

**NORTH EBOR UNIT NO. 2**  
**WATERFLOOD EOR PROJECT**  
  
**ANNUAL REPORT FOR 2012**

**March 1, 2013**  
**Tundra Oil and Gas Partnership**

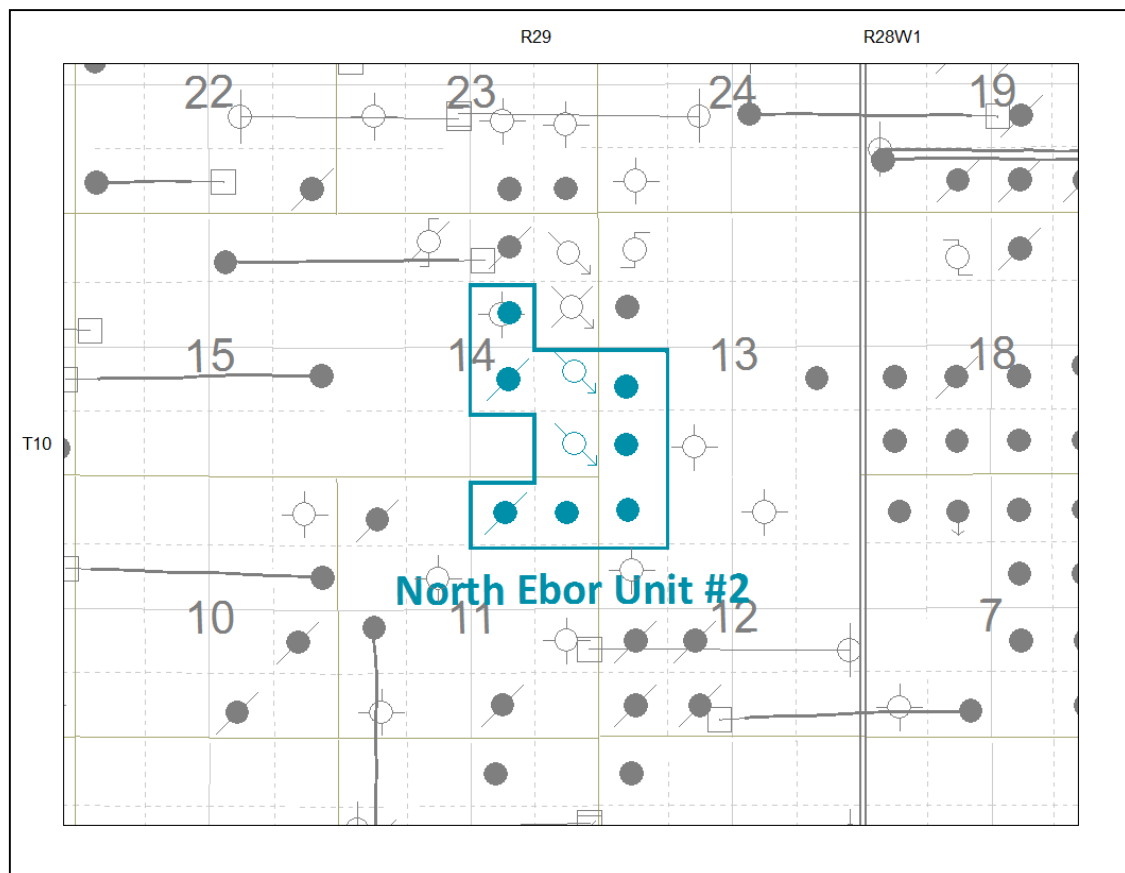
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## **INTRODUCTION**

North Ebor Unit No. 2 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Board Order No. PM 67 effective Oct. 1, 1991, with Tundra Oil and Gas Ltd. as Operator. The EOR project area contains 9 wells in 9 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: North Ebor Unit No. 2 Area Outline**



In accordance with Section 73 of the Manitoba Drilling and Production Regulation, Tundra hereby submits the 2012 Annual Progress Report for North Ebor Unit No. 2 as required by Board Order No. PM 67.

## **DISCUSSION**

### **Production History**

For the wells included in North Ebor Unit No. 2, production started in January 1986 with 00/16-11-010-29W1/0 well. Oil production peaked at 26.5 m<sup>3</sup>/d in June 1991. The Unit was producing 2.06 m<sup>3</sup>/d of oil and 27.23 m<sup>3</sup>/d of water, in December 2012. The 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: North Ebor Unit No. 2 Production/Injection Rates and WOR vs. Time**

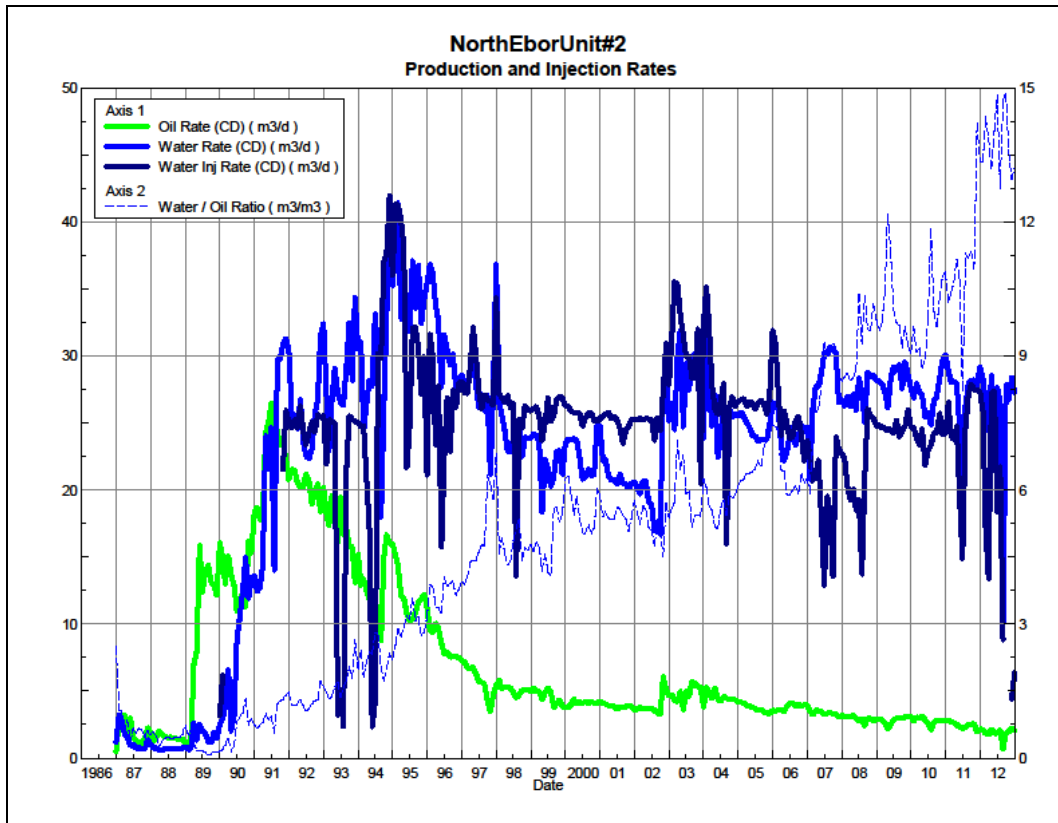
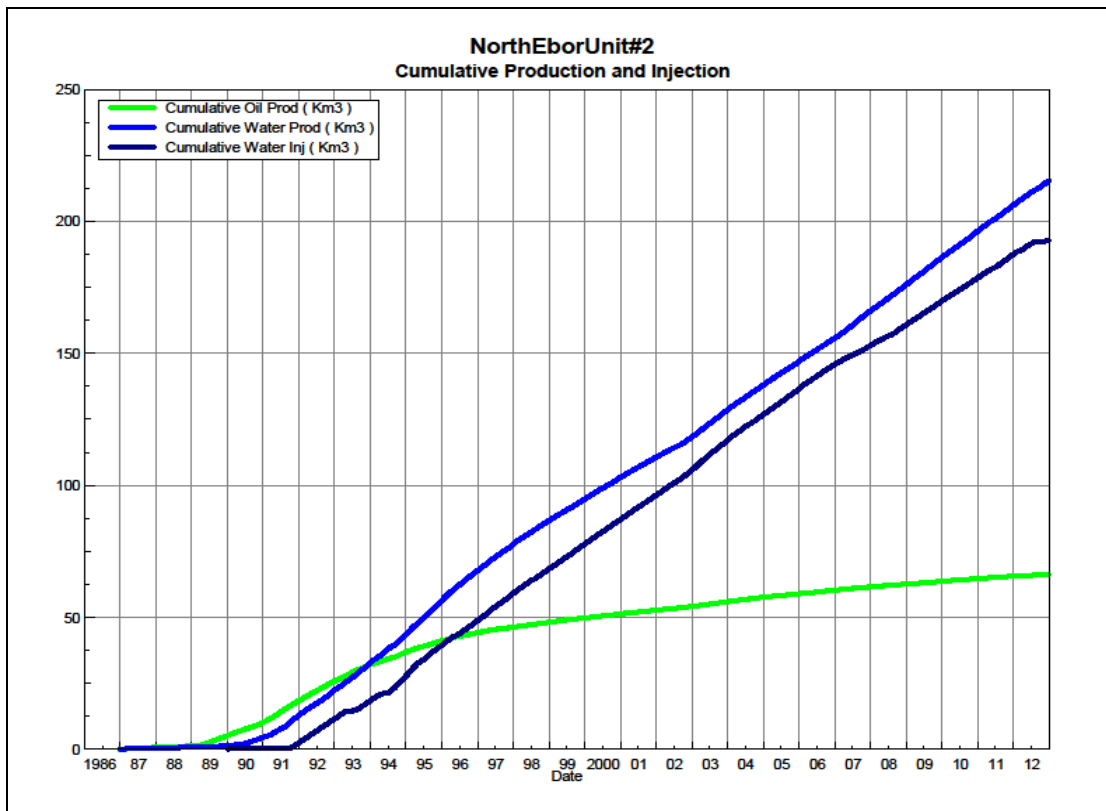


Figure 3 shows the cumulative production for North Ebor Unit No. 2 to the end of December 2012 as 66.3 E³m³ of oil, and 215.6 E³m³ of water. The cumulative water injected is almost 192.8 E³m³. The cumulative volume of oil, and water produced and fluid injected for each injection pattern and for the whole project for each injection well is presented in Appendix D.

**Figure 3: North Ebor Unit No. 2 Cumulative Oil, Water and Water Injected vs. Time**



### **Waterflood History**

As of December 2012 the Unit has 2 active vertical injectors. At the end of 2012, North Ebor Unit No. 2 waterflood had 2 injector patterns in place, one injector on the north side 00/08-14-010-29W1/00, the other on the south side at 00/01-14-010-29W1/00. Water injection started in October 1991. An overall summary for each injector pattern is presented in Appendix C.

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**

The injection water for North Ebor Unit No. 2 is sourced from the 00/13-13-010-29W1/00 well (Lodgepole formation). Injected fluid consists of water producing from the Lodgepole formation, from the unit and surrounding area. Water is filtered to 25 microns prior to re-injection.

### Injection Wellhead Pressures

The average monthly wellhead injection pressure for each injection well is summarized in Appendix B, and shows all injection pressure since 2003. In 2012, average injection pressure of injector 00/08-14-010-29W1/0 was 8765 kPag and 9660 kPag for injector 00/01-14-010-29W1/0.

### Reservoir Pressure

No reservoir pressure measurements were taken at North Ebor Unit No. 2 in 2012.

### Well Servicing

Table 1 lists the maintenance that was required in North Ebor Unit No. 2 in 2012.

**Table 1: Service and Maintenance in North Ebor Unit No. 2**

00/16-11-010-29W1/0	Scale Squeeze	05/09/2012
00/13-12-010-29W1/0	Scale Squeeze	05/09/2012
00/04-13-010-29W1/0	Scale Squeeze	05/09/2012
00/05-13-010-29W1/0	Scale Squeeze	18/09/2012
00/05-13-010-29W1/0	Rod Repair	29/10/2012

### Voidage Replacement

Cumulative voidage for the North Ebor Unit No. 2 was 0.679 in December 2012. Calculations, 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 original oil-in-place (OOIP) of the Unit is estimated at 412 E<sup>3</sup>m<sup>3</sup>. In 2012, recovery factor of the Unit is 16.1% based on 66.3 E<sup>3</sup>m<sup>3</sup> of cumulative oil recovered to date. The ultimate expected recoverable reserve based on decline analysis is 78 E<sup>3</sup>m<sup>3</sup> or an ultimate recovery factor of 18.9%.

The overall performance of this waterflood has been good as indicated by an expected recovery factor of 18.9%, beyond the primary recovery factor. Waterflood response is clearly evident in wells in the Unit. Trends in production are very stable and mature. No changes are anticipated in the future trends without changes to the waterflood itself.

Performance should improve with efforts to increase the instantaneous voidage above 1 so that eventually a cumulative voidage of unity is reached. In addition to increasing the water injection rate, the individual VRR plots clearly show that injection should be reduced in the 08-14 pattern and increased in the 01-14 pattern to support the withdrawals in those areas. These changes will improve performance of the waterflood.

## **List of Appendices**

Appendix A: Well Name and Well Status

Appendix B: Monthly Injection Wellhead Pressures Table

Appendix C: North Ebor Unit No.2 Injection Pattern Summary

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

Plots and Tables for the following injectors:

00/01-14-010-29W1/0

00/08-14-010-29W1/0

## Appendix A

UWI	Well Status
100/15-11-010-29W1/00	ABD Producer
100/16-11-010-29W1/02	Capable of OIL Prod
100/13-12-010-29W1/00	Capable of OIL Prod
100/04-13-010-29W1/00	Capable of OIL Prod
100/05-13-010-29W1/00	Capable of OIL Prod
100/01-14-010-29W1/00	WTR Injection
100/07-14-010-29W1/00	ABD Producer
100/08-14-010-29W1/00	WTR Injection
102/10-14-010-29W1/00	Capable of OIL Prod



## Appendix B

### Average Monthly Injection Pressure (kPag)

Injection Pressure			Injection Pressure			Injection Pressure			Injection Pressure		
Month	100/01-14	100/08-14	Month	100/01-14	100/08-14	Month	100/01-14	100/08-14	Month	100/01-14	100/08-14
			Jan-05	8800	8000	Jan-08	9290	9000	Jan-11	9813	8600
			Feb-05	8800	8000	Feb-08	8876	9000	Feb-11	9800	8600
			Mar-05	8800	8000	Mar-08	9881	9142	Mar-11	9852	8065
			Apr-05	8733	8000	Apr-08	10103	9117	Apr-11	10200	8700
			May-05	8400	8000	May-08	10000	9100	May-11	8655	8839
			Jun-05	8400	8000	Jun-08	8273	7733	Jun-11	9493	8900
			Jul-05	8400	8000	Jul-08	3419	9600	Jul-11	9881	8916
Aug-02	1562	1214	Aug-05	8458	8000	Aug-08	5987	7955	Aug-11	10410	9016
Sep-02	3720	2908	Sep-05	8973	7617	Sep-08	8450	7600	Sep-11	10417	9037
Oct-02	10800	8453	Oct-05	9326	7500	Oct-08	8868	7600	Oct-11	10229	9026
Nov-02	10800	8193	Nov-05	10100	7500	Nov-08	9120	7606	Nov-11	10240	9080
Dec-02	10655	8488	Dec-05	10100	7500	Dec-08	9707	7574	Dec-11	10000	9000
Jan-03	9752	8520	Jan-06	10100	7500	Jan-09	9613	7520	Jan-12	10000	9000
Feb-03	10118	8791	Feb-06	8937	7579	Feb-09	9541	7596	Feb-12	10000	9000
Mar-03	10450	8900	Mar-06	8620	7600	Mar-09	9600	7600	Mar-12	10000	9042
Apr-03	10747	8830	Apr-06	7672	7540	Apr-09	9347	7600	Apr-12	9953	9077
May-03	10800	9065	May-06	9010	9842	May-09	9200	7600	May-12	9916	9058
Jun-03	10800	9200	Jun-06	10787	9233	Jun-09	9200	7600	Jun-12	9933	9003
Jul-03	10800	9200	Jul-06	10801	8755	Jul-09	9200	7600	Jul-12	8542	8094
Aug-03	10800	9200	Aug-06	10801	9271	Aug-09	9200	7600	Aug-12	9300	8300
Sep-03	10800	9200	Sep-06	10161	9673	Sep-09	9200	7600	Sep-12	9300	8300
Oct-03	9981	9200	Oct-06	9858	8826	Oct-09	9482	7777			
Nov-03	9681	9139	Nov-06	9493	8960	Nov-09	9634	7845			
Dec-03	8965	8895	Dec-06	9977	8527	Dec-09	9760	7957			
Jan-04	8965	8895	Jan-07	9510	9181	Jan-10	9696	8139			
Feb-04	8965	8895	Feb-07	9475	8111	Feb-10	9690	8200			
Mar-04	8965	8895	Mar-07	10116	9200	Mar-10	9622	8448			
Apr-04	8965	8895	Apr-07	10521	7480	Apr-10	9300	8460			
May-04	9866	8725	May-07	11000	1200	May-10	9387	8397			
Jun-04	10000	8700	Jun-07	2553	7347	Jun-10	9313	8307			
Jul-04	10000	8700	Jul-07	4903	8194	Jul-10	9239	8394			
Aug-04	10000	8700	Aug-07	7497	8755	Aug-10	9200	8400			
Sep-04	8890	8100	Sep-07	1480	8840	Sep-10	10273	8727			
Oct-04	8800	8000	Oct-07	8368	8994	Oct-10	9977	8623			
Nov-04	8800	8000	Nov-07	9180	9000	Nov-10	9900	8610			
Dec-04	8800	8000	Dec-07	9300	9000	Dec-10	9900	8600			

## Appendix C

### North Ebor Unit No. 2 Pattern Summary as of December 2012

Pattern Name	Injector Location (010-29W)	Status	Supported Wells (010-29W1)	No. of Supported Wells	Allocation Factor	Pattern Prod Start Month	Inj Start Month	Oil Rate (m³/d)	Water Rate (m³/d)	WOR (m³/m³)	Water Injection (m³/d)	Cum Oil (E³m³)	Cum Water (E³m³)	Cum Inj Water (E³m³)	Monthly VRR	Cum VRR
00/01-14-010-29W1 Injector	00/01-14	WTR Injection	04-13, 13-12, 15-11, 16-11	4	1	Dec 1986	Jul 1994	1.3	22.7	17.17	0.8	40.0	180.8	92.5	0.03	0.41
00/08-14-010-29W1 Injector	00/08-14	WTR Injection	05-13, 07-14, 02/10-14	3	1	Feb 1987	Oct 1991	0.7	4.5	6.15	5.6	26.3	34.8	100.4	1.06	1.60

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

# Pattern: 00/01-14-010-29 Set: NorthEborUnit#2

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 17.17 m3/m3

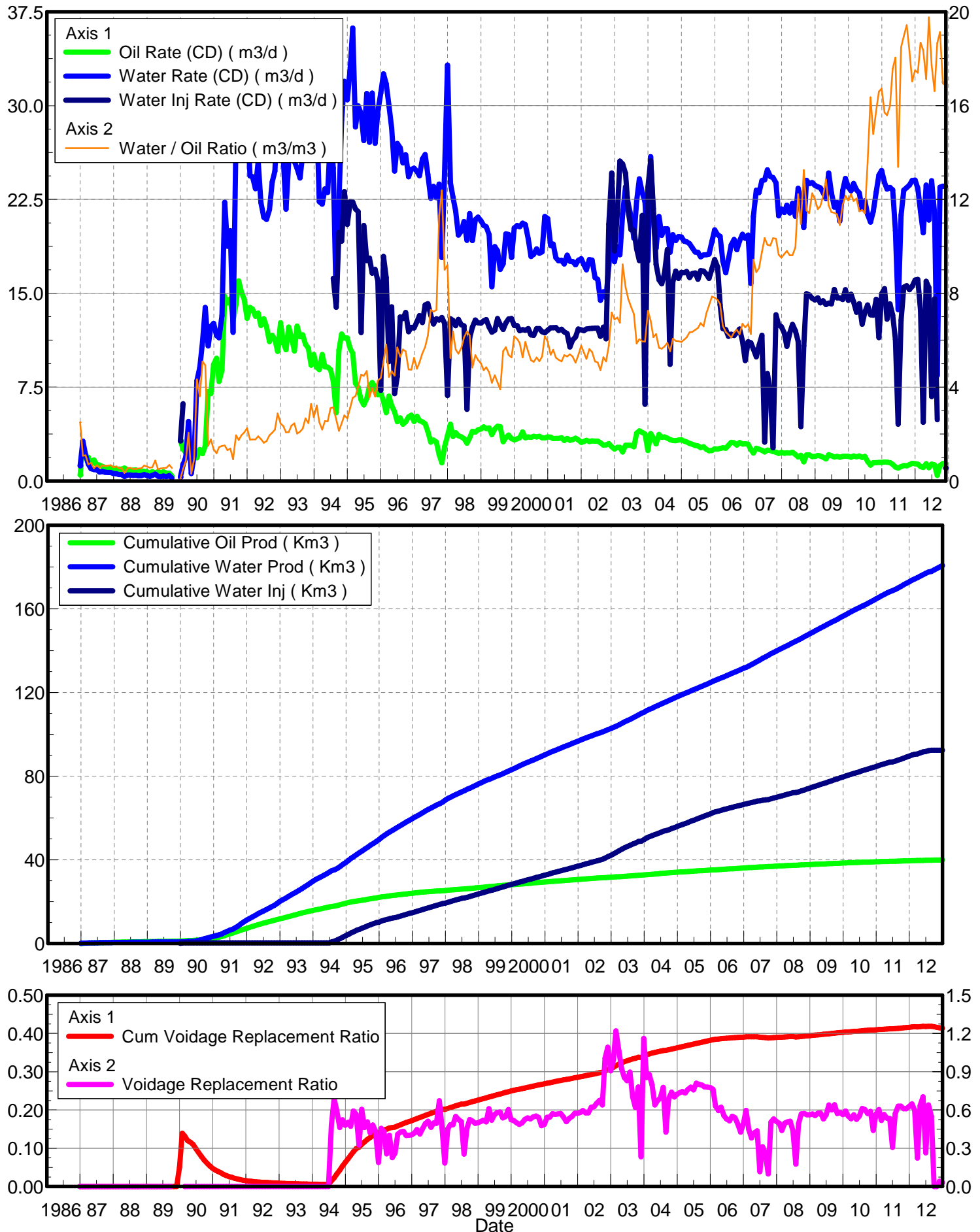
February 26, 2013

Operator: Tundra\_O&G\_Prtshp

Oil Rate (CD) : 1.32 m3/d

Water Rate (CD) : 22.71 m3/d

Water Inj Rate (CD) : 0.78 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
12/31/1986	0.48	1.21	2.50		0.01	0.04	0.00	0.000	0.000
1/31/1987	2.96	3.19	1.08		0.11	0.14	0.00	0.000	0.000
2/28/1987	1.91	2.09	1.09		0.16	0.19	0.00	0.000	0.000
3/31/1987	1.89	1.35	0.71		0.22	0.24	0.00	0.000	0.000
4/30/1987	1.28	0.99	0.77		0.26	0.27	0.00	0.000	0.000
5/31/1987	1.68	0.91	0.54		0.31	0.29	0.00	0.000	0.000
6/30/1987	1.32	0.89	0.67		0.35	0.32	0.00	0.000	0.000
7/31/1987	1.27	0.72	0.57		0.39	0.34	0.00	0.000	0.000
8/31/1987	1.15	0.77	0.66		0.42	0.37	0.00	0.000	0.000
9/30/1987	1.09	0.69	0.63		0.46	0.39	0.00	0.000	0.000
10/31/1987	1.04	0.68	0.66		0.49	0.41	0.00	0.000	0.000
11/30/1987	0.99	0.67	0.68		0.52	0.43	0.00	0.000	0.000
12/31/1987	1.01	0.59	0.59		0.55	0.45	0.00	0.000	0.000
1/31/1988	0.94	0.58	0.62		0.58	0.47	0.00	0.000	0.000
2/29/1988	0.94	0.50	0.54		0.61	0.48	0.00	0.000	0.000
3/31/1988	0.95	0.51	0.54		0.64	0.50	0.00	0.000	0.000
4/30/1988	1.03	0.35	0.34		0.67	0.51	0.00	0.000	0.000
5/31/1988	0.90	0.48	0.54		0.69	0.52	0.00	0.000	0.000
6/30/1988	0.85	0.47	0.56		0.72	0.54	0.00	0.000	0.000
7/31/1988	0.86	0.44	0.52		0.75	0.55	0.00	0.000	0.000
8/31/1988	0.88	0.45	0.52		0.77	0.56	0.00	0.000	0.000
9/30/1988	0.78	0.41	0.53		0.80	0.58	0.00	0.000	0.000
10/31/1988	0.80	0.43	0.54		0.82	0.59	0.00	0.000	0.000
11/30/1988	0.78	0.51	0.65		0.85	0.61	0.00	0.000	0.000
12/31/1988	0.74	0.45	0.61		0.87	0.62	0.00	0.000	0.000
1/31/1989	0.63	0.35	0.57		0.89	0.63	0.00	0.000	0.000
2/28/1989	0.75	0.44	0.59		0.91	0.64	0.00	0.000	0.000
3/31/1989	0.63	0.55	0.87		0.93	0.66	0.00	0.000	0.000
4/30/1989	0.75	0.38	0.50		0.95	0.67	0.00	0.000	0.000
5/31/1989	0.65	0.34	0.53		0.97	0.68	0.00	0.000	0.000
6/30/1989	0.72	0.40	0.55		0.99	0.69	0.00	0.000	0.000
7/31/1989	0.63	0.35	0.55		1.01	0.70	0.00	0.000	0.000
8/31/1989	0.64	0.43	0.68		1.03	0.72	0.00	0.000	0.000
9/30/1989	0.40	0.22	0.55		1.04	0.72	0.00	0.000	0.000
12/31/1989	3.25	0.30	0.09	3.20	1.14	0.73	0.10	0.845	0.051
1/31/1990	2.53	1.30	0.51	6.18	1.22	0.77	0.29	1.543	0.140
2/28/1990	2.26	1.91	0.84		1.29	0.83	0.29	0.000	0.132
3/31/1990	2.32	4.76	2.06		1.36	0.97	0.29	0.000	0.120
4/30/1990	1.91	0.59	0.31		1.42	0.99	0.29	0.000	0.116
5/31/1990	2.17	2.05	0.94		1.48	1.06	0.29	0.000	0.110
6/30/1990	1.85	8.01	4.33		1.54	1.30	0.29	0.000	0.099
7/31/1990	2.51	9.06	3.61		1.62	1.58	0.29	0.000	0.088
8/31/1990	2.18	11.13	5.10		1.68	1.92	0.29	0.000	0.078
9/30/1990	2.81	13.87	4.93		1.77	2.34	0.29	0.000	0.069
10/31/1990	7.17	10.79	1.50		1.99	2.67	0.29	0.000	0.061
11/30/1990	6.98	12.36	1.77		2.20	3.04	0.29	0.000	0.054
12/31/1990	9.32	12.59	1.35		2.49	3.43	0.29	0.000	0.048
1/31/1991	9.80	11.62	1.19		2.79	3.79	0.29	0.000	0.043

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
2/28/1991	7.94	11.44	1.44		3.01	4.11	0.29	0.000	0.040
3/31/1991	8.85	13.21	1.49		3.29	4.52	0.29	0.000	0.036
4/30/1991	14.76	22.28	1.51		3.73	5.19	0.29	0.000	0.032
5/31/1991	14.23	18.75	1.32		4.17	5.77	0.29	0.000	0.028
6/30/1991	14.54	20.01	1.38		4.61	6.37	0.29	0.000	0.026
7/31/1991	12.82	11.88	0.93		5.01	6.74	0.29	0.000	0.024
8/31/1991	14.12	27.47	1.95		5.44	7.59	0.29	0.000	0.022
9/30/1991	15.99	27.94	1.75		5.92	8.43	0.29	0.000	0.020
10/31/1991	15.10	29.38	1.95		6.39	9.34	0.29	0.000	0.018
11/30/1991	14.54	30.01	2.06		6.83	10.24	0.29	0.000	0.017
12/31/1991	13.00	29.29	2.25		7.23	11.15	0.29	0.000	0.015
1/31/1992	13.86	24.38	1.76		7.66	11.91	0.29	0.000	0.014
2/29/1992	13.73	24.31	1.77		8.06	12.61	0.29	0.000	0.014
3/31/1992	13.16	23.35	1.77		8.47	13.34	0.29	0.000	0.013
4/30/1992	13.41	25.52	1.90		8.87	14.10	0.29	0.000	0.012
5/31/1992	12.43	22.25	1.79		9.25	14.79	0.29	0.000	0.012
6/30/1992	12.96	21.06	1.63		9.64	15.42	0.29	0.000	0.011
7/31/1992	12.31	20.89	1.70		10.02	16.07	0.29	0.000	0.011
8/31/1992	11.14	21.68	1.95		10.37	16.74	0.29	0.000	0.010
9/30/1992	11.64	23.89	2.05		10.72	17.46	0.29	0.000	0.010
10/31/1992	11.31	24.77	2.19		11.07	18.23	0.29	0.000	0.010
11/30/1992	10.35	29.75	2.87		11.38	19.12	0.29	0.000	0.009
12/31/1992	12.65	30.93	2.45		11.77	20.08	0.29	0.000	0.009
1/31/1993	11.03	25.82	2.34		12.11	20.88	0.29	0.000	0.009
2/28/1993	10.49	21.72	2.07		12.41	21.49	0.29	0.000	0.008
3/31/1993	12.29	25.56	2.08		12.79	22.28	0.29	0.000	0.008
4/30/1993	11.50	27.18	2.36		13.13	23.10	0.29	0.000	0.008
5/31/1993	10.38	25.54	2.46		13.46	23.89	0.29	0.000	0.008
6/30/1993	12.38	24.98	2.02		13.83	24.64	0.29	0.000	0.007
7/31/1993	11.53	24.21	2.10		14.18	25.39	0.29	0.000	0.007
8/31/1993	11.68	26.14	2.24		14.55	26.20	0.29	0.000	0.007
9/30/1993	10.92	29.13	2.67		14.87	27.07	0.29	0.000	0.007
10/31/1993	10.61	26.16	2.47		15.20	27.88	0.29	0.000	0.007
11/30/1993	9.25	30.38	3.28		15.48	28.79	0.29	0.000	0.006
12/31/1993	10.10	27.41	2.71		15.79	29.64	0.29	0.000	0.006
1/31/1994	9.08	29.16	3.21		16.08	30.55	0.29	0.000	0.006
2/28/1994	8.90	22.32	2.51		16.32	31.17	0.29	0.000	0.006
3/31/1994	10.11	22.13	2.19		16.64	31.86	0.29	0.000	0.006
4/30/1994	9.13	23.34	2.56		16.91	32.56	0.29	0.000	0.006
5/31/1994	9.10	23.06	2.53		17.19	33.27	0.29	0.000	0.006
6/30/1994	8.90	27.66	3.11		17.46	34.10	0.29	0.000	0.006
7/31/1994	7.97	25.00	3.14	16.19	17.71	34.88	0.79	0.483	0.015
8/31/1994	5.45	14.30	2.62	13.87	17.88	35.32	1.22	0.689	0.022
9/30/1994	10.46	22.34	2.13	19.87	18.19	35.99	1.82	0.593	0.033
10/31/1994	11.75	28.86	2.46	19.16	18.56	36.89	2.41	0.463	0.043
11/30/1994	11.43	31.94	2.79	23.12	18.90	37.84	3.11	0.523	0.054
12/31/1994	11.42	30.47	2.67	20.50	19.25	38.79	3.74	0.480	0.063
1/31/1995	10.57	33.03	3.12	22.35	19.58	39.81	4.43	0.504	0.073

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
2/28/1995	10.21	36.19	3.54	22.29	19.87	40.83	5.06	0.473	0.081
3/31/1995	7.82	28.28	3.62	21.73	20.11	41.70	5.73	0.593	0.091
4/30/1995	7.47	29.97	4.01	21.52	20.33	42.60	6.38	0.567	0.099
5/31/1995	6.48	29.35	4.53	11.85	20.53	43.51	6.75	0.327	0.103
6/30/1995	6.07	27.21	4.48	20.42	20.72	44.33	7.36	0.606	0.111
7/31/1995	6.60	30.96	4.69	17.62	20.92	45.29	7.90	0.463	0.117
8/31/1995	7.58	27.07	3.57	17.82	21.15	46.13	8.46	0.506	0.123
9/30/1995	7.86	30.99	3.94	16.60	21.39	47.06	8.95	0.421	0.128
10/31/1995	7.51	26.98	3.59	16.91	21.62	47.89	9.48	0.483	0.133
11/30/1995	6.89	29.52	4.28	15.99	21.83	48.78	9.96	0.434	0.138
12/31/1995	7.05	30.99	4.40	7.25	22.05	49.74	10.18	0.188	0.139
1/31/1996	6.38	32.54	5.10	17.94	22.25	50.75	10.74	0.456	0.144
2/29/1996	5.46	31.74	5.81	16.24	22.40	51.67	11.21	0.432	0.148
3/31/1996	6.78	30.02	4.43	9.53	22.61	52.60	11.51	0.256	0.150
4/30/1996	6.03	28.21	4.68	13.92	22.80	53.45	11.92	0.401	0.153
5/31/1996	5.52	24.76	4.49	6.97	22.97	54.21	12.14	0.227	0.154
6/30/1996	4.74	26.98	5.70	8.34	23.11	55.02	12.39	0.260	0.155
7/31/1996	5.03	26.61	5.29	13.12	23.27	55.85	12.80	0.410	0.159
8/31/1996	4.54	25.42	5.60	12.99	23.41	56.64	13.20	0.429	0.162
9/30/1996	4.72	26.06	5.52	13.47	23.55	57.42	13.60	0.433	0.165
10/31/1996	5.12	24.32	4.75	11.92	23.71	58.17	13.97	0.400	0.167
11/30/1996	5.25	24.90	4.74	12.28	23.86	58.92	14.34	0.403	0.170
12/31/1996	4.76	25.00	5.25	12.22	24.01	59.69	14.72	0.406	0.172
1/31/1997	5.17	24.74	4.79	12.73	24.17	60.46	15.11	0.421	0.175
2/28/1997	4.83	24.39	5.05	13.21	24.31	61.14	15.48	0.447	0.178
3/31/1997	4.73	25.73	5.44	12.66	24.45	61.94	15.88	0.411	0.180
4/30/1997	4.57	26.08	5.71	14.07	24.59	62.72	16.30	0.455	0.183
5/31/1997	3.95	24.49	6.20	14.17	24.71	63.48	16.74	0.493	0.186
6/30/1997	3.10	22.58	7.28	13.25	24.81	64.16	17.14	0.511	0.189
7/31/1997	3.26	23.55	7.22	12.55	24.91	64.89	17.53	0.464	0.191
8/31/1997	3.11	22.65	7.29	12.96	25.00	65.59	17.93	0.499	0.194
9/30/1997	2.10	23.73	11.30	12.86	25.07	66.30	18.31	0.495	0.197
10/31/1997	1.44	17.85	12.38	13.06	25.11	66.86	18.72	0.673	0.200
11/30/1997	2.74	24.66	9.00	12.59	25.19	67.60	19.10	0.456	0.202
12/31/1997	3.61	33.24	9.20	6.84	25.30	68.63	19.31	0.184	0.202
1/31/1998	4.54	23.81	5.25	12.95	25.45	69.37	19.71	0.452	0.204
2/28/1998	3.56	22.70	6.37	12.83	25.55	70.00	20.07	0.484	0.206
3/31/1998	3.85	21.55	5.60	12.41	25.66	70.67	20.45	0.484	0.208
4/30/1998	3.62	19.65	5.43	12.91	25.77	71.26	20.84	0.549	0.211
5/31/1998	3.52	19.97	5.67	12.47	25.88	71.88	21.23	0.526	0.213
6/30/1998	3.39	20.74	6.12	12.40	25.98	72.50	21.60	0.509	0.215
7/31/1998	3.02	19.23	6.37	5.72	26.08	73.10	21.78	0.255	0.216
8/31/1998	3.45	21.37	6.20	11.45	26.18	73.76	22.13	0.457	0.217
9/30/1998	3.97	19.21	4.84	12.30	26.30	74.34	22.50	0.524	0.220
10/31/1998	3.90	20.89	5.36	12.85	26.42	74.98	22.90	0.513	0.222
11/30/1998	4.09	21.09	5.16	12.63	26.55	75.62	23.28	0.496	0.224
12/31/1998	4.15	20.79	5.01	12.61	26.68	76.26	23.67	0.500	0.226
1/31/1999	4.33	20.42	4.72	12.79	26.81	76.89	24.06	0.511	0.228

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
2/28/1999	4.19	20.31	4.84	12.90	26.93	77.46	24.43	0.520	0.230
3/31/1999	4.25	19.68	4.64	12.30	27.06	78.07	24.81	0.508	0.232
4/30/1999	3.71	15.52	4.18	11.90	27.17	78.54	25.16	0.611	0.234
5/31/1999	4.15	18.72	4.51	12.05	27.30	79.12	25.54	0.520	0.236
6/30/1999	4.38	18.39	4.20	12.98	27.43	79.67	25.93	0.563	0.238
7/31/1999	4.34	16.91	3.90	12.50	27.56	80.19	26.31	0.580	0.240
8/31/1999	3.14	17.36	5.53	12.11	27.66	80.73	26.69	0.585	0.242
9/30/1999	3.46	19.75	5.70	12.63	27.77	81.32	27.07	0.539	0.244
10/31/1999	3.67	19.71	5.37	12.95	27.88	81.94	27.47	0.548	0.246
11/30/1999	3.39	17.87	5.27	12.98	27.98	82.47	27.86	0.604	0.248
12/31/1999	3.28	20.22	6.16	12.44	28.08	83.10	28.25	0.524	0.250
1/31/2000	3.37	20.42	6.05	12.42	28.19	83.73	28.63	0.517	0.251
2/29/2000	3.46	20.32	5.88	12.01	28.29	84.32	28.98	0.500	0.253
3/31/2000	3.91	20.59	5.26	12.09	28.41	84.96	29.35	0.488	0.254
4/30/2000	3.46	20.48	5.93	12.05	28.51	85.57	29.71	0.498	0.256
5/31/2000	3.52	19.34	5.49	12.18	28.62	86.17	30.09	0.527	0.258
6/30/2000	3.49	17.94	5.15	11.68	28.73	86.71	30.44	0.539	0.259
7/31/2000	3.57	18.11	5.08	11.64	28.84	87.27	30.80	0.531	0.261
8/31/2000	3.52	18.54	5.26	12.18	28.95	87.85	31.18	0.546	0.262
9/30/2000	3.57	18.19	5.10	12.17	29.05	88.39	31.55	0.553	0.264
10/31/2000	3.45	18.31	5.30	11.93	29.16	88.96	31.92	0.542	0.266
11/30/2000	3.43	21.14	6.16	11.84	29.26	89.59	32.27	0.477	0.267
12/31/2000	3.53	20.96	5.95	12.04	29.37	90.24	32.64	0.487	0.268
1/31/2001	3.50	18.81	5.38	12.25	29.48	90.83	33.02	0.543	0.270
2/28/2001	3.39	18.93	5.59	12.24	29.58	91.36	33.37	0.543	0.271
3/31/2001	3.40	17.84	5.25	12.26	29.68	91.91	33.75	0.571	0.273
4/30/2001	3.40	17.59	5.17	12.02	29.78	92.44	34.11	0.566	0.274
5/31/2001	3.46	17.63	5.10	12.13	29.89	92.98	34.48	0.569	0.276
6/30/2001	3.23	17.35	5.37	11.91	29.99	93.51	34.84	0.573	0.277
7/31/2001	3.40	18.05	5.31	11.78	30.09	94.06	35.21	0.543	0.279
8/31/2001	3.25	17.56	5.40	10.71	30.19	94.61	35.54	0.509	0.280
9/30/2001	3.31	17.54	5.30	11.26	30.29	95.14	35.88	0.534	0.281
10/31/2001	3.43	17.27	5.04	11.51	30.40	95.67	36.23	0.550	0.283
11/30/2001	3.29	17.63	5.36	12.14	30.50	96.20	36.60	0.574	0.284
12/31/2001	3.08	17.76	5.77	12.08	30.59	96.75	36.97	0.574	0.286
1/31/2002	3.16	17.28	5.47	12.01	30.69	97.29	37.34	0.581	0.287
2/28/2002	3.25	16.88	5.20	12.14	30.78	97.76	37.68	0.596	0.288
3/31/2002	3.15	17.69	5.62	12.18	30.88	98.31	38.06	0.578	0.290
4/30/2002	3.21	17.65	5.50	12.19	30.98	98.84	38.43	0.578	0.291
5/31/2002	3.19	16.25	5.09	12.21	31.07	99.34	38.81	0.621	0.293
6/30/2002	3.19	16.10	5.05	12.21	31.17	99.82	39.17	0.626	0.294
7/31/2002	3.06	14.44	4.72	11.56	31.27	100.27	39.53	0.653	0.296
8/31/2002	2.87	15.12	5.27	12.30	31.35	100.74	39.91	0.676	0.297
9/30/2002	2.88	14.65	5.09	11.35	31.44	101.18	40.25	0.640	0.299
10/31/2002	2.98	17.21	5.77	20.51	31.53	101.71	40.89	1.006	0.302
11/30/2002	2.73	19.61	7.18	24.61	31.61	102.30	41.63	1.092	0.306
12/31/2002	2.55	17.53	6.89	18.37	31.69	102.84	42.20	0.907	0.309
1/31/2003	2.68	18.71	6.97	21.42	31.78	103.42	42.86	0.993	0.312



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
2/28/2003	2.68	18.08	6.74	25.56	31.85	103.93	43.58	1.220	0.316
3/31/2003	2.31	21.32	9.23	25.33	31.92	104.59	44.36	1.064	0.320
4/30/2003	2.84	23.52	8.27	24.57	32.01	105.30	45.10	0.925	0.323
5/31/2003	2.86	22.16	7.75	21.55	32.10	105.98	45.77	0.855	0.326
6/30/2003	2.84	21.14	7.43	20.08	32.18	106.62	46.37	0.830	0.329
7/31/2003	2.73	19.40	7.11	20.01	32.27	107.22	46.99	0.897	0.332
8/31/2003	3.82	22.36	5.86	18.55	32.39	107.91	47.56	0.702	0.334
9/30/2003	4.00	24.14	6.04	17.61	32.51	108.64	48.09	0.620	0.335
10/31/2003	3.87	23.04	5.95	21.21	32.63	109.35	48.75	0.781	0.338
11/30/2003	3.75	22.30	5.94	6.13	32.74	110.02	48.93	0.233	0.337
12/31/2003	2.43	17.59	7.25	23.45	32.81	110.57	49.66	1.162	0.341
1/31/2004	3.79	25.91	6.83	25.59	32.93	111.37	50.45	0.854	0.344
2/29/2004	3.44	21.08	6.13	21.76	33.03	111.98	51.08	0.879	0.347
3/31/2004	2.97	18.59	6.27	17.32	33.12	112.56	51.62	0.796	0.349
4/30/2004	3.72	21.14	5.68	16.08	33.23	113.19	52.10	0.640	0.350
5/31/2004	3.48	19.63	5.64	15.75	33.34	113.80	52.59	0.674	0.352
6/30/2004	3.52	20.15	5.73	16.57	33.45	114.40	53.09	0.693	0.354
7/31/2004	3.42	20.15	5.89	18.50	33.55	115.03	53.66	0.777	0.356
8/31/2004	3.31	18.27	5.52	9.32	33.66	115.59	53.95	0.427	0.356
9/30/2004	3.24	19.68	6.07	15.90	33.75	116.19	54.43	0.687	0.357
10/31/2004	3.22	19.21	5.97	16.77	33.85	116.78	54.95	0.740	0.359
11/30/2004	3.28	19.53	5.96	16.19	33.95	117.37	55.43	0.703	0.361
12/31/2004	3.29	19.50	5.93	16.67	34.05	117.97	55.95	0.724	0.362
1/31/2005	3.18	19.17	6.02	16.65	34.15	118.57	56.47	0.737	0.364
2/28/2005	3.13	19.12	6.12	16.73	34.24	119.10	56.94	0.745	0.366
3/31/2005	2.99	18.95	6.33	16.26	34.33	119.69	57.44	0.734	0.367
4/30/2005	2.93	18.62	6.35	16.58	34.42	120.25	57.94	0.762	0.369
5/31/2005	2.84	18.30	6.44	16.63	34.51	120.81	58.45	0.779	0.371
6/30/2005	2.80	18.28	6.52	16.13	34.59	121.36	58.94	0.758	0.372
7/31/2005	2.66	17.91	6.73	16.80	34.68	121.92	59.46	0.810	0.374
8/31/2005	2.74	18.05	6.59	16.78	34.76	122.48	59.98	0.800	0.376
9/30/2005	2.53	18.08	7.14	16.55	34.84	123.02	60.47	0.796	0.377
10/31/2005	2.42	18.12	7.48	16.18	34.91	123.58	60.98	0.781	0.379
11/30/2005	2.44	19.15	7.86	16.95	34.98	124.16	61.48	0.779	0.381
12/31/2005	2.57	20.07	7.82	17.69	35.06	124.78	62.03	0.775	0.382
1/31/2006	2.55	19.68	7.71	17.11	35.14	125.39	62.56	0.764	0.384
2/28/2006	2.59	19.55	7.54	14.09	35.22	125.94	62.96	0.631	0.385
3/31/2006	2.66	17.57	6.61	12.17	35.30	126.48	63.33	0.596	0.386
4/30/2006	2.62	16.64	6.35	12.10	35.38	126.98	63.70	0.622	0.386
5/31/2006	2.85	17.73	6.23	11.56	35.47	127.53	64.06	0.556	0.387
6/30/2006	3.09	18.86	6.11	11.73	35.56	128.10	64.41	0.529	0.388
7/31/2006	3.05	19.30	6.33	11.62	35.65	128.69	64.77	0.515	0.388
8/31/2006	2.87	18.48	6.45	11.87	35.74	129.27	65.14	0.551	0.389
9/30/2006	3.07	19.19	6.25	12.14	35.83	129.84	65.50	0.540	0.390
10/31/2006	2.95	19.72	6.70	11.18	35.92	130.45	65.85	0.489	0.390
11/30/2006	2.96	19.40	6.55	9.62	36.01	131.04	66.14	0.426	0.390
12/31/2006	2.94	19.64	6.68	11.13	36.10	131.64	66.48	0.488	0.390
1/31/2007	2.52	15.78	6.27	11.05	36.18	132.13	66.82	0.598	0.391

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
2/28/2007	2.24	21.13	9.44	10.54	36.25	132.73	67.12	0.448	0.391
3/31/2007	2.61	23.25	8.90	9.91	36.33	133.45	67.43	0.381	0.391
4/30/2007	2.54	23.05	9.07	10.82	36.40	134.14	67.75	0.420	0.391
5/31/2007	2.46	24.01	9.77	11.64	36.48	134.88	68.11	0.437	0.392
6/30/2007	2.32	24.06	10.36	3.10	36.55	135.60	68.20	0.117	0.390
7/31/2007	2.47	24.86	10.07	8.58	36.63	136.37	68.47	0.312	0.390
8/31/2007	2.43	24.33	10.03	7.16	36.70	137.13	68.69	0.266	0.389
9/30/2007	2.34	24.24	10.34	2.64	36.77	137.86	68.77	0.099	0.388
10/31/2007	2.31	23.82	10.33	13.28	36.84	138.59	69.18	0.505	0.389
11/30/2007	2.20	21.18	9.64	12.46	36.91	139.23	69.56	0.530	0.389
12/31/2007	2.28	21.74	9.52	12.34	36.98	139.90	69.94	0.510	0.390
1/31/2008	2.22	21.45	9.68	11.82	37.05	140.57	70.31	0.496	0.390
2/29/2008	2.25	22.03	9.80	10.76	37.11	141.21	70.62	0.440	0.390
3/31/2008	2.23	21.43	9.61	11.83	37.18	141.87	70.98	0.497	0.391
4/30/2008	2.31	22.19	9.62	12.51	37.25	142.54	71.36	0.507	0.391
5/31/2008	2.12	21.15	9.96	11.99	37.32	143.19	71.73	0.512	0.392
6/30/2008	1.91	23.40	12.23	11.16	37.37	143.89	72.07	0.439	0.392
7/31/2008	2.05	22.45	10.96	4.34	37.44	144.59	72.20	0.176	0.391
8/31/2008	1.53	20.26	13.25	10.80	37.48	145.22	72.54	0.493	0.391
9/30/2008	2.08	24.02	11.53	14.96	37.55	145.94	72.98	0.570	0.392
10/31/2008	2.08	23.75	11.42	14.87	37.61	146.68	73.45	0.573	0.393
11/30/2008	1.94	23.84	12.27	14.60	37.67	147.39	73.88	0.563	0.394
12/31/2008	1.97	23.63	12.01	14.47	37.73	148.12	74.33	0.562	0.394
1/31/2009	2.03	23.51	11.59	14.63	37.79	148.85	74.79	0.570	0.395
2/28/2009	2.00	23.42	11.71	14.24	37.85	149.51	75.18	0.557	0.396
3/31/2009	1.90	23.06	12.14	14.40	37.91	150.22	75.63	0.574	0.396
4/30/2009	1.76	22.57	12.85	14.10	37.96	150.90	76.05	0.577	0.397
5/31/2009	2.10	24.61	11.74	14.22	38.03	151.66	76.49	0.529	0.398
6/30/2009	2.01	23.03	11.46	14.15	38.09	152.35	76.92	0.562	0.398
7/31/2009	1.92	21.89	11.42	15.31	38.15	153.03	77.39	0.640	0.399
8/31/2009	1.96	22.25	11.36	14.64	38.21	153.72	77.85	0.601	0.400
9/30/2009	1.90	20.76	10.91	14.64	38.26	154.34	78.29	0.642	0.401
10/31/2009	1.97	23.21	11.78	14.50	38.33	155.06	78.74	0.573	0.402
11/30/2009	1.99	24.18	12.15	15.29	38.39	155.79	79.20	0.581	0.402
12/31/2009	1.96	23.47	11.95	14.43	38.45	156.52	79.64	0.564	0.403
1/31/2010	1.90	23.20	12.23	14.92	38.50	157.24	80.11	0.592	0.404
2/28/2010	1.99	23.78	11.93	14.31	38.56	157.90	80.51	0.552	0.404
3/31/2010	1.93	23.26	12.04	13.47	38.62	158.62	80.92	0.532	0.405
4/30/2010	2.00	23.03	11.49	14.16	38.68	159.31	81.35	0.563	0.405
5/31/2010	1.88	21.75	11.55	12.52	38.74	159.99	81.74	0.527	0.406
6/30/2010	1.96	22.39	11.40	13.50	38.80	160.66	82.14	0.551	0.406
7/31/2010	1.57	21.31	13.56	14.07	38.85	161.32	82.58	0.612	0.407
8/31/2010	1.26	20.68	16.35	13.28	38.89	161.96	82.99	0.603	0.408
9/30/2010	1.46	21.54	14.79	13.24	38.93	162.61	83.39	0.573	0.408
10/31/2010	1.46	23.08	15.79	14.51	38.97	163.32	83.84	0.589	0.409
11/30/2010	1.47	24.44	16.59	11.46	39.02	164.06	84.18	0.440	0.409
12/31/2010	1.48	24.82	16.73	14.95	39.06	164.83	84.64	0.566	0.410
1/31/2011	1.52	23.85	15.70	15.36	39.11	165.57	85.12	0.603	0.410

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
2/28/2011	1.50	23.32	15.59	12.93	39.15	166.22	85.48	0.519	0.411
3/31/2011	1.47	23.46	15.99	14.15	39.20	166.95	85.92	0.565	0.411
4/30/2011	1.32	23.25	17.57	13.25	39.24	167.64	86.32	0.537	0.412
5/31/2011	1.11	20.02	18.04	11.31	39.27	168.26	86.67	0.533	0.412
6/30/2011	1.02	13.69	13.38	4.54	39.30	168.68	86.81	0.307	0.412
7/31/2011	1.15	21.23	18.49	12.83	39.34	169.33	87.20	0.571	0.412
8/31/2011	1.23	23.24	18.96	15.48	39.38	170.05	87.68	0.631	0.413
9/30/2011	1.21	23.44	19.43	15.60	39.41	170.76	88.15	0.631	0.414
10/31/2011	1.29	23.64	18.32	15.29	39.45	171.49	88.62	0.611	0.415
11/30/2011	1.41	24.01	17.03	15.56	39.50	172.21	89.09	0.610	0.415
12/31/2011	1.37	24.05	17.50	16.05	39.54	172.96	89.59	0.629	0.416
1/31/2012	1.35	23.40	17.40	16.11	39.58	173.68	90.09	0.649	0.417
2/29/2012	1.15	21.51	18.68	13.63	39.61	174.30	90.48	0.599	0.418
3/31/2012	1.08	19.83	18.35	4.69	39.65	174.92	90.63	0.224	0.417
4/30/2012	1.38	23.64	17.13	15.95	39.69	175.63	91.11	0.635	0.418
5/31/2012	1.05	20.85	19.76	15.46	39.72	176.28	91.59	0.704	0.419
6/30/2012	1.35	23.99	17.73	6.74	39.76	176.99	91.79	0.265	0.418
7/31/2012	1.29	21.38	16.61	14.55	39.80	177.66	92.24	0.639	0.419
8/31/2012	0.45	8.43	18.66	4.90	39.82	177.92	92.39	0.549	0.419
9/30/2012	1.23	23.48	19.14		39.85	178.62	92.39	0.000	0.418
10/31/2012	1.39	23.55	16.94		39.90	179.35	92.39	0.000	0.416
11/30/2012	1.40	23.55	16.86	1.03	39.94	180.06	92.42	0.041	0.415
12/31/2012	1.32	22.71	17.17	0.78	39.98	180.76	92.45	0.032	0.414

# Pattern: 00/08-14-010-29 Set: NorthEborUnit#2

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 6.15 m3/m3

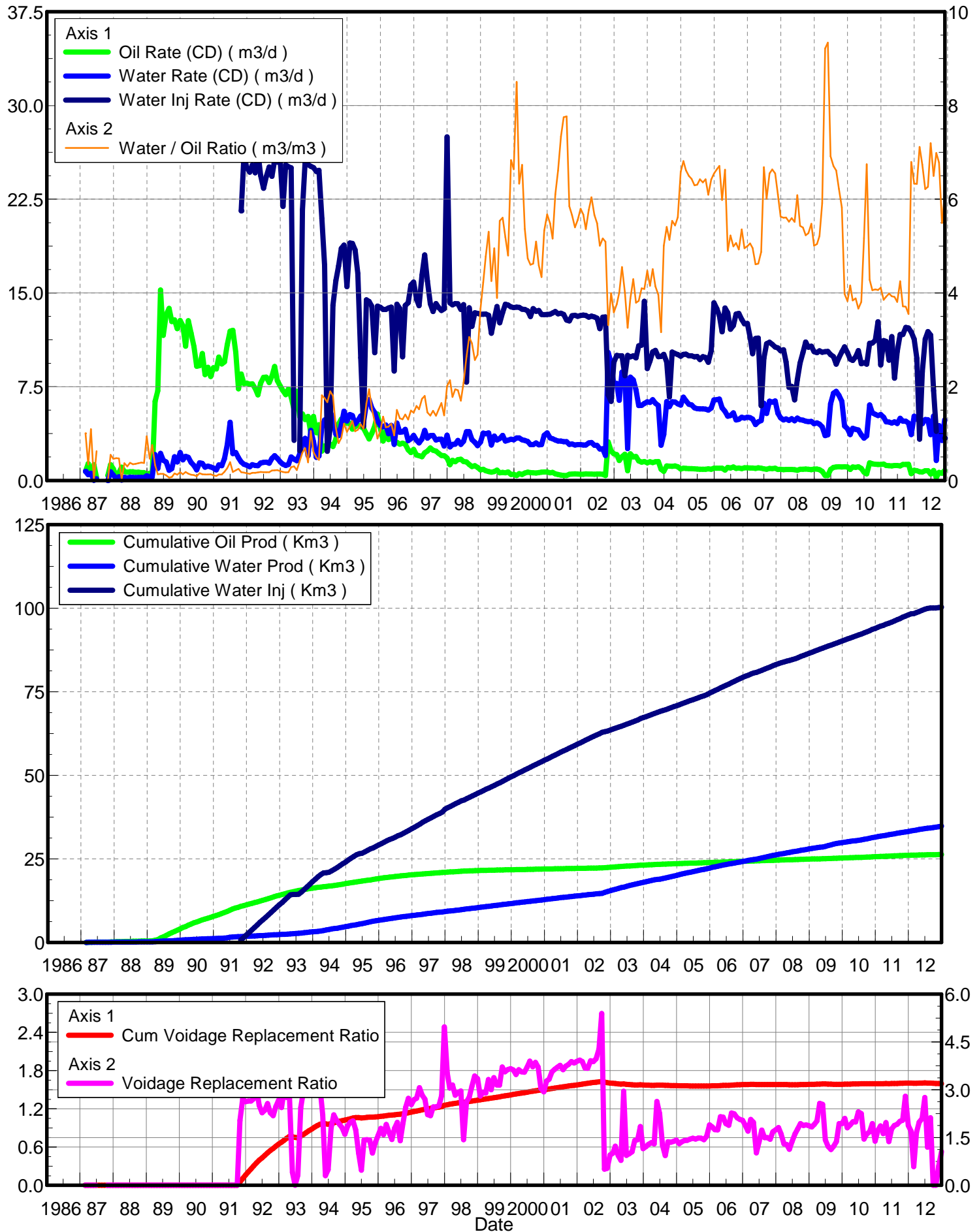
February 26, 2013

Operator: Tundra\_O&G\_Prtshp

Oil Rate (CD) : 0.74 m3/d

Water Rate (CD) : 4.52 m3/d

Water Inj Rate (CD) : 5.60 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
2/28/1987	0.72	0.73	1.00		0.02	0.02	0.00	0.000	0.000
3/31/1987	1.34	0.46	0.34		0.06	0.03	0.00	0.000	0.000
4/30/1987	0.53	0.58	1.09		0.08	0.05	0.00	0.000	0.000
5/31/1987	1.27	0.01	0.01		0.12	0.05	0.00	0.000	0.000
6/30/1987	0.22	0.14	0.63		0.12	0.06	0.00	0.000	0.000
10/31/1987	0.39	0.00	0.00		0.14	0.06	0.00	0.000	0.000
11/30/1987	1.27	0.69	0.55		0.17	0.08	0.00	0.000	0.000
12/31/1987	0.93	0.43	0.46		0.20	0.09	0.00	0.000	0.000
1/31/1988	0.33	0.15	0.48		0.21	0.10	0.00	0.000	0.000
2/29/1988	0.62	0.29	0.47		0.23	0.10	0.00	0.000	0.000
3/31/1988	1.07	0.03	0.03		0.26	0.11	0.00	0.000	0.000
4/30/1988	0.70	0.26	0.37		0.29	0.11	0.00	0.000	0.000
5/31/1988	0.66	0.20	0.30		0.31	0.12	0.00	0.000	0.000
6/30/1988	0.69	0.26	0.38		0.33	0.13	0.00	0.000	0.000
7/31/1988	0.69	0.24	0.34		0.35	0.13	0.00	0.000	0.000
8/31/1988	0.64	0.23	0.35		0.37	0.14	0.00	0.000	0.000
9/30/1988	0.67	0.25	0.37		0.39	0.15	0.00	0.000	0.000
10/31/1988	0.62	0.24	0.38		0.41	0.16	0.00	0.000	0.000
11/30/1988	0.63	0.23	0.37		0.43	0.16	0.00	0.000	0.000
12/31/1988	0.40	0.38	0.94		0.44	0.17	0.00	0.000	0.000
1/31/1989	0.58	0.27	0.46		0.46	0.18	0.00	0.000	0.000
2/28/1989	0.36	0.28	0.75		0.47	0.19	0.00	0.000	0.000
3/31/1989	6.33	2.07	0.33		0.66	0.25	0.00	0.000	0.000
4/30/1989	7.18	0.96	0.13		0.88	0.28	0.00	0.000	0.000
5/31/1989	15.24	2.17	0.14		1.35	0.35	0.00	0.000	0.000
6/30/1989	11.61	1.62	0.14		1.70	0.40	0.00	0.000	0.000
7/31/1989	13.26	1.48	0.11		2.11	0.45	0.00	0.000	0.000
8/31/1989	13.76	0.81	0.06		2.54	0.47	0.00	0.000	0.000
9/30/1989	12.72	0.94	0.07		2.92	0.50	0.00	0.000	0.000
10/31/1989	12.85	1.90	0.15		3.32	0.56	0.00	0.000	0.000
11/30/1989	12.14	1.49	0.12		3.68	0.60	0.00	0.000	0.000
12/31/1989	12.80	2.24	0.17		4.08	0.67	0.00	0.000	0.000
1/31/1990	12.37	1.65	0.13		4.46	0.72	0.00	0.000	0.000
2/28/1990	10.73	1.94	0.18		4.76	0.78	0.00	0.000	0.000
3/31/1990	12.78	1.85	0.14		5.16	0.83	0.00	0.000	0.000
4/30/1990	11.79	1.44	0.12		5.51	0.88	0.00	0.000	0.000
5/31/1990	10.70	1.20	0.11		5.84	0.91	0.00	0.000	0.000
6/30/1990	9.13	0.85	0.09		6.12	0.94	0.00	0.000	0.000
7/31/1990	9.19	1.42	0.15		6.40	0.98	0.00	0.000	0.000
8/31/1990	10.16	1.36	0.13		6.72	1.03	0.00	0.000	0.000
9/30/1990	8.47	1.06	0.13		6.97	1.06	0.00	0.000	0.000
10/31/1990	9.05	1.14	0.13		7.25	1.09	0.00	0.000	0.000
11/30/1990	8.32	1.08	0.13		7.50	1.13	0.00	0.000	0.000
12/31/1990	9.02	1.00	0.11		7.78	1.16	0.00	0.000	0.000
1/31/1991	8.92	0.85	0.10		8.06	1.18	0.00	0.000	0.000
2/28/1991	9.87	1.25	0.13		8.33	1.22	0.00	0.000	0.000
3/31/1991	9.32	1.17	0.13		8.62	1.25	0.00	0.000	0.000
4/30/1991	9.49	1.74	0.18		8.91	1.31	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
5/31/1991	10.84	2.84	0.26		9.24	1.39	0.00	0.000	0.000
6/30/1991	11.95	4.65	0.39		9.60	1.53	0.00	0.000	0.000
7/31/1991	12.01	2.15	0.18		9.97	1.60	0.00	0.000	0.000
8/31/1991	10.25	2.23	0.22		10.29	1.67	0.00	0.000	0.000
9/30/1991	7.33	1.82	0.25		10.51	1.72	0.00	0.000	0.000
10/31/1991	8.51	1.48	0.17	21.56	10.78	1.77	0.67	2.037	0.050
11/30/1991	7.75	1.29	0.17	25.91	11.01	1.81	1.45	2.707	0.106
12/31/1991	7.77	1.21	0.16	25.02	11.25	1.85	2.22	2.627	0.160
1/31/1992	7.70	1.10	0.14	24.66	11.49	1.88	2.99	2.644	0.211
2/29/1992	7.73	1.27	0.16	25.23	11.71	1.92	3.72	2.647	0.257
3/31/1992	7.36	1.20	0.16	24.62	11.94	1.95	4.48	2.715	0.304
4/30/1992	6.85	1.19	0.17	26.27	12.15	1.99	5.27	3.087	0.352
5/31/1992	7.79	1.40	0.18	24.39	12.39	2.03	6.03	2.507	0.394
6/30/1992	8.25	1.45	0.18	23.37	12.63	2.08	6.73	2.275	0.432
7/31/1992	8.27	1.46	0.18	24.32	12.89	2.12	7.48	2.359	0.470
8/31/1992	7.83	1.39	0.18	25.07	13.13	2.17	8.26	2.569	0.509
9/30/1992	8.33	1.77	0.21	24.33	13.38	2.22	8.99	2.277	0.544
10/31/1992	9.12	1.98	0.22	25.62	13.67	2.28	9.78	2.184	0.579
11/30/1992	7.99	1.76	0.22	25.46	13.91	2.33	10.55	2.472	0.613
12/31/1992	7.55	1.49	0.20	25.54	14.14	2.38	11.34	2.673	0.648
1/31/1993	7.18	1.30	0.18	21.93	14.36	2.42	12.02	2.442	0.676
2/28/1993	6.86	1.19	0.17	25.24	14.55	2.45	12.72	2.958	0.706
3/31/1993	7.31	1.29	0.18	25.10	14.78	2.49	13.50	2.756	0.738
4/30/1993	6.67	1.89	0.28	25.01	14.98	2.55	14.25	2.772	0.767
5/31/1993	5.66	1.70	0.30	3.20	15.16	2.60	14.35	0.412	0.763
6/30/1993	7.12	1.58	0.22		15.37	2.65	14.35	0.000	0.752
7/31/1993	5.11	2.11	0.41	2.38	15.53	2.71	14.43	0.314	0.747
8/31/1993	5.33	3.18	0.60	21.65	15.69	2.81	15.10	2.438	0.770
9/30/1993	4.87	3.36	0.69	25.54	15.84	2.91	15.86	2.979	0.799
10/31/1993	5.12	1.98	0.39	25.26	16.00	2.98	16.65	3.388	0.829
11/30/1993	3.80	4.01	1.06	25.13	16.11	3.10	17.40	3.113	0.856
12/31/1993	5.12	3.09	0.60	25.04	16.27	3.19	18.18	2.921	0.883
1/31/1994	3.81	1.85	0.49	24.71	16.39	3.25	18.94	4.165	0.912
2/28/1994	4.45	1.95	0.44	24.81	16.51	3.30	19.64	3.694	0.937
3/31/1994	2.35	4.27	1.82	20.96	16.59	3.44	20.29	3.085	0.958
4/30/1994	2.76	4.84	1.76	17.22	16.67	3.58	20.80	2.211	0.972
5/31/1994	2.83	4.72	1.67	2.33	16.76	3.73	20.87	0.300	0.964
6/30/1994	2.90	5.51	1.90	4.24	16.84	3.89	21.00	0.493	0.959
7/31/1994	2.72	4.91	1.81	14.01	16.93	4.05	21.44	1.793	0.968
8/31/1994	3.30	3.70	1.12	15.99	17.03	4.16	21.93	2.211	0.980
9/30/1994	4.51	3.59	0.80	17.15	17.17	4.27	22.45	2.041	0.992
10/31/1994	4.90	4.44	0.91	18.55	17.32	4.41	23.02	1.918	1.004
11/30/1994	4.58	5.54	1.21	18.83	17.46	4.57	23.59	1.805	1.015
12/31/1994	4.60	4.76	1.04	15.50	17.60	4.72	24.07	1.602	1.022
1/31/1995	4.57	5.27	1.15	18.99	17.74	4.88	24.66	1.870	1.034
2/28/1995	4.10	5.19	1.27	18.96	17.85	5.03	25.19	1.980	1.044
3/31/1995	4.30	4.52	1.05	18.45	17.99	5.17	25.76	2.024	1.055
4/30/1995	4.44	4.79	1.08	16.56	18.12	5.31	26.26	1.737	1.063

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
5/31/1995	4.31	5.16	1.20	9.81	18.25	5.47	26.56	1.005	1.063
6/30/1995	4.18	4.62	1.10	4.30	18.38	5.61	26.69	0.473	1.056
7/31/1995	3.74	6.14	1.64	14.45	18.50	5.80	27.14	1.426	1.061
8/31/1995	3.32	6.46	1.95	14.32	18.60	6.00	27.58	1.432	1.065
9/30/1995	3.77	5.79	1.53	13.93	18.71	6.17	28.00	1.418	1.069
10/31/1995	4.36	5.42	1.24	10.22	18.85	6.34	28.32	1.013	1.069
11/30/1995	5.31	4.76	0.90	13.95	19.01	6.49	28.73	1.336	1.072
12/31/1995	4.17	4.41	1.06	13.84	19.14	6.62	29.16	1.560	1.077
1/31/1996	3.15	4.28	1.36	13.68	19.23	6.75	29.59	1.789	1.083
2/29/1996	3.91	4.44	1.13	13.69	19.35	6.88	29.98	1.588	1.087
3/31/1996	3.26	3.74	1.15	13.80	19.45	7.00	30.41	1.908	1.094
4/30/1996	3.65	4.41	1.21	13.87	19.56	7.13	30.83	1.669	1.099
5/31/1996	3.01	2.89	0.96	8.76	19.65	7.22	31.10	1.435	1.101
6/30/1996	3.05	4.59	1.51	14.09	19.74	7.36	31.52	1.794	1.107
7/31/1996	2.91	3.85	1.33	13.75	19.83	7.48	31.95	1.975	1.114
8/31/1996	2.98	3.89	1.30	9.89	19.92	7.60	32.26	1.398	1.116
9/30/1996	2.90	4.08	1.41	13.99	20.01	7.72	32.68	1.950	1.122
10/31/1996	2.45	3.19	1.30	14.22	20.09	7.82	33.12	2.449	1.130
11/30/1996	2.24	3.34	1.49	15.63	20.15	7.92	33.59	2.727	1.139
12/31/1996	2.49	3.61	1.45	15.86	20.23	8.03	34.08	2.530	1.149
1/31/1997	2.03	3.23	1.59	14.50	20.29	8.13	34.53	2.688	1.157
2/28/1997	1.98	3.00	1.52	13.99	20.35	8.22	34.92	2.733	1.165
3/31/1997	1.90	3.32	1.74	16.42	20.41	8.32	35.43	3.068	1.175
4/30/1997	2.22	4.00	1.80	18.04	20.48	8.44	35.97	2.830	1.186
5/31/1997	2.34	3.39	1.45	15.95	20.55	8.54	36.46	2.705	1.195
6/30/1997	2.59	3.59	1.39	14.13	20.63	8.65	36.89	2.219	1.201
7/31/1997	2.42	3.60	1.49	13.52	20.70	8.76	37.31	2.186	1.207
8/31/1997	2.35	3.24	1.38	14.15	20.77	8.86	37.74	2.460	1.214
9/30/1997	2.17	3.30	1.52	13.83	20.84	8.96	38.16	2.458	1.221
10/31/1997	2.00	3.31	1.65	13.59	20.90	9.07	38.58	2.495	1.228
11/30/1997	1.98	2.75	1.39	13.73	20.96	9.15	38.99	2.818	1.235
12/31/1997	1.79	3.61	2.01	27.49	21.02	9.26	39.84	4.970	1.256
1/31/1998	1.26	2.69	2.14	14.19	21.06	9.34	40.28	3.520	1.264
2/28/1998	1.62	2.88	1.78	14.05	21.10	9.42	40.68	3.049	1.272
3/31/1998	1.49	2.90	1.94	14.15	21.15	9.51	41.12	3.152	1.280
4/30/1998	1.67	3.21	1.92	14.13	21.20	9.61	41.54	2.828	1.287
5/31/1998	1.69	2.88	1.70	13.67	21.25	9.70	41.96	2.913	1.294
6/30/1998	1.51	3.14	2.08	14.07	21.29	9.79	42.39	2.962	1.302
7/31/1998	1.48	3.90	2.64	7.86	21.34	9.91	42.63	1.435	1.302
8/31/1998	1.27	3.90	3.06	13.82	21.38	10.04	43.06	2.625	1.309
9/30/1998	1.12	3.27	2.93	12.33	21.41	10.13	43.43	2.763	1.315
10/31/1998	1.19	3.05	2.57	13.42	21.45	10.23	43.84	3.107	1.322
11/30/1998	1.04	2.79	2.68	13.37	21.48	10.31	44.25	3.428	1.329
12/31/1998	0.84	3.07	3.67	13.29	21.51	10.41	44.66	3.347	1.337
1/31/1999	0.90	3.79	4.22	13.29	21.54	10.52	45.07	2.801	1.343
2/28/1999	0.78	3.74	4.78	13.32	21.56	10.63	45.44	2.914	1.349
3/31/1999	0.72	3.80	5.31	13.22	21.58	10.75	45.85	2.895	1.356
4/30/1999	0.67	2.84	4.25	11.78	21.60	10.83	46.21	3.319	1.362

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
5/31/1999	0.72	3.55	4.95	12.94	21.62	10.94	46.61	2.998	1.368
6/30/1999	0.83	3.23	3.89	13.92	21.65	11.04	47.02	3.380	1.375
7/31/1999	0.61	3.36	5.54	12.61	21.67	11.14	47.42	3.148	1.382
8/31/1999	0.64	3.60	5.60	13.45	21.69	11.25	47.83	3.141	1.389
9/30/1999	0.61	3.15	5.19	14.10	21.70	11.35	48.26	3.711	1.396
10/31/1999	0.67	3.22	4.80	14.04	21.72	11.45	48.69	3.566	1.404
11/30/1999	0.48	3.30	6.83	13.88	21.74	11.55	49.11	3.633	1.411
12/31/1999	0.49	3.25	6.64	13.84	21.75	11.65	49.54	3.662	1.419
1/31/2000	0.40	3.40	8.50	13.86	21.77	11.75	49.97	3.621	1.426
2/29/2000	0.54	3.41	6.33	13.85	21.78	11.85	50.37	3.478	1.433
3/31/2000	0.48	3.26	6.73	13.70	21.80	11.95	50.79	3.629	1.440
4/30/2000	0.60	3.20	5.36	13.68	21.81	12.05	51.20	3.565	1.447
5/31/2000	0.66	3.12	4.74	13.56	21.84	12.15	51.62	3.549	1.454
6/30/2000	0.62	2.87	4.60	13.11	21.85	12.23	52.02	3.708	1.461
7/31/2000	0.62	2.86	4.63	13.75	21.87	12.32	52.44	3.899	1.468
8/31/2000	0.59	3.01	5.10	13.54	21.89	12.42	52.86	3.718	1.476
9/30/2000	0.62	2.86	4.58	13.60	21.91	12.50	53.27	3.860	1.483
10/31/2000	0.66	2.87	4.34	13.27	21.93	12.59	53.68	3.710	1.489
11/30/2000	0.68	3.63	5.33	13.26	21.95	12.70	54.08	3.046	1.495
12/31/2000	0.67	3.81	5.68	13.28	21.97	12.82	54.49	2.933	1.501
1/31/2001	0.62	3.40	5.48	13.29	21.99	12.92	54.90	3.274	1.507
2/28/2001	0.65	3.34	5.16	13.39	22.01	13.02	55.28	3.325	1.512
3/31/2001	0.53	3.23	6.10	13.52	22.03	13.12	55.70	3.562	1.519
4/30/2001	0.48	3.15	6.61	13.33	22.04	13.21	56.10	3.641	1.525
5/31/2001	0.43	3.15	7.34	13.38	22.05	13.31	56.51	3.709	1.532
6/30/2001	0.40	3.10	7.75	13.29	22.07	13.40	56.91	3.766	1.538
7/31/2001	0.40	3.11	7.77	12.83	22.08	13.50	57.31	3.629	1.544
8/31/2001	0.49	2.89	5.85	12.76	22.09	13.59	57.70	3.738	1.551
9/30/2001	0.52	2.92	5.66	13.18	22.11	13.67	58.10	3.793	1.557
10/31/2001	0.53	2.84	5.40	13.21	22.12	13.76	58.51	3.885	1.563
11/30/2001	0.52	2.87	5.55	13.13	22.14	13.85	58.90	3.836	1.570
12/31/2001	0.49	2.86	5.80	13.19	22.16	13.94	59.31	3.893	1.576
1/31/2002	0.50	2.84	5.67	13.24	22.17	14.02	59.72	3.927	1.583
2/28/2002	0.53	2.83	5.36	13.20	22.19	14.10	60.09	3.886	1.588
3/31/2002	0.52	3.00	5.77	13.06	22.20	14.20	60.50	3.678	1.595
4/30/2002	0.50	3.04	6.04	13.14	22.22	14.29	60.89	3.672	1.600
5/31/2002	0.50	2.81	5.66	13.08	22.23	14.38	61.30	3.911	1.607
6/30/2002	0.51	2.80	5.48	12.97	22.25	14.46	61.69	3.882	1.613
7/31/2002	0.50	2.52	5.01	12.14	22.26	14.54	62.06	3.970	1.618
8/31/2002	0.49	2.53	5.16	13.07	22.28	14.62	62.47	4.275	1.625
9/30/2002	0.39	2.00	5.09	13.08	22.29	14.68	62.86	5.395	1.632
10/31/2002	3.09	10.24	3.31	6.84	22.39	14.99	63.07	0.505	1.620
11/30/2002	2.35	9.39	3.99	6.32	22.46	15.28	63.26	0.531	1.610
12/31/2002	2.13	7.63	3.59	9.46	22.52	15.51	63.55	0.955	1.605
1/31/2003	2.06	7.76	3.76	10.00	22.59	15.75	63.86	1.003	1.600
2/28/2003	1.60	6.41	4.01	9.97	22.63	15.93	64.14	1.227	1.598
3/31/2003	1.90	8.66	4.55	9.97	22.69	16.20	64.45	0.932	1.593
4/30/2003	2.11	8.44	4.01	8.39	22.75	16.45	64.70	0.784	1.586



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
5/31/2003	0.78	2.55	3.26	10.00	22.78	16.53	65.01	2.951	1.590
6/30/2003	2.13	8.27	3.88	9.89	22.84	16.78	65.31	0.937	1.585
7/31/2003	1.87	8.05	4.29	9.98	22.90	17.03	65.62	0.993	1.580
8/31/2003	1.91	7.25	3.79	9.80	22.96	17.25	65.92	1.054	1.577
9/30/2003	1.57	6.00	3.83	10.77	23.01	17.43	66.25	1.404	1.576
10/31/2003	1.46	6.00	4.10	10.82	23.05	17.62	66.58	1.429	1.575
11/30/2003	1.51	6.15	4.08	14.34	23.10	17.81	67.01	1.846	1.577
12/31/2003	1.41	6.29	4.47	8.95	23.14	18.00	67.29	1.149	1.574
1/31/2004	1.50	6.24	4.15	9.55	23.19	18.19	67.59	1.218	1.572
2/29/2004	1.43	6.47	4.51	10.28	23.23	18.38	67.88	1.285	1.571
3/31/2004	1.49	6.18	4.14	10.40	23.27	18.57	68.21	1.337	1.569
4/30/2004	1.51	5.99	3.96	9.90	23.32	18.75	68.50	1.300	1.568
5/31/2004	0.89	2.82	3.16	9.92	23.35	18.84	68.81	2.633	1.571
6/30/2004	0.74	3.69	5.01	10.09	23.37	18.95	69.11	2.253	1.573
7/31/2004	1.17	6.32	5.41	9.48	23.41	19.15	69.41	1.253	1.571
8/31/2004	1.15	5.91	5.13	6.68	23.44	19.33	69.61	0.936	1.568
9/30/2004	1.14	6.29	5.54	10.27	23.48	19.52	69.92	1.368	1.567
10/31/2004	1.15	6.28	5.44	10.15	23.51	19.71	70.24	1.350	1.566
11/30/2004	1.09	6.12	5.61	10.06	23.54	19.90	70.54	1.381	1.565
12/31/2004	0.92	6.03	6.58	9.95	23.57	20.08	70.85	1.418	1.564
1/31/2005	0.98	6.66	6.81	10.09	23.60	20.29	71.16	1.310	1.563
2/28/2005	0.96	6.38	6.61	10.10	23.63	20.47	71.44	1.363	1.562
3/31/2005	0.94	6.10	6.50	9.97	23.66	20.66	71.75	1.404	1.561
4/30/2005	0.94	6.05	6.44	9.97	23.69	20.84	72.05	1.414	1.561
5/31/2005	0.92	5.81	6.29	9.88	23.72	21.02	72.36	1.455	1.560
6/30/2005	0.91	5.74	6.31	9.92	23.74	21.19	72.66	1.477	1.560
7/31/2005	0.89	5.72	6.42	9.66	23.77	21.37	72.96	1.449	1.559
8/31/2005	0.90	5.72	6.36	9.90	23.80	21.55	73.26	1.481	1.559
9/30/2005	0.89	5.72	6.42	9.84	23.83	21.72	73.56	1.476	1.559
10/31/2005	0.92	5.62	6.09	9.46	23.85	21.89	73.85	1.432	1.558
11/30/2005	0.90	5.80	6.42	10.38	23.88	22.07	74.16	1.535	1.558
12/31/2005	0.98	6.44	6.54	14.22	23.91	22.27	74.60	1.898	1.560
1/31/2006	0.97	6.47	6.64	13.73	23.94	22.47	75.03	1.829	1.561
2/28/2006	0.97	6.52	6.71	13.18	23.97	22.65	75.40	1.744	1.562
3/31/2006	0.97	5.81	5.98	11.90	24.00	22.83	75.77	1.738	1.562
4/30/2006	0.83	5.53	6.63	13.80	24.02	23.00	76.18	2.150	1.565
5/31/2006	1.05	5.15	4.90	13.42	24.06	23.15	76.60	2.139	1.567
6/30/2006	0.99	5.19	5.22	12.10	24.09	23.31	76.96	1.935	1.568
7/31/2006	1.08	5.41	4.99	12.40	24.12	23.48	77.34	1.887	1.570
8/31/2006	0.95	4.84	5.07	13.31	24.15	23.63	77.76	2.272	1.572
9/30/2006	0.99	4.89	4.93	13.36	24.18	23.78	78.16	2.244	1.575
10/31/2006	0.95	5.06	5.35	12.88	24.21	23.93	78.56	2.121	1.577
11/30/2006	1.01	4.99	4.95	12.53	24.24	24.08	78.93	2.067	1.579
12/31/2006	1.01	5.06	5.00	12.55	24.27	24.24	79.32	2.042	1.580
1/31/2007	0.99	5.03	5.06	11.45	24.30	24.39	79.68	1.881	1.581
2/28/2007	0.99	4.91	4.96	10.15	24.33	24.53	79.96	1.701	1.582
3/31/2007	0.97	4.46	4.61	11.36	24.36	24.67	80.31	2.065	1.583
4/30/2007	1.01	4.69	4.63	11.39	24.39	24.81	80.65	1.974	1.585

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
5/31/2007	0.98	4.80	4.88	5.97	24.42	24.96	80.84	1.021	1.583
6/30/2007	0.92	6.17	6.68	9.79	24.45	25.14	81.13	1.367	1.582
7/31/2007	0.89	5.35	6.01	10.94	24.48	25.31	81.47	1.735	1.582
8/31/2007	0.97	6.34	6.55	11.06	24.51	25.51	81.82	1.500	1.582
9/30/2007	0.94	6.26	6.64	10.88	24.53	25.69	82.14	1.497	1.582
10/31/2007	0.97	6.36	6.55	10.67	24.56	25.89	82.47	1.443	1.581
11/30/2007	0.88	5.37	6.10	10.61	24.59	26.05	82.79	1.683	1.582
12/31/2007	0.89	5.01	5.63	10.38	24.62	26.21	83.11	1.741	1.582
1/31/2008	0.86	4.85	5.60	10.45	24.64	26.36	83.44	1.812	1.583
2/29/2008	0.88	4.93	5.61	9.49	24.67	26.50	83.71	1.617	1.583
3/31/2008	0.87	4.81	5.52	7.45	24.70	26.65	83.94	1.298	1.582
4/30/2008	0.88	4.94	5.60	7.54	24.72	26.80	84.17	1.280	1.581
5/31/2008	0.86	4.77	5.51	6.45	24.75	26.95	84.37	1.133	1.580
6/30/2008	0.82	4.99	6.09	8.07	24.77	27.10	84.61	1.376	1.579
7/31/2008	0.89	4.85	5.43	9.38	24.80	27.25	84.90	1.615	1.579
8/31/2008	0.89	4.82	5.39	10.24	24.83	27.40	85.22	1.774	1.580
9/30/2008	0.91	4.74	5.23	11.07	24.86	27.54	85.55	1.938	1.581
10/31/2008	0.89	4.71	5.27	10.65	24.89	27.68	85.88	1.880	1.582
11/30/2008	0.86	4.73	5.47	10.74	24.91	27.83	86.20	1.900	1.583
12/31/2008	0.91	4.54	5.01	10.31	24.94	27.97	86.52	1.872	1.584
1/31/2009	0.91	4.60	5.04	10.22	24.97	28.11	86.84	1.832	1.584
2/28/2009	0.86	4.51	5.21	10.38	24.99	28.24	87.13	1.911	1.585
3/31/2009	0.73	4.29	5.92	10.25	25.01	28.37	87.45	2.022	1.587
4/30/2009	0.39	3.59	9.21	10.31	25.03	28.48	87.76	2.570	1.589
5/31/2009	0.39	3.65	9.34	10.32	25.04	28.59	88.08	2.540	1.591
6/30/2009	0.89	6.13	6.91	10.07	25.06	28.77	88.38	1.423	1.590
7/31/2009	1.04	6.99	6.71	9.91	25.10	28.99	88.69	1.223	1.589
8/31/2009	1.08	7.12	6.61	9.30	25.13	29.21	88.98	1.124	1.586
9/30/2009	1.10	6.82	6.22	9.81	25.16	29.42	89.27	1.228	1.585
10/31/2009	1.09	6.33	5.82	10.29	25.20	29.61	89.59	1.373	1.584
11/30/2009	1.09	4.35	3.98	10.69	25.23	29.74	89.91	1.937	1.585
12/31/2009	1.08	4.14	3.83	10.23	25.26	29.87	90.23	1.933	1.586
1/31/2010	0.88	3.68	4.16	9.71	25.29	29.98	90.53	2.100	1.587
2/28/2010	1.09	4.17	3.84	9.61	25.32	30.10	90.80	1.804	1.588
3/31/2010	1.05	4.08	3.88	9.89	25.35	30.23	91.10	1.899	1.589
4/30/2010	1.10	4.03	3.67	10.38	25.39	30.35	91.42	1.993	1.590
5/31/2010	0.96	3.66	3.81	9.34	25.42	30.46	91.70	1.991	1.591
6/30/2010	0.66	3.39	5.17	9.42	25.44	30.56	91.99	2.301	1.592
7/31/2010	0.53	3.57	6.74	9.30	25.45	30.68	92.28	2.249	1.594
8/31/2010	1.41	6.04	4.28	10.97	25.50	30.86	92.62	1.454	1.593
9/30/2010	1.33	5.41	4.06	10.99	25.54	31.02	92.95	1.607	1.593
10/31/2010	1.30	5.28	4.07	11.21	25.58	31.19	93.29	1.680	1.594
11/30/2010	1.28	5.19	4.06	12.69	25.61	31.34	93.67	1.937	1.595
12/31/2010	1.28	5.28	4.11	9.23	25.65	31.51	93.96	1.388	1.594
1/31/2011	1.31	5.06	3.86	11.20	25.70	31.66	94.31	1.732	1.595
2/28/2011	1.20	4.69	3.92	11.12	25.73	31.80	94.62	1.863	1.595
3/31/2011	1.17	4.68	3.99	9.62	25.76	31.94	94.92	1.620	1.595
4/30/2011	1.17	4.60	3.93	11.51	25.80	32.08	95.26	1.969	1.596

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
5/31/2011	1.20	4.69	3.92	8.18	25.84	32.22	95.51	1.370	1.596
6/30/2011	1.20	4.56	3.81	10.33	25.87	32.36	95.82	1.768	1.596
7/31/2011	1.17	4.97	4.25	11.68	25.91	32.52	96.19	1.876	1.597
8/31/2011	1.27	4.73	3.71	11.68	25.95	32.66	96.55	1.916	1.598
9/30/2011	1.28	4.73	3.71	12.24	25.99	32.80	96.92	2.008	1.599
10/31/2011	1.29	4.58	3.55	12.19	26.03	32.95	97.29	2.044	1.601
11/30/2011	0.54	3.67	6.80	11.88	26.04	33.06	97.65	2.797	1.603
12/31/2011	0.81	5.15	6.33	11.30	26.07	33.22	98.00	1.879	1.604
1/31/2012	0.77	4.90	6.33	9.75	26.09	33.37	98.30	1.703	1.604
2/29/2012	0.69	4.91	7.12	3.31	26.11	33.51	98.40	0.586	1.602
3/31/2012	0.67	4.54	6.74	8.71	26.13	33.65	98.67	1.654	1.602
4/30/2012	0.78	4.87	6.22	11.31	26.16	33.80	99.01	1.982	1.603
5/31/2012	0.77	4.85	6.26	11.90	26.18	33.95	99.38	2.097	1.604
6/30/2012	0.51	3.67	7.20	11.63	26.20	34.06	99.73	2.759	1.607
7/31/2012	0.79	5.15	6.50	7.18	26.22	34.22	99.95	1.197	1.605
8/31/2012	0.23	1.60	6.99	3.92	26.23	34.27	100.07	2.123	1.606
9/30/2012	0.65	4.39	6.78		26.25	34.40	100.07	0.000	1.602
10/31/2012	0.58	3.21	5.49		26.27	34.50	100.07	0.000	1.599
11/30/2012	0.80	4.85	6.09	3.39	26.29	34.64	100.17	0.595	1.596
12/31/2012	0.74	4.52	6.15	5.60	26.31	34.78	100.35	1.055	1.595