.

Corex Resources has operated VRU #1 since December 19, 2012.

## Discussion

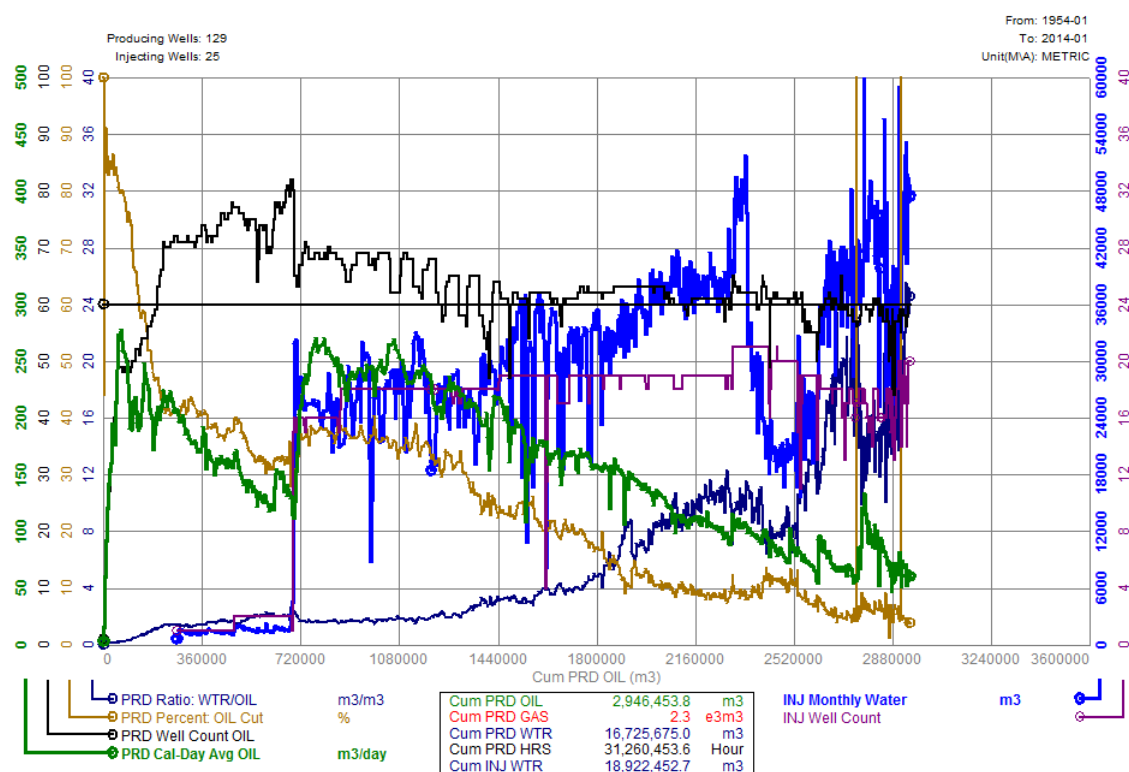
The VRU #1 has been under waterflood since 1965, 11 years after initial production in 1954. Water injection increased the oil production rate from  $\sim 125 \text{ m}^3/\text{d}$  just prior to injection to  $\sim 250 \text{ m}^3/\text{d}$ , equivalent to peak production from the field. Expected ultimate oil recovery was increased by 2.5 – 3 times due to the waterflood.

Horizontal drilling has offset the production decline over the last decade with 21 horizontal wells drilled in the unit. One horizontal well, 102/01-26-010-26W1/00, was drilled and brought on production in 2013. Total production for the months of November and December was  $290.5 \text{ m}^3$  (1 827 bbl) of oil and  $391.2 \text{ m}^3$  (2 460.5 bbl) of water. One injector was treated with acid, the treatment was unsuccessful and no improvement in injectivity was observed.

The water injection rate was  $1\,566 \text{ m}^3/\text{d}$  in 2013 and the producing WOR was  $25 \text{ m}^3/\text{m}^3$ . The injected water at VRU #1 is not filtered or treated in any way.

In the composite rate – cumulative oil plot below, waterflood response is clearly demonstrated at a cumulative oil production of  $650 \text{ e}^3\text{m}^3$ .

Detailed production, injection, voidage tables and plots for the total unit and each injection pattern are at the end of this report.



## 2013 Reservoir Pressure Surveys

Unit	UWID	Licence	Test Date	Test Type	Shut-in Time (days)	Datum Pressure (kPaa)
VRU #1	102/01-26-010-26W1/00	9503	27/09/2013	Flow & BU	7.9	7467.817

In 2013, one pressure was taken from the new drill. At a pressure of 7 468 kPaa, it is similar to previous pressure measurements in the unit, supporting the previous data.

In 2012, there were seven reservoir pressures recorded averaging 7 376 kPaa. The range in pressures taken is consistent with the pressure recorded this year. The initial reservoir pressure is estimated at 6 340 kPaa and the bubble point pressure as 1 273 kPaa.

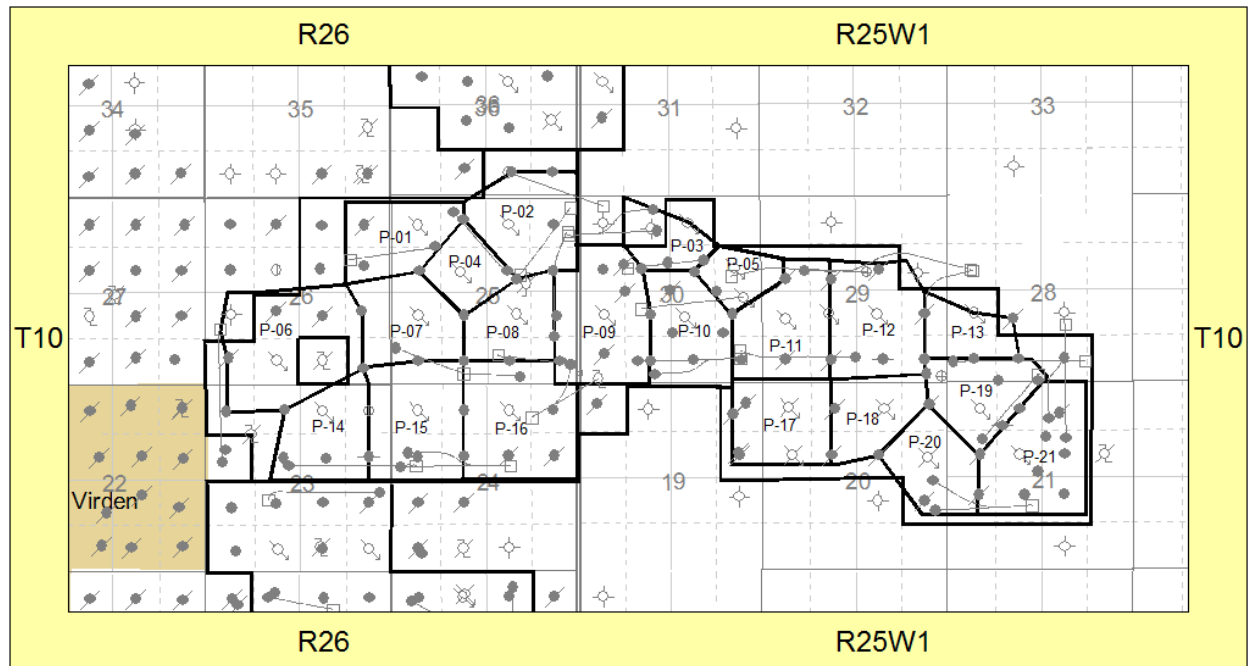
The voidage replacement ratio (VRR) in 2013 was maintained close to 1.00. The cumulative VRR at the end of 2013 was 0.96. An oil formation volume factor of 1.06  $\text{m}^3/\text{m}^3$  and a water formation volume factor of 1.04  $\text{m}^3/\text{m}^3$  were used in the VRR calculations.

The higher than initial reservoir pressure is inconsistent with the cumulative VRR of 0.96. The pressure inconsistency may be due to the partial pressure support for the field from an aquifer on the west side of the unit. This water influx from the aquifer is not accounted for in the VRR calculation.

## 2013 Well Servicing

UWID	Licence	Operation	Date	Objective
102/04-28-010-25W1/00	6817	Pump Repair	15-JAN-13	Repair failed artificial lift
102/12-24-010-26W1/00	6816	Pump Repair	28-JAN-13	Repair artificial lift
100/06-29-010-25W1/00	001384	Wireline	12-MAR-13	Secure well for flood
100/07-29-010-25W1/00	001405	Wireline	12-MAR-13	Secure well for flood season
100/05-29-010-25W1/00	001303	Wireline	12-MAR-13	Secure well for flood
102/14-30-010-25W1/00	6199	Pump Repair	13-MAR-13	Repair tubing leak
102/12-29-010-25W1/00	008480	Pump Repair. Possible Tubing Leak.	21-MAR-13	Rig Up. Pressure Test Tubing. Pull Rods.
102/08-25-010-26W1/00	006197	Pump Repair/ Tuboscope Tubing.	22-MAR-13	Pull Production, Tubing Leak. Run Production Back In Well.
100/08-30-010-25W1/00	001053	Scale Removal	29-MAR-13	Inhibitor squeeze
100/06-29-010-25W1/00	001384	Equipment Pressure Integrity Test	16-APR-13	Annual annulus pressure test
100/07-29-010-25W1/00	001405	Equipment Pressure Integrity Test	16-APR-13	Annual annulus pressure test
100/05-29-010-25W1/00	001303	Equipment Pressure Integrity Test	16-APR-13	Annual annulus pressure test
100/15-25-010-26W1/00	000672	Equipment Pressure Integrity Test	08-MAY-13	Annual annulus pressure test
100/11-25-010-26W1/00	000608	Equipment Pressure Integrity Test	08-MAY-13	Annual annulus pressure test
100/03-26-010-26W1/00	000797	Equipment Pressure Integrity Test	08-MAY-13	Annual annulus pressure test
100/07-30-010-25W1/00	000737	Equipment Pressure Integrity Test	08-MAY-13	Annual annulus pressure test
100/07-25-010-26W1/00	000555	Equipment Pressure Integrity Test	08-MAY-13	Annual annulus pressure test
100/15-30-010-25W1/00	001110	Equipment Pressure Integrity Test	10-MAY-13	Annual annulus pressure test
100/13-21-010-25W1/00	001765	Equipment Pressure Integrity Test	10-MAY-13	Annual annulus pressure test
100/11-21-010-25W1/00	001787	Equipment Pressure Integrity Test	10-MAY-13	Annual annulus pressure test
100/09-30-010-25W1/00	001070	Equipment Pressure Integrity Test	10-MAY-13	Annual annulus pressure test
100/05-30-010-25W1/00	000623	Equipment Pressure Integrity Test	10-MAY-13	Annual annulus pressure test
100/13-25-010-26W1/00	000698	Equipment Pressure Integrity Test	13-MAY-13	Annual annulus pressure test
100/05-30-010-25W1/00	000623	Packer Repair	18-JUN-13	Repair failed packer
100/09-25-010-26W1/00	000591	Pump Repair	09-JUL-13	Repair failed pump
102/03-29-010-25W1/00	6867	Tubing Repair	17-JUL-13	Repair tubing
100/04-25-010-26W1/00	000467	Pump Repair	06-AUG-13	Repair failed pump
102/03-29-010-25W1/00	6867	Pump Repair	12-AUG-13	Repair failed pump
100/13-25-010-26W1/00	000698	Wireline	23-AUG-13	RI wireline to retrieve pressure recorders
100/12-23-010-26W1/00	000489	Pump Repair	11-SEP-13	Repair failed pump
100/05-25-010-26W1/00	000695	Acid Treatment	21-OCT-13	Attempt to improve injectivity
102/11-23-010-26W1/00	6389	Rod Repair	03-DEC-13	Repair rod

## VRU #1 Waterflood Pattern Map



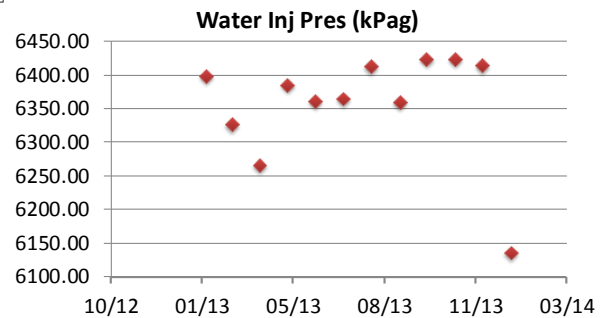
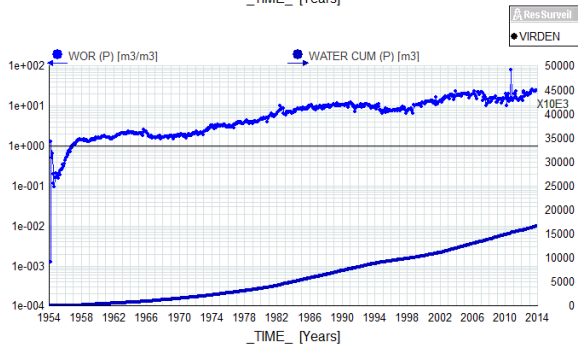
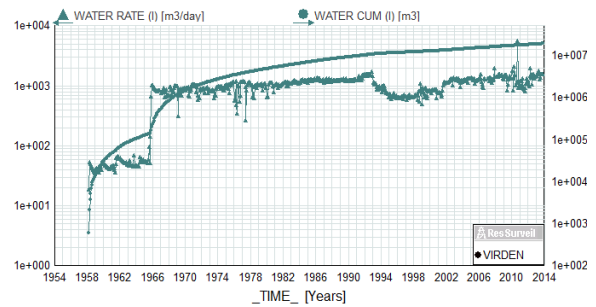
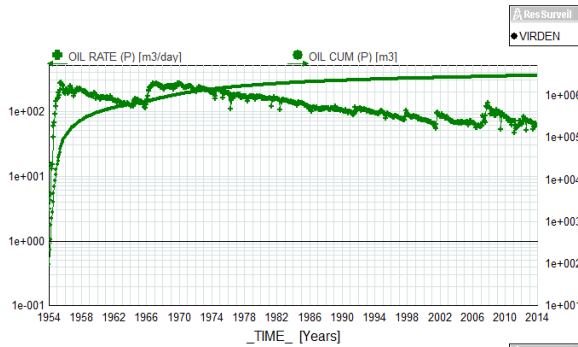
## VRU #1 Waterflood Pattern Table

Pattern	Well
P-01	100/13-25-010-26W1/00
P-02	100/15-25-010-26W1/00
P-03	100/15-30-010-25W1/00
P-04	100/11-25-010-26W1/00
P-05	100/09-30-010-25W1/00
P-06	100/03-26-010-26W1/00
P-07	100/05-25-010-26W1/00
P-08	100/07-25-010-26W1/00
P-09	100/05-30-010-25W1/00
P-09	103/01-25-010-26W1/00
P-10	100/07-30-010-25W1/00
P-11	100/05-29-010-25W1/00
P-12	100/06-29-010-25W1/00
P-12	100/07-29-010-25W1/00
P-13	100/05-28-010-25W1/00
P-14	100/15-23-010-26W1/00
P-15	100/13-24-010-26W1/00
P-16	100/15-24-010-26W1/00
P-16	103/01-25-010-26W1/00
P-19	100/13-21-010-25W1/00
P-21	100/11-21-010-25W1/00

# Total for VRU #1

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPa	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	2158.20	69.62	43924.40	1416.92	20.35	45013.00	1452.03	6397.71	0.98	0.96
2/28/2013	1986.80	70.96	43733.00	1561.89	22.01	43773.00	1563.32	6326.19	0.96	0.96
3/31/2013	2106.60	67.95	50860.20	1640.65	24.14	51712.00	1668.13	6265.90	0.98	0.96
4/30/2013	2016.50	67.22	51412.60	1713.75	25.50	53048.00	1768.27	6384.90	0.99	0.96
5/31/2013	1605.50	51.79	38806.30	1251.82	24.17	40307.00	1300.23	6361.90	1.00	0.96
6/30/2013	1908.50	63.62	48148.50	1604.95	25.23	49665.00	1655.50	6363.67	0.99	0.96
7/31/2013	1765.30	56.95	40864.40	1318.21	23.15	42122.00	1358.77	6412.43	0.99	0.96
8/31/2013	2021.80	65.22	47788.30	1541.56	23.64	49354.10	1592.07	6359.29	0.99	0.96
9/30/2013	1790.80	59.69	45091.30	1503.04	25.18	46894.50	1563.15	6423.81	1.00	0.96
10/31/2013	1983.60	63.99	46407.60	1497.02	23.40	48543.60	1565.92	6423.81	1.00	0.96
11/30/2013	1807.80	60.26	45039.10	1501.30	24.91	46973.50	1565.78	6413.95	1.00	0.96
12/31/2013	1717.40	55.40	45441.80	1465.86	26.46	47433.20	1530.10	6134.86	1.00	0.96

Cumulative Oil Produced (E3m3)	2946.31
Cumulative Water Produced (E3m3)	16725.48
Cumulative Water Injected (E3m3)	18922.45
Cumulative Voidage Replacement Ratio	0.96



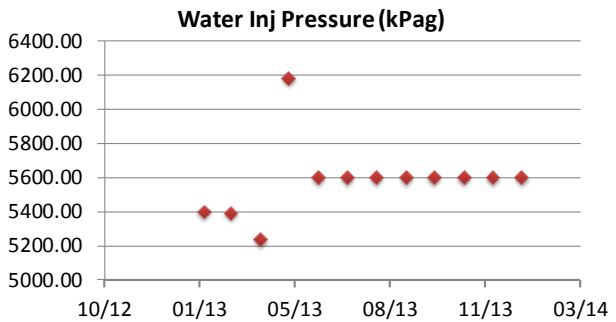
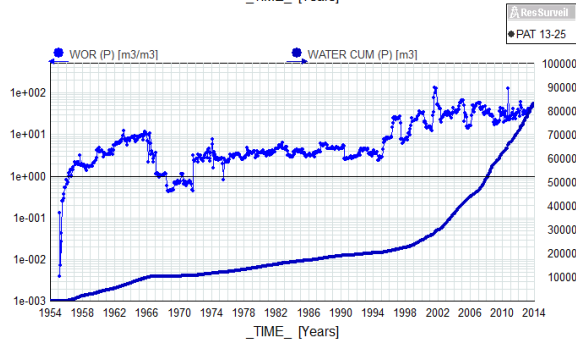
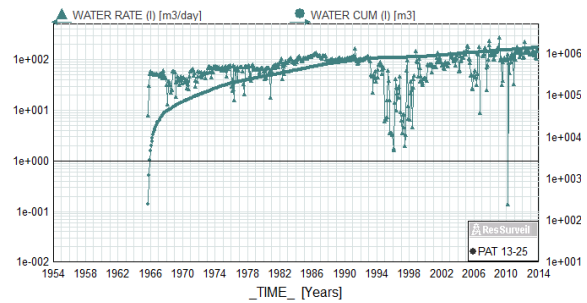
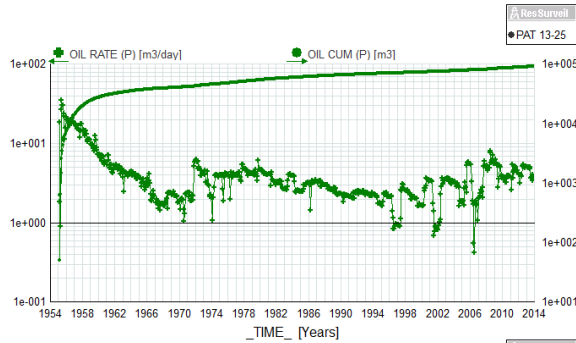


# VRU No. 1

## Pattern P-01 - 00/13-25-010-26W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPa	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	155.40	5.01	5364.40	173.05	34.52	4020.00	129.68	5400.00	0.73	1.55
2/28/2013	142.90	5.10	5346.20	190.94	37.41	3581.00	127.89	5393.00	0.65	1.54
3/31/2013	152.70	4.93	6168.60	198.99	40.40	3954.00	127.55	5232.00	0.63	1.54
4/30/2013	152.60	5.09	6184.90	206.16	40.53	4685.00	156.17	6180.00	0.74	1.53
5/31/2013	157.30	5.07	5391.10	173.91	34.27	3777.00	121.84	5600.00	0.68	1.53
6/30/2013	143.40	4.78	5978.40	199.28	41.69	4003.30	133.44	5600.00	0.65	1.52
7/31/2013	112.40	3.63	4823.20	155.59	42.91	4094.00	132.06	5600.00	0.83	1.52
8/31/2013	115.80	3.74	5566.00	179.55	48.07	3447.60	111.21	5600.00	0.61	1.51
9/30/2013	101.40	3.38	5161.90	172.06	50.91	3203.80	106.79	5600.00	0.61	1.51
10/31/2013	124.60	4.02	5555.90	179.22	44.59	4840.40	156.14	5600.00	0.85	1.50
11/30/2013	109.20	3.64	5193.60	173.12	47.56	4449.10	148.30	5600.00	0.84	1.50
12/31/2013	113.20	3.65	5675.90	183.09	50.14	4066.00	131.16	5600.00	0.70	1.49

Cumulative Oil Produced (E3m3)	91.99
Cumulative Water Produced (E3m3)	836.29
Cumulative Water Injected (E3m3)	1390.17
Cumulative Voidage Replacement Ratio	1.49

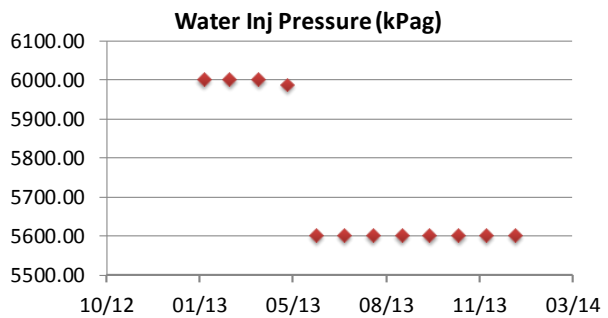
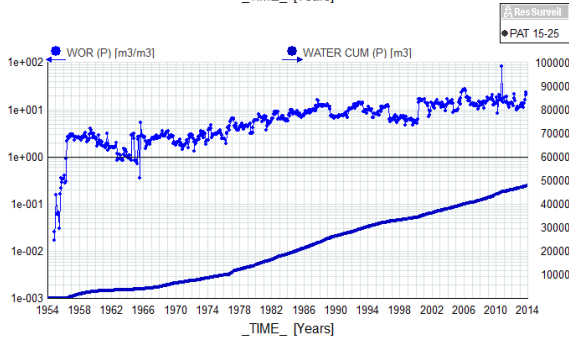
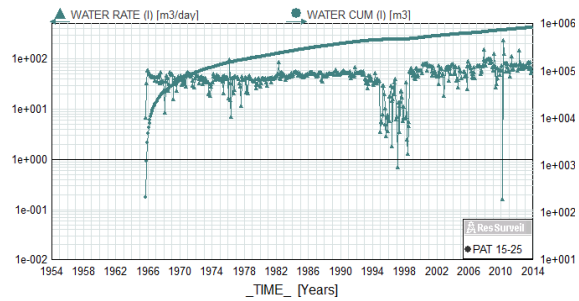
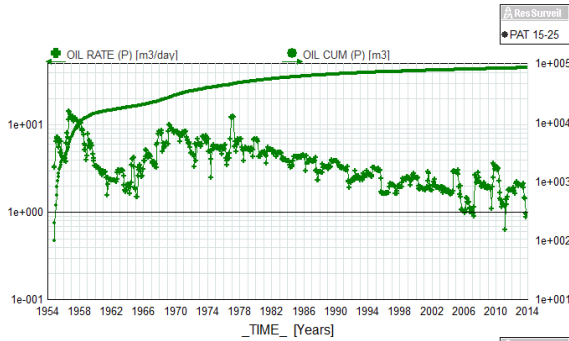


# VRU No. 1

## Pattern P-02 - 00/15-25-010-26W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	63.55	2.05	732.90	23.64	11.53	2312.00	74.58	6000.00	2.90	1.46
2/28/2013	57.45	2.05	717.30	25.62	12.49	2076.00	74.14	6000.00	2.67	1.46
3/31/2013	61.42	1.98	827.71	26.70	13.48	2168.00	69.94	6000.00	2.43	1.46
4/30/2013	60.95	2.03	825.45	27.51	13.54	2470.00	82.33	5987.00	2.78	1.46
5/31/2013	66.55	2.15	752.63	24.28	11.31	2108.00	68.00	5600.00	2.57	1.46
6/30/2013	57.72	1.92	802.16	26.74	13.90	2553.90	85.13	5600.00	2.97	1.47
7/31/2013	45.96	1.48	635.73	20.51	13.83	1973.00	63.65	5600.00	2.89	1.47
8/31/2013	44.59	1.44	721.46	23.27	16.18	2671.50	86.18	5600.00	3.48	1.47
9/30/2013	26.43	0.88	626.17	20.87	23.69	2102.70	70.09	5600.00	3.22	1.47
10/31/2013	30.09	0.97	633.00	20.42	21.04	1642.40	52.98	5600.00	2.47	1.47
11/30/2013	28.19	0.94	631.27	21.04	22.39	1765.30	58.84	5600.00	2.67	1.48
12/31/2013	27.63	0.89	655.20	21.14	23.72	2068.00	66.71	5600.00	3.03	1.48

Cumulative Oil Produced (E3m3)	85.72
Cumulative Water Produced (E3m3)	477.95
Cumulative Water Injected (E3m3)	836.32
Cumulative Voidage Replacement Ratio	1.48

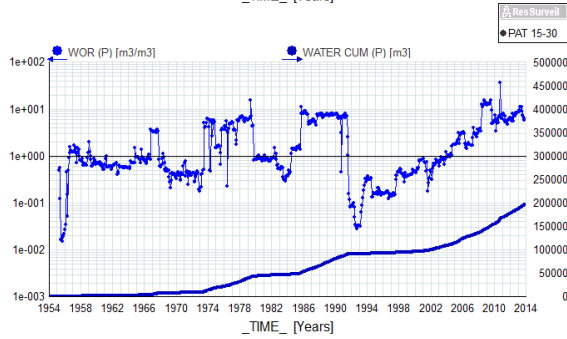
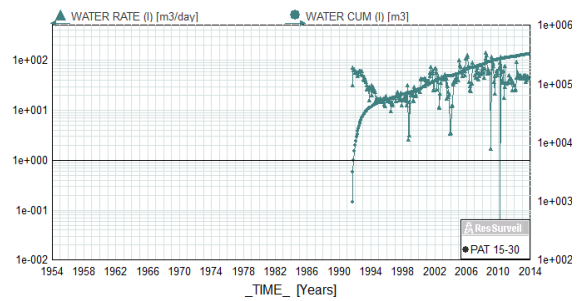
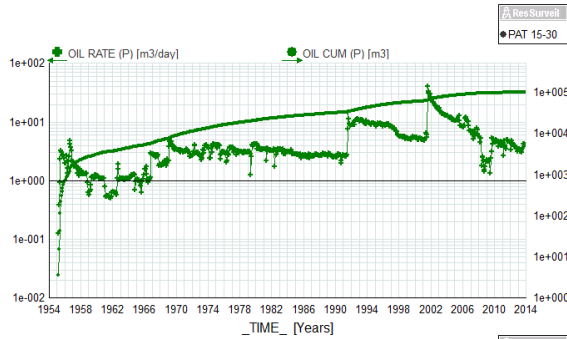


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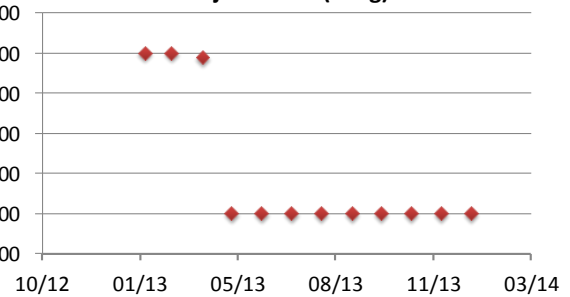
## Pattern P-03 - 00/15-30-010-25W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	108.53	3.50	943.99	30.45	8.70	1340.00	43.23	7000.00	1.27	1.07
2/28/2013	97.90	3.50	924.09	33.00	9.44	1201.00	42.89	7000.00	1.17	1.08
3/31/2013	96.39	3.11	1066.05	34.39	11.06	1567.00	50.55	6994.00	1.35	1.08
4/30/2013	96.03	3.20	1066.01	35.53	11.10	1365.00	45.50	6800.00	1.17	1.08
5/31/2013	104.43	3.37	969.25	31.27	9.28	1174.00	37.87	6800.00	1.09	1.08
6/30/2013	92.30	3.08	1049.65	34.99	11.37	1506.90	50.23	6800.00	1.32	1.08
7/31/2013	110.76	3.57	817.86	26.38	7.38	1257.00	40.55	6800.00	1.35	1.08
8/31/2013	133.16	4.30	894.66	28.86	6.72	1500.30	48.40	6800.00	1.46	1.08
9/30/2013	115.53	3.85	741.46	24.72	6.42	1414.40	47.15	6800.00	1.64	1.08
10/31/2013	131.73	4.25	749.39	24.17	5.69	1323.50	42.69	6800.00	1.50	1.08
11/30/2013	123.80	4.13	743.83	24.79	6.01	1321.00	44.03	6800.00	1.52	1.08
12/31/2013	120.66	3.89	762.03	24.58	6.32	1182.20	38.14	6800.00	1.33	1.08

Cumulative Oil Produced (E3m3)	101.82
Cumulative Water Produced (E3m3)	197.52
Cumulative Water Injected (E3m3)	327.36
Cumulative Voidage Replacement Ratio	1.08



Water Inj Pressure (kPag)

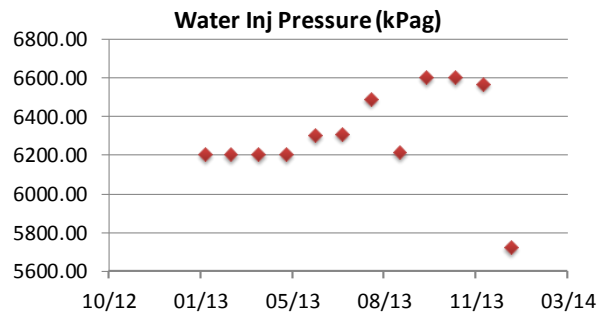
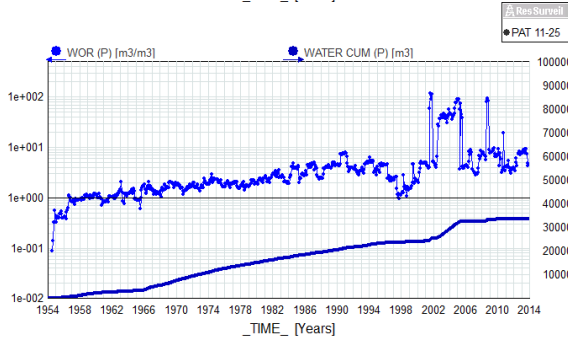
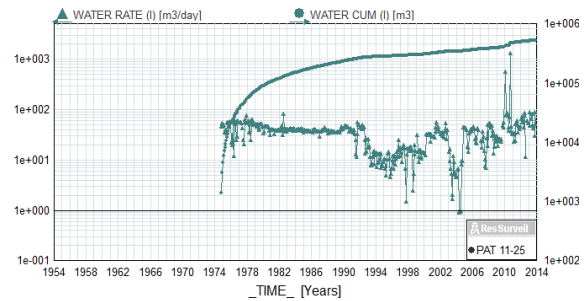
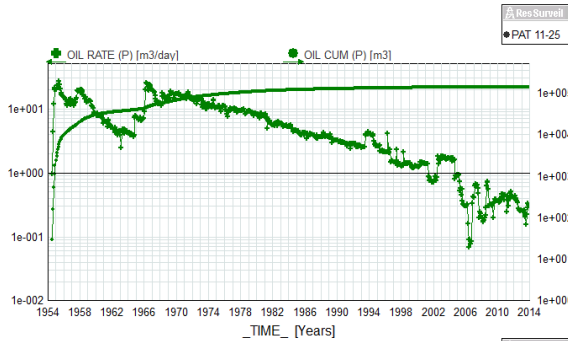


# VRU No. 1

## Pattern P-04 - 00/11-25-010-26W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	7.90	0.25	61.25	1.98	7.75	1470.00	47.42	6200.00	21.20	1.08
2/28/2013	7.15	0.26	59.85	2.14	8.37	2517.00	89.89	6200.00	37.47	1.09
3/31/2013	7.65	0.25	69.10	2.23	9.03	0.00	0.00	6200.00	0.00	1.09
4/30/2013	7.70	0.26	69.45	2.32	9.02	1973.00	65.77	6203.00	25.51	1.09
5/31/2013	6.80	0.22	52.70	1.70	7.75	2582.00	83.29	6300.00	43.27	1.10
6/30/2013	6.10	0.20	56.95	1.90	9.34	1457.00	48.57	6307.00	23.05	1.10
7/31/2013	4.85	0.16	45.40	1.46	9.36	1348.00	43.48	6490.00	26.76	1.10
8/31/2013	6.90	0.22	50.55	1.63	7.33	1495.00	48.23	6213.00	25.95	1.10
9/30/2013	8.65	0.29	41.75	1.39	4.83	901.90	30.06	6600.00	17.82	1.11
10/31/2013	10.15	0.33	43.80	1.41	4.32	2764.80	89.19	6600.00	51.01	1.11
11/30/2013	9.50	0.32	43.65	1.46	4.59	1559.40	51.98	6570.00	29.21	1.11
12/31/2013	9.05	0.29	44.45	1.43	4.91	2012.00	64.90	5719.00	37.45	1.12

Cumulative Oil Produced (E3m3)	139.14
Cumulative Water Produced (E3m3)	337.33
Cumulative Water Injected (E3m3)	536.65
Cumulative Voidage Replacement Ratio	1.12

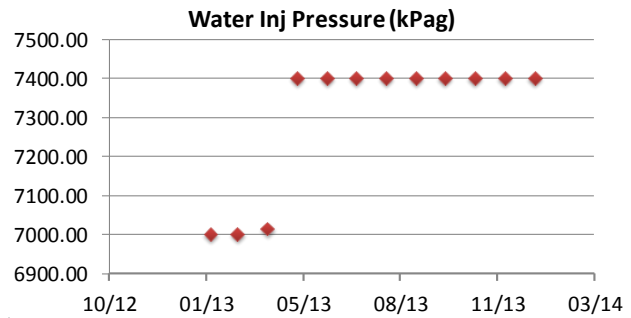
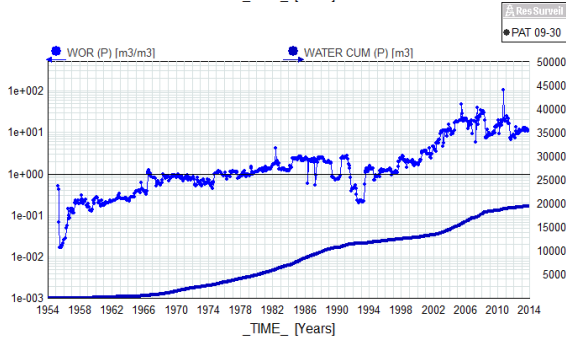
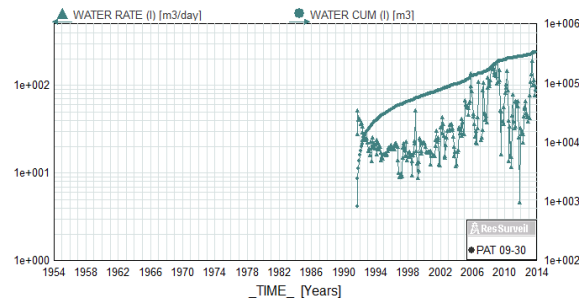
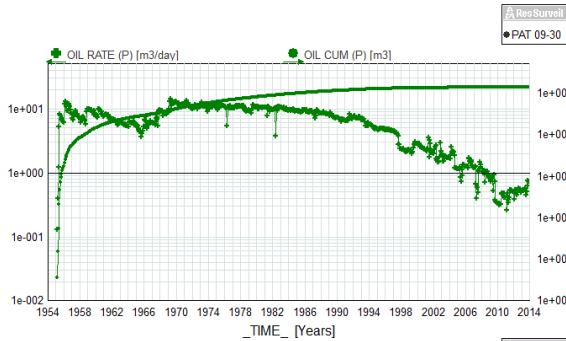


# VRU No. 1

## Pattern P-05 - 00/09-30-010-25W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	16.93	0.55	184.14	5.94	10.88	1318.75	42.54	7000.00	6.55	0.90
2/28/2013	15.25	0.54	180.24	6.44	11.82	2171.25	77.54	7000.00	11.09	0.90
3/31/2013	16.29	0.53	207.90	6.71	12.76	3419.50	110.31	7013.00	15.22	0.91
4/30/2013	16.33	0.54	208.96	6.97	12.80	4001.50	133.38	7400.00	17.73	0.92
5/31/2013	17.68	0.57	189.05	6.10	10.69	7349.75	237.09	7400.00	35.48	0.94
6/30/2013	16.30	0.54	204.95	6.83	12.58	5682.53	189.42	7400.00	25.64	0.96
7/31/2013	14.11	0.46	160.51	5.18	11.37	3132.00	101.03	7400.00	17.90	0.97
8/31/2013	15.51	0.50	189.36	6.11	12.21	3560.70	114.86	7400.00	17.35	0.98
9/30/2013	18.98	0.63	226.11	7.54	11.91	3007.13	100.24	7400.00	12.25	0.99
10/31/2013	23.38	0.75	243.34	7.85	10.41	2383.08	76.87	7400.00	8.92	0.99
11/30/2013	22.00	0.73	241.13	8.04	10.96	2705.43	90.18	7400.00	10.26	1.00
12/31/2013	21.41	0.69	246.78	7.96	11.52	2433.50	78.50	7400.00	9.06	1.01

Cumulative Oil Produced (E3m3)	138.56
Cumulative Water Produced (E3m3)	195.92
Cumulative Water Injected (E3m3)	340.68
Cumulative Voidage Replacement Ratio	1.01

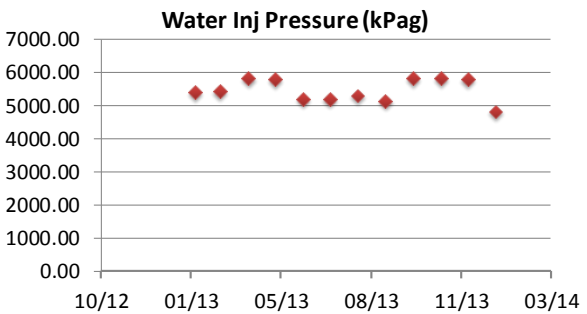
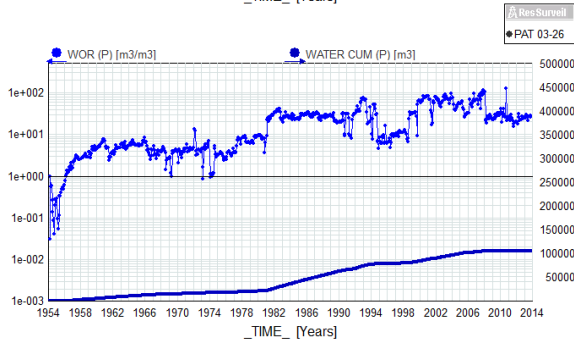
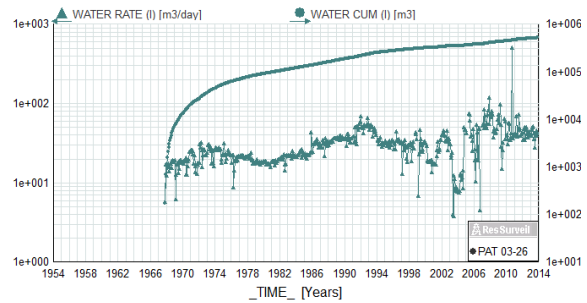
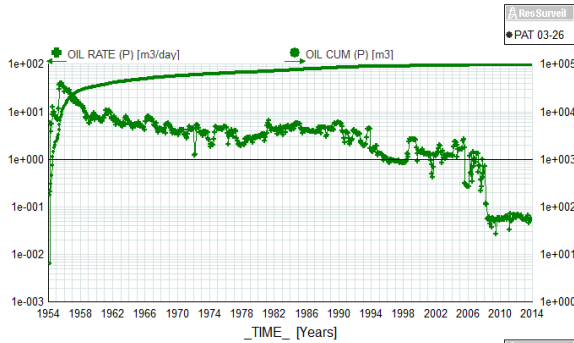


# VRU No. 1

## Pattern P-06 - 00/03-26-010-26W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	1.73	0.06	42.60	1.37	24.70	1210.00	39.03	5400.00	27.27	0.44
2/28/2013	1.55	0.06	41.68	1.49	26.89	1324.00	47.29	5414.00	30.60	0.44
3/31/2013	1.63	0.05	48.15	1.55	29.63	1565.00	50.48	5800.00	31.42	0.44
4/30/2013	1.73	0.06	48.28	1.61	27.99	1563.00	52.10	5780.00	31.23	0.44
5/31/2013	2.08	0.07	44.55	1.44	21.47	1099.00	35.45	5200.00	23.54	0.44
6/30/2013	1.75	0.06	48.15	1.61	27.51	1281.00	42.70	5203.00	25.65	0.44
7/31/2013	1.45	0.05	38.38	1.24	26.47	874.00	28.19	5294.00	21.93	0.44
8/31/2013	1.70	0.05	45.35	1.46	26.68	1231.70	39.73	5123.00	26.16	0.44
9/30/2013	1.58	0.05	44.70	1.49	28.38	1385.60	46.19	5800.00	29.92	0.45
10/31/2013	1.80	0.06	45.43	1.47	25.24	1241.10	40.04	5800.00	26.26	0.45
11/30/2013	1.65	0.06	45.25	1.51	27.42	1269.70	42.32	5767.00	27.05	0.45
12/31/2013	1.65	0.05	46.98	1.52	28.47	1025.00	33.06	4810.00	21.06	0.45

Cumulative Oil Produced (E3m3)	96.67
Cumulative Water Produced (E3m3)	1060.31
Cumulative Water Injected (E3m3)	520.24
Cumulative Voidage Replacement Ratio	0.45

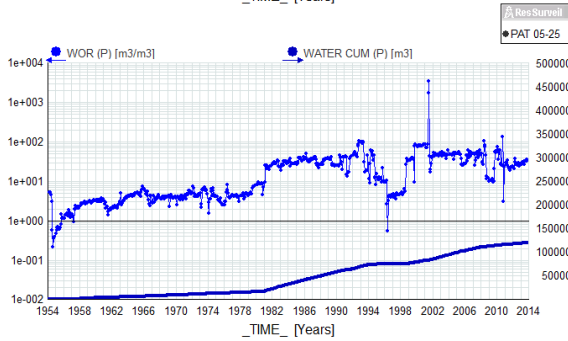
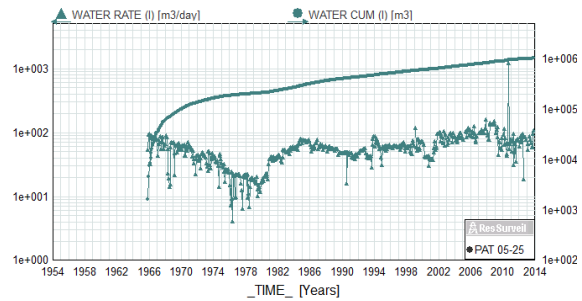
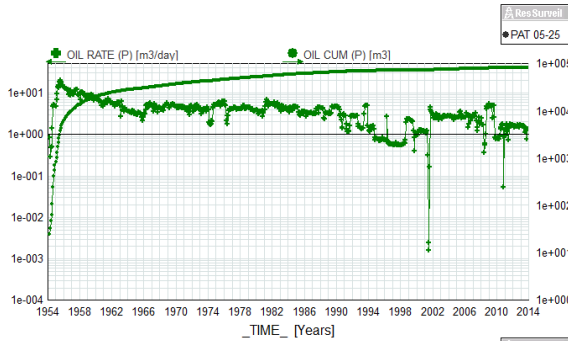


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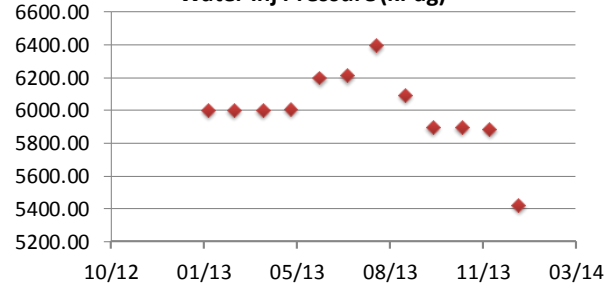
## Pattern P-07 - 00/05-25-010-26W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	50.43	1.63	1357.75	43.80	26.93	2084.00	67.23	6000.00	1.48	0.80
2/28/2013	45.55	1.63	1329.03	47.47	29.18	1505.00	53.75	6000.00	1.09	0.80
3/31/2013	48.68	1.57	1533.50	49.47	31.50	0.00	0.00	6000.00	0.00	0.80
4/30/2013	48.83	1.63	1540.98	51.37	31.56	2612.00	87.07	6007.00	1.64	0.80
5/31/2013	48.77	1.57	1326.90	42.80	27.20	2388.00	77.03	6200.00	1.73	0.80
6/30/2013	42.90	1.43	1428.80	47.63	33.31	2315.00	77.17	6207.00	1.57	0.80
7/31/2013	34.55	1.11	1143.88	36.90	33.11	2141.00	69.06	6390.00	1.82	0.80
8/31/2013	38.65	1.25	1335.00	43.06	34.54	1833.70	59.15	6094.00	1.33	0.80
9/30/2013	22.93	0.76	808.80	26.96	35.28	1760.70	58.69	5900.00	2.12	0.80
10/31/2013	42.25	1.36	1352.83	43.64	32.02	2957.70	95.41	5900.00	2.12	0.80
11/30/2013	39.55	1.32	1349.10	44.97	34.11	3227.80	107.59	5883.00	2.32	0.81
12/31/2013	38.80	1.25	1400.18	45.17	36.09	2478.00	79.94	5419.00	1.72	0.81

Cumulative Oil Produced (E3m3)	84.70
Cumulative Water Produced (E3m3)	1204.31
Cumulative Water Injected (E3m3)	1041.63
Cumulative Voidage Replacement Ratio	0.81



Water Inj Pressure (kPag)

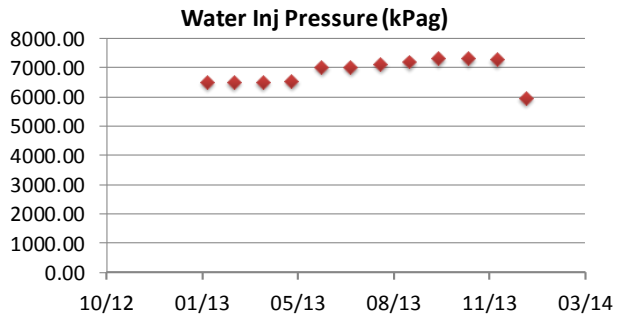
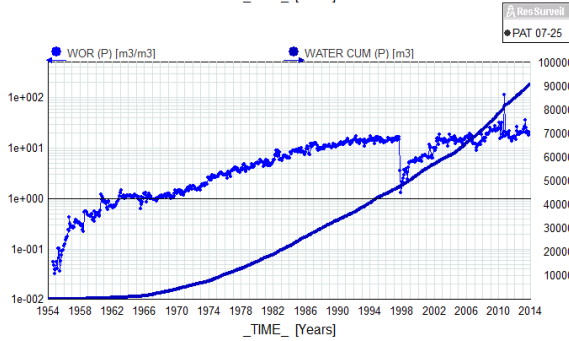
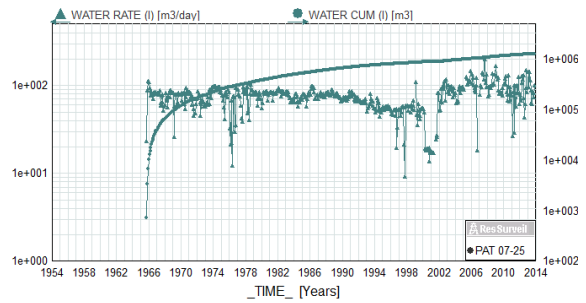
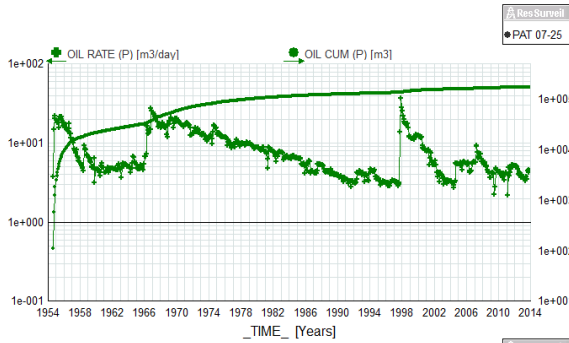


# VRU No. 1

## Pattern P-08 - 00/07-25-010-26W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPa	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	116.62	3.76	2476.94	79.90	21.24	4419.00	142.55	6500.00	1.70	1.20
2/28/2013	105.27	3.76	2440.93	87.18	23.19	2679.00	95.68	6500.00	1.05	1.20
3/31/2013	109.32	3.53	2890.45	93.24	26.44	4461.00	143.90	6500.00	1.49	1.20
4/30/2013	98.94	3.30	3533.26	117.78	35.71	3441.00	114.70	6517.00	0.95	1.20
5/31/2013	115.25	3.72	2353.50	75.92	20.42	2734.00	88.19	7000.00	1.11	1.20
6/30/2013	105.32	3.51	2713.00	90.43	25.76	1915.00	63.83	7003.00	0.68	1.20
7/31/2013	108.41	3.50	2388.44	77.05	22.03	1905.00	61.45	7103.00	0.76	1.20
8/31/2013	139.98	4.52	2844.05	91.74	20.32	2649.20	85.46	7203.00	0.89	1.20
9/30/2013	127.15	4.24	2604.98	86.83	20.49	2491.10	83.04	7300.00	0.91	1.20
10/31/2013	143.20	4.62	2573.63	83.02	17.97	2312.90	74.61	7300.00	0.85	1.20
11/30/2013	133.81	4.46	2553.71	85.12	19.08	3007.80	100.26	7253.00	1.12	1.20
12/31/2013	132.75	4.28	2708.21	87.36	20.40	3289.00	106.10	5942.00	1.16	1.20

Cumulative Oil Produced (E3m3)	175.86
Cumulative Water Produced (E3m3)	908.69
Cumulative Water Injected (E3m3)	1302.35
Cumulative Voidage Replacement Ratio	1.20





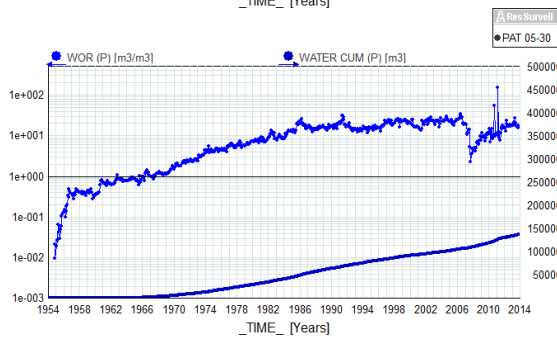
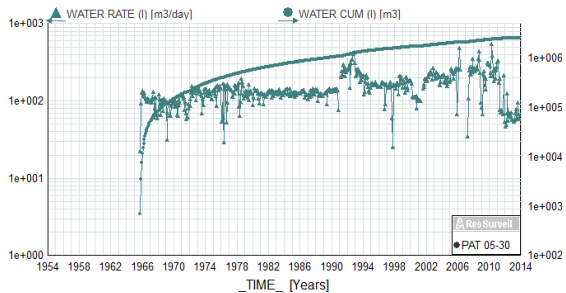
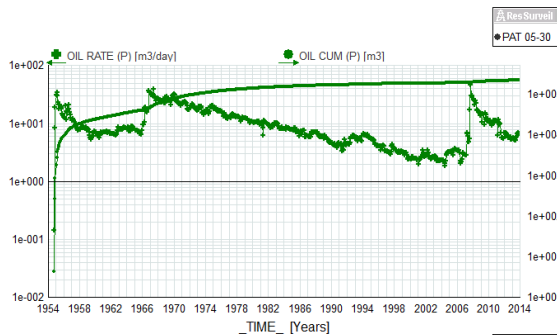
# VRU No. 1

## Pattern P-09 – 00/05-30-010-25W1/0

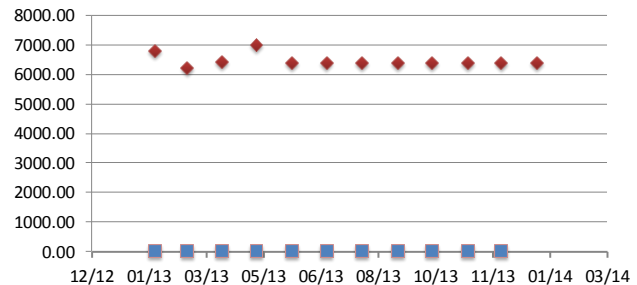
## P-09 – 03/01-25-010-26W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	176.13	5.68	3108.16	100.26	17.65	1711.00	55.19	6781.00	--	0.52	1.62
2/28/2013	160.91	5.75	3079.06	109.97	19.13	1536.00	54.86	6207.00	--	0.47	1.62
3/31/2013	166.76	5.38	3603.30	116.24	21.61	1769.00	57.06	6419.00	--	0.47	1.61
4/30/2013	156.05	5.20	4244.77	141.49	27.20	2093.00	69.77	6980.00	--	0.48	1.61
5/31/2013	157.70	5.09	2793.78	90.12	17.72	1803.00	58.16	6400.00	--	0.61	1.61
6/30/2013	171.13	5.70	3434.86	114.50	20.07	2355.80	78.53	6400.00	--	0.65	1.61
7/31/2013	179.99	5.81	3045.74	98.25	16.92	1909.00	61.58	6400.00	--	0.59	1.61
8/31/2013	206.38	6.66	3570.33	115.17	17.30	2973.00	95.90	6400.00	--	0.79	1.60
9/30/2013	186.06	6.20	3280.86	109.36	17.63	2045.10	68.17	6400.00	--	0.59	1.60
10/31/2013	214.44	6.92	3296.47	106.34	15.37	1816.70	58.60	6400.00	--	0.52	1.60
11/30/2013	200.49	6.68	3272.09	109.07	16.32	1806.70	60.22	6400.00	--	0.52	1.60
12/31/2013	191.66	6.18	3386.89	109.25	17.67	6294.00	203.03	6400.00	--	1.76	1.60

Cumulative Oil Produced (E3m3)	218.85
Cumulative Water Produced (E3m3)	1381.95
Cumulative Water Injected (E3m3)	2564.85
Cumulative Voidage Replacement Ratio	1.60



Water Inj Pressure (kPag)

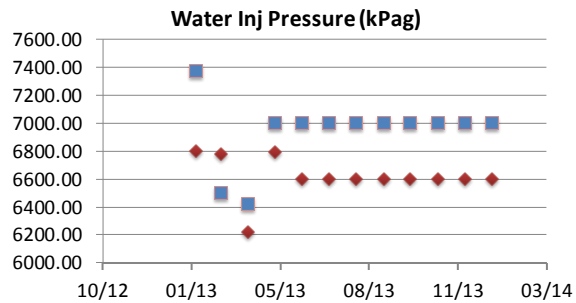
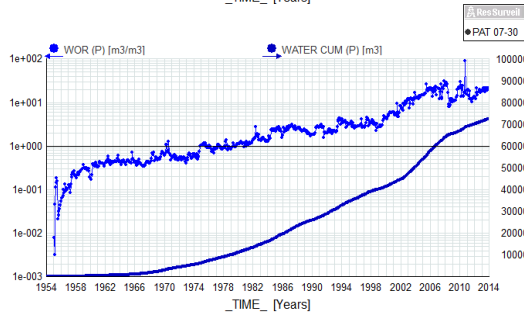
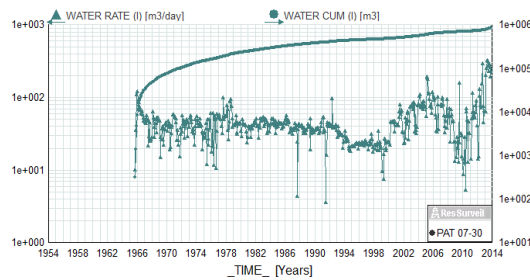
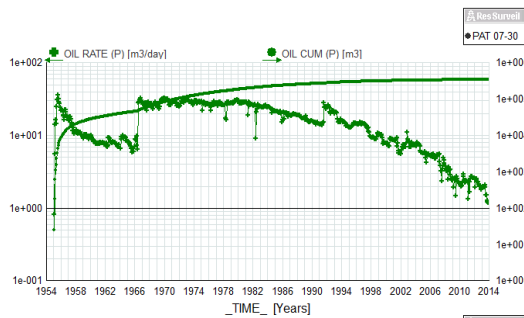


# VRU No. 1

## Pattern P-10 - 00/07-30-010-25W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPa	Water Inj Pressure kPa	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	62.03	2.00	1121.34	36.17	18.08	2002.25	64.59	6800.00	7371.00	1.69	0.72
2/28/2013	56.05	2.00	1097.54	39.20	19.58	5795.75	206.99	6779.00	6496.00	5.02	0.73
3/31/2013	59.29	1.91	1261.70	40.70	21.28	7930.50	255.82	6219.00	6419.00	6.00	0.73
4/30/2013	60.03	2.00	1272.46	42.42	21.20	9777.50	325.92	6793.00	7000.00	7.33	0.74
5/31/2013	65.08	2.10	1151.45	37.14	17.69	8482.25	273.62	6600.00	7000.00	6.96	0.75
6/30/2013	58.10	1.94	1246.95	41.56	21.46	9580.07	319.34	6600.00	7000.00	7.33	0.76
7/31/2013	46.61	1.50	959.41	30.95	20.58	7144.00	230.45	6600.00	7000.00	7.09	0.76
8/31/2013	46.91	1.51	1001.86	32.32	21.36	8933.30	288.17	6600.00	7000.00	8.51	0.77
9/30/2013	36.68	1.22	801.41	26.71	21.85	7872.68	262.42	6600.00	7000.00	9.38	0.78
10/31/2013	39.88	1.29	751.34	24.24	18.84	6081.43	196.18	6600.00	7000.00	7.68	0.78
11/30/2013	35.80	1.19	762.63	25.42	21.30	6913.28	230.44	6600.00	7000.00	8.65	0.79
12/31/2013	33.41	1.08	778.58	25.12	23.30	6216.50	200.53	6600.00	7000.00	7.65	0.79

Cumulative Oil Produced (E3m <sup>3</sup> )	344.58
Cumulative Water Produced (E3m <sup>3</sup> )	724.86
Cumulative Water Injected (E3m <sup>3</sup> )	856.01
Cumulative Voidage Replacement Ratio	0.79

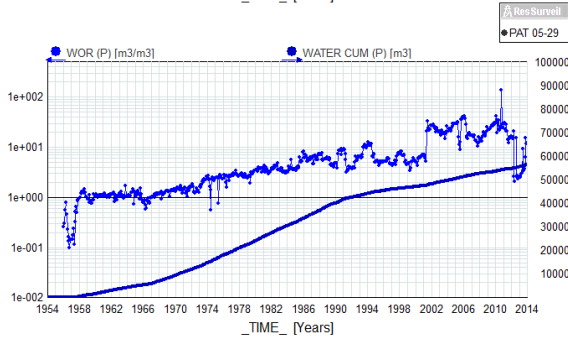
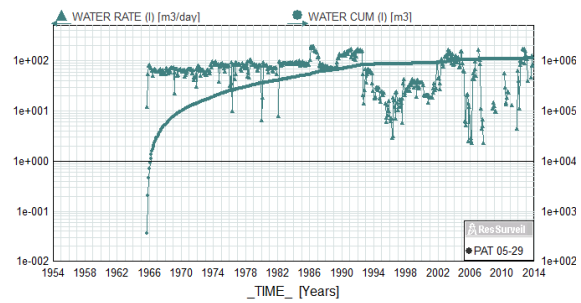
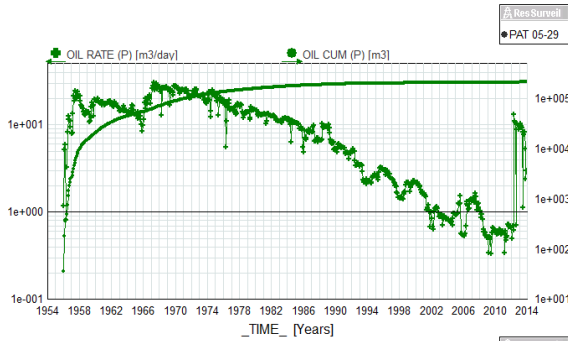


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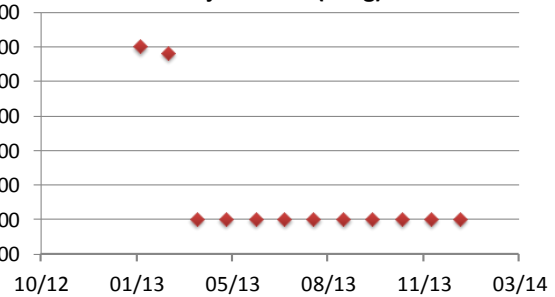
## Pattern P-11 - 00/05-29-010-25W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	314.50	10.15	793.30	25.59	2.52	3659.00	118.03	6600.00	3.28	1.45
2/28/2013	289.60	10.34	786.80	28.10	2.72	3109.00	111.04	6596.00	2.87	1.45
3/31/2013	299.80	9.67	883.90	28.51	2.95	1238.00	39.94	6500.00	1.04	1.45
4/30/2013	276.80	9.23	848.10	28.27	3.06	0.00	0.00	6500.00	0.00	1.45
5/31/2013	35.20	1.14	329.20	10.62	9.35	0.00	0.00	6500.00	0.00	1.45
6/30/2013	247.10	8.24	832.00	27.73	3.37	0.00	0.00	6500.00	0.00	1.45
7/31/2013	237.70	7.67	817.20	26.36	3.44	0.00	0.00	6500.00	0.00	1.45
8/31/2013	257.80	8.32	946.70	30.54	3.67	1470.60	47.44	6500.00	1.21	1.45
9/30/2013	160.60	5.35	1017.90	33.93	6.34	3769.40	125.65	6500.00	3.19	1.45
10/31/2013	73.40	2.37	1109.20	35.78	15.11	2466.60	79.57	6500.00	2.08	1.45
11/30/2013	88.80	2.96	1036.20	34.54	11.67	2504.10	83.47	6500.00	2.22	1.45
12/31/2013	93.10	3.00	935.90	30.19	10.05	2512.00	81.03	6500.00	2.44	1.45

Cumulative Oil Produced (E3m3)	216.44
Cumulative Water Produced (E3m3)	564.79
Cumulative Water Injected (E3m3)	1142.70
Cumulative Voidage Replacement Ratio	1.45



Water Inj Pressure (kPag)



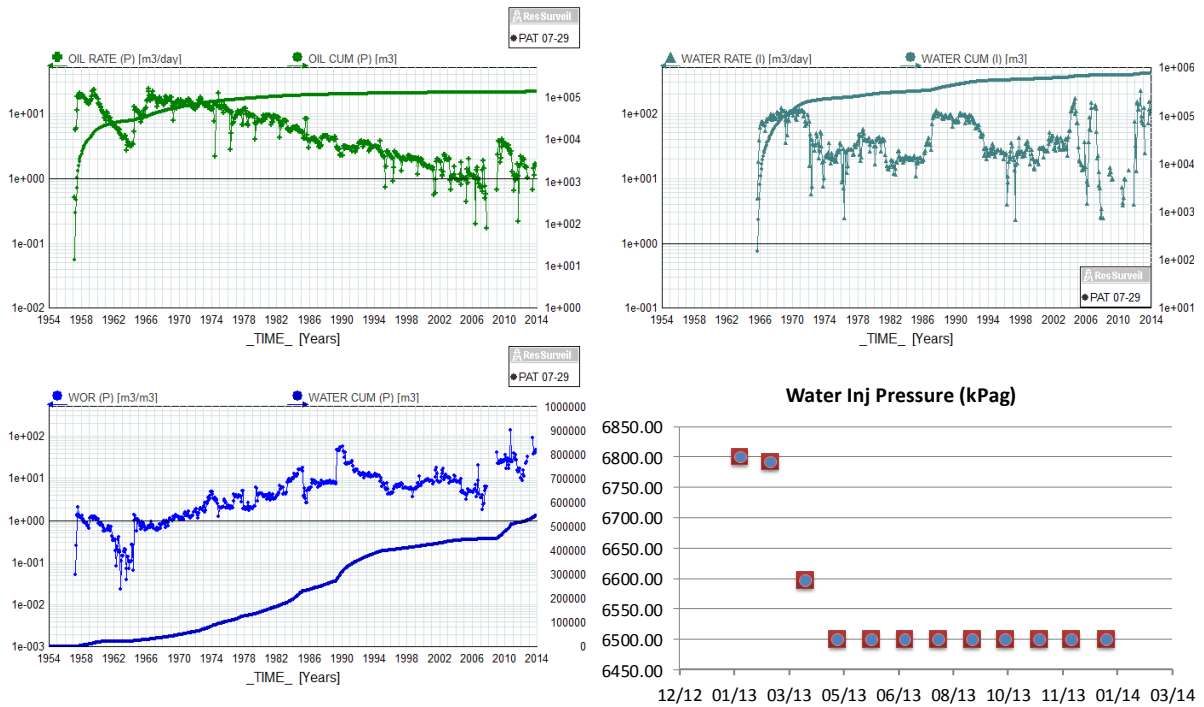
# VRU No. 1

## Pattern P-12 – 00/06-29-010-25W1/0

## P-12 – 03/07-29-010-25W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	0.00	0.00	1335.00	43.06		3745.00	120.81	6800.00	6800.00	2.81	1.14
2/28/2013	0.00	0.00	1328.10	47.43		1856.00	66.29	6793.00	6793.00	1.40	1.14
3/31/2013	0.00	0.00	1532.40	49.43		757.00	24.42	6597.00	6597.00	0.49	1.14
4/30/2013	0.00	0.00	1458.70	48.62		0.00	0.00	6500.00	6500.00	0.00	1.14
5/31/2013	0.00	0.00	1393.40	44.95		0.00	0.00	6500.00	6500.00	0.00	1.13
6/30/2013	19.70	0.66	1789.40	59.65	90.83	0.00	0.00	6500.00	6500.00	0.00	1.13
7/31/2013	44.50	1.44	1669.40	53.85	37.51	0.00	0.00	6500.00	6500.00	0.00	1.13
8/31/2013	34.80	1.12	1450.70	46.80	41.69	2185.20	70.49	6500.00	6500.00	1.47	1.13
9/30/2013	46.30	1.54	2015.20	67.17	43.52	4577.20	152.57	6500.00	6500.00	2.22	1.13
10/31/2013	51.50	1.66	1985.40	64.05	38.55	3591.20	115.85	6500.00	6500.00	1.76	1.13
11/30/2013	47.50	1.58	2279.40	75.98	47.99	2928.10	97.60	6500.00	6500.00	1.26	1.13
12/31/2013	40.00	1.29	2601.00	83.90	65.03	2068.00	66.71	6500.00	6500.00	0.78	1.13

Cumulative Oil Produced (E3m3)	135.63
Cumulative Water Produced (E3m3)	549.77
Cumulative Water Injected (E3m3)	780.31
Cumulative Voidage Replacement Ratio	1.13

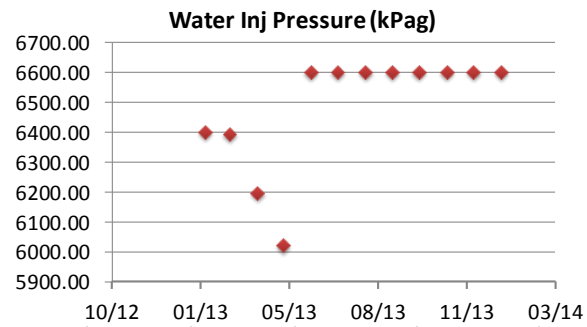
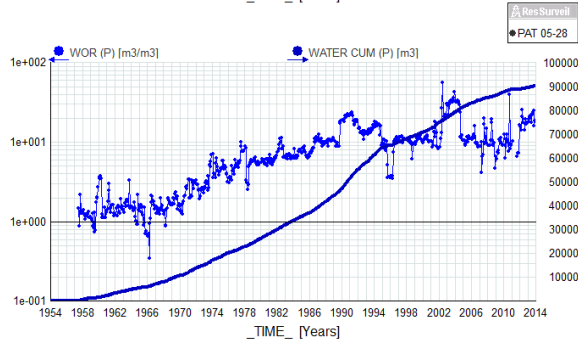
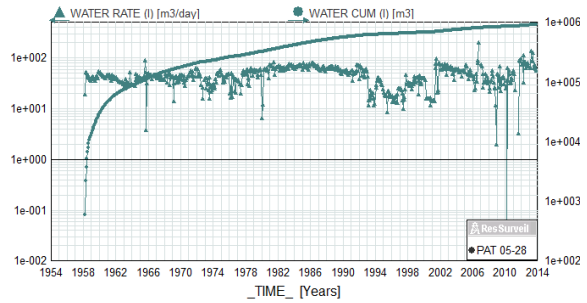
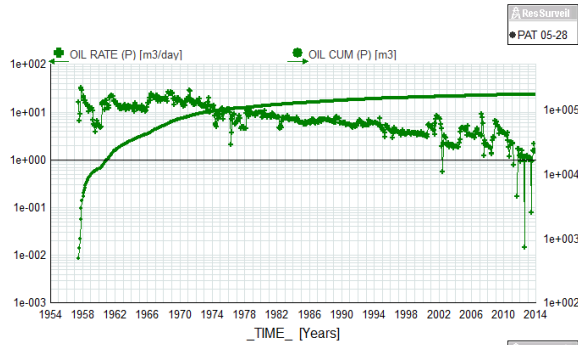


# VRU No. 1

## Pattern P-13 - 00/05-28-010-25W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPag	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	32.90	1.06	596.40	19.24	18.13	2066.00	66.65	6400.00	3.28	0.85
2/28/2013	28.15	1.01	554.05	19.79	19.68	1805.00	64.46	6393.00	3.10	0.85
3/31/2013	35.10	1.13	745.75	24.06	21.25	4196.00	135.35	6194.00	5.37	0.85
4/30/2013	32.75	1.09	697.40	23.25	21.29	2594.00	86.47	6020.00	3.55	0.85
5/31/2013	2.45	0.08	43.75	1.41	17.86	0.00	0.00	6600.00	0.00	0.85
6/30/2013	27.65	0.92	603.70	20.12	21.83	3831.40	127.71	6600.00	6.06	0.86
7/31/2013	29.40	0.95	648.60	20.92	22.06	1957.00	63.13	6600.00	2.88	0.86
8/31/2013	47.95	1.55	1132.65	36.54	23.62	2320.00	74.84	6600.00	1.96	0.86
9/30/2013	45.00	1.50	1111.35	37.05	24.70	1979.90	66.00	6600.00	1.71	0.86
10/31/2013	65.90	2.13	1066.45	34.40	16.18	1891.00	61.00	6600.00	1.67	0.86
11/30/2013	44.25	1.48	815.25	27.18	18.42	1722.90	57.43	6600.00	2.00	0.86
12/31/2013	22.80	0.74	496.40	16.01	21.77	1529.00	49.32	6600.00	2.94	0.86

Cumulative Oil Produced (E3m3)	171.21
Cumulative Water Produced (E3m3)	903.36
Cumulative Water Injected (E3m3)	931.05
Cumulative Voidage Replacement Ratio	0.86

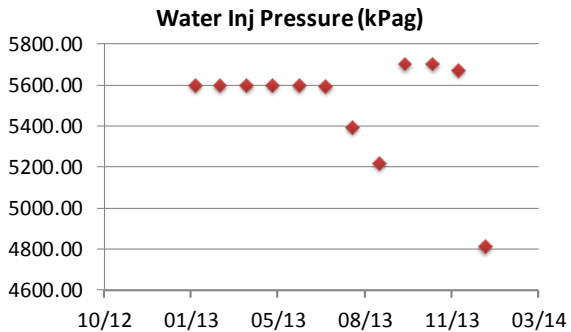
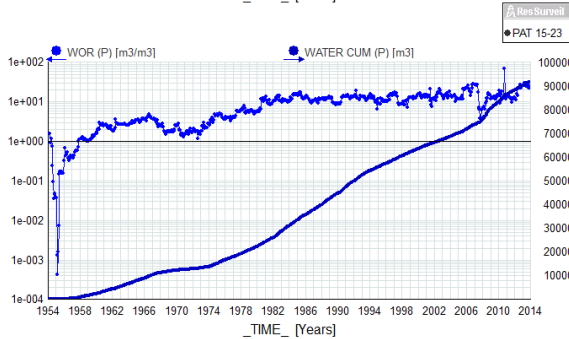
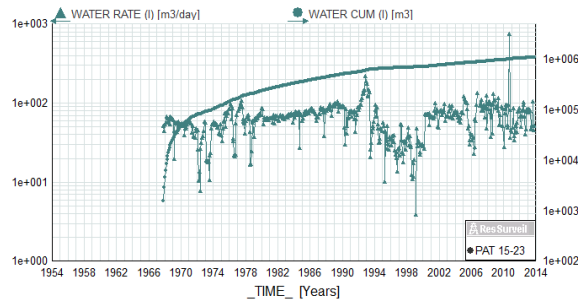
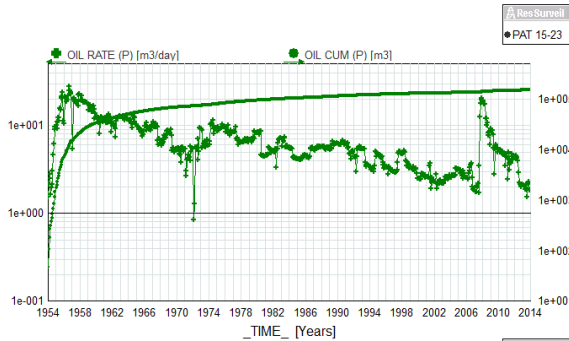


# VRU No. 1

## Pattern P-14 - 00/15-23-010-26W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	65.03	2.10	1649.25	53.20	25.36	2390.00	77.10	5600.00	1.39	1.02
2/28/2013	58.65	2.09	1613.48	57.62	27.51	2363.00	84.39	5600.00	1.41	1.02
3/31/2013	61.63	1.99	1854.55	59.82	30.09	2551.00	82.29	5600.00	1.33	1.02
4/30/2013	55.82	1.86	1551.18	51.71	27.79	2444.00	81.47	5600.00	1.52	1.02
5/31/2013	66.58	2.15	1667.65	53.80	25.05	1471.00	47.45	5600.00	0.85	1.02
6/30/2013	58.45	1.95	1790.25	59.68	30.63	1411.00	47.03	5593.00	0.76	1.02
7/31/2013	47.15	1.52	1447.28	46.69	30.70	1634.00	52.71	5394.00	1.09	1.02
8/31/2013	67.80	2.19	1705.05	55.00	25.15	3241.60	104.57	5216.00	1.83	1.02
9/30/2013	64.37	2.15	1684.60	56.15	26.17	1550.50	51.68	5700.00	0.89	1.02
10/31/2013	70.10	2.26	1598.13	51.55	22.80	1426.80	46.03	5700.00	0.85	1.02
11/30/2013	55.55	1.85	1259.05	41.97	22.67	1534.20	51.14	5670.00	1.17	1.02
12/31/2013	61.15	1.97	1543.88	49.80	25.25	1918.00	61.87	4813.00	1.19	1.02

Cumulative Oil Produced (E3m3)	152.39
Cumulative Water Produced (E3m3)	919.65
Cumulative Water Injected (E3m3)	1099.53
Cumulative Voidage Replacement Ratio	1.02

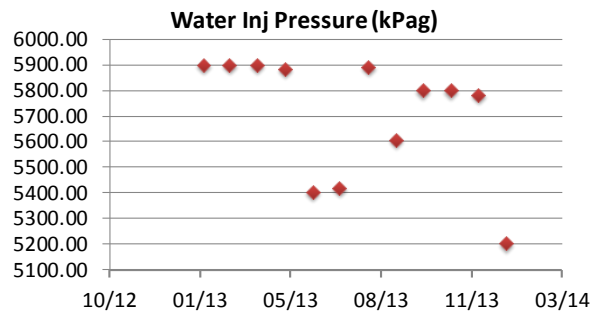
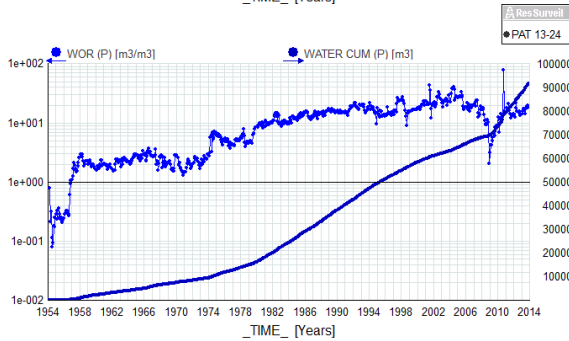
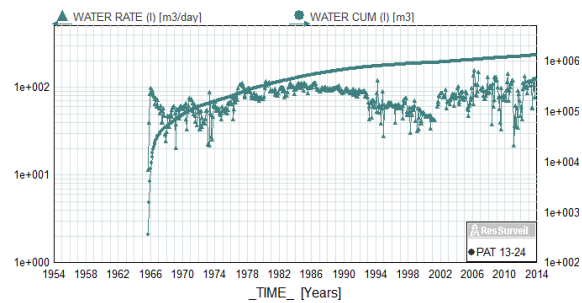
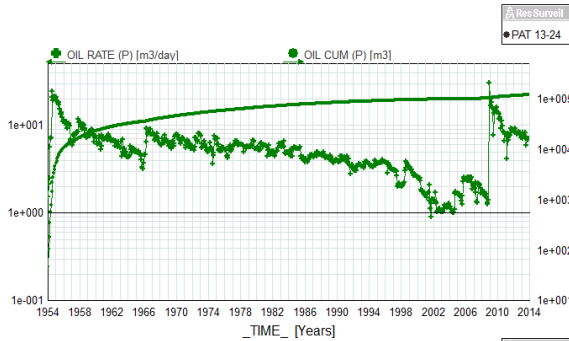


# VRU No. 1

## Pattern P-15 - 00/13-24-010-26W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	219.70	7.09	3159.52	101.92	14.38	3295.00	106.29	5900.00	0.97	1.29
2/28/2013	230.21	8.22	3625.25	129.47	15.75	3321.00	118.61	5900.00	0.86	1.29
3/31/2013	244.77	7.90	4175.57	134.70	17.06	3664.00	118.19	5900.00	0.83	1.28
4/30/2013	233.48	7.78	4085.84	136.19	17.50	3490.00	116.33	5883.00	0.81	1.28
5/31/2013	256.88	8.29	3692.24	119.10	14.37	1809.00	58.35	5400.00	0.46	1.28
6/30/2013	218.38	7.28	3842.64	128.09	17.60	1784.00	59.47	5417.00	0.44	1.28
7/31/2013	184.25	5.94	3231.05	104.23	17.54	3914.00	126.26	5890.00	1.14	1.28
8/31/2013	216.66	6.99	4111.11	132.62	18.97	3310.70	106.80	5606.00	0.76	1.27
9/30/2013	204.52	6.82	4064.95	135.50	19.88	2308.50	76.95	5800.00	0.54	1.27
10/31/2013	220.78	7.12	3910.79	126.15	17.71	3848.00	124.13	5800.00	0.93	1.27
11/30/2013	210.10	7.00	3968.32	132.28	18.89	3778.90	125.96	5780.00	0.90	1.27
12/31/2013	198.50	6.40	3961.55	127.79	19.96	1840.00	59.35	5203.00	0.44	1.26

Cumulative Oil Produced (E3m3)	122.47
Cumulative Water Produced (E3m3)	920.39
Cumulative Water Injected (E3m3)	1322.08
Cumulative Voidage Replacement Ratio	1.26



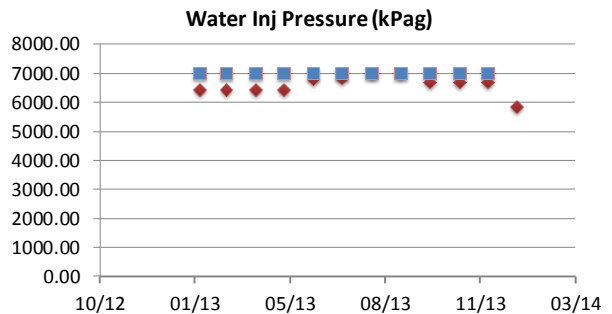
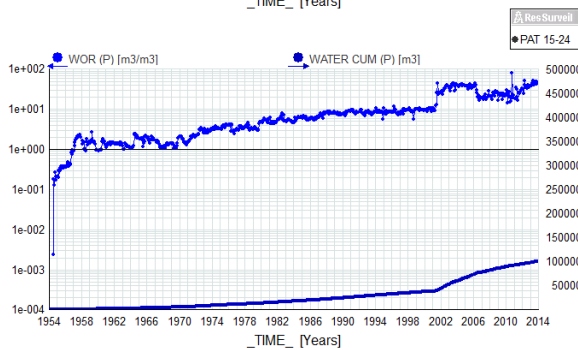
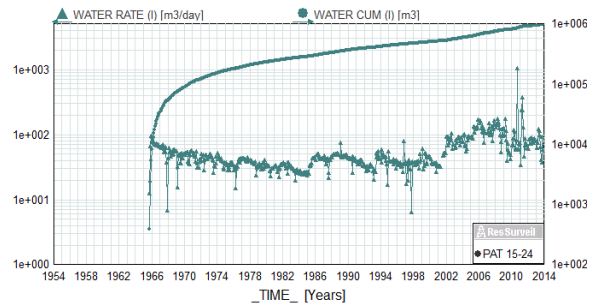
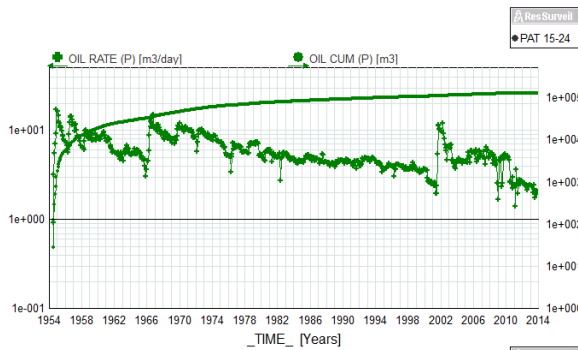
# VRU No. 1

## Pattern P-16 – 00/15-24-010-26W1/0

## P-16 – 03/01-25-010-26W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	74.59	2.41	2818.66	90.92	37.79	1963.00	63.32	6400.00	7000.00	0.68	0.86
2/28/2013	66.88	2.39	2723.10	97.25	40.72	2248.00	80.29	6400.00	7000.00	0.81	0.86
3/31/2013	71.85	2.32	3183.21	102.68	44.31	2302.00	74.26	6400.00	7000.00	0.71	0.86
4/30/2013	59.54	1.98	3071.02	102.37	51.58	3702.00	123.40	6413.00	7000.00	1.18	0.86
5/31/2013	75.01	2.42	3057.81	98.64	40.76	3530.00	113.87	6800.00	7000.00	1.13	0.86
6/30/2013	66.18	2.21	3291.64	109.72	49.74	2946.00	98.20	6807.00	7000.00	0.88	0.86
7/31/2013	53.96	1.74	2689.04	86.74	49.84	2006.00	64.71	7000.00	7000.00	0.73	0.86
8/31/2013	61.60	1.99	2868.51	92.53	46.57	1267.80	40.90	6990.00	7000.00	0.43	0.86
9/30/2013	58.07	1.94	2819.76	93.99	48.56	1137.70	37.92	6700.00	7000.00	0.40	0.86
10/31/2013	65.58	2.12	2806.74	90.54	42.80	2917.50	94.11	6700.00	7000.00	1.02	0.86
11/30/2013	61.62	2.05	2799.41	93.31	45.43	1749.10	58.30	6670.00	7000.00	0.61	0.85
12/31/2013	60.47	1.95	2933.08	94.62	48.51	1956.00	63.10	5826.00	7000.00	0.65	0.85

Cumulative Oil Produced (E3m3)	128.71
Cumulative Water Produced (E3m3)	1013.26
Cumulative Water Injected (E3m3)	978.50
Cumulative Voidage Replacement Ratio	0.85



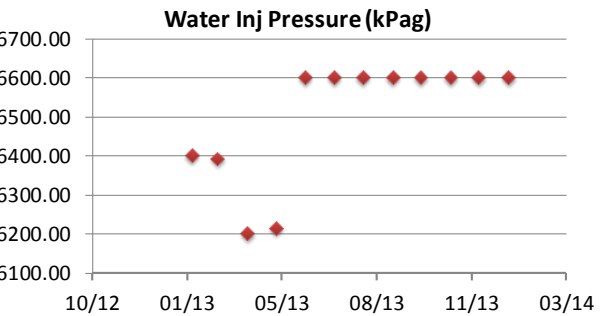
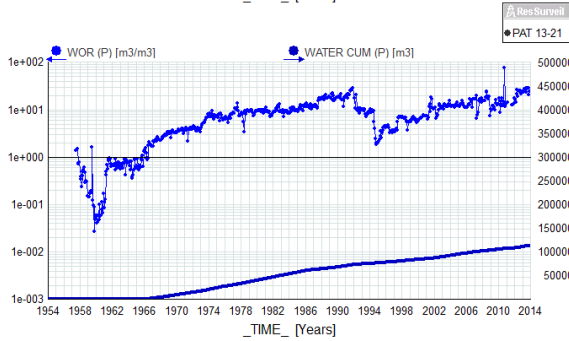
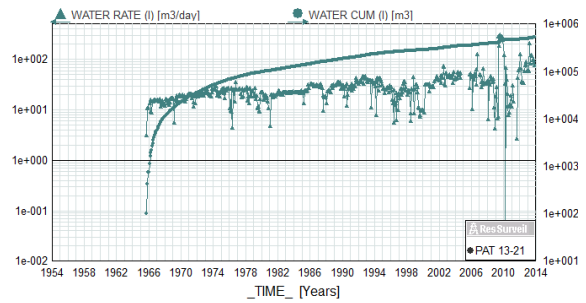
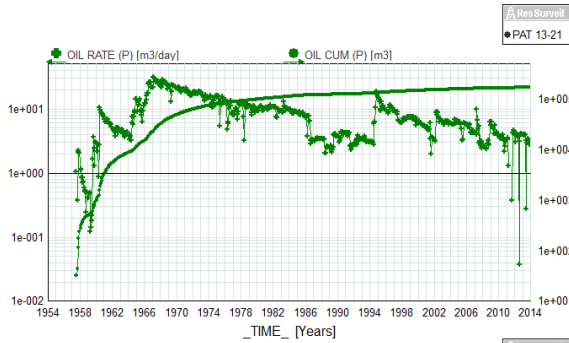


# VRU No. 1

## Pattern P-19 - 00/13-21-010-25W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	122.20	3.94	2877.00	92.81	23.54	1804.00	58.19	6400.00	0.60	0.39
2/28/2013	107.05	3.82	2728.65	97.45	25.49	1750.00	62.50	6393.00	0.62	0.39
3/31/2013	121.30	3.91	3321.35	107.14	27.38	6510.00	210.00	6200.00	1.89	0.39
4/30/2013	118.25	3.94	3261.50	108.72	27.58	2500.00	83.33	6213.00	0.74	0.39
5/31/2013	8.45	0.27	194.85	6.29	23.06	0.00	0.00	6600.00	0.00	0.39
6/30/2013	95.15	3.17	2681.20	89.37	28.18	3649.30	121.64	6600.00	1.31	0.39
7/31/2013	90.70	2.93	2545.10	82.10	28.06	3631.00	117.13	6600.00	1.38	0.40
8/31/2013	106.35	3.43	3104.65	100.15	29.19	2986.80	96.35	6600.00	0.93	0.40
9/30/2013	94.20	3.14	2744.85	91.50	29.14	2951.50	98.38	6600.00	1.04	0.40
10/31/2013	103.40	3.34	2119.15	68.36	20.49	2650.30	85.49	6600.00	1.19	0.40
11/30/2013	82.55	2.75	2040.55	68.02	24.72	2276.00	75.87	6600.00	1.07	0.40
12/31/2013	68.20	2.20	2032.60	65.57	29.80	2017.00	65.06	6600.00	0.96	0.40

Cumulative Oil Produced (E3m3)	172.48
Cumulative Water Produced (E3m3)	1139.11
Cumulative Water Injected (E3m3)	529.00
Cumulative Voidage Replacement Ratio	0.40



# VRU No. 1

## Pattern P-21 - 00/11-21-010-25W1/0

Date	Monthly Oil Prod sm <sup>3</sup>	Oil Rate (CD) sm <sup>3</sup> /d	Monthly Water Prod sm <sup>3</sup>	Water Rate (CD) sm <sup>3</sup> /d	Water Oil Ratio m <sup>3</sup> /m <sup>3</sup>	Monthly Water Inj sm <sup>3</sup>	Water Inj Rate (CD) sm <sup>3</sup> /d	Water Inj Pressure kPg	Voidage Replacement Ratio	Cum Voidage Replacement Ratio
1/31/2013	88.00	2.84	1666.10	53.75	18.93	4204.00	135.61	6000.00	2.39	1.19
2/28/2013	79.40	2.84	1630.80	58.24	20.54	2935.00	104.82	5993.00	1.71	1.19
3/31/2013	85.20	2.75	1881.60	60.70	22.08	3660.00	118.06	5800.00	1.86	1.19
4/30/2013	84.80	2.83	1873.30	62.44	22.09	4337.00	144.57	5807.00	2.21	1.19
5/31/2013	6.20	0.20	110.20	3.55	17.77	0.00	0.00	6000.00	0.00	1.19
6/30/2013	67.10	2.24	1523.30	50.78	22.70	3392.80	113.09	6000.00	2.13	1.20
7/31/2013	64.80	2.09	1462.50	47.18	22.57	3203.00	103.32	6000.00	2.09	1.20
8/31/2013	74.60	2.41	1758.70	56.73	23.58	2275.40	73.40	6000.00	1.24	1.20
9/30/2013	69.40	2.31	1716.80	57.23	24.74	2434.70	81.16	6000.00	1.36	1.20
10/31/2013	83.20	2.68	1906.40	61.50	22.91	2388.20	77.04	6000.00	1.20	1.20
11/30/2013	61.70	2.06	1680.00	56.00	27.23	2454.70	81.82	6000.00	1.41	1.20
12/31/2013	59.30	1.91	1711.20	55.20	28.86	2529.00	81.58	6000.00	1.43	1.20

Cumulative Oil Produced (E3m3)	84.53
Cumulative Water Produced (E3m3)	438.84
Cumulative Water Injected (E3m3)	631.62
Cumulative Voidage Replacement Ratio	1.20

