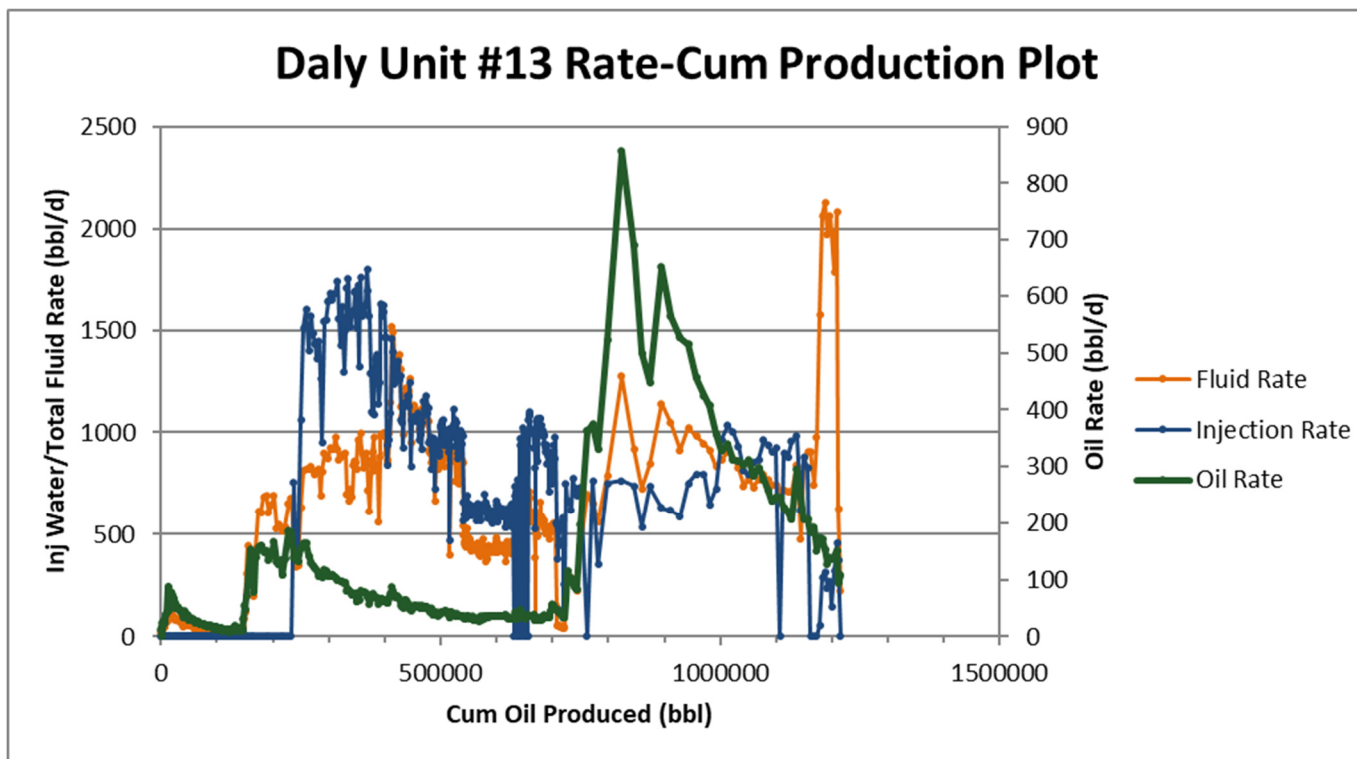
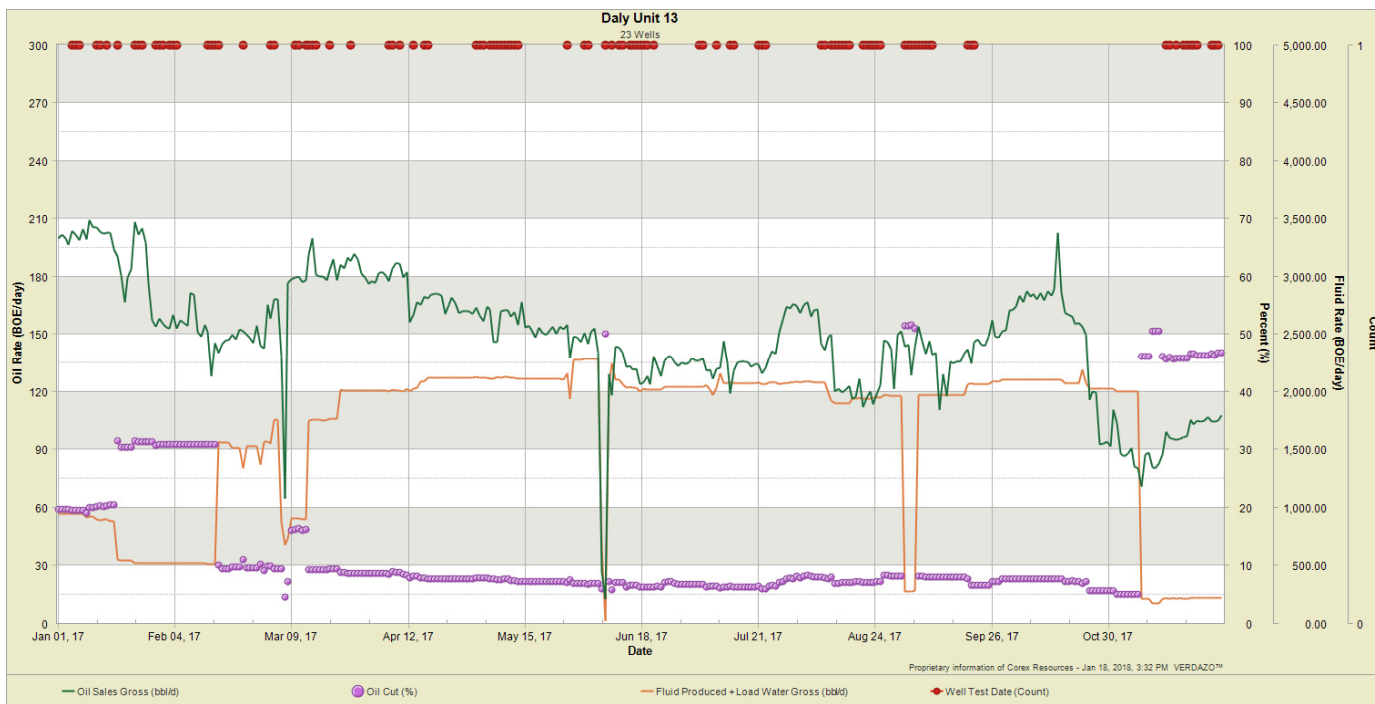


Daly Unit #13
2017 Annual EOR Report

Daly #13 – Rate vs Cum Oil Production



Daly #13 – Rate vs Time



In 2017 oil production from the Daly Unit #13 was 23.2 m³/d (146 bbl/d), totaling 8.5 10³m³ (53.3 mmbbl). Annual production declined 36% from 2016 to 2017, this has been sharper than in previous years as some wells were converted to injection. Cumulative oil production from the Daly Unit #13 was 191.3 10³m³ (1.2 mmbbl) at the end of 2017. In December 2017, there were 17 active oil producers, three horizontal injection wells, and one disposal well that has been suspended.

Historically, the unit produced through vertical wells completed in the Lodgepole formation. The first well was drilled in 1964, then in 1965 another two wells were drilled. Further development did not occur until 1984, and between 1984 and 1986, 14 additional vertical wells had been drilled. In 1986 a disposal well was implemented to handle the water production in the unit. Over time, some of the wells were deepened to the Bakken formation, some of the Lodgepole zones being abandoned, others commingled with the Bakken. In 2013 and 2014, Corex continued to develop the unit through horizontal multistage fractured wells. Currently, the unit has twelve horizontal wells placed in the Lodgepole formation. After several years of primary production and pressure depletion it was deemed beneficial to implement a waterflood. In 2017, three wells were converted to injection. 103/13-25-009-29W1/00 and 103/01-36-009-29W1/00 were converted in March 2017, with some mechanical difficulties with 103/01-36-009-29W1/00, where it did not inject for some time. In November 2017, 103/12-25-009-29W1/00 was converted to injection.

With the conversion of water injection wells Corex suspended the 100/08-36-009-29W1/00 water disposal well and all water is disposed outside of the unit. Water injection in 2017 in Daly Unit #13 was 41.5 m³/d (261 bbl/d), totaling 15.1 10³m³ (95.3 mmbbl). The producing WOR of the unit is 10 m³/m³.

Significant activity in 2017 is as follows:

- February 2017, performed a step rate injection test on the 103/01-36-009-29W1/00 horizontal Lodgepole well to be converted to injection.
- March 2017, convert the 103/01-36-009-29W1/00 horizontal well to injection.
- March 2017, convert the 103/13-25-009-29W1/00 horizontal well to injection.
- June 2017, performed a clean out on the 103/08-36-009-29W1/00 well.
- June 2017, performed a clean out on the 103/04-25-009-29W1/00 well.
- June 2017, test nozzles and injectivity on the 103/01-36-009-29W1/00 well.
- August 2017, pull out the injection string on the 103/01-36-009-29W1/00 well and examine it.
- October 2017, convert the 103/12-25-009-29W1/00 horizontal well to injection.

2017 Reservoir Pressure Surveys

In 2017, no pressure surveys were conducted in Daly Unit #13. Recent pressures taken within the unit are below:

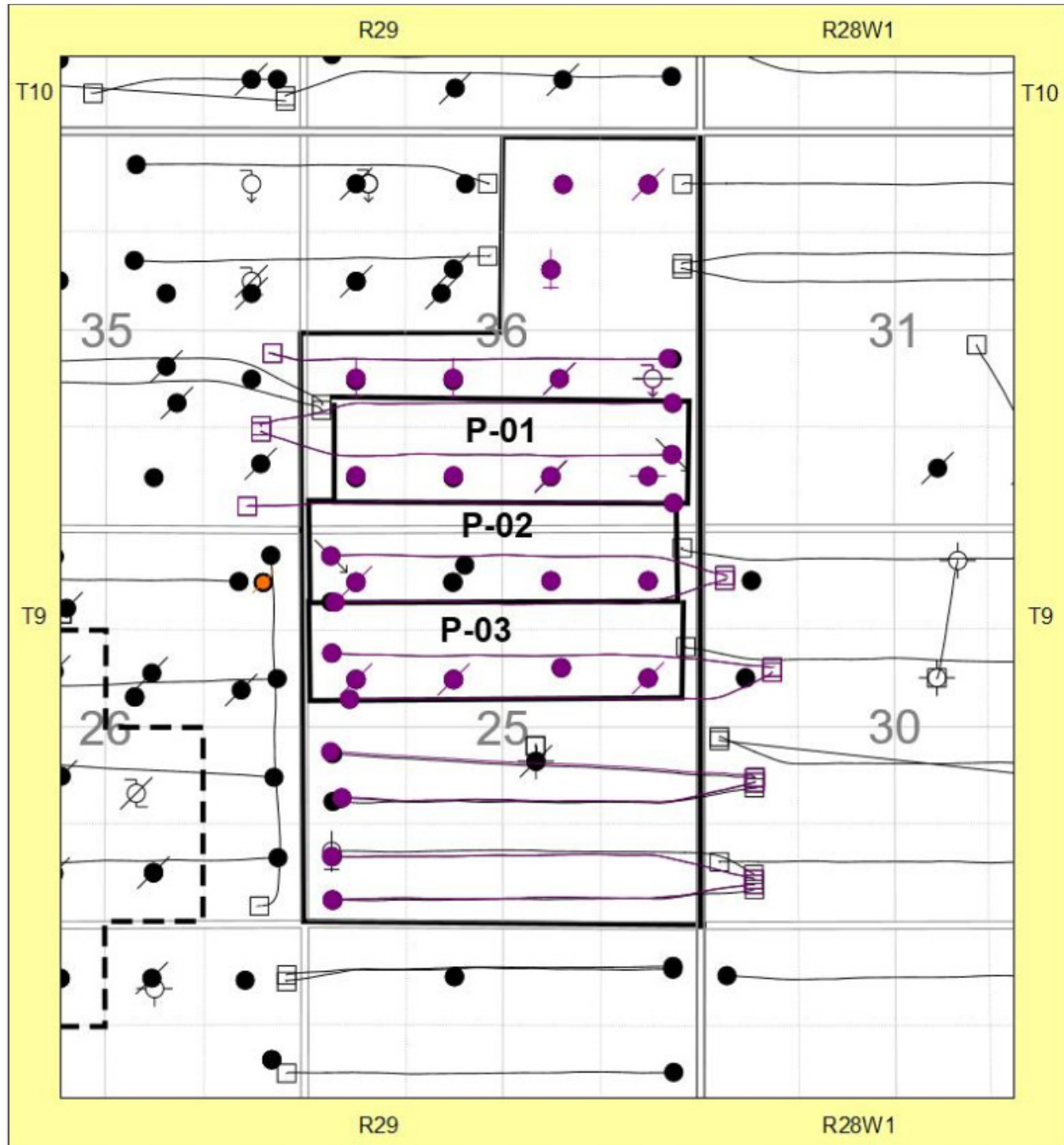
Unit	UWI	License	Test Type	Date of Pressure	Duration of SI (days)	Datum BHP (kPaa)
Daly Unit #13	103/04-25-009-29W1/00	9660	BH BU	3/3/2014	27	7,575
Daly Unit #13	100/08-36-009-29W1/00	3616	Surface Recorder	8/23/2014	1	8,396

The estimated initial reservoir pressure for the Lodgepole is 8,200 kPaa, which is slightly over pressure. As the Lodgepole formation is quite large, with multiple oil bearing zones the pressures could vary with depth within the Lodgepole. However, the majority of the production out of the Lodgepole is out of only one member, as are the pressures that were taken. The pressures taken in 2014 are close to the estimated initial reservoir pressure. Due to the inter well spacing and the length of the production period it is likely that the current reservoir pressure has been depleted and is lower than the initial reservoir pressure. However, with the initiation of injection in the unit, the pressure may be increasing. Due to the low permeability of the reservoir rock, obtaining representative buildup pressures is quite challenging and unlikely to be accurate in any way.

2017 Well Servicing

UWI	Unit	Licence	Operation	Date	Objective
102/12-25-009-29W1/00	DU#13	9714	Upsize Pump	2017-02-06	
102/12-25-009-29W1/00	DU#13	9714	Upsize Pump	2017-11-08	
102/05-25-009-29W1/00	DU#13	9549	Pump Repair	2017-09-27	
103/01-36-009-29W1/00	DU#13	9438	Injection Conversion	2017-02-20	
103/01-36-009-29W1/00	DU#13	9438	Acid Treatment	2017-06-22	
103/01-36-009-29W1/00	DU#13	9438	Injection - Surface Monitoring	2017-06-28	
103/01-36-009-29W1/00	DU#13	9438	Injection Workover	2017-07-26	
103/08-36-009-29W1/00	DU#13	9781	Clean-out	2017-06-01	Abandon Zone
103/13-25-009-29W1/00	DU#13	9712	Injection Conversion	2017-02-18	
100/08-36-009-29W1/00	DU#13	3616	Packer Repair	2017-08-27	
103/04-25-009-29W1/00	DU#13	9660	Clean-out	2017-06-02	
103/12-25-009-29W1/00	DU#13	9715	Injection Workover	2017-10-19	

Waterflood Pattern Map

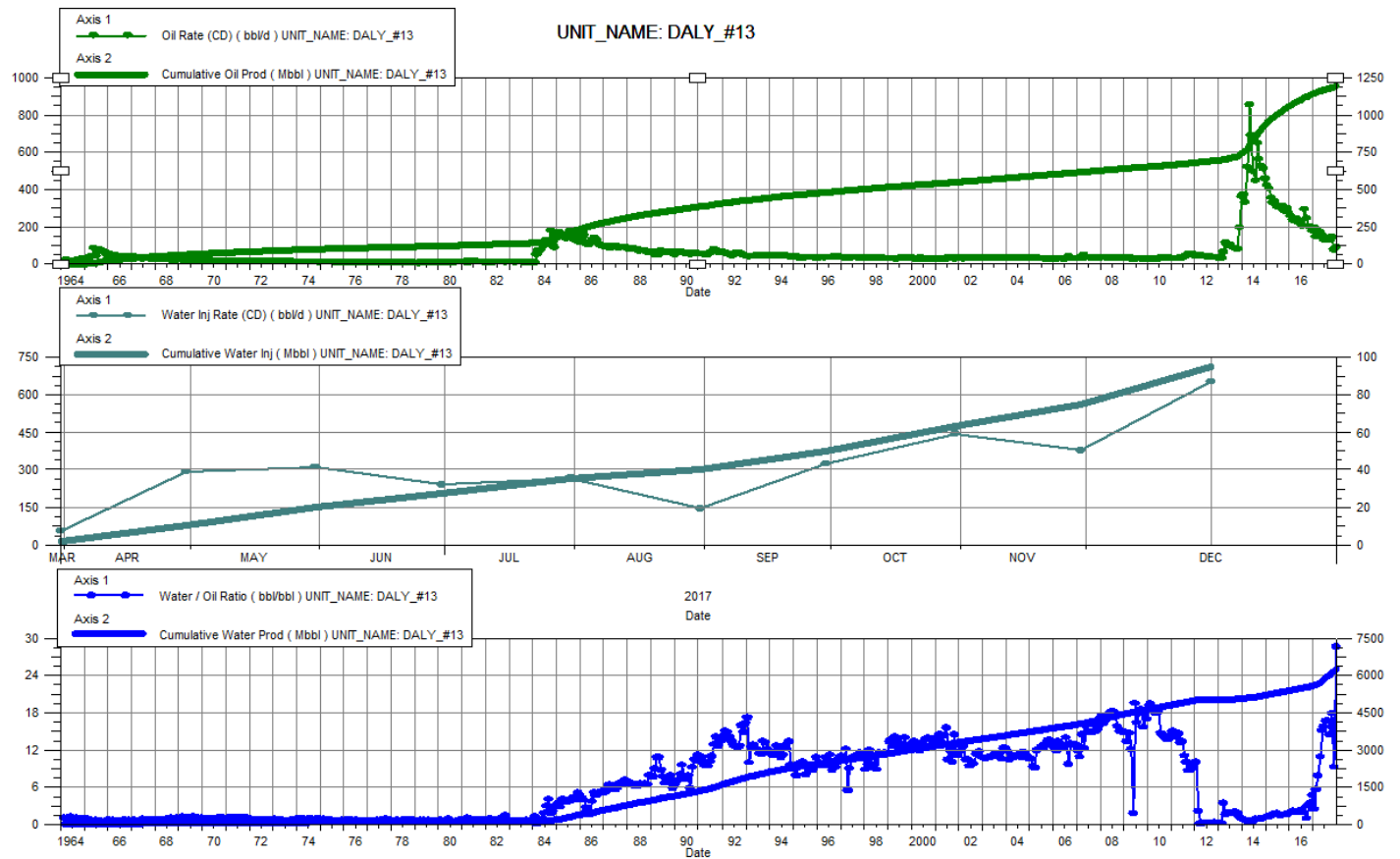


Waterflood Patterns and Corresponding Injectors

Pattern	Well
P-01	103/01-36-009-29W1/00
P-02	103/13-25-009-29W1/00
P-03	103/12-25-009-29W1/00

Total for Daly Unit No. 13

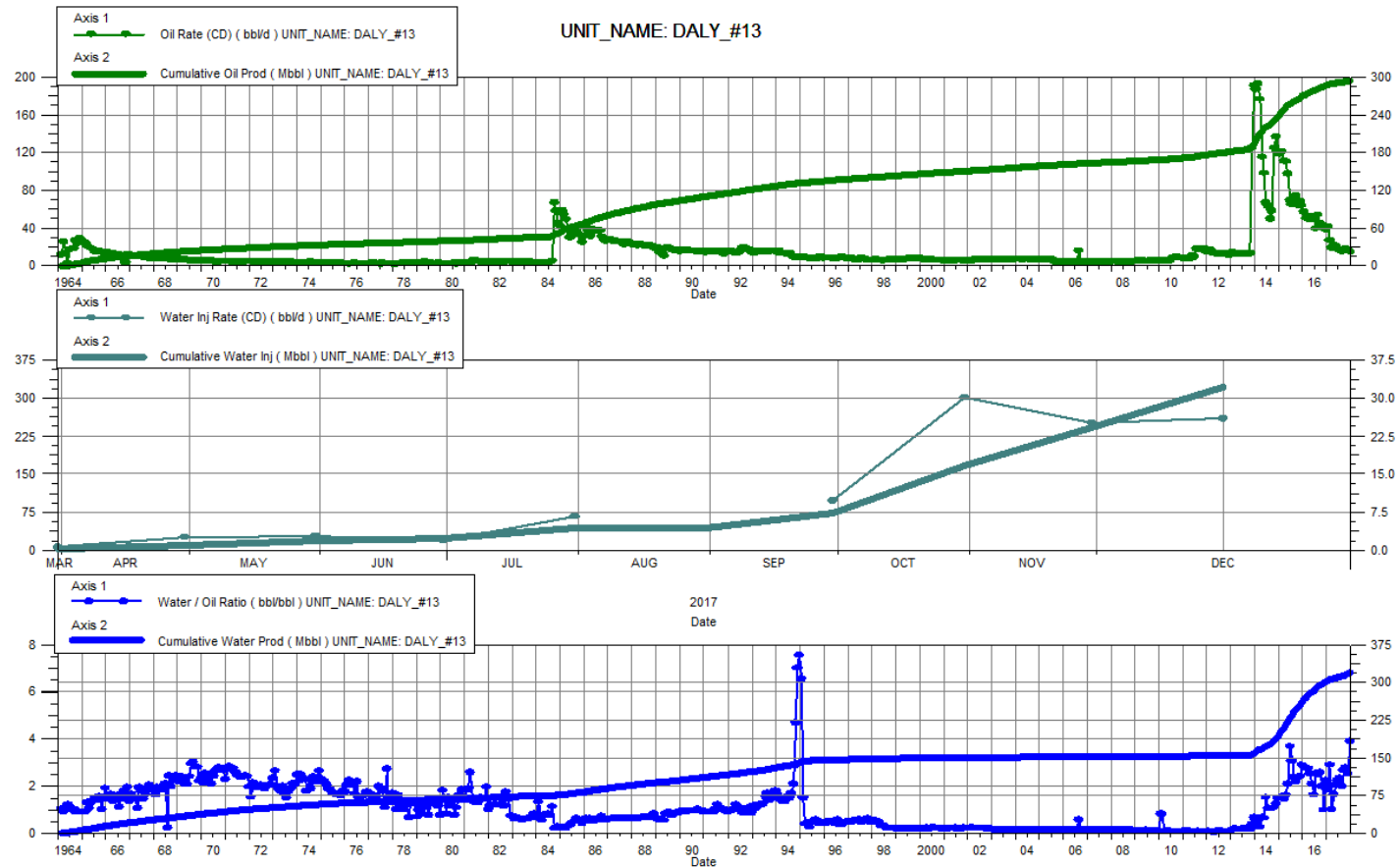
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio	Water Inj Pressure kPa
1-31-2017	31.55	182.40	75.08	887.73		0.00	2.38		0.00	-
2-28-2017	23.76	183.07	134.89	891.51		0.00	5.68		0.00	-
3-31-2017	28.70	183.96	225.12	898.49	8.74	0.27	7.84	0.03	0.00	-
4-30-2017	27.15	184.77	294.06	907.31	46.60	1.67	10.83	0.15	0.00	4,650.00
5-31-2017	24.03	185.52	363.02	918.56	49.45	3.20	15.11	0.13	0.00	4,625.00
6-30-2017	21.03	186.15	329.55	928.45	38.23	4.35	15.67	0.11	0.00	5,150.00
7-31-2017	22.14	186.83	369.06	939.89	42.39	5.66	16.67	0.11	0.01	6,250.00
8-31-2017	21.25	187.49	352.69	950.82	23.00	6.38	16.60	0.06	0.01	7,750.00
9-30-2017	20.84	188.12	301.73	959.88	51.57	7.92	14.48	0.16	0.01	8,300.00
10-31-2017	23.03	188.83	410.92	972.61	70.87	10.12	17.84	0.16	0.01	8,500.00
11-30-2017	12.63	189.21	116.62	976.11	60.03	11.92	9.23	0.46	0.01	3,883.33
12-31-2017	15.00	189.68	428.58	989.40	104.10	15.15	28.58	0.24	0.01	6,333.33



Daly Unit No. 13

Pattern P-01 - 03/01-36-009-29W1/0

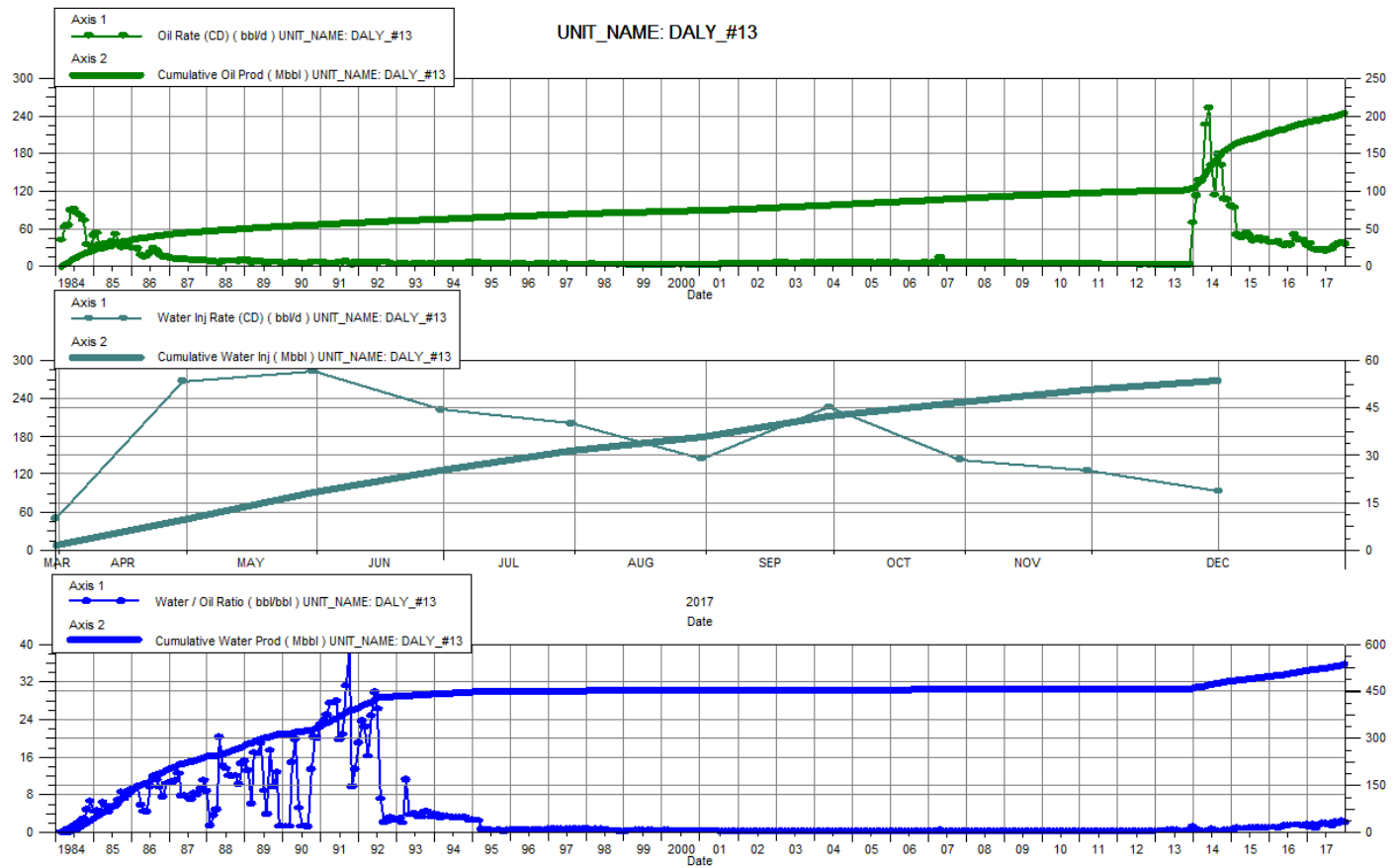
Date	Oil Rate (CD) m3/d	Cum Oil Prod Mm3	Water Rate (CD) m3/d	Cum Water Prod Mm3	Water Inj Rate (CD) m3/d	Cum Water Inj Mm3	Water Oil Ratio m3/m3	Voidage Replacement Ratio	Cum Voidage Replacement Ratio	Water Inj Pressure kPg
1-31-2017	6.67	45.83	12.37	48.22		0.00	1.85		0.00	-
2-28-2017	4.31	45.95	12.44	48.56		0.00	2.88		0.00	-
3-31-2017	3.05	46.05	3.11	48.66	0.85	0.03	1.02	0.14	0.00	-
4-30-2017	3.43	46.15	5.63	48.83	3.97	0.15	1.64	0.44	0.00	7,000.00
5-31-2017	3.27	46.25	6.68	49.04	4.26	0.28	2.04	0.43	0.00	3,450.00
6-30-2017	2.92	46.34	6.53	49.23	2.85	0.36	2.24	0.30	0.00	3,450.00
7-31-2017	2.83	46.43	6.58	49.44	10.47	0.69	2.33	1.11	0.01	5,100.00
8-31-2017	2.46	46.50	4.90	49.59		0.69	1.99		0.01	-
9-30-2017	2.80	46.59	7.49	49.81	15.46	1.15	2.67	1.49	0.01	-
10-31-2017	2.89	46.68	8.02	50.06	48.05	2.64	2.78	4.39	0.03	8,300.00
11-30-2017	2.82	46.76	7.05	50.27	39.94	3.84	2.50	4.03	0.04	4,300.00
12-31-2017	2.41	46.84	9.38	50.57	41.38	5.12	3.89	3.49	0.05	8,300.00



Daly Unit No. 13

Pattern P-02 - 03/13-25-009-29W1/0

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 Replacement Ratio	Water Inj Pressure kPg
1-31-2017	5.95	30.69	6.50	82.17		0.00	1.09		0.00	-
2-28-2017	4.46	30.81	7.80	82.38		0.00	1.75		0.00	-
3-31-2017	4.14	30.94	3.04	82.48	7.89	0.24	0.74	1.09	0.00	-
4-30-2017	4.27	31.07	6.69	82.68	42.63	1.52	1.57	3.86	0.01	2,300.00
5-31-2017	4.52	31.21	8.57	82.95	45.19	2.92	1.90	3.43	0.03	5,800.00
6-30-2017	4.01	31.33	7.84	83.18	35.39	3.99	1.95	2.97	0.04	6,850.00
7-31-2017	4.34	31.46	6.71	83.39	31.91	4.98	1.55	2.87	0.04	7,400.00
8-31-2017	4.57	31.61	6.56	83.59	23.00	5.69	1.44	2.05	0.05	7,750.00
9-30-2017	5.31	31.76	12.04	83.95	36.11	6.77	2.27	2.07	0.06	8,300.00
10-31-2017	5.79	31.94	10.80	84.29	22.82	7.48	1.86	1.37	0.06	8,700.00
11-30-2017	6.07	32.13	14.42	84.72	20.09	8.08	2.38	0.98	0.07	1,200.00
12-31-2017	5.77	32.31	12.35	85.10	14.79	8.54	2.14	0.81	0.07	3,500.00



Daly Unit No. 13

Pattern P-03 - 03/12-25-009-29W1/0

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 Replacement Ratio	Water Inj Pressure kPg
1-31-2017	8.20	39.03	25.79	684.89		0.00	3.15		0.00	-
2-28-2017	6.76	39.22	78.16	687.08		0.00	11.55		0.00	-
3-31-2017	11.90	39.59	190.65	692.99		0.00	16.03		0.00	-
4-30-2017	11.39	39.93	247.47	700.42		0.00	21.73		0.00	-
5-31-2017	11.12	40.28	308.47	709.98		0.00	27.74		0.00	-
6-30-2017	10.22	40.58	305.31	719.14		0.00	29.88		0.00	-
7-31-2017	9.48	40.88	350.91	730.02		0.00	37.03		0.00	-
8-31-2017	10.76	41.21	336.97	740.46		0.00	31.30		0.00	-
9-30-2017	9.65	41.50	279.38	748.84		0.00	28.96		0.00	-
10-31-2017	9.95	41.81	389.24	760.91		0.00	39.11		0.00	-
11-30-2017	4.24	41.94	94.05	763.73		0.00	22.20		0.00	6,150.00
12-31-2017	6.14	42.13	408.09	776.38	47.92	1.49	66.44	0.12	0.00	7,200.00

