

DALY UNIT NO. 10
WATERFLOOD EOR PROJECT
ANNUAL REPORT FOR 2017

June 13, 2018

Tundra Oil and Gas

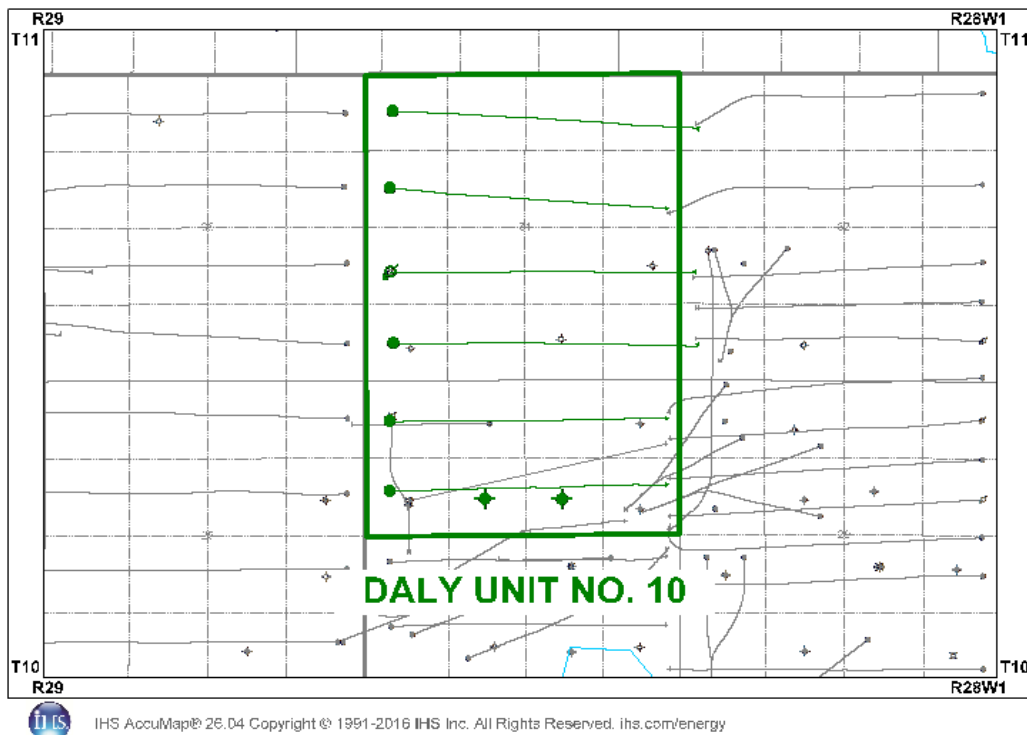
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INTRODUCTION

Daly Unit No. 10 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Waterflood Order No. 48, effective October 1st, 2015 with Tundra Oil and Gas as Operator. The EOR project area, outlined in green in Figure 1, contains 2 abandoned vertical wells and 5 horizontal producing wells and 1 injection well in 24 LSDs in Township 10, Range 28W1.

Figure 1: Daly Unit No. 10 Area Outline



In accordance with Section 73 of the Manitoba Drilling and Production Regulation, Tundra submits the following 2017 Annual Progress Report for Daly Unit No. 10 as required by Waterflood Order No. 48.

DISCUSSION

Production History

For the wells included in Daly Unit No. 10, production started in July 1987 with the 00/11-30-010-28W1/00 well. Oil production peaked at 61.84 m³/d in January 2012. In 2017, the average production for the unit was 7.15 m³/d of oil and 33.17 m³/d of water, and the average WOR was 4.62 m³/m³. Water injection commenced in Daly Unit No. 10 in December 2015. The oil production rate, injection rate and WOR for each injection pattern is presented in Appendix A. The rates and WOR are presented in Figure 2.

Figure 2: Daly Unit No. 10 Production/Injection Rates and WOR vs. Time

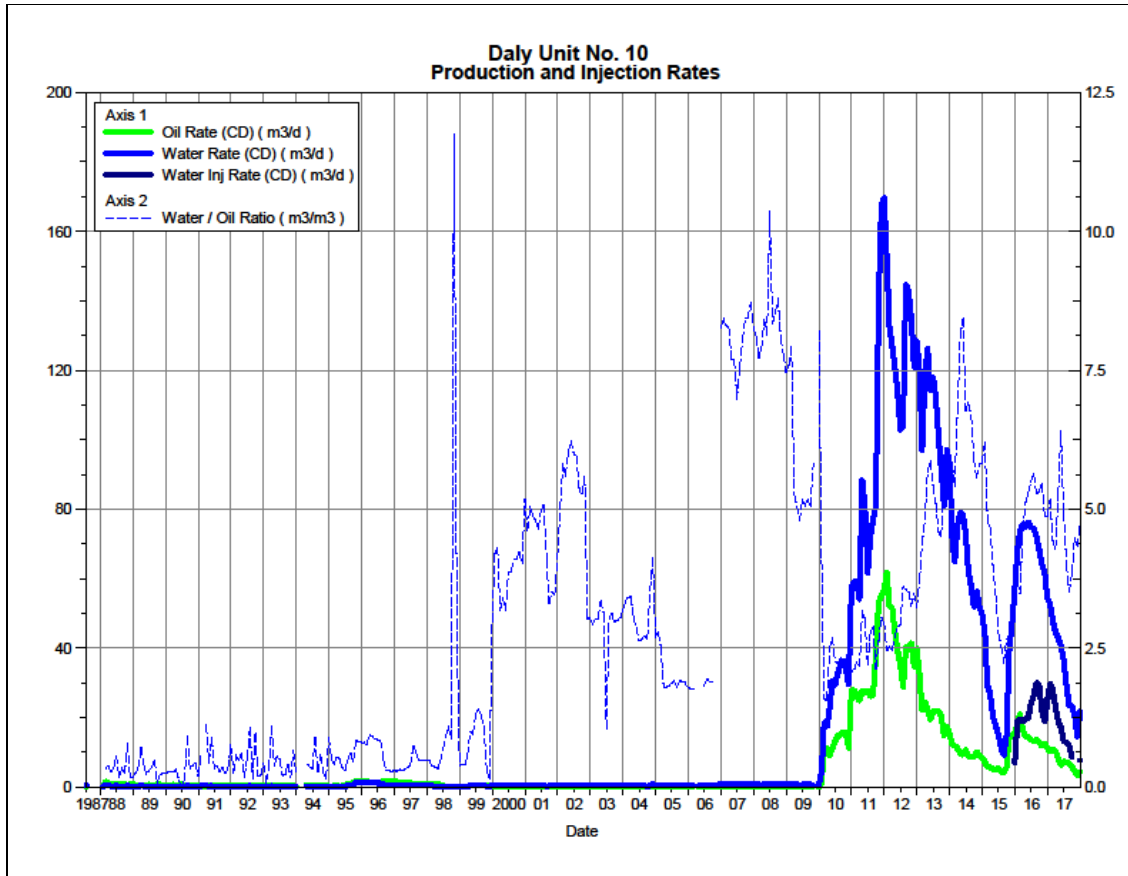
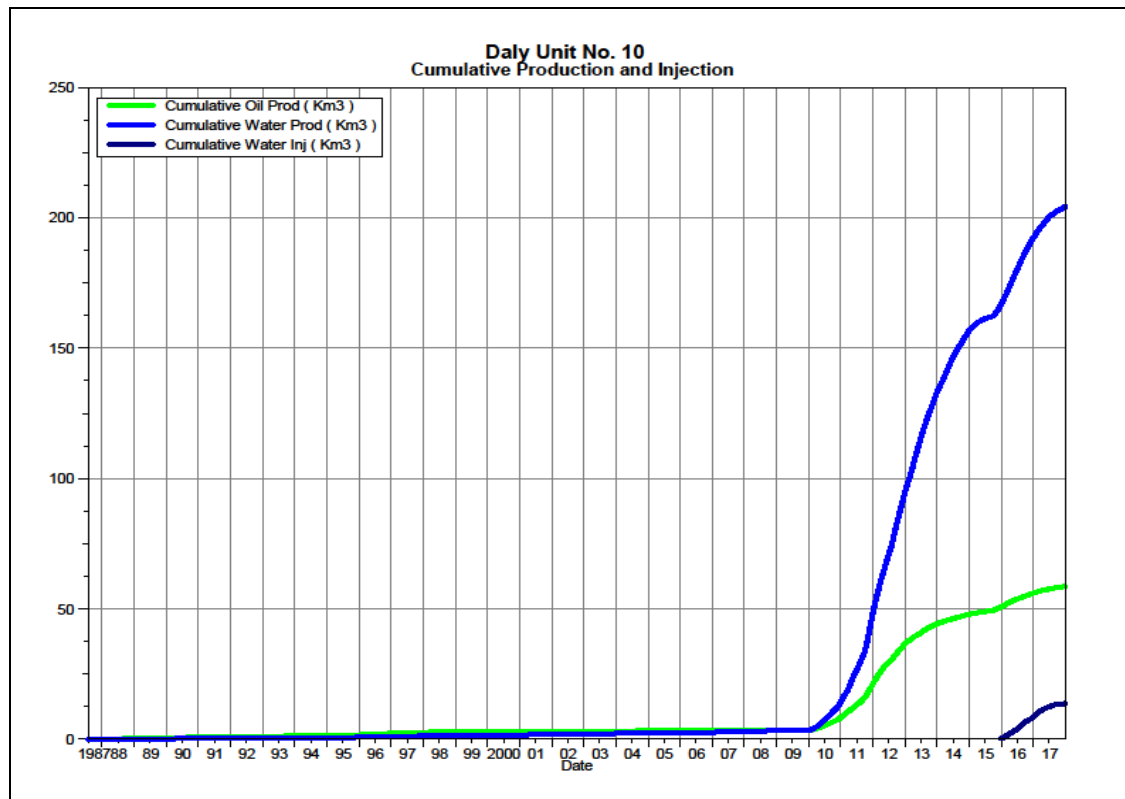


Figure 3 shows the cumulative production for Daly Unit No. 10 to the end of December 2017 as 58.65 e³m³ of oil and 204.36 e³m³ of water, representing a 14.9% recovery factor of the OOIP (393.2 e³m³). The cumulative volume of oil, and water produced and fluid injected for each injection pattern is presented in Appendix A.

Figure 3: Daly Unit No. 10 Cumulative Oil, Water and Water Injected vs. Time



Waterflood History

Water injection commenced in Daly Unit No. 10 in December 2015 with the conversion of the 00/05-31-010-28W1 producer to an injector, completing a horizontal line drive at 40 acres. In November 2017, Tundra converted the 00/12-31 and 00/13-31-010-28W1 producers to injectors. Tundra's future plans for this unit include drilling a horizontal producer between the existing injectors, creating 20 acre line drive waterflood patterns.

Production performance by injector pattern are summarized in Appendix A.

Any future revisions to the waterflood development or surveillance plan would be based on new production or performance response data, technical studies, or observed reservoir behavior and reserves recovery interpretations.

Waterflood EOR Operating Strategy and Performance

Water Source and Quality

Injection water for Daly Unit No. 10 will be supplied from the Jurassic source water well at 100/02-25-010-29W1 (00/02-25). Tundra received approval from the Petroleum Branch in March 2013 to use the 00/02-25 well as a source water well for waterflood operations. Jurassic-sourced water will be pumped from the 00/02-25 source well to the Daly 12-24-10-29 battery, where it will be filtered and then pumped up to injection system pressure.

Injection Wellhead Pressures

The average monthly wellhead injection pressures are summarized in Appendix B for Daly Unit No. 10.

Reservoir Pressure

Where practical, Tundra is committed to collecting pressure data from newly drilled wells. For Daly Unit No. 10, there is currently no pressure data available.

Well Servicing

Table 1 lists the maintenance that was required in Daly Unit No. 10 in 2017.

Table 1: Service and Maintenance in Daly Unit No. 10

102.04-31-010-28W1.00	Cemented Liner Clean Out	12/04/2017
100.05-31-010-28W1.00	Cemented Liner Clean Out	12/06/2017
100.12-31-010-28W1.00	Clean Out horizontal and convert to WIW	11/17/2017
100.13-31-010-28W1.00	WIW Conversion	11/09/2017

Waterflood Performance Discussion

Water injection began December 2015, after the conversion of the 00/05-31-010-28W1 producer to an injector. Since water injection only started in December 2015, there is no waterflood analysis that can be done at this time.

A summary table of the injection pattern(s) is presented in Appendix A. Plots of the production and injection data along with the VRR information are presented in Appendix C for each of the injection pattern(s).

List of Appendices

Appendix A: Injection Pattern Summary

Appendix B: Average Monthly Injection Wellhead Pressures

Appendix C: Production/Injection Rates, Cumulative and VRR Plots for the following
Injector(s):

00/05-31-010-28W1/0

Appendix A**Daly Unit No. 10 Pattern Summary as of December 2017**

Pattern Name	Injector Location (010-28W1)	Status	No. of Supported Wells	Supported Wells (010-28W1)	Allocation Factor	Pattern Prod Start Month	Inj Start Month	Oil Rate (m³/d)	Water Rate (m³/d)	WOR (m³/m³)	Water Injection (m³/d)	Cum Oil (E³m³)	Cum Water (E³m³)	Cum Inj Water (E³m³)	Monthly VRR	Cum VRR
00/05-31-010-28 Injector	00/05-32	Water Injection	2	02/04-31, 00/12-31	0.5	Jan 2010	Dec 2015	0.69	6.22	9.03	7.74	18.86	59.24	13.7	1.113	0.173

Appendix B

Average Monthly Injection Pressure (kPag)

Month	100/05-31
Jan-15	
Feb-15	
Mar-15	
Apr-15	
May-15	
Jun-15	
Jul-15	
Aug-15	
Sep-15	
Oct-15	
Nov-15	
Dec-15	
	-58
Jan-16	-92
Feb-16	-94
Mar-16	-95
Apr-16	-95
May-16	-95
Jun-16	48
Jul-16	701
Aug-16	1578
Sep-16	2289
Oct-16	2410
Nov-16	2272
Dec-16	3482
Dec-16	4342
Jan-17	4481
Feb-17	4490
Mar-17	4399
Apr-17	4490
May-17	4353
Jun-17	4491
Jul-17	4490
Aug-17	4148
Sep-17	1902
Oct-17	1386
Dec-17	1020

Appendix C

Rates and VRR Plots

Pattern: 00/05-31-010-28Inj Set: DalyUnit#10BKKN

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 6.85 m3/m3

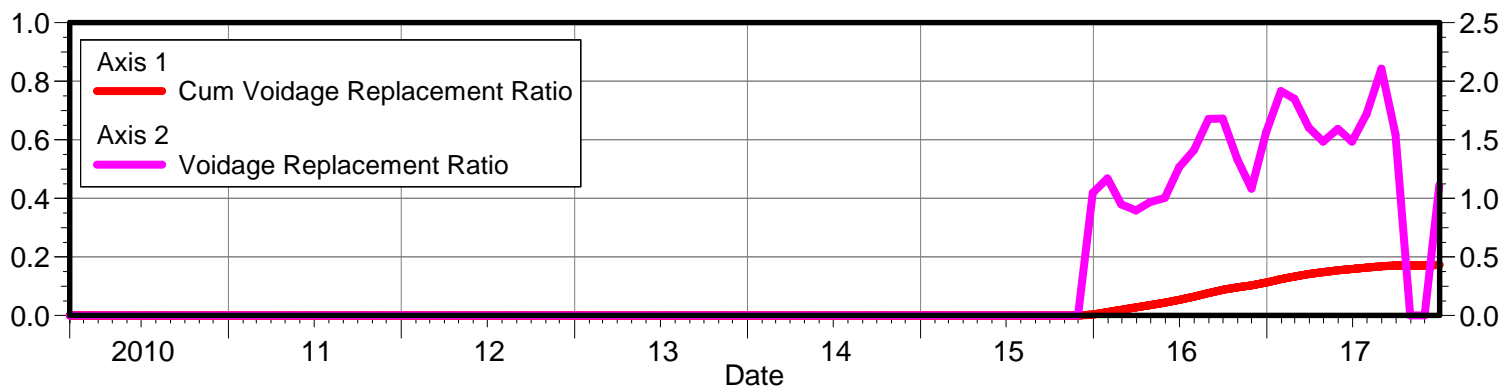
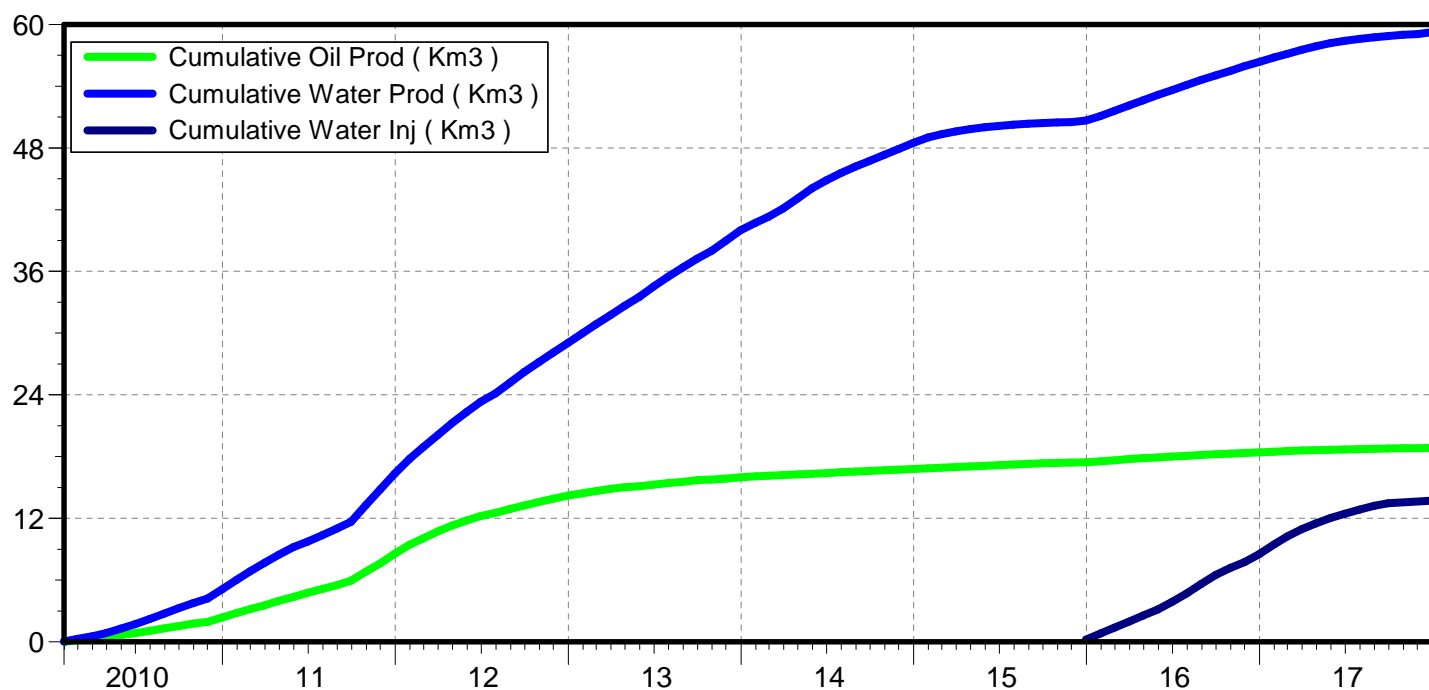
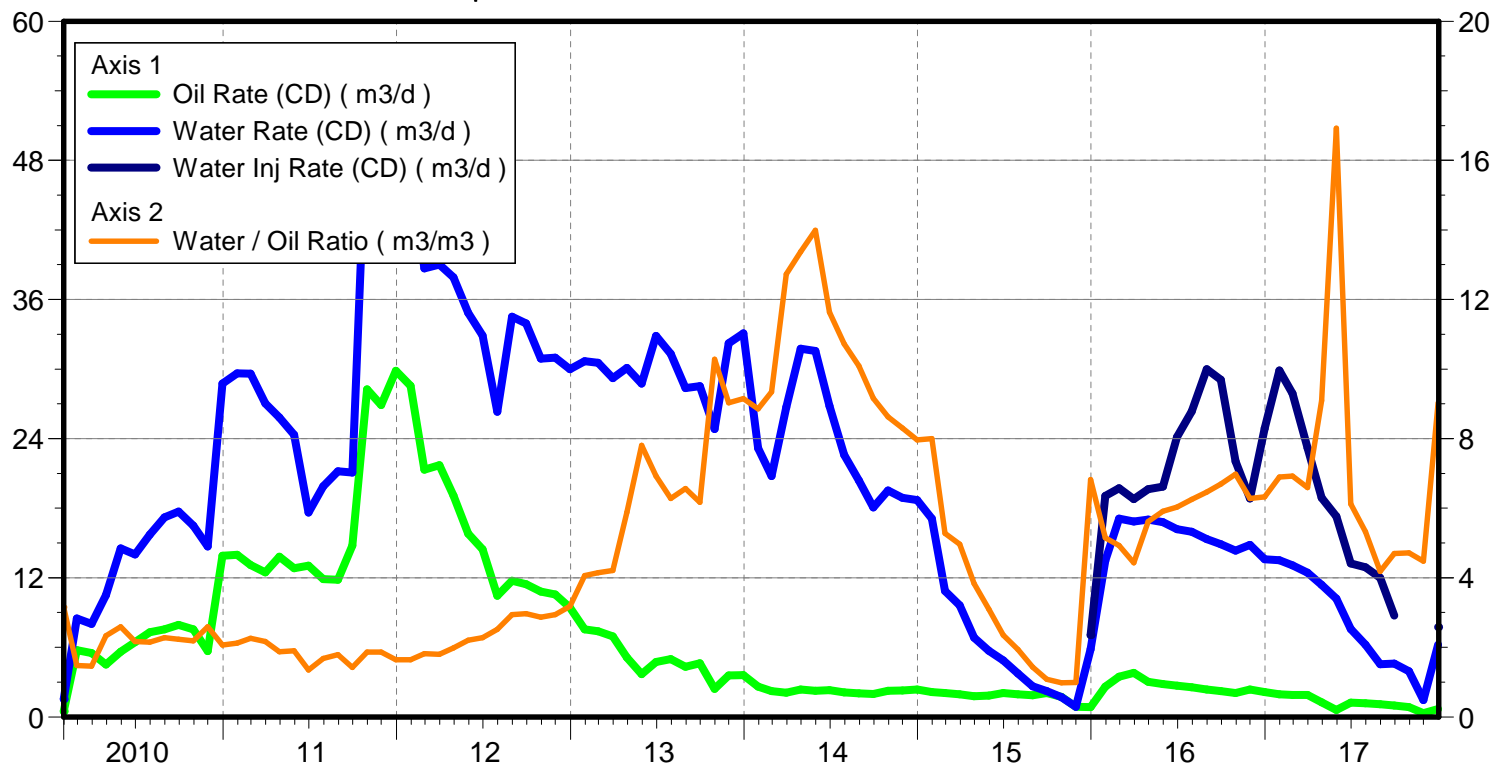
June 07, 2018

Operator: TUNDRA_OIL_AND_GAS_PARTNER

Oil Rate (CD) : 1.80 m3/d

Water Rate (CD) : 9.72 m3/d

Water Inj Rate (CD) : 21.75 m3/d



Date	Oil Rate (CD) m3/d	Water Rate (CD) m3/d	Water Oil Ratio m3/m3	Water Inj Rate (CD) m3/d	Cum Oil Prod Km3	Cum Water Prod Km3	Cum Water Inj Km3	VRR	Cum VRR
1/31/2010	0.49	1.53	3.15		0.02	0.05	0.00	0.000	0.000
2/28/2010	5.75	8.49	1.48		0.18	0.29	0.00	0.000	0.000
3/31/2010	5.50	8.02	1.46		0.35	0.53	0.00	0.000	0.000
4/30/2010	4.51	10.51	2.33		0.48	0.85	0.00	0.000	0.000
5/31/2010	5.61	14.52	2.59		0.66	1.30	0.00	0.000	0.000
6/30/2010	6.46	14.00	2.17		0.85	1.72	0.00	0.000	0.000
7/31/2010	7.31	15.72	2.15		1.08	2.21	0.00	0.000	0.000
8/31/2010	7.54	17.20	2.28		1.31	2.74	0.00	0.000	0.000
9/30/2010	7.93	17.71	2.23		1.55	3.27	0.00	0.000	0.000
10/31/2010	7.55	16.50	2.19		1.78	3.78	0.00	0.000	0.000
11/30/2010	5.68	14.70	2.59		1.95	4.22	0.00	0.000	0.000
12/31/2010	13.91	28.74	2.07		2.38	5.11	0.00	0.000	0.000
1/31/2011	13.98	29.62	2.12		2.82	6.03	0.00	0.000	0.000
2/28/2011	13.09	29.60	2.26		3.18	6.86	0.00	0.000	0.000
3/31/2011	12.46	27.03	2.17		3.57	7.70	0.00	0.000	0.000
4/30/2011	13.82	25.83	1.87		3.98	8.47	0.00	0.000	0.000
5/31/2011	12.82	24.32	1.90		4.38	9.23	0.00	0.000	0.000
6/30/2011	13.03	17.63	1.35		4.77	9.76	0.00	0.000	0.000
7/31/2011	11.87	19.89	1.68		5.14	10.37	0.00	0.000	0.000
8/31/2011	11.84	21.19	1.79		5.51	11.03	0.00	0.000	0.000
9/30/2011	14.79	21.08	1.43		5.95	11.66	0.00	0.000	0.000
10/31/2011	28.26	52.73	1.87		6.83	13.30	0.00	0.000	0.000
11/30/2011	26.90	50.13	1.86		7.63	14.80	0.00	0.000	0.000
12/31/2011	29.85	49.09	1.64		8.56	16.32	0.00	0.000	0.000
1/31/2012	28.55	47.01	1.65		9.45	17.78	0.00	0.000	0.000
2/29/2012	21.32	38.67	1.81		10.06	18.90	0.00	0.000	0.000
3/31/2012	21.71	39.00	1.80		10.74	20.11	0.00	0.000	0.000
4/30/2012	19.10	37.92	1.99		11.31	21.25	0.00	0.000	0.000
5/31/2012	15.80	34.86	2.21		11.80	22.33	0.00	0.000	0.000
6/30/2012	14.46	32.88	2.27		12.23	23.32	0.00	0.000	0.000
7/31/2012	10.44	26.32	2.52		12.56	24.13	0.00	0.000	0.000
8/31/2012	11.73	34.51	2.94		12.92	25.20	0.00	0.000	0.000
9/30/2012	11.44	33.93	2.96		13.26	26.22	0.00	0.000	0.000
10/31/2012	10.80	30.91	2.86		13.60	27.18	0.00	0.000	0.000
11/30/2012	10.55	30.97	2.94		13.91	28.11	0.00	0.000	0.000
12/31/2012	9.44	29.99	3.18		14.21	29.04	0.00	0.000	0.000
1/31/2013	7.55	30.67	4.06		14.44	29.99	0.00	0.000	0.000
2/28/2013	7.37	30.53	4.14		14.65	30.84	0.00	0.000	0.000
3/31/2013	6.95	29.22	4.21		14.86	31.75	0.00	0.000	0.000
4/30/2013	5.12	30.09	5.88		15.02	32.65	0.00	0.000	0.000
5/31/2013	3.68	28.75	7.81		15.13	33.54	0.00	0.000	0.000
6/30/2013	4.75	32.86	6.92		15.27	34.53	0.00	0.000	0.000
7/31/2013	4.99	31.32	6.28		15.43	35.50	0.00	0.000	0.000
8/31/2013	4.32	28.35	6.56		15.56	36.38	0.00	0.000	0.000
9/30/2013	4.63	28.53	6.17		15.70	37.23	0.00	0.000	0.000
10/31/2013	2.42	24.83	10.28		15.78	38.00	0.00	0.000	0.000

Date	Oil Rate (CD) m3/d	Water Rate (CD) m3/d	Water Oil Ratio m3/m3	Water Inj Rate (CD) m3/d	Cum Oil Prod Km3	Cum Water Prod Km3	Cum Water Inj Km3	VRR	Cum VRR
11/30/2013	3.57	32.23	9.03		15.88	38.97	0.00	0.000	0.000
12/31/2013	3.61	33.08	9.15		15.99	40.00	0.00	0.000	0.000
1/31/2014	2.62	23.16	8.85		16.08	40.71	0.00	0.000	0.000
2/28/2014	2.22	20.76	9.35		16.14	41.30	0.00	0.000	0.000
3/31/2014	2.10	26.70	12.73		16.20	42.12	0.00	0.000	0.000
4/30/2014	2.38	31.76	13.37		16.27	43.08	0.00	0.000	0.000
5/31/2014	2.25	31.55	13.99		16.34	44.05	0.00	0.000	0.000
6/30/2014	2.31	26.81	11.63		16.41	44.86	0.00	0.000	0.000
7/31/2014	2.11	22.60	10.73		16.48	45.56	0.00	0.000	0.000
8/31/2014	2.02	20.38	10.09		16.54	46.19	0.00	0.000	0.000
9/30/2014	1.97	18.07	9.16		16.60	46.73	0.00	0.000	0.000
10/31/2014	2.26	19.52	8.63		16.67	47.34	0.00	0.000	0.000
11/30/2014	2.27	18.89	8.30		16.74	47.90	0.00	0.000	0.000
12/31/2014	2.35	18.70	7.96		16.81	48.48	0.00	0.000	0.000
1/31/2015	2.14	17.09	8.00		16.88	49.01	0.00	0.000	0.000
2/28/2015	2.06	10.87	5.28		16.94	49.32	0.00	0.000	0.000
3/31/2015	1.94	9.63	4.97		17.00	49.62	0.00	0.000	0.000
4/30/2015	1.78	6.83	3.83		17.05	49.82	0.00	0.000	0.000
5/31/2015	1.84	5.69	3.10		17.11	50.00	0.00	0.000	0.000
6/30/2015	2.07	4.86	2.35		17.17	50.14	0.00	0.000	0.000
7/31/2015	1.94	3.75	1.94		17.23	50.26	0.00	0.000	0.000
8/31/2015	1.85	2.65	1.43		17.29	50.34	0.00	0.000	0.000
9/30/2015	2.06	2.23	1.08		17.35	50.41	0.00	0.000	0.000
10/31/2015	1.74	1.70	0.98		17.40	50.46	0.00	0.000	0.000
11/30/2015	0.87	0.86	0.99		17.43	50.49	0.00	0.000	0.000
12/31/2015	0.85	5.83	6.82	7.06	17.45	50.67	0.22	1.047	0.003
1/31/2016	2.62	13.50	5.15	19.06	17.54	51.09	0.81	1.170	0.012
2/29/2016	3.47	17.10	4.93	19.72	17.64	51.58	1.38	0.948	0.020
3/31/2016	3.81	16.86	4.43	18.77	17.75	52.11	1.96	0.897	0.028
4/30/2016	3.03	17.02	5.62	19.63	17.84	52.62	2.55	0.969	0.036
5/31/2016	2.84	16.78	5.92	19.87	17.93	53.14	3.17	1.003	0.044
6/30/2016	2.69	16.20	6.03	24.13	18.01	53.62	3.89	1.265	0.053
7/31/2016	2.55	15.95	6.25	26.35	18.09	54.12	4.71	1.411	0.064
8/31/2016	2.37	15.33	6.46	30.00	18.17	54.59	5.64	1.679	0.076
9/30/2016	2.23	14.90	6.69	29.07	18.23	55.04	6.51	1.682	0.087
10/31/2016	2.05	14.34	6.98	22.03	18.30	55.48	7.20	1.332	0.096
11/30/2016	2.37	14.84	6.28	18.83	18.37	55.93	7.76	1.084	0.103
12/31/2016	2.15	13.59	6.32	24.87	18.43	56.35	8.53	1.566	0.112
1/31/2017	1.96	13.50	6.90	29.87	18.49	56.77	9.46	1.915	0.124
2/28/2017	1.89	13.06	6.92	27.89	18.55	57.13	10.24	1.850	0.133
3/31/2017	1.89	12.45	6.59	23.19	18.61	57.52	10.96	1.603	0.142
4/30/2017	1.25	11.39	9.10	18.90	18.64	57.86	11.52	1.485	0.148
5/31/2017	0.60	10.21	16.92	17.29	18.66	58.18	12.06	1.593	0.154
6/30/2017	1.24	7.59	6.12	13.23	18.70	58.41	12.46	1.484	0.159
7/31/2017	1.17	6.24	5.33	12.90	18.74	58.60	12.86	1.723	0.164
8/31/2017	1.08	4.53	4.18	12.00	18.77	58.74	13.23	2.108	0.168

Date	Oil Rate (CD) m3/d	Water Rate (CD) m3/d	Water Oil Ratio m3/m3	Water Inj Rate (CD) m3/d	Cum Oil Prod Km3	Cum Water Prod Km3	Cum Water Inj Km3	VRR	Cum VRR
9/30/2017	0.98	4.59	4.70	8.73	18.80	58.88	13.49	1.549	0.171
10/31/2017	0.83	3.93	4.72		18.82	59.00	13.49	0.000	0.170
11/30/2017	0.33	1.46	4.48		18.83	59.04	13.49	0.000	0.170
12/31/2017	0.69	6.22	9.03	7.74	18.86	59.24	13.73	1.113	0.173