

KOLA UNIT NO. 1
WATERFLOOD EOR PROJECT
ANNUAL REPORT FOR 2013

March 14, 2014

Tundra Oil and Gas Partnership

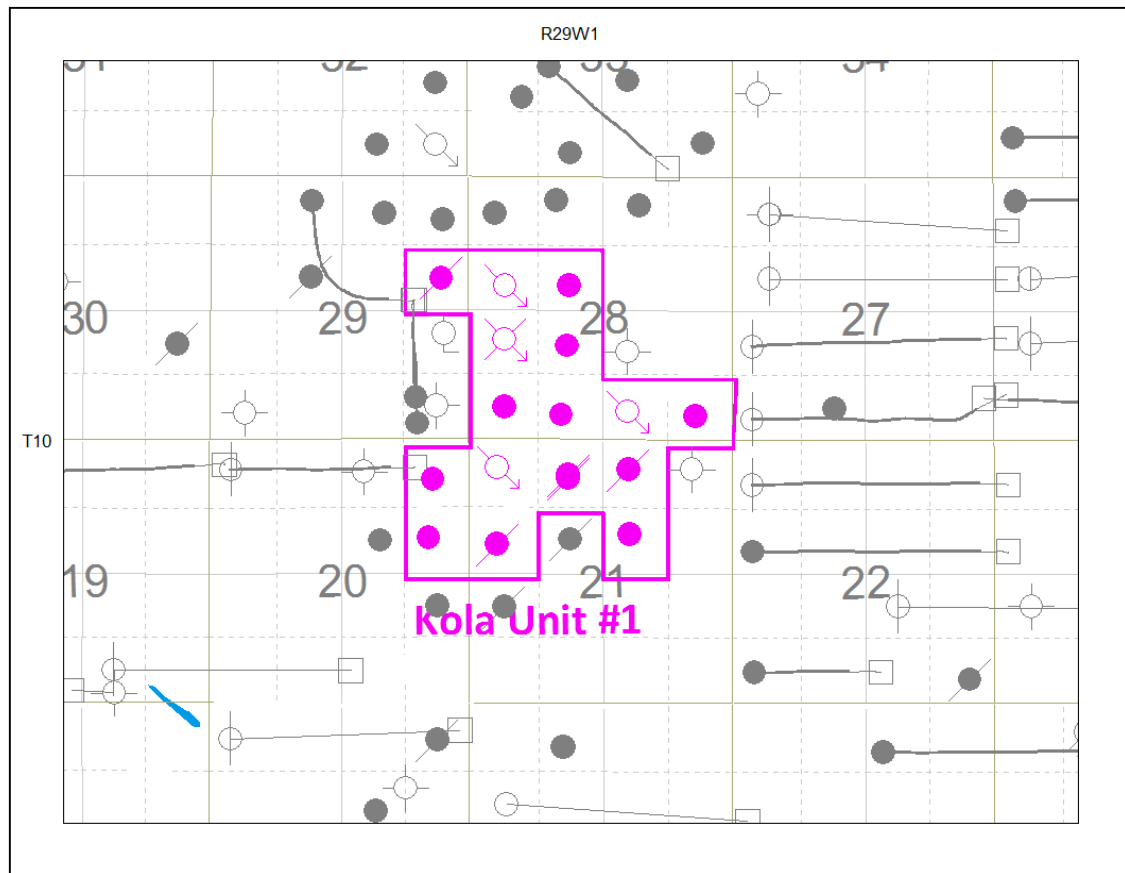
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INTRODUCTION

Kola Unit No. 1 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Board Order No. PM 71 effective October 1, 1993 with Tundra Oil and Gas Ltd. as Operator. In May 1995, Board Order No. PM 71 was replaced by Waterflood Order No. 2. The EOR project area contains 16 wells in 16 LSDs in Township 10, Range 29 W1 as shown in the figure below. Well list and well status is available in Appendix A.

Figure 1: Kola Unit No. 1 Area Outline



In accordance with Section 73 of the Manitoba Drilling and Production Regulation, Tundra hereby submits the 2013 Annual Progress Report for Kola Unit No. 1 as required by Board Order No. PM 71.

DISCUSSION

Production History

For the wells included in Kola Unit No. 1, production started in October 1985 with 00/13-21-010-29W1/0 well (00/13-21). Oil production peaked at 41.5 m³/d in February 1988. The unit was producing 4.94 m³/d of oil and 27.35 m³/d of water in December 2013. The average WOR in 2013 was 6.8 m³/m³. Oil production rate, injection rate, and

WOR during each month for each injection pattern and for whole project are presented in Appendix D. The rates and WOR are plotted in Figure 2.

Figure 2: Kola Unit No. 1 Production/Injection Rates and WOR vs Time

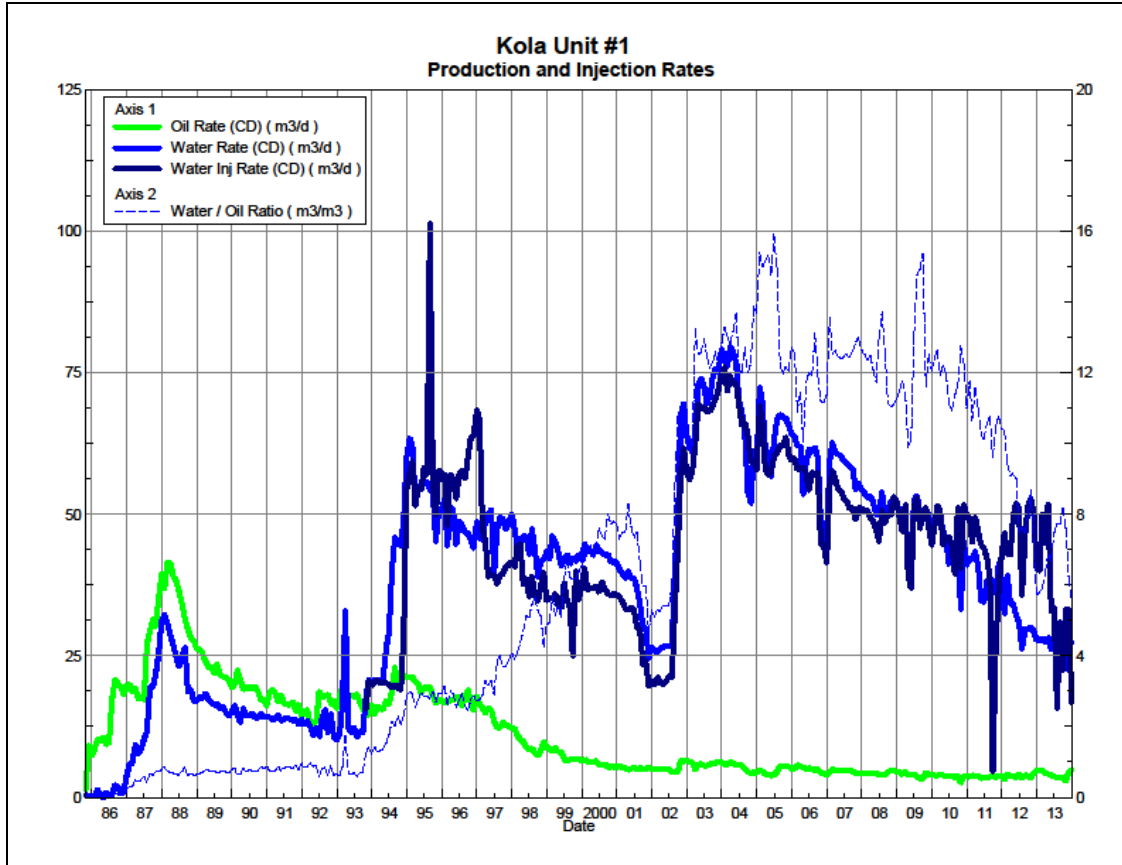
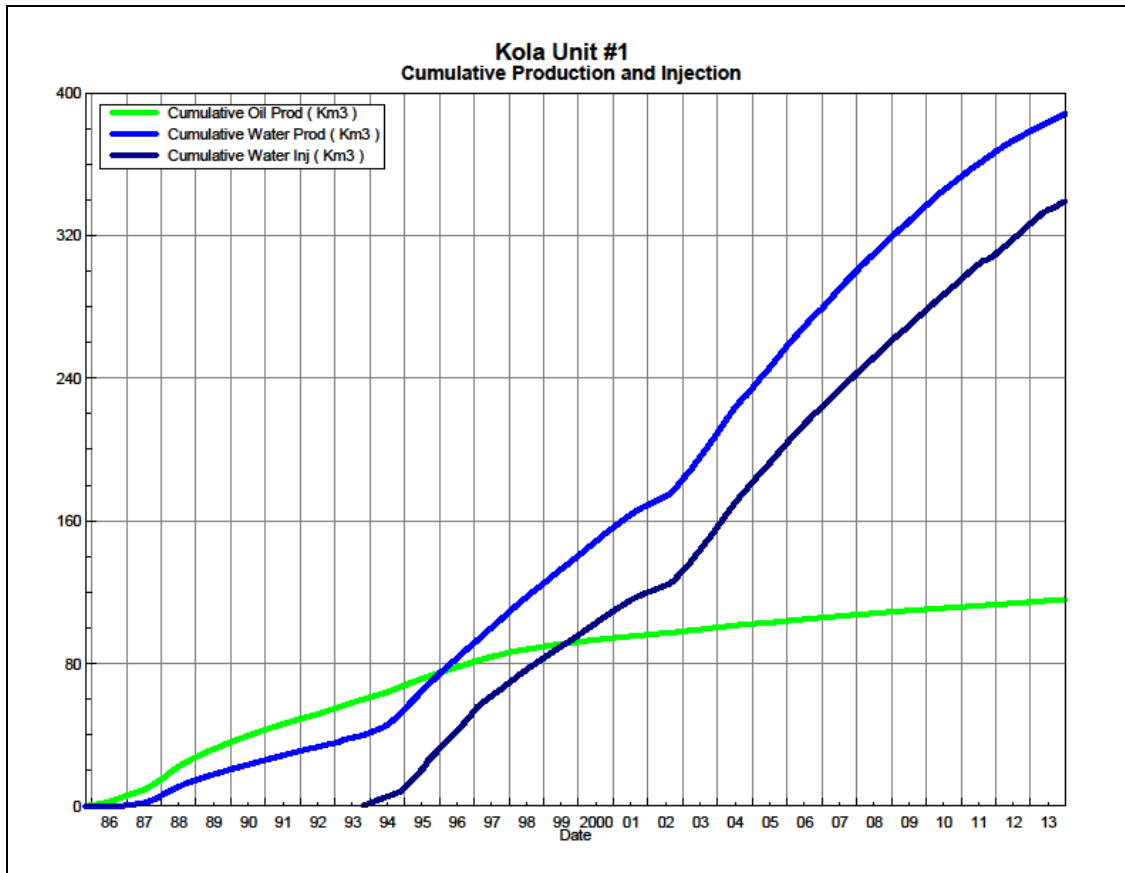


Figure 3 shows the cumulative production for Kola Unit No. 1 to the end of December 2013 as 116 E³m³ of oil, and 388 E³m³ of water. Cumulative water injected is just over 339 E³m³. The cumulative volume of oil, and water produced and fluid injected for each injection pattern and for the whole project for each injection well is presented in Appendix D.

Figure 3: Kola Unit No. 1 Cumulative Oil, Water and Water Injected vs. Time



Waterflood History

As of December 2013 the Unit has 3 active vertical injectors and 3 injector patterns in place. Water injection started in October 1993. An overall summary for each injector pattern is presented in Appendix B.

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

Injected fluid consisted of produced water from the Lodgepole formation, from the unit and surrounding area until November 2013. Injection water for Kola Unit No. 1 is now being provided from the Jurassic source water well at 100/02-25-010-29W1 (2-25). Tundra received approval from the Petroleum Branch in March 2013 to use the 2-25 well as a source water well for waterflood operations. Jurassic-sourced water is pumped from

the 2-25 source well to the Daly 12-24-10-29 battery, where it is filtered to 50 microns and then pumped up to injection system pressure.

Injection Wellhead Pressures

The average monthly wellhead injection pressures for each injection well are summarized in Appendix C, and shows all injection pressures since 2003. The injection pressure in December 2013 for 00/12-28-010-29-010-29W1 was 6040 kPag, 2669 kPag for injector 00/13-21-010-39W and 4734 kPag for 00/02-28-010-29W1.

Reservoir Pressure

No reservoir pressure measurements were taken at Kola Unit No. 1 in 2013.

Well Servicing

No maintenance was required on the 16 wells in Kola Unit No. 1 in 2013.

Voidage Replacement

Cumulative voidage for the Kola Unit No. 1 was 0.665 in December 2013. Since 2010, the monthly voidage has been greater than 1, which puts the Kola Unit No. 1 on track to achieve a cumulative VRR of 1. Calculation, plots and tables of the Voidage replacement ratio on a monthly and cumulative basis for each injection pattern and for the project area are presented in Appendix D.

Waterflood Performance Discussion

The OOIP for Kola Unit No. 1 is estimated at 1547 E³m³. The recovery factor for Kola Unit No. 1 was 7.5% based on 116 E³m³ of cumulative oil recovered to the end of 2013. The ultimate expected recoverable reserve based on decline analysis is 127 E³m³ or an ultimate recovery factor of 8.2%.

The overall performance of this waterflood has been poor as indicated by low recovery factors, and poor waterflood response. Any increased or supported oil rates, that may be as a result of injected water sweeping the reservoir, are not sustained for a very long time.

Trends in production are very stable and at a mature state. No changes are anticipated in the future trends. While overall cumulative voidage is above unity, an examination of the individual patterns reveals that injected water should be diverted from the 12-28 pattern to the 13-21 and 7-28 patterns, which are under-injected. There is the possibility of an additional injector well to improve sweep efficiency in an area of the reservoir with no waterflood response, and even additional development is possible.

Optimization of the waterflood will be evaluated to inject water in under-supported areas of the pool, with consideration for additional injection. Also, facility enhancements in the area may increase water handling capacity so that sufficient water volumes can be provided to the pool.

List of Appendices

Appendix A: Well Name and Well Status

Appendix B: Monthly Injection Wellhead Pressures Table and Plots

Appendix C: Kola Unit No. 1 Injection Pattern Summary

Appendix D: Injector Pattern Production/Injection Rates, Cumulative and VRRs

Plots and Tables for the following injectors:

00/13-21-010-29W1

00/02-28-010-29W1

00/12-28-010-29W1

Appendix A

UWI	Well Status
100/09-20-010-29W1/00	Capable of OIL Prod
100/16-20-010-29W1/00	Capable of OIL Prod
100/10-21-010-29W1/00	Capable of OIL Prod
100/12-21-010-29W1/00	ABD Producer
100/13-21-010-29W1/00	WTR Injection
100/14-21-010-29W1/00	ABD Producer
100/14-21-010-29W1/02	ABD Producer
100/15-21-010-29W1/00	ABD Producer
100/01-28-010-29W1/00	Capable of OIL Prod
100/02-28-010-29W1/00	WTR Injection
100/03-28-010-29W1/00	Capable of OIL Prod
100/04-28-010-29W1/00	Capable of OIL Prod
100/05-28-010-29W1/00	ABD WTR Injection
100/06-28-010-29W1/00	Capable of OIL Prod
100/11-28-010-29W1/00	Capable of OIL Prod
100/12-28-010-29W1/00	WTR Injection
100/09-29-010-29W1/00	ABD Producer

Appendix B

Kola Unit No. 1 Pattern Summary as of December 2013[illegible]

Appendix C

Average Monthly Injection Pressure (kPag)

Month	Injection Pressure			
	100/13-21	100/02-28	100/05-28	100/12-28
Aug-02	5996	5773	234	2178
Sep-02	10934	7810	426	5108
Oct-02	10934	7810	3013	5600
Nov-02	10934	7810	4071	5600
Dec-02	10934	7810	4071	5600
Jan-03	10366	8490	2919	6206
Feb-03	9905	9697	2840	6147
Mar-03	9745	9752	2840	6096
Apr-03	9735	9062	3053	6107
May-03	10355	8706	3550	6036
Jun-03	10366	8520	3550	6035
Jul-03	10366	8520	3550	6035
Aug-03	10366	8520	3550	6035
Sep-03	10345	8921	3268	6019
Oct-03	10274	10240	2138	5965
Nov-03	10274	10240	2138	5965
Dec-03	10274	10240	2138	5965
Jan-04	10274	10240	2138	5965
Feb-04	10274	10240	2138	5965
Mar-04	10274	10240	2138	5965
Apr-04	10274	10240	2138	5965
May-04	10274	10240	2138	5965
Jun-04	10274	10240	2138	5965
Jul-04	10274	10240	2138	5965
Aug-04	10274	10240	2138	5965
Sep-04	10274	10957	3430	6304
Oct-04	10040	11100	3377	6340
Nov-04	10200	11100	3600	6600
Dec-04	10200	11100	3600	6600
Jan-05	10200	11100	3600	6600
Feb-05	10386	11100	3229	6600
Mar-05	10600	11100	2800	6600
Apr-05	10600	11100	2800	6600
May-05	10600	11100	2800	6600
Jun-05	10013	11103	3040	6573
Jul-05	9052	10986	3300	7262
Aug-05	9781	10835	2700	6232
Sep-05	9920	11033	2813	6067
Oct-05	9800	11200	3700	6400
Nov-05	9920	11100	3620	6410
Dec-05	11000	10200	2900	6500

Month	Injection Pressure			
	100/13-21	100/02-28	100/05-28	100/12-28
Jan-06	11035	10200	2829	6500
Feb-06	10896	10534	2682	6538
Mar-06	10600	11148	2650	6416
Apr-06	10777	9910	2682	6322
May-06	10884	10540	3152	6342
Jun-06	10840	10733	1133	6382
Jul-06	10794	10890	1	6581
Aug-06	10778	10834	404	6479
Sep-06	10801	10750	2850	6520
Oct-06	10801	2416	3000	6578
Nov-06	10867	2280	100	6601
Dec-06	10900	1626	0	6745
Jan-07	9689	5105	1078	6821
Feb-07	10370	9443	0	6731
Mar-07	10452	9923	0	6323
Apr-07	10410	10350	1	6247
May-07	10500	10300	1	6201
Jun-07	10500	10300	1	6201
Jul-07	9871	10523	1	6307
Aug-07	9000	10601	1	6300
Sep-07	9580	10600	-	6397
Oct-07	9600	10600	-	6400
Nov-07	8940	10820	-	6401
Dec-07	8832	11103	-	6503
Jan-08	8300	11200	-	6600
Feb-08	8345	11111	-	6455
Mar-08	8400	11000	-	5803
Apr-08	7960	11107	-	6527
May-08	7990	11190	-	6790
Jun-08	8000	11200	-	6800
Jul-08	8645	11265	-	6800
Aug-08	8710	11087	-	6539
Sep-08	7560	10967	-	4247
Oct-08	7700	11200	-	4000
Nov-08	7967	11300	-	4680
Dec-08	8200	11400	-	5200
Jan-09	8200	11400	-	5200
Feb-09	8200	11400	-	5200
Mar-09	8200	11516	-	5200
Apr-09	8200	11800	-	5200
May-09	8200	11800	-	5362
Jun-09	8187	10254	-	5410
Jul-09	7801	10401	-	5701
Aug-09	7800	6391	-	5700
Sep-09	7800	6200	-	5700
Oct-09	8003	9171	-	5826
Nov-09	8410	11633	-	6274
Dec-09	50	11717	-	6301

Month	Injection Pressure			
	100/13-21	100/02-28	100/05-28	100/12-28
Jan-10	6296	11490	-	6239
Feb-10	9941	11079	-	6161
Mar-10	8703	11397	-	6315
Apr-10	5060	11479	-	6357
May-10	2483	11232	-	6397
Jun-10	6230	11182	-	6040
Jul-10	6800	10052	-	5787
Aug-10	7107	9611	-	5666
Sep-10	8860	8510	-	5754
Oct-10	8242	8978	-	5727
Nov-10	8897	8954	-	5704
Dec-10	8977	9239	-	5800
Jan-11	7493	8234	-	5789
Feb-11	8257	7477	-	5784
Mar-11	8963	6076	-	5869
Apr-11	9000	6000	-	5900
May-11	7627	3517	-	5816
Jun-11	7943	4107	-	5767
Jul-11	8387	4806	-	5806
Aug-11	8200	4900	-	5981
Sep-11	6578	3467	-	-
Oct-11	7619	3465	-	5213
Nov-11	8000	3600	-	5800
Dec-11	8000	3600	-	5800
Jan-12	7871	3729	-	5929
Feb-12	7800	3800	-	6000
Mar-12	7800	3800	-	6000
Apr-12	7800	3800	-	6000
May-12	7800	3800	-	6000
Jun-12	7800	3800	-	6000
Jul-12	7800	3800	-	6000
Aug-12	7577	3694	-	5835
Sep-12	900	500	-	900
Oct-12	900	500	-	900
Nov-12	900	500	-	900
Dec-12	900	500	-	900
Jan-13	900	500	-	900
Feb-13	900	500	-	900
Mar-13	900	500	-	900
Apr-13	900	500	-	900
May-13	900	500	-	900
Jun-13	390	2257	-	4130
Jul-13	0	3600	-	6600
Aug-13	0	3600	-	6600
Sep-13	0	3600	-	6600
Oct-13	0	3600	-	6600
Nov-13	0	3600	-	6600
Dec-13	2669	4734	-	6040

Appendix D
Rates and VRR
Plots and Tables

Oil Formation Vol Factor : 1.05000 m3/m3

Water Formation Vol Factor : 1.00000 m3/m3

Water / Oil Ratio : 3.41 m3/m3

Pattern: 00/13-21-010-29Inj Set: KolaUnit#1

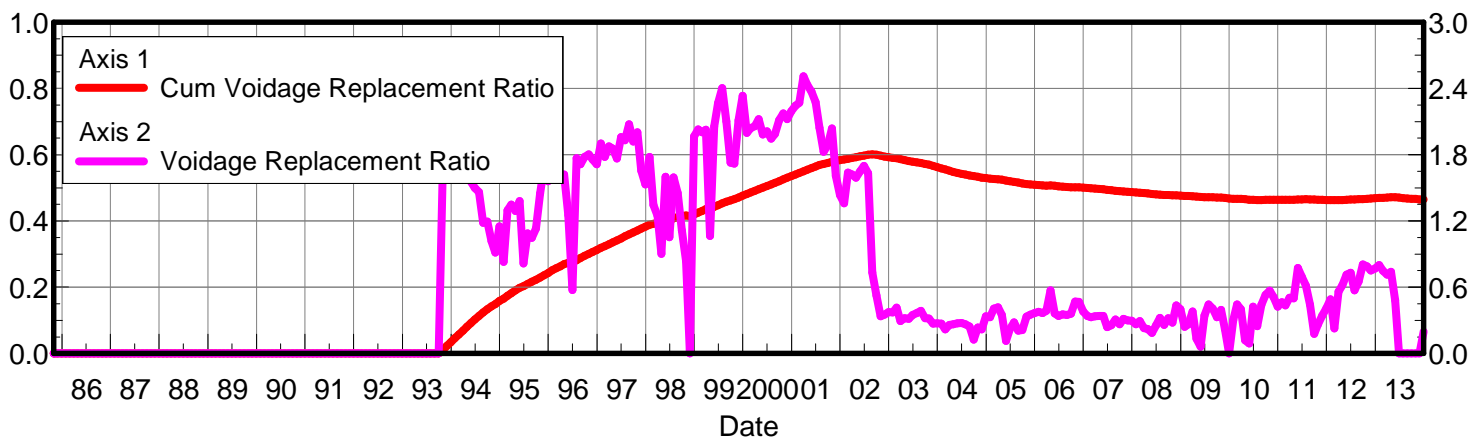
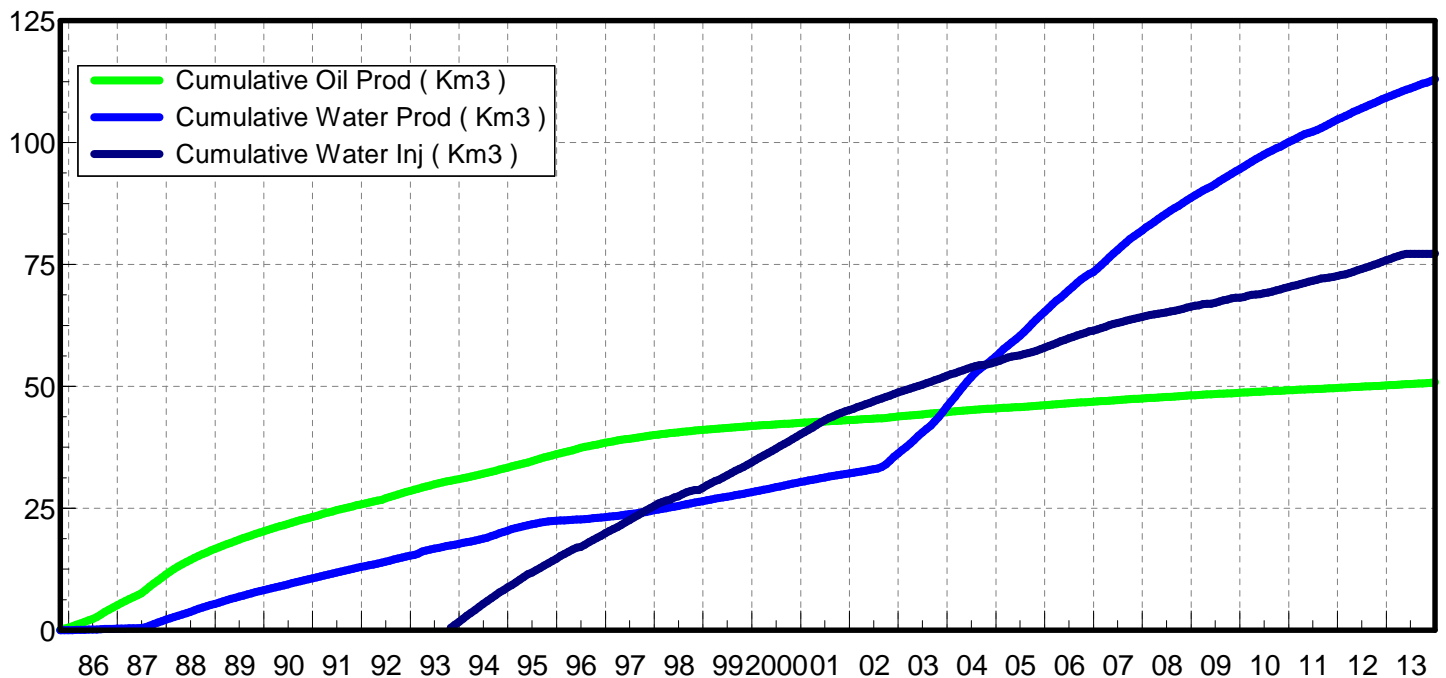
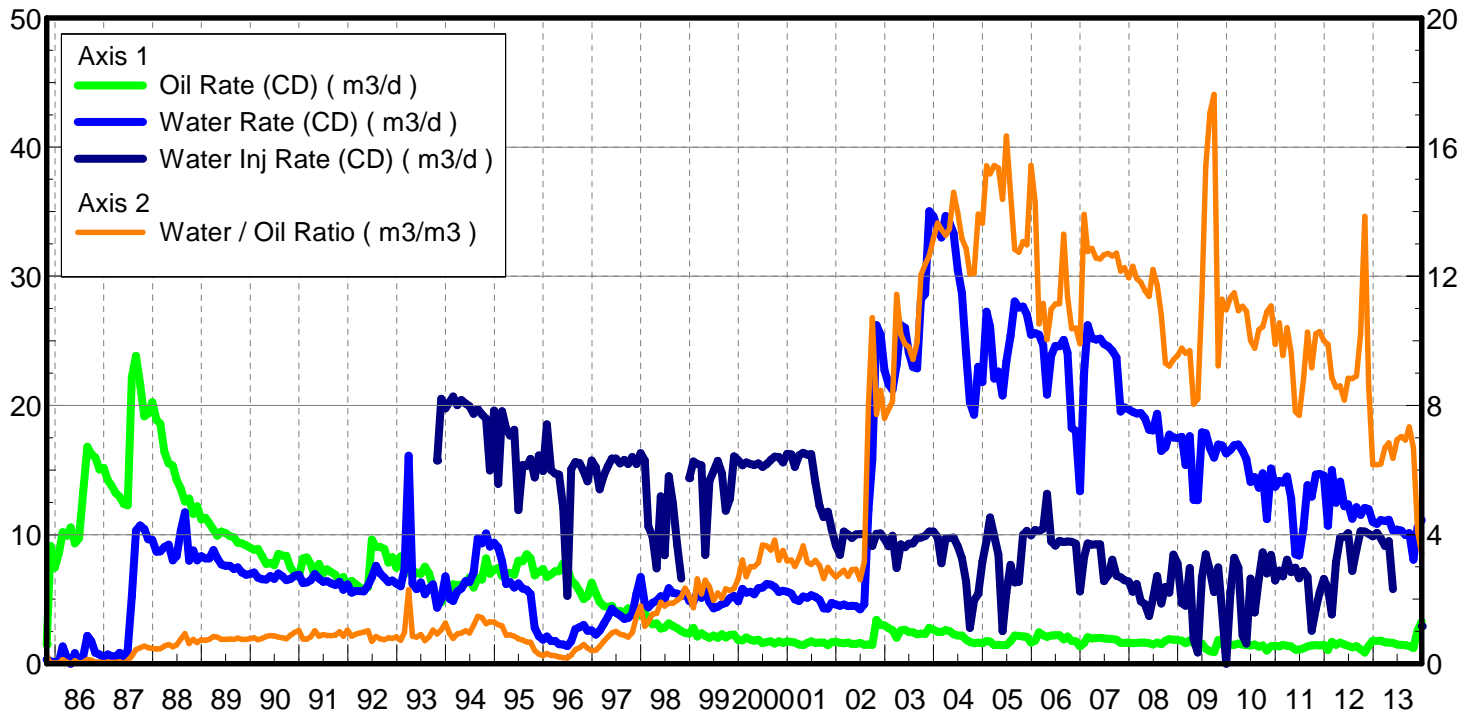
February 28, 2014

Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 3.27 m3/d

Water Rate (CD) : 11.14 m3/d

Water Inj Rate (CD) : 2.90 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	Voidage Replacement Ratio	Cum Voidage Replacemnt Ratio
10/31/1985	1.49	0.32	0.22		0.05	0.01	0.00	0.000	0.000
11/30/1985	9.11	0.17	0.02		0.32	0.02	0.00	0.000	0.000
12/31/1985	7.43	0.12	0.02		0.55	0.02	0.00	0.000	0.000
1/31/1986	8.55	0.15	0.02		0.81	0.02	0.00	0.000	0.000
2/28/1986	10.19	1.34	0.13		1.10	0.06	0.00	0.000	0.000
3/31/1986	9.92	0.49	0.05		1.41	0.08	0.00	0.000	0.000
4/30/1986	10.56	0.00	0.00		1.72	0.08	0.00	0.000	0.000
5/31/1986	9.32	0.83	0.09		2.01	0.10	0.00	0.000	0.000
6/30/1986	9.71	0.18	0.02		2.30	0.11	0.00	0.000	0.000
7/31/1986	13.31	0.55	0.04		2.72	0.12	0.00	0.000	0.000
8/31/1986	16.81	2.16	0.13		3.24	0.19	0.00	0.000	0.000
9/30/1986	16.27	1.77	0.11		3.73	0.24	0.00	0.000	0.000
10/31/1986	15.95	0.85	0.05		4.22	0.27	0.00	0.000	0.000
11/30/1986	15.05	0.73	0.05		4.67	0.29	0.00	0.000	0.000
12/31/1986	15.17	0.47	0.03		5.14	0.31	0.00	0.000	0.000
1/31/1987	14.20	0.72	0.05		5.58	0.33	0.00	0.000	0.000
2/28/1987	13.84	0.60	0.04		5.97	0.35	0.00	0.000	0.000
3/31/1987	13.24	0.56	0.04		6.38	0.36	0.00	0.000	0.000
4/30/1987	12.95	0.85	0.07		6.77	0.39	0.00	0.000	0.000
5/31/1987	12.37	0.19	0.02		7.15	0.40	0.00	0.000	0.000
6/30/1987	12.27	1.06	0.09		7.52	0.43	0.00	0.000	0.000
7/31/1987	22.18	5.20	0.23		8.21	0.59	0.00	0.000	0.000
8/31/1987	23.85	10.32	0.43		8.95	0.91	0.00	0.000	0.000
9/30/1987	21.60	10.72	0.50		9.60	1.23	0.00	0.000	0.000
10/31/1987	19.15	10.44	0.55		10.19	1.55	0.00	0.000	0.000
11/30/1987	19.36	9.65	0.50		10.77	1.84	0.00	0.000	0.000
12/31/1987	20.24	9.60	0.47		11.40	2.14	0.00	0.000	0.000
1/31/1988	18.89	8.68	0.46		11.98	2.41	0.00	0.000	0.000
2/29/1988	18.59	8.69	0.47		12.52	2.66	0.00	0.000	0.000
3/31/1988	16.39	9.04	0.55		13.03	2.94	0.00	0.000	0.000
4/30/1988	15.52	9.23	0.59		13.50	3.22	0.00	0.000	0.000
5/31/1988	15.33	8.02	0.52		13.97	3.47	0.00	0.000	0.000
6/30/1988	14.23	8.32	0.58		14.40	3.72	0.00	0.000	0.000
7/31/1988	13.56	10.30	0.76		14.82	4.04	0.00	0.000	0.000
8/31/1988	12.57	11.71	0.93		15.21	4.40	0.00	0.000	0.000
9/30/1988	12.78	7.98	0.62		15.59	4.64	0.00	0.000	0.000
10/31/1988	11.60	8.77	0.76		15.95	4.91	0.00	0.000	0.000
11/30/1988	12.20	8.01	0.66		16.32	5.15	0.00	0.000	0.000
12/31/1988	11.17	8.33	0.75		16.66	5.41	0.00	0.000	0.000
1/31/1989	11.30	8.15	0.72		17.01	5.66	0.00	0.000	0.000
2/28/1989	10.87	8.15	0.75		17.32	5.89	0.00	0.000	0.000
3/31/1989	10.38	8.80	0.85		17.64	6.16	0.00	0.000	0.000
4/30/1989	9.91	8.18	0.83		17.94	6.41	0.00	0.000	0.000
5/31/1989	10.24	7.68	0.75		18.25	6.65	0.00	0.000	0.000
6/30/1989	10.10	7.59	0.75		18.56	6.87	0.00	0.000	0.000
7/31/1989	9.89	7.58	0.77		18.86	7.11	0.00	0.000	0.000
8/31/1989	9.78	7.35	0.75		19.17	7.34	0.00	0.000	0.000
9/30/1989	9.37	7.46	0.80		19.45	7.56	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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
10/31/1989	9.33	7.06	0.76		19.74	7.78	0.00	0.000	0.000
11/30/1989	9.18	6.88	0.75		20.01	7.99	0.00	0.000	0.000
12/31/1989	9.01	6.93	0.77		20.29	8.20	0.00	0.000	0.000
1/31/1990	8.82	7.07	0.80		20.57	8.42	0.00	0.000	0.000
2/28/1990	8.90	6.67	0.75		20.82	8.61	0.00	0.000	0.000
3/31/1990	8.34	6.55	0.79		21.07	8.81	0.00	0.000	0.000
4/30/1990	7.72	6.51	0.84		21.31	9.01	0.00	0.000	0.000
5/31/1990	7.80	6.79	0.87		21.55	9.22	0.00	0.000	0.000
6/30/1990	7.63	6.58	0.86		21.78	9.41	0.00	0.000	0.000
7/31/1990	8.51	7.00	0.82		22.04	9.63	0.00	0.000	0.000
8/31/1990	8.37	6.77	0.81		22.30	9.84	0.00	0.000	0.000
9/30/1990	8.36	6.46	0.77		22.55	10.03	0.00	0.000	0.000
10/31/1990	7.43	6.57	0.88		22.78	10.24	0.00	0.000	0.000
11/30/1990	7.01	6.81	0.97		22.99	10.44	0.00	0.000	0.000
12/31/1990	6.71	6.90	1.03		23.20	10.66	0.00	0.000	0.000
1/31/1991	8.16	6.25	0.77		23.45	10.85	0.00	0.000	0.000
2/28/1991	8.22	6.30	0.77		23.68	11.03	0.00	0.000	0.000
3/31/1991	7.71	6.46	0.84		23.92	11.23	0.00	0.000	0.000
4/30/1991	6.78	6.93	1.02		24.13	11.43	0.00	0.000	0.000
5/31/1991	7.73	6.60	0.85		24.36	11.64	0.00	0.000	0.000
6/30/1991	6.99	6.35	0.91		24.57	11.83	0.00	0.000	0.000
7/31/1991	7.32	6.41	0.88		24.80	12.03	0.00	0.000	0.000
8/31/1991	7.08	6.22	0.88		25.02	12.22	0.00	0.000	0.000
9/30/1991	6.89	6.10	0.89		25.23	12.40	0.00	0.000	0.000
10/31/1991	6.37	6.34	1.00		25.43	12.60	0.00	0.000	0.000
11/30/1991	6.72	5.73	0.85		25.63	12.77	0.00	0.000	0.000
12/31/1991	5.90	6.15	1.04		25.81	12.96	0.00	0.000	0.000
1/31/1992	6.42	5.51	0.86		26.01	13.13	0.00	0.000	0.000
2/29/1992	6.18	5.63	0.91		26.19	13.30	0.00	0.000	0.000
3/31/1992	5.92	5.62	0.95		26.37	13.47	0.00	0.000	0.000
4/30/1992	5.72	5.61	0.98		26.54	13.64	0.00	0.000	0.000
5/31/1992	5.93	6.05	1.02		26.73	13.83	0.00	0.000	0.000
6/30/1992	9.61	6.70	0.70		27.01	14.03	0.00	0.000	0.000
7/31/1992	9.04	7.59	0.84		27.30	14.26	0.00	0.000	0.000
8/31/1992	9.05	7.00	0.77		27.58	14.48	0.00	0.000	0.000
9/30/1992	8.91	6.66	0.75		27.84	14.68	0.00	0.000	0.000
10/31/1992	7.84	6.33	0.81		28.09	14.88	0.00	0.000	0.000
11/30/1992	8.25	6.45	0.78		28.33	15.07	0.00	0.000	0.000
12/31/1992	7.44	6.20	0.83		28.56	15.26	0.00	0.000	0.000
1/31/1993	8.31	6.01	0.72		28.82	15.45	0.00	0.000	0.000
2/28/1993	7.51	7.30	0.97		29.03	15.65	0.00	0.000	0.000
3/31/1993	7.04	16.10	2.29		29.25	16.15	0.00	0.000	0.000
4/30/1993	7.27	6.21	0.85		29.47	16.34	0.00	0.000	0.000
5/31/1993	7.01	5.79	0.83		29.69	16.52	0.00	0.000	0.000
6/30/1993	6.95	6.29	0.90		29.89	16.71	0.00	0.000	0.000
7/31/1993	7.52	5.38	0.72		30.13	16.87	0.00	0.000	0.000
8/31/1993	6.99	5.85	0.84		30.34	17.06	0.00	0.000	0.000
9/30/1993	5.92	6.16	1.04		30.52	17.24	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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
10/31/1993	4.73	4.35	0.92	15.74	30.67	17.37	0.49	1.690	0.010
11/30/1993	4.76	5.01	1.05	20.52	30.81	17.52	1.10	2.050	0.022
12/31/1993	5.35	6.77	1.26	19.78	30.98	17.73	1.72	1.597	0.034
1/31/1994	5.38	5.03	0.94	20.28	31.14	17.89	2.35	1.897	0.046
2/28/1994	6.15	4.86	0.79	20.69	31.32	18.03	2.92	1.829	0.057
3/31/1994	6.10	5.61	0.92	20.01	31.51	18.20	3.54	1.667	0.069
4/30/1994	6.12	5.83	0.95	20.41	31.69	18.38	4.16	1.665	0.080
5/31/1994	6.24	6.40	1.03	20.14	31.88	18.57	4.78	1.554	0.092
6/30/1994	6.66	6.32	0.95	19.96	32.08	18.76	5.38	1.499	0.103
7/31/1994	5.89	7.04	1.20	19.35	32.26	18.98	5.98	1.463	0.113
8/31/1994	6.63	9.72	1.47	19.73	32.47	19.28	6.59	1.183	0.123
9/30/1994	6.51	9.32	1.43	19.30	32.67	19.56	7.17	1.195	0.133
10/31/1994	8.15	10.08	1.24	18.99	32.92	19.88	7.76	1.019	0.143
11/30/1994	6.96	9.06	1.30	14.97	33.13	20.15	8.21	0.915	0.149
12/31/1994	7.29	9.37	1.29	19.60	33.35	20.44	8.82	1.151	0.159
1/31/1995	7.42	8.99	1.21	13.93	33.58	20.72	9.25	0.830	0.165
2/28/1995	6.79	7.94	1.17	19.55	33.77	20.94	9.80	1.297	0.174
3/31/1995	6.97	6.16	0.88	18.18	33.99	21.13	10.36	1.348	0.182
4/30/1995	7.03	6.32	0.90	17.68	34.20	21.32	10.89	1.290	0.190
5/31/1995	6.88	5.90	0.86	18.12	34.41	21.50	11.45	1.380	0.199
6/30/1995	7.99	6.22	0.78	11.89	34.65	21.69	11.81	0.814	0.203
7/31/1995	7.94	5.83	0.73	15.39	34.90	21.87	12.28	1.086	0.210
8/31/1995	8.48	5.72	0.67	15.31	35.16	22.05	12.76	1.047	0.216
9/30/1995	8.18	5.41	0.66	15.85	35.41	22.21	13.23	1.132	0.223
10/31/1995	6.84	2.78	0.41	14.42	35.62	22.30	13.68	1.448	0.229
11/30/1995	7.11	2.13	0.30	16.12	35.83	22.36	14.17	1.680	0.236
12/31/1995	7.34	1.86	0.25	14.91	36.06	22.42	14.63	1.559	0.243
1/31/1996	6.73	2.11	0.31	18.54	36.27	22.48	15.20	2.020	0.251
2/29/1996	6.92	1.77	0.26	15.00	36.47	22.53	15.64	1.659	0.257
3/31/1996	7.17	1.76	0.25	14.73	36.69	22.59	16.09	1.586	0.263
4/30/1996	7.16	1.52	0.21	14.65	36.91	22.63	16.53	1.620	0.269
5/31/1996	7.75	1.48	0.19	12.06	37.15	22.68	16.91	1.253	0.274
6/30/1996	7.42	1.37	0.18	5.25	37.37	22.72	17.06	0.574	0.275
7/31/1996	6.47	1.73	0.27	15.08	37.57	22.77	17.53	1.769	0.282
8/31/1996	6.14	2.67	0.43	15.61	37.76	22.86	18.02	1.712	0.288
9/30/1996	5.63	2.82	0.50	15.54	37.93	22.94	18.48	1.780	0.294
10/31/1996	5.01	3.00	0.60	14.89	38.08	23.03	18.94	1.802	0.301
11/30/1996	5.22	2.56	0.49	14.12	38.24	23.11	19.37	1.756	0.306
12/31/1996	6.28	2.58	0.41	15.73	38.44	23.19	19.86	1.714	0.312
1/31/1997	5.46	2.26	0.41	15.22	38.61	23.26	20.33	1.902	0.319
2/28/1997	4.79	2.56	0.53	13.52	38.74	23.33	20.71	1.780	0.323
3/31/1997	4.47	3.09	0.69	14.59	38.88	23.43	21.16	1.875	0.329
4/30/1997	4.39	3.65	0.83	15.32	39.01	23.54	21.62	1.854	0.335
5/31/1997	4.50	4.27	0.95	15.88	39.15	23.67	22.11	1.765	0.341
6/30/1997	3.95	3.95	1.00	15.88	39.27	23.79	22.59	1.961	0.347
7/31/1997	4.08	3.74	0.92	15.51	39.39	23.91	23.07	1.932	0.353
8/31/1997	3.93	3.48	0.88	15.78	39.52	24.01	23.56	2.076	0.360
9/30/1997	4.30	3.55	0.83	15.47	39.65	24.12	24.02	1.920	0.365

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
10/31/1997	3.96	3.83	0.97	16.01	39.77	24.24	24.52	2.003	0.371
11/30/1997	3.72	5.43	1.46	15.46	39.88	24.40	24.98	1.656	0.377
12/31/1997	3.76	6.71	1.79	16.30	40.00	24.61	25.49	1.530	0.383
1/31/1998	3.99	4.65	1.16	15.74	40.12	24.75	25.97	1.780	0.388
2/28/1998	3.37	4.36	1.30	10.63	40.21	24.88	26.27	1.346	0.392
3/31/1998	3.05	4.71	1.54	9.86	40.31	25.02	26.58	1.247	0.395
4/30/1998	3.14	4.89	1.56	7.38	40.40	25.17	26.80	0.902	0.396
5/31/1998	2.74	5.23	1.91	12.97	40.49	25.33	27.20	1.601	0.401
6/30/1998	2.81	5.02	1.79	8.39	40.57	25.48	27.45	1.053	0.403
7/31/1998	3.11	5.84	1.88	14.53	40.67	25.66	27.90	1.595	0.408
8/31/1998	2.92	5.47	1.87	12.40	40.76	25.83	28.29	1.452	0.412
9/30/1998	2.75	5.42	1.97	9.25	40.84	25.99	28.56	1.112	0.415
10/31/1998	2.53	5.22	2.06	6.60	40.92	26.16	28.77	0.838	0.416
11/30/1998	2.39	5.60	2.34		40.99	26.32	28.77	0.000	0.415
12/31/1998	2.33	4.87	2.09	14.38	41.06	26.48	29.21	1.966	0.420
1/31/1999	2.77	4.81	1.74	15.66	41.15	26.62	29.70	2.030	0.425
2/28/1999	2.10	5.51	2.62	15.46	41.21	26.78	30.13	2.002	0.430
3/31/1999	2.36	5.10	2.16	15.37	41.28	26.94	30.61	2.027	0.436
4/30/1999	2.17	5.62	2.59	8.42	41.35	27.11	30.86	1.066	0.438
5/31/1999	2.01	4.78	2.38	14.15	41.41	27.25	31.30	2.054	0.443
6/30/1999	2.18	4.29	1.96	14.92	41.47	27.38	31.75	2.265	0.448
7/31/1999	2.01	4.42	2.19	15.71	41.54	27.52	32.24	2.404	0.453
8/31/1999	2.27	4.62	2.03	14.74	41.61	27.66	32.69	2.102	0.458
9/30/1999	2.04	4.72	2.32	11.85	41.67	27.80	33.05	1.727	0.462
10/31/1999	2.24	5.08	2.27	12.75	41.74	27.96	33.44	1.718	0.466
11/30/1999	2.25	5.25	2.33	16.05	41.81	28.12	33.92	2.109	0.471
12/31/1999	1.83	4.83	2.63	15.75	41.86	28.27	34.41	2.332	0.476
1/31/2000	1.80	5.80	3.22	15.35	41.92	28.45	34.89	1.998	0.481
2/29/2000	2.03	5.50	2.70	15.58	41.98	28.61	35.34	2.041	0.486
3/31/2000	1.85	5.57	3.01	15.46	42.03	28.78	35.82	2.057	0.491
4/30/2000	1.79	5.38	3.01	15.39	42.09	28.94	36.28	2.120	0.496
5/31/2000	1.87	5.86	3.13	15.51	42.15	29.12	36.76	1.981	0.501
6/30/2000	1.60	5.89	3.68	15.23	42.19	29.30	37.22	2.013	0.506
7/31/2000	1.69	6.17	3.65	15.45	42.25	29.49	37.70	1.944	0.510
8/31/2000	1.74	6.12	3.52	15.78	42.30	29.68	38.19	1.988	0.515
9/30/2000	1.55	5.96	3.83	16.04	42.35	29.86	38.67	2.114	0.520
10/31/2000	1.73	5.55	3.21	16.01	42.40	30.03	39.17	2.174	0.525
11/30/2000	1.61	5.65	3.50	15.58	42.45	30.20	39.63	2.122	0.530
12/31/2000	1.75	5.57	3.19	16.26	42.50	30.37	40.14	2.194	0.535
1/31/2001	1.70	5.44	3.21	16.20	42.56	30.54	40.64	2.243	0.540
2/28/2001	1.65	4.98	3.02	15.24	42.60	30.68	41.07	2.268	0.545
3/31/2001	1.49	4.86	3.27	16.12	42.65	30.83	41.57	2.511	0.550
4/30/2001	1.43	5.21	3.65	16.32	42.69	30.99	42.05	2.431	0.555
5/31/2001	1.63	5.12	3.15	16.17	42.74	31.15	42.56	2.371	0.560
6/30/2001	1.73	5.32	3.08	16.23	42.79	31.31	43.04	2.275	0.565
7/31/2001	1.62	5.18	3.20	14.05	42.84	31.47	43.48	2.043	0.569
8/31/2001	1.63	4.97	3.04	12.21	42.89	31.62	43.86	1.826	0.572
9/30/2001	1.63	4.30	2.64	11.34	42.94	31.75	44.20	1.888	0.575

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
10/31/2001	1.43	4.27	2.98	11.76	42.99	31.88	44.56	2.038	0.579
11/30/2001	1.67	4.71	2.83	10.41	43.04	32.03	44.87	1.610	0.581
12/31/2001	1.71	4.60	2.68	9.18	43.09	32.17	45.16	1.435	0.583
1/31/2002	1.61	4.50	2.79	8.42	43.14	32.31	45.42	1.360	0.585
2/28/2002	1.59	4.58	2.89	10.24	43.19	32.44	45.71	1.638	0.588
3/31/2002	1.65	4.46	2.70	10.02	43.24	32.57	46.02	1.619	0.590
4/30/2002	1.54	4.49	2.92	9.73	43.28	32.71	46.31	1.592	0.593
5/31/2002	1.53	4.47	2.92	10.02	43.33	32.85	46.62	1.649	0.595
6/30/2002	1.61	4.21	2.61	10.04	43.38	32.97	46.92	1.700	0.598
7/31/2002	1.46	4.62	3.17	10.05	43.42	33.12	47.23	1.634	0.600
8/31/2002	1.48	11.92	8.04	9.90	43.47	33.49	47.54	0.735	0.601
9/30/2002	1.47	15.78	10.71	9.11	43.51	33.96	47.81	0.526	0.600
10/31/2002	3.40	26.21	7.72	10.05	43.62	34.77	48.12	0.338	0.597
11/30/2002	3.01	25.47	8.46	10.08	43.71	35.54	48.43	0.352	0.595
12/31/2002	2.99	22.72	7.60	9.65	43.80	36.24	48.73	0.373	0.593
1/31/2003	2.74	21.63	7.88	9.11	43.89	36.91	49.01	0.372	0.591
2/28/2003	2.61	21.21	8.12	9.92	43.96	37.50	49.29	0.414	0.589
3/31/2003	2.02	23.14	11.44	7.41	44.02	38.22	49.52	0.293	0.586
4/30/2003	2.57	26.22	10.20	9.24	44.10	39.01	49.79	0.319	0.584
5/31/2003	2.63	26.01	9.90	9.02	44.18	39.81	50.07	0.314	0.581
6/30/2003	2.46	24.10	9.81	9.29	44.26	40.54	50.35	0.348	0.579
7/31/2003	2.44	22.97	9.43	9.32	44.33	41.25	50.64	0.365	0.577
8/31/2003	2.30	22.86	9.96	9.75	44.40	41.96	50.94	0.386	0.575
9/30/2003	2.34	28.22	12.04	9.76	44.47	42.81	51.23	0.318	0.572
10/31/2003	2.32	28.65	12.37	9.89	44.54	43.69	51.54	0.318	0.570
11/30/2003	2.77	35.03	12.64	10.24	44.63	44.74	51.85	0.270	0.566
12/31/2003	2.63	34.65	13.17	10.25	44.71	45.82	52.17	0.274	0.562
1/31/2004	2.47	33.71	13.64	9.82	44.79	46.86	52.47	0.270	0.559
2/29/2004	2.45	32.99	13.45	7.79	44.86	47.82	52.70	0.219	0.555
3/31/2004	2.61	34.65	13.27	9.69	44.94	48.89	53.00	0.259	0.552
4/30/2004	2.54	34.18	13.46	9.74	45.01	49.92	53.29	0.264	0.548
5/31/2004	2.28	33.34	14.59	9.77	45.08	50.95	53.59	0.273	0.545
6/30/2004	2.19	30.51	13.96	9.10	45.15	51.87	53.86	0.277	0.543
7/31/2004	2.18	28.69	13.17	8.18	45.22	52.76	54.12	0.264	0.540
8/31/2004	1.87	24.05	12.86	6.37	45.28	53.50	54.32	0.245	0.538
9/30/2004	1.68	20.25	12.07	2.77	45.33	54.11	54.40	0.126	0.535
10/31/2004	1.59	19.29	12.10	4.92	45.38	54.71	54.55	0.235	0.533
11/30/2004	1.65	23.00	13.93	5.40	45.42	55.40	54.71	0.218	0.531
12/31/2004	1.60	21.80	13.63	7.92	45.47	56.07	54.96	0.337	0.529
1/31/2005	1.77	27.26	15.42	9.55	45.53	56.92	55.25	0.328	0.528
2/28/2005	1.72	26.12	15.17	11.34	45.58	57.65	55.57	0.406	0.527
3/31/2005	1.43	22.08	15.43	9.89	45.62	58.34	55.88	0.419	0.526
4/30/2005	1.47	22.63	15.35	8.45	45.67	59.01	56.13	0.350	0.525
5/31/2005	1.44	20.77	14.38	2.53	45.71	59.66	56.21	0.113	0.522
6/30/2005	1.43	23.42	16.35	5.52	45.75	60.36	56.38	0.222	0.520
7/31/2005	1.74	25.39	14.56	7.66	45.81	61.15	56.61	0.281	0.518
8/31/2005	2.18	28.04	12.83	6.29	45.88	62.02	56.81	0.207	0.516
9/30/2005	2.16	27.58	12.75	6.34	45.94	62.84	57.00	0.212	0.513

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10/31/2005	2.12	27.64	13.07	9.98	46.01	63.70	57.31	0.334	0.512
11/30/2005	2.08	27.03	12.98	10.27	46.07	64.51	57.62	0.352	0.510
12/31/2005	1.65	25.46	15.43	9.94	46.12	65.30	57.92	0.366	0.509
1/31/2006	1.79	25.60	14.28	10.36	46.18	66.09	58.25	0.377	0.508
2/28/2006	2.42	25.48	10.53	10.25	46.24	66.81	58.53	0.366	0.507
3/31/2006	2.21	24.69	11.16	10.45	46.31	67.57	58.86	0.387	0.507
4/30/2006	2.07	20.83	10.04	13.17	46.37	68.20	59.25	0.572	0.507
5/31/2006	2.17	23.86	10.98	9.48	46.44	68.94	59.55	0.363	0.506
6/30/2006	2.21	24.62	11.14	9.13	46.51	69.68	59.82	0.339	0.505
7/31/2006	2.20	24.57	11.15	9.51	46.58	70.44	60.11	0.354	0.504
8/31/2006	1.88	25.07	13.30	9.42	46.63	71.22	60.41	0.348	0.503
9/30/2006	2.12	24.10	11.37	9.46	46.70	71.94	60.69	0.359	0.502
10/31/2006	1.76	18.26	10.38	9.44	46.75	72.50	60.98	0.469	0.502
11/30/2006	1.73	18.02	10.40	9.28	46.80	73.04	61.26	0.468	0.501
12/31/2006	1.35	13.36	9.91	5.61	46.85	73.46	61.43	0.379	0.501
1/31/2007	1.63	22.63	13.91	8.27	46.90	74.16	61.69	0.340	0.500
2/28/2007	2.05	26.22	12.77	9.31	46.95	74.89	61.95	0.328	0.499
3/31/2007	1.96	25.20	12.86	9.21	47.01	75.68	62.24	0.338	0.498
4/30/2007	2.00	25.10	12.57	9.24	47.07	76.43	62.51	0.340	0.497
5/31/2007	2.01	25.18	12.54	9.25	47.14	77.21	62.80	0.339	0.496
6/30/2007	1.95	24.75	12.67	6.39	47.20	77.95	62.99	0.238	0.494
7/31/2007	1.93	24.58	12.71	6.84	47.26	78.71	63.20	0.257	0.493
8/31/2007	1.92	24.24	12.63	8.07	47.31	79.46	63.45	0.307	0.491
9/30/2007	1.87	23.72	12.72	6.81	47.37	80.18	63.66	0.265	0.490
10/31/2007	1.61	19.53	12.16	6.68	47.42	80.78	63.87	0.315	0.489
11/30/2007	1.62	19.85	12.27	6.47	47.47	81.38	64.06	0.300	0.488
12/31/2007	1.65	19.70	11.95	6.38	47.52	81.99	64.26	0.298	0.487
1/31/2008	1.58	19.50	12.31	5.59	47.57	82.59	64.43	0.264	0.486
2/29/2008	1.62	19.38	11.94	6.17	47.62	83.15	64.61	0.292	0.485
3/31/2008	1.64	19.41	11.82	4.85	47.67	83.76	64.76	0.229	0.484
4/30/2008	1.64	19.00	11.56	4.61	47.72	84.33	64.90	0.222	0.483
5/31/2008	1.59	18.11	11.37	3.68	47.77	84.89	65.01	0.186	0.481
6/30/2008	1.48	18.06	12.21	5.03	47.81	85.43	65.16	0.256	0.480
7/31/2008	1.65	19.34	11.74	6.78	47.86	86.03	65.37	0.322	0.480
8/31/2008	1.52	16.48	10.82	4.65	47.91	86.54	65.52	0.257	0.479
9/30/2008	1.80	16.74	9.30	5.96	47.96	87.04	65.70	0.320	0.478
10/31/2008	1.92	17.73	9.22	5.49	48.02	87.59	65.87	0.278	0.477
11/30/2008	1.86	17.51	9.42	8.46	48.08	88.12	66.12	0.435	0.477
12/31/2008	1.83	17.46	9.54	7.75	48.13	88.66	66.36	0.400	0.477
1/31/2009	1.80	17.56	9.77	4.68	48.19	89.20	66.51	0.241	0.476
2/28/2009	1.60	15.39	9.61	4.50	48.24	89.63	66.63	0.263	0.475
3/31/2009	1.82	17.63	9.69	7.41	48.29	90.18	66.86	0.379	0.475
4/30/2009	1.58	12.69	8.04	1.91	48.34	90.56	66.92	0.133	0.474
5/31/2009	1.55	12.66	8.19	0.86	48.39	90.95	66.95	0.061	0.472
6/30/2009	1.57	17.90	11.39	6.69	48.43	91.49	67.15	0.342	0.472
7/31/2009	1.16	17.84	15.40	8.46	48.47	92.04	67.41	0.444	0.472
8/31/2009	0.98	16.71	17.05	7.21	48.50	92.56	67.63	0.406	0.471
9/30/2009	0.91	15.96	17.63	5.55	48.53	93.04	67.80	0.328	0.471

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
10/31/2009	1.84	16.97	9.23	7.47	48.58	93.57	68.03	0.395	0.471
11/30/2009	1.50	16.91	11.28	4.06	48.63	94.07	68.15	0.220	0.470
12/31/2009	1.49	16.29	10.96	0.01	48.68	94.58	68.15	0.001	0.468
1/31/2010	1.46	16.55	11.34	5.49	48.72	95.09	68.32	0.304	0.467
2/28/2010	1.48	16.94	11.48	8.19	48.76	95.57	68.55	0.443	0.467
3/31/2010	1.55	16.98	10.93	7.45	48.81	96.09	68.78	0.400	0.467
4/30/2010	1.49	16.47	11.08	2.17	48.85	96.59	68.85	0.121	0.466
5/31/2010	1.45	15.83	10.92	1.56	48.90	97.08	68.90	0.090	0.464
6/30/2010	1.41	14.07	10.01	6.60	48.94	97.50	69.10	0.424	0.464
7/31/2010	1.48	14.45	9.77	3.98	48.99	97.95	69.22	0.249	0.463
8/31/2010	1.32	13.62	10.35	6.60	49.03	98.37	69.42	0.440	0.463
9/30/2010	1.41	14.74	10.44	8.63	49.07	98.81	69.68	0.532	0.464
10/31/2010	1.03	11.19	10.90	6.99	49.10	99.16	69.90	0.570	0.464
11/30/2010	1.36	15.12	11.08	8.43	49.14	99.61	70.15	0.510	0.464
12/31/2010	1.39	13.71	9.89	6.44	49.19	100.04	70.35	0.425	0.464
1/31/2011	1.34	14.14	10.56	7.22	49.23	100.48	70.58	0.464	0.464
2/28/2011	1.47	14.04	9.54	6.76	49.27	100.87	70.76	0.434	0.464
3/31/2011	1.39	14.49	10.41	8.07	49.31	101.32	71.01	0.506	0.464
4/30/2011	1.33	12.79	9.62	7.10	49.35	101.70	71.23	0.500	0.464
5/31/2011	1.09	8.47	7.81	7.44	49.39	101.96	71.46	0.774	0.465
6/30/2011	1.09	8.37	7.69	6.62	49.42	102.22	71.66	0.696	0.465
7/31/2011	1.19	10.44	8.76	7.18	49.46	102.54	71.88	0.614	0.465
8/31/2011	1.35	13.83	10.27	6.74	49.50	102.97	72.09	0.442	0.465
9/30/2011	1.41	12.93	9.17	2.57	49.54	103.36	72.17	0.178	0.464
10/31/2011	1.43	14.64	10.22	4.26	49.58	103.81	72.30	0.264	0.464
11/30/2011	1.43	14.68	10.29	5.53	49.63	104.25	72.46	0.342	0.463
12/31/2011	1.46	14.57	10.00	6.58	49.67	104.70	72.67	0.408	0.463
1/31/2012	1.08	10.68	9.89	5.81	49.71	105.03	72.85	0.492	0.463
2/29/2012	1.69	15.00	8.86	3.83	49.75	105.47	72.96	0.228	0.463
3/31/2012	1.45	12.46	8.56	7.85	49.80	105.85	73.20	0.561	0.463
4/30/2012	1.64	14.11	8.61	9.79	49.85	106.28	73.50	0.618	0.463
5/31/2012	1.49	12.20	8.17	9.83	49.90	106.66	73.80	0.714	0.464
6/30/2012	1.40	12.35	8.84	10.11	49.94	107.03	74.10	0.732	0.465
7/31/2012	1.27	11.23	8.83	7.20	49.98	107.37	74.33	0.573	0.465
8/31/2012	1.36	12.11	8.91	8.84	50.02	107.75	74.60	0.653	0.465
9/30/2012	1.13	11.53	10.22	10.26	50.05	108.10	74.91	0.806	0.466
10/31/2012	0.87	12.07	13.85	10.24	50.08	108.47	75.23	0.789	0.467
11/30/2012	1.39	11.96	8.63	10.06	50.12	108.83	75.53	0.750	0.468
12/31/2012	1.78	10.99	6.17	9.87	50.18	109.17	75.83	0.768	0.469
1/31/2013	1.76	10.82	6.16	10.14	50.23	109.50	76.15	0.800	0.469
2/28/2013	1.80	11.12	6.19	9.72	50.28	109.82	76.42	0.748	0.470
3/31/2013	1.65	11.05	6.69	9.13	50.33	110.16	76.70	0.714	0.471
4/30/2013	1.63	11.15	6.84	9.50	50.38	110.49	76.99	0.738	0.471
5/31/2013	1.62	10.31	6.37	5.79	50.43	110.81	77.17	0.482	0.471
6/30/2013	1.50	10.38	6.94		50.48	111.12	77.17	0.000	0.470
7/31/2013	1.47	10.31	7.04		50.52	111.44	77.17	0.000	0.469
8/31/2013	1.44	9.97	6.93		50.57	111.75	77.17	0.000	0.468
9/30/2013	1.38	10.11	7.33		50.61	112.06	77.17	0.000	0.467

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
10/31/2013	1.21	8.07	6.68		50.65	112.31	77.17	0.000	0.466
11/30/2013	2.57	10.56	4.10		50.72	112.62	77.17	0.000	0.465
12/31/2013	3.27	11.14	3.41	2.90	50.82	112.97	77.26	0.199	0.464

Oil Formation Vol Factor : 1.05000 m3/m3

Water Formation Vol Factor : 1.00000 m3/m3

Water / Oil Ratio : 9.94 m3/m3

Pattern: 00/02-28-010-29Inj Set: KolaUnit#1

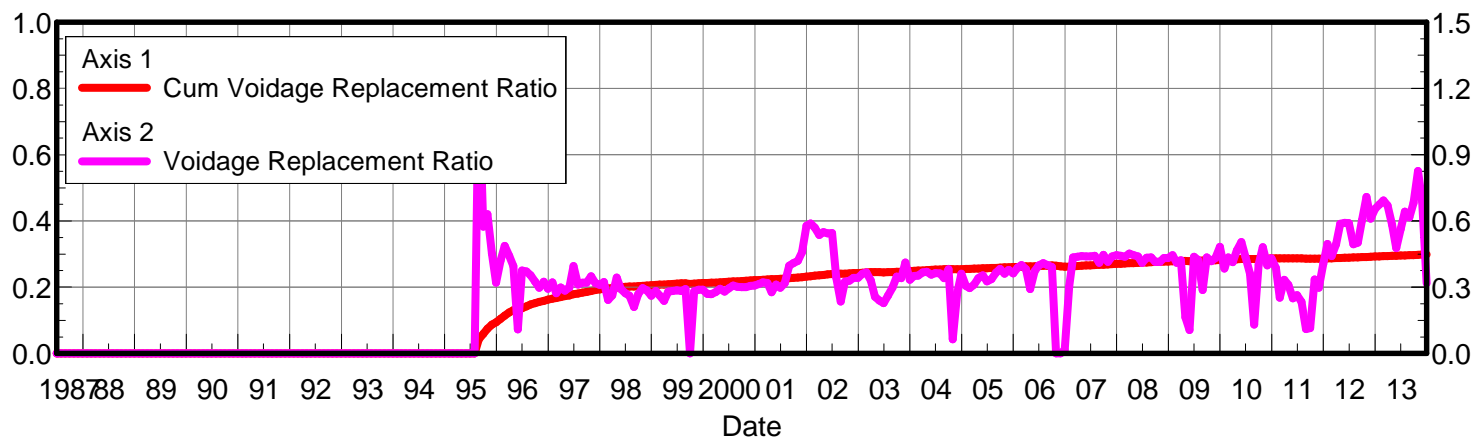
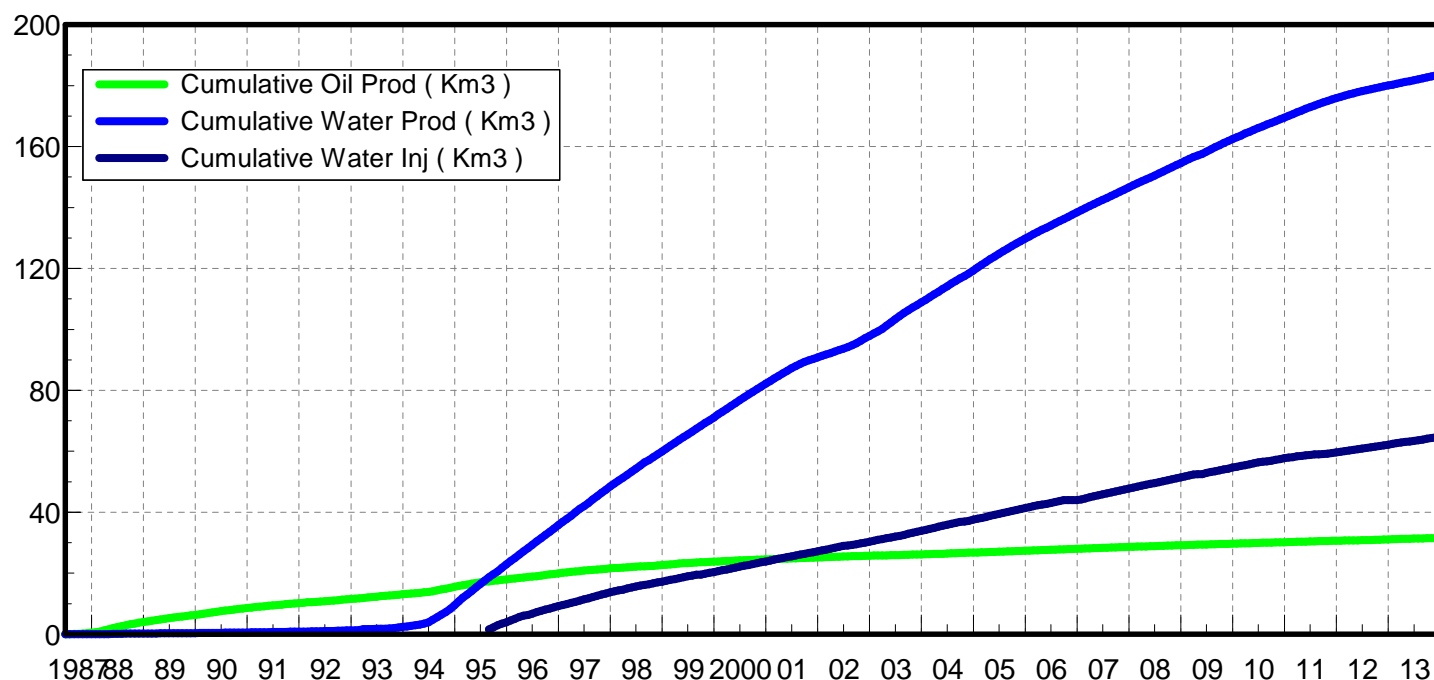
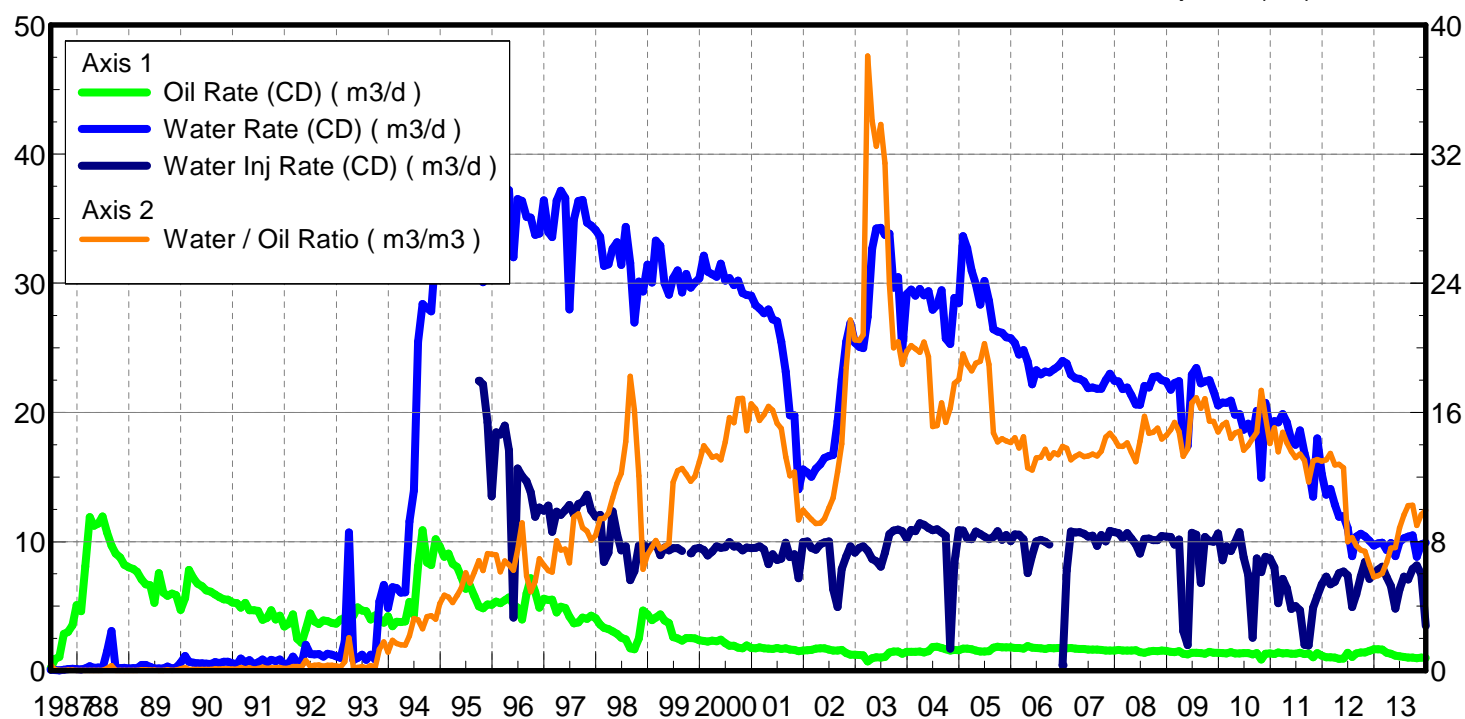
February 28, 2014

Operator: Tundra_O&G_Prtnsbp

Oil Rate (CD) : 1.00 m3/d

Water Rate (CD) : 9.90 m3/d

Water Inj Rate (CD) : 3.48 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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/1987	0.21	0.07	0.33		0.01	0.00	0.00	0.000	0.000
7/31/1987	0.93	0.05	0.06		0.04	0.00	0.00	0.000	0.000
8/31/1987	1.08	0.03	0.03		0.07	0.00	0.00	0.000	0.000
9/30/1987	2.86	0.08	0.03		0.15	0.01	0.00	0.000	0.000
10/31/1987	2.99	0.14	0.05		0.25	0.01	0.00	0.000	0.000
11/30/1987	3.52	0.14	0.04		0.35	0.02	0.00	0.000	0.000
12/31/1987	5.09	0.14	0.03		0.51	0.02	0.00	0.000	0.000
1/31/1988	4.60	0.11	0.02		0.65	0.02	0.00	0.000	0.000
2/29/1988	8.08	0.17	0.02		0.89	0.03	0.00	0.000	0.000
3/31/1988	11.88	0.35	0.03		1.26	0.04	0.00	0.000	0.000
4/30/1988	11.22	0.23	0.02		1.59	0.05	0.00	0.000	0.000
5/31/1988	11.40	0.25	0.02		1.95	0.05	0.00	0.000	0.000
6/30/1988	11.96	0.18	0.02		2.30	0.06	0.00	0.000	0.000
7/31/1988	10.72	1.50	0.14		2.64	0.11	0.00	0.000	0.000
8/31/1988	9.69	3.08	0.32		2.94	0.20	0.00	0.000	0.000
9/30/1988	9.08	0.15	0.02		3.21	0.21	0.00	0.000	0.000
10/31/1988	8.78	0.20	0.02		3.48	0.21	0.00	0.000	0.000
11/30/1988	8.21	0.22	0.03		3.73	0.22	0.00	0.000	0.000
12/31/1988	8.02	0.18	0.02		3.98	0.22	0.00	0.000	0.000
1/31/1989	7.89	0.20	0.03		4.22	0.23	0.00	0.000	0.000
2/28/1989	7.66	0.20	0.03		4.44	0.24	0.00	0.000	0.000
3/31/1989	7.07	0.45	0.06		4.65	0.25	0.00	0.000	0.000
4/30/1989	6.71	0.46	0.07		4.86	0.26	0.00	0.000	0.000
5/31/1989	6.62	0.29	0.04		5.06	0.27	0.00	0.000	0.000
6/30/1989	5.26	0.18	0.03		5.22	0.28	0.00	0.000	0.000
7/31/1989	7.56	0.18	0.02		5.45	0.28	0.00	0.000	0.000
8/31/1989	6.06	0.17	0.03		5.64	0.29	0.00	0.000	0.000
9/30/1989	5.81	0.33	0.06		5.82	0.30	0.00	0.000	0.000
10/31/1989	5.97	0.18	0.03		6.00	0.30	0.00	0.000	0.000
11/30/1989	5.85	0.24	0.04		6.18	0.31	0.00	0.000	0.000
12/31/1989	4.72	0.62	0.13		6.32	0.33	0.00	0.000	0.000
1/31/1990	5.62	1.15	0.20		6.50	0.37	0.00	0.000	0.000
2/28/1990	7.81	0.70	0.09		6.72	0.39	0.00	0.000	0.000
3/31/1990	7.17	0.63	0.09		6.94	0.40	0.00	0.000	0.000
4/30/1990	6.74	0.57	0.08		7.14	0.42	0.00	0.000	0.000
5/31/1990	6.55	0.57	0.09		7.34	0.44	0.00	0.000	0.000
6/30/1990	6.21	0.55	0.09		7.53	0.46	0.00	0.000	0.000
7/31/1990	6.11	0.53	0.09		7.72	0.47	0.00	0.000	0.000
8/31/1990	5.90	0.67	0.11		7.90	0.49	0.00	0.000	0.000
9/30/1990	5.70	0.61	0.11		8.07	0.51	0.00	0.000	0.000
10/31/1990	5.52	0.71	0.13		8.24	0.53	0.00	0.000	0.000
11/30/1990	5.50	0.71	0.13		8.41	0.55	0.00	0.000	0.000
12/31/1990	5.27	0.57	0.11		8.57	0.57	0.00	0.000	0.000
1/31/1991	5.24	0.49	0.09		8.73	0.59	0.00	0.000	0.000
2/28/1991	4.88	0.94	0.19		8.87	0.61	0.00	0.000	0.000
3/31/1991	5.26	0.65	0.12		9.03	0.63	0.00	0.000	0.000
4/30/1991	4.68	0.83	0.18		9.17	0.66	0.00	0.000	0.000
5/31/1991	4.68	0.50	0.11		9.32	0.67	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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/1991	4.64	0.65	0.14		9.46	0.69	0.00	0.000	0.000
7/31/1991	3.95	0.87	0.22		9.58	0.72	0.00	0.000	0.000
8/31/1991	4.10	0.62	0.15		9.71	0.74	0.00	0.000	0.000
9/30/1991	4.68	0.86	0.18		9.85	0.77	0.00	0.000	0.000
10/31/1991	3.98	0.74	0.19		9.97	0.79	0.00	0.000	0.000
11/30/1991	4.28	0.86	0.20		10.10	0.81	0.00	0.000	0.000
12/31/1991	3.43	0.49	0.14		10.21	0.83	0.00	0.000	0.000
1/31/1992	3.65	0.57	0.16		10.32	0.85	0.00	0.000	0.000
2/29/1992	4.37	1.10	0.25		10.45	0.88	0.00	0.000	0.000
3/31/1992	2.48	0.66	0.27		10.52	0.90	0.00	0.000	0.000
4/30/1992	2.17	0.53	0.24		10.59	0.92	0.00	0.000	0.000
5/31/1992	3.19	2.02	0.63		10.69	0.98	0.00	0.000	0.000
6/30/1992	4.44	1.28	0.29		10.82	1.02	0.00	0.000	0.000
7/31/1992	3.81	1.28	0.34		10.94	1.06	0.00	0.000	0.000
8/31/1992	3.62	1.28	0.35		11.05	1.10	0.00	0.000	0.000
9/30/1992	3.90	1.11	0.28		11.17	1.13	0.00	0.000	0.000
10/31/1992	3.84	1.31	0.34		11.29	1.17	0.00	0.000	0.000
11/30/1992	3.68	1.24	0.34		11.40	1.21	0.00	0.000	0.000
12/31/1992	3.65	1.12	0.31		11.51	1.24	0.00	0.000	0.000
1/31/1993	3.98	0.99	0.25		11.63	1.27	0.00	0.000	0.000
2/28/1993	4.05	2.29	0.56		11.75	1.34	0.00	0.000	0.000
3/31/1993	5.24	10.72	2.04		11.91	1.67	0.00	0.000	0.000
4/30/1993	4.26	0.82	0.19		12.04	1.69	0.00	0.000	0.000
5/31/1993	4.91	0.98	0.20		12.19	1.72	0.00	0.000	0.000
6/30/1993	4.66	1.24	0.27		12.33	1.76	0.00	0.000	0.000
7/31/1993	4.62	0.84	0.18		12.47	1.79	0.00	0.000	0.000
8/31/1993	3.98	1.25	0.31		12.60	1.83	0.00	0.000	0.000
9/30/1993	4.29	0.87	0.20		12.72	1.85	0.00	0.000	0.000
10/31/1993	4.00	5.34	1.33		12.85	2.02	0.00	0.000	0.000
11/30/1993	3.72	6.65	1.79		12.96	2.22	0.00	0.000	0.000
12/31/1993	4.21	4.85	1.15		13.09	2.37	0.00	0.000	0.000
1/31/1994	3.45	6.48	1.88		13.20	2.57	0.00	0.000	0.000
2/28/1994	3.79	6.40	1.69		13.30	2.75	0.00	0.000	0.000
3/31/1994	3.76	6.04	1.61		13.42	2.94	0.00	0.000	0.000
4/30/1994	3.82	6.09	1.59		13.54	3.12	0.00	0.000	0.000
5/31/1994	5.32	11.54	2.17		13.70	3.48	0.00	0.000	0.000
6/30/1994	4.31	13.95	3.24		13.83	3.89	0.00	0.000	0.000
7/31/1994	8.09	25.48	3.15		14.08	4.68	0.00	0.000	0.000
8/31/1994	10.89	28.39	2.61		14.42	5.56	0.00	0.000	0.000
9/30/1994	8.38	28.06	3.35		14.67	6.41	0.00	0.000	0.000
10/31/1994	8.17	27.82	3.40		14.92	7.27	0.00	0.000	0.000
11/30/1994	10.19	32.48	3.19		15.23	8.24	0.00	0.000	0.000
12/31/1994	9.61	39.94	4.16		15.53	9.48	0.00	0.000	0.000
1/31/1995	8.83	41.31	4.68		15.80	10.76	0.00	0.000	0.000
2/28/1995	9.07	41.45	4.57		16.05	11.92	0.00	0.000	0.000
3/31/1995	8.28	34.98	4.22		16.31	13.01	0.00	0.000	0.000
4/30/1995	8.03	37.36	4.65		16.55	14.13	0.00	0.000	0.000
5/31/1995	7.26	37.08	5.11		16.78	15.28	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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/1995	6.35	38.47	6.06		16.97	16.43	0.00	0.000	0.000
7/31/1995	6.60	35.85	5.43		17.17	17.54	0.00	0.000	0.000
8/31/1995	5.78	35.23	6.10	50.68	17.35	18.63	1.57	1.227	0.043
9/30/1995	4.97	33.88	6.81	22.44	17.50	19.65	2.24	0.574	0.059
10/31/1995	4.84	30.07	6.21	22.19	17.65	20.58	2.93	0.631	0.075
11/30/1995	5.12	37.14	7.25	19.23	17.80	21.70	3.51	0.452	0.087
12/31/1995	5.10	36.78	7.22	13.51	17.96	22.84	3.93	0.321	0.094
1/31/1996	5.35	38.34	7.17	18.46	18.13	24.03	4.50	0.420	0.105
2/29/1996	5.23	32.07	6.13	18.28	18.28	24.96	5.03	0.487	0.114
3/31/1996	5.46	37.16	6.80	18.98	18.45	26.11	5.62	0.442	0.124
4/30/1996	5.67	37.20	6.56	17.06	18.62	27.22	6.13	0.395	0.131
5/31/1996	5.14	32.02	6.23	4.11	18.78	28.22	6.26	0.110	0.131
6/30/1996	4.89	36.52	7.47	15.67	18.92	29.31	6.73	0.376	0.137
7/31/1996	3.97	36.37	9.17	15.07	19.05	30.44	7.20	0.372	0.143
8/31/1996	5.98	35.13	5.87	14.68	19.23	31.53	7.65	0.355	0.148
9/30/1996	7.17	35.08	4.90	13.83	19.45	32.58	8.07	0.325	0.152
10/31/1996	6.09	33.74	5.54	11.91	19.64	33.63	8.43	0.297	0.155
11/30/1996	4.88	33.85	6.94	12.65	19.78	34.64	8.81	0.325	0.159
12/31/1996	5.57	36.43	6.54	12.38	19.96	35.77	9.20	0.293	0.162
1/31/1997	5.47	33.95	6.21	12.79	20.12	36.82	9.59	0.322	0.166
2/28/1997	5.50	33.56	6.11	10.75	20.28	37.76	9.89	0.273	0.168
3/31/1997	4.52	36.40	8.06	12.32	20.42	38.89	10.28	0.300	0.170
4/30/1997	4.97	37.17	7.48	12.07	20.57	40.01	10.64	0.285	0.173
5/31/1997	4.85	36.60	7.54	12.44	20.72	41.14	11.02	0.298	0.175
6/30/1997	4.18	27.97	6.68	12.83	20.84	41.98	11.41	0.396	0.179
7/31/1997	3.67	34.93	9.52	12.10	20.96	43.06	11.78	0.312	0.181
8/31/1997	3.74	36.36	9.72	12.92	21.07	44.19	12.19	0.321	0.184
9/30/1997	4.12	36.45	8.85	13.06	21.20	45.28	12.58	0.320	0.186
10/31/1997	4.02	34.70	8.64	13.62	21.32	46.36	13.00	0.350	0.189
11/30/1997	4.26	34.47	8.10	12.42	21.45	47.39	13.37	0.319	0.191
12/31/1997	4.07	34.13	8.38	11.93	21.58	48.45	13.74	0.311	0.193
1/31/1998	3.57	33.59	9.42	12.06	21.69	49.49	14.12	0.323	0.195
2/28/1998	3.32	31.33	9.44	8.44	21.78	50.37	14.35	0.242	0.196
3/31/1998	3.22	31.48	9.77	9.15	21.88	51.35	14.64	0.262	0.197
4/30/1998	3.05	32.69	10.72	12.35	21.97	52.33	15.01	0.344	0.199
5/31/1998	2.86	33.17	11.61	10.55	22.06	53.36	15.33	0.292	0.200
6/30/1998	2.57	31.41	12.24	9.31	22.14	54.30	15.61	0.273	0.201
7/31/1998	2.42	34.36	14.19	9.65	22.21	55.36	15.91	0.261	0.202
8/31/1998	1.73	31.56	18.24	7.00	22.26	56.34	16.13	0.210	0.202
9/30/1998	1.67	26.97	16.16	7.71	22.31	57.15	16.36	0.268	0.203
10/31/1998	2.49	30.14	12.08	9.70	22.39	58.08	16.66	0.296	0.204
11/30/1998	4.67	29.37	6.29	9.82	22.53	58.97	16.96	0.287	0.205
12/31/1998	4.36	31.45	7.21	9.41	22.67	59.94	17.25	0.261	0.206
1/31/1999	3.92	30.04	7.66	9.68	22.79	60.87	17.55	0.283	0.207
2/28/1999	4.13	33.29	8.07	9.86	22.90	61.80	17.82	0.262	0.208
3/31/1999	4.36	32.91	7.55	8.94	23.04	62.82	18.10	0.238	0.208
4/30/1999	3.90	30.01	7.70	9.54	23.16	63.72	18.39	0.280	0.209
5/31/1999	3.69	29.12	7.89	9.31	23.27	64.63	18.68	0.282	0.210

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/1999	2.60	30.41	11.68	9.49	23.35	65.54	18.96	0.286	0.211
7/31/1999	2.50	30.99	12.38	9.49	23.43	66.50	19.25	0.282	0.211
8/31/1999	2.34	29.29	12.53	9.27	23.50	67.41	19.54	0.292	0.212
9/30/1999	2.53	30.72	12.16		23.58	68.33	19.54	0.000	0.210
10/31/1999	2.53	29.65	11.74	9.10	23.65	69.25	19.82	0.282	0.211
11/30/1999	2.50	30.06	12.04	9.44	23.73	70.15	20.11	0.289	0.212
12/31/1999	2.35	30.38	12.95	9.51	23.80	71.09	20.40	0.289	0.212
1/31/2000	2.31	32.15	13.93	9.35	23.87	72.09	20.69	0.270	0.213
2/29/2000	2.27	30.89	13.61	8.91	23.94	72.98	20.95	0.268	0.214
3/31/2000	2.32	30.69	13.21	9.23	24.01	73.94	21.24	0.278	0.214
4/30/2000	2.29	30.49	13.30	9.63	24.08	74.85	21.52	0.293	0.215
5/31/2000	2.41	31.52	13.07	9.53	24.15	75.83	21.82	0.280	0.216
6/30/2000	2.13	30.21	14.17	9.57	24.22	76.73	22.11	0.295	0.216
7/31/2000	1.94	30.41	15.69	9.96	24.28	77.68	22.42	0.307	0.217
8/31/2000	1.94	29.87	15.37	9.62	24.34	78.60	22.71	0.302	0.218
9/30/2000	1.79	30.20	16.86	9.65	24.39	79.51	23.00	0.301	0.219
10/31/2000	1.73	29.24	16.87	9.32	24.45	80.42	23.29	0.300	0.220
11/30/2000	1.96	29.09	14.86	9.55	24.50	81.29	23.58	0.307	0.220
12/31/2000	1.76	29.04	16.54	9.49	24.56	82.19	23.87	0.307	0.221
1/31/2001	1.75	28.30	16.21	9.51	24.61	83.07	24.17	0.316	0.222
2/28/2001	1.81	28.05	15.51	9.64	24.66	83.85	24.44	0.322	0.223
3/31/2001	1.75	27.67	15.86	9.40	24.72	84.71	24.73	0.319	0.223
4/30/2001	1.71	27.97	16.38	8.26	24.77	85.55	24.98	0.277	0.224
5/31/2001	1.69	27.20	16.14	9.03	24.82	86.39	25.26	0.312	0.225
6/30/2001	1.77	27.05	15.32	8.59	24.87	87.20	25.51	0.297	0.225
7/31/2001	1.70	25.47	15.01	8.68	24.93	87.99	25.78	0.318	0.226
8/31/2001	1.75	23.14	13.25	9.91	24.98	88.71	26.09	0.397	0.227
9/30/2001	1.64	19.76	12.07	8.80	25.03	89.30	26.36	0.410	0.228
10/31/2001	1.61	19.78	12.30	9.01	25.08	89.92	26.63	0.420	0.229
11/30/2001	1.50	14.06	9.34	7.16	25.13	90.34	26.85	0.458	0.230
12/31/2001	1.57	15.59	9.94	9.96	25.17	90.82	27.16	0.578	0.232
1/31/2002	1.59	15.34	9.63	10.01	25.22	91.30	27.47	0.588	0.233
2/28/2002	1.60	15.02	9.37	9.51	25.27	91.72	27.73	0.569	0.235
3/31/2002	1.71	15.65	9.13	9.36	25.32	92.20	28.02	0.537	0.236
4/30/2002	1.75	15.97	9.14	9.79	25.37	92.68	28.32	0.550	0.237
5/31/2002	1.75	16.48	9.42	9.95	25.43	93.19	28.63	0.543	0.239
6/30/2002	1.65	16.64	10.10	10.01	25.48	93.69	28.93	0.545	0.240
7/31/2002	1.56	16.71	10.71	6.32	25.53	94.21	29.12	0.344	0.241
8/31/2002	1.56	19.30	12.33	4.93	25.57	94.81	29.28	0.235	0.241
9/30/2002	1.60	22.55	14.05	7.87	25.62	95.48	29.51	0.325	0.241
10/31/2002	1.36	25.47	18.77	8.85	25.66	96.27	29.79	0.329	0.242
11/30/2002	1.24	26.91	21.73	9.65	25.70	97.08	30.08	0.342	0.242
12/31/2002	1.24	25.39	20.49	9.14	25.74	97.87	30.36	0.342	0.243
1/31/2003	1.23	25.09	20.47	9.51	25.78	98.65	30.65	0.361	0.244
2/28/2003	1.20	24.98	20.81	9.64	25.81	99.35	30.92	0.367	0.245
3/31/2003	0.72	27.40	38.08	9.30	25.83	100.19	31.21	0.330	0.245
4/30/2003	0.96	32.68	34.05	8.64	25.86	101.18	31.47	0.257	0.245
5/31/2003	1.05	34.24	32.48	8.48	25.90	102.24	31.73	0.240	0.245

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/2003	1.01	34.28	33.83	8.05	25.93	103.27	31.98	0.228	0.245
7/31/2003	1.07	33.75	31.44	9.14	25.96	104.31	32.26	0.262	0.245
8/31/2003	1.42	33.85	23.90	10.57	26.00	105.36	32.59	0.299	0.246
9/30/2003	1.48	29.66	20.00	10.86	26.05	106.25	32.91	0.348	0.246
10/31/2003	1.50	30.47	20.38	10.93	26.09	107.20	33.25	0.341	0.247
11/30/2003	1.31	24.85	18.97	10.81	26.13	107.94	33.58	0.412	0.248
12/31/2003	1.47	29.16	19.77	10.25	26.18	108.84	33.89	0.334	0.249
1/31/2004	1.46	29.50	20.15	10.90	26.22	109.76	34.23	0.351	0.249
2/29/2004	1.46	29.05	19.94	10.80	26.27	110.60	34.54	0.353	0.250
3/31/2004	1.50	29.55	19.72	11.43	26.31	111.52	34.90	0.367	0.251
4/30/2004	1.43	29.07	20.35	11.30	26.36	112.39	35.24	0.370	0.252
5/31/2004	1.51	29.39	19.44	11.06	26.40	113.30	35.58	0.357	0.252
6/30/2004	1.85	27.96	15.12	10.89	26.46	114.14	35.91	0.364	0.253
7/31/2004	1.86	28.32	15.19	10.96	26.52	115.02	36.25	0.362	0.254
8/31/2004	1.78	29.45	16.59	10.70	26.57	115.93	36.58	0.342	0.254
9/30/2004	1.67	25.72	15.39	10.47	26.62	116.70	36.89	0.381	0.255
10/31/2004	1.56	25.29	16.25	1.72	26.67	117.49	36.95	0.064	0.254
11/30/2004	1.62	28.87	17.81	8.34	26.72	118.35	37.20	0.273	0.254
12/31/2004	1.58	28.48	18.03	10.88	26.77	119.23	37.53	0.361	0.255
1/31/2005	1.71	33.65	19.62	10.86	26.82	120.28	37.87	0.306	0.255
2/28/2005	1.72	32.70	18.96	10.24	26.87	121.19	38.16	0.297	0.255
3/31/2005	1.67	30.96	18.58	10.18	26.92	122.15	38.47	0.311	0.256
4/30/2005	1.57	29.94	19.04	10.77	26.97	123.05	38.80	0.341	0.256
5/31/2005	1.48	28.35	19.17	10.57	27.01	123.93	39.12	0.354	0.257
6/30/2005	1.49	30.18	20.26	10.38	27.06	124.84	39.43	0.327	0.257
7/31/2005	1.51	28.64	18.97	10.19	27.10	125.72	39.75	0.337	0.258
8/31/2005	1.80	26.45	14.73	10.35	27.16	126.54	40.07	0.365	0.258
9/30/2005	1.85	26.26	14.18	10.80	27.22	127.33	40.40	0.383	0.259
10/31/2005	1.82	26.17	14.37	10.14	27.27	128.14	40.71	0.361	0.260
11/30/2005	1.81	25.81	14.23	10.50	27.33	128.92	41.02	0.379	0.260
12/31/2005	1.82	25.74	14.14	10.04	27.38	129.71	41.34	0.363	0.261
1/31/2006	1.76	25.38	14.43	10.56	27.44	130.50	41.66	0.388	0.262
2/28/2006	1.77	24.48	13.80	10.53	27.49	131.19	41.96	0.400	0.262
3/31/2006	1.71	24.84	14.50	10.18	27.54	131.96	42.27	0.382	0.263
4/30/2006	1.90	23.93	12.57	7.57	27.60	132.67	42.50	0.292	0.263
5/31/2006	1.78	22.17	12.44	8.96	27.65	133.36	42.78	0.373	0.263
6/30/2006	1.77	23.27	13.18	10.01	27.71	134.06	43.08	0.398	0.264
7/31/2006	1.74	22.96	13.23	10.13	27.76	134.77	43.39	0.409	0.265
8/31/2006	1.69	23.16	13.72	10.00	27.81	135.49	43.70	0.401	0.265
9/30/2006	1.75	23.09	13.17	9.75	27.86	136.18	44.00	0.391	0.266
10/31/2006	1.73	23.34	13.49		27.92	136.91	44.00	0.000	0.265
11/30/2006	1.76	23.55	13.37		27.97	137.61	44.00	0.000	0.263
12/31/2006	1.73	23.99	13.90	0.43	28.02	138.36	44.01	0.016	0.262
1/31/2007	1.73	23.79	13.77	7.76	28.08	139.09	44.25	0.303	0.262
2/28/2007	1.76	22.92	13.06	10.78	28.13	139.74	44.55	0.435	0.263
3/31/2007	1.71	22.65	13.28	10.70	28.18	140.44	44.88	0.438	0.264
4/30/2007	1.68	22.60	13.42	10.73	28.23	141.12	45.20	0.440	0.265
5/31/2007	1.69	22.39	13.27	10.61	28.28	141.81	45.53	0.439	0.265

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/2007	1.65	21.88	13.30	10.38	28.33	142.47	45.84	0.440	0.266
7/31/2007	1.63	21.92	13.43	10.47	28.38	143.15	46.17	0.443	0.267
8/31/2007	1.64	21.82	13.30	9.67	28.43	143.82	46.47	0.411	0.268
9/30/2007	1.61	21.84	13.60	10.50	28.48	144.48	46.78	0.446	0.268
10/31/2007	1.55	22.50	14.47	10.01	28.53	145.17	47.09	0.415	0.269
11/30/2007	1.56	23.00	14.70	10.82	28.58	145.86	47.42	0.439	0.270
12/31/2007	1.56	22.44	14.36	10.74	28.62	146.56	47.75	0.446	0.270
1/31/2008	1.61	22.41	13.91	10.66	28.67	147.25	48.08	0.443	0.271
2/29/2008	1.57	21.81	13.90	10.27	28.72	147.89	48.38	0.438	0.272
3/31/2008	1.55	21.92	14.11	10.66	28.77	148.57	48.71	0.453	0.272
4/30/2008	1.58	21.34	13.53	10.24	28.82	149.21	49.02	0.445	0.273
5/31/2008	1.59	20.61	12.94	9.79	28.87	149.85	49.32	0.440	0.274
6/30/2008	1.45	20.60	14.21	9.08	28.91	150.46	49.59	0.410	0.274
7/31/2008	1.40	22.06	15.77	10.21	28.95	151.15	49.91	0.434	0.275
8/31/2008	1.49	21.93	14.72	10.24	29.00	151.83	50.23	0.436	0.276
9/30/2008	1.54	22.74	14.77	10.10	29.04	152.51	50.53	0.415	0.276
10/31/2008	1.52	22.80	15.03	10.11	29.09	153.22	50.84	0.414	0.277
11/30/2008	1.57	22.50	14.36	10.43	29.14	153.89	51.16	0.432	0.277
12/31/2008	1.54	22.41	14.56	10.38	29.19	154.59	51.48	0.432	0.278
1/31/2009	1.46	21.75	14.92	10.37	29.23	155.26	51.80	0.445	0.279
2/28/2009	1.45	22.27	15.37	9.78	29.27	155.88	52.07	0.411	0.279
3/31/2009	1.51	22.43	14.82	10.15	29.32	156.58	52.39	0.423	0.280
4/30/2009	1.31	17.37	13.29	3.08	29.36	157.10	52.48	0.165	0.279
5/31/2009	1.27	17.41	13.73	1.98	29.40	157.64	52.54	0.106	0.279
6/30/2009	1.38	22.91	16.60	10.68	29.44	158.33	52.86	0.438	0.279
7/31/2009	1.39	23.45	16.91	10.53	29.48	159.05	53.19	0.423	0.280
8/31/2009	1.37	22.24	16.25	6.79	29.52	159.74	53.40	0.287	0.280
9/30/2009	1.33	22.40	16.85	10.36	29.56	160.42	53.71	0.435	0.281
10/31/2009	1.45	22.49	15.47	10.03	29.61	161.11	54.02	0.418	0.281
11/30/2009	1.40	21.63	15.45	10.00	29.65	161.76	54.32	0.433	0.282
12/31/2009	1.39	20.54	14.78	10.63	29.69	162.40	54.65	0.483	0.282
1/31/2010	1.36	20.77	15.22	8.55	29.74	163.04	54.92	0.385	0.283
2/28/2010	1.35	20.74	15.38	9.65	29.77	163.62	55.19	0.436	0.283
3/31/2010	1.45	20.91	14.39	9.27	29.82	164.27	55.47	0.413	0.284
4/30/2010	1.35	19.83	14.72	9.93	29.86	164.87	55.77	0.468	0.284
5/31/2010	1.34	19.88	14.83	10.73	29.90	165.48	56.10	0.504	0.285
6/30/2010	1.37	18.65	13.65	8.78	29.94	166.04	56.37	0.437	0.285
7/31/2010	1.37	19.12	13.96	7.44	29.98	166.63	56.60	0.362	0.286
8/31/2010	1.27	18.26	14.40	2.57	30.02	167.20	56.68	0.131	0.285
9/30/2010	1.36	20.12	14.78	8.70	30.06	167.80	56.94	0.404	0.286
10/31/2010	0.86	14.94	17.37	7.63	30.09	168.27	57.18	0.481	0.286
11/30/2010	1.32	20.73	15.73	8.83	30.13	168.89	57.44	0.399	0.286
12/31/2010	1.34	18.81	14.08	8.71	30.17	169.47	57.71	0.431	0.287
1/31/2011	1.28	19.34	15.05	8.01	30.21	170.07	57.96	0.387	0.287
2/28/2011	1.42	19.24	13.56	5.24	30.25	170.61	58.10	0.253	0.287
3/31/2011	1.35	19.87	14.77	7.11	30.29	171.23	58.33	0.334	0.287
4/30/2011	1.36	19.24	14.11	6.41	30.33	171.80	58.52	0.310	0.287
5/31/2011	1.31	17.85	13.58	4.79	30.38	172.36	58.67	0.249	0.287

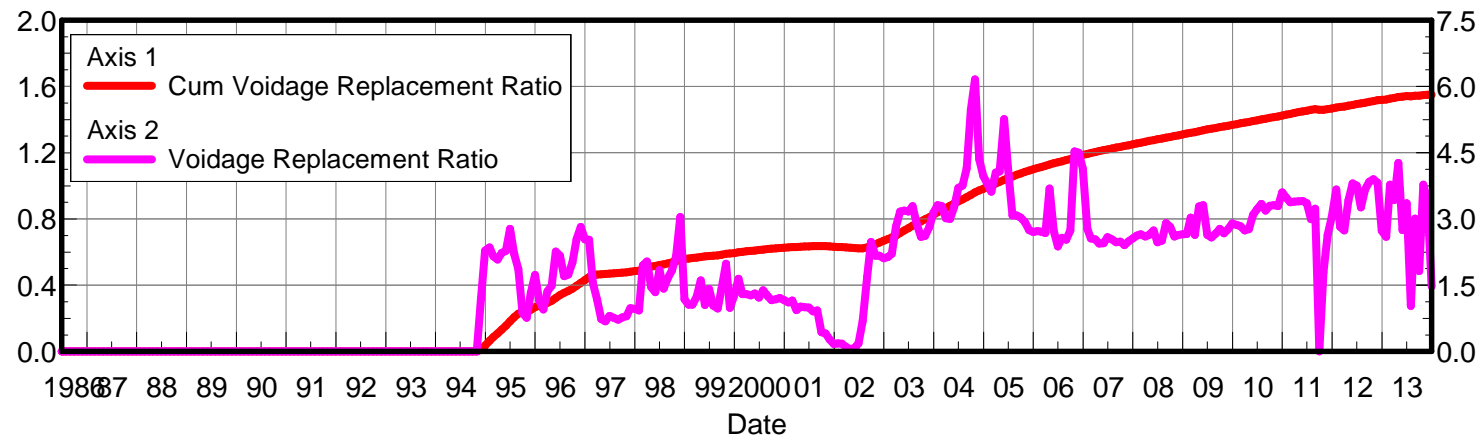
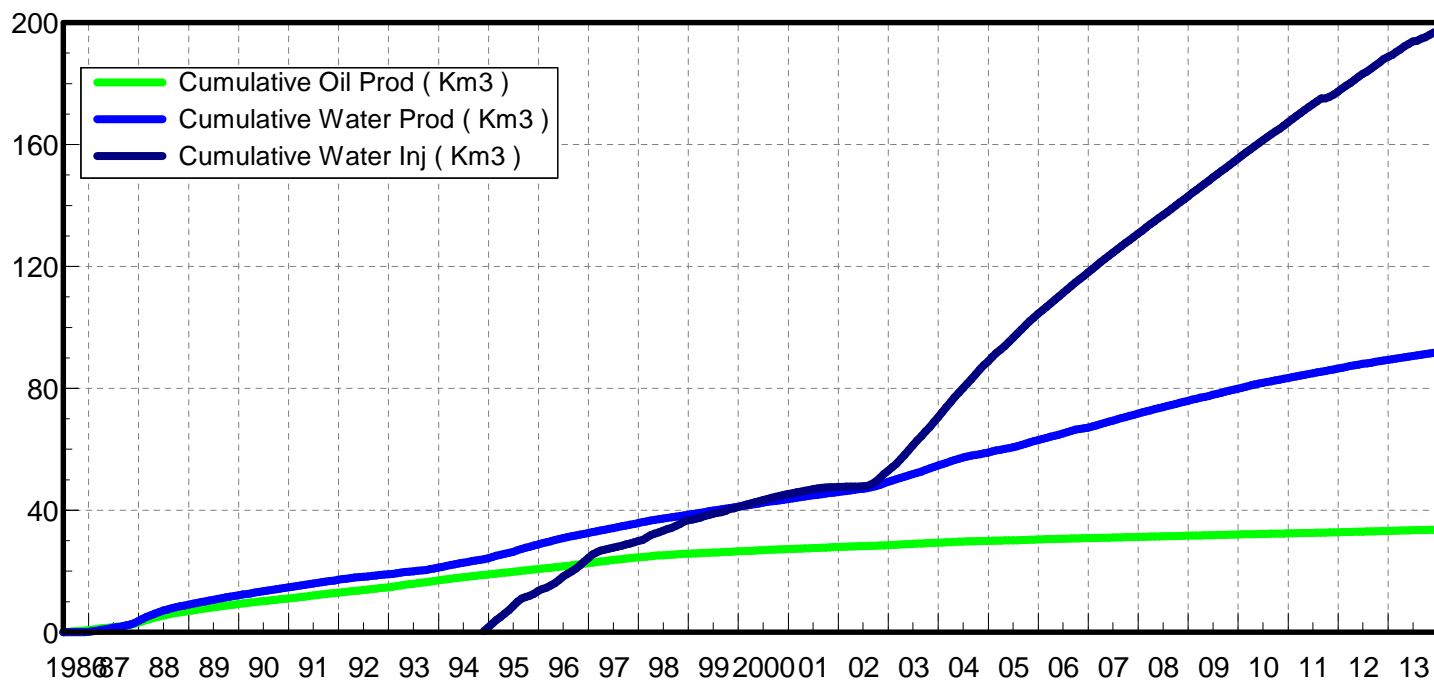
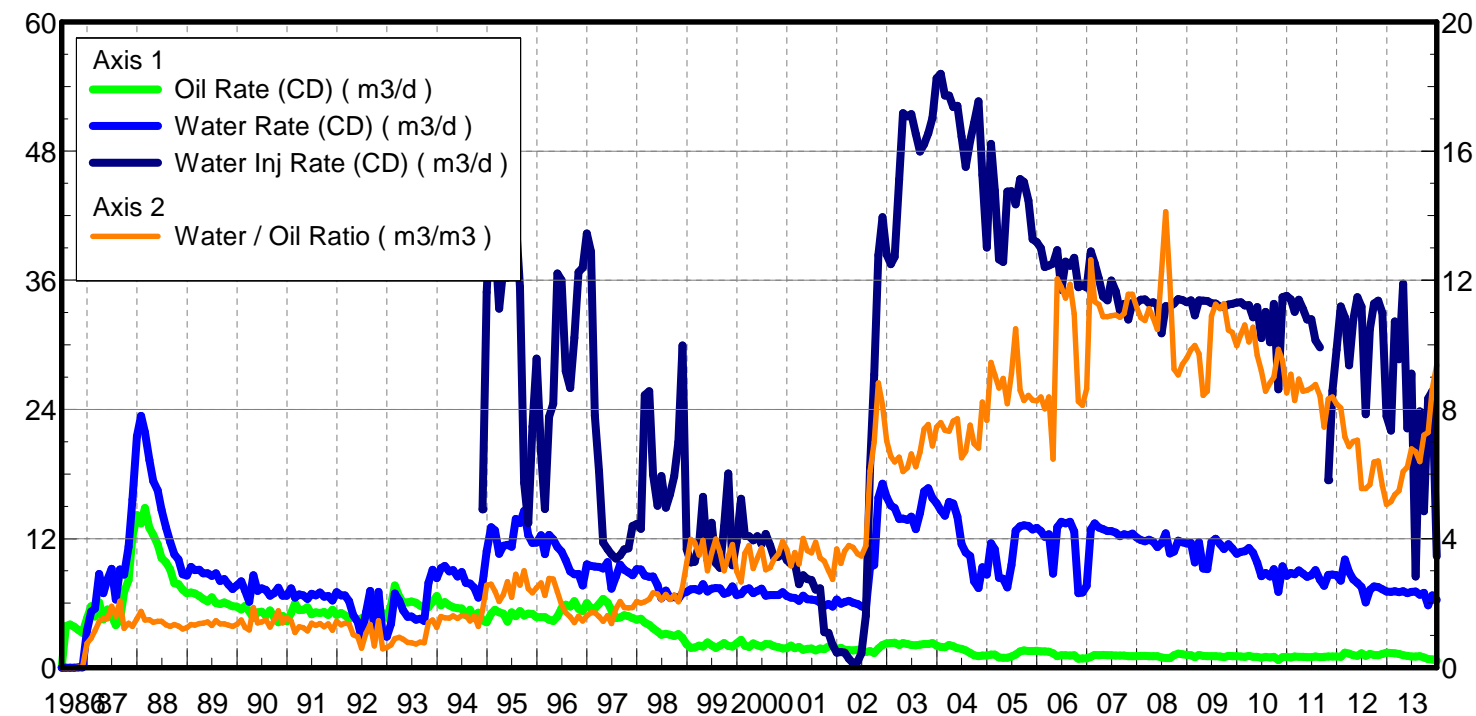
Date	Oil Rate (CD) m3/d	Water Rate (CD) m3/d	Water Oil Ratio m3/m3	Water Inj Rate (CD) m3/d	Cum Oil Prod Km3	Cum Water Prod Km3	Cum Water Inj Km3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/2011	1.33	17.50	13.19	5.00	30.42	172.88	58.82	0.265	0.287
7/31/2011	1.39	18.62	13.42	4.70	30.46	173.46	58.96	0.234	0.287
8/31/2011	1.29	16.86	13.03	2.02	30.50	173.98	59.02	0.111	0.287
9/30/2011	1.34	15.67	11.69	1.96	30.54	174.45	59.08	0.115	0.286
10/31/2011	1.04	13.49	12.99	4.88	30.57	174.87	59.23	0.335	0.286
11/30/2011	1.38	17.99	13.09	5.78	30.61	175.41	59.41	0.297	0.286
12/31/2011	1.17	15.24	12.99	6.70	30.65	175.88	59.62	0.407	0.287
1/31/2012	1.04	13.64	13.06	7.30	30.68	176.31	59.84	0.495	0.287
2/29/2012	1.05	14.07	13.46	6.69	30.71	176.71	60.04	0.441	0.287
3/31/2012	1.01	12.87	12.75	6.88	30.74	177.11	60.25	0.494	0.288
4/30/2012	0.93	11.91	12.80	7.56	30.77	177.47	60.48	0.586	0.288
5/31/2012	0.95	11.98	12.56	7.69	30.80	177.84	60.71	0.592	0.289
6/30/2012	1.38	11.05	7.99	7.38	30.84	178.17	60.94	0.590	0.289
7/31/2012	1.08	8.88	8.24	4.94	30.87	178.45	61.09	0.494	0.290
8/31/2012	1.34	10.39	7.76	5.91	30.92	178.77	61.27	0.501	0.290
9/30/2012	1.42	10.61	7.48	7.30	30.96	179.09	61.49	0.603	0.291
10/31/2012	1.41	10.41	7.40	8.42	31.00	179.41	61.75	0.709	0.291
11/30/2012	1.53	10.05	6.57	7.11	31.05	179.71	61.97	0.610	0.292
12/31/2012	1.66	9.68	5.82	7.49	31.10	180.01	62.20	0.655	0.292
1/31/2013	1.67	9.86	5.89	7.83	31.15	180.32	62.44	0.674	0.293
2/28/2013	1.65	9.91	6.02	8.07	31.20	180.60	62.67	0.693	0.294
3/31/2013	1.39	9.35	6.73	7.24	31.24	180.89	62.89	0.670	0.294
4/30/2013	1.30	9.90	7.58	6.57	31.28	181.18	63.09	0.583	0.295
5/31/2013	1.16	8.86	7.64	4.81	31.32	181.46	63.24	0.477	0.295
6/30/2013	1.13	9.97	8.85	6.29	31.35	181.76	63.43	0.564	0.295
7/31/2013	1.06	10.26	9.66	7.30	31.38	182.07	63.65	0.642	0.296
8/31/2013	1.02	10.39	10.23	7.06	31.41	182.40	63.87	0.617	0.297
9/30/2013	1.02	10.48	10.24	7.88	31.44	182.71	64.11	0.682	0.297
10/31/2013	0.98	8.83	9.00	8.15	31.48	182.98	64.36	0.827	0.298
11/30/2013	1.01	9.79	9.68	7.47	31.51	183.28	64.58	0.688	0.299
12/31/2013	1.00	9.90	9.94	3.48	31.54	183.59	64.69	0.318	0.299

Oil Formation Vol Factor : 1.05000 m3/m3
Water Formation Vol Factor : 1.00000 m3/m3
Water / Oil Ratio : 9.38 m3/m3

Pattern: 00/12-28-010-29Inj Set: KolaUnit#1

March 04, 2014
Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 0.67 m3/d
Water Rate (CD) : 6.31 m3/d
Water Inj Rate (CD) : 10.35 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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/1986	0.06	0.00	0.00		0.00	0.00	0.00	0.000	0.000
7/31/1986	3.87	0.01	0.00		0.12	0.00	0.00	0.000	0.000
8/31/1986	4.01	0.01	0.00		0.25	0.00	0.00	0.000	0.000
9/30/1986	3.82	0.01	0.00		0.36	0.00	0.00	0.000	0.000
10/31/1986	3.50	0.05	0.01		0.47	0.00	0.00	0.000	0.000
11/30/1986	3.23	0.05	0.01		0.57	0.00	0.00	0.000	0.000
12/31/1986	4.59	3.45	0.75		0.71	0.11	0.00	0.000	0.000
1/31/1987	5.70	5.20	0.91		0.89	0.27	0.00	0.000	0.000
2/28/1987	4.77	5.49	1.15		1.02	0.43	0.00	0.000	0.000
3/31/1987	6.08	8.71	1.43		1.21	0.70	0.00	0.000	0.000
4/30/1987	4.50	6.92	1.54		1.34	0.90	0.00	0.000	0.000
5/31/1987	5.40	8.22	1.52		1.51	1.16	0.00	0.000	0.000
6/30/1987	4.82	9.19	1.91		1.65	1.43	0.00	0.000	0.000
7/31/1987	3.97	6.34	1.59		1.78	1.63	0.00	0.000	0.000
8/31/1987	4.44	9.14	2.06		1.91	1.91	0.00	0.000	0.000
9/30/1987	7.06	8.65	1.22		2.13	2.17	0.00	0.000	0.000
10/31/1987	8.16	11.24	1.38		2.38	2.52	0.00	0.000	0.000
11/30/1987	12.19	15.61	1.28		2.75	2.99	0.00	0.000	0.000
12/31/1987	14.18	21.49	1.52		3.18	3.66	0.00	0.000	0.000
1/31/1988	13.41	23.39	1.74		3.60	4.38	0.00	0.000	0.000
2/29/1988	14.84	21.89	1.47		4.03	5.02	0.00	0.000	0.000
3/31/1988	13.00	19.31	1.49		4.43	5.61	0.00	0.000	0.000
4/30/1988	12.35	17.33	1.40		4.80	6.13	0.00	0.000	0.000
5/31/1988	11.44	16.48	1.44		5.16	6.64	0.00	0.000	0.000
6/30/1988	10.20	14.65	1.44		5.47	7.08	0.00	0.000	0.000
7/31/1988	9.79	13.02	1.33		5.77	7.49	0.00	0.000	0.000
8/31/1988	9.13	11.68	1.28		6.05	7.85	0.00	0.000	0.000
9/30/1988	7.85	10.52	1.34		6.29	8.17	0.00	0.000	0.000
10/31/1988	7.78	10.05	1.29		6.53	8.48	0.00	0.000	0.000
11/30/1988	7.25	8.69	1.20		6.75	8.74	0.00	0.000	0.000
12/31/1988	6.93	8.56	1.24		6.96	9.00	0.00	0.000	0.000
1/31/1989	7.00	9.36	1.34		7.18	9.29	0.00	0.000	0.000
2/28/1989	6.91	9.08	1.32		7.37	9.55	0.00	0.000	0.000
3/31/1989	6.66	9.10	1.37		7.58	9.83	0.00	0.000	0.000
4/30/1989	6.39	8.79	1.38		7.77	10.09	0.00	0.000	0.000
5/31/1989	6.16	8.76	1.42		7.96	10.37	0.00	0.000	0.000
6/30/1989	6.53	8.55	1.31		8.16	10.62	0.00	0.000	0.000
7/31/1989	6.00	8.77	1.46		8.34	10.89	0.00	0.000	0.000
8/31/1989	5.93	8.07	1.36		8.53	11.14	0.00	0.000	0.000
9/30/1989	6.08	8.24	1.35		8.71	11.39	0.00	0.000	0.000
10/31/1989	5.89	7.75	1.32		8.89	11.63	0.00	0.000	0.000
11/30/1989	5.71	7.31	1.28		9.06	11.85	0.00	0.000	0.000
12/31/1989	5.69	7.65	1.34		9.24	12.09	0.00	0.000	0.000
1/31/1990	5.42	8.02	1.48		9.41	12.34	0.00	0.000	0.000
2/28/1990	5.75	7.18	1.25		9.57	12.54	0.00	0.000	0.000
3/31/1990	5.24	6.14	1.17		9.73	12.73	0.00	0.000	0.000
4/30/1990	4.61	8.58	1.86		9.87	12.99	0.00	0.000	0.000
5/31/1990	5.15	7.15	1.39		10.03	13.21	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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/1990	5.19	7.38	1.42		10.18	13.43	0.00	0.000	0.000
7/31/1990	4.86	7.22	1.48		10.33	13.65	0.00	0.000	0.000
8/31/1990	5.32	6.69	1.26		10.50	13.86	0.00	0.000	0.000
9/30/1990	4.68	6.93	1.48		10.64	14.07	0.00	0.000	0.000
10/31/1990	4.22	7.43	1.76		10.77	14.30	0.00	0.000	0.000
11/30/1990	4.82	6.71	1.39		10.91	14.50	0.00	0.000	0.000
12/31/1990	4.31	6.69	1.55		11.05	14.71	0.00	0.000	0.000
1/31/1991	5.10	7.39	1.45		11.21	14.94	0.00	0.000	0.000
2/28/1991	5.97	6.53	1.09		11.37	15.12	0.00	0.000	0.000
3/31/1991	5.35	6.80	1.27		11.54	15.33	0.00	0.000	0.000
4/30/1991	5.40	6.71	1.24		11.70	15.53	0.00	0.000	0.000
5/31/1991	5.62	6.41	1.14		11.88	15.73	0.00	0.000	0.000
6/30/1991	4.98	6.86	1.38		12.02	15.93	0.00	0.000	0.000
7/31/1991	5.14	6.71	1.31		12.18	16.14	0.00	0.000	0.000
8/31/1991	5.09	6.98	1.37		12.34	16.36	0.00	0.000	0.000
9/30/1991	5.19	6.61	1.27		12.50	16.56	0.00	0.000	0.000
10/31/1991	4.90	6.67	1.36		12.65	16.76	0.00	0.000	0.000
11/30/1991	5.38	6.25	1.16		12.81	16.95	0.00	0.000	0.000
12/31/1991	4.90	7.03	1.43		12.96	17.17	0.00	0.000	0.000
1/31/1992	5.08	6.74	1.33		13.12	17.38	0.00	0.000	0.000
2/29/1992	4.87	6.73	1.38		13.26	17.57	0.00	0.000	0.000
3/31/1992	4.54	6.19	1.36		13.40	17.77	0.00	0.000	0.000
4/30/1992	4.76	4.87	1.02		13.55	17.91	0.00	0.000	0.000
5/31/1992	4.42	4.27	0.96		13.68	18.04	0.00	0.000	0.000
6/30/1992	4.58	2.80	0.61		13.82	18.13	0.00	0.000	0.000
7/31/1992	4.78	5.14	1.07		13.97	18.29	0.00	0.000	0.000
8/31/1992	5.33	7.15	1.34		14.13	18.51	0.00	0.000	0.000
9/30/1992	5.33	3.62	0.68		14.29	18.62	0.00	0.000	0.000
10/31/1992	4.85	7.06	1.45		14.44	18.84	0.00	0.000	0.000
11/30/1992	5.09	3.00	0.59		14.60	18.93	0.00	0.000	0.000
12/31/1992	4.66	2.90	0.62		14.74	19.02	0.00	0.000	0.000
1/31/1993	5.76	4.09	0.71		14.92	19.14	0.00	0.000	0.000
2/28/1993	7.63	6.90	0.90		15.13	19.34	0.00	0.000	0.000
3/31/1993	6.60	6.22	0.94		15.34	19.53	0.00	0.000	0.000
4/30/1993	6.06	5.33	0.88		15.52	19.69	0.00	0.000	0.000
5/31/1993	6.06	4.73	0.78		15.71	19.84	0.00	0.000	0.000
6/30/1993	6.17	4.77	0.77		15.89	19.98	0.00	0.000	0.000
7/31/1993	6.04	4.46	0.74		16.08	20.12	0.00	0.000	0.000
8/31/1993	5.77	4.57	0.79		16.26	20.26	0.00	0.000	0.000
9/30/1993	5.61	4.34	0.77		16.43	20.39	0.00	0.000	0.000
10/31/1993	5.62	7.89	1.40		16.60	20.63	0.00	0.000	0.000
11/30/1993	6.14	9.11	1.48		16.78	20.91	0.00	0.000	0.000
12/31/1993	6.68	8.34	1.25		16.99	21.16	0.00	0.000	0.000
1/31/1994	5.81	9.24	1.59		17.17	21.45	0.00	0.000	0.000
2/28/1994	6.11	9.46	1.55		17.34	21.72	0.00	0.000	0.000
3/31/1994	5.80	8.95	1.54		17.52	21.99	0.00	0.000	0.000
4/30/1994	5.63	9.07	1.61		17.69	22.27	0.00	0.000	0.000
5/31/1994	5.55	8.49	1.53		17.86	22.53	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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/1994	5.51	8.88	1.61		18.03	22.79	0.00	0.000	0.000
7/31/1994	4.87	7.88	1.62		18.18	23.04	0.00	0.000	0.000
8/31/1994	5.39	7.81	1.45		18.35	23.28	0.00	0.000	0.000
9/30/1994	4.62	7.44	1.61		18.49	23.50	0.00	0.000	0.000
10/31/1994	5.12	6.53	1.28		18.64	23.71	0.00	0.000	0.000
11/30/1994	4.41	7.83	1.78	14.73	18.78	23.94	0.44	1.182	0.010
12/31/1994	4.23	10.84	2.56	34.87	18.91	24.28	1.52	2.282	0.035
1/31/1995	5.04	13.05	2.59	43.28	19.06	24.68	2.86	2.359	0.064
2/28/1995	5.38	12.77	2.37	39.73	19.21	25.04	3.98	2.156	0.088
3/31/1995	5.15	10.59	2.06	33.36	19.37	25.37	5.01	2.084	0.110
4/30/1995	5.02	11.32	2.26	37.09	19.52	25.71	6.12	2.236	0.133
5/31/1995	4.28	11.42	2.67	36.26	19.66	26.06	7.25	2.279	0.155
6/30/1995	5.14	11.24	2.19	46.19	19.81	26.40	8.63	2.776	0.183
7/31/1995	4.78	13.84	2.89	41.61	19.96	26.83	9.92	2.207	0.208
8/31/1995	5.26	13.44	2.55	35.38	20.12	27.24	11.02	1.865	0.228
9/30/1995	4.86	14.59	3.00	17.19	20.27	27.68	11.54	0.873	0.236
10/31/1995	5.02	12.33	2.45	13.44	20.42	28.06	11.95	0.763	0.241
11/30/1995	5.00	11.60	2.32	22.38	20.57	28.41	12.62	1.328	0.252
12/31/1995	4.70	11.63	2.48	28.74	20.72	28.77	13.51	1.735	0.267
1/31/1996	4.69	12.32	2.63	19.99	20.87	29.15	14.13	1.160	0.277
2/29/1996	4.71	10.57	2.24	14.76	21.00	29.46	14.56	0.952	0.283
3/31/1996	4.47	12.35	2.76	23.30	21.14	29.84	15.28	1.367	0.294
4/30/1996	4.34	11.92	2.74	24.53	21.27	30.20	16.02	1.488	0.305
5/31/1996	4.76	11.21	2.35	36.63	21.42	30.55	17.16	2.259	0.323
6/30/1996	5.54	10.79	1.95	36.00	21.58	30.87	18.24	2.168	0.341
7/31/1996	5.85	10.00	1.71	27.56	21.77	31.18	19.09	1.707	0.353
8/31/1996	5.68	8.95	1.58	26.00	21.94	31.46	19.90	1.742	0.365
9/30/1996	6.19	8.68	1.40	30.66	22.13	31.72	20.82	2.019	0.379
10/31/1996	5.46	8.70	1.59	36.74	22.30	31.99	21.95	2.544	0.396
11/30/1996	5.28	7.63	1.45	37.18	22.46	32.22	23.07	2.822	0.413
12/31/1996	6.00	9.62	1.60	40.36	22.64	32.52	24.32	2.535	0.432
1/31/1997	5.54	9.46	1.71	38.64	22.81	32.81	25.52	2.529	0.450
2/28/1997	5.50	9.41	1.71	23.44	22.97	33.07	26.18	1.544	0.458
3/31/1997	5.91	9.36	1.58	18.29	23.15	33.36	26.74	1.175	0.464
4/30/1997	6.40	9.21	1.44	11.64	23.34	33.64	27.09	0.731	0.466
5/31/1997	6.05	9.81	1.62	11.01	23.53	33.95	27.43	0.681	0.468
6/30/1997	5.37	7.35	1.37	10.52	23.69	34.17	27.75	0.810	0.470
7/31/1997	4.62	8.48	1.84	10.14	23.83	34.43	28.06	0.761	0.472
8/31/1997	4.66	9.59	2.06	10.44	23.98	34.73	28.39	0.721	0.474
9/30/1997	4.88	9.11	1.87	11.00	24.12	35.00	28.72	0.773	0.476
10/31/1997	4.78	8.86	1.85	11.10	24.27	35.27	29.06	0.800	0.478
11/30/1997	4.61	8.59	1.86	13.16	24.41	35.53	29.46	0.980	0.482
12/31/1997	4.47	9.18	2.05	13.35	24.55	35.82	29.87	0.962	0.485
1/31/1998	4.54	9.12	2.01	12.90	24.69	36.10	30.27	0.929	0.488
2/28/1998	4.20	8.57	2.04	25.33	24.81	36.34	30.98	1.952	0.497
3/31/1998	3.98	8.46	2.13	25.70	24.93	36.60	31.77	2.035	0.506
4/30/1998	3.66	8.49	2.32	17.94	25.04	36.86	32.31	1.455	0.512
5/31/1998	3.36	7.67	2.28	15.06	25.15	37.09	32.78	1.346	0.516

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/1998	3.06	6.45	2.10	17.82	25.24	37.29	33.31	1.844	0.522
7/31/1998	3.15	7.16	2.27	14.87	25.34	37.51	33.78	1.421	0.527
8/31/1998	3.06	6.47	2.11	16.13	25.43	37.71	34.28	1.665	0.532
9/30/1998	2.94	6.62	2.25	17.79	25.52	37.91	34.81	1.833	0.538
10/31/1998	3.13	6.41	2.04	20.96	25.62	38.11	35.46	2.162	0.545
11/30/1998	2.77	6.92	2.50	29.93	25.70	38.31	36.36	3.048	0.557
12/31/1998	2.17	7.05	3.25	11.01	25.77	38.53	36.70	1.180	0.560
1/31/1999	1.83	7.29	3.97	9.79	25.82	38.76	37.00	1.063	0.562
2/28/1999	1.89	7.33	3.88	9.85	25.88	38.96	37.28	1.058	0.564
3/31/1999	2.05	7.16	3.49	11.52	25.94	39.19	37.63	1.237	0.567
4/30/1999	1.97	7.78	3.94	15.89	26.00	39.42	38.11	1.613	0.571
5/31/1999	2.35	7.07	3.01	10.02	26.07	39.64	38.42	1.050	0.573
6/30/1999	2.07	7.35	3.55	13.48	26.13	39.86	38.83	1.414	0.577
7/31/1999	1.86	7.40	3.98	9.74	26.19	40.09	39.13	1.042	0.579
8/31/1999	2.06	7.38	3.59	9.27	26.25	40.32	39.41	0.971	0.581
9/30/1999	2.29	6.86	3.00	13.15	26.32	40.52	39.81	1.420	0.584
10/31/1999	2.02	6.99	3.46	18.06	26.39	40.74	40.37	1.984	0.590
11/30/1999	1.98	7.54	3.82	9.50	26.45	40.97	40.65	0.988	0.591
12/31/1999	2.26	6.75	2.99	11.67	26.52	41.17	41.02	1.280	0.594
1/31/2000	2.58	6.84	2.65	15.71	26.59	41.39	41.50	1.645	0.599
2/29/2000	2.04	7.26	3.55	12.24	26.65	41.60	41.86	1.302	0.602
3/31/2000	1.95	7.37	3.79	12.23	26.71	41.83	42.24	1.298	0.604
4/30/2000	2.26	6.93	3.07	11.83	26.78	42.03	42.59	1.271	0.607
5/31/2000	2.10	7.13	3.40	12.23	26.85	42.25	42.97	1.310	0.610
6/30/2000	1.98	7.34	3.70	11.49	26.91	42.47	43.32	1.219	0.612
7/31/2000	2.20	6.69	3.03	12.45	26.98	42.68	43.70	1.383	0.615
8/31/2000	2.17	6.75	3.11	11.37	27.04	42.89	44.05	1.258	0.618
9/30/2000	2.01	6.76	3.37	10.27	27.10	43.09	44.36	1.158	0.620
10/31/2000	1.91	6.75	3.53	10.34	27.16	43.30	44.68	1.180	0.622
11/30/2000	1.79	7.03	3.92	10.80	27.22	43.51	45.01	1.212	0.624
12/31/2000	1.83	6.68	3.65	10.00	27.27	43.72	45.32	1.164	0.626
1/31/2001	2.07	6.52	3.15	9.62	27.34	43.92	45.62	1.107	0.628
2/28/2001	1.82	6.50	3.56	9.73	27.39	44.11	45.89	1.157	0.630
3/31/2001	1.94	6.22	3.21	7.75	27.45	44.30	46.13	0.939	0.631
4/30/2001	1.67	6.70	4.00	8.58	27.50	44.50	46.39	1.015	0.632
5/31/2001	1.76	6.38	3.63	8.25	27.55	44.70	46.64	1.003	0.633
6/30/2001	1.79	6.35	3.56	8.16	27.61	44.89	46.89	0.991	0.635
7/31/2001	1.62	6.28	3.88	7.26	27.66	45.08	47.11	0.910	0.636
8/31/2001	1.78	6.06	3.40	7.39	27.71	45.27	47.34	0.932	0.637
9/30/2001	1.74	5.73	3.30	3.30	27.76	45.44	47.44	0.437	0.636
10/31/2001	1.97	5.93	3.02	3.25	27.82	45.63	47.54	0.407	0.635
11/30/2001	2.08	5.70	2.74	2.13	27.89	45.80	47.60	0.270	0.634
12/31/2001	1.73	6.35	3.67	1.40	27.94	45.99	47.65	0.171	0.633
1/31/2002	1.84	5.94	3.23	1.45	28.00	46.18	47.69	0.185	0.631
2/28/2002	1.68	6.10	3.62	1.40	28.04	46.35	47.73	0.178	0.630
3/31/2002	1.64	6.21	3.79	0.85	28.10	46.54	47.76	0.107	0.628
4/30/2002	1.62	6.04	3.72	0.43	28.14	46.72	47.77	0.056	0.626
5/31/2002	1.68	5.93	3.53	0.57	28.20	46.91	47.79	0.074	0.625

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/2002	1.65	5.72	3.46	1.35	28.25	47.08	47.83	0.181	0.623
7/31/2002	1.46	5.52	3.78	4.86	28.29	47.25	47.98	0.689	0.623
8/31/2002	1.54	9.35	6.08	18.54	28.34	47.54	48.55	1.692	0.628
9/30/2002	1.37	9.55	6.99	27.22	28.38	47.82	49.37	2.479	0.636
10/31/2002	1.79	15.79	8.82	38.34	28.44	48.31	50.56	2.170	0.647
11/30/2002	2.10	17.11	8.14	41.86	28.50	48.83	51.81	2.167	0.658
12/31/2002	2.26	15.84	7.02	38.39	28.57	49.32	53.00	2.108	0.668
1/31/2003	2.31	15.09	6.54	37.50	28.64	49.79	54.17	2.141	0.678
2/28/2003	2.33	14.83	6.37	38.16	28.71	50.20	55.24	2.210	0.688
3/31/2003	2.12	13.82	6.52	45.38	28.77	50.63	56.64	2.828	0.701
4/30/2003	2.28	13.87	6.07	51.52	28.84	51.05	58.19	3.168	0.715
5/31/2003	2.22	13.73	6.20	51.22	28.91	51.47	59.78	3.190	0.731
6/30/2003	2.12	14.03	6.62	51.45	28.97	51.89	61.32	3.165	0.745
7/31/2003	2.07	12.89	6.22	49.60	29.04	52.29	62.86	3.293	0.759
8/31/2003	2.15	14.35	6.67	47.96	29.10	52.74	64.34	2.887	0.772
9/30/2003	2.22	16.39	7.40	48.63	29.17	53.23	65.80	2.598	0.785
10/31/2003	2.21	16.67	7.54	49.65	29.24	53.75	67.34	2.615	0.797
11/30/2003	2.29	15.75	6.87	51.08	29.31	54.22	68.87	2.813	0.810
12/31/2003	2.05	15.28	7.46	54.76	29.37	54.69	70.57	3.141	0.825
1/31/2004	1.93	14.62	7.59	55.17	29.43	55.14	72.28	3.315	0.840
2/29/2004	1.92	14.13	7.36	53.17	29.49	55.55	73.82	3.294	0.853
3/31/2004	2.11	15.42	7.32	53.17	29.55	56.03	75.47	3.016	0.867
4/30/2004	2.00	15.27	7.65	52.08	29.61	56.49	77.03	3.000	0.880
5/31/2004	1.82	14.04	7.71	52.22	29.67	56.93	78.65	3.274	0.893
6/30/2004	1.77	11.48	6.50	49.37	29.72	57.27	80.13	3.701	0.906
7/31/2004	1.60	10.72	6.70	46.52	29.77	57.60	81.58	3.752	0.918
8/31/2004	1.38	10.37	7.52	48.98	29.81	57.92	83.09	4.143	0.931
9/30/2004	1.16	8.03	6.94	50.60	29.85	58.16	84.61	5.472	0.945
10/31/2004	1.09	7.40	6.80	52.62	29.88	58.39	86.24	6.160	0.961
11/30/2004	1.13	9.33	8.23	45.80	29.91	58.67	87.62	4.352	0.973
12/31/2004	1.13	8.65	7.66	39.03	29.95	58.94	88.83	3.971	0.983
1/31/2005	1.22	11.56	9.45	48.66	29.99	59.30	90.34	3.787	0.995
2/28/2005	1.21	10.99	9.07	44.32	30.02	59.61	91.58	3.614	1.005
3/31/2005	0.96	8.35	8.66	37.95	30.05	59.87	92.75	4.054	1.015
4/30/2005	0.92	8.28	8.96	37.69	30.08	60.12	93.88	4.076	1.024
5/31/2005	0.91	7.46	8.17	44.25	30.11	60.35	95.26	5.258	1.036
6/30/2005	1.05	9.54	9.11	44.26	30.14	60.63	96.58	4.158	1.047
7/31/2005	1.21	12.72	10.50	43.05	30.18	61.03	97.92	3.077	1.056
8/31/2005	1.53	13.14	8.60	45.39	30.22	61.43	99.33	3.079	1.066
9/30/2005	1.60	13.22	8.27	45.12	30.27	61.83	100.68	3.029	1.075
10/31/2005	1.56	13.19	8.43	43.42	30.32	62.24	102.03	2.928	1.084
11/30/2005	1.55	12.84	8.29	39.81	30.37	62.63	103.22	2.751	1.092
12/31/2005	1.57	12.98	8.26	39.55	30.42	63.03	104.45	2.702	1.100
1/31/2006	1.52	12.71	8.38	38.98	30.46	63.42	105.65	2.725	1.107
2/28/2006	1.52	12.15	8.01	37.23	30.50	63.76	106.70	2.709	1.114
3/31/2006	1.48	12.40	8.39	37.38	30.55	64.15	107.86	2.679	1.121
4/30/2006	1.36	8.76	6.46	37.57	30.59	64.41	108.98	3.691	1.129
5/31/2006	1.08	13.04	12.04	38.80	30.62	64.81	110.18	2.736	1.136

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/2006	1.15	13.56	11.78	35.10	30.66	65.22	111.24	2.376	1.142
7/31/2006	1.17	13.41	11.45	37.72	30.70	65.64	112.41	2.576	1.149
8/31/2006	1.14	13.56	11.88	37.35	30.73	66.06	113.57	2.532	1.155
9/30/2006	1.16	12.68	10.96	38.09	30.77	66.44	114.71	2.742	1.162
10/31/2006	0.84	6.93	8.24	35.36	30.79	66.65	115.80	4.526	1.170
11/30/2006	0.86	6.99	8.13	35.54	30.82	66.86	116.87	4.503	1.178
12/31/2006	0.88	7.61	8.64	35.33	30.85	67.10	117.97	4.139	1.186
1/31/2007	1.02	12.85	12.64	38.69	30.88	67.50	119.16	2.779	1.193
2/28/2007	1.18	13.42	11.34	37.57	30.91	67.87	120.22	2.562	1.198
3/31/2007	1.16	13.02	11.25	36.16	30.95	68.28	121.34	2.541	1.204
4/30/2007	1.19	12.88	10.87	34.49	30.98	68.66	122.37	2.441	1.209
5/31/2007	1.17	12.70	10.88	34.15	31.02	69.06	123.43	2.451	1.215
6/30/2007	1.17	12.70	10.90	35.98	31.05	69.44	124.51	2.585	1.220
7/31/2007	1.15	12.56	10.93	34.98	31.09	69.83	125.59	2.541	1.226
8/31/2007	1.13	12.23	10.85	33.15	31.12	70.20	126.62	2.471	1.231
9/30/2007	1.13	12.39	10.98	33.80	31.16	70.58	127.64	2.490	1.236
10/31/2007	1.07	12.32	11.57	32.36	31.19	70.96	128.64	2.408	1.240
11/30/2007	1.08	12.46	11.57	33.90	31.22	71.33	129.66	2.493	1.245
12/31/2007	1.08	12.11	11.17	33.91	31.26	71.71	130.71	2.560	1.250
1/31/2008	1.10	11.88	10.84	34.19	31.29	72.08	131.77	2.624	1.256
2/29/2008	1.09	11.76	10.75	34.21	31.32	72.42	132.76	2.651	1.261
3/31/2008	1.07	11.89	11.12	33.87	31.35	72.79	133.81	2.602	1.266
4/30/2008	1.08	11.72	10.83	33.95	31.39	73.14	134.83	2.640	1.271
5/31/2008	1.07	11.20	10.47	33.75	31.42	73.48	135.87	2.738	1.276
6/30/2008	0.94	11.58	12.27	31.07	31.45	73.83	136.81	2.471	1.280
7/31/2008	0.88	12.48	14.13	33.58	31.48	74.22	137.85	2.505	1.285
8/31/2008	0.89	10.61	11.94	33.55	31.50	74.55	138.89	2.907	1.290
9/30/2008	1.17	10.79	9.25	33.83	31.54	74.87	139.90	2.817	1.296
10/31/2008	1.30	11.81	9.07	34.25	31.58	75.24	140.96	2.600	1.300
11/30/2008	1.24	11.65	9.39	34.17	31.62	75.59	141.99	2.637	1.305
12/31/2008	1.20	11.54	9.60	33.97	31.65	75.94	143.04	2.654	1.310
1/31/2009	1.18	11.60	9.85	34.15	31.69	76.30	144.10	2.660	1.315
2/28/2009	0.98	9.77	9.99	32.74	31.72	76.58	145.02	3.032	1.320
3/31/2009	1.20	11.67	9.72	34.15	31.75	76.94	146.08	2.641	1.325
4/30/2009	1.09	9.23	8.43	34.09	31.79	77.22	147.10	3.285	1.330
5/31/2009	1.07	9.17	8.56	34.06	31.82	77.50	148.15	3.310	1.336
6/30/2009	1.07	11.70	10.90	33.86	31.85	77.85	149.17	2.640	1.340
7/31/2009	1.06	11.98	11.26	33.82	31.89	78.22	150.22	2.581	1.345
8/31/2009	1.03	11.48	11.12	33.55	31.92	78.58	151.26	2.671	1.349
9/30/2009	0.98	11.04	11.28	33.51	31.95	78.91	152.26	2.778	1.354
10/31/2009	1.10	11.47	10.46	33.74	31.98	79.27	153.31	2.672	1.359
11/30/2009	1.07	11.10	10.39	33.82	32.01	79.60	154.32	2.767	1.363
12/31/2009	1.06	10.59	9.97	33.93	32.05	79.93	155.38	2.898	1.368
1/31/2010	1.04	10.78	10.33	33.96	32.08	80.26	156.43	2.860	1.373
2/28/2010	1.02	10.82	10.61	33.67	32.11	80.56	157.37	2.832	1.377
3/31/2010	1.10	11.14	10.09	33.67	32.14	80.91	158.42	2.739	1.382
4/30/2010	1.01	10.68	10.54	32.55	32.17	81.23	159.39	2.772	1.386
5/31/2010	1.01	9.76	9.67	33.52	32.20	81.53	160.43	3.097	1.391

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	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/2010	0.93	8.52	9.19	30.62	32.23	81.79	161.35	3.225	1.395
7/31/2010	1.03	8.81	8.56	33.06	32.26	82.06	162.38	3.343	1.401
8/31/2010	0.96	8.47	8.82	30.23	32.29	82.32	163.31	3.188	1.405
9/30/2010	1.02	9.17	8.99	33.80	32.32	82.60	164.33	3.299	1.410
10/31/2010	0.72	7.06	9.86	25.88	32.35	82.82	165.13	3.311	1.414
11/30/2010	0.99	9.42	9.51	34.42	32.37	83.10	166.16	3.290	1.419
12/31/2010	1.00	8.54	8.51	34.54	32.41	83.37	167.23	3.599	1.425
1/31/2011	0.97	8.82	9.09	34.21	32.44	83.64	168.29	3.478	1.430
2/28/2011	1.05	8.69	8.28	33.05	32.47	83.88	169.22	3.376	1.434
3/31/2011	1.01	9.03	8.94	34.21	32.50	84.16	170.28	3.390	1.440
4/30/2011	1.02	8.74	8.56	33.34	32.53	84.42	171.28	3.397	1.444
5/31/2011	0.98	8.46	8.59	32.36	32.56	84.69	172.28	3.408	1.449
6/30/2011	0.99	8.60	8.66	32.37	32.59	84.94	173.25	3.356	1.454
7/31/2011	1.03	9.08	8.78	30.41	32.62	85.23	174.19	2.992	1.458
8/31/2011	0.97	8.19	8.42	29.78	32.65	85.48	175.12	3.233	1.462
9/30/2011	1.02	7.62	7.45		32.68	85.71	175.12	0.000	1.459
10/31/2011	1.04	8.62	8.33	17.43	32.71	85.98	175.66	1.795	1.460
11/30/2011	1.03	8.65	8.38	25.71	32.74	86.24	176.43	2.641	1.463
12/31/2011	1.05	8.58	8.17	29.54	32.78	86.50	177.35	3.050	1.467
1/31/2012	1.01	8.10	8.05	33.57	32.81	86.75	178.39	3.668	1.472
2/29/2012	1.41	10.06	7.14	32.56	32.85	87.04	179.33	2.821	1.476
3/31/2012	1.30	8.90	6.85	28.11	32.89	87.32	180.20	2.739	1.479
4/30/2012	1.17	8.22	7.01	32.33	32.92	87.57	181.17	3.420	1.483
5/31/2012	1.12	7.88	7.05	34.44	32.96	87.81	182.24	3.804	1.489
6/30/2012	1.35	7.51	5.55	33.54	33.00	88.04	183.25	3.755	1.494
7/31/2012	1.09	6.07	5.55	23.55	33.03	88.22	183.98	3.264	1.497
8/31/2012	1.28	7.24	5.67	31.46	33.07	88.45	184.95	3.668	1.502
9/30/2012	1.19	7.57	6.38	33.84	33.11	88.68	185.97	3.840	1.507
10/31/2012	1.17	7.51	6.40	34.09	33.14	88.91	187.02	3.900	1.512
11/30/2012	1.29	7.27	5.64	32.98	33.18	89.13	188.01	3.822	1.517
12/31/2012	1.40	7.08	5.06	23.36	33.23	89.35	188.74	2.733	1.519
1/31/2013	1.37	7.06	5.15	22.05	33.27	89.56	189.42	2.594	1.521
2/28/2013	1.33	7.12	5.36	32.16	33.31	89.76	190.32	3.778	1.526
3/31/2013	1.28	7.01	5.48	28.68	33.35	89.98	191.21	3.432	1.530
4/30/2013	1.17	7.12	6.08	35.68	33.38	90.20	192.28	4.271	1.535
5/31/2013	1.11	6.92	6.21	22.24	33.42	90.41	192.97	2.749	1.538
6/30/2013	1.04	7.04	6.78	27.32	33.45	90.62	193.79	3.359	1.541
7/31/2013	1.06	7.07	6.69	8.46	33.48	90.84	194.05	1.034	1.540
8/31/2013	1.06	6.80	6.39	23.82	33.51	91.05	194.79	3.010	1.543
9/30/2013	0.97	6.98	7.20	14.54	33.54	91.26	195.23	1.819	1.544
10/31/2013	0.79	5.79	7.29	25.00	33.57	91.44	196.00	3.775	1.547
11/30/2013	0.78	6.71	8.64	25.69	33.59	91.64	196.77	3.412	1.550
12/31/2013	0.67	6.31	9.38	10.35	33.61	91.84	197.09	1.475	1.550