

Virden Roselea Unit #2
2015 Annual EOR Report

Executive Summary

In 2015 oil production in the Virden Roselea Unit #2 (VRU #2) averaged 61.5 m³/d (387 bbl/d) totaling 22.4 e³m³ (141 mmbbl). Annual production was up 73.6% from 2014 to 2015, the third year in a row that there has been an increase in annual production. By the end of 2015 cumulative oil production from the VRU #2 was 1 181 e³m³ (7.4 mmbbl). The original forecasted recovery was 270 e³m³ (1.7 mmbbl) on primary recovery and 730 e³m³ (4.6 mmbbl) total primary plus secondary recovery. It should be noted that the pool was expanded slightly after the original waterflood forecast was made; however, the waterflood has made a tremendous increase to the ultimate oil recovery and has exceeded the original expectations. That said, the unit is still at a low recovery and there is still potential to improve the performance and gain incremental reserves.

In December 2015 there were 33 producing oil wells and 10 water injectors active in the unit. In 2015, one horizontal Virden well was drilled in the unit. There were also several recompletions in the Whitewater formation on the old vertical wells that were quite successful.

Discussion

The VRU #2 has been under waterflood since 1966, seven years after first production from the pool in 1959. Water injection increased the oil production rate from $\sim 60 \text{ m}^3/\text{d}$ ($\sim 377 \text{ bbl/d}$) to $\sim 150 \text{ m}^3/\text{d}$ (944 bbl/d), equivalent to peak production from the field. Expected ultimate oil recovery was increased by more than four times by the waterflood.

Prior to the operatorship transferring to Corex Resources very little additional development had taken place in the unit. From 1997- 2002, four horizontal wells were drilled in the unit, all with poor results. In 2013, a very successful Virden well was drilled in the unit. 2014 was very active: six horizontal wells, a disposal well, and a vertical producer were drilled and 5 vertical recompletes in the Whitewater formation were executed successfully. In 2015, one well in the Virden formation was drilled. In 2015, a poor producer, 103/16-05-011-25W1/00 was converted to injection. Currently, the pattern is being monitored for response. There have been no wells converted to injection since 1971. At the end of this year all of the old pipelines in the unit had been replaced, allowing for us to effectively set injection targets. The unit is mainly laid out in 5-spot patterns; however, there are some areas in the unit that have seen little to no waterflood support, mainly on the west side of the unit. There is the possibility of completing the remaining 5-spot patterns, but it was deemed more efficient to implement at horizontal-horizontal waterflood after drilling infill wells. This unit has a low recovery factor and very likely poor sweep efficiency. Changing the established patterns should help to recover incremental reserves, as at this point in time, there is a lot of water cycling. The water injection rate was $773 \text{ m}^3/\text{d}$ ($4\,861 \text{ bbl/d}$) in 2015 (Note: An error in geoScout production data for the month of May shows no injection in any of the wells for the entirety of the month, as such, the injection volume for the year was divided by 11 months), and the producing WOR was $17 \text{ m}^3/\text{m}^3$ which increased towards the end of the year towards $20 \text{ m}^3/\text{m}^3$. The injected water at VRU #2 is not filtered or treated in any way.

Significant events in 2015 are as follows:

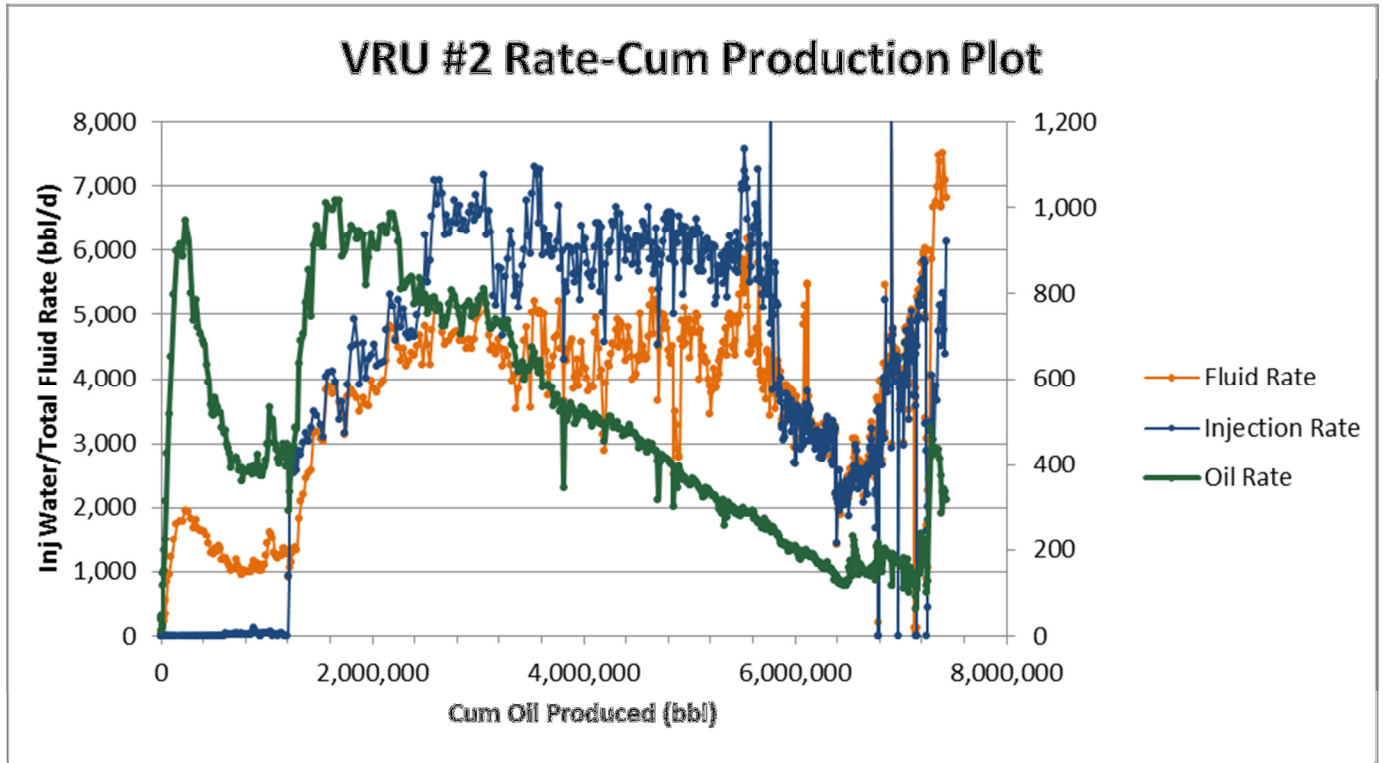
- January 2015, recomplete 100/03-07-011-25W1/00 in the Virden formation.
- February 2015, recomplete 100/05-05-011-25W1/00, 100/06-06-011-25W1/00, and 100/15-06-011-25W1/00 in the Whitewater formation. 100/05-05-011-25W1/00 had a hole in the casing that was remediated with cement.
- February 2015, drill 102/12-06-011-25W1/00 horizontal well in the Virden formation.

- March 2015, perform a step rate test on the 100/10-05-011-25W1/00 injection well to obtain a frac gradient. Unsuccessful in doing so, well was on fill up and would take whatever we gave it, no fracture was observed.
- April 2015, recomplete 100/05-06-011-25W1/00 and 100/01-12-011-26W1/00 in the Whitewater formation.
- June 2015, recomplete 100/08-12-011-26W1/00 in the Whitewater formation.
- July 2015, continue to work on replacing cement lined injection pipe in the unit.
- July 2015, abandon the 102/15-06-011-25W1/00 horizontal well. Well seemed to have water breakthrough and all potential zones had been opened. The casing was corroded and we lost a tail string in the well. Determined that it was best to abandon the well.
- September 2015, convert the 103/16-05-011-25W1/00 horizontal well to injection.
- October 2015, frac the 102/07-06-011-25W1/00 vertical disposal well to improve water handling capacity.
- October 2015, suspend the 100/04-05-011-25W1/00 injection well.

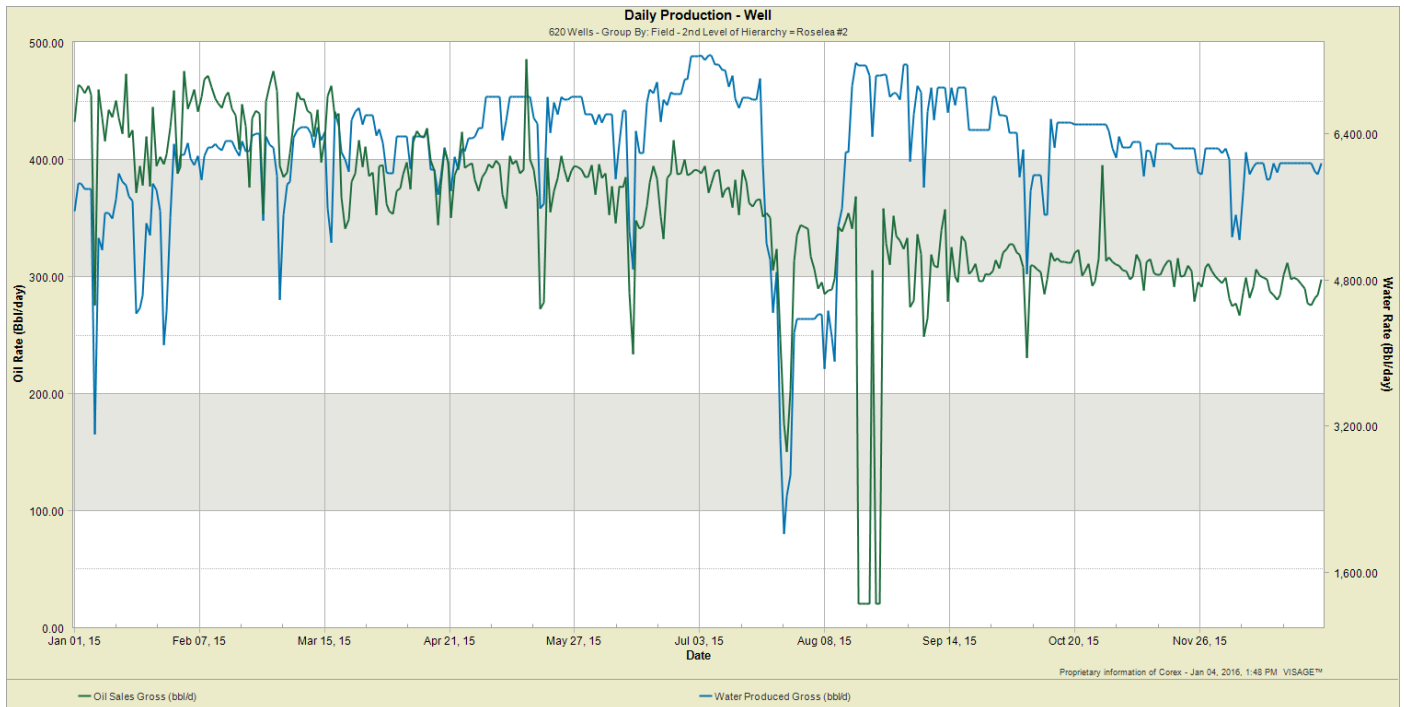
In the composite rate – cumulative oil plot below, waterflood response is clearly demonstrated at a cumulative oil production of $200 \text{ e}^3\text{m}^3$ (1.25 MMbbl).

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

VRU #2 – Rate vs Cum Oil Production



VRU #2 – Rate vs Time



2015 Reservoir Pressure Surveys

Unit	UWI	License	Test Type	Date of Pressure	Duration of SI (days)	Datum BHP (kPaa)
VRU #2	100/05-05-011-25W1/00	1803	BH BU	3/27/2015	57	9,453
VRU #2	103/16-05-011-25 W1/00	10024	AWS BU	7/15/2015	12	4,785
VRU #2	100/05-06-011-25W1/00	1770	BH BU	4/28/2015	12	5,823
VRU #2	100/06-06-011-25W1/00	1769	BH BU	2/28/2015	19	6,878
VRU #2	100/15-06-011-25W1/00	1797	BH BU	1/24/2015	4	7,475
VRU #2	100/03-07-011-25W1/00	1767	BH BU	1/26/2015	16	7,763
VRU #2	100/01-12-011-26W1/00	2243	BH BU	4/25/2015	3	5,588

The pressures, taken in 2015, show that the pool is generally over the original pressure in most areas. The average for 2015 is 6,800 kPaa, which is not largely over pressure; some injection wells have been SI to reduce the pressure in the unit. The pool is still over pressured as vertical wells even far away from injection have high pressure and suspended wells can hold fluid to surface for years. It is hoped that the high pressure will help improve production in the new producers. We may also need to reconsider the previous notion that a significant portion of the injected water has gone out of zone. The water still may have gone out of zone, resulting in poor sweep efficiency and the overall low recovery in the unit, but it did not appear to leave the system and has therefore pressured up the unit.

The pressure for the 103/16-05-001-25W1/00 well dropped from what was observed prior to production in 2014. The lower pressure seen in the well also contributed to Corex's reasoning to convert the well to water injection.

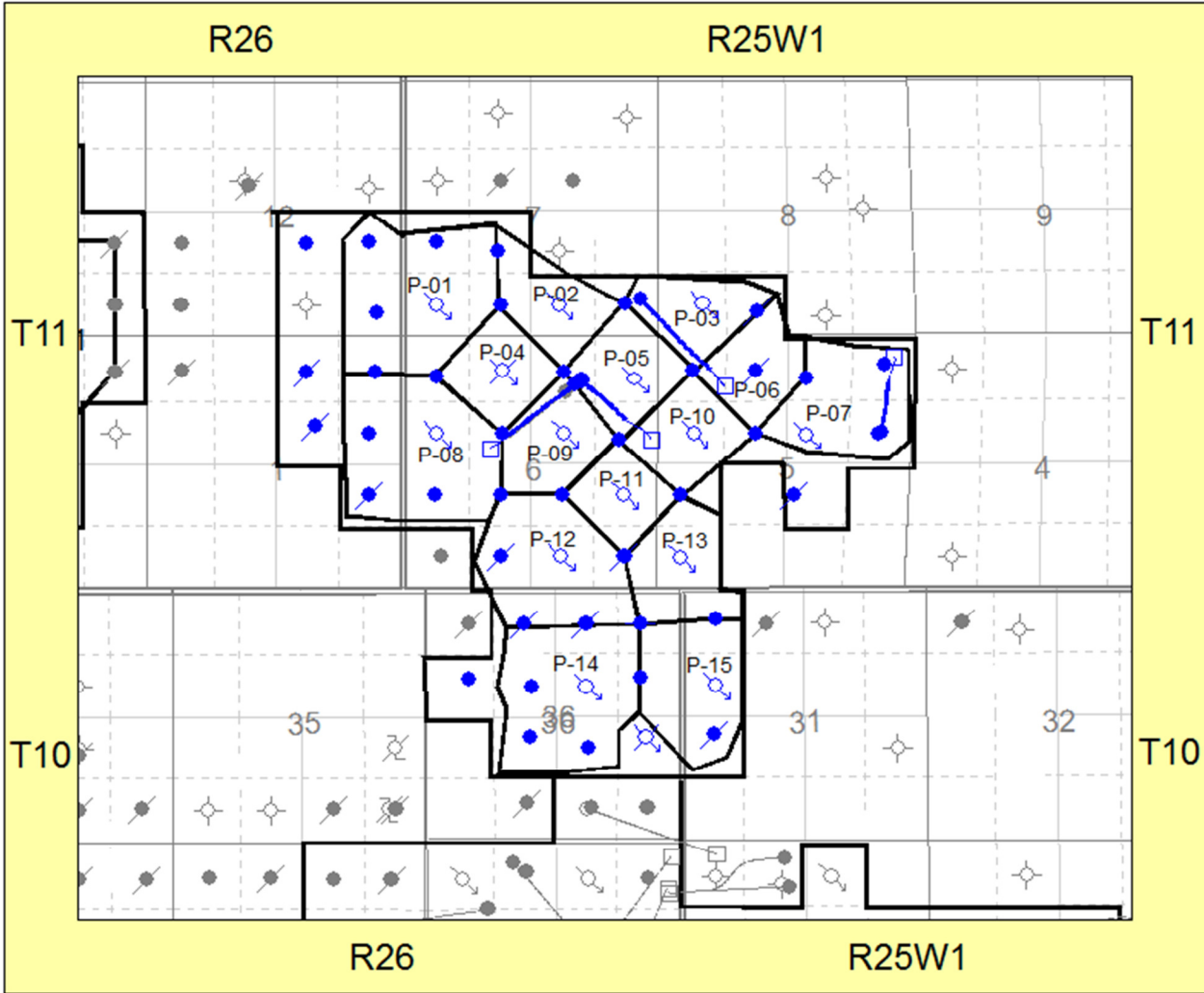
Pressures taken from 2010 and 2011 ranged from 6 000 kPaa to 11 218 kPaa. The pressures for VRU #2 taken over the years are very variable resulting in a large array of pressures and uncertainty in the average pool pressure. As the pressures vary with area, and possibly by formation, it is unlikely we will be able to record consistent pressures. As the voidage replacement ratio (VRR) has been less than one for the year so we may see a decline in the unit pressure. However, individual patterns have been over injecting or under injecting resulting in variable pressures by pattern.

The VRR in 2015 varied from 0.6 to 1.02 for a maximum. Currently, the disposal well is taking large volumes of water, enabling us to balance the flood in other areas. It is hoped that the ability to balance the patterns will result in improved sweep efficiency. The cumulative VRR at year end dropped slightly to 1.10 (Note: Due to the error in geoScout data for the month of May the actual Cum VRR may differ slightly). An oil formation volume factor of $1.06 \text{ rm}^3/\text{sm}^3$ and a water formation volume factor of $1.04 \text{ rm}^3/\text{sm}^3$ were used in the VRR calculations.

2015 Well Servicing

UWI	Licence	Unit	Operation	Date	Objective
100/01-12-011-26W1/00	002243	VRU#2	Recompletion	20-APR-15	
100/02-06-011-25W1/00	001763	VRU#2	Equipment Pressure Integrity Test	23-MAR-15	
100/03-07-011-25W1/00	001767	VRU#2	Recompletion	09-JAN-15	
100/04-05-011-25W1/00	001793	VRU#2	Suspension	27-OCT-15	Casing Repair
100/04-05-011-25W1/00	001793	VRU#2	Equipment Pressure Integrity Test	23-MAR-15	
100/04-07-011-25W1/00	001773	VRU#2	Injection - Surface Monitoring	19-NOV-15	
100/04-07-011-25W1/00	001773	VRU#2	Equipment Pressure Integrity Test	24-MAR-15	
100/05-05-011-25W1/00	001803	VRU#2	Other Stimulation	05-DEC-15	
100/05-05-011-25W1/00	001803	VRU#2	Recompletion	28-JAN-15	
100/05-06-011-25W1/00	001770	VRU#2	Recompletion	15-APR-15	
100/06-06-011-25W1/00	001769	VRU#2	Pump Repair	07-JUN-15	
100/06-06-011-25W1/00	001769	VRU#2	Recompletion	05-FEB-15	
100/07-06-011-25W1/00	001772	VRU#2	Other Stimulation	05-DEC-15	
100/08-06-011-25W1/00	001795	VRU#2	Equipment Pressure Integrity Test	23-MAR-15	
100/08-12-011-26W1/00	002311	VRU#2	Recompletion	25-JUN-15	
100/09-01-011-26W1/00	002233	VRU#2	Pump Repair	25-SEP-15	
100/09-36-010-26W1/00	001779	VRU#2	Tubing Repair	28-JUN-15	
100/10-05-011-25W1/00	002087	VRU#2	Equipment Pressure Integrity Test	23-MAR-15	
100/10-05-011-25W1/00	002087	VRU#2	Pressure Build-up/Survey	20-MAR-15	
100/10-06-011-25W1/00	001785	VRU#2	Injection - Surface Monitoring	19-NOV-15	
100/10-06-011-25W1/00	001785	VRU#2	Equipment Pressure Integrity Test	24-MAR-15	
100/12-05-011-25W1/00	001805	VRU#2	Equipment Pressure Integrity Test	23-MAR-15	
100/12-06-011-25W1/00	002200	VRU#2	Equipment Pressure Integrity Test	24-MAR-15	
100/13-31-010-25W1/00	001784	VRU#2	Suspension	20-JUL-15	
100/15-06-011-25W1/00	001797	VRU#2	Recompletion	15-JAN-15	
100/16-05-011-25W1/00	002103	VRU#2	Pump Repair	26-OCT-15	
100/16-36-010-26W1/00	001776	VRU#2	Suspension	15-AUG-15	
102/07-06-011-25W1/00	10054	VRU#2	Other Stimulation	19-OCT-15	
102/07-06-011-25W1/00	10054	VRU#2	Equipment Pressure Integrity Test	23-MAR-15	
102/09-05-011-25W1/00	005125	VRU#2	Wellhead Repair	12-MAR-15	
102/10-36-010-26W1/00	9820	VRU#2	Workover	02-OCT-15	
102/12-06-011-25W1/00	10292	VRU#2	Equip & Tie-In	09-MAR-15	
102/12-06-011-25W1/00	10292	VRU#2	Initial Completion	27-FEB-15	VIRDEN COMPLETION
102/12-06-011-25W1/00	10292	VRU#2	Construction	30-JAN-15	
102/12-06-011-25W1/00	10292	VRU#2	Drilling - original	03-FEB-15	
102/13-05-011-25W1/00	9879	VRU#2	Upsize Pump	04-FEB-15	
102/15-06-011-25W1/00	004748	VRU#2	Abandon Well	11-JUL-15	
102/15-06-011-25W1/00	004748	VRU#2	Suspension	07-JUL-15	
102/16-05-011-25W1/00	10023	VRU#2	Pump Repair	09-NOV-15	
103/16-05-011-25W1/00	10024	VRU#2	Injection - Pipeline	21-SEP-15	
103/16-05-011-25W1/00	10024	VRU#2	Injection Conversion	14-SEP-15	
PIPELINE REPLACEMENT	P15VIR006	VRU#2	Pipelines	28-AUG-15	

Waterflood Pattern Map

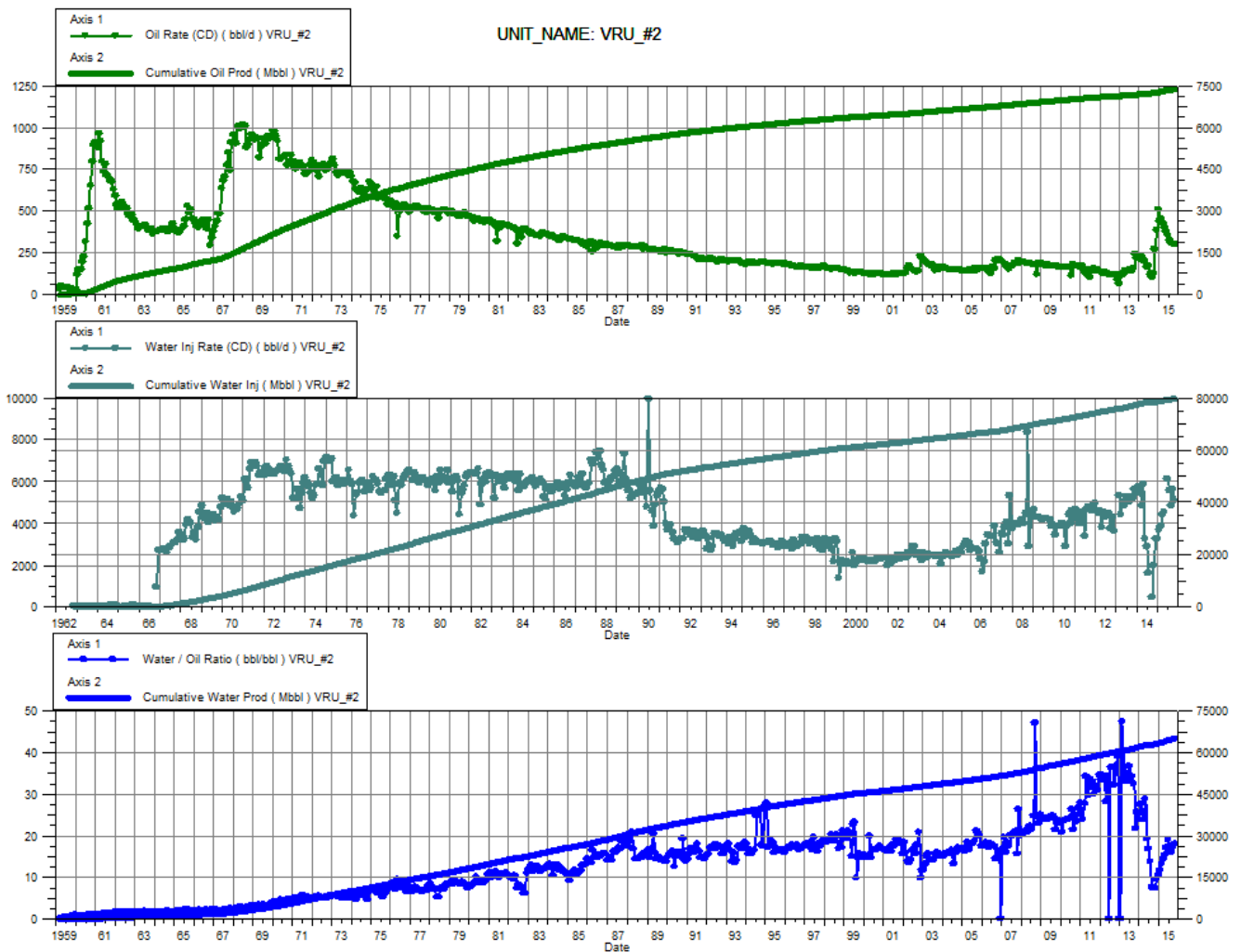


Waterflood Patterns and Corresponding Injectors

Pattern	Injection Well
P-01	100/04-07-011-25W1/00
P-02	100/02-07-011-25W1/00
P-03	100/04-08-011-25W1/00
P-04	100/14-06-011-25W1/00
P-05	100/16-06-011-25W1/00
P-06	100/14-05-011-25W1/00
P-07	100/10-05-011-25W1/00, 103/16-05-011-25W1/00
P-08	100/12-06-011-25W1/00
P-09	100/10-06-011-25W1/00
P-10	100/12-05-011-25W1/00
P-11	100/08-06-011-25W1/00
P-12	100/02-06-011-25W1/00
P-13	100/04-05-011-25W1/00
P-14	100/10-36-010-26W1/00
P-15	100/12-31-010-25W1/00

Total for Virden Roselea Unit #2

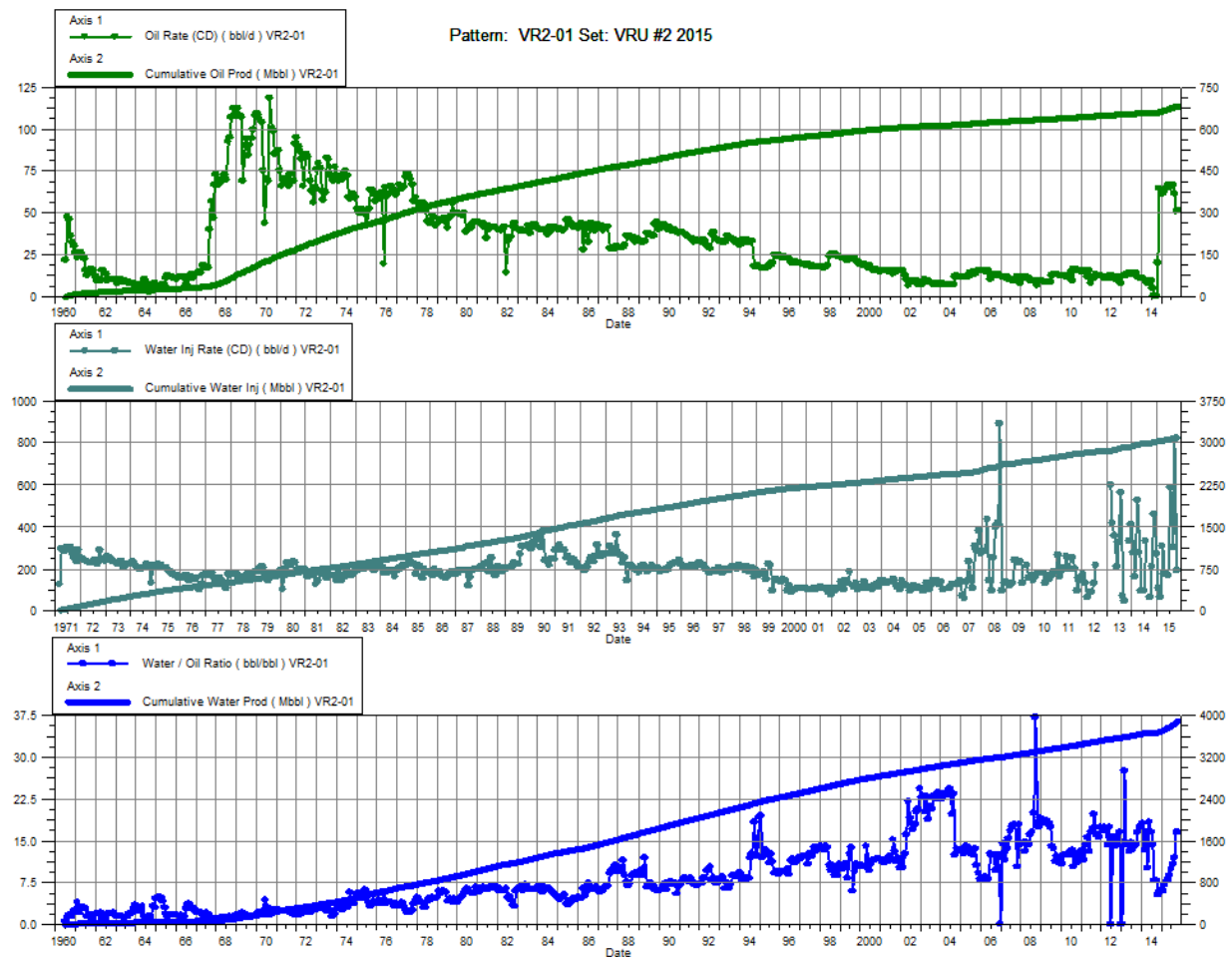
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	69.8	1160.61	816.5	10093.09	590.8	12520.7	11.7	0.67	1.11	3,727
2/28/2015	72.9	1162.65	957.6	10119.90	620.18	12538.1	13.14	0.60	1.11	4,281
3/31/2015	67.2	1164.73	962.1	10149.73	698.30	12559.7	14.33	0.68	1.11	4,012
4/30/2015	63.7	1166.64	973.0	10178.92	725.54	12581.5	15.28	0.70	1.11	4,399
5/31/2015	59.7	1168.49	1025.4	10210.70		12581.5	17.17		1.10	4,870
6/30/2015	56.9	1170.20	1084.6	10243.24	979.20	12610.9	19.06	0.86	1.10	4,991
7/31/2015	51.9	1171.81	821.7	10268.71	882.61	12638.2	15.83	1.01	1.10	5,192
8/31/2015	49.9	1173.36	789.0	10293.17	772.51	12662.2	15.82	0.92	1.10	4,489
9/30/2015	48.0	1174.80	825.1	10317.92	893.05	12689.0	17.19	1.02	1.10	5,164
10/31/2015	47.6	1176.27	857.4	10344.50	806.93	12714.0	18.00	0.89	1.10	5,155
11/30/2015	45.9	1177.65	833.4	10369.51	812.43	12738.3	18.15	0.92	1.10	4,911
12/31/2015	43.9	1179.01	820.4	10394.94	729.09	12760.9	18.69	0.84	1.10	4,777



Virden Roselea Unit No. 2

Pattern P-01 - 00/04-07-011-25W1/0

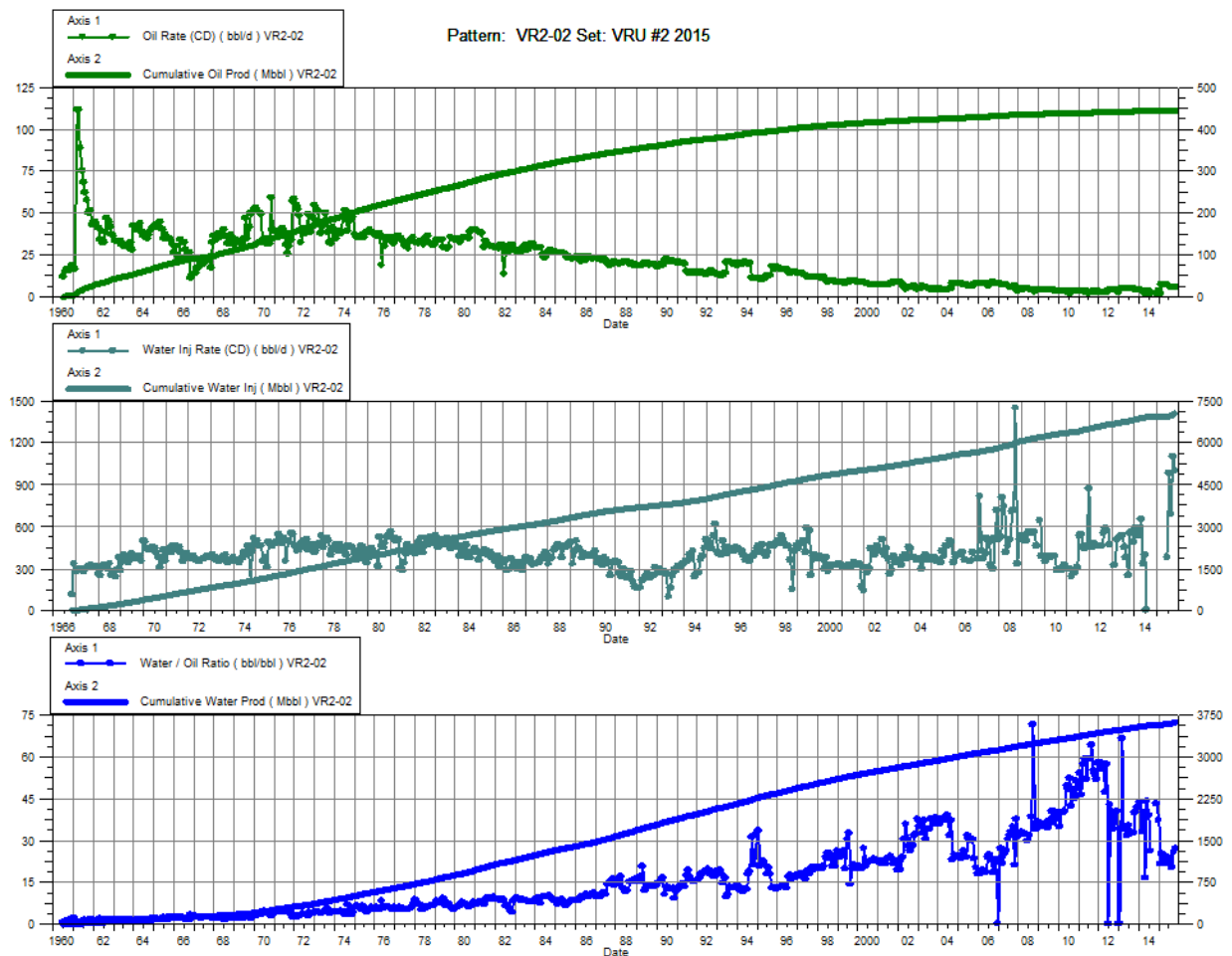
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	9.8	105.76	57.99	589.99	17.1	481.3	5.9	0.25	0.69	5,103
2/28/2015	10.0	106.04	72.16	592.01	9.82	481.52	7.23	0.12	0.69	5,200
3/31/2015	10.2	106.36	78.17	594.43	49.22	483.05	7.64	0.56	0.69	5,194
4/30/2015	10.5	106.67	83.84	596.95	27.75	483.88	7.99	0.29	0.69	5,003
5/31/2015	10.7	107.00	93.81	599.86		483.88	8.79		0.68	5,090
6/30/2015	10.4	107.32	102.53	602.93	26.35	484.67	9.87	0.23	0.68	4,813
7/31/2015	10.6	107.65	114.52	606.48	93.43	487.57	10.77	0.75	0.68	5,168
8/31/2015	9.7	107.95	115.43	610.06	47.99	489.06	11.86	0.38	0.68	4,219
9/30/2015	8.1	108.19	133.97	614.08	129.34	492.94	16.49	0.91	0.68	4,833
10/31/2015	8.2	108.45	135.42	618.28	30.76	493.9	16.5	0.21	0.68	5,787
11/30/2015	8.3	108.69	138.49	622.43	49.24	495.37	16.72	0.34	0.68	5,393
12/31/2015	8.0	108.94	137.33	626.69	56.87	497.1	17.11	0.39	0.67	5,194



Virden Roselea Unit No. 2

Pattern P-02 - 00/02-07-011-25W1/0

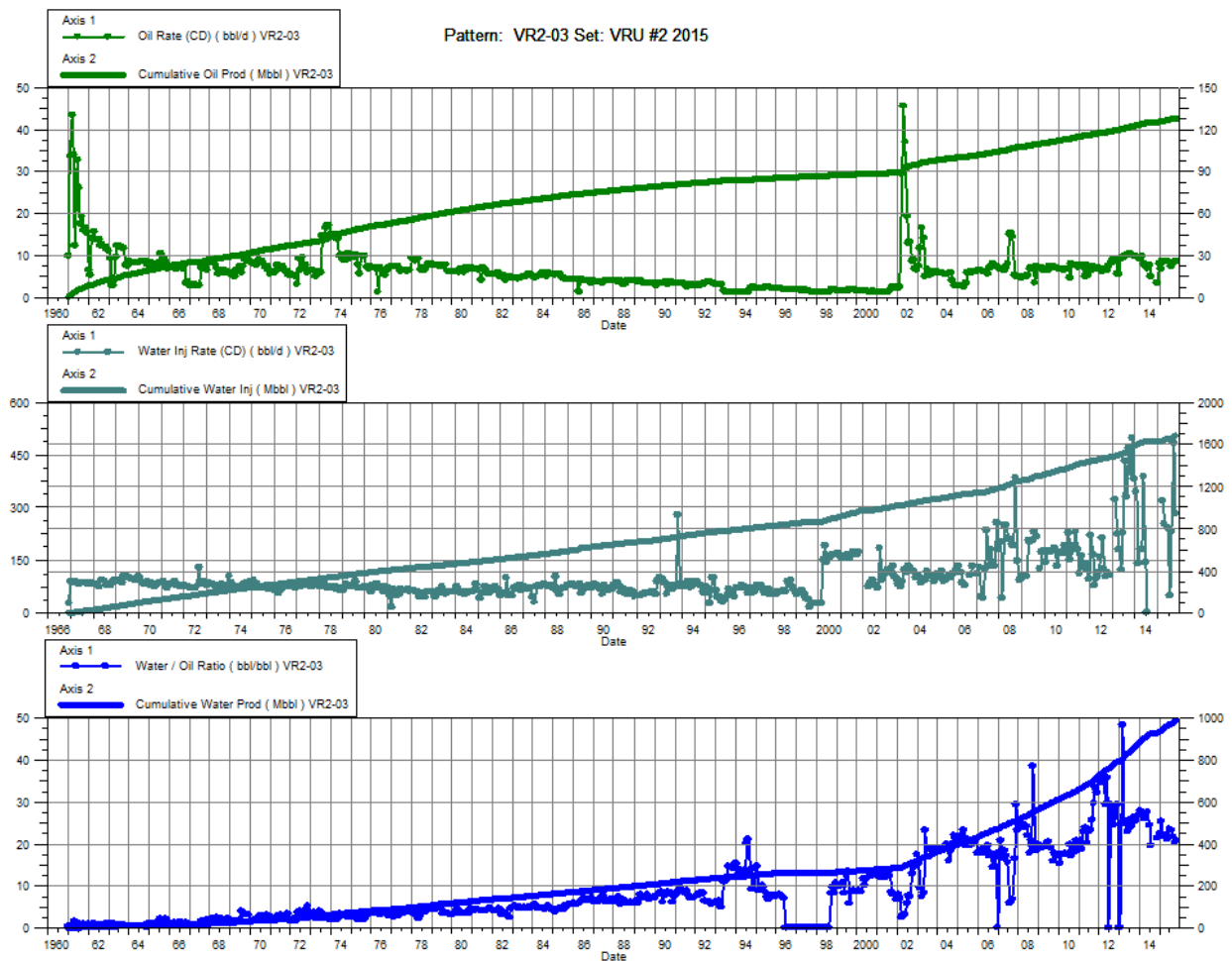
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacment Ratio	Water Inj Pressure kPa
1/31/2015	0.29	70.67	6.38	568.31		1100.26	21.70		1.72	2,800
2/28/2015	1.14	70.70	28.70	569.12		1100.26	25.22		1.72	2,800
3/31/2015	1.13	70.74	28.00	569.98		1100.26	24.72		1.71	2,800
4/30/2015	1.13	70.77	25.59	570.75		1100.26	22.58		1.71	2,800
5/31/2015	1.15	70.81	25.02	571.53		1100.26	21.74		1.71	2,800
6/30/2015	1.07	70.84	25.46	572.29	60.06	1102.06	23.83	2.26	1.71	2,907
7/31/2015	0.98	70.87	21.65	572.96	156.14	1106.90	22.13	6.89	1.72	5,865
8/31/2015	0.94	70.90	18.79	573.55	109.67	1110.30	20.01	5.55	1.72	1,942
9/30/2015	0.90	70.92	23.23	574.24	175.64	1115.57	25.82	7.27	1.73	6,207
10/31/2015	0.92	70.95	24.68	575.01	158.60	1120.49	26.87	6.19	1.73	6,348
11/30/2015	0.91	70.98	24.54	575.74	150.10	1124.99	27.02	5.89	1.74	4,807
12/31/2015	0.79	71.00	21.68	576.42	127.62	1128.95	27.60	5.68	1.74	4,981



Virden Roselea Unit No. 2

Pattern P-03 - 00/04-08-011-25W1/0

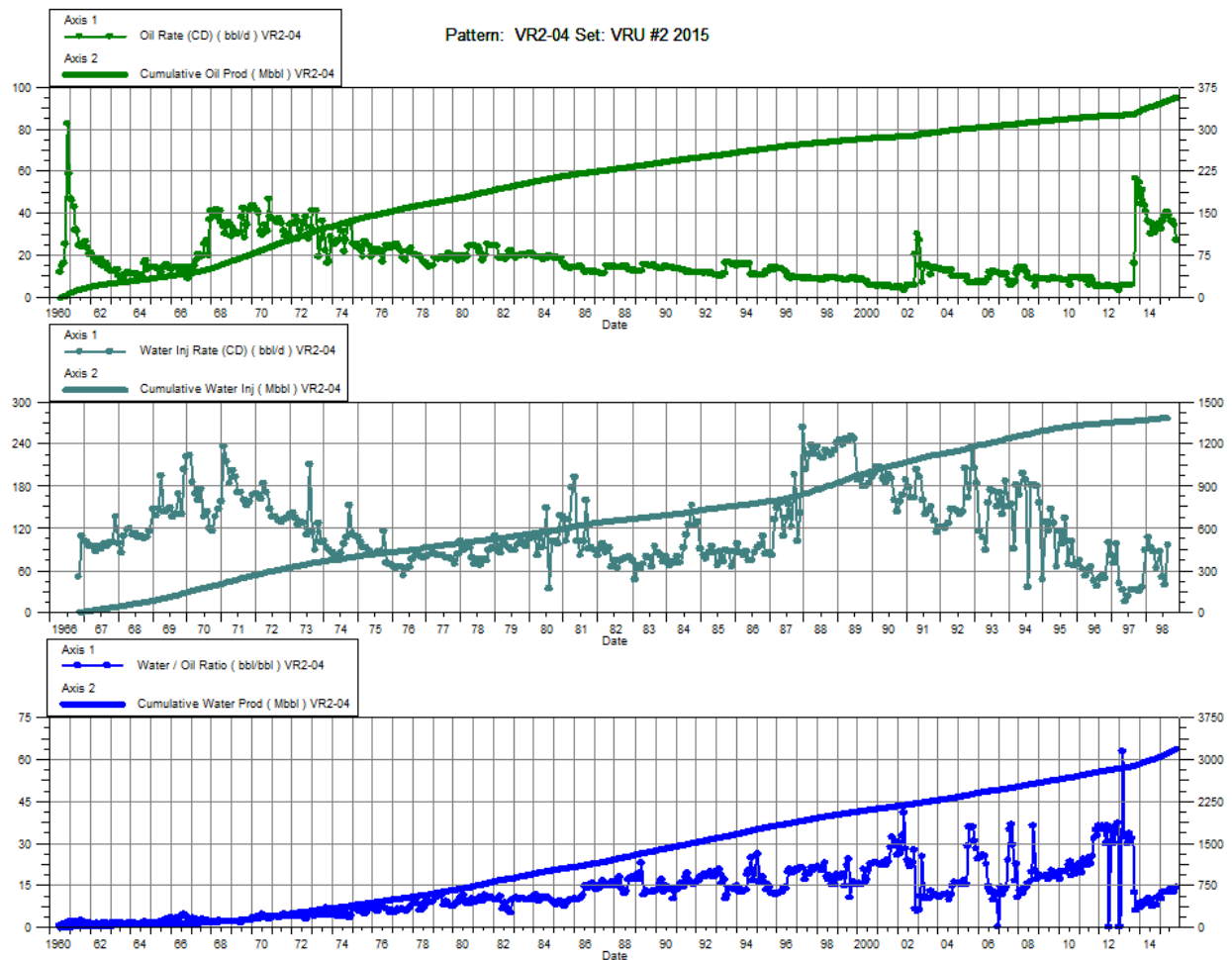
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	1.09	20.02	27.58	149.49		259.54	25.27		1.53	2,800
2/28/2015	1.38	20.06	29.92	150.32		259.54	21.73		1.52	2,800
3/31/2015	1.34	20.10	29.62	151.24	51.00	261.12	22.11	1.65	1.52	2,890
4/30/2015	1.40	20.15	30.52	152.16	40.26	262.33	21.86	1.26	1.52	5,607
5/31/2015	1.39	20.19	29.50	153.07		262.33	21.18		1.51	5,806
6/30/2015	1.36	20.23	31.72	154.02	38.52	263.49	23.41	1.16	1.51	6,013
7/31/2015	1.19	20.27	27.48	154.88	8.01	263.73	23.17	0.28	1.50	6,387
8/31/2015	1.28	20.31	27.63	155.73	36.90	264.88	21.58	1.28	1.50	6,006
9/30/2015	1.36	20.35	27.54	156.56	76.97	267.19	20.23	2.66	1.51	6,187
10/31/2015	1.39	20.39	29.04	157.46	44.87	268.58	20.84	1.47	1.51	5,800
11/30/2015	1.33	20.43	27.88	158.30	54.92	270.23	20.99	1.88	1.51	5,793
12/31/2015	1.38	20.47	29.81	159.22	60.01	272.09	21.68	1.92	1.51	5,600



Viriden Roselea Unit No. 2

Pattern P-04 - 00/14-06-011-25W1/0

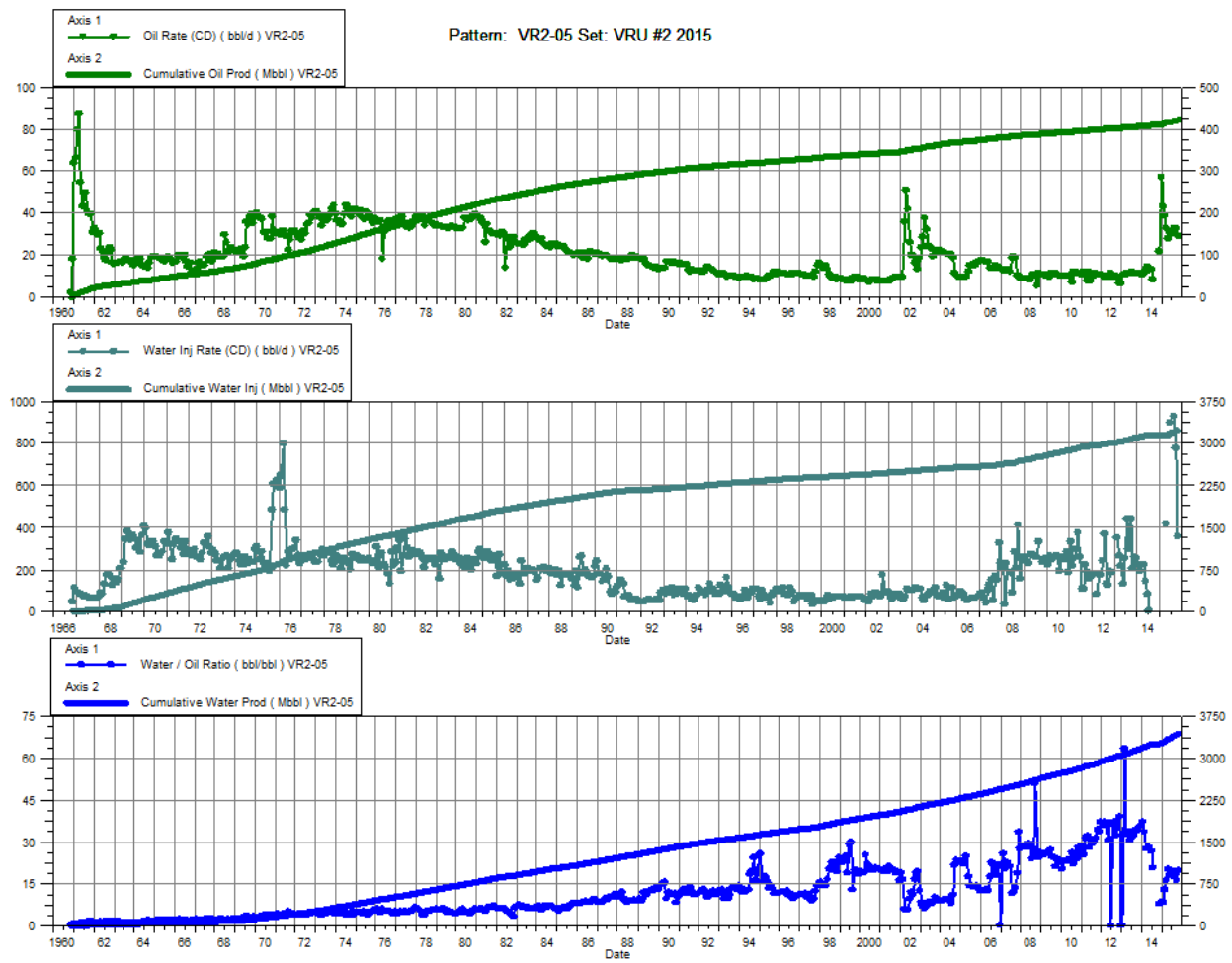
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	5.18	55.11	51.53	485.08		220.82	9.96		0.41	--
2/28/2015	5.78	55.27	72.47	487.10		220.82	12.53		0.41	--
3/31/2015	6.07	55.46	74.04	489.40		220.82	12.19		0.40	--
4/30/2015	6.35	55.65	79.44	491.78		220.82	12.52		0.40	--
5/31/2015	6.47	55.85	79.17	494.24		220.82	12.24		0.40	--
6/30/2015	6.32	56.04	84.56	496.77		220.82	13.38		0.40	--
7/31/2015	5.76	56.22	75.80	499.12		220.82	13.16		0.40	--
8/31/2015	5.75	56.39	71.16	501.33		220.82	12.37		0.40	--
9/30/2015	5.51	56.56	68.34	503.38		220.82	12.41		0.39	--
10/31/2015	4.30	56.69	61.67	505.29		220.82	14.33		0.39	--
11/30/2015	4.25	56.82	61.37	507.13		220.82	14.43		0.39	--
12/31/2015	4.04	56.95	58.62	508.95		220.82	14.52		0.39	--



Virden Roselea Unit No. 2

Pattern P-05 - 00/16-06-011-25W1/0

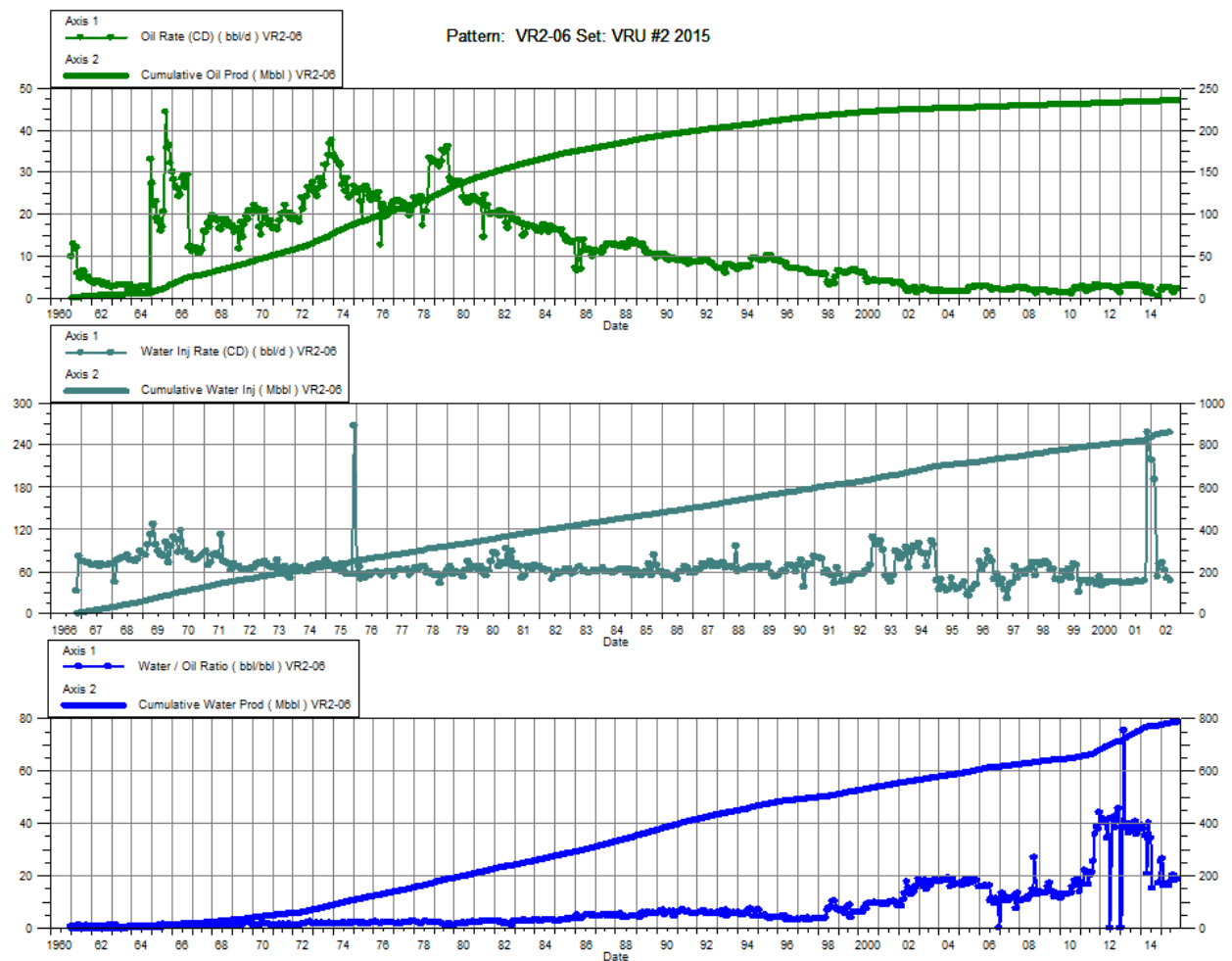
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	6.83	65.79	57.88	522.49		499.37	8.47		0.85	600
2/28/2015	6.19	65.97	78.92	524.70		499.37	12.75		0.84	600
3/31/2015	5.24	66.13	83.90	527.30		499.37	16.03		0.84	600
4/30/2015	4.44	66.26	88.95	529.97	66.07	501.36	20.02	0.71	0.84	767
5/31/2015	5.05	66.42	91.13	532.79		501.36	18.06		0.84	5,600
6/30/2015	4.95	66.57	98.14	535.74	143.07	505.65	19.83	1.39	0.84	5,593
7/31/2015	4.86	66.72	89.77	538.52		505.65	18.47		0.83	5,400
8/31/2015	5.24	66.88	90.26	541.32	148.16	510.24	17.22	1.55	0.84	5,394
9/30/2015	5.23	67.04	85.06	543.87	124.13	513.97	16.25	1.37	0.84	5,220
10/31/2015	4.64	67.18	92.15	546.72	56.43	515.71	19.84	0.58	0.84	5,774
11/30/2015	4.41	67.31	91.64	549.47	37.47	516.84	20.78	0.39	0.84	4,993
12/31/2015	4.37	67.45	93.90	552.39		516.84	21.51		0.83	4,800



Virden Roselea Unit No. 2

Pattern P-06 - 00/14-05-011-25W1/0

Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	0.32	37.43	8.47	123.54		137.03	26.45		0.85	--
2/28/2015	0.41	37.44	6.75	123.73		137.03	16.29		0.85	--
3/31/2015	0.41	37.46	6.87	123.94		137.03	16.70		0.85	--
4/30/2015	0.43	37.47	7.07	124.15		137.03	16.54		0.84	--
5/31/2015	0.43	37.48	6.83	124.36		137.03	16.02		0.84	--
6/30/2015	0.41	37.50	7.32	124.58		137.03	17.73		0.84	--
7/31/2015	0.32	37.51	6.43	124.78		137.03	20.04		0.84	--
8/31/2015	0.25	37.51	4.95	124.94		137.03	19.90		0.84	--
9/30/2015	0.36	37.52	6.66	125.14		137.03	18.28		0.84	--
10/31/2015	0.38	37.54	7.16	125.36		137.03	18.82		0.84	--
11/30/2015	0.36	37.55	6.87	125.56		137.03	19.31		0.84	--
12/31/2015	0.34	37.56	6.75	125.77		137.03	19.94		0.84	--

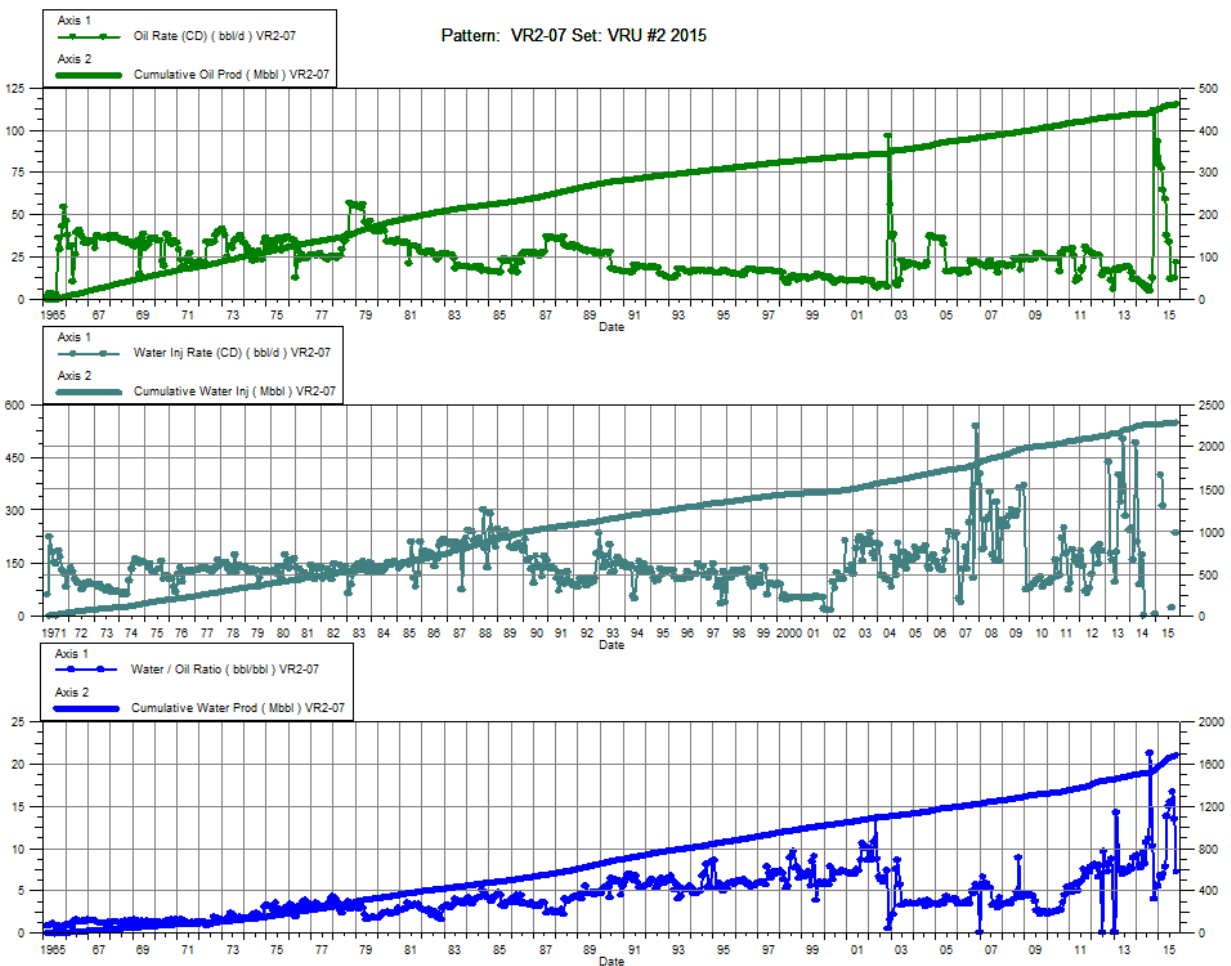


Virden Roselea Unit No. 2

Pattern P-07 - 00/10-05-011-25W1/0 &

03/16-05-011-25W1/0

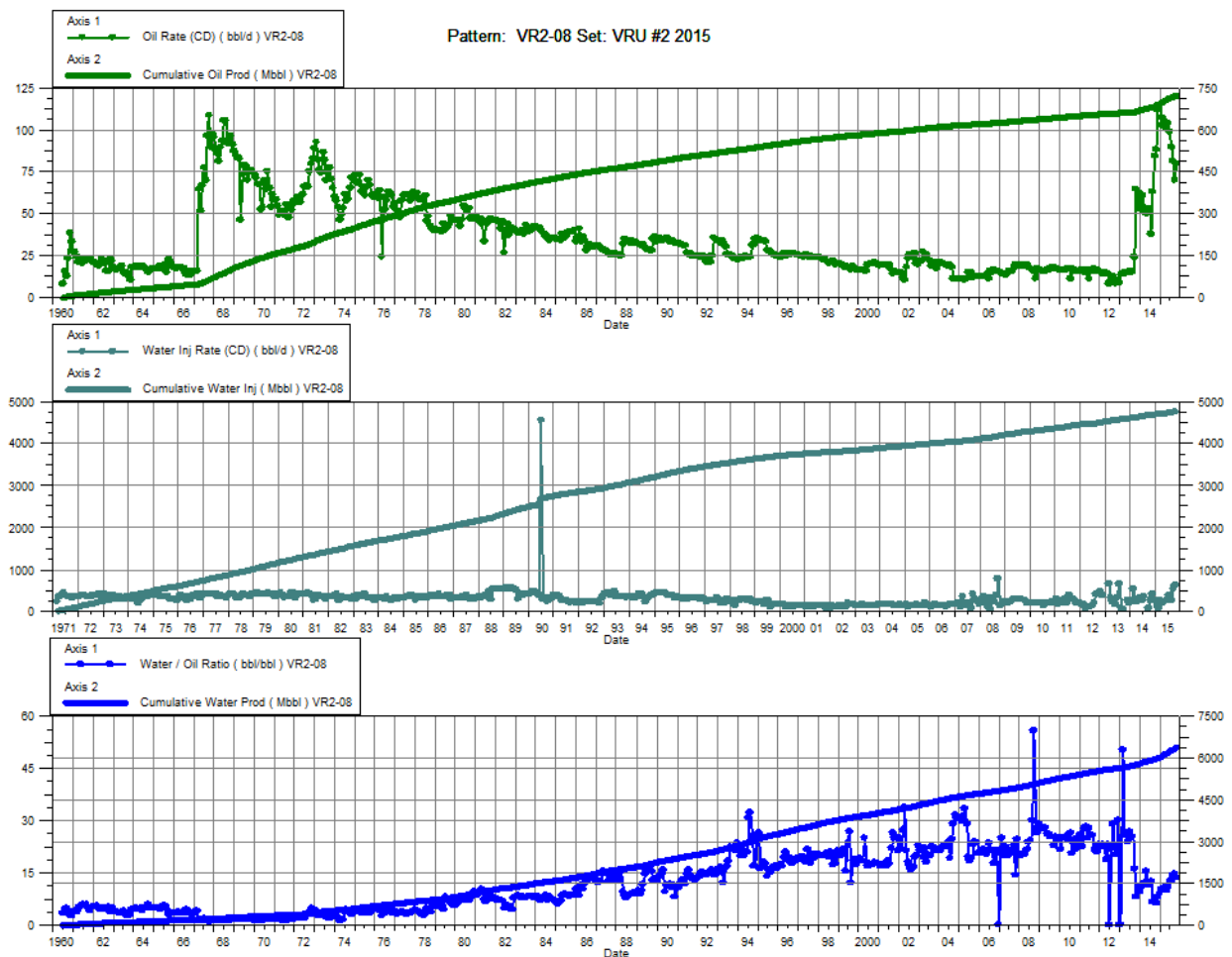
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa	Water Inj Pressure kPa
1/31/2015	12.62	71.88	85.50	252.39		359.24	6.77		1.10	2,839	-
2/28/2015	12.30	72.22	79.01	254.61		359.24	6.42		1.10	2,800	-
3/31/2015	10.30	72.54	70.74	256.80	63.75	361.22	6.87	0.79	1.09	2,884	-
4/30/2015	9.48	72.82	74.54	259.03	50.02	362.72	7.86	0.59	1.09	5,407	-
5/31/2015	6.06	73.01	83.53	261.62		362.72	13.77		1.08	5,600	-
6/30/2015	5.44	73.18	81.18	264.06		362.72	14.91		1.07	5,600	-
7/31/2015	1.90	73.24	29.23	264.97		362.72	15.41		1.07	5,600	-
8/31/2015	1.90	73.29	31.60	265.95	3.58	362.83	16.61	0.11	1.07	5,600	-
9/30/2015	2.04	73.36	27.57	266.77		362.83	13.52		1.06	5,600	-
10/31/2015	3.51	73.46	25.10	267.55	37.30	363.99	7.14	1.30	1.06	5,600	3,165
11/30/2015	3.24	73.56	23.50	268.26	46.85	365.39	7.26	1.75	1.07	5,600	4,400
12/31/2015	3.08	73.66	23.09	268.97	38.23	366.58	7.50	1.46	1.07	5,600	4,400



Virden Roselea Unit No. 2

Pattern P-08 - 00/12-06-011-25W1/0

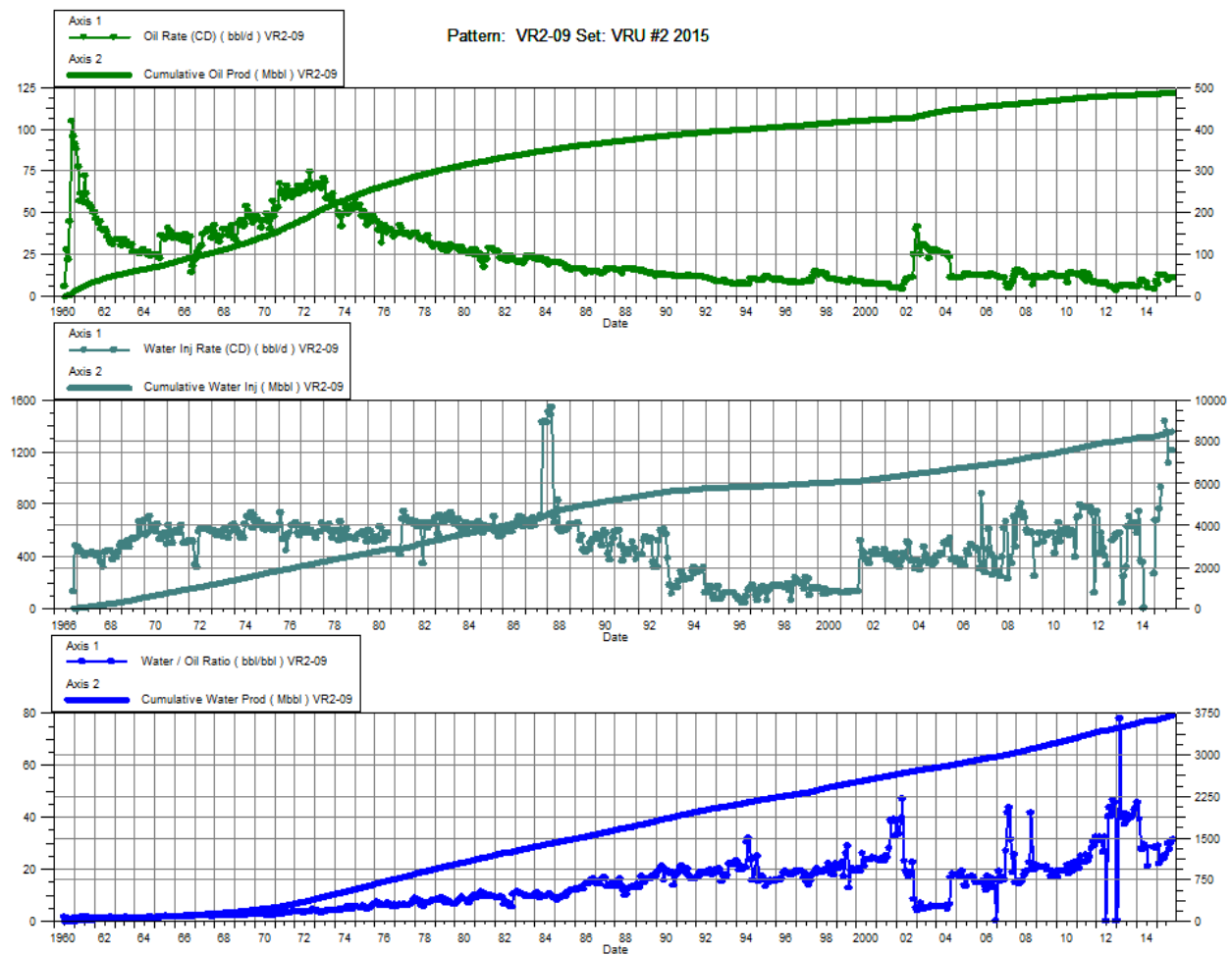
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	16.31	111.01	166.38	962.69	23.77	748.13	10.20	0.13	0.70	5,200
2/28/2015	17.04	111.48	168.81	967.42	13.80	748.52	9.91	0.07	0.69	5,200
3/31/2015	16.76	112.00	175.68	972.87	40.35	749.77	10.48	0.21	0.69	5,194
4/30/2015	15.93	112.48	158.75	977.63	32.27	750.74	9.96	0.18	0.69	5,000
5/31/2015	16.55	112.99	182.31	983.28		750.74	11.02		0.68	5,013
6/30/2015	15.70	113.47	196.61	989.18	39.34	751.92	12.52	0.19	0.68	5,000
7/31/2015	14.25	113.91	176.86	994.66	60.06	753.78	12.41	0.31	0.68	4,974
8/31/2015	13.00	114.31	185.24	1000.40	39.52	755.01	14.25	0.20	0.68	4,242
9/30/2015	11.07	114.64	163.99	1005.32	82.23	757.47	14.82	0.47	0.68	5,517
10/31/2015	12.68	115.04	173.01	1010.69	97.91	760.51	13.64	0.53	0.67	6,000
11/30/2015	12.22	115.40	153.84	1015.30	100.50	763.52	12.59	0.60	0.67	5,960
12/31/2015	11.49	115.76	149.11	1019.93	82.72	766.09	12.98	0.51	0.67	4,819



Viriden Roselea Unit No. 2

Pattern P-09 - 00/10-06-011-25W1/0

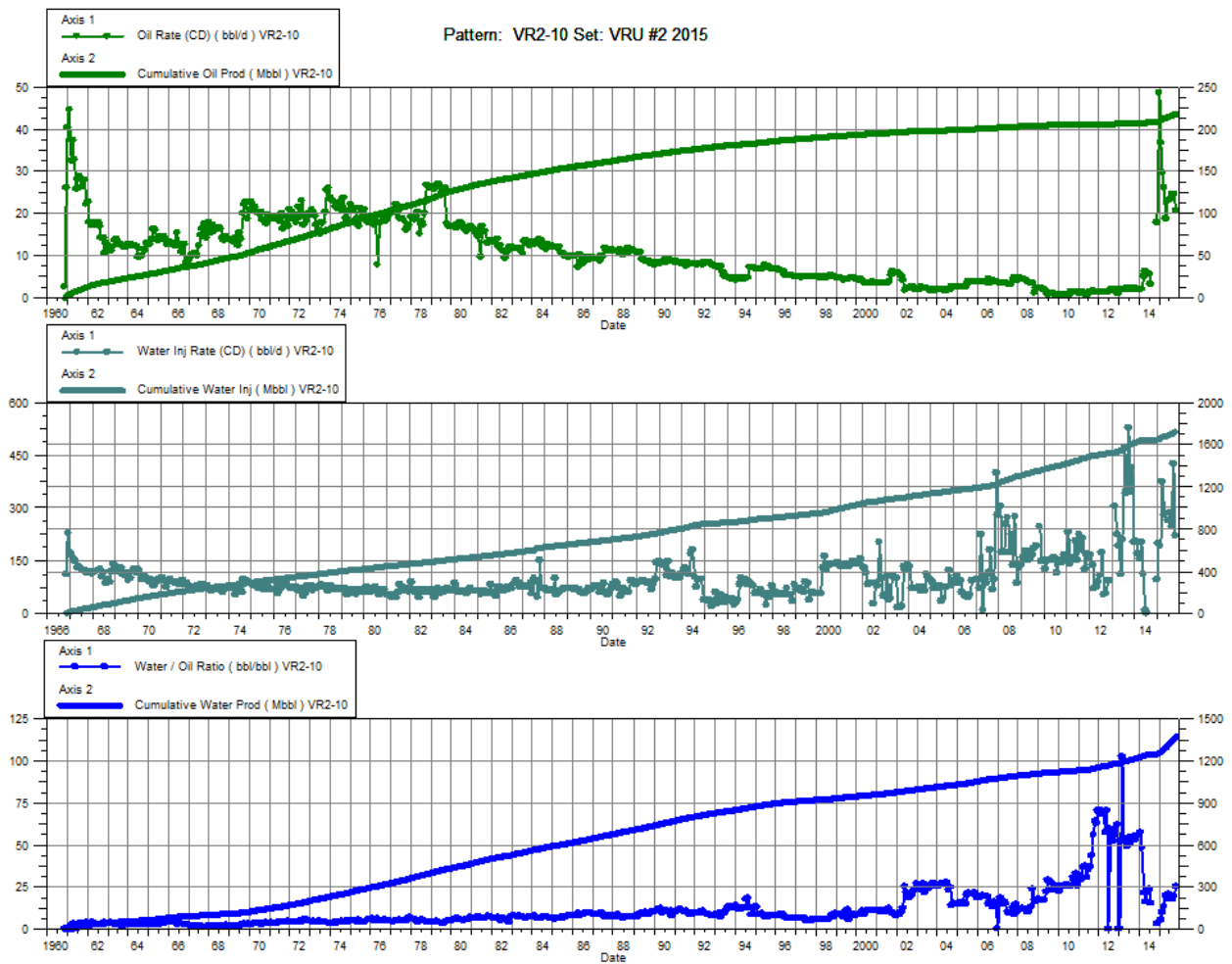
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	1.21	77.15	35.04	577.47	108.11	1313.38	29.08	2.98	2.00	2,652
2/28/2015	1.97	77.20	43.45	578.68	107.45	1316.39	22.07	2.36	2.00	5,393
3/31/2015	2.00	77.26	46.09	580.11	121.87	1320.17	23.01	2.53	2.00	5,200
4/30/2015	1.99	77.32	49.37	581.59	147.66	1324.60	24.79	2.87	2.01	5,207
5/31/2015	2.00	77.39	47.61	583.07		1324.60	23.75		2.00	5,419
6/30/2015	1.86	77.44	47.18	584.49	229.68	1331.49	25.36	4.68	2.01	6,000
7/31/2015	1.58	77.49	46.69	585.93	215.05	1338.15	29.60	4.45	2.01	5,994
8/31/2015	1.64	77.54	44.76	587.32	177.12	1343.64	27.34	3.82	2.02	5,806
9/30/2015	1.77	77.59	52.87	588.91		1343.64	29.82		2.01	6,000
10/31/2015	1.81	77.65	56.31	590.65	193.01	1349.63	31.11	3.32	2.02	5,981
11/30/2015	1.77	77.70	55.54	592.32	166.18	1354.61	31.36	2.90	2.02	5,393
12/31/2015	1.69	77.76	54.54	594.01	147.56	1359.19	32.26	2.62	2.02	5,206



Viriden Roselea Unit No. 2

Pattern P-10 - 00/12-05-011-25W1/0

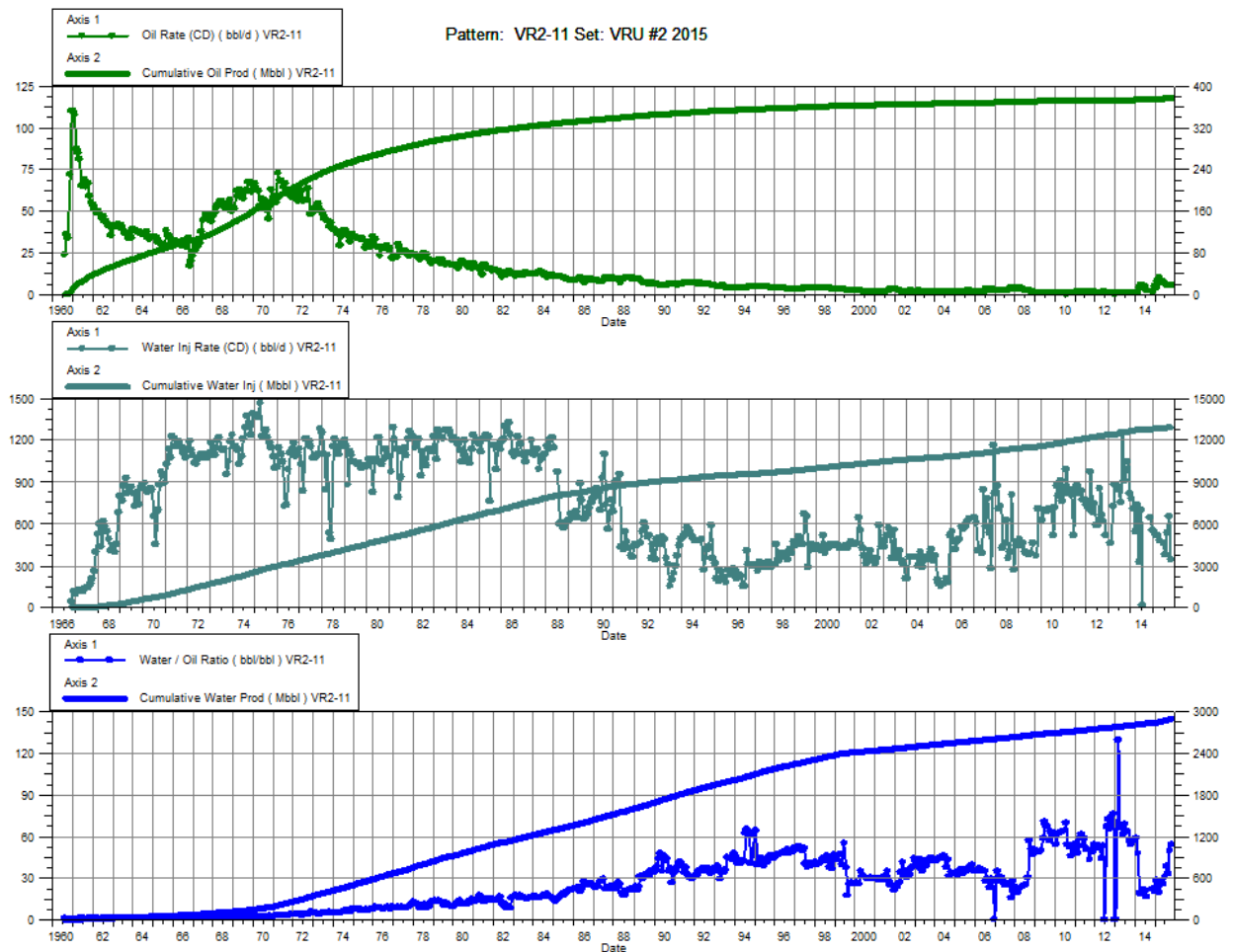
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	5.84	33.60	29.48	200.48	31.45	263.13	5.05	0.89	1.12	5,203
2/28/2015	4.73	33.73	46.79	201.79	30.51	263.98	9.90	0.59	1.12	5,296
3/31/2015	4.18	33.86	53.61	203.45	59.76	265.83	12.84	1.03	1.12	5,213
4/30/2015	3.01	33.95	58.91	205.22	44.62	267.17	19.55	0.72	1.11	5,607
5/31/2015	3.67	34.07	63.63	207.19		267.17	17.32		1.10	5,800
6/30/2015	3.68	34.18	75.01	209.44	42.38	268.44	20.37	0.54	1.10	6,400
7/31/2015	3.71	34.29	71.79	211.67	45.38	269.85	19.37	0.60	1.09	6,394
8/31/2015	3.94	34.41	69.98	213.84	39.13	271.06	17.76	0.53	1.09	6,200
9/30/2015	3.90	34.53	74.93	216.09	67.95	273.10	19.20	0.86	1.09	6,200
10/31/2015	3.27	34.63	82.60	218.65	35.15	274.19	25.24	0.41	1.08	6,181
11/30/2015	3.09	34.72	82.50	221.12	39.97	275.39	26.66	0.47	1.07	5,597
12/31/2015	2.94	34.82	81.39	223.65	34.26	276.45	27.68	0.41	1.07	5,503



Viriden Roselea Unit No. 2

Pattern P-11 - 00/08-06-011-25W1/0

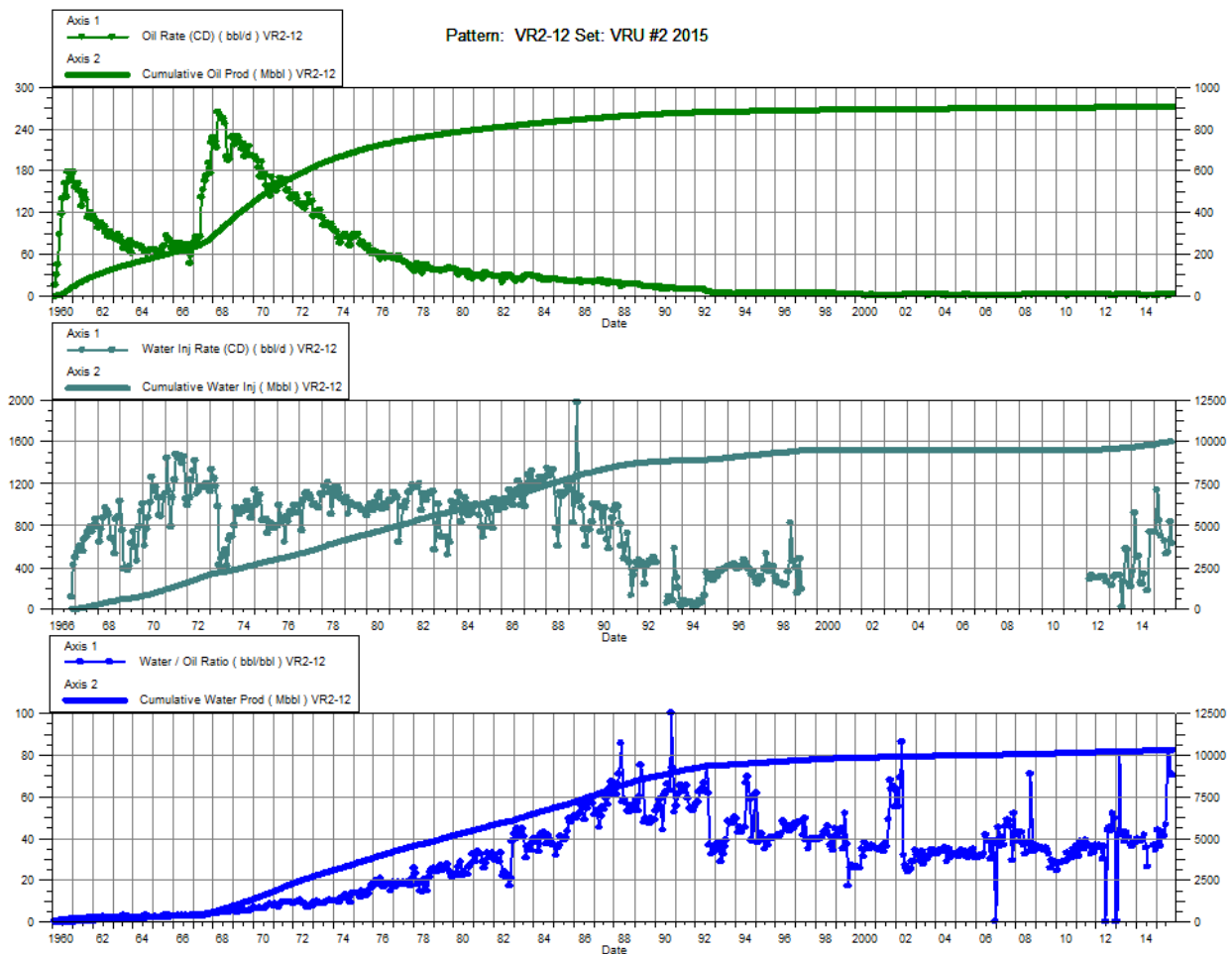
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	0.73	59.68	21.08	451.69	86.28	2040.18	28.76	3.95	3.98	1,903
2/28/2015	1.29	59.71	31.93	452.58	81.94	2042.47	24.72	2.47	3.98	4,971
3/31/2015	1.61	59.76	31.75	453.56	82.75	2045.04	19.71	2.48	3.98	4,200
4/30/2015	1.19	59.80	31.40	454.51	76.11	2047.32	26.29	2.33	3.97	4,203
5/31/2015	1.27	59.84	32.36	455.51		2047.32	25.38		3.96	4,310
6/30/2015	1.23	59.88	37.72	456.64	72.70	2049.50	30.57	1.87	3.96	4,600
7/31/2015	0.91	59.90	34.74	457.72	60.09	2051.37	38.29	1.69	3.95	4,581
8/31/2015	0.89	59.93	29.29	458.63	84.43	2053.98	33.04	2.80	3.95	4,000
9/30/2015	0.90	59.96	45.05	459.98	103.69	2057.10	49.95	2.26	3.95	3,993
10/31/2015	0.88	59.99	48.21	461.47	53.88	2058.77	54.51	1.10	3.94	3,803
11/30/2015	0.85	60.01	47.67	462.90	57.38	2060.49	55.93	1.18	3.93	3,917
12/31/2015	0.75	60.04	46.41	464.34	65.85	2062.53	62.07	1.40	3.93	4,381



Viriden Roselea Unit No. 2

Pattern P-12 - 00/02-06-011-25W1/0

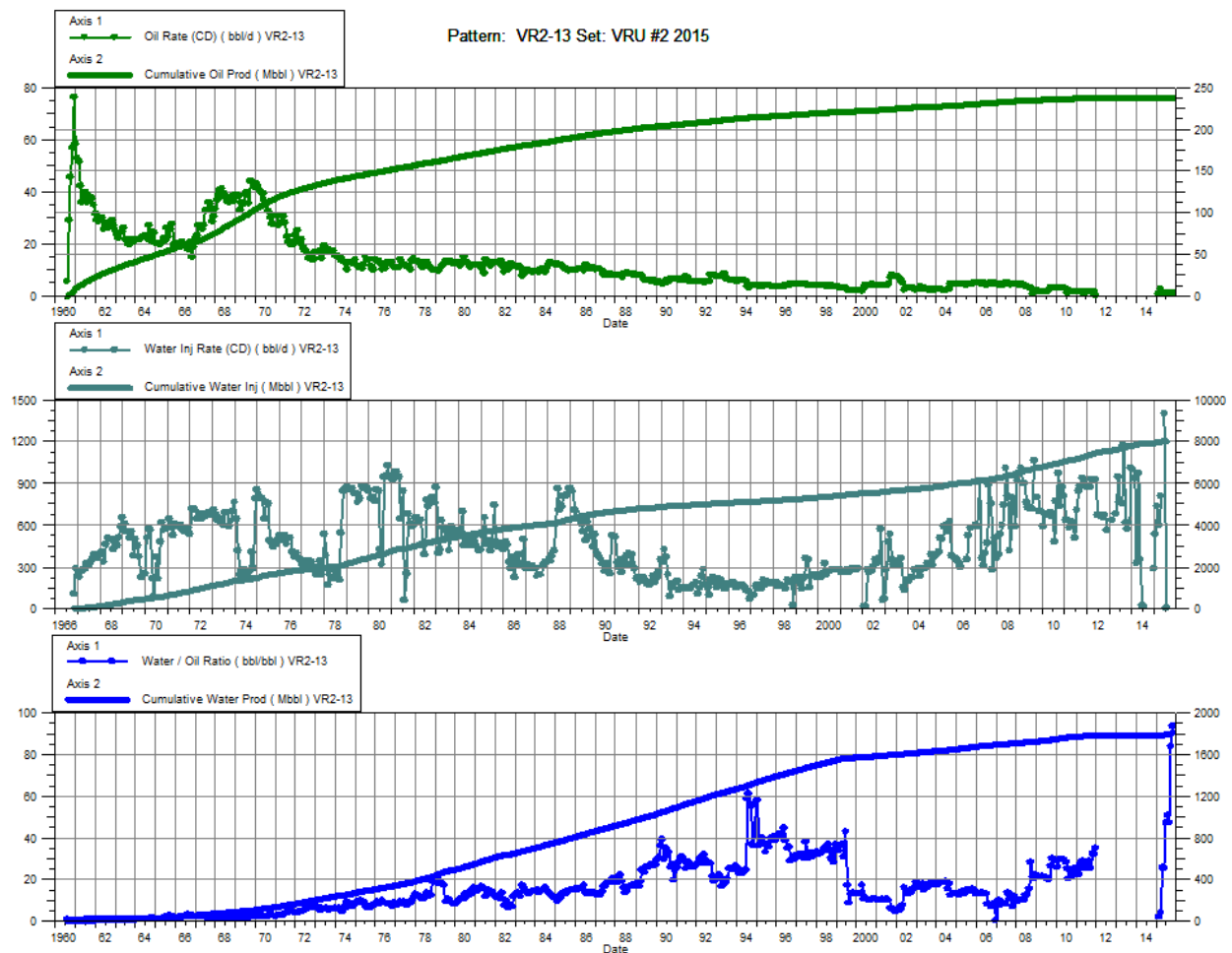
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	0.33	144.21	14.41	1634.25	117.45	1567.27	43.99	7.97	0.88	5,200
2/28/2015	0.53	144.23	19.81	1634.81	181.60	1572.35	37.35	8.92	0.88	5,200
3/31/2015	0.62	144.25	22.35	1635.50	135.09	1576.54	36.32	5.88	0.88	5,194
4/30/2015	0.61	144.27	25.96	1636.28	111.48	1579.88	42.68	4.19	0.89	5,000
5/31/2015	0.59	144.28	24.51	1637.04		1579.88	41.26		0.89	5,013
6/30/2015	0.47	144.30	22.01	1637.70	103.58	1582.99	46.67	4.60	0.89	5,000
7/31/2015	0.29	144.31	23.73	1638.44	83.47	1585.58	81.81	3.47	0.89	4,974
8/31/2015	0.27	144.32	21.86	1639.11	85.99	1588.24	82.04	3.89	0.89	4,242
9/30/2015	0.46	144.33	32.72	1640.09	133.11	1592.24	70.69	4.01	0.89	5,517
10/31/2015	0.51	144.35	35.75	1641.20	99.02	1595.31	70.51	2.73	0.89	6,000
11/30/2015	0.50	144.36	35.27	1642.26	109.81	1598.60	71.24	3.07	0.89	5,960
12/31/2015	0.47	144.37	34.43	1643.33	115.97	1602.20	74.02	3.32	0.90	4,819



Viriden Roselea Unit No. 2

Pattern P-13 - 00/04-05-011-25W1/0

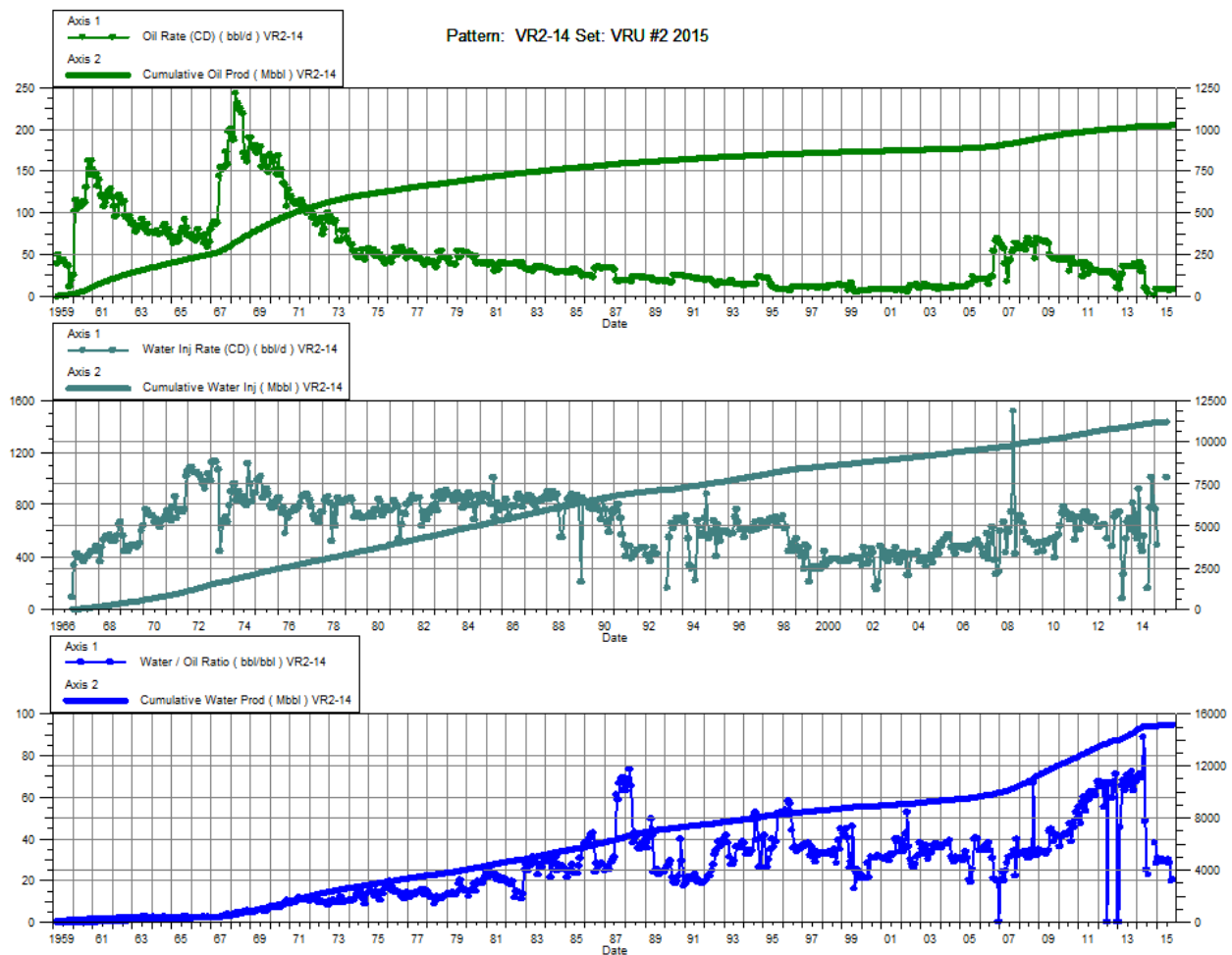
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015		37.77		284.26	85.40	1261.1			3.91	5,206
2/28/2015	0.1	37.77	0.16	284.27	117.17	1264.4	1.7	448.68	3.92	5,386
3/31/2015	0.4	37.78	1.63	284.32	94.52	1267.3	3.8	45.72	3.93	5,006
4/30/2015	0.1	37.78	2.46	284.39	129.30	1271.2	25.8	50.54	3.94	5,213
5/31/2015	0.2	37.79	4.20	284.52		1271.2	24.9		3.94	5,600
6/30/2015	0.2	37.80	10.99	284.85	223.53	1277.9	46.9	19.91	3.95	5,560
7/31/2015	0.2	37.80	12.15	285.23	1.10	1277.9	50.7	0.09	3.95	4,368
8/31/2015	0.2	37.81	10.15	285.54		1277.9	47.3		3.94	3,413
9/30/2015	0.2	37.82	19.19	286.12		1277.9	83.9		3.94	3,800
10/31/2015	0.2	37.82	21.40	286.78		1277.9	93.5		3.93	3,800
11/30/2015	0.2	37.83	20.64	287.40		1277.9	95.4		3.92	3,800
12/31/2015	0.1	37.84	18.81	287.99		1277.9	152.3		3.91	3,800



Viriden Roselea Unit No. 2

Pattern P-14 - 00/10-36-010-26W1/0

Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	1.38	162.51	41.99	2400.13	121.23	1779.35	30.34		0.69	5,200
2/28/2015	1.49	162.56	43.94	2401.36	77.90	1781.53	29.54	2.79	0.69	5,143
3/31/2015	1.46	162.60	43.85	2402.72		1781.53	30.11		0.69	3,568
4/30/2015	1.49	162.65	44.45	2404.05		1781.53	29.83		0.69	2,573
5/31/2015	1.49	162.69	42.97	2405.39		1781.53	28.80		0.69	1,800
6/30/2015	1.37	162.73	40.57	2406.60		1781.53	29.57		0.69	1,800
7/31/2015	1.28	162.77	38.31	2407.79	159.89	1786.49	29.88	4.04	0.69	1,839
8/31/2015	1.06	162.81	29.58	2408.71		1786.49	27.87		0.69	3,000
9/30/2015	1.40	162.85	27.50	2409.53		1786.49	19.60		0.69	3,000
10/31/2015	1.46	162.89	29.12	2410.43		1786.49	19.93		0.69	3,000
11/30/2015	1.45	162.94	28.99	2411.30		1786.49	20.06		0.69	3,000
12/31/2015	1.41	162.98	29.25	2412.21		1786.49	20.68		0.69	3,000



Viriden Roselea Unit No. 2

Pattern P-15 - 00/12-31-010-25W1/0

Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1/31/2015	0.49	52.63	19.54	468.80		483.90	39.85		0.93	--
2/28/2015	0.53	52.64	20.44	469.37		483.90	38.80		0.93	--
3/31/2015	0.52	52.66	20.40	470.00		483.90	39.40		0.92	--
4/30/2015	0.53	52.68	20.68	470.62		483.90	39.01		0.92	--
5/31/2015	0.53	52.69	19.99	471.24		483.90	37.90		0.92	--
6/30/2015	0.44	52.71	15.86	471.72		483.90	36.45		0.92	--
7/31/2015	0.47	52.72	16.91	472.24		483.90	36.02		0.92	--
8/31/2015	0.36	52.73	12.23	472.62		483.90	33.56		0.92	--
9/30/2015	0.47	52.75	6.05	472.80		483.90	12.96		0.92	--
10/31/2015	0.48	52.76	6.06	472.99		483.90	12.52		0.92	--
11/30/2015	0.48	52.77	6.03	473.17		483.90	12.61		0.92	--
12/31/2015	0.47	52.79	6.10	473.36		483.90	12.99		0.92	--

