

**KOLA UNIT NO. 1**  
**WATERFLOOD EOR PROJECT**  
**ANNUAL REPORT FOR 2014**

**May 7, 2015**

**Tundra Oil and Gas Partnership**

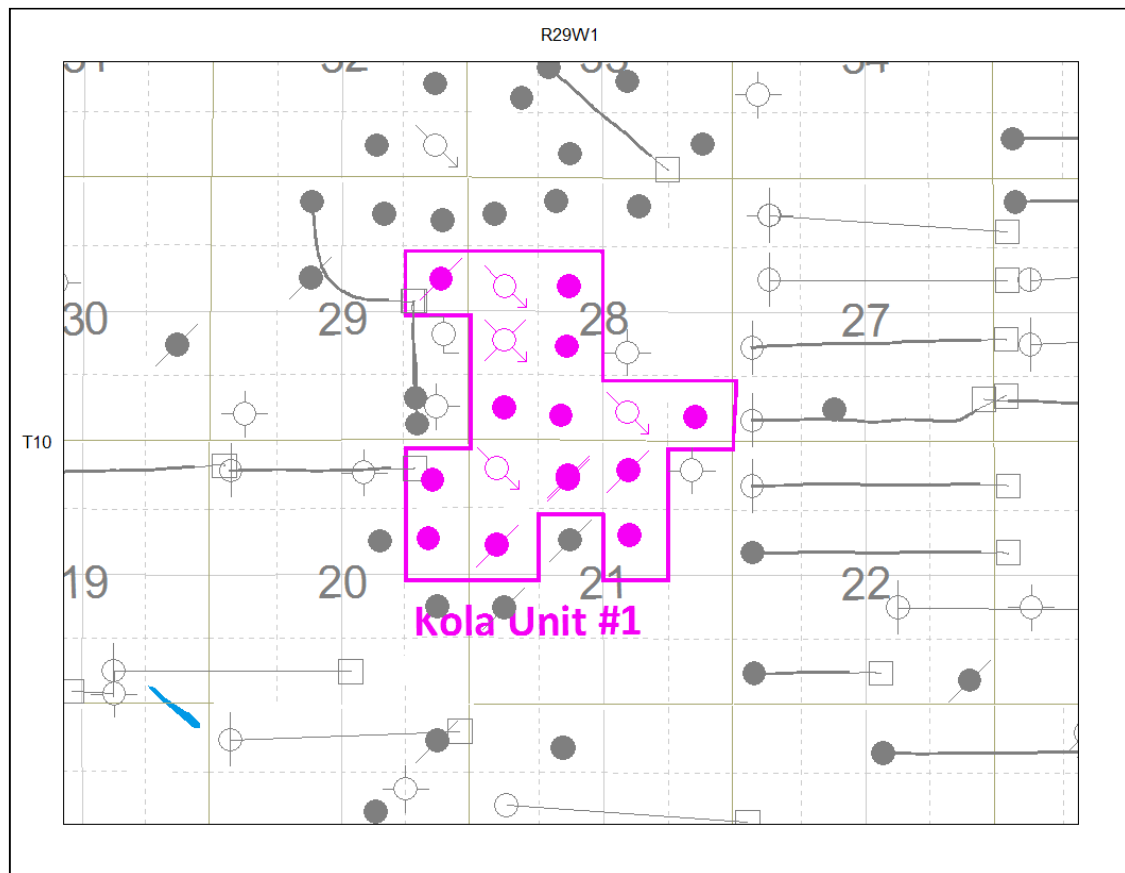
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## **INTRODUCTION**

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 2014 Annual Progress Report for Kola Unit No. 1 as required by Waterflood Order No. 2.

## **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 m<sup>3</sup>/d in February 1988. The unit was producing 3.08 m<sup>3</sup>/d of oil and 25.48 m<sup>3</sup>/d of water in December

2014. The average WOR in 2014 was 8.3 m<sup>3</sup>/m<sup>3</sup>. 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**

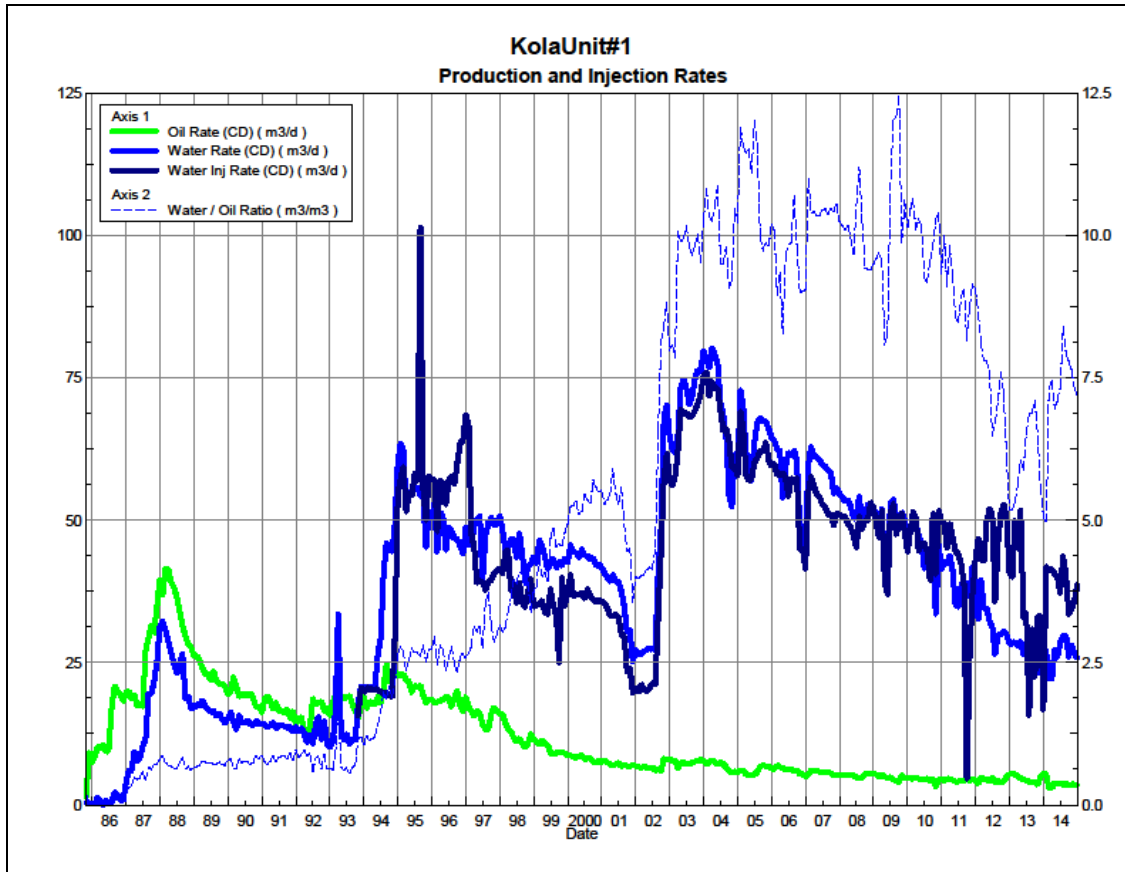
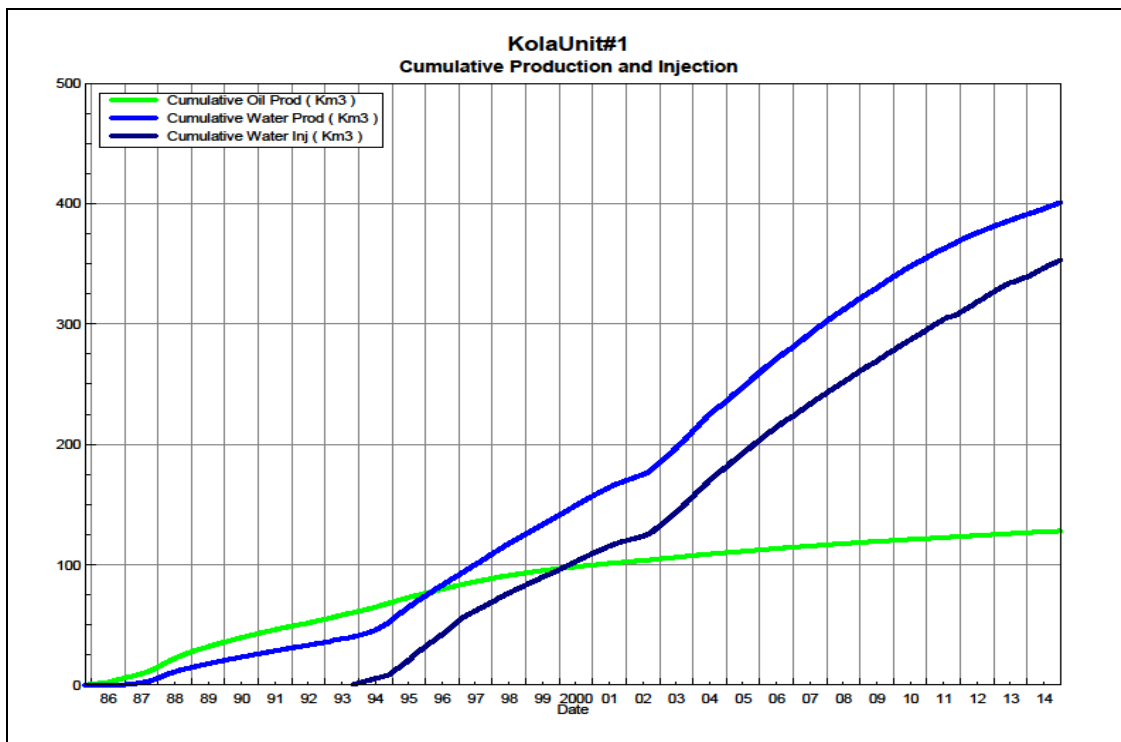


Figure 3 shows the cumulative production for Kola Unit No. 1 to the end of December 2014 as 117 e<sup>3</sup>m<sup>3</sup> of oil, and 398 e<sup>3</sup>m<sup>3</sup> of water. Cumulative water injected is just over 353 e<sup>3</sup>m<sup>3</sup>. The cumulative volume of oil, and water produced and fluid 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 2014 the Unit has 3 active vertical injectors and 3 injector patterns in place. In November 2010, the vertical injector at 100/05-28-010-29W1 was abandoned. 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 2014 was 6076, 5582 and 6446 kPag for 00/13-21, 00/02-28 and 00/12-28-010-29W1, respectively.

### **Reservoir Pressure**

No reservoir pressure measurements were taken at Kola Unit No. 1 in 2014.

### **Well Servicing**

No maintenance was required on the 16 wells in Kola Unit No. 1 in 2014.

### **Voidage Replacement**

Cumulative voidage for the Kola Unit No. 1 was 0.678 in December 2014. 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 e<sup>3</sup>m<sup>3</sup>. The recovery factor for Kola Unit No. 1 was 7.6% based on 117 e<sup>3</sup>m<sup>3</sup> of cumulative oil recovered to the end of 2014. The ultimate expected recoverable reserve based on decline analysis is 127 e<sup>3</sup>m<sup>3</sup> 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 2-28 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 2014

[illegible]

Appendix C

Average Monthly Injection Pressure (kPag)

Injection Pressure				
Month	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

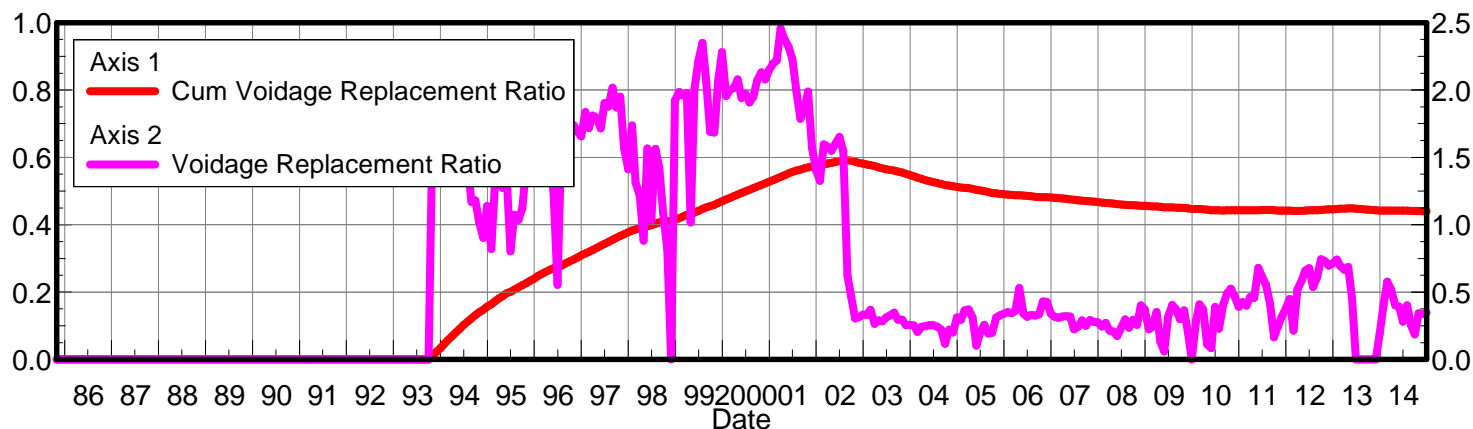
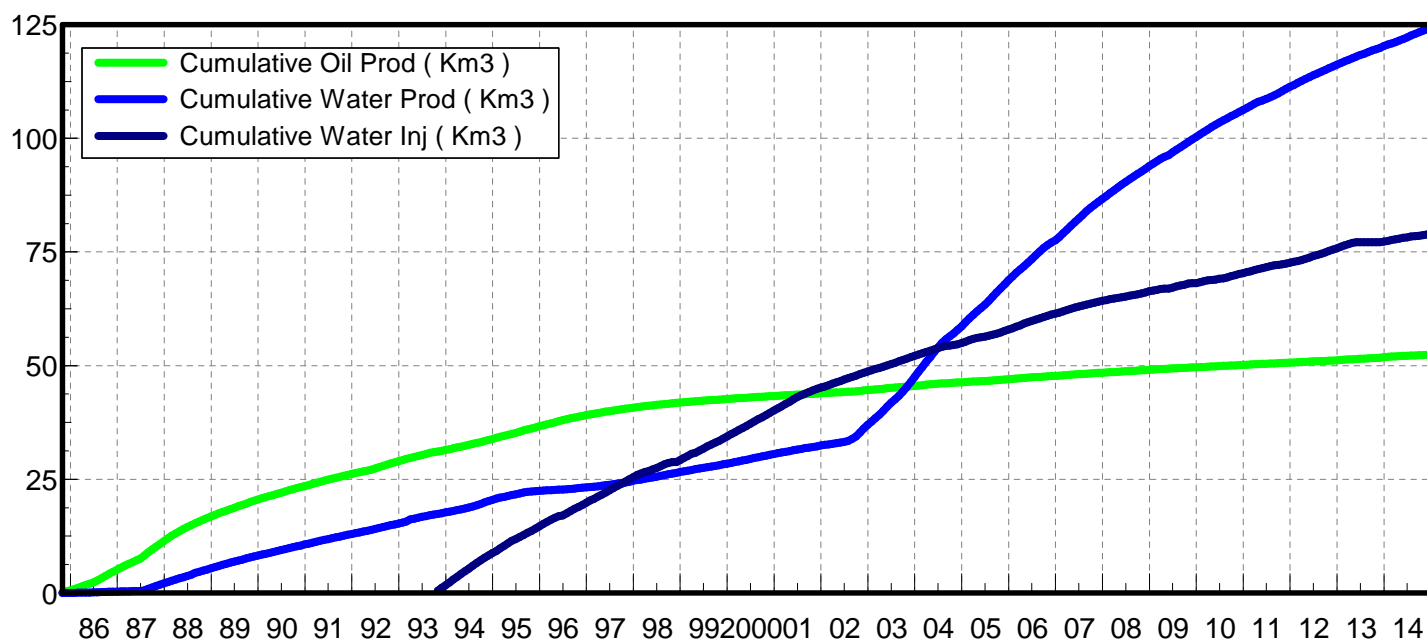
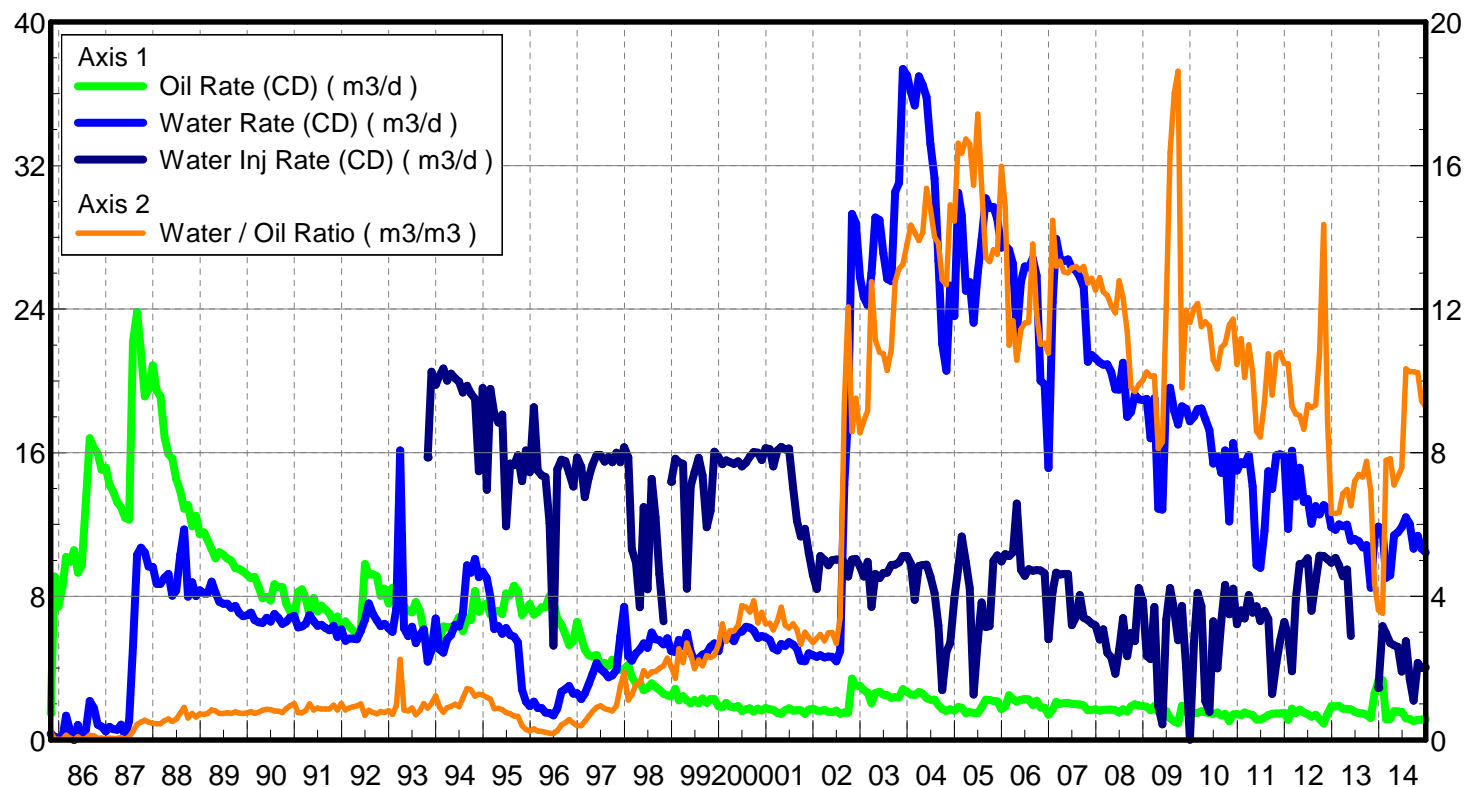
Injection Pressure				
Month	100/13-21	100/02-28	100/05-28	100/12-28
Jan-06	11035	10200	2829	6500
Feb-06	10896	10534	2682	6538
Mar-06	10600	11148	2650	6416
Apr-06	10777	9910	2682	6322
May-06	10884	10540	3152	6342
Jun-06	10840	10733	1133	6382
Jul-06	10794	10890	1	6581
Aug-06	10778	10834	404	6479
Sep-06	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

Injection Pressure				
Month	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	5700	-	6600
Oct-13	0	3600	-	6600
Nov-13	0	3600	-	6600
Dec-13	2669	4734	-	6040

Injection Pressure				
Month	100/13-21	100/02-28	100/05-28	100/12-28
Jan-14	6598	6689	-	6106
Feb-14	6715	6725	-	5823
Mar-14	6869	6800	-	6376
Apr-14	6900	6800	-	6400
May-14	6900	6800	-	6402
Jun-14	5975	6808	-	6287
Jul-14	5570	6808	-	6272
Aug-14	5302	6800	-	6155
Sep-14	6592	4192	-	5543
Oct-14	6273	5785	-	6540
Nov-14	6014	5767	-	6486
Dec-14	6076	5582	-	6446

**Appendix D**  
**Rates and VRR**  
**Plots and Tables**

Pattern: 00/13-21-010-29 Inj Set: Kola Unit#1  
 Oil Formation Vol Factor : 1.05000 m3/m3  
 Water Formation Vol Factor : 1.00000 m3/m3  
 Water / Oil Ratio : 9.26 m3/m3  
 May 07, 2015  
 Operator: Tundra\_O&G\_Prtshp  
 Oil Rate (CD) : 1.13 m3/d  
 Water Rate (CD) : 10.45 m3/d  
 Water Inj Rate (CD) : 4.03 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	19.52	9.66	0.50		10.77	1.84	0.00	0.000	0.000
12/31/1987	20.87	9.63	0.46		11.42	2.14	0.00	0.000	0.000
1/31/1988	19.45	8.69	0.45		12.02	2.41	0.00	0.000	0.000
2/29/1988	19.13	8.69	0.45		12.58	2.66	0.00	0.000	0.000
3/31/1988	16.84	9.05	0.54		13.10	2.94	0.00	0.000	0.000
4/30/1988	15.92	9.24	0.58		13.58	3.22	0.00	0.000	0.000
5/31/1988	15.68	8.03	0.51		14.07	3.47	0.00	0.000	0.000
6/30/1988	14.55	8.32	0.57		14.50	3.72	0.00	0.000	0.000
7/31/1988	13.87	10.31	0.74		14.93	4.04	0.00	0.000	0.000
8/31/1988	12.88	11.72	0.91		15.33	4.40	0.00	0.000	0.000
9/30/1988	13.09	7.99	0.61		15.72	4.64	0.00	0.000	0.000
10/31/1988	11.89	8.78	0.74		16.09	4.91	0.00	0.000	0.000
11/30/1988	12.48	8.02	0.64		16.47	5.15	0.00	0.000	0.000
12/31/1988	11.45	8.34	0.73		16.82	5.41	0.00	0.000	0.000
1/31/1989	11.56	8.16	0.71		17.18	5.67	0.00	0.000	0.000
2/28/1989	11.13	8.16	0.73		17.49	5.89	0.00	0.000	0.000
3/31/1989	10.62	8.81	0.83		17.82	6.17	0.00	0.000	0.000
4/30/1989	10.13	8.19	0.81		18.12	6.41	0.00	0.000	0.000
5/31/1989	10.45	7.69	0.74		18.45	6.65	0.00	0.000	0.000
6/30/1989	10.32	7.59	0.74		18.76	6.88	0.00	0.000	0.000
7/31/1989	10.10	7.59	0.75		19.07	7.12	0.00	0.000	0.000
8/31/1989	9.99	7.35	0.74		19.38	7.34	0.00	0.000	0.000
9/30/1989	9.56	7.46	0.78		19.67	7.57	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	9.54	7.07	0.74		19.96	7.79	0.00	0.000	0.000
11/30/1989	9.38	6.89	0.73		20.24	7.99	0.00	0.000	0.000
12/31/1989	9.20	6.94	0.75		20.53	8.21	0.00	0.000	0.000
1/31/1990	9.01	7.08	0.79		20.81	8.43	0.00	0.000	0.000
2/28/1990	9.08	6.67	0.74		21.06	8.61	0.00	0.000	0.000
3/31/1990	8.51	6.56	0.77		21.33	8.82	0.00	0.000	0.000
4/30/1990	7.88	6.52	0.83		21.56	9.01	0.00	0.000	0.000
5/31/1990	7.97	6.80	0.85		21.81	9.22	0.00	0.000	0.000
6/30/1990	7.77	6.58	0.85		22.04	9.42	0.00	0.000	0.000
7/31/1990	8.67	7.01	0.81		22.31	9.64	0.00	0.000	0.000
8/31/1990	8.51	6.78	0.80		22.58	9.85	0.00	0.000	0.000
9/30/1990	8.51	6.47	0.76		22.83	10.04	0.00	0.000	0.000
10/31/1990	7.58	6.58	0.87		23.07	10.25	0.00	0.000	0.000
11/30/1990	7.16	6.82	0.95		23.28	10.45	0.00	0.000	0.000
12/31/1990	6.81	6.91	1.01		23.49	10.67	0.00	0.000	0.000
1/31/1991	8.25	6.26	0.76		23.75	10.86	0.00	0.000	0.000
2/28/1991	8.39	6.32	0.75		23.98	11.04	0.00	0.000	0.000
3/31/1991	7.89	6.47	0.82		24.23	11.24	0.00	0.000	0.000
4/30/1991	6.93	6.96	1.00		24.44	11.45	0.00	0.000	0.000
5/31/1991	7.90	6.60	0.84		24.68	11.65	0.00	0.000	0.000
6/30/1991	7.16	6.36	0.89		24.90	11.84	0.00	0.000	0.000
7/31/1991	7.48	6.41	0.86		25.13	12.04	0.00	0.000	0.000
8/31/1991	7.25	6.23	0.86		25.35	12.23	0.00	0.000	0.000
9/30/1991	7.06	6.11	0.86		25.56	12.42	0.00	0.000	0.000
10/31/1991	6.53	6.35	0.97		25.77	12.61	0.00	0.000	0.000
11/30/1991	6.88	5.74	0.83		25.97	12.78	0.00	0.000	0.000
12/31/1991	6.07	6.16	1.01		26.16	12.98	0.00	0.000	0.000
1/31/1992	6.60	5.52	0.84		26.37	13.15	0.00	0.000	0.000
2/29/1992	6.35	5.64	0.89		26.55	13.31	0.00	0.000	0.000
3/31/1992	6.09	5.64	0.93		26.74	13.48	0.00	0.000	0.000
4/30/1992	5.89	5.62	0.95		26.91	13.65	0.00	0.000	0.000
5/31/1992	6.08	6.08	1.00		27.10	13.84	0.00	0.000	0.000
6/30/1992	9.79	6.70	0.68		27.40	14.04	0.00	0.000	0.000
7/31/1992	9.21	7.60	0.83		27.68	14.28	0.00	0.000	0.000
8/31/1992	9.23	7.02	0.76		27.97	14.50	0.00	0.000	0.000
9/30/1992	9.12	6.67	0.73		28.24	14.70	0.00	0.000	0.000
10/31/1992	8.03	6.34	0.79		28.49	14.89	0.00	0.000	0.000
11/30/1992	8.43	6.46	0.77		28.74	15.09	0.00	0.000	0.000
12/31/1992	7.60	6.22	0.82		28.98	15.28	0.00	0.000	0.000
1/31/1993	8.49	6.01	0.71		29.24	15.47	0.00	0.000	0.000
2/28/1993	7.69	7.31	0.95		29.46	15.67	0.00	0.000	0.000
3/31/1993	7.20	16.12	2.24		29.68	16.17	0.00	0.000	0.000
4/30/1993	7.43	6.21	0.84		29.90	16.36	0.00	0.000	0.000
5/31/1993	7.18	5.79	0.81		30.13	16.54	0.00	0.000	0.000
6/30/1993	7.11	6.29	0.89		30.34	16.72	0.00	0.000	0.000
7/31/1993	7.68	5.39	0.70		30.58	16.89	0.00	0.000	0.000
8/31/1993	7.15	5.85	0.82		30.80	17.07	0.00	0.000	0.000
9/30/1993	6.07	6.16	1.02		30.98	17.26	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	4.89	4.35	0.89	15.74	31.13	17.39	0.49	1.658	0.010
11/30/1993	4.93	5.01	1.02	20.52	31.28	17.54	1.10	2.013	0.022
12/31/1993	5.52	6.77	1.23	19.78	31.45	17.75	1.72	1.574	0.034
1/31/1994	5.51	5.04	0.91	20.28	31.62	17.91	2.35	1.873	0.046
2/28/1994	6.32	4.86	0.77	20.69	31.80	18.05	2.92	1.799	0.057
3/31/1994	6.27	5.61	0.89	20.01	32.00	18.22	3.54	1.641	0.068
4/30/1994	6.29	5.84	0.93	20.41	32.18	18.39	4.16	1.641	0.080
5/31/1994	6.42	6.41	1.00	20.14	32.38	18.59	4.78	1.532	0.091
6/30/1994	6.83	6.33	0.93	19.96	32.59	18.78	5.38	1.478	0.102
7/31/1994	6.06	7.05	1.16	19.35	32.78	19.00	5.98	1.442	0.112
8/31/1994	6.79	9.73	1.43	19.73	32.99	19.30	6.59	1.170	0.122
9/30/1994	6.67	9.32	1.40	19.30	33.19	19.58	7.17	1.182	0.132
10/31/1994	8.30	10.09	1.22	18.99	33.44	19.90	7.76	1.010	0.141
11/30/1994	7.14	9.06	1.27	14.97	33.66	20.17	8.21	0.904	0.148
12/31/1994	7.47	9.37	1.26	19.60	33.89	20.46	8.82	1.139	0.157
1/31/1995	7.61	8.99	1.18	13.93	34.13	20.74	9.25	0.820	0.163
2/28/1995	6.98	7.95	1.14	19.55	34.32	20.96	9.80	1.280	0.172
3/31/1995	7.13	6.17	0.87	18.18	34.54	21.15	10.36	1.330	0.180
4/30/1995	7.19	6.33	0.88	17.68	34.76	21.34	10.89	1.273	0.188
5/31/1995	7.02	5.92	0.84	18.12	34.98	21.52	11.45	1.363	0.197
6/30/1995	8.15	6.24	0.76	11.89	35.22	21.71	11.81	0.804	0.201
7/31/1995	8.07	5.85	0.72	15.39	35.47	21.89	12.28	1.074	0.208
8/31/1995	8.59	5.75	0.67	15.31	35.74	22.07	12.76	1.037	0.214
9/30/1995	8.30	5.43	0.65	15.85	35.99	22.23	13.23	1.121	0.221
10/31/1995	6.96	2.79	0.40	14.42	36.20	22.32	13.68	1.429	0.227
11/30/1995	7.26	2.14	0.29	16.12	36.42	22.38	14.17	1.651	0.234
12/31/1995	7.58	1.88	0.25	14.91	36.65	22.44	14.63	1.517	0.240
1/31/1996	6.97	2.12	0.30	18.54	36.87	22.51	15.20	1.963	0.248
2/29/1996	7.15	1.78	0.25	15.00	37.08	22.56	15.64	1.615	0.254
3/31/1996	7.39	1.77	0.24	14.73	37.31	22.61	16.09	1.545	0.260
4/30/1996	7.39	1.53	0.21	14.65	37.53	22.66	16.53	1.577	0.266
5/31/1996	8.02	1.49	0.19	12.06	37.78	22.71	16.91	1.216	0.271
6/30/1996	7.72	1.37	0.18	5.25	38.01	22.75	17.06	0.554	0.272
7/31/1996	6.75	1.74	0.26	15.08	38.22	22.80	17.53	1.708	0.279
8/31/1996	6.41	2.68	0.42	15.61	38.42	22.88	18.02	1.659	0.285
9/30/1996	5.89	2.83	0.48	15.54	38.59	22.97	18.48	1.722	0.291
10/31/1996	5.29	3.01	0.57	14.89	38.76	23.06	18.94	1.738	0.297
11/30/1996	5.50	2.57	0.47	14.12	38.92	23.14	19.37	1.691	0.303
12/31/1996	6.57	2.60	0.39	15.73	39.13	23.22	19.86	1.657	0.309
1/31/1997	5.72	2.28	0.40	15.22	39.30	23.29	20.33	1.837	0.315
2/28/1997	5.05	2.58	0.51	13.52	39.44	23.36	20.71	1.717	0.320
3/31/1997	4.72	3.10	0.66	14.59	39.59	23.46	21.16	1.811	0.325
4/30/1997	4.64	3.67	0.79	15.32	39.73	23.57	21.62	1.793	0.331
5/31/1997	4.73	4.29	0.91	15.88	39.88	23.70	22.11	1.715	0.337
6/30/1997	4.18	3.95	0.95	15.88	40.00	23.82	22.59	1.904	0.343
7/31/1997	4.30	3.75	0.87	15.51	40.13	23.94	23.07	1.877	0.349
8/31/1997	4.12	3.50	0.85	15.78	40.26	24.05	23.56	2.016	0.355
9/30/1997	4.46	3.59	0.80	15.47	40.40	24.15	24.02	1.870	0.361

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	4.10	3.90	0.95	16.01	40.52	24.27	24.52	1.950	0.367
11/30/1997	3.90	5.77	1.48	15.46	40.64	24.45	24.98	1.569	0.372
12/31/1997	3.95	7.41	1.88	16.30	40.76	24.68	25.49	1.410	0.378
1/31/1998	4.19	4.66	1.11	15.74	40.89	24.82	25.97	1.738	0.383
2/28/1998	3.51	4.41	1.26	10.63	40.99	24.95	26.27	1.313	0.386
3/31/1998	3.12	4.82	1.54	9.86	41.09	25.09	26.58	1.218	0.389
4/30/1998	3.18	5.04	1.58	7.38	41.18	25.25	26.80	0.882	0.391
5/31/1998	2.78	5.37	1.93	12.97	41.27	25.41	27.20	1.565	0.396
6/30/1998	2.88	5.12	1.78	8.39	41.36	25.57	27.45	1.031	0.398
7/31/1998	3.15	5.99	1.90	14.53	41.45	25.75	27.90	1.563	0.403
8/31/1998	2.95	5.61	1.90	12.40	41.54	25.93	28.29	1.424	0.407
9/30/1998	2.79	5.56	2.00	9.25	41.63	26.09	28.56	1.090	0.409
10/31/1998	2.58	5.33	2.06	6.60	41.71	26.26	28.77	0.821	0.411
11/30/1998	2.48	5.67	2.28		41.78	26.43	28.77	0.000	0.409
12/31/1998	2.41	4.95	2.05	14.38	41.86	26.58	29.21	1.923	0.414
1/31/1999	2.85	4.89	1.72	15.66	41.95	26.73	29.70	1.987	0.420
2/28/1999	2.20	5.58	2.54	15.46	42.01	26.89	30.13	1.960	0.424
3/31/1999	2.43	5.23	2.15	15.37	42.08	27.05	30.61	1.977	0.430
4/30/1999	2.21	5.96	2.70	8.42	42.15	27.23	30.86	1.016	0.432
5/31/1999	2.05	4.89	2.38	14.15	42.21	27.38	31.30	2.010	0.437
6/30/1999	2.22	4.41	1.98	14.92	42.28	27.51	31.75	2.213	0.442
7/31/1999	2.04	4.54	2.22	15.71	42.34	27.65	32.24	2.349	0.447
8/31/1999	2.30	4.75	2.06	14.74	42.41	27.80	32.69	2.056	0.452
9/30/1999	2.06	4.85	2.35	11.85	42.48	27.95	33.05	1.689	0.456
10/31/1999	2.27	5.19	2.29	12.75	42.55	28.11	33.44	1.684	0.459
11/30/1999	2.28	5.37	2.35	16.05	42.61	28.27	33.92	2.068	0.465
12/31/1999	1.86	4.95	2.66	15.75	42.67	28.42	34.41	2.281	0.470
1/31/2000	1.83	5.93	3.24	15.35	42.73	28.61	34.89	1.956	0.475
2/29/2000	2.05	5.63	2.74	15.58	42.79	28.77	35.34	2.001	0.480
3/31/2000	1.87	5.71	3.05	15.46	42.85	28.95	35.82	2.016	0.484
4/30/2000	1.81	5.50	3.03	15.39	42.90	29.11	36.28	2.078	0.489
5/31/2000	1.89	6.01	3.18	15.51	42.96	29.30	36.76	1.942	0.494
6/30/2000	1.61	6.03	3.74	15.23	43.01	29.48	37.22	1.972	0.499
7/31/2000	1.71	6.31	3.69	15.45	43.06	29.67	37.70	1.908	0.503
8/31/2000	1.75	6.25	3.56	15.78	43.12	29.87	38.19	1.950	0.508
9/30/2000	1.57	6.09	3.88	16.04	43.16	30.05	38.67	2.072	0.513
10/31/2000	1.75	5.68	3.26	16.01	43.22	30.23	39.17	2.130	0.518
11/30/2000	1.63	5.79	3.55	15.58	43.27	30.40	39.63	2.079	0.523
12/31/2000	1.77	5.71	3.23	16.26	43.32	30.58	40.14	2.148	0.528
1/31/2001	1.71	5.57	3.25	16.20	43.37	30.75	40.64	2.198	0.533
2/28/2001	1.67	5.11	3.06	15.24	43.42	30.89	41.07	2.219	0.537
3/31/2001	1.50	4.99	3.32	16.12	43.47	31.05	41.57	2.456	0.542
4/30/2001	1.45	5.34	3.69	16.32	43.51	31.21	42.05	2.378	0.547
5/31/2001	1.64	5.24	3.19	16.17	43.56	31.37	42.56	2.322	0.552
6/30/2001	1.75	5.45	3.11	16.23	43.61	31.53	43.04	2.228	0.557
7/31/2001	1.64	5.30	3.24	14.05	43.66	31.70	43.48	2.000	0.561
8/31/2001	1.66	5.09	3.07	12.21	43.72	31.86	43.86	1.787	0.564
9/30/2001	1.66	4.41	2.66	11.34	43.77	31.99	44.20	1.846	0.567



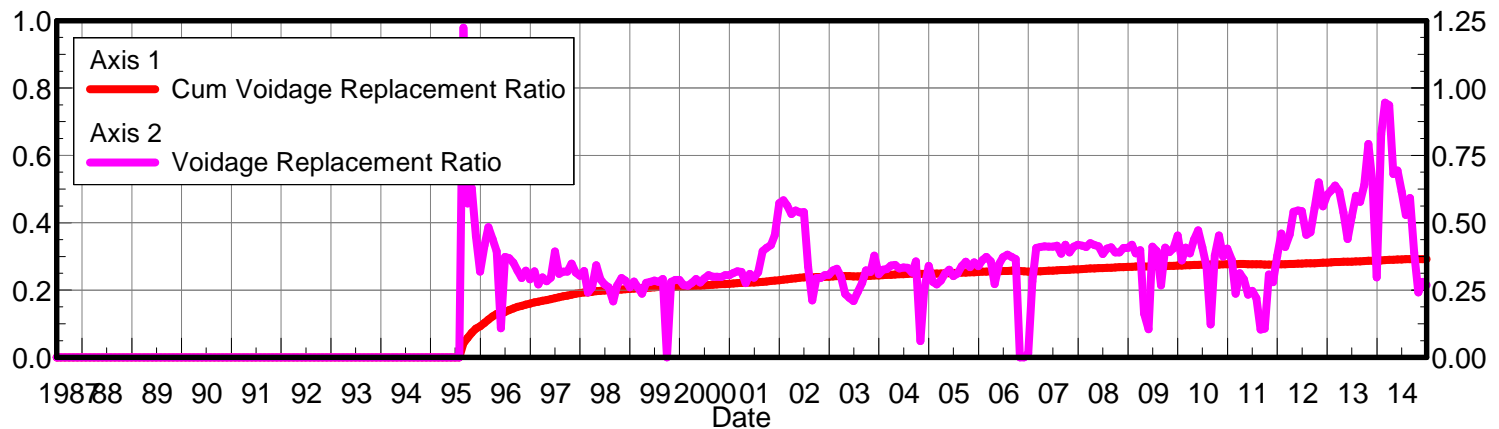
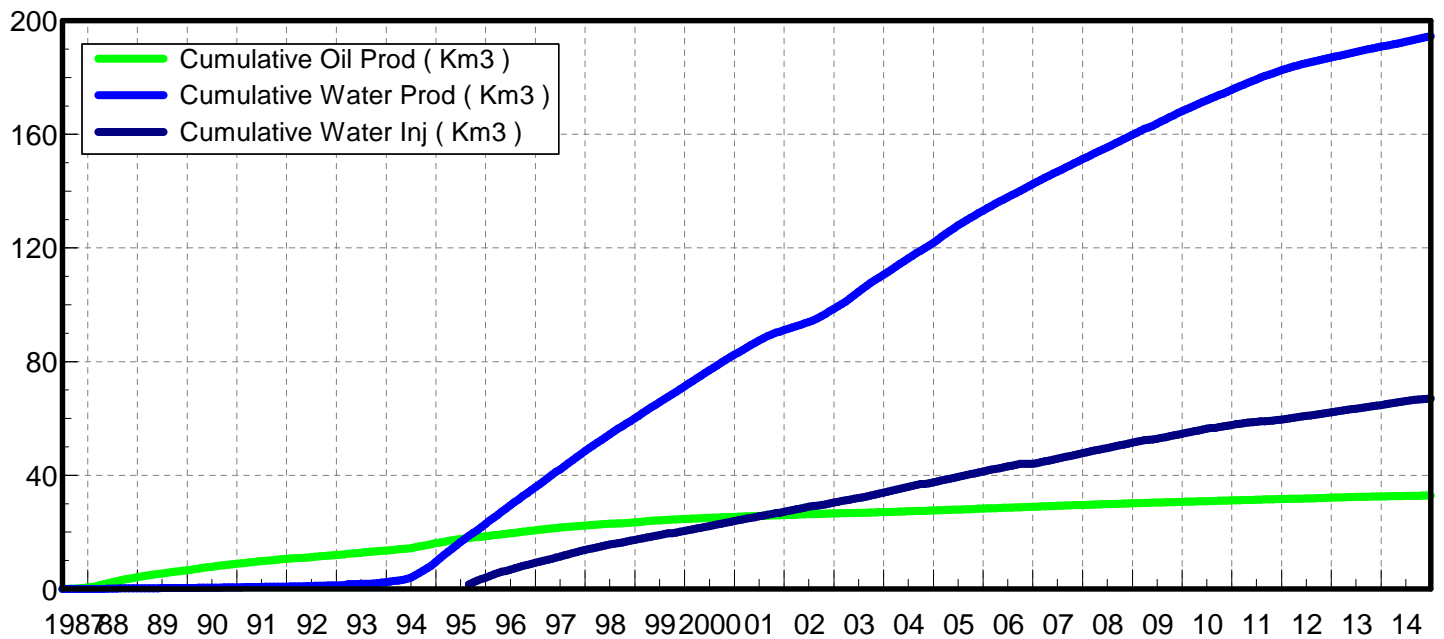
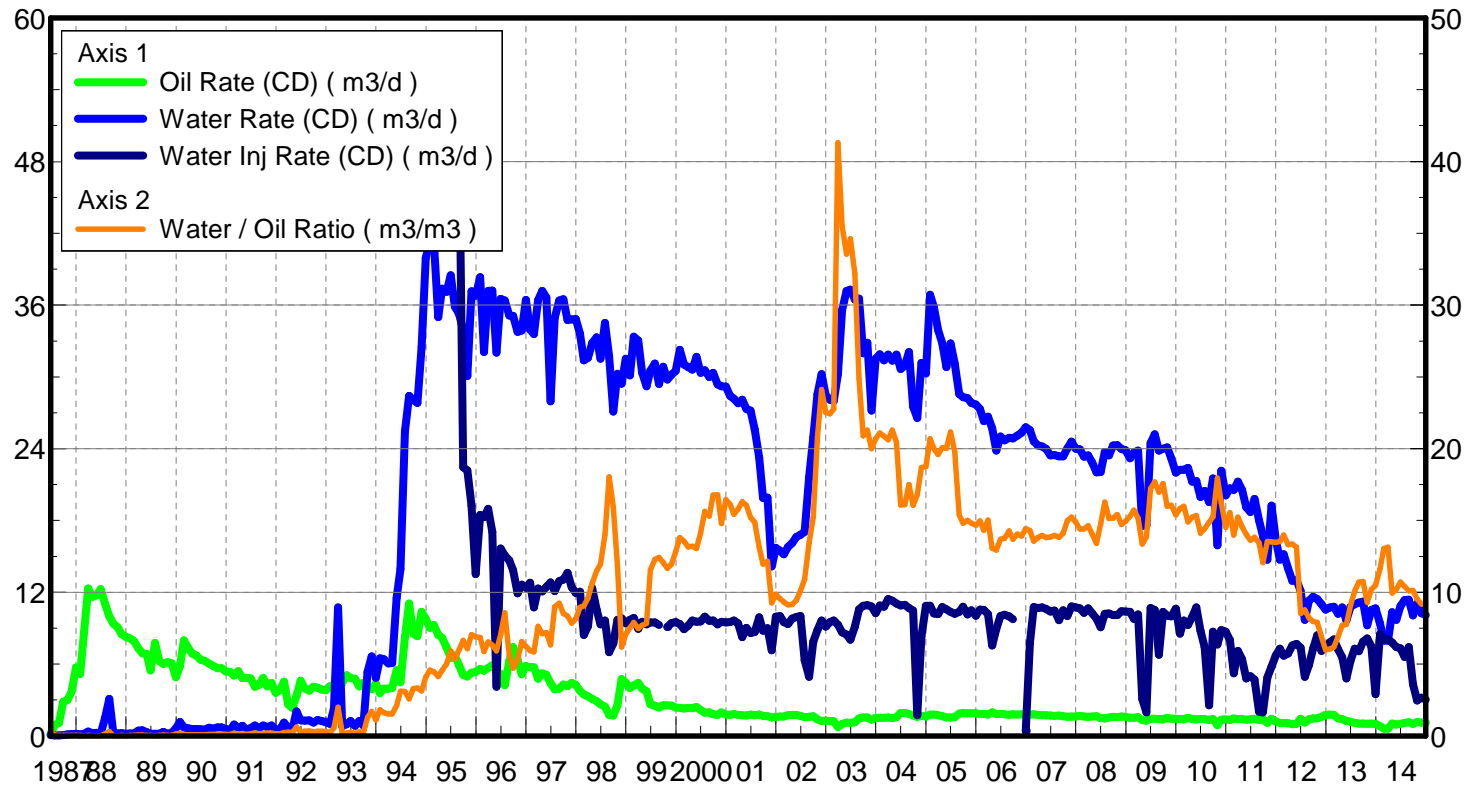
Date	Oil Rate (CD) m3/d	Water Rate (CD) m3/d	Water Oil Ratio m3/m3	Water Inj Rate (CD) m3/d	Cum Oil Prod Km3	Cum Water Prod Km3	Cum Water Inj Km3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
10/31/2001	1.46	4.39	3.00	11.76	43.81	32.12	44.56	1.988	0.570
11/30/2001	1.70	4.83	2.85	10.41	43.86	32.27	44.87	1.576	0.573
12/31/2001	1.74	4.72	2.71	9.18	43.92	32.42	45.16	1.403	0.575
1/31/2002	1.64	4.63	2.83	8.42	43.97	32.56	45.42	1.327	0.577
2/28/2002	1.61	4.72	2.94	10.24	44.01	32.69	45.71	1.596	0.579
3/31/2002	1.67	4.59	2.76	10.02	44.06	32.83	46.02	1.580	0.582
4/30/2002	1.56	4.64	2.98	9.73	44.11	32.97	46.31	1.550	0.584
5/31/2002	1.55	4.62	2.99	10.02	44.16	33.12	46.62	1.605	0.587
6/30/2002	1.63	4.37	2.69	10.04	44.21	33.25	46.92	1.651	0.589
7/31/2002	1.46	4.95	3.39	10.05	44.25	33.40	47.23	1.548	0.591
8/31/2002	1.52	14.24	9.34	9.90	44.30	33.84	47.54	0.625	0.592
9/30/2002	1.50	18.15	12.06	9.11	44.34	34.39	47.81	0.462	0.591
10/31/2002	3.41	29.31	8.59	10.05	44.45	35.30	48.12	0.306	0.587
11/30/2002	3.02	28.80	9.52	10.08	44.54	36.16	48.43	0.315	0.584
12/31/2002	3.01	25.78	8.56	9.65	44.63	36.96	48.73	0.334	0.581
1/31/2003	2.77	24.64	8.89	9.11	44.72	37.72	49.01	0.331	0.579
2/28/2003	2.64	24.21	9.17	9.92	44.79	38.40	49.29	0.368	0.577
3/31/2003	2.04	25.98	12.76	7.41	44.86	39.20	49.52	0.264	0.574
4/30/2003	2.61	29.11	11.15	9.24	44.94	40.08	49.79	0.290	0.571
5/31/2003	2.68	28.95	10.80	9.02	45.02	40.98	50.07	0.284	0.567
6/30/2003	2.52	27.10	10.76	9.29	45.09	41.79	50.35	0.312	0.565
7/31/2003	2.50	25.68	10.29	9.32	45.17	42.59	50.64	0.329	0.563
8/31/2003	2.35	25.55	10.88	9.75	45.24	43.38	50.94	0.348	0.561
9/30/2003	2.39	30.54	12.78	9.76	45.32	44.29	51.23	0.295	0.558
10/31/2003	2.36	31.04	13.13	9.89	45.39	45.26	51.54	0.295	0.555
11/30/2003	2.82	37.38	13.25	10.24	45.47	46.38	51.85	0.254	0.551
12/31/2003	2.68	37.01	13.82	10.25	45.56	47.52	52.17	0.257	0.547
1/31/2004	2.52	36.09	14.34	9.82	45.63	48.64	52.47	0.253	0.543
2/29/2004	2.50	35.34	14.14	7.79	45.71	49.67	52.70	0.205	0.540
3/31/2004	2.66	36.98	13.91	9.69	45.79	50.81	53.00	0.244	0.536
4/30/2004	2.58	36.48	14.12	9.74	45.87	51.91	53.29	0.249	0.533
5/31/2004	2.33	35.80	15.36	9.77	45.94	53.02	53.59	0.255	0.529
6/30/2004	2.24	33.20	14.80	9.10	46.01	54.01	53.86	0.256	0.526
7/31/2004	2.23	31.29	14.01	8.18	46.08	54.98	54.12	0.243	0.524
8/31/2004	1.93	26.69	13.84	6.37	46.14	55.81	54.32	0.222	0.521
9/30/2004	1.72	22.05	12.82	2.77	46.19	56.47	54.40	0.116	0.518
10/31/2004	1.62	20.56	12.68	4.92	46.24	57.11	54.55	0.221	0.516
11/30/2004	1.70	25.31	14.90	5.40	46.29	57.87	54.71	0.199	0.514
12/31/2004	1.63	23.62	14.45	7.92	46.34	58.60	54.96	0.312	0.512
1/31/2005	1.83	30.47	16.62	9.55	46.40	59.55	55.25	0.295	0.510
2/28/2005	1.79	29.22	16.35	11.34	46.45	60.37	55.57	0.364	0.509
3/31/2005	1.50	25.03	16.74	9.89	46.49	61.14	55.88	0.372	0.508
4/30/2005	1.54	25.50	16.60	8.45	46.54	61.91	56.13	0.312	0.507
5/31/2005	1.50	23.25	15.45	2.53	46.59	62.63	56.21	0.102	0.504
6/30/2005	1.49	26.04	17.44	5.52	46.63	63.41	56.38	0.200	0.502
7/31/2005	1.80	27.87	15.44	7.66	46.69	64.27	56.61	0.257	0.500
8/31/2005	2.25	30.18	13.44	6.29	46.76	65.21	56.81	0.193	0.497
9/30/2005	2.23	29.64	13.32	6.34	46.82	66.10	57.00	0.198	0.495

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
10/31/2005	2.18	29.70	13.65	9.98	46.89	67.02	57.31	0.312	0.493
11/30/2005	2.15	29.03	13.52	10.27	46.95	67.89	57.62	0.328	0.492
12/31/2005	1.72	27.42	15.98	9.94	47.01	68.74	57.92	0.340	0.490
1/31/2006	1.86	27.54	14.82	10.36	47.06	69.59	58.25	0.351	0.489
2/28/2006	2.48	27.31	10.99	10.25	47.13	70.36	58.53	0.343	0.488
3/31/2006	2.27	26.53	11.67	10.45	47.20	71.18	58.86	0.362	0.487
4/30/2006	2.14	22.63	10.57	13.17	47.27	71.86	59.25	0.529	0.488
5/31/2006	2.23	25.53	11.43	9.48	47.34	72.65	59.55	0.340	0.487
6/30/2006	2.27	26.37	11.61	9.13	47.41	73.44	59.82	0.318	0.485
7/31/2006	2.26	26.32	11.63	9.51	47.48	74.26	60.11	0.331	0.484
8/31/2006	1.94	26.82	13.81	9.42	47.54	75.09	60.41	0.326	0.483
9/30/2006	2.18	25.86	11.86	9.46	47.60	75.86	60.69	0.336	0.482
10/31/2006	1.82	20.02	11.02	9.44	47.66	76.48	60.98	0.430	0.482
11/30/2006	1.79	19.80	11.05	9.28	47.71	77.08	61.26	0.428	0.482
12/31/2006	1.41	15.15	10.77	5.61	47.76	77.55	61.43	0.337	0.481
1/31/2007	1.69	24.39	14.47	8.27	47.81	78.30	61.69	0.316	0.480
2/28/2007	2.11	27.91	13.20	9.31	47.87	79.09	61.95	0.309	0.479
3/31/2007	2.01	26.81	13.33	9.21	47.93	79.92	62.24	0.318	0.478
4/30/2007	2.05	26.68	13.04	9.24	47.99	80.72	62.51	0.320	0.477
5/31/2007	2.06	26.77	13.01	9.25	48.06	81.55	62.80	0.320	0.476
6/30/2007	2.00	26.31	13.14	6.39	48.12	82.34	62.99	0.225	0.474
7/31/2007	1.98	26.14	13.19	6.84	48.18	83.15	63.20	0.242	0.473
8/31/2007	1.97	25.77	13.09	8.07	48.24	83.95	63.45	0.290	0.471
9/30/2007	1.91	25.24	13.19	6.81	48.29	84.70	63.66	0.250	0.470
10/31/2007	1.65	21.06	12.73	6.68	48.35	85.36	63.87	0.293	0.469
11/30/2007	1.67	21.44	12.86	6.47	48.40	86.00	64.06	0.279	0.468
12/31/2007	1.70	21.26	12.53	6.38	48.45	86.66	64.26	0.277	0.467
1/31/2008	1.63	21.04	12.88	5.59	48.50	87.31	64.43	0.246	0.466
2/29/2008	1.67	20.91	12.49	6.17	48.55	87.92	64.61	0.272	0.465
3/31/2008	1.69	20.92	12.38	4.85	48.60	88.56	64.76	0.213	0.464
4/30/2008	1.69	20.49	12.10	4.61	48.65	89.18	64.90	0.207	0.463
5/31/2008	1.64	19.54	11.90	3.68	48.70	89.78	65.01	0.173	0.461
6/30/2008	1.53	19.52	12.78	5.03	48.75	90.37	65.16	0.238	0.460
7/31/2008	1.71	21.01	12.31	6.78	48.80	91.02	65.37	0.297	0.460
8/31/2008	1.58	18.00	11.38	4.65	48.85	91.58	65.52	0.237	0.459
9/30/2008	1.86	18.26	9.82	5.96	48.91	92.13	65.70	0.295	0.458
10/31/2008	1.98	19.23	9.70	5.49	48.97	92.72	65.87	0.258	0.457
11/30/2008	1.92	18.98	9.89	8.46	49.02	93.29	66.12	0.403	0.457
12/31/2008	1.89	18.93	10.01	7.75	49.08	93.88	66.36	0.371	0.456
1/31/2009	1.85	19.00	10.24	4.68	49.14	94.47	66.51	0.224	0.455
2/28/2009	1.66	16.81	10.13	4.50	49.19	94.94	66.63	0.242	0.455
3/31/2009	1.88	19.04	10.14	7.41	49.25	95.53	66.86	0.353	0.454
4/30/2009	1.59	12.88	8.12	1.91	49.29	95.92	66.92	0.131	0.453
5/31/2009	1.55	12.82	8.30	0.86	49.34	96.31	66.95	0.060	0.452
6/30/2009	1.61	19.45	12.07	6.69	49.39	96.90	67.15	0.317	0.451
7/31/2009	1.20	19.61	16.37	8.46	49.43	97.51	67.41	0.406	0.451
8/31/2009	1.02	18.33	18.01	7.21	49.46	98.07	67.63	0.372	0.451
9/30/2009	0.94	17.57	18.63	5.55	49.49	98.60	67.80	0.299	0.450

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	1.89	18.58	9.81	7.47	49.55	99.18	68.03	0.363	0.450
11/30/2009	1.54	18.45	11.97	4.06	49.59	99.73	68.15	0.202	0.449
12/31/2009	1.53	17.74	11.63	0.01	49.64	100.28	68.15	0.001	0.447
1/31/2010	1.50	18.01	12.02	5.49	49.69	100.84	68.32	0.280	0.447
2/28/2010	1.52	18.43	12.15	8.19	49.73	101.35	68.55	0.409	0.446
3/31/2010	1.60	18.46	11.52	7.45	49.78	101.93	68.78	0.370	0.446
4/30/2010	1.53	17.88	11.65	2.17	49.82	102.46	68.85	0.111	0.445
5/31/2010	1.50	17.25	11.52	1.56	49.87	103.00	68.90	0.083	0.443
6/30/2010	1.46	15.40	10.58	6.60	49.91	103.46	69.10	0.390	0.443
7/31/2010	1.53	15.79	10.34	3.98	49.96	103.95	69.22	0.229	0.443
8/31/2010	1.36	14.89	10.93	6.60	50.00	104.41	69.42	0.405	0.442
9/30/2010	1.46	16.13	11.04	8.63	50.05	104.89	69.68	0.489	0.443
10/31/2010	1.05	12.18	11.56	6.99	50.08	105.27	69.90	0.526	0.443
11/30/2010	1.41	16.55	11.72	8.43	50.12	105.77	70.15	0.468	0.443
12/31/2010	1.43	15.00	10.46	6.44	50.17	106.23	70.35	0.390	0.443
1/31/2011	1.39	15.48	11.17	7.22	50.21	106.71	70.58	0.426	0.443
2/28/2011	1.52	15.36	10.10	6.76	50.25	107.14	70.76	0.399	0.443
3/31/2011	1.44	15.86	11.01	8.07	50.30	107.63	71.01	0.464	0.443
4/30/2011	1.38	14.12	10.24	7.10	50.34	108.06	71.23	0.456	0.443
5/31/2011	1.13	9.73	8.60	7.44	50.37	108.36	71.46	0.681	0.443
6/30/2011	1.14	9.58	8.44	6.62	50.41	108.65	71.66	0.614	0.443
7/31/2011	1.24	11.64	9.41	7.18	50.45	109.01	71.88	0.555	0.444
8/31/2011	1.39	14.97	10.75	6.74	50.49	109.47	72.09	0.410	0.444
9/30/2011	1.46	13.99	9.61	2.57	50.53	109.89	72.17	0.165	0.443
10/31/2011	1.48	15.87	10.72	4.26	50.58	110.38	72.30	0.245	0.442
11/30/2011	1.48	15.92	10.79	5.53	50.62	110.86	72.46	0.317	0.442
12/31/2011	1.51	15.80	10.49	6.58	50.67	111.35	72.67	0.378	0.442
1/31/2012	1.12	11.76	10.48	5.81	50.70	111.72	72.85	0.449	0.442
2/29/2012	1.73	16.11	9.29	3.83	50.75	112.18	72.96	0.214	0.441
3/31/2012	1.49	13.56	9.08	7.85	50.80	112.60	73.20	0.519	0.441
4/30/2012	1.68	15.16	9.04	9.79	50.85	113.06	73.50	0.578	0.442
5/31/2012	1.53	13.26	8.65	9.83	50.90	113.47	73.80	0.661	0.442
6/30/2012	1.44	13.41	9.34	10.11	50.94	113.87	74.10	0.678	0.443
7/31/2012	1.30	12.05	9.26	7.20	50.98	114.25	74.33	0.537	0.443
8/31/2012	1.40	13.02	9.33	8.84	51.02	114.65	74.60	0.610	0.443
9/30/2012	1.17	12.55	10.74	10.26	51.06	115.03	74.91	0.744	0.444
10/31/2012	0.91	13.09	14.36	10.24	51.09	115.43	75.23	0.729	0.445
11/30/2012	1.45	12.92	8.91	10.06	51.13	115.82	75.53	0.697	0.446
12/31/2012	1.88	11.85	6.31	9.87	51.19	116.19	75.83	0.714	0.446
1/31/2013	1.86	11.71	6.31	10.14	51.25	116.55	76.15	0.742	0.447
2/28/2013	1.89	12.01	6.34	9.72	51.30	116.89	76.42	0.695	0.448
3/31/2013	1.73	11.89	6.86	9.13	51.35	117.25	76.70	0.665	0.448
4/30/2013	1.72	12.00	6.98	9.50	51.41	117.61	76.99	0.688	0.449
5/31/2013	1.70	11.10	6.53	5.79	51.46	117.96	77.17	0.449	0.449
6/30/2013	1.55	11.19	7.20		51.51	118.29	77.17	0.000	0.448
7/31/2013	1.50	11.06	7.40		51.55	118.64	77.17	0.000	0.447
8/31/2013	1.46	10.73	7.33		51.60	118.97	77.17	0.000	0.446
9/30/2013	1.40	10.86	7.76		51.64	119.30	77.17	0.000	0.445

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	1.22	8.48	6.95		51.68	119.56	77.17	0.000	0.444
11/30/2013	2.59	11.28	4.35		51.75	119.90	77.17	0.000	0.443
12/31/2013	3.29	11.88	3.61	2.90	51.86	120.26	77.26	0.189	0.442
1/31/2014	3.32	11.72	3.53	6.34	51.96	120.63	77.45	0.417	0.442
2/28/2014	1.16	9.03	7.79	5.93	51.99	120.88	77.62	0.579	0.442
3/31/2014	1.17	9.17	7.83	5.40	52.03	121.17	77.79	0.519	0.442
4/30/2014	1.61	11.40	7.10	5.27	52.08	121.51	77.94	0.403	0.442
5/31/2014	1.57	11.55	7.34	5.18	52.13	121.87	78.11	0.392	0.442
6/30/2014	1.56	11.85	7.57	3.80	52.17	122.22	78.22	0.282	0.442
7/31/2014	1.20	12.40	10.34	5.51	52.21	122.61	78.39	0.403	0.442
8/31/2014	1.17	12.02	10.25	3.38	52.25	122.98	78.50	0.255	0.441
9/30/2014	1.04	10.65	10.26	2.18	52.28	123.30	78.56	0.186	0.441
10/31/2014	1.11	11.37	10.23	4.29	52.31	123.65	78.69	0.342	0.441
11/30/2014	1.13	10.66	9.44	4.00	52.34	123.97	78.81	0.338	0.440
12/31/2014	1.13	10.45	9.26	4.03	52.38	124.29	78.94	0.347	0.440

Oil Formation Vol Factor : 1.05000 m3/m3  
 Water Formation Vol Factor : 1.00000 m3/m3  
 Water / Oil Ratio : 9.17 m3/m3  
 May 07, 2015  
 Operator: Tundra\_O&G\_Prtshp  
 Pattern: 00/02-28-010-29  
 Inj Set: KolaUnit#1  
 Oil Rate (CD) : 1.10 m3/d  
 Water Rate (CD) : 10.11 m3/d  
 Water Inj Rate (CD) : 3.03 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	3.68	0.16	0.04		0.36	0.02	0.00	0.000	0.000
12/31/1987	5.72	0.16	0.03		0.53	0.02	0.00	0.000	0.000
1/31/1988	5.17	0.13	0.02		0.69	0.03	0.00	0.000	0.000
2/29/1988	8.62	0.17	0.02		0.94	0.03	0.00	0.000	0.000
3/31/1988	12.33	0.36	0.03		1.33	0.04	0.00	0.000	0.000
4/30/1988	11.62	0.24	0.02		1.68	0.05	0.00	0.000	0.000
5/31/1988	11.75	0.26	0.02		2.04	0.06	0.00	0.000	0.000
6/30/1988	12.28	0.19	0.02		2.41	0.06	0.00	0.000	0.000
7/31/1988	11.03	1.50	0.14		2.75	0.11	0.00	0.000	0.000
8/31/1988	10.00	3.09	0.31		3.06	0.20	0.00	0.000	0.000
9/30/1988	9.38	0.15	0.02		3.34	0.21	0.00	0.000	0.000
10/31/1988	9.08	0.20	0.02		3.62	0.22	0.00	0.000	0.000
11/30/1988	8.50	0.22	0.03		3.88	0.22	0.00	0.000	0.000
12/31/1988	8.29	0.19	0.02		4.13	0.23	0.00	0.000	0.000
1/31/1989	8.14	0.21	0.03		4.39	0.23	0.00	0.000	0.000
2/28/1989	7.92	0.21	0.03		4.61	0.24	0.00	0.000	0.000
3/31/1989	7.31	0.46	0.06		4.83	0.25	0.00	0.000	0.000
4/30/1989	6.92	0.47	0.07		5.04	0.27	0.00	0.000	0.000
5/31/1989	6.84	0.30	0.04		5.25	0.28	0.00	0.000	0.000
6/30/1989	5.48	0.19	0.03		5.42	0.28	0.00	0.000	0.000
7/31/1989	7.77	0.18	0.02		5.66	0.29	0.00	0.000	0.000
8/31/1989	6.26	0.18	0.03		5.85	0.29	0.00	0.000	0.000
9/30/1989	6.00	0.34	0.06		6.03	0.30	0.00	0.000	0.000
10/31/1989	6.18	0.18	0.03		6.23	0.31	0.00	0.000	0.000
11/30/1989	6.05	0.25	0.04		6.41	0.32	0.00	0.000	0.000
12/31/1989	4.91	0.63	0.13		6.56	0.34	0.00	0.000	0.000
1/31/1990	5.81	1.15	0.20		6.74	0.37	0.00	0.000	0.000
2/28/1990	7.99	0.71	0.09		6.96	0.39	0.00	0.000	0.000
3/31/1990	7.34	0.63	0.09		7.19	0.41	0.00	0.000	0.000
4/30/1990	6.90	0.58	0.08		7.40	0.43	0.00	0.000	0.000
5/31/1990	6.71	0.57	0.09		7.61	0.45	0.00	0.000	0.000
6/30/1990	6.35	0.56	0.09		7.80	0.46	0.00	0.000	0.000
7/31/1990	6.28	0.53	0.08		7.99	0.48	0.00	0.000	0.000
8/31/1990	6.04	0.68	0.11		8.18	0.50	0.00	0.000	0.000
9/30/1990	5.85	0.62	0.11		8.35	0.52	0.00	0.000	0.000
10/31/1990	5.67	0.72	0.13		8.53	0.54	0.00	0.000	0.000
11/30/1990	5.65	0.71	0.13		8.70	0.56	0.00	0.000	0.000
12/31/1990	5.38	0.57	0.11		8.87	0.58	0.00	0.000	0.000
1/31/1991	5.34	0.50	0.09		9.03	0.60	0.00	0.000	0.000
2/28/1991	5.05	0.95	0.19		9.17	0.62	0.00	0.000	0.000
3/31/1991	5.43	0.65	0.12		9.34	0.64	0.00	0.000	0.000
4/30/1991	4.83	0.85	0.18		9.49	0.67	0.00	0.000	0.000
5/31/1991	4.85	0.50	0.10		9.64	0.69	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	4.80	0.66	0.14		9.78	0.71	0.00	0.000	0.000
7/31/1991	4.11	0.87	0.21		9.91	0.73	0.00	0.000	0.000
8/31/1991	4.27	0.63	0.15		10.04	0.75	0.00	0.000	0.000
9/30/1991	4.85	0.86	0.18		10.19	0.78	0.00	0.000	0.000
10/31/1991	4.14	0.75	0.18		10.31	0.80	0.00	0.000	0.000
11/30/1991	4.44	0.87	0.20		10.45	0.83	0.00	0.000	0.000
12/31/1991	3.60	0.50	0.14		10.56	0.84	0.00	0.000	0.000
1/31/1992	3.83	0.58	0.15		10.68	0.86	0.00	0.000	0.000
2/29/1992	4.54	1.11	0.24		10.81	0.89	0.00	0.000	0.000
3/31/1992	2.65	0.67	0.25		10.89	0.91	0.00	0.000	0.000
4/30/1992	2.34	0.54	0.23		10.96	0.93	0.00	0.000	0.000
5/31/1992	3.34	2.04	0.61		11.06	0.99	0.00	0.000	0.000
6/30/1992	4.62	1.29	0.28		11.20	1.03	0.00	0.000	0.000
7/31/1992	3.97	1.29	0.32		11.33	1.07	0.00	0.000	0.000
8/31/1992	3.80	1.30	0.34		11.44	1.11	0.00	0.000	0.000
9/30/1992	4.11	1.11	0.27		11.57	1.14	0.00	0.000	0.000
10/31/1992	4.02	1.32	0.33		11.69	1.19	0.00	0.000	0.000
11/30/1992	3.87	1.25	0.32		11.81	1.22	0.00	0.000	0.000
12/31/1992	3.81	1.14	0.30		11.93	1.26	0.00	0.000	0.000
1/31/1993	4.15	1.00	0.24		12.05	1.29	0.00	0.000	0.000
2/28/1993	4.23	2.29	0.54		12.17	1.35	0.00	0.000	0.000
3/31/1993	5.40	10.73	1.99		12.34	1.69	0.00	0.000	0.000
4/30/1993	4.43	0.83	0.19		12.47	1.71	0.00	0.000	0.000
5/31/1993	5.08	0.99	0.20		12.63	1.74	0.00	0.000	0.000
6/30/1993	4.82	1.25	0.26		12.78	1.78	0.00	0.000	0.000
7/31/1993	4.78	0.84	0.18		12.92	1.81	0.00	0.000	0.000
8/31/1993	4.14	1.25	0.30		13.05	1.84	0.00	0.000	0.000
9/30/1993	4.44	0.87	0.20		13.18	1.87	0.00	0.000	0.000
10/31/1993	4.17	5.35	1.28		13.31	2.04	0.00	0.000	0.000
11/30/1993	3.90	6.66	1.71		13.43	2.24	0.00	0.000	0.000
12/31/1993	4.38	4.85	1.11		13.57	2.39	0.00	0.000	0.000
1/31/1994	3.58	6.48	1.81		13.68	2.59	0.00	0.000	0.000
2/28/1994	3.96	6.41	1.62		13.79	2.77	0.00	0.000	0.000
3/31/1994	3.94	6.05	1.54		13.91	2.95	0.00	0.000	0.000
4/30/1994	3.99	6.09	1.53		14.03	3.14	0.00	0.000	0.000
5/31/1994	5.50	11.55	2.10		14.20	3.49	0.00	0.000	0.000
6/30/1994	4.48	13.95	3.11		14.34	3.91	0.00	0.000	0.000
7/31/1994	8.26	25.49	3.08		14.59	4.70	0.00	0.000	0.000
8/31/1994	11.05	28.40	2.57		14.93	5.58	0.00	0.000	0.000
9/30/1994	8.54	28.07	3.29		15.19	6.43	0.00	0.000	0.000
10/31/1994	8.32	27.82	3.34		15.45	7.29	0.00	0.000	0.000
11/30/1994	10.38	32.48	3.13		15.76	8.26	0.00	0.000	0.000
12/31/1994	9.79	39.94	4.08		16.06	9.50	0.00	0.000	0.000
1/31/1995	9.02	41.31	4.58		16.34	10.78	0.00	0.000	0.000
2/28/1995	9.26	41.46	4.48		16.60	11.94	0.00	0.000	0.000
3/31/1995	8.45	34.99	4.14		16.86	13.03	0.00	0.000	0.000
4/30/1995	8.19	37.37	4.56		17.11	14.15	0.00	0.000	0.000
5/31/1995	7.40	37.10	5.01		17.34	15.30	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	6.51	38.49	5.91		17.53	16.45	0.00	0.000	0.000
7/31/1995	6.73	35.88	5.33		17.74	17.56	0.00	0.000	0.000
8/31/1995	5.89	35.26	5.99	50.68	17.92	18.66	1.57	1.223	0.042
9/30/1995	5.09	33.90	6.66	22.44	18.08	19.67	2.24	0.572	0.058
10/31/1995	4.96	30.08	6.07	22.19	18.23	20.61	2.93	0.629	0.074
11/30/1995	5.27	37.15	7.04	19.23	18.39	21.72	3.51	0.451	0.086
12/31/1995	5.34	36.79	6.89	13.51	18.55	22.86	3.93	0.319	0.093
1/31/1996	5.59	38.35	6.86	18.46	18.73	24.05	4.50	0.417	0.103
2/29/1996	5.46	32.07	5.88	18.28	18.89	24.98	5.03	0.484	0.112
3/31/1996	5.69	37.18	6.54	18.98	19.06	26.13	5.62	0.440	0.122
4/30/1996	5.90	37.22	6.31	17.06	19.24	27.25	6.13	0.393	0.129
5/31/1996	5.40	32.03	5.93	4.11	19.41	28.24	6.26	0.109	0.129
6/30/1996	5.18	36.53	7.04	15.67	19.56	29.34	6.73	0.373	0.135
7/31/1996	4.24	36.38	8.57	15.07	19.69	30.47	7.20	0.369	0.141
8/31/1996	6.25	35.14	5.62	14.68	19.89	31.56	7.65	0.352	0.146
9/30/1996	7.43	35.09	4.72	13.83	20.11	32.61	8.07	0.322	0.150
10/31/1996	6.37	33.75	5.30	11.91	20.31	33.66	8.43	0.295	0.153
11/30/1996	5.16	33.87	6.57	12.65	20.46	34.67	8.81	0.322	0.157
12/31/1996	5.86	36.44	6.22	12.38	20.64	35.80	9.20	0.291	0.160
1/31/1997	5.73	33.96	5.93	12.79	20.82	36.85	9.59	0.320	0.163
2/28/1997	5.75	33.58	5.84	10.75	20.98	37.79	9.89	0.271	0.165
3/31/1997	4.77	36.41	7.63	12.32	21.13	38.92	10.28	0.298	0.168
4/30/1997	5.22	37.19	7.12	12.07	21.29	40.04	10.64	0.283	0.171
5/31/1997	5.09	36.61	7.20	12.44	21.45	41.17	11.02	0.296	0.173
6/30/1997	4.41	27.97	6.34	12.83	21.58	42.01	11.41	0.393	0.176
7/31/1997	3.89	34.94	8.99	12.10	21.70	43.10	11.78	0.310	0.179
8/31/1997	3.94	36.38	9.24	12.92	21.82	44.22	12.19	0.319	0.182
9/30/1997	4.28	36.50	8.52	13.06	21.95	45.32	12.58	0.319	0.184
10/31/1997	4.16	34.76	8.36	13.62	22.08	46.40	13.00	0.348	0.187
11/30/1997	4.43	34.80	7.86	12.42	22.21	47.44	13.37	0.315	0.189
12/31/1997	4.26	34.83	8.17	11.93	22.34	48.52	13.74	0.304	0.191
1/31/1998	3.76	33.60	8.94	12.06	22.46	49.56	14.12	0.321	0.193
2/28/1998	3.46	31.38	9.06	8.44	22.56	50.44	14.35	0.241	0.194
3/31/1998	3.29	31.59	9.59	9.15	22.66	51.42	14.64	0.261	0.195
4/30/1998	3.09	32.83	10.61	12.35	22.75	52.40	15.01	0.342	0.197
5/31/1998	2.90	33.31	11.50	10.55	22.84	53.44	15.33	0.290	0.198
6/30/1998	2.63	31.51	11.96	9.31	22.92	54.38	15.61	0.272	0.199
7/31/1998	2.46	34.50	14.02	9.65	23.00	55.45	15.91	0.260	0.200
8/31/1998	1.76	31.70	18.03	7.00	23.05	56.43	16.13	0.209	0.200
9/30/1998	1.70	27.10	15.94	7.71	23.10	57.25	16.36	0.267	0.201
10/31/1998	2.55	30.25	11.88	9.70	23.18	58.19	16.66	0.295	0.202
11/30/1998	4.76	29.44	6.18	9.82	23.32	59.07	16.96	0.285	0.203
12/31/1998	4.45	31.52	7.08	9.41	23.46	60.05	17.25	0.260	0.204
1/31/1999	4.01	30.12	7.52	9.68	23.59	60.98	17.55	0.282	0.205
2/28/1999	4.22	33.36	7.90	9.86	23.70	61.91	17.82	0.261	0.205
3/31/1999	4.42	33.04	7.47	8.94	23.84	62.94	18.10	0.237	0.206
4/30/1999	3.94	30.36	7.71	9.54	23.96	63.85	18.39	0.277	0.207
5/31/1999	3.73	29.23	7.83	9.31	24.07	64.75	18.68	0.281	0.207



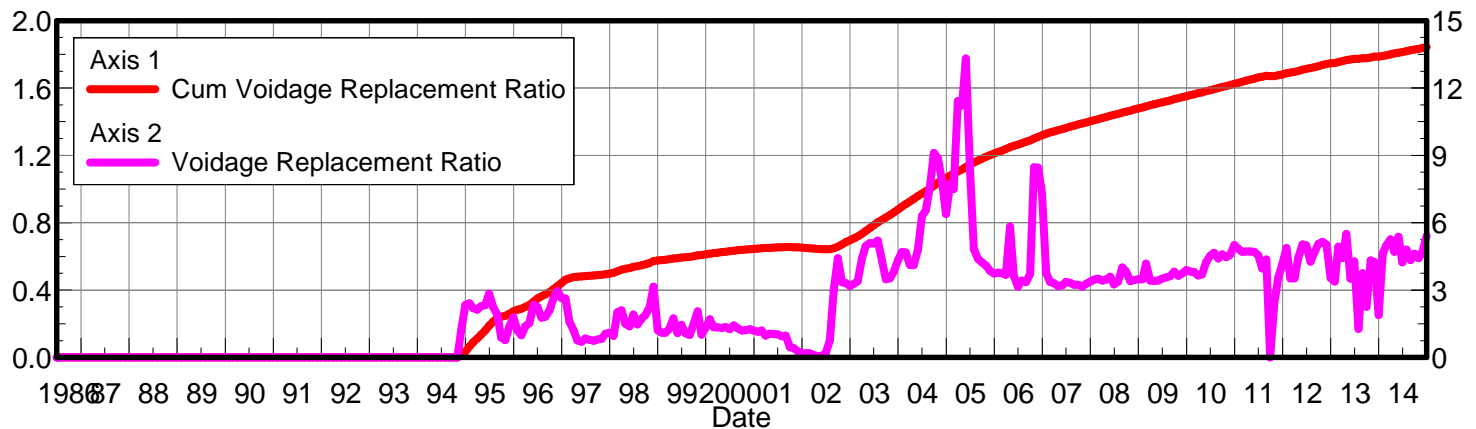
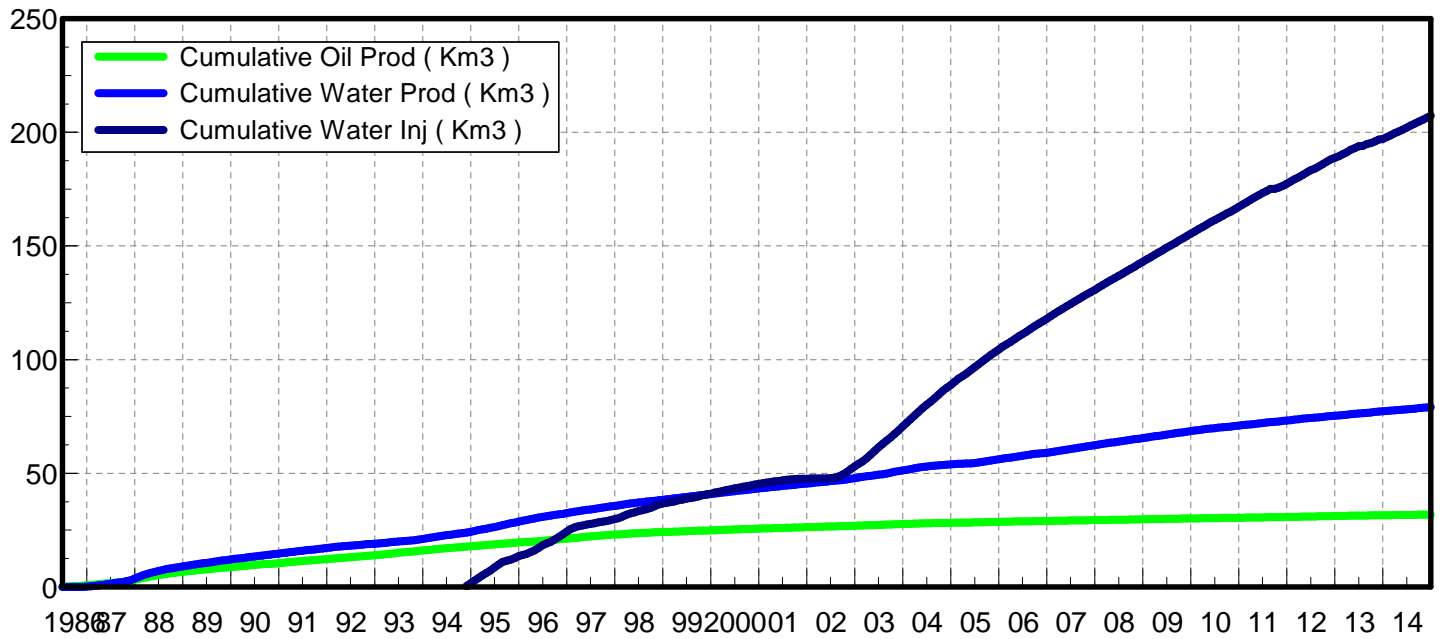
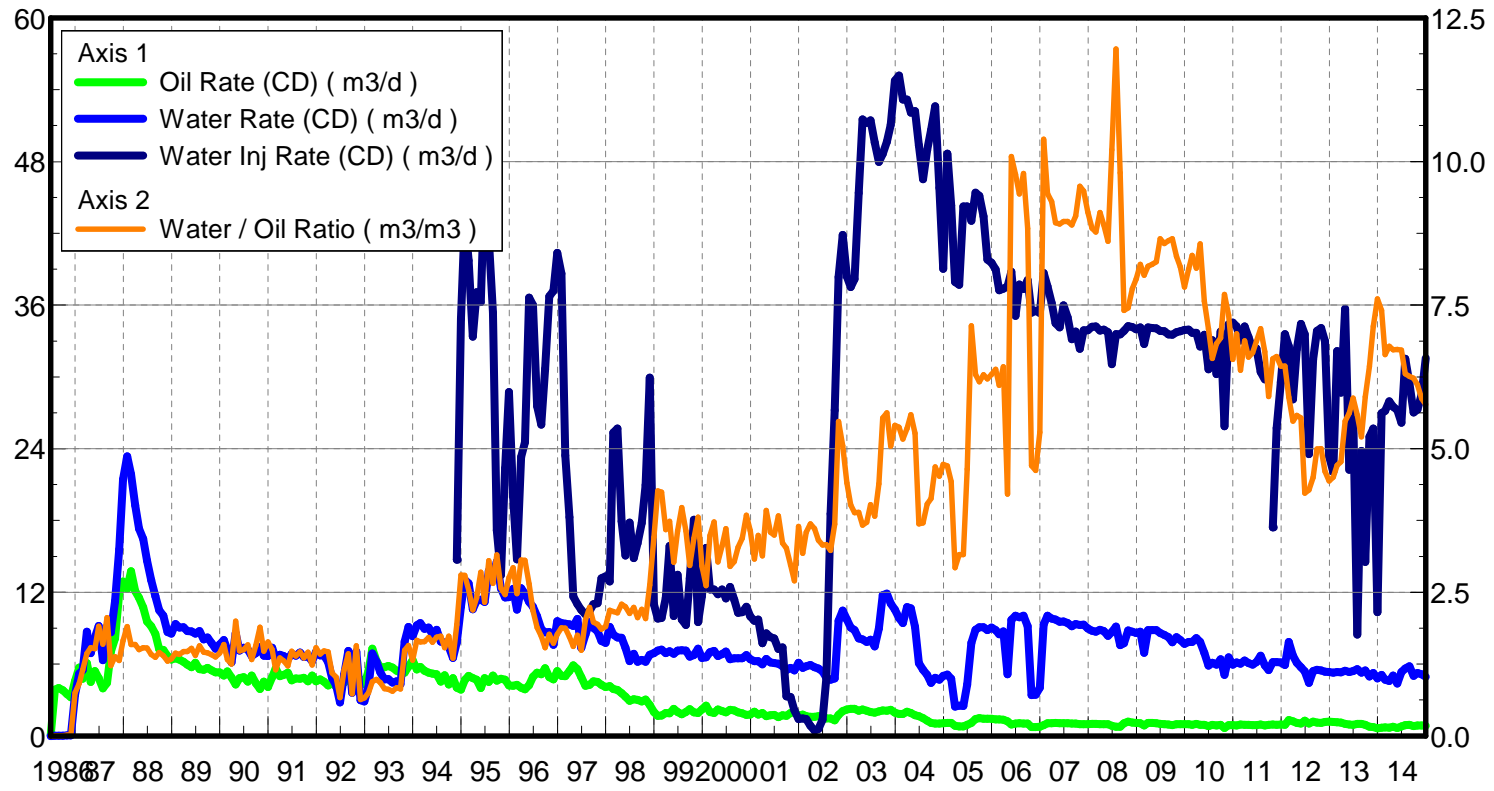
Date	Oil Rate (CD) m3/d	Water Rate (CD) m3/d	Water Oil Ratio m3/m3	Water Inj Rate (CD) m3/d	Cum Oil Prod Km3	Cum Water Prod Km3	Cum Water Inj Km3	Voidage Replacement Ratio	Cum Voidage Replacemt Ratio
6/30/1999	2.64	30.52	11.55	9.49	24.15	65.67	18.96	0.285	0.208
7/31/1999	2.53	31.11	12.28	9.49	24.23	66.63	19.25	0.281	0.209
8/31/1999	2.37	29.41	12.43	9.27	24.31	67.55	19.54	0.291	0.210
9/30/1999	2.56	30.84	12.07		24.38	68.47	19.54	0.000	0.208
10/31/1999	2.55	29.77	11.66	9.10	24.46	69.39	19.82	0.281	0.208
11/30/1999	2.52	30.18	11.95	9.44	24.54	70.30	20.11	0.288	0.209
12/31/1999	2.38	30.50	12.84	9.51	24.61	71.25	20.40	0.288	0.210
1/31/2000	2.34	32.28	13.80	9.35	24.68	72.25	20.69	0.269	0.211
2/29/2000	2.29	31.03	13.56	8.91	24.75	73.15	20.95	0.267	0.211
3/31/2000	2.34	30.83	13.16	9.23	24.82	74.10	21.24	0.277	0.212
4/30/2000	2.32	30.62	13.22	9.63	24.89	75.02	21.52	0.291	0.213
5/31/2000	2.43	31.67	13.05	9.53	24.97	76.00	21.82	0.279	0.213
6/30/2000	2.15	30.35	14.15	9.57	25.03	76.91	22.11	0.294	0.214
7/31/2000	1.95	30.54	15.64	9.96	25.09	77.86	22.42	0.306	0.215
8/31/2000	1.96	30.00	15.30	9.62	25.15	78.79	22.71	0.300	0.216
9/30/2000	1.81	30.34	16.78	9.65	25.21	79.70	23.00	0.299	0.217
10/31/2000	1.75	29.37	16.80	9.32	25.26	80.61	23.29	0.299	0.217
11/30/2000	1.98	29.22	14.80	9.55	25.32	81.49	23.58	0.305	0.218
12/31/2000	1.77	29.18	16.45	9.49	25.38	82.39	23.87	0.306	0.219
1/31/2001	1.76	28.43	16.12	9.51	25.43	83.27	24.17	0.314	0.220
2/28/2001	1.83	28.18	15.43	9.64	25.48	84.06	24.44	0.320	0.221
3/31/2001	1.76	27.80	15.78	9.40	25.54	84.92	24.73	0.317	0.221
4/30/2001	1.73	28.11	16.29	8.26	25.59	85.77	24.98	0.276	0.222
5/31/2001	1.70	27.33	16.06	9.03	25.64	86.61	25.26	0.310	0.222
6/30/2001	1.79	27.18	15.21	8.59	25.69	87.43	25.51	0.296	0.223
7/31/2001	1.72	25.60	14.89	8.68	25.75	88.22	25.78	0.317	0.224
8/31/2001	1.77	23.26	13.13	9.91	25.80	88.94	26.09	0.394	0.225
9/30/2001	1.66	19.87	11.95	8.80	25.85	89.54	26.36	0.407	0.226
10/31/2001	1.64	19.90	12.17	9.01	25.90	90.16	26.63	0.417	0.227
11/30/2001	1.53	14.17	9.25	7.16	25.95	90.58	26.85	0.454	0.228
12/31/2001	1.59	15.71	9.86	9.96	26.00	91.07	27.16	0.573	0.229
1/31/2002	1.62	15.46	9.56	10.01	26.05	91.55	27.47	0.583	0.231
2/28/2002	1.63	15.17	9.33	9.51	26.09	91.97	27.73	0.564	0.232
3/31/2002	1.73	15.78	9.12	9.36	26.15	92.46	28.02	0.532	0.234
4/30/2002	1.76	16.12	9.15	9.79	26.20	92.95	28.32	0.545	0.235
5/31/2002	1.76	16.63	9.43	9.95	26.25	93.46	28.63	0.538	0.237
6/30/2002	1.66	16.80	10.11	10.01	26.30	93.96	28.93	0.540	0.238
7/31/2002	1.56	17.05	10.91	6.32	26.35	94.49	29.12	0.338	0.238
8/31/2002	1.61	21.62	13.46	4.93	26.40	95.16	29.28	0.211	0.238
9/30/2002	1.64	24.93	15.23	7.87	26.45	95.91	29.51	0.295	0.239
10/31/2002	1.37	28.56	20.78	8.85	26.49	96.80	29.79	0.295	0.239
11/30/2002	1.25	30.23	24.12	9.65	26.53	97.70	30.08	0.306	0.240
12/31/2002	1.26	28.44	22.52	9.14	26.57	98.59	30.36	0.307	0.240
1/31/2003	1.25	28.10	22.42	9.51	26.61	99.46	30.65	0.323	0.241
2/28/2003	1.23	27.98	22.78	9.64	26.64	100.24	30.92	0.329	0.241
3/31/2003	0.73	30.24	41.30	9.30	26.67	101.18	31.21	0.300	0.242
4/30/2003	1.00	35.58	35.52	8.64	26.70	102.25	31.47	0.236	0.242
5/31/2003	1.11	37.19	33.56	8.48	26.73	103.40	31.73	0.221	0.241

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	1.08	37.28	34.63	8.05	26.76	104.52	31.98	0.210	0.241
7/31/2003	1.13	36.45	32.20	9.14	26.80	105.65	32.26	0.243	0.241
8/31/2003	1.47	36.54	24.87	10.57	26.84	106.78	32.59	0.278	0.241
9/30/2003	1.53	31.98	20.90	10.86	26.89	107.74	32.91	0.323	0.242
10/31/2003	1.54	32.86	21.29	10.93	26.94	108.76	33.25	0.317	0.243
11/30/2003	1.36	27.19	20.00	10.81	26.98	109.57	33.58	0.378	0.243
12/31/2003	1.52	31.52	20.70	10.25	27.03	110.55	33.89	0.309	0.244
1/31/2004	1.51	31.88	21.10	10.90	27.07	111.54	34.23	0.326	0.245
2/29/2004	1.50	31.39	20.88	10.80	27.12	112.45	34.54	0.328	0.245
3/31/2004	1.55	31.88	20.63	11.43	27.16	113.44	34.90	0.341	0.246
4/30/2004	1.47	31.37	21.29	11.30	27.21	114.38	35.24	0.343	0.247
5/31/2004	1.56	31.85	20.45	11.06	27.26	115.37	35.58	0.330	0.247
6/30/2004	1.91	30.65	16.08	10.89	27.31	116.29	35.91	0.334	0.248
7/31/2004	1.92	30.92	16.11	10.96	27.37	117.24	36.25	0.333	0.248
8/31/2004	1.83	32.09	17.50	10.70	27.43	118.24	36.58	0.314	0.249
9/30/2004	1.71	27.52	16.06	10.47	27.48	119.06	36.89	0.357	0.249
10/31/2004	1.58	26.56	16.79	1.72	27.53	119.89	36.95	0.061	0.248
11/30/2004	1.67	31.18	18.69	8.34	27.58	120.82	37.20	0.253	0.248
12/31/2004	1.61	30.30	18.77	10.88	27.63	121.76	37.53	0.340	0.249
1/31/2005	1.78	36.86	20.70	10.86	27.69	122.90	37.87	0.280	0.249
2/28/2005	1.79	35.81	19.99	10.24	27.74	123.91	38.16	0.272	0.249
3/31/2005	1.73	33.92	19.60	10.18	27.79	124.96	38.47	0.285	0.250
4/30/2005	1.64	32.82	20.07	10.77	27.84	125.94	38.80	0.312	0.250
5/31/2005	1.54	30.83	20.02	10.57	27.89	126.90	39.12	0.326	0.250
6/30/2005	1.55	32.80	21.16	10.38	27.93	127.88	39.43	0.301	0.251
7/31/2005	1.57	31.11	19.81	10.19	27.98	128.85	39.75	0.311	0.251
8/31/2005	1.86	28.59	15.40	10.35	28.04	129.73	40.07	0.339	0.252
9/30/2005	1.91	28.32	14.80	10.80	28.10	130.58	40.40	0.356	0.252
10/31/2005	1.88	28.22	15.01	10.14	28.16	131.46	40.71	0.336	0.253
11/30/2005	1.88	27.82	14.81	10.50	28.21	132.29	41.02	0.353	0.253
12/31/2005	1.89	27.70	14.68	10.04	28.27	133.15	41.34	0.338	0.254
1/31/2006	1.82	27.31	14.97	10.56	28.33	134.00	41.66	0.361	0.254
2/28/2006	1.84	26.31	14.32	10.53	28.38	134.74	41.96	0.373	0.255
3/31/2006	1.77	26.67	15.03	10.18	28.43	135.56	42.27	0.357	0.256
4/30/2006	1.97	25.73	13.07	7.57	28.49	136.33	42.50	0.272	0.256
5/31/2006	1.84	23.84	12.93	8.96	28.55	137.07	42.78	0.348	0.256
6/30/2006	1.83	25.03	13.70	10.01	28.60	137.82	43.08	0.372	0.257
7/31/2006	1.80	24.70	13.76	10.13	28.66	138.59	43.39	0.381	0.257
8/31/2006	1.75	24.91	14.28	10.00	28.71	139.36	43.70	0.374	0.258
9/30/2006	1.81	24.85	13.70	9.75	28.77	140.11	44.00	0.365	0.258
10/31/2006	1.79	25.10	14.04		28.82	140.89	44.00	0.000	0.257
11/30/2006	1.82	25.33	13.92		28.88	141.65	44.00	0.000	0.256
12/31/2006	1.79	25.78	14.44	0.43	28.93	142.44	44.01	0.015	0.255
1/31/2007	1.79	25.55	14.30	7.76	28.99	143.24	44.25	0.283	0.255
2/28/2007	1.82	24.62	13.56	10.78	29.04	143.93	44.55	0.406	0.255
3/31/2007	1.76	24.26	13.80	10.70	29.09	144.68	44.88	0.410	0.256
4/30/2007	1.73	24.19	13.96	10.73	29.15	145.40	45.20	0.413	0.257
5/31/2007	1.74	23.98	13.80	10.61	29.20	146.15	45.53	0.411	0.258

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	1.69	23.44	13.84	10.38	29.25	146.85	45.84	0.412	0.258
7/31/2007	1.68	23.48	13.97	10.47	29.30	147.58	46.17	0.415	0.259
8/31/2007	1.69	23.35	13.83	9.67	29.36	148.30	46.47	0.385	0.259
9/30/2007	1.65	23.36	14.13	10.50	29.41	149.00	46.78	0.418	0.260
10/31/2007	1.60	24.03	14.99	10.01	29.46	149.75	47.09	0.389	0.261
11/30/2007	1.61	24.59	15.24	10.82	29.50	150.49	47.42	0.412	0.261
12/31/2007	1.61	24.00	14.90	10.74	29.55	151.23	47.75	0.418	0.262
1/31/2008	1.66	23.95	14.41	10.66	29.61	151.97	48.08	0.415	0.263
2/29/2008	1.62	23.33	14.41	10.27	29.65	152.65	48.38	0.410	0.263
3/31/2008	1.60	23.44	14.63	10.66	29.70	153.38	48.71	0.424	0.264
4/30/2008	1.63	22.83	14.04	10.24	29.75	154.06	49.02	0.417	0.265
5/31/2008	1.64	22.03	13.42	9.79	29.80	154.74	49.32	0.412	0.265
6/30/2008	1.50	22.05	14.73	9.08	29.85	155.40	49.59	0.384	0.266
7/31/2008	1.46	23.72	16.27	10.21	29.89	156.14	49.91	0.404	0.266
8/31/2008	1.55	23.45	15.15	10.24	29.94	156.87	50.23	0.408	0.267
9/30/2008	1.60	24.26	15.16	10.10	29.99	157.59	50.53	0.389	0.267
10/31/2008	1.58	24.29	15.42	10.11	30.04	158.35	50.84	0.390	0.268
11/30/2008	1.63	23.97	14.72	10.43	30.09	159.07	51.16	0.406	0.268
12/31/2008	1.60	23.87	14.93	10.38	30.13	159.81	51.48	0.406	0.269
1/31/2009	1.52	23.20	15.30	10.37	30.18	160.53	51.80	0.418	0.269
2/28/2009	1.51	23.69	15.73	9.78	30.22	161.19	52.07	0.387	0.270
3/31/2009	1.57	23.84	15.16	10.15	30.27	161.93	52.39	0.398	0.270
4/30/2009	1.31	17.56	13.35	3.08	30.31	162.45	52.48	0.163	0.270
5/31/2009	1.27	17.57	13.86	1.98	30.35	163.00	52.54	0.105	0.270
6/30/2009	1.42	24.46	17.22	10.68	30.39	163.73	52.86	0.412	0.270
7/31/2009	1.43	25.22	17.69	10.53	30.44	164.52	53.19	0.394	0.271
8/31/2009	1.41	23.85	16.96	6.79	30.48	165.25	53.40	0.268	0.271
9/30/2009	1.37	24.01	17.57	10.36	30.52	165.97	53.71	0.407	0.271
10/31/2009	1.51	24.10	15.98	10.03	30.57	166.72	54.02	0.391	0.272
11/30/2009	1.44	23.17	16.06	10.00	30.61	167.42	54.32	0.405	0.272
12/31/2009	1.43	22.00	15.39	10.63	30.66	168.10	54.65	0.452	0.273
1/31/2010	1.40	22.23	15.84	8.55	30.70	168.79	54.92	0.361	0.273
2/28/2010	1.39	22.23	16.00	9.65	30.74	169.41	55.19	0.407	0.274
3/31/2010	1.50	22.40	14.90	9.27	30.79	170.11	55.47	0.387	0.274
4/30/2010	1.40	21.24	15.23	9.93	30.83	170.74	55.77	0.438	0.275
5/31/2010	1.39	21.29	15.35	10.73	30.87	171.40	56.10	0.472	0.275
6/30/2010	1.42	19.97	14.11	8.78	30.91	172.00	56.37	0.409	0.276
7/31/2010	1.42	20.47	14.42	7.44	30.96	172.64	56.60	0.339	0.276
8/31/2010	1.31	19.53	14.87	2.57	31.00	173.24	56.68	0.123	0.275
9/30/2010	1.41	21.51	15.26	8.70	31.04	173.89	56.94	0.378	0.276
10/31/2010	0.89	15.93	17.96	7.63	31.07	174.38	57.18	0.452	0.276
11/30/2010	1.37	22.16	16.24	8.83	31.11	175.05	57.44	0.374	0.277
12/31/2010	1.38	20.10	14.53	8.71	31.15	175.67	57.71	0.404	0.277
1/31/2011	1.33	20.67	15.54	8.01	31.19	176.31	57.96	0.363	0.277
2/28/2011	1.47	20.56	13.99	5.24	31.23	176.89	58.10	0.237	0.277
3/31/2011	1.39	21.24	15.24	7.11	31.28	177.54	58.33	0.313	0.277
4/30/2011	1.41	20.56	14.57	6.41	31.32	178.16	58.52	0.291	0.277
5/31/2011	1.36	19.11	14.04	4.79	31.36	178.75	58.67	0.233	0.277

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	1.37	18.71	13.62	5.00	31.40	179.31	58.82	0.248	0.277
7/31/2011	1.43	19.81	13.83	4.70	31.45	179.93	58.96	0.220	0.277
8/31/2011	1.34	18.00	13.45	2.02	31.49	180.49	59.02	0.104	0.276
9/30/2011	1.39	16.74	12.07	1.96	31.53	180.99	59.08	0.108	0.276
10/31/2011	1.09	14.72	13.54	4.88	31.56	181.44	59.23	0.308	0.276
11/30/2011	1.42	19.23	13.51	5.78	31.61	182.02	59.41	0.279	0.276
12/31/2011	1.22	16.47	13.47	6.70	31.65	182.53	59.62	0.377	0.276
1/31/2012	1.09	14.72	13.54	7.30	31.68	182.99	59.84	0.460	0.277
2/29/2012	1.08	15.17	13.99	6.69	31.71	183.43	60.04	0.410	0.277
3/31/2012	1.05	13.97	13.33	6.88	31.74	183.86	60.25	0.457	0.277
4/30/2012	0.97	12.97	13.37	7.56	31.77	184.25	60.48	0.541	0.278
5/31/2012	0.99	13.04	13.13	7.69	31.80	184.66	60.71	0.546	0.278
6/30/2012	1.42	12.11	8.52	7.38	31.85	185.02	60.94	0.543	0.279
7/31/2012	1.11	9.70	8.76	4.94	31.88	185.32	61.09	0.455	0.279
8/31/2012	1.37	11.30	8.22	5.91	31.92	185.67	61.27	0.464	0.280
9/30/2012	1.46	11.63	7.98	7.30	31.97	186.02	61.49	0.555	0.280
10/31/2012	1.45	11.43	7.90	8.42	32.01	186.37	61.75	0.650	0.281
11/30/2012	1.59	11.01	6.91	7.11	32.06	186.70	61.97	0.561	0.281
12/31/2012	1.76	10.55	5.99	7.49	32.11	187.03	62.20	0.604	0.282
1/31/2013	1.77	10.75	6.06	7.83	32.17	187.36	62.44	0.621	0.282
2/28/2013	1.74	10.81	6.19	8.07	32.22	187.67	62.67	0.638	0.283
3/31/2013	1.47	10.19	6.93	7.24	32.26	187.98	62.89	0.617	0.283
4/30/2013	1.40	10.74	7.70	6.57	32.30	188.30	63.09	0.538	0.284
5/31/2013	1.24	9.65	7.77	4.81	32.34	188.60	63.24	0.439	0.284
6/30/2013	1.19	10.78	9.10	6.29	32.38	188.93	63.43	0.523	0.285
7/31/2013	1.09	11.01	10.08	7.30	32.41	189.27	63.65	0.600	0.285
8/31/2013	1.04	11.15	10.71	7.06	32.44	189.61	63.87	0.577	0.286
9/30/2013	1.04	11.23	10.76	7.88	32.48	189.95	64.11	0.639	0.286
10/31/2013	0.99	9.24	9.31	8.15	32.51	190.24	64.36	0.793	0.287
11/30/2013	1.03	10.52	10.20	7.47	32.54	190.55	64.58	0.644	0.287
12/31/2013	1.02	10.65	10.48	3.48	32.57	190.88	64.69	0.297	0.287
1/31/2014	0.81	9.41	11.62	8.49	32.59	191.17	64.95	0.828	0.288
2/28/2014	0.61	7.95	13.06	8.12	32.61	191.40	65.18	0.946	0.289
3/31/2014	0.61	7.97	13.14	8.06	32.63	191.64	65.43	0.937	0.290
4/30/2014	1.04	10.35	9.95	7.79	32.66	191.95	65.67	0.681	0.290
5/31/2014	0.95	9.70	10.20	7.43	32.69	192.26	65.90	0.694	0.291
6/30/2014	1.01	10.85	10.71	7.33	32.72	192.58	66.12	0.615	0.291
7/31/2014	1.09	11.35	10.39	6.61	32.75	192.93	66.32	0.529	0.292
8/31/2014	1.13	11.38	10.10	7.43	32.79	193.29	66.55	0.592	0.292
9/30/2014	0.99	10.06	10.13	4.33	32.82	193.59	66.68	0.390	0.292
10/31/2014	1.16	11.06	9.52	2.97	32.86	193.93	66.77	0.242	0.292
11/30/2014	1.11	10.24	9.20	3.20	32.89	194.24	66.87	0.280	0.292
12/31/2014	1.10	10.11	9.17	3.03	32.92	194.55	66.96	0.269	0.292

Pattern: 00/12-28-010-29 Inj Set: Kola Unit#1  
 Oil Formation Vol Factor : 1.05000 m3/m3  
 Water Formation Vol Factor : 1.00000 m3/m3  
 Water / Oil Ratio : 5.77 m3/m3  
 May 07, 2015  
 Operator: Tundra\_O&G\_Prtshp  
 Oil Rate (CD) : 0.85 m3/d  
 Water Rate (CD) : 4.93 m3/d  
 Water Inj Rate (CD) : 31.58 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	11.89	15.57	1.31		2.74	2.99	0.00	0.000	0.000
12/31/1987	12.91	21.43	1.66		3.14	3.65	0.00	0.000	0.000
1/31/1988	12.29	23.36	1.90		3.52	4.38	0.00	0.000	0.000
2/29/1988	13.76	21.87	1.59		3.92	5.01	0.00	0.000	0.000
3/31/1988	12.11	19.28	1.59		4.29	5.61	0.00	0.000	0.000
4/30/1988	11.55	17.32	1.50		4.64	6.13	0.00	0.000	0.000
5/31/1988	10.74	16.46	1.53		4.97	6.64	0.00	0.000	0.000
6/30/1988	9.56	14.64	1.53		5.26	7.08	0.00	0.000	0.000
7/31/1988	9.17	13.01	1.42		5.54	7.48	0.00	0.000	0.000
8/31/1988	8.52	11.67	1.37		5.81	7.84	0.00	0.000	0.000
9/30/1988	7.25	10.51	1.45		6.02	8.16	0.00	0.000	0.000
10/31/1988	7.19	10.04	1.40		6.25	8.47	0.00	0.000	0.000
11/30/1988	6.68	8.68	1.30		6.45	8.73	0.00	0.000	0.000
12/31/1988	6.38	8.55	1.34		6.64	8.99	0.00	0.000	0.000
1/31/1989	6.49	9.34	1.44		6.85	9.28	0.00	0.000	0.000
2/28/1989	6.38	9.07	1.42		7.02	9.54	0.00	0.000	0.000
3/31/1989	6.18	9.08	1.47		7.22	9.82	0.00	0.000	0.000
4/30/1989	5.96	8.76	1.47		7.40	10.08	0.00	0.000	0.000
5/31/1989	5.73	8.74	1.53		7.57	10.35	0.00	0.000	0.000
6/30/1989	6.10	8.54	1.40		7.76	10.61	0.00	0.000	0.000
7/31/1989	5.58	8.76	1.57		7.93	10.88	0.00	0.000	0.000
8/31/1989	5.53	8.05	1.46		8.10	11.13	0.00	0.000	0.000
9/30/1989	5.69	8.22	1.44		8.27	11.38	0.00	0.000	0.000
10/31/1989	5.48	7.74	1.41		8.44	11.62	0.00	0.000	0.000
11/30/1989	5.30	7.30	1.38		8.60	11.84	0.00	0.000	0.000
12/31/1989	5.30	7.63	1.44		8.76	12.07	0.00	0.000	0.000
1/31/1990	5.04	8.01	1.59		8.92	12.32	0.00	0.000	0.000
2/28/1990	5.39	7.17	1.33		9.07	12.52	0.00	0.000	0.000
3/31/1990	4.90	6.13	1.25		9.22	12.71	0.00	0.000	0.000
4/30/1990	4.29	8.57	2.00		9.35	12.97	0.00	0.000	0.000
5/31/1990	4.83	7.14	1.48		9.50	13.19	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	4.91	7.37	1.50		9.65	13.41	0.00	0.000	0.000
7/31/1990	4.54	7.21	1.59		9.79	13.64	0.00	0.000	0.000
8/31/1990	5.03	6.67	1.33		9.95	13.84	0.00	0.000	0.000
9/30/1990	4.39	6.91	1.57		10.08	14.05	0.00	0.000	0.000
10/31/1990	3.92	7.41	1.89		10.20	14.28	0.00	0.000	0.000
11/30/1990	4.53	6.69	1.48		10.34	14.48	0.00	0.000	0.000
12/31/1990	4.09	6.69	1.63		10.46	14.69	0.00	0.000	0.000
1/31/1991	4.91	7.37	1.50		10.61	14.92	0.00	0.000	0.000
2/28/1991	5.63	6.49	1.15		10.77	15.10	0.00	0.000	0.000
3/31/1991	5.00	6.79	1.36		10.93	15.31	0.00	0.000	0.000
4/30/1991	5.10	6.67	1.31		11.08	15.51	0.00	0.000	0.000
5/31/1991	5.27	6.41	1.22		11.24	15.71	0.00	0.000	0.000
6/30/1991	4.64	6.85	1.47		11.38	15.91	0.00	0.000	0.000
7/31/1991	4.81	6.70	1.39		11.53	16.12	0.00	0.000	0.000
8/31/1991	4.76	6.96	1.46		11.68	16.34	0.00	0.000	0.000
9/30/1991	4.86	6.60	1.36		11.83	16.53	0.00	0.000	0.000
10/31/1991	4.57	6.65	1.46		11.97	16.74	0.00	0.000	0.000
11/30/1991	5.05	6.24	1.23		12.12	16.93	0.00	0.000	0.000
12/31/1991	4.56	7.01	1.54		12.26	17.14	0.00	0.000	0.000
1/31/1992	4.72	6.73	1.42		12.41	17.35	0.00	0.000	0.000
2/29/1992	4.54	6.72	1.48		12.54	17.55	0.00	0.000	0.000
3/31/1992	4.21	6.16	1.46		12.67	17.74	0.00	0.000	0.000
4/30/1992	4.42	4.85	1.10		12.80	17.88	0.00	0.000	0.000
5/31/1992	4.12	4.21	1.02		12.93	18.01	0.00	0.000	0.000
6/30/1992	4.21	2.79	0.66		13.05	18.10	0.00	0.000	0.000
7/31/1992	4.46	5.13	1.15		13.19	18.26	0.00	0.000	0.000
8/31/1992	4.97	7.10	1.43		13.35	18.48	0.00	0.000	0.000
9/30/1992	4.92	3.61	0.73		13.49	18.59	0.00	0.000	0.000
10/31/1992	4.48	7.04	1.57		13.63	18.80	0.00	0.000	0.000
11/30/1992	4.72	2.98	0.63		13.78	18.89	0.00	0.000	0.000
12/31/1992	4.33	2.87	0.66		13.91	18.98	0.00	0.000	0.000
1/31/1993	5.42	4.08	0.75		14.08	19.11	0.00	0.000	0.000
2/28/1993	7.29	6.89	0.95		14.28	19.30	0.00	0.000	0.000
3/31/1993	6.28	6.19	0.99		14.48	19.49	0.00	0.000	0.000
4/30/1993	5.72	5.32	0.93		14.65	19.65	0.00	0.000	0.000
5/31/1993	5.73	4.72	0.82		14.83	19.80	0.00	0.000	0.000
6/30/1993	5.85	4.75	0.81		15.00	19.94	0.00	0.000	0.000
7/31/1993	5.72	4.45	0.78		15.18	20.08	0.00	0.000	0.000
8/31/1993	5.44	4.55	0.84		15.35	20.22	0.00	0.000	0.000
9/30/1993	5.30	4.33	0.82		15.51	20.35	0.00	0.000	0.000
10/31/1993	5.29	7.88	1.49		15.67	20.60	0.00	0.000	0.000
11/30/1993	5.79	9.11	1.57		15.84	20.87	0.00	0.000	0.000
12/31/1993	6.33	8.34	1.32		16.04	21.13	0.00	0.000	0.000
1/31/1994	5.55	9.24	1.66		16.21	21.41	0.00	0.000	0.000
2/28/1994	5.77	9.44	1.64		16.37	21.68	0.00	0.000	0.000
3/31/1994	5.45	8.94	1.64		16.54	21.96	0.00	0.000	0.000
4/30/1994	5.29	9.06	1.71		16.70	22.23	0.00	0.000	0.000
5/31/1994	5.20	8.48	1.63		16.86	22.49	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	5.16	8.88	1.72		17.02	22.76	0.00	0.000	0.000
7/31/1994	4.53	7.86	1.74		17.16	23.00	0.00	0.000	0.000
8/31/1994	5.07	7.79	1.54		17.31	23.24	0.00	0.000	0.000
9/30/1994	4.29	7.44	1.73		17.44	23.46	0.00	0.000	0.000
10/31/1994	4.82	6.52	1.35		17.59	23.67	0.00	0.000	0.000
11/30/1994	4.04	7.83	1.94	14.73	17.71	23.90	0.44	1.221	0.010
12/31/1994	3.87	10.83	2.80	34.87	17.83	24.24	1.52	2.341	0.035
1/31/1995	4.67	13.04	2.79	43.28	17.98	24.64	2.86	2.413	0.066
2/28/1995	5.01	12.76	2.54	39.73	18.12	25.00	3.98	2.205	0.090
3/31/1995	4.82	10.58	2.19	33.36	18.27	25.33	5.01	2.133	0.113
4/30/1995	4.70	11.30	2.41	37.09	18.41	25.67	6.12	2.285	0.136
5/31/1995	4.00	11.38	2.85	36.26	18.53	26.02	7.25	2.327	0.159
6/30/1995	4.82	11.20	2.33	46.19	18.68	26.35	8.63	2.841	0.188
7/31/1995	4.52	13.79	3.05	41.61	18.82	26.78	9.92	2.244	0.213
8/31/1995	5.05	13.40	2.66	35.38	18.97	27.20	11.02	1.893	0.234
9/30/1995	4.62	14.55	3.15	17.19	19.11	27.63	11.54	0.886	0.242
10/31/1995	4.79	12.30	2.57	13.44	19.26	28.02	11.95	0.775	0.248
11/30/1995	4.70	11.57	2.46	22.38	19.40	28.36	12.62	1.356	0.259
12/31/1995	4.21	11.61	2.75	28.74	19.53	28.72	13.51	1.793	0.275
1/31/1996	4.20	12.30	2.93	19.99	19.66	29.10	14.13	1.197	0.284
2/29/1996	4.26	10.55	2.48	14.76	19.79	29.41	14.56	0.983	0.290
3/31/1996	4.02	12.33	3.06	23.30	19.91	29.79	15.28	1.407	0.301
4/30/1996	3.89	11.90	3.06	24.53	20.03	30.15	16.02	1.535	0.313
5/31/1996	4.23	11.19	2.65	36.63	20.16	30.50	17.16	2.344	0.332
6/30/1996	4.94	10.79	2.18	36.00	20.31	30.82	18.24	2.253	0.350
7/31/1996	5.30	9.98	1.89	27.56	20.47	31.13	19.09	1.773	0.363
8/31/1996	5.15	8.93	1.73	26.00	20.63	31.41	19.90	1.814	0.375
9/30/1996	5.65	8.66	1.53	30.66	20.80	31.67	20.82	2.101	0.389
10/31/1996	4.91	8.68	1.77	36.74	20.95	31.93	21.95	2.656	0.407
11/30/1996	4.72	7.61	1.61	37.18	21.09	32.16	23.07	2.961	0.425
12/31/1996	5.42	9.60	1.77	40.36	21.26	32.46	24.32	2.641	0.444
1/31/1997	5.02	9.44	1.88	38.64	21.42	32.75	25.52	2.627	0.462
2/28/1997	4.99	9.38	1.88	23.44	21.56	33.02	26.18	1.603	0.470
3/31/1997	5.41	9.33	1.73	18.29	21.73	33.30	26.74	1.218	0.477
4/30/1997	5.89	9.18	1.56	11.64	21.90	33.58	27.09	0.758	0.479
5/31/1997	5.59	9.78	1.75	11.01	22.08	33.88	27.43	0.704	0.481
6/30/1997	4.92	7.34	1.49	10.52	22.22	34.10	27.75	0.841	0.483
7/31/1997	4.19	8.46	2.02	10.14	22.35	34.37	28.06	0.789	0.485
8/31/1997	4.27	9.55	2.23	10.44	22.49	34.66	28.39	0.744	0.487
9/30/1997	4.55	9.02	1.98	11.00	22.62	34.93	28.72	0.797	0.489
10/31/1997	4.50	8.72	1.94	11.10	22.76	35.20	29.06	0.825	0.492
11/30/1997	4.26	7.92	1.86	13.16	22.89	35.44	29.46	1.062	0.495
12/31/1997	4.09	7.77	1.90	13.35	23.02	35.68	29.87	1.106	0.499
1/31/1998	4.16	9.10	2.19	12.90	23.15	35.96	30.27	0.958	0.502
2/28/1998	3.91	8.47	2.16	25.33	23.25	36.20	30.98	2.013	0.511
3/31/1998	3.83	8.22	2.15	25.70	23.37	36.45	31.77	2.098	0.521
4/30/1998	3.58	8.21	2.30	17.94	23.48	36.70	32.31	1.500	0.527
5/31/1998	3.28	7.38	2.25	15.06	23.58	36.93	32.78	1.392	0.531



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	2.93	6.24	2.13	17.82	23.67	37.12	33.31	1.913	0.538
7/31/1998	3.07	6.87	2.24	14.87	23.77	37.33	33.78	1.473	0.542
8/31/1998	3.01	6.19	2.06	16.13	23.86	37.52	34.28	1.726	0.548
9/30/1998	2.88	6.34	2.20	17.79	23.94	37.71	34.81	1.898	0.554
10/31/1998	3.03	6.19	2.04	20.96	24.04	37.90	35.46	2.237	0.562
11/30/1998	2.58	6.79	2.63	29.93	24.12	38.11	36.36	3.151	0.573
12/31/1998	2.00	6.90	3.46	11.01	24.18	38.32	36.70	1.223	0.576
1/31/1999	1.67	7.13	4.27	9.79	24.23	38.54	37.00	1.103	0.578
2/28/1999	1.70	7.20	4.25	9.85	24.28	38.74	37.28	1.097	0.580
3/31/1999	1.92	6.91	3.59	11.52	24.34	38.96	37.63	1.290	0.583
4/30/1999	1.90	7.09	3.74	15.89	24.39	39.17	38.11	1.750	0.588
5/31/1999	2.27	6.86	3.02	10.02	24.46	39.38	38.42	1.085	0.590
6/30/1999	2.00	7.12	3.57	13.48	24.52	39.60	38.83	1.462	0.594
7/31/1999	1.80	7.15	3.98	9.74	24.58	39.82	39.13	1.077	0.596
8/31/1999	2.00	7.13	3.57	9.27	24.64	40.04	39.41	1.005	0.598
9/30/1999	2.23	6.61	2.97	13.15	24.71	40.24	39.81	1.469	0.602
10/31/1999	1.96	6.75	3.44	18.06	24.77	40.45	40.37	2.050	0.607
11/30/1999	1.92	7.30	3.81	9.50	24.83	40.67	40.65	1.020	0.609
12/31/1999	2.20	6.51	2.96	11.67	24.90	40.87	41.02	1.324	0.612
1/31/2000	2.52	6.58	2.61	15.71	24.97	41.07	41.50	1.704	0.617
2/29/2000	2.01	6.99	3.48	12.24	25.03	41.27	41.86	1.345	0.620
3/31/2000	1.91	7.10	3.72	12.23	25.09	41.50	42.24	1.342	0.623
4/30/2000	2.21	6.69	3.03	11.83	25.16	41.70	42.59	1.314	0.625
5/31/2000	2.07	6.84	3.31	12.23	25.22	41.91	42.97	1.357	0.628
6/30/2000	1.96	7.06	3.61	11.49	25.28	42.12	43.32	1.261	0.631
7/31/2000	2.17	6.41	2.95	12.45	25.35	42.32	43.70	1.431	0.634
8/31/2000	2.14	6.49	3.03	11.37	25.41	42.52	44.05	1.302	0.637
9/30/2000	1.98	6.49	3.28	10.27	25.47	42.71	44.36	1.199	0.639
10/31/2000	1.88	6.49	3.44	10.34	25.53	42.92	44.68	1.221	0.641
11/30/2000	1.76	6.76	3.84	10.80	25.58	43.12	45.01	1.255	0.643
12/31/2000	1.79	6.40	3.57	10.00	25.64	43.32	45.32	1.208	0.645
1/31/2001	2.03	6.26	3.08	9.62	25.70	43.51	45.62	1.146	0.647
2/28/2001	1.79	6.24	3.49	9.73	25.75	43.68	45.89	1.199	0.649
3/31/2001	1.90	5.97	3.13	7.75	25.81	43.87	46.13	0.973	0.650
4/30/2001	1.64	6.43	3.93	8.58	25.86	44.06	46.39	1.053	0.651
5/31/2001	1.73	6.13	3.55	8.25	25.91	44.25	46.64	1.039	0.653
6/30/2001	1.74	6.09	3.50	8.16	25.97	44.44	46.89	1.029	0.654
7/31/2001	1.57	6.03	3.83	7.26	26.02	44.62	47.11	0.945	0.655
8/31/2001	1.73	5.82	3.36	7.39	26.07	44.80	47.34	0.967	0.656
9/30/2001	1.69	5.51	3.27	3.30	26.12	44.97	47.44	0.454	0.655
10/31/2001	1.91	5.70	2.98	3.25	26.18	45.15	47.54	0.422	0.655
11/30/2001	2.03	5.47	2.70	2.13	26.24	45.31	47.60	0.280	0.653
12/31/2001	1.68	6.11	3.65	1.40	26.29	45.50	47.65	0.177	0.652
1/31/2002	1.79	5.69	3.18	1.45	26.35	45.67	47.69	0.192	0.650
2/28/2002	1.64	5.81	3.55	1.40	26.39	45.84	47.73	0.185	0.649
3/31/2002	1.61	5.93	3.69	0.85	26.44	46.02	47.76	0.111	0.647
4/30/2002	1.59	5.74	3.61	0.43	26.49	46.19	47.77	0.058	0.645
5/31/2002	1.65	5.63	3.41	0.57	26.54	46.37	47.79	0.077	0.644

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	1.63	5.40	3.32	1.35	26.59	46.53	47.83	0.190	0.642
7/31/2002	1.46	4.85	3.33	4.86	26.64	46.68	47.98	0.762	0.643
8/31/2002	1.45	4.70	3.23	18.54	26.68	46.83	48.55	2.981	0.649
9/30/2002	1.30	4.80	3.69	27.22	26.72	46.97	49.37	4.416	0.658
10/31/2002	1.75	9.60	5.47	38.34	26.77	47.27	50.56	3.349	0.671
11/30/2002	2.07	10.46	5.05	41.86	26.84	47.58	51.81	3.312	0.684
12/31/2002	2.21	9.73	4.41	38.39	26.90	47.88	53.00	3.187	0.696
1/31/2003	2.25	9.06	4.02	37.50	26.97	48.16	54.17	3.282	0.708
2/28/2003	2.27	8.83	3.89	38.16	27.04	48.41	55.24	3.403	0.719
3/31/2003	2.09	8.14	3.89	45.38	27.10	48.66	56.64	4.388	0.734
4/30/2003	2.20	8.08	3.67	51.52	27.17	48.91	58.19	4.960	0.751
5/31/2003	2.11	7.84	3.72	51.22	27.23	49.15	59.78	5.093	0.769
6/30/2003	1.99	8.03	4.03	51.45	27.29	49.39	61.32	5.083	0.786
7/31/2003	1.95	7.47	3.82	49.60	27.35	49.62	62.86	5.210	0.802
8/31/2003	2.05	8.98	4.39	47.96	27.42	49.90	64.34	4.311	0.818
9/30/2003	2.12	11.76	5.54	48.63	27.48	50.25	65.80	3.477	0.832
10/31/2003	2.11	11.89	5.62	49.65	27.55	50.62	67.34	3.519	0.847
11/30/2003	2.19	11.06	5.05	51.08	27.61	50.95	68.87	3.822	0.861
12/31/2003	1.95	10.56	5.41	54.76	27.67	51.28	70.57	4.343	0.878
1/31/2004	1.83	9.85	5.38	55.17	27.73	51.59	72.28	4.687	0.896
2/29/2004	1.83	9.44	5.17	53.17	27.78	51.86	73.82	4.681	0.911
3/31/2004	2.01	10.77	5.35	53.17	27.85	52.19	75.47	4.126	0.927
4/30/2004	1.91	10.66	5.59	52.08	27.90	52.51	77.03	4.114	0.942
5/31/2004	1.73	9.10	5.27	52.22	27.96	52.80	78.65	4.783	0.957
6/30/2004	1.65	6.09	3.69	49.37	28.01	52.98	80.13	6.310	0.973
7/31/2004	1.49	5.52	3.71	46.52	28.05	53.15	81.58	6.565	0.988
8/31/2004	1.26	5.10	4.03	48.98	28.09	53.31	83.09	7.627	1.004
9/30/2004	1.07	4.43	4.13	50.60	28.12	53.44	84.61	9.104	1.020
10/31/2004	1.04	4.85	4.68	52.62	28.16	53.59	86.24	8.863	1.037
11/30/2004	1.04	4.71	4.52	45.80	28.19	53.73	87.62	7.900	1.051
12/31/2004	1.06	5.00	4.73	39.03	28.22	53.89	88.83	6.384	1.064
1/31/2005	1.09	5.13	4.70	48.66	28.25	54.05	90.34	7.748	1.079
2/28/2005	1.08	4.78	4.43	44.32	28.28	54.18	91.58	7.500	1.092
3/31/2005	0.84	2.45	2.93	37.95	28.31	54.26	92.75	11.421	1.104
4/30/2005	0.80	2.52	3.16	37.69	28.33	54.33	93.88	11.223	1.117
5/31/2005	0.79	2.50	3.16	44.25	28.36	54.41	95.26	13.307	1.132
6/30/2005	0.93	4.30	4.65	44.26	28.39	54.54	96.58	8.385	1.145
7/31/2005	1.09	7.77	7.14	43.05	28.42	54.78	97.92	4.828	1.157
8/31/2005	1.41	8.86	6.29	45.39	28.46	55.05	99.33	4.390	1.169
9/30/2005	1.48	9.09	6.16	45.12	28.51	55.33	100.68	4.241	1.181
10/31/2005	1.44	9.08	6.29	43.42	28.55	55.61	102.03	4.100	1.192
11/30/2005	1.42	8.84	6.22	39.81	28.59	55.87	103.22	3.853	1.202
12/31/2005	1.44	9.05	6.29	39.55	28.64	56.15	104.45	3.743	1.211
1/31/2006	1.39	8.84	6.38	38.98	28.68	56.43	105.65	3.786	1.221
2/28/2006	1.39	8.48	6.11	37.23	28.72	56.66	106.70	3.745	1.229
3/31/2006	1.36	8.72	6.43	37.38	28.76	56.94	107.86	3.685	1.238
4/30/2006	1.23	5.16	4.21	37.57	28.80	57.09	108.98	5.832	1.248
5/31/2006	0.96	9.70	10.09	38.80	28.83	57.39	110.18	3.624	1.257

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	1.03	10.06	9.78	35.10	28.86	57.69	111.24	3.153	1.264
7/31/2006	1.05	9.92	9.43	37.72	28.89	58.00	112.41	3.421	1.272
8/31/2006	1.03	10.05	9.79	37.35	28.93	58.31	113.57	3.358	1.281
9/30/2006	1.04	9.15	8.83	38.09	28.96	58.59	114.71	3.718	1.289
10/31/2006	0.73	3.41	4.70	35.36	28.98	58.69	115.80	8.467	1.299
11/30/2006	0.74	3.43	4.62	35.54	29.00	58.79	116.87	8.448	1.310
12/31/2006	0.76	4.03	5.29	35.33	29.02	58.92	117.97	7.309	1.320
1/31/2007	0.90	9.33	10.39	38.69	29.05	59.21	119.16	3.766	1.328
2/28/2007	1.06	10.03	9.44	37.57	29.08	59.49	120.22	3.370	1.335
3/31/2007	1.05	9.80	9.30	36.16	29.11	59.79	121.34	3.317	1.343
4/30/2007	1.09	9.71	8.94	34.49	29.15	60.08	122.37	3.179	1.349
5/31/2007	1.07	9.53	8.91	34.15	29.18	60.38	123.43	3.205	1.356
6/30/2007	1.07	9.57	8.95	35.98	29.21	60.67	124.51	3.366	1.363
7/31/2007	1.05	9.44	8.96	34.98	29.25	60.96	125.59	3.318	1.370
8/31/2007	1.03	9.17	8.90	33.15	29.28	61.24	126.62	3.234	1.377
9/30/2007	1.03	9.35	9.05	33.80	29.31	61.52	127.64	3.239	1.383
10/31/2007	0.97	9.26	9.57	32.36	29.34	61.81	128.64	3.148	1.389
11/30/2007	0.98	9.30	9.49	33.90	29.37	62.09	129.66	3.283	1.395
12/31/2007	0.99	8.98	9.12	33.91	29.40	62.37	130.71	3.384	1.402
1/31/2008	1.00	8.80	8.84	34.19	29.43	62.64	131.77	3.474	1.409
2/29/2008	0.99	8.71	8.77	34.21	29.46	62.89	132.76	3.508	1.415
3/31/2008	0.97	8.86	9.11	33.87	29.49	63.17	133.81	3.426	1.422
4/30/2008	0.98	8.75	8.90	33.95	29.52	63.43	134.83	3.471	1.428
5/31/2008	0.97	8.36	8.61	33.75	29.55	63.69	135.87	3.598	1.435
6/30/2008	0.85	8.67	10.20	31.07	29.57	63.95	136.81	3.248	1.440
7/31/2008	0.76	9.14	11.96	33.58	29.60	64.23	137.85	3.377	1.446
8/31/2008	0.77	7.57	9.80	33.55	29.62	64.47	138.89	4.002	1.453
9/30/2008	1.05	7.75	7.41	33.83	29.65	64.70	139.90	3.823	1.460
10/31/2008	1.18	8.82	7.45	34.25	29.69	64.97	140.96	3.403	1.466
11/30/2008	1.12	8.71	7.79	34.17	29.72	65.24	141.99	3.457	1.472
12/31/2008	1.08	8.61	7.95	33.97	29.76	65.50	143.04	3.486	1.479
1/31/2009	1.06	8.71	8.21	34.15	29.79	65.77	144.10	3.475	1.485
2/28/2009	0.86	6.93	8.02	32.74	29.81	65.97	145.02	4.177	1.491
3/31/2009	1.08	8.85	8.18	34.15	29.85	66.24	146.08	3.419	1.497
4/30/2009	1.08	8.85	8.21	34.09	29.88	66.51	147.10	3.414	1.503
5/31/2009	1.07	8.84	8.26	34.06	29.91	66.78	148.15	3.418	1.509
6/30/2009	1.00	8.61	8.65	33.86	29.94	67.04	149.17	3.507	1.515
7/31/2009	0.99	8.45	8.57	33.82	29.97	67.30	150.22	3.567	1.521
8/31/2009	0.96	8.25	8.62	33.55	30.00	67.56	151.26	3.626	1.527
9/30/2009	0.90	7.82	8.65	33.51	30.03	67.79	152.26	3.823	1.533
10/31/2009	0.99	8.25	8.35	33.74	30.06	68.05	153.31	3.632	1.539
11/30/2009	0.98	8.02	8.16	33.82	30.09	68.29	154.32	3.738	1.545
12/31/2009	0.98	7.69	7.81	33.93	30.12	68.53	155.38	3.891	1.551
1/31/2010	0.97	7.85	8.13	33.96	30.15	68.77	156.43	3.829	1.558
2/28/2010	0.94	7.84	8.36	33.67	30.18	68.99	157.37	3.815	1.563
3/31/2010	1.00	8.17	8.14	33.67	30.21	69.24	158.42	3.651	1.569
4/30/2010	0.92	7.85	8.57	32.55	30.23	69.48	159.39	3.693	1.575
5/31/2010	0.92	6.93	7.57	33.52	30.26	69.69	160.43	4.246	1.581

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	0.83	5.88	7.08	30.62	30.29	69.87	161.35	4.537	1.587
7/31/2010	0.93	6.12	6.57	33.06	30.32	70.06	162.38	4.661	1.594
8/31/2010	0.87	5.95	6.83	30.23	30.34	70.24	163.31	4.406	1.599
9/30/2010	0.92	6.40	6.93	33.80	30.37	70.44	164.33	4.588	1.606
10/31/2010	0.66	5.09	7.68	25.88	30.39	70.59	165.13	4.470	1.611
11/30/2010	0.90	6.57	7.32	34.42	30.42	70.79	166.16	4.585	1.617
12/31/2010	0.91	5.95	6.56	34.54	30.45	70.97	167.23	5.001	1.624
1/31/2011	0.88	6.14	7.00	34.21	30.47	71.16	168.29	4.842	1.631
2/28/2011	0.95	6.04	6.37	33.05	30.50	71.33	169.22	4.701	1.637
3/31/2011	0.91	6.29	6.88	34.21	30.53	71.53	170.28	4.717	1.644
4/30/2011	0.92	6.09	6.60	33.34	30.56	71.71	171.28	4.722	1.650
5/31/2011	0.89	5.94	6.67	32.36	30.58	71.90	172.28	4.705	1.656
6/30/2011	0.90	6.17	6.87	32.37	30.61	72.08	173.25	4.549	1.662
7/31/2011	0.94	6.69	7.09	30.41	30.64	72.29	174.19	3.960	1.668
8/31/2011	0.88	5.90	6.69	29.78	30.67	72.47	175.12	4.361	1.673
9/30/2011	0.93	5.49	5.91		30.70	72.64	175.12	0.000	1.670
10/31/2011	0.94	6.16	6.56	17.43	30.73	72.83	175.66	2.439	1.672
11/30/2011	0.94	6.18	6.61	25.71	30.75	73.01	176.43	3.591	1.675
12/31/2011	0.95	6.13	6.44	29.54	30.78	73.20	177.35	4.145	1.681
1/31/2012	0.92	5.92	6.44	33.57	30.81	73.39	178.39	4.875	1.687
2/29/2012	1.33	7.85	5.90	32.56	30.85	73.61	179.33	3.519	1.692
3/31/2012	1.22	6.70	5.48	28.11	30.89	73.82	180.20	3.523	1.696
4/30/2012	1.10	6.11	5.58	32.33	30.92	74.00	181.17	4.453	1.702
5/31/2012	1.04	5.75	5.54	34.44	30.95	74.18	182.24	5.033	1.708
6/30/2012	1.27	5.39	4.22	33.54	30.99	74.34	183.25	4.987	1.714
7/31/2012	1.03	4.43	4.28	23.55	31.02	74.48	183.98	4.271	1.718
8/31/2012	1.20	5.42	4.50	31.46	31.06	74.65	184.95	4.706	1.724
9/30/2012	1.11	5.53	5.00	33.84	31.09	74.82	185.97	5.059	1.730
10/31/2012	1.09	5.47	5.00	34.09	31.13	74.99	187.02	5.151	1.737
11/30/2012	1.16	5.36	4.60	32.98	31.16	75.15	188.01	5.015	1.743
12/31/2012	1.20	5.35	4.44	23.36	31.20	75.31	188.74	3.534	1.746
1/31/2013	1.17	5.28	4.51	22.05	31.24	75.48	189.42	3.384	1.749
2/28/2013	1.13	5.34	4.71	32.16	31.27	75.62	190.32	4.930	1.755
3/31/2013	1.11	5.32	4.77	28.68	31.30	75.79	191.21	4.418	1.760
4/30/2013	0.99	5.44	5.48	35.68	31.33	75.95	192.28	5.507	1.766
5/31/2013	0.95	5.34	5.62	22.24	31.36	76.12	192.97	3.511	1.770
6/30/2013	0.92	5.42	5.88	27.32	31.39	76.28	193.79	4.276	1.774
7/31/2013	1.00	5.57	5.59	8.46	31.42	76.45	194.05	1.280	1.773
8/31/2013	1.01	5.28	5.21	23.82	31.45	76.62	194.79	3.754	1.777
9/30/2013	0.93	5.48	5.90	14.54	31.48	76.78	195.23	2.252	1.777
10/31/2013	0.77	4.97	6.43	25.00	31.50	76.94	196.00	4.327	1.782
11/30/2013	0.74	5.26	7.13	25.69	31.53	77.09	196.77	4.254	1.786
12/31/2013	0.63	4.81	7.61	10.35	31.55	77.24	197.09	1.889	1.786
1/31/2014	0.69	5.10	7.41	26.98	31.57	77.40	197.93	4.631	1.790
2/28/2014	0.71	4.69	6.64	27.15	31.59	77.53	198.69	4.994	1.795
3/31/2014	0.68	4.60	6.78	27.95	31.61	77.67	199.56	5.267	1.800
4/30/2014	0.75	5.05	6.72	27.50	31.63	77.83	200.38	4.707	1.805
5/31/2014	0.65	4.38	6.73	27.25	31.65	77.96	201.22	5.378	1.810

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
6/30/2014	0.80	5.34	6.72	26.17	31.67	78.12	202.01	4.238	1.814
7/31/2014	0.89	5.62	6.30	31.53	31.70	78.30	202.99	4.808	1.819
8/31/2014	0.93	5.82	6.26	29.45	31.73	78.48	203.90	4.330	1.824
9/30/2014	0.81	5.01	6.22	27.03	31.75	78.63	204.71	4.616	1.828
10/31/2014	0.86	5.25	6.11	27.26	31.78	78.79	205.56	4.427	1.833
11/30/2014	0.88	5.14	5.88	28.53	31.81	78.94	206.41	4.708	1.837
12/31/2014	0.85	4.93	5.77	31.58	31.83	79.10	207.39	5.417	1.843