

KOLA UNIT NO. 2
WATERFLOOD EOR PROJECT
ANNUAL REPORT FOR 2013

March 14, 2014

Tundra Oil and Gas Partnership

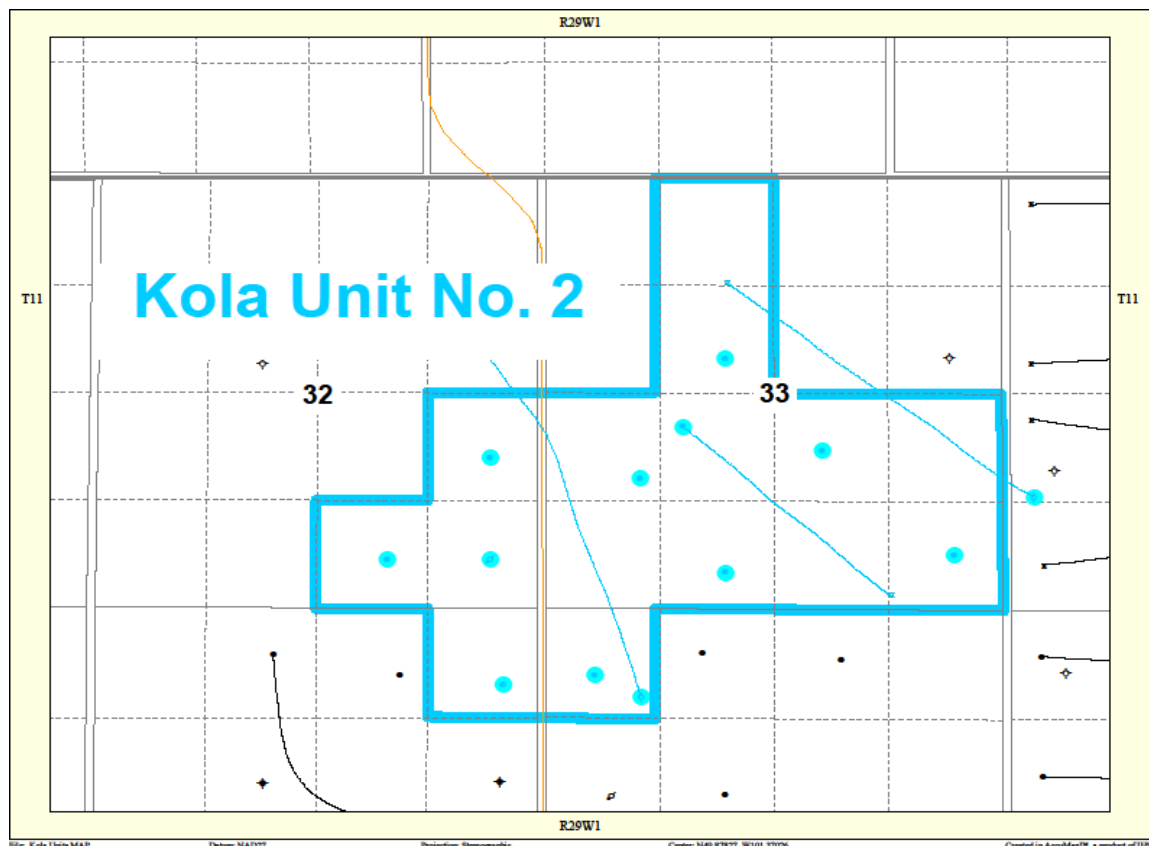
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INTRODUCTION

Kola Unit No. 2 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Waterflood Order No. 4 effective December 1, 1996 with Tundra Oil and Gas Ltd. as Operator. The EOR project area contains 13 wells in 15 LSDs in Township 10, Range 29 W1 as shown in the figure below.

Figure 1: Kola Unit No. 2 Area Outline



In accordance with Section 73 of the Manitoba Drilling and Production Regulation, Tundra hereby submits the 2013 Annual Progress Report for Kola Unit No. 2 as required by Waterflood Order No 4.

DISCUSSION

Production History

For the wells included in Kola Unit No. 2, production started March 1993 with the 00/16-29-010-29W1/0 well. Oil production peaked at 42.7 m³/d in March of 1998. The Unit was producing 13.85 m³/d of oil and 26.55 m³/d of water in December 2013. 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: Kola Unit No. 2 Production/Injection Rates and WOR vs. Time

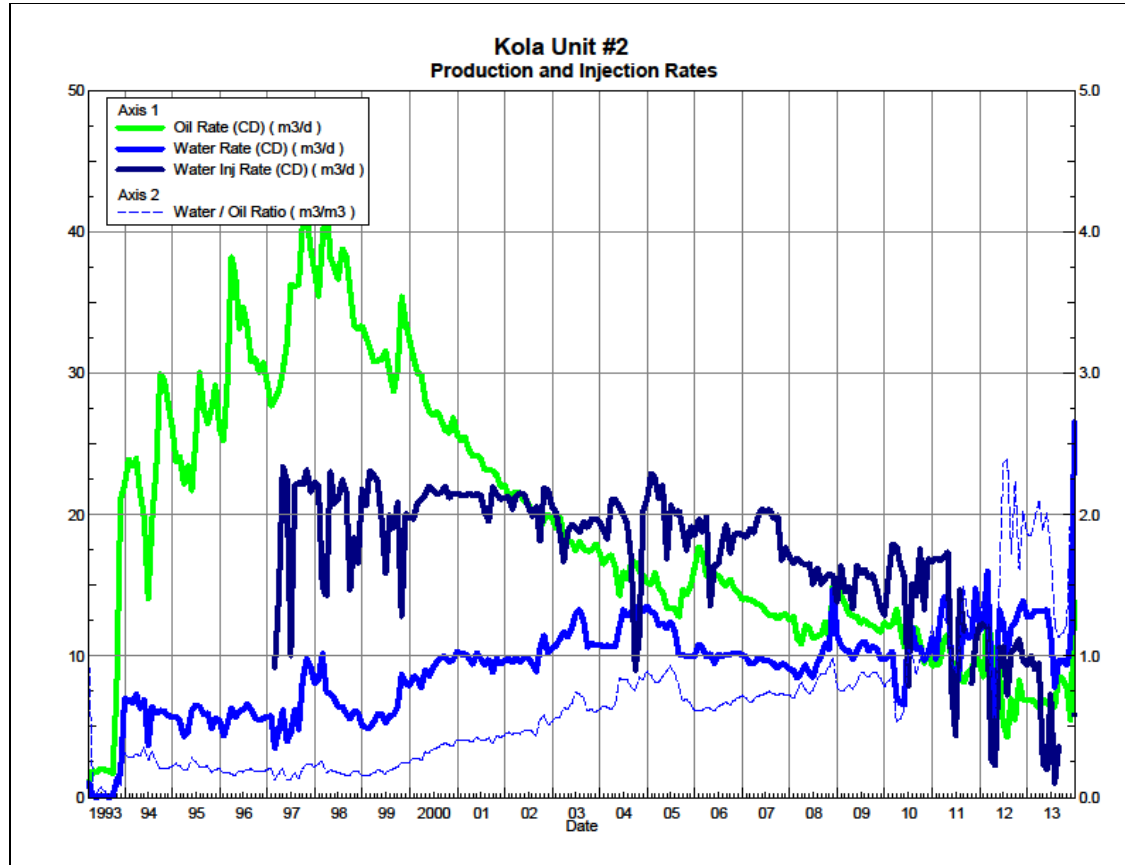
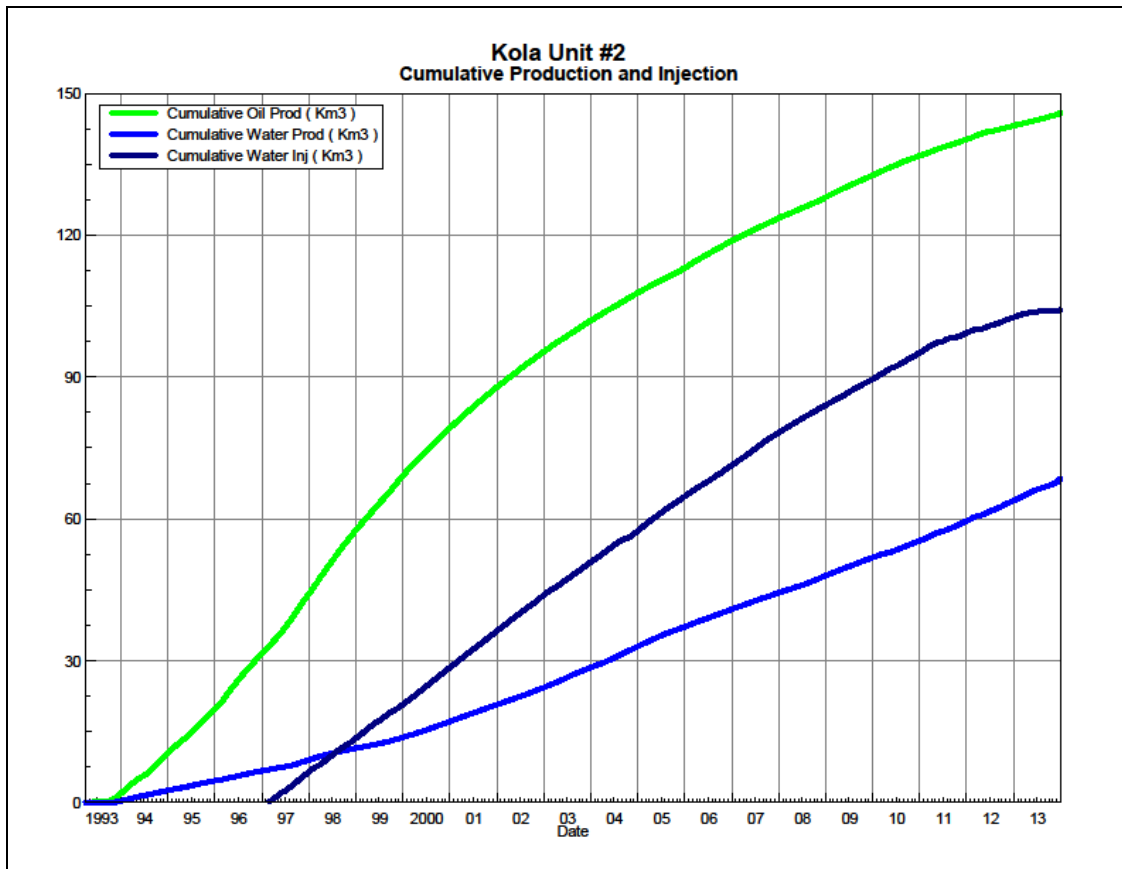


Figure 3 shows the cumulative production for Kola Unit No. 2 to the end of December 2013 as 145.9 E³m³ of oil, and 68.5 E³m³ of water. The cumulative water injected is 104.2 E³m³. The cumulative volume of oil, and water produced and fluid injected for each injection pattern and for the whole project for each injection well is presented in Appendix D.

Figure 3: Kola Unit No. 2 Cumulative Oil, Water and Water Injected vs Time



Waterflood History

As of December 2013 the Unit has 6 active vertical injectors. Water injection started in February 1997. Until November 2013, water had only been injected through the well at 00/01-32-010-29W1/0. In December 2013, 5 vertical producers were converted to injectors to maximize oil recovery and sweep efficiency between wells. In addition, 2 horizontal producers were drilled at 02/13-28-010-29W1/0 and 02/05-34-010-29W1/0. The 02/13-28 well was left openhole and the 02/05-34 well was fracture stimulated and is a cemented liner completion.

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 are summarized in Appendix C, and shows all injection pressures since 2003. Average injection pressure for 00/01-32-010-29W1/0 was 6137 kPag in 2013.

Reservoir Pressure

Where practical, Tundra is committed to collecting pressure data from newly drilled wells. For Kola Unit No. 2, pressure data for the openhole 02/13-28-010-29W1 well is available. Corrected to a common datum of -450 m SS, for comparison with other units in the area, the reservoir pressure is 2916 kPa(a) (Appendix B).

Prior to conversion, Tundra identified the 00/05-33 and 00/07-33 vertical wells, which were drilled in 1996 and 1998 respectively, as good candidates for collecting pressure data. In November 2013, the 00/05-33 and 00/07-33 vertical wells were shut-in and pressure buildup data was collected. The reservoir pressure for 00/05-33 was 1577 kPa(a) suggesting a depleted reservoir. The quality of the data collected from the 00/07-33 well was questionable and therefore not analyzed.

Well Servicing

Table 1 lists the maintenance that was required in Kola Unit No. 2 in 2013.

Table 1: Service and Maintenance in Kola Unit No. 2

00/01-33-010-29W1/0	WIW Conversion	11/15/2013
00/03-33-010-29W1/0	WIW Conversion	11/24/2013
00/05-33-010-29W1/0	Pump Change, Tubing Repair	2/19/2013
00/05-33-010-29W1/0	WIW Conversion	11/27/2013
00/07-33-010-29W1/0	WIW Conversion	11/18/2013
00/11-33-010-29W1/0	Tubing Repair	3/1/2013
00/11-33-010-29W1/0	WIW Conversion	11/21/2013
02/13-28-010-29W1/0	Pump Change	12/12/2013

Voidage Replacement

Cumulative voidage for the Kola Unit No. 2 was 0.470 in December 2013. 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 of Kola Unit No. 2 is estimated at 1,190.0 E³m³. The recovery factor was 12.3% based on 145.9 E³m³ of cumulative oil recovered to the end of 2013. The ultimate expected recoverable reserve based on decline analysis is 184.0 E³m³ or an ultimate recovery factor of 15.5%.

The overall performance of this waterflood has been good as indicated by an expected recovery factor of 15.5%, beyond the primary recovery factor. Waterflood response is clearly evident in wells in the western part of the Unit. It should be easy to maintain a cumulative voidage of unity. There have been no water breakthrough issues.

Trends in production are very stable and mature. No changes are anticipated in the future trends. The waterflood performance will likely be improved significantly by the addition of the 5 vertical injectors well in the east part of the Unit where recovery has been enhanced mainly by the addition of a horizontal well. Also, facility enhancements in the area may play a role in future optimization.

List of Appendices

Appendix A: Kola Unit No. 2 Injection Pattern Summary

Appendix B: Pressure Summary

Appendix C: Average Monthly Injection Wellhead Pressures

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

Plots and Table for the following injection pattern:

00/01-32-010-29W1/0

Appendix A

Kola Unit No. 2 Pattern Summary as of December 2013

Pattern Name	Injector Location (010-29W)	Injector Surf. Location (010-29W1)	Status	No. of Supported Wells	Supported Wells (010-29W1)	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
00/01-32-010-29W1 Injector	00/01-32 00/01-33 00/03-33 00/05-33 00/07-33 00/11-33	Vertical Wells	WTR Injection	7	13-28, 16-29, 02-32, 08-32, 02/13-28 (Surf 02/09-32), 6-33 (Surf 02-33), 02/05-34 (Surf 02/14-33)	1	Mar 1993	Feb 1997	13.85	26.55	1.92	5.84	145.92	68.51	104.18	0.14	0.47

APPENDIX B

Kola Unit No. 2 - Pressure Summary

Location	Test Date	Final Pressure (kPaa)	MPP (mTVD)	KB	Datum Depth	Gradient	Pressure @ -450 masl	Comments
102/13-28-010-29W1/0	Sep 25 - Oct 5, 2013	1893.74	863.03	537.00	-450	8.25	2916	

Appendix C

Average Monthly Injection Pressure (kPag)

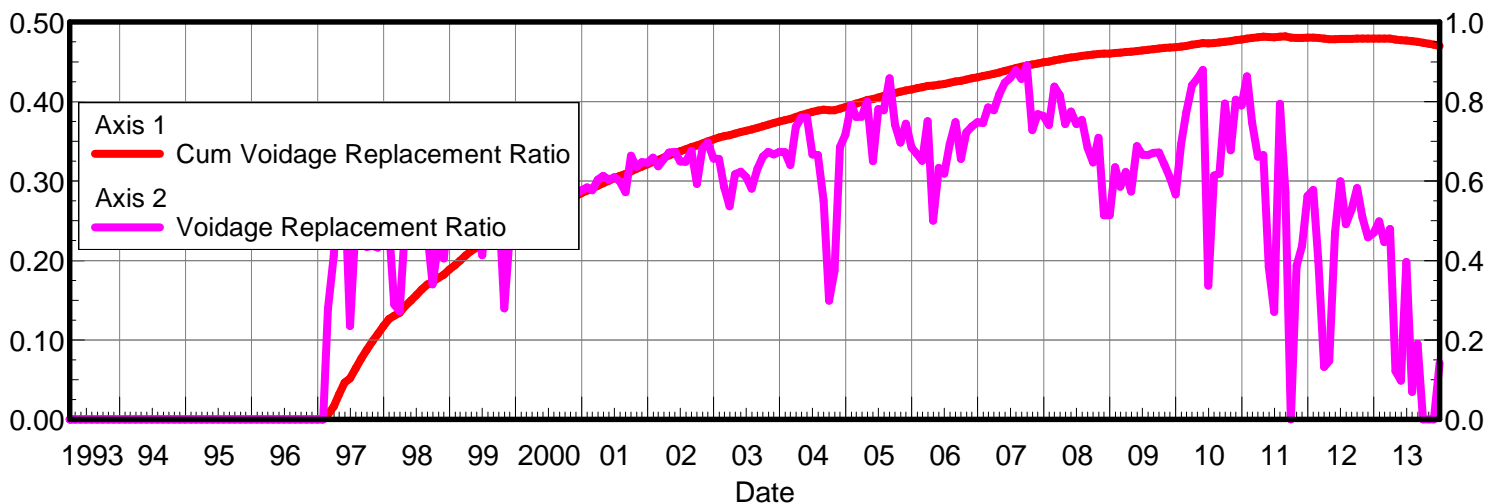
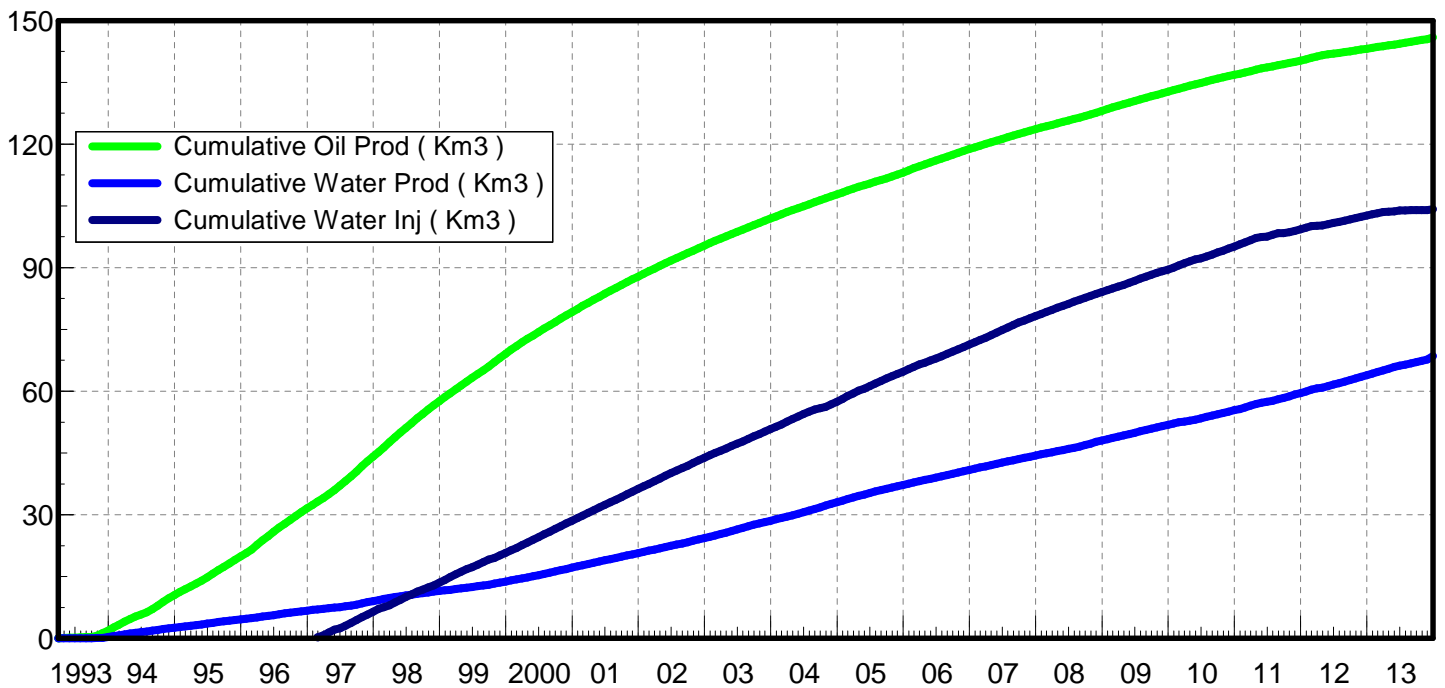
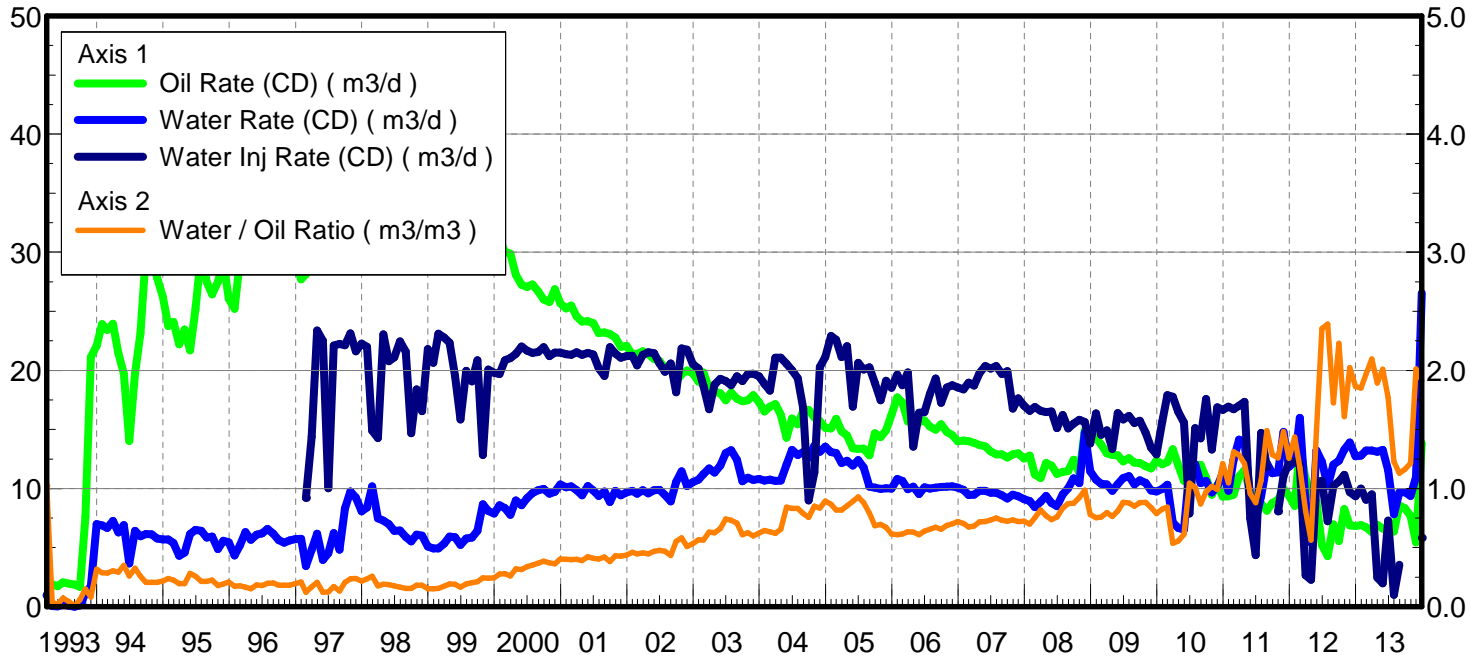
	Injection Pressure		Injection Pressure		Injection Pressure
Month	100/01-32	Month	100/01-32	Month	100/01-32
Jan-02	-	Jan-06	10419	Jan-10	11123
Feb-02	-	Feb-06	10377	Feb-10	10461
Mar-02	-	Mar-06	10549	Mar-10	10516
Apr-02	-	Apr-06	9327	Apr-10	10530
May-02	-	May-06	9342	May-10	10477
Jun-02	-	Jun-06	10483	Jun-10	5193
Jul-02	-	Jul-06	10529	Jul-10	9852
Aug-02	5529	Aug-06	10465	Aug-10	9461
Sep-02	10082	Sep-06	10440	Sep-10	10357
Oct-02	10082	Oct-06	10263	Oct-10	10187
Nov-02	10082	Nov-06	10599	Nov-10	10654
Dec-02	10082	Dec-06	10516	Dec-10	10723
Jan-03	9998	Jan-07	10574	Jan-11	10152
Feb-03	10097	Feb-07	10468	Feb-11	10108
Mar-03	10144	Mar-07	10300	Mar-11	10216
Apr-03	10061	Apr-07	10347	Apr-11	10100
May-03	9940	May-07	10301	May-11	9526
Jun-03	9940	Jun-07	10301	Jun-11	5603
Jul-03	9940	Jul-07	10333	Jul-11	6871
Aug-03	9940	Aug-07	10300	Aug-11	9632
Sep-03	9913	Sep-07	10301	Sep-11	0
Oct-03	9825	Oct-07	10301	Oct-11	8397
Nov-03	9825	Nov-07	10221	Nov-11	9000
Dec-03	9825	Dec-07	10200	Dec-11	9000
Jan-04	9825	Jan-08	10200	Jan-12	8935
Feb-04	9825	Feb-08	10180	Feb-12	8900
Mar-04	9825	Mar-08	10101	Mar-12	8900
Apr-04	9825	Apr-08	10124	Apr-12	8900
May-04	9825	May-08	10190	May-12	8900
Jun-04	9825	Jun-08	10200	Jun-12	8900
Jul-04	9825	Jul-08	10200	Jul-12	8900
Aug-04	9825	Aug-08	10135	Aug-12	8661
Sep-04	10182	Sep-08	9934	Sep-12	1500
Oct-04	9927	Oct-08	10001	Oct-12	1500
Nov-04	9190	Nov-08	10001	Nov-12	1500
Dec-04	9190	Dec-08	10001	Dec-12	1500
Jan-05	9190	Jan-09	10001	Jan-13	1500
Feb-05	9659	Feb-09	10001	Feb-13	1500
Mar-05	10200	Mar-09	10001	Mar-13	1500
Apr-05	10200	Apr-09	10001	Apr-13	1500
May-05	10200	May-09	10001	May-13	1500
Jun-05	10173	Jun-09	10007	Jun-13	6458
Jul-05	10369	Jul-09	10201	Jul-13	10250
Aug-05	10526	Aug-09	10200	Aug-13	10250
Sep-05	10727	Sep-09	10200	Sep-13	10250
Oct-05	10800	Oct-09	10284	Oct-13	10250
Nov-05	10760	Nov-09	10487	Nov-13	10250
Dec-05	10400	Dec-09	11032	Dec-13	8431

Appendix D
Rates and VRR
Plots and Tables

Oil Formation Vol Factor : 1.05000 m3/m3
Water Formation Vol Factor : 1.00000 m3/m3
Water / Oil Ratio : 1.92 m3/m3

00/01-32-010-29Inj
March 05, 2014
Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 13.85 m3/d
Water Rate (CD) : 26.55 m3/d
Water Inj Rate (CD) : 5.84 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
3/31/1993	0.96	0.98	1.02		0.03	0.03	0.00	0.000	0.000
4/30/1993	1.89	0.07	0.04		0.09	0.03	0.00	0.000	0.000
5/31/1993	1.74	0.03	0.02		0.14	0.03	0.00	0.000	0.000
6/30/1993	2.06	0.15	0.07		0.20	0.04	0.00	0.000	0.000
7/31/1993	1.94	0.08	0.04		0.26	0.04	0.00	0.000	0.000
8/31/1993	1.87	0.01	0.01		0.32	0.04	0.00	0.000	0.000
9/30/1993	1.67	0.10	0.06		0.37	0.04	0.00	0.000	0.000
10/31/1993	7.61	1.15	0.15		0.61	0.08	0.00	0.000	0.000
11/30/1993	21.12	1.75	0.08		1.24	0.13	0.00	0.000	0.000
12/31/1993	22.08	7.00	0.32		1.92	0.35	0.00	0.000	0.000
1/31/1994	23.91	6.89	0.29		2.67	0.56	0.00	0.000	0.000
2/28/1994	23.43	6.67	0.28		3.32	0.75	0.00	0.000	0.000
3/31/1994	23.94	7.27	0.30		4.06	0.97	0.00	0.000	0.000
4/30/1994	21.46	6.27	0.29		4.71	1.16	0.00	0.000	0.000
5/31/1994	19.73	6.92	0.35		5.32	1.38	0.00	0.000	0.000
6/30/1994	14.03	3.67	0.26		5.74	1.49	0.00	0.000	0.000
7/31/1994	19.75	6.41	0.32		6.35	1.69	0.00	0.000	0.000
8/31/1994	23.15	5.95	0.26		7.07	1.87	0.00	0.000	0.000
9/30/1994	29.92	6.16	0.21		7.97	2.06	0.00	0.000	0.000
10/31/1994	29.52	6.11	0.21		8.88	2.24	0.00	0.000	0.000
11/30/1994	27.85	5.77	0.21		9.72	2.42	0.00	0.000	0.000
12/31/1994	26.21	5.70	0.22		10.53	2.59	0.00	0.000	0.000
1/31/1995	23.75	5.69	0.24		11.27	2.77	0.00	0.000	0.000
2/28/1995	24.11	5.40	0.22		11.94	2.92	0.00	0.000	0.000
3/31/1995	22.20	4.32	0.19		12.63	3.06	0.00	0.000	0.000
4/30/1995	23.45	4.58	0.20		13.33	3.19	0.00	0.000	0.000
5/31/1995	21.70	6.14	0.28		14.01	3.38	0.00	0.000	0.000
6/30/1995	25.22	6.51	0.26		14.76	3.58	0.00	0.000	0.000
7/31/1995	30.03	6.43	0.21		15.69	3.78	0.00	0.000	0.000
8/31/1995	27.49	5.85	0.21		16.55	3.96	0.00	0.000	0.000
9/30/1995	26.42	5.94	0.22		17.34	4.14	0.00	0.000	0.000
10/31/1995	27.50	4.89	0.18		18.19	4.29	0.00	0.000	0.000
11/30/1995	29.17	5.58	0.19		19.07	4.46	0.00	0.000	0.000
12/31/1995	26.05	5.44	0.21		19.87	4.63	0.00	0.000	0.000
1/31/1996	25.22	4.35	0.17		20.66	4.76	0.00	0.000	0.000
2/29/1996	29.36	5.19	0.18		21.51	4.91	0.00	0.000	0.000
3/31/1996	38.19	6.31	0.17		22.69	5.11	0.00	0.000	0.000
4/30/1996	37.00	5.66	0.15		23.80	5.28	0.00	0.000	0.000
5/31/1996	33.12	6.10	0.18		24.83	5.47	0.00	0.000	0.000
6/30/1996	34.67	6.20	0.18		25.87	5.65	0.00	0.000	0.000
7/31/1996	33.21	6.58	0.20		26.90	5.86	0.00	0.000	0.000
8/31/1996	30.81	6.17	0.20		27.85	6.05	0.00	0.000	0.000
9/30/1996	31.02	5.63	0.18		28.78	6.22	0.00	0.000	0.000
10/31/1996	30.04	5.43	0.18		29.72	6.38	0.00	0.000	0.000
11/30/1996	30.75	5.61	0.18		30.64	6.55	0.00	0.000	0.000
12/31/1996	29.35	5.71	0.19		31.55	6.73	0.00	0.000	0.000
1/31/1997	27.70	5.75	0.21		32.41	6.91	0.00	0.000	0.000
2/28/1997	28.13	3.45	0.12	9.21	33.19	7.00	0.26	0.279	0.006

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
3/31/1997	28.75	4.82	0.17	14.39	34.08	7.15	0.70	0.411	0.016
4/30/1997	30.15	6.18	0.20	23.38	34.99	7.34	1.41	0.618	0.032
5/31/1997	32.02	3.95	0.12	22.50	35.98	7.46	2.10	0.599	0.046
6/30/1997	36.25	4.52	0.12	10.03	37.07	7.60	2.40	0.235	0.052
7/31/1997	36.17	6.22	0.17	22.09	38.19	7.79	3.09	0.500	0.064
8/31/1997	36.22	4.82	0.13	22.24	39.31	7.94	3.78	0.519	0.077
9/30/1997	40.60	8.32	0.20	22.12	40.53	8.19	4.44	0.434	0.088
10/31/1997	41.18	9.75	0.24	23.12	41.81	8.49	5.16	0.436	0.098
11/30/1997	38.79	9.24	0.24	21.60	42.97	8.77	5.81	0.432	0.108
12/31/1997	37.19	8.06	0.22	22.27	44.12	9.02	6.50	0.473	0.117
1/31/1998	35.47	8.41	0.24	22.00	45.22	9.28	7.18	0.482	0.126
2/28/1998	39.30	10.18	0.26	14.90	46.32	9.56	7.60	0.290	0.131
3/31/1998	42.74	7.49	0.18	14.27	47.65	9.80	8.04	0.273	0.134
4/30/1998	38.17	7.29	0.19	23.04	48.79	10.01	8.73	0.486	0.143
5/31/1998	37.48	7.00	0.19	20.79	49.96	10.23	9.37	0.448	0.150
6/30/1998	36.64	6.42	0.18	21.09	51.06	10.42	10.01	0.470	0.156
7/31/1998	38.77	6.44	0.17	22.45	52.26	10.62	10.70	0.476	0.163
8/31/1998	38.29	5.92	0.15	21.58	53.44	10.81	11.37	0.468	0.170
9/30/1998	35.81	5.53	0.15	14.67	54.52	10.97	11.81	0.340	0.173
10/31/1998	33.35	6.09	0.18	18.38	55.55	11.16	12.38	0.447	0.178
11/30/1998	33.13	6.02	0.18	16.55	56.55	11.34	12.88	0.406	0.182
12/31/1998	33.34	5.10	0.15	21.81	57.58	11.50	13.55	0.544	0.188
1/31/1999	32.52	4.94	0.15	20.64	58.59	11.65	14.19	0.528	0.194
2/28/1999	31.82	4.94	0.16	23.10	59.48	11.79	14.84	0.602	0.200
3/31/1999	30.81	5.33	0.17	22.79	60.43	11.96	15.55	0.605	0.206
4/30/1999	30.89	5.92	0.19	22.33	61.36	12.14	16.22	0.582	0.212
5/31/1999	31.00	5.87	0.19	19.52	62.32	12.32	16.82	0.508	0.216
6/30/1999	31.55	5.24	0.17	15.85	63.27	12.47	17.30	0.413	0.219
7/31/1999	30.01	5.76	0.19	19.95	64.20	12.65	17.92	0.535	0.224
8/31/1999	28.71	5.86	0.20	19.07	65.09	12.83	18.51	0.530	0.228
9/30/1999	30.20	6.43	0.21	20.85	65.99	13.03	19.13	0.547	0.232
10/31/1999	35.41	8.67	0.24	12.83	67.09	13.30	19.53	0.280	0.233
11/30/1999	33.62	8.11	0.24	20.06	68.10	13.54	20.13	0.462	0.237
12/31/1999	32.29	7.88	0.24	19.81	69.10	13.78	20.75	0.474	0.240
1/31/2000	31.09	8.58	0.28	19.69	70.07	14.05	21.36	0.478	0.244
2/29/2000	30.03	8.36	0.28	20.84	70.94	14.29	21.96	0.523	0.247
3/31/2000	29.87	7.77	0.26	21.05	71.86	14.53	22.61	0.538	0.251
4/30/2000	28.09	8.99	0.32	21.41	72.70	14.80	23.26	0.556	0.255
5/31/2000	27.26	8.59	0.32	22.02	73.55	15.07	23.94	0.592	0.259
6/30/2000	27.06	9.18	0.34	21.68	74.36	15.34	24.59	0.577	0.263
7/31/2000	27.26	9.61	0.35	21.47	75.21	15.64	25.26	0.561	0.267
8/31/2000	26.68	9.87	0.37	21.55	76.03	15.95	25.92	0.569	0.271
9/30/2000	26.00	9.98	0.38	21.98	76.81	16.25	26.58	0.590	0.274
10/31/2000	25.80	9.57	0.37	21.20	77.61	16.54	27.24	0.578	0.278
11/30/2000	26.86	9.74	0.36	21.49	78.42	16.84	27.89	0.567	0.281
12/31/2000	25.67	10.35	0.40	21.50	79.21	17.16	28.55	0.576	0.285
1/31/2001	25.25	10.11	0.40	21.38	80.00	17.47	29.22	0.584	0.288
2/28/2001	25.50	10.18	0.40	21.32	80.71	17.76	29.81	0.577	0.291

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
3/31/2001	24.57	9.86	0.40	21.53	81.47	18.06	30.48	0.604	0.294
4/30/2001	24.13	9.42	0.39	21.31	82.20	18.34	31.12	0.613	0.297
5/31/2001	24.16	10.22	0.42	21.47	82.95	18.66	31.78	0.603	0.301
6/30/2001	23.99	9.83	0.41	21.36	83.67	18.96	32.42	0.610	0.304
7/31/2001	23.17	9.37	0.40	20.19	84.38	19.25	33.05	0.599	0.306
8/31/2001	23.22	9.75	0.42	19.52	85.10	19.55	33.66	0.572	0.309
9/30/2001	23.09	8.85	0.38	21.95	85.80	19.81	34.31	0.663	0.312
10/31/2001	22.77	9.81	0.43	21.44	86.50	20.12	34.98	0.636	0.315
11/30/2001	22.00	9.42	0.43	21.07	87.16	20.40	35.61	0.648	0.318
12/31/2001	22.08	9.66	0.44	21.21	87.85	20.70	36.27	0.646	0.321
1/31/2002	21.34	9.82	0.46	21.22	88.51	21.00	36.93	0.659	0.324
2/28/2002	21.40	9.56	0.45	20.41	89.11	21.27	37.50	0.637	0.327
3/31/2002	21.63	9.85	0.46	21.33	89.78	21.58	38.16	0.655	0.329
4/30/2002	21.38	9.58	0.45	21.53	90.42	21.86	38.80	0.672	0.332
5/31/2002	20.96	9.85	0.47	21.45	91.07	22.17	39.47	0.673	0.335
6/30/2002	20.80	9.90	0.48	20.60	91.69	22.47	40.09	0.649	0.338
7/31/2002	20.19	9.45	0.47	19.88	92.32	22.76	40.70	0.649	0.340
8/31/2002	20.50	8.92	0.43	20.58	92.95	23.04	41.34	0.676	0.343
9/30/2002	19.07	10.56	0.55	18.14	93.53	23.35	41.89	0.593	0.345
10/31/2002	19.67	11.45	0.58	21.87	94.14	23.71	42.56	0.681	0.347
11/30/2002	20.00	10.20	0.51	21.74	94.74	24.01	43.22	0.697	0.350
12/31/2002	19.74	10.55	0.53	20.54	95.35	24.34	43.85	0.657	0.352
1/31/2003	19.03	10.76	0.57	20.16	95.94	24.67	44.48	0.656	0.355
2/28/2003	19.84	11.20	0.56	18.73	96.49	24.99	45.00	0.585	0.356
3/31/2003	18.52	11.70	0.63	16.71	97.07	25.35	45.52	0.536	0.358
4/30/2003	18.18	11.35	0.62	18.79	97.61	25.69	46.08	0.617	0.360
5/31/2003	18.07	11.95	0.66	19.29	98.17	26.06	46.68	0.624	0.361
6/30/2003	17.48	13.00	0.74	19.10	98.70	26.45	47.25	0.609	0.363
7/31/2003	18.11	13.25	0.73	18.75	99.26	26.86	47.84	0.581	0.365
8/31/2003	17.61	12.43	0.71	19.51	99.80	27.25	48.44	0.631	0.367
9/30/2003	17.40	10.61	0.61	19.10	100.33	27.57	49.01	0.662	0.369
10/31/2003	17.47	10.93	0.63	19.70	100.87	27.91	49.62	0.673	0.371
11/30/2003	17.91	10.74	0.60	19.71	101.41	28.23	50.22	0.667	0.373
12/31/2003	17.31	10.80	0.62	19.51	101.94	28.56	50.82	0.673	0.375
1/31/2004	16.51	10.67	0.65	18.85	102.45	28.89	51.40	0.673	0.377
2/29/2004	16.94	10.76	0.63	18.28	102.95	29.20	51.93	0.640	0.378
3/31/2004	17.14	10.65	0.62	21.08	103.48	29.53	52.59	0.736	0.381
4/30/2004	16.24	10.67	0.66	21.06	103.96	29.85	53.22	0.760	0.383
5/31/2004	14.29	12.04	0.84	20.55	104.41	30.23	53.86	0.760	0.385
6/30/2004	15.94	13.27	0.83	20.00	104.88	30.63	54.46	0.667	0.387
7/31/2004	15.43	12.84	0.83	19.33	105.36	31.02	55.06	0.666	0.389
8/31/2004	16.58	13.09	0.79	16.79	105.88	31.43	55.58	0.550	0.390
9/30/2004	16.66	12.61	0.76	9.00	106.38	31.81	55.85	0.299	0.389
10/31/2004	16.01	13.61	0.85	11.38	106.87	32.23	56.20	0.374	0.389
11/30/2004	15.71	13.11	0.83	20.29	107.34	32.62	56.81	0.685	0.391
12/31/2004	15.15	13.55	0.89	21.13	107.81	33.04	57.46	0.717	0.393
1/31/2005	15.09	13.09	0.87	22.91	108.28	33.45	58.17	0.792	0.395
2/28/2005	15.89	13.00	0.82	22.59	108.73	33.81	58.81	0.761	0.397

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
3/31/2005	14.84	12.15	0.82	21.14	109.19	34.19	59.46	0.762	0.400
4/30/2005	14.49	12.35	0.85	22.05	109.62	34.56	60.12	0.800	0.402
5/31/2005	13.40	11.95	0.89	16.92	110.04	34.93	60.65	0.650	0.403
6/30/2005	13.35	12.40	0.93	20.64	110.44	35.30	61.27	0.781	0.405
7/31/2005	13.38	11.77	0.88	20.08	110.85	35.67	61.89	0.778	0.407
8/31/2005	12.80	10.15	0.79	20.26	111.25	35.98	62.52	0.859	0.409
9/30/2005	14.69	10.08	0.69	18.92	111.69	36.29	63.09	0.742	0.411
10/31/2005	14.35	9.98	0.70	17.46	112.14	36.59	63.63	0.697	0.412
11/30/2005	14.92	10.02	0.67	19.12	112.58	36.90	64.20	0.745	0.414
12/31/2005	16.26	10.00	0.62	18.53	113.09	37.21	64.77	0.684	0.415
1/31/2006	17.72	10.80	0.61	19.65	113.64	37.54	65.38	0.668	0.417
2/28/2006	17.28	10.65	0.62	18.74	114.12	37.84	65.91	0.651	0.418
3/31/2006	15.69	9.94	0.63	19.84	114.61	38.15	66.52	0.751	0.420
4/30/2006	16.11	10.16	0.63	13.54	115.09	38.45	66.93	0.500	0.420
5/31/2006	15.62	9.52	0.61	16.42	115.57	38.75	67.44	0.634	0.421
6/30/2006	15.75	10.09	0.64	16.48	116.05	39.05	67.93	0.619	0.422
7/31/2006	15.25	9.99	0.66	18.02	116.52	39.36	68.49	0.693	0.424
8/31/2006	14.99	10.07	0.67	19.30	116.98	39.67	69.09	0.748	0.425
9/30/2006	15.43	10.13	0.66	17.26	117.45	39.98	69.61	0.656	0.426
10/31/2006	14.78	10.15	0.69	18.55	117.90	40.29	70.18	0.722	0.428
11/30/2006	14.52	10.19	0.70	18.74	118.34	40.60	70.74	0.737	0.429
12/31/2006	14.01	10.08	0.72	18.55	118.77	40.91	71.32	0.749	0.431
1/31/2007	14.05	9.90	0.70	18.39	119.21	41.21	71.89	0.746	0.432
2/28/2007	14.00	9.45	0.68	18.97	119.60	41.48	72.42	0.785	0.433
3/31/2007	13.86	9.48	0.68	18.71	120.03	41.77	73.00	0.778	0.435
4/30/2007	13.67	9.81	0.72	19.77	120.44	42.07	73.59	0.818	0.437
5/31/2007	13.57	9.80	0.72	20.37	120.86	42.37	74.23	0.847	0.438
6/30/2007	13.14	9.66	0.74	20.16	121.26	42.66	74.83	0.860	0.440
7/31/2007	12.88	9.65	0.75	20.36	121.66	42.96	75.46	0.879	0.442
8/31/2007	12.91	9.43	0.73	19.70	122.06	43.25	76.07	0.857	0.444
9/30/2007	12.62	9.14	0.72	19.94	122.43	43.53	76.67	0.890	0.446
10/31/2007	12.91	9.47	0.73	16.77	122.83	43.82	77.19	0.728	0.447
11/30/2007	12.96	9.35	0.72	17.64	123.22	44.10	77.72	0.768	0.448
12/31/2007	12.55	9.09	0.72	17.00	123.61	44.38	78.25	0.763	0.449
1/31/2008	12.78	8.95	0.70	16.58	124.01	44.66	78.76	0.741	0.450
2/29/2008	11.20	8.43	0.75	16.90	124.33	44.90	79.25	0.837	0.452
3/31/2008	10.88	8.90	0.82	16.58	124.67	45.18	79.76	0.816	0.453
4/30/2008	12.17	9.36	0.77	16.46	125.04	45.46	80.26	0.744	0.454
5/31/2008	11.94	8.79	0.74	16.54	125.41	45.73	80.77	0.775	0.455
6/30/2008	11.24	8.52	0.76	15.11	125.74	45.99	81.22	0.744	0.456
7/31/2008	11.42	9.52	0.83	16.22	126.10	46.28	81.73	0.754	0.457
8/31/2008	11.49	10.03	0.87	15.09	126.45	46.60	82.20	0.683	0.458
9/30/2008	12.43	10.87	0.87	15.49	126.83	46.92	82.66	0.647	0.459
10/31/2008	11.31	10.45	0.92	15.83	127.18	47.25	83.15	0.709	0.460
11/30/2008	14.93	14.73	0.99	15.64	127.63	47.69	83.62	0.514	0.460
12/31/2008	14.69	11.46	0.78	13.82	128.08	48.04	84.05	0.514	0.460
1/31/2009	14.28	10.76	0.75	16.35	128.52	48.38	84.55	0.635	0.461
2/28/2009	13.74	10.41	0.76	14.55	128.91	48.67	84.96	0.586	0.462

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
3/31/2009	12.98	10.34	0.80	14.93	129.31	48.99	85.42	0.623	0.462
4/30/2009	12.83	9.81	0.76	13.36	129.70	49.28	85.83	0.574	0.463
5/31/2009	12.81	10.37	0.81	16.39	130.09	49.60	86.33	0.688	0.464
6/30/2009	12.31	10.88	0.88	15.85	130.46	49.93	86.81	0.666	0.464
7/31/2009	12.57	11.05	0.88	16.14	130.85	50.27	87.31	0.666	0.465
8/31/2009	12.19	10.35	0.85	15.55	131.23	50.59	87.79	0.671	0.466
9/30/2009	12.15	10.70	0.88	15.75	131.59	50.92	88.26	0.672	0.467
10/31/2009	11.89	10.49	0.88	14.74	131.96	51.24	88.72	0.641	0.467
11/30/2009	11.70	9.83	0.84	13.46	132.31	51.54	89.12	0.609	0.468
12/31/2009	12.37	9.74	0.79	12.88	132.70	51.84	89.52	0.567	0.468
1/31/2010	12.05	9.97	0.83	15.67	133.07	52.15	90.01	0.692	0.469
2/28/2010	12.25	10.33	0.84	17.90	133.41	52.44	90.51	0.772	0.470
3/31/2010	13.32	7.14	0.54	17.76	133.83	52.66	91.06	0.841	0.471
4/30/2010	11.98	6.66	0.56	16.50	134.19	52.86	91.56	0.858	0.473
5/31/2010	10.66	6.54	0.61	15.59	134.52	53.06	92.04	0.879	0.474
6/30/2010	11.18	11.68	1.05	7.88	134.85	53.41	92.28	0.337	0.473
7/31/2010	11.96	12.05	1.01	15.11	135.22	53.78	92.74	0.614	0.474
8/31/2010	12.00	10.45	0.87	14.25	135.59	54.11	93.19	0.619	0.474
9/30/2010	10.92	10.63	0.97	17.58	135.92	54.43	93.71	0.795	0.475
10/31/2010	9.49	9.68	1.02	13.31	136.22	54.73	94.13	0.677	0.476
11/30/2010	10.28	10.19	0.99	16.88	136.52	55.03	94.63	0.804	0.477
12/31/2010	9.33	11.30	1.21	16.67	136.81	55.38	95.15	0.790	0.478
1/31/2011	9.35	9.81	1.05	16.94	137.10	55.69	95.67	0.863	0.479
2/28/2011	9.49	12.43	1.31	16.73	137.37	56.03	96.14	0.747	0.480
3/31/2011	11.02	14.14	1.28	17.01	137.71	56.47	96.67	0.662	0.481
4/30/2011	11.54	13.97	1.21	17.35	138.06	56.89	97.19	0.665	0.481
5/31/2011	9.68	9.27	0.96	7.47	138.36	57.18	97.42	0.384	0.481
6/30/2011	8.33	7.34	0.88	4.36	138.61	57.40	97.55	0.271	0.481
7/31/2011	8.73	9.34	1.07	14.70	138.88	57.69	98.01	0.794	0.482
8/31/2011	8.14	12.14	1.49	11.81	139.13	58.07	98.37	0.571	0.482
9/30/2011	8.78	11.29	1.29		139.39	58.40	98.37	0.000	0.480
10/31/2011	9.04	11.39	1.26	8.07	139.67	58.76	98.62	0.386	0.480
11/30/2011	9.98	14.80	1.48	11.04	139.97	59.20	98.96	0.437	0.480
12/31/2011	9.40	11.83	1.26	12.20	140.26	59.57	99.33	0.562	0.480
1/31/2012	8.54	12.27	1.44	12.26	140.53	59.95	99.71	0.577	0.481
2/29/2012	13.56	15.99	1.18	12.03	140.92	60.41	100.06	0.398	0.480
3/31/2012	10.79	8.73	0.81	2.65	141.26	60.68	100.15	0.132	0.479
4/30/2012	9.55	5.38	0.56	2.27	141.54	60.84	100.21	0.147	0.478
5/31/2012	8.88	13.23	1.49	10.60	141.82	61.25	100.54	0.470	0.478
6/30/2012	5.22	12.28	2.35	10.65	141.98	61.62	100.86	0.600	0.479
7/31/2012	4.27	10.22	2.39	7.22	142.11	61.94	101.09	0.491	0.479
8/31/2012	6.97	12.03	1.73	10.23	142.32	62.31	101.40	0.529	0.479
9/30/2012	5.55	12.36	2.23	10.59	142.49	62.68	101.72	0.582	0.479
10/31/2012	8.26	13.31	1.61	11.16	142.75	63.10	102.07	0.508	0.479
11/30/2012	6.88	13.91	2.02	9.69	142.95	63.51	102.36	0.459	0.479
12/31/2012	6.84	12.74	1.86	9.35	143.16	63.91	102.65	0.469	0.479
1/31/2013	6.92	12.79	1.85	10.00	143.38	64.30	102.96	0.499	0.479
2/28/2013	6.72	13.22	1.97	9.04	143.57	64.67	103.21	0.446	0.479

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
3/31/2013	6.30	13.21	2.10	9.50	143.76	65.08	103.50	0.479	0.479
4/30/2013	6.93	13.12	1.89	2.48	143.97	65.48	103.58	0.122	0.478
5/31/2013	6.60	13.26	2.01	1.97	144.18	65.89	103.64	0.098	0.477
6/30/2013	6.53	11.55	1.77	7.30	144.37	66.23	103.86	0.396	0.477
7/31/2013	6.37	7.82	1.23	1.01	144.57	66.48	103.89	0.069	0.476
8/31/2013	8.57	9.68	1.13	3.56	144.83	66.78	104.00	0.191	0.475
9/30/2013	8.34	9.69	1.16		145.08	67.07	104.00	0.000	0.474
10/31/2013	7.71	9.36	1.21		145.32	67.36	104.00	0.000	0.473
11/30/2013	5.46	10.98	2.01		145.49	67.69	104.00	0.000	0.472
12/31/2013	13.85	26.55	1.92	5.84	145.92	68.51	104.18	0.142	0.470



TUNDRA OIL & GAS PARTNERSHIP

KOLA UNIT No.2 HZNTL (9B-32) 13A-28-10-29

102/13-28-010-29W1/0

LICENSE #: 9559

BAKKEN FORMATION

Open Hole: 972.0 - 2196 mKBMD

(861.38 – 864.67 TVD)

RESERVOIR PRESSURE SURVEY TEST DATA

SEPTEMBER 25th – OCTOBER 5th, 2013

Prepared by: **DOLLCO Well Data Services**

e-mail: dollco@shaw.ca

PO Box 326
417A Mississippian Drive
Esteran, SK
S4A 2A4

Cell: (306) 421 - 7330
Fax: (306) 634 - 7976
Res: (306) 634 - 8761

E-mail: qualityw@sasktel.net

Pressure Survey Report

Company Information

Company Name	TUNDRA OIL & GAS PARTNERSHIP
Contact	CHRIS PERKINS
e-mail	chris.perkins@tundraoilandgas.com
Phone	(204) 851-2146
Site Contact	MARK SKELTON
Site Phone	(204) 851-5689

Well Information

Well Name	KOLA UNIT No.2 HZNTL (9B-32) 13A-28-10-29
Unique Well ID	102/13-28-010-29W1/00
Surface Location	9B-32 / 13A-28-10-29W1
Well License Number	9559
Well Type	Horizontal
Well Fluid Type	01 Oil
Field	KOLA UNIT No.2

KB Elevation (SL)	537.00 m
CF Elevation (SL)	533.05 m
GL Elevation (SL)	532.90 m
Distance from KB to CF (Log)	3.95 m
KB-GL Offset	4.10 m

Tubing ID	mm
Tubing OD	mm
Tubing Depth(Log KB)	m
Tubing Depth(TVD KB)	m
Casing ID	mm
Casing OD	177.8 mm
Casing Depth(Log KB)	972.00 m
Casing Depth(TVD KB)	861.38 m
PBTD(Log KB)	m
PBTD(TVD KB)	m

Pressure Survey Report

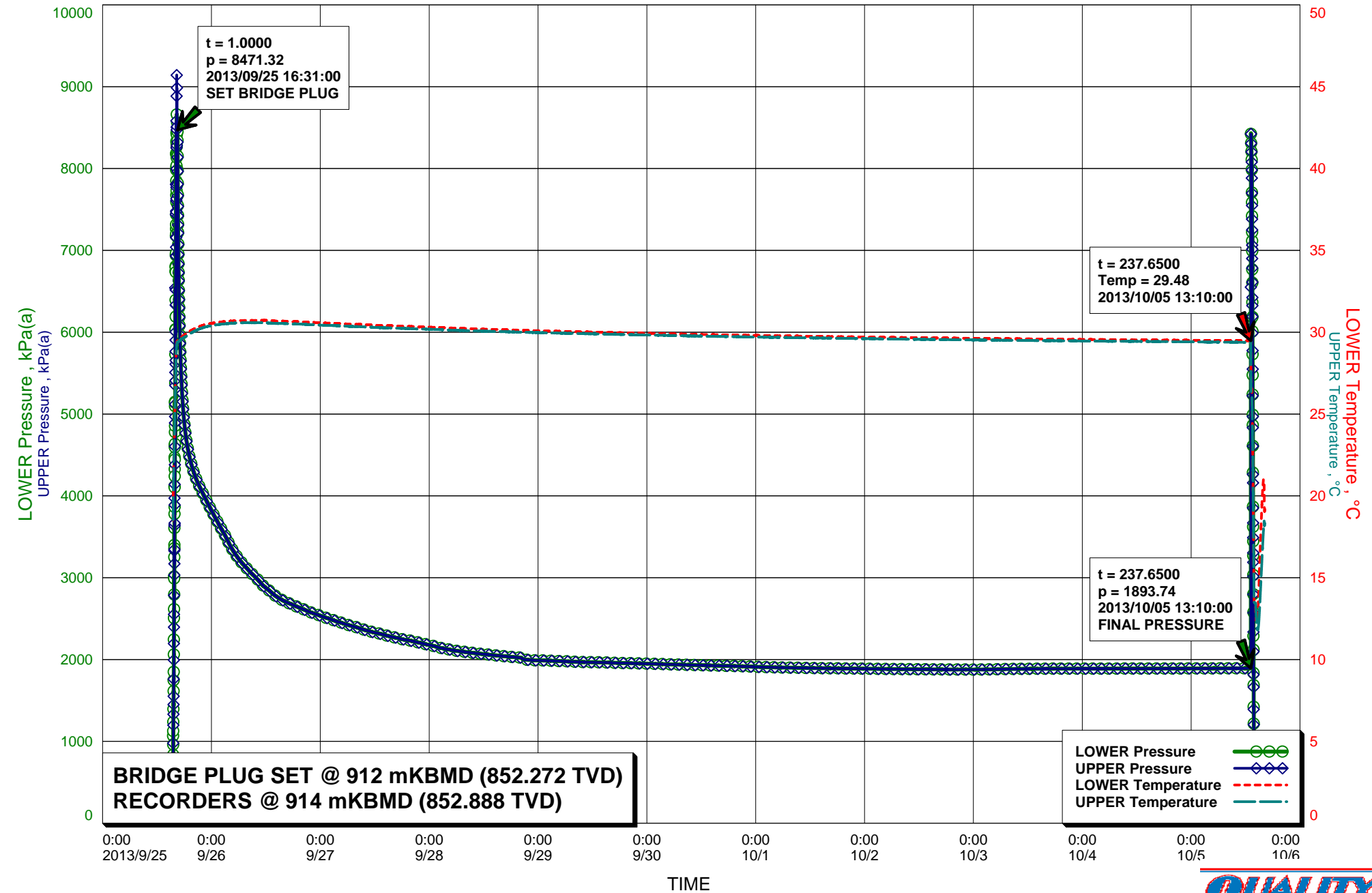
Test Information

Well Name	KOLA UNIT No.2 HZNTL (9B-32) 13A-28-10-29
Unique Well ID	102/13-28-010-29W1/00
Surface Location	9B-32 / 13A-28-10-29W1
Well License Number	9559
Well Fluid Type	01 Oil
Test Purpose	Initial Test
Test Type	RESERVOIR PRESSURE SURVEY
Formation	BAKKEN
Well Type	Horizontal
Test/Prod. Interval Top KB (Log)	972.00 m
Test/Prod. Interval Base KB (Log)	2196.00 m
MPP(Log KB)	1584.00 m
Test/Prod Interval Top KB (TVD)	861.38 m
Test/Prod. Interval Base m KB (TVD)	864.67 m
MPP(TVD KB)	863.03 m
Date/Time Gauge on Bottom	2013/09/25 16:26:00
Date/Time Gauge Off Bottom	2013/10/05 13:22:00
Time/Date Well Shut-In	2013/09/25 16:31:00
Tubing Pressure Initial	93.01 kPa(a)
Casing Pressure Initial	93.01 kPa(a)
Tubing Pressure: Final	93.01 kPa(a)
Casing Pressure: Final	93.01 kPa(a)
Last Measured Pressure at Run Depth	1893.74 kPa(a)
Reservoir Temperature	29.48 °C
Service Company	Quality Wireline Services Ltd.
Representative	IVORY HERMAN
Prepared By	DOLLCO Well Data Services
Qualified By	RICK DOLL
Report Date	2013/10/15

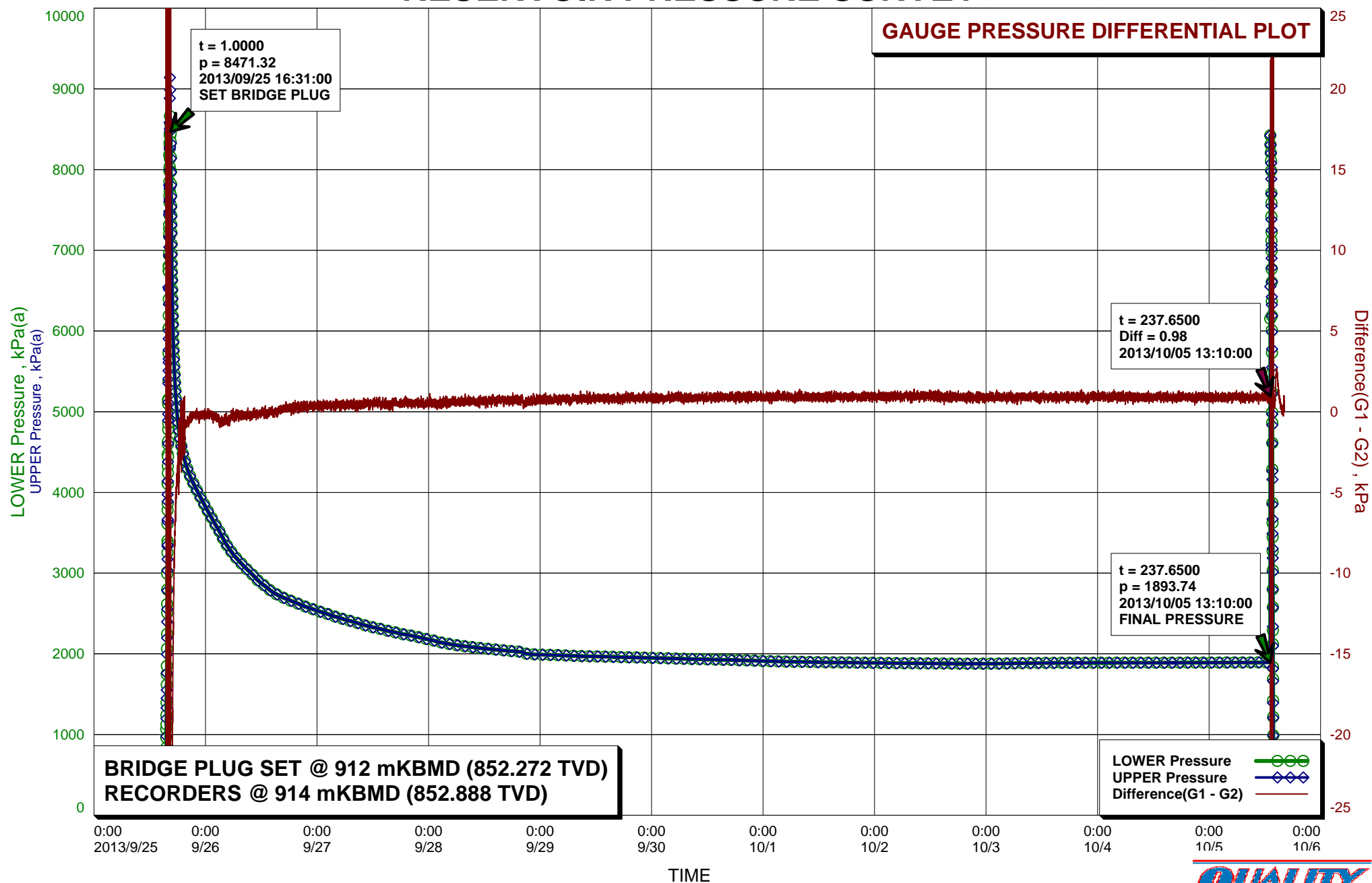
RECORDERS RUN BELOW A TRYTON BRIDGE PLUG BY A DRILLING RIG,
THEN PULLED BY A SERVICE RIG



RESERVOIR PRESSURE SURVEY



RESERVOIR PRESSURE SURVEY



Recorder Information

Company Name	TUNDRA OIL & GAS PARTNERSHIP
Unique Well ID	102/13-28-010-29W1/00
Well Name	KOLA UNIT No.2 HZNTL (9B-32) 13A-28-10-29
Formation	BAKKEN
Start Test Date	2013/09/25
Final Test Date	2013/10/05

Gauge 1

Gauge Name	LOWER	Gauge Type	ELECTRONIC
Gauge Serial Number	40432	Gauge Manufacturer	REAL TIME MEASUREMENTS
Run Depth (Log KB)	914.00 m	Gauge Model	KC2 STRAIN
Date of Last Calibration	2010/06/22	Maximum Recorder Range	20680.00 kPa
Gauge Start Date	2013/09/25	Gauge Start Time	15:31:00
Gauge Stop Date	2013/10/05	Gauge Stop Time	16:15:00
Date Gauge On Bottom	2013/09/25	Time Gauge On Bottom	16:26:00
Date Gauge Off Bottom	2013/10/05	Time Gauge Off Bottom	13:22:00

Gauge 2

Gauge Name	UPPER	Gauge Type	ELECTRONIC
Gauge Serial Number	40442	Gauge Manufacturer	REAL TIME MEASUREMENTS
Run Depth (Log KB)	913.70 m	Gauge Model	KC2 STRAIN
Date of Last Calibration	2010/04/08	Maximum Recorder Range	20680.00 kPa
Gauge Start Date	2013/09/25	Gauge Start Time	15:31:00
Gauge Stop Date	2013/10/05	Gauge Stop Time	16:15:00
Date Gauge On Bottom	2013/09/25	Time Gauge On Bottom	16:26:00
Date Gauge Off Bottom	2013/10/05	Time Gauge Off Bottom	13:22:00

RESERVOIR PRESSURE SURVEY

	LOWER Date yyyy/mm/dd	LOWER Clk Time hh:mm:ss	LOWER Time hr	LOWER Pres. kPa(a)	LOWER Temp. °C	UPPER Time hr	UPPER Pres. kPa(a)	UPPER Temp. °C	Diff. G1 - G2 kPa
1	2013/09/25	15:31:00	0.0000	481.27	18.51	0.0000	334.64	18.59	146.63
2	2013/09/25	15:31:00	0.0000	RIH, ACTIVATE RECORDERS S/N: 40432(L) & 40442(U)					
3	2013/09/25	15:31:30	0.0084	471.73	18.57	0.0084	472.61	18.53	-0.88
4	2013/09/25	16:26:00	0.9167	8563.96	29.44	0.9167	8541.46	29.33	22.50
5	2013/09/25	16:26:00	0.9167	TOOLS ON DEPTH @ 914 mKBMD (852.888 TVD)					
6	2013/09/25	16:26:30	0.9250	8476.12	29.44	0.9250	8447.25	29.33	28.87
7	2013/09/25	16:31:00	1.0000	8471.32	29.49	1.0000	8478.43	29.40	-7.10
8	2013/09/25	16:31:00	1.0000	SET BRIDGE PLUG @ 912 mKBMD (852.272 TVD)					
9	2013/09/25	16:31:30	1.0084	8451.25	29.49	1.0084	8488.71	29.40	-37.46
10	2013/09/25	17:31:30	2.0084	5253.45	29.71	2.0084	5259.62	29.62	-6.17
11	2013/09/25	19:31:30	4.0084	4394.85	30.10	4.0084	4395.59	29.95	-0.74
12	2013/09/25	21:31:30	6.0084	4095.42	30.37	6.0084	4095.52	30.22	-0.10
13	2013/09/25	23:31:30	8.0084	3872.91	30.51	8.0084	3873.13	30.37	-0.22
14	2013/09/26	01:31:30	10.0084	3663.28	30.60	10.0084	3663.63	30.47	-0.35
15	2013/09/26	03:31:30	12.0084	3457.66	30.66	12.0084	3458.58	30.52	-0.92
16	2013/09/26	05:31:30	14.0084	3267.48	30.71	14.0084	3267.55	30.57	-0.07
17	2013/09/26	07:31:30	16.0084	3130.90	30.72	16.0084	3131.14	30.58	-0.23
18	2013/09/26	09:31:30	18.0084	3016.04	30.72	18.0084	3016.22	30.57	-0.18
19	2013/09/26	11:31:30	20.0084	2897.49	30.73	20.0084	2897.60	30.58	-0.11
20	2013/09/26	13:31:30	22.0084	2804.22	30.69	22.0084	2804.10	30.55	0.12
21	2013/09/26	15:31:30	24.0084	2729.41	30.68	24.0084	2729.22	30.54	0.19
22	2013/09/26	17:31:30	26.0084	2678.55	30.65	26.0084	2678.16	30.51	0.39
23	2013/09/26	19:31:30	28.0084	2630.86	30.64	28.0084	2630.63	30.50	0.23
24	2013/09/26	21:31:30	30.0084	2583.68	30.60	30.0084	2583.39	30.46	0.29
25	2013/09/26	23:32:00	32.0167	2544.82	30.58	32.0084	2544.70	30.44	0.36
26	2013/09/27	01:32:00	34.0167	2506.73	30.55	34.0084	2506.32	30.41	0.69
27	2013/09/27	03:32:00	36.0167	2467.46	30.54	36.0084	2467.25	30.40	0.44
28	2013/09/27	05:32:00	38.0167	2432.75	30.51	38.0084	2432.49	30.37	0.34
29	2013/09/27	07:32:00	40.0167	2401.29	30.49	40.0084	2401.01	30.35	0.44
30	2013/09/27	09:32:00	42.0167	2366.15	30.47	42.0084	2365.75	30.33	0.57
31	2013/09/27	11:32:00	44.0167	2335.32	30.44	44.0084	2334.73	30.30	0.67
32	2013/09/27	13:32:00	46.0167	2309.93	30.40	46.0084	2309.52	30.27	0.45
33	2013/09/27	15:32:00	48.0167	2280.55	30.40	48.0084	2280.27	30.26	0.34
34	2013/09/27	17:32:00	50.0167	2256.40	30.37	50.0084	2256.21	30.23	0.47
35	2013/09/27	19:32:00	52.0167	2234.51	30.35	52.0084	2234.07	30.22	0.48
36	2013/09/27	21:32:00	54.0167	2209.75	30.32	54.0084	2209.23	30.19	0.61
37	2013/09/27	23:32:00	56.0167	2183.43	30.31	56.0084	2183.04	30.19	0.45
38	2013/09/28	01:32:00	58.0167	2158.53	30.29	58.0084	2157.97	30.17	0.76
39	2013/09/28	03:32:00	60.0167	2131.59	30.27	60.0084	2131.14	30.14	0.55
40	2013/09/28	05:32:00	62.0167	2111.14	30.25	62.0084	2110.44	30.12	0.77

LOWER Serial Number: 40432 Start Date: 2013/09/25 15:31:00 Run Depth: 914.00

UPPER Serial Number: 40442 Start Date: 2013/09/25 15:31:00 Run Depth: 913.70

Print Filter: Print every 2 hour

RESERVOIR PRESSURE SURVEY

	LOWER Date yyyy/mm/dd	LOWER Clk Time hh:mm:ss	LOWER Time hr	LOWER Pres. kPa(a)	LOWER Temp. °C	UPPER Time hr	UPPER Pres. kPa(a)	UPPER Temp. °C	Diff. G1 - G2 kPa
41	2013/09/28	07:32:00	64.0167	2095.53	30.23	64.0167	2094.88	30.10	0.65
42	2013/09/28	09:32:00	66.0167	2081.77	30.21	66.0167	2081.15	30.08	0.62
43	2013/09/28	11:32:00	68.0167	2068.75	30.19	68.0167	2068.08	30.07	0.67
44	2013/09/28	13:32:00	70.0167	2056.38	30.17	70.0167	2055.78	30.06	0.61
45	2013/09/28	15:32:00	72.0167	2045.67	30.16	72.0167	2044.95	30.04	0.72
46	2013/09/28	17:32:00	74.0167	2035.12	30.14	74.0167	2034.40	30.02	0.72
47	2013/09/28	19:32:00	76.0167	2026.29	30.12	76.0167	2025.63	30.01	0.66
48	2013/09/28	21:32:00	78.0167	1997.66	30.11	78.0167	1996.86	29.99	0.80
49	2013/09/28	23:32:00	80.0167	1989.77	30.09	80.0167	1989.19	29.97	0.58
50	2013/09/29	01:32:00	82.0167	1987.26	30.08	82.0167	1986.38	29.97	0.88
51	2013/09/29	03:32:00	84.0167	1984.19	30.06	84.0167	1983.39	29.95	0.79
52	2013/09/29	05:32:00	86.0167	1979.10	30.05	86.0167	1978.22	29.94	0.88
53	2013/09/29	07:32:00	88.0167	1973.96	30.04	88.0167	1973.17	29.92	0.79
54	2013/09/29	09:32:00	90.0167	1969.65	30.02	90.0167	1968.84	29.91	0.81
55	2013/09/29	11:32:00	92.0167	1967.76	30.01	92.0167	1966.97	29.90	0.79
56	2013/09/29	13:32:00	94.0167	1965.29	29.99	94.0167	1964.37	29.89	0.92
57	2013/09/29	15:32:00	96.0167	1962.81	29.98	96.0167	1962.28	29.88	0.53
58	2013/09/29	17:32:00	98.0167	1958.70	29.97	98.0167	1957.98	29.87	0.72
59	2013/09/29	19:32:00	100.0167	1956.07	29.96	100.0167	1955.21	29.85	0.85
60	2013/09/29	21:32:00	102.0167	1953.22	29.95	102.0167	1952.64	29.84	0.58
61	2013/09/29	23:32:00	104.0167	1950.43	29.94	104.0167	1949.56	29.83	0.87
62	2013/09/30	01:32:00	106.0167	1947.14	29.93	106.0167	1946.61	29.82	0.53
63	2013/09/30	03:32:00	108.0167	1943.88	29.91	108.0167	1943.05	29.81	0.83
64	2013/09/30	05:32:00	110.0167	1940.35	29.90	110.0167	1939.57	29.80	0.78
65	2013/09/30	07:32:00	112.0167	1937.02	29.88	112.0167	1936.25	29.79	0.78
66	2013/09/30	09:32:00	114.0167	1934.33	29.87	114.0167	1933.38	29.78	0.95
67	2013/09/30	11:32:00	116.0167	1931.32	29.87	116.0167	1930.19	29.76	1.13
68	2013/09/30	13:32:00	118.0167	1928.42	29.86	118.0167	1927.40	29.75	1.02
69	2013/09/30	15:32:00	120.0167	1925.67	29.84	120.0167	1924.80	29.74	0.87
70	2013/09/30	17:32:00	122.0167	1922.67	29.84	122.0167	1921.83	29.74	0.84
71	2013/09/30	19:32:00	124.0167	1919.67	29.82	124.0167	1918.83	29.72	0.84
72	2013/09/30	21:32:00	126.0167	1916.55	29.82	126.0167	1915.67	29.71	0.89
73	2013/09/30	23:32:00	128.0167	1911.88	29.81	128.0167	1910.58	29.71	1.30
74	2013/10/01	01:32:00	130.0167	1908.53	29.80	130.0167	1907.59	29.70	0.94
75	2013/10/01	03:32:00	132.0167	1905.34	29.78	132.0167	1904.50	29.69	0.83
76	2013/10/01	05:32:00	134.0167	1902.71	29.78	134.0167	1901.75	29.68	0.96
77	2013/10/01	07:32:00	136.0167	1901.01	29.77	136.0167	1899.83	29.67	1.19
78	2013/10/01	09:32:00	138.0167	1898.83	29.76	138.0167	1897.86	29.66	0.97
79	2013/10/01	11:32:00	140.0167	1896.87	29.75	140.0167	1896.05	29.66	0.81
80	2013/10/01	13:32:00	142.0167	1894.93	29.74	142.0167	1894.28	29.65	0.65

LOWER Serial Number: 40432 Start Date: 2013/09/25 15:31:00 Run Depth: 914.00

UPPER Serial Number: 40442 Start Date: 2013/09/25 15:31:00 Run Depth: 913.70

Print Filter: Print every 2 hour

RESERVOIR PRESSURE SURVEY

	LOWER Date yyyy/mm/dd	LOWER Clk Time hh:mm:ss	LOWER Time hr	LOWER Pres. kPa(a)	LOWER Temp. °C	UPPER Time hr	UPPER Pres. kPa(a)	UPPER Temp. °C	Diff. G1 - G2 kPa
81	2013/10/01	15:32:00	144.0167	1893.96	29.73	144.0167	1892.93	29.64	1.03
82	2013/10/01	17:32:00	146.0167	1892.66	29.73	146.0167	1891.58	29.63	1.08
83	2013/10/01	19:32:00	148.0167	1890.91	29.72	148.0167	1889.90	29.62	1.00
84	2013/10/01	21:32:00	150.0167	1889.37	29.71	150.0167	1888.49	29.62	0.88
85	2013/10/01	23:32:00	152.0167	1888.08	29.70	152.0167	1887.13	29.61	0.95
86	2013/10/02	01:32:00	154.0167	1887.24	29.70	154.0167	1886.03	29.60	1.21
87	2013/10/02	03:32:00	156.0167	1885.40	29.69	156.0167	1884.54	29.59	0.86
88	2013/10/02	05:32:00	158.0167	1883.98	29.68	158.0167	1883.01	29.59	0.97
89	2013/10/02	07:32:00	160.0167	1882.86	29.68	160.0167	1881.67	29.58	1.19
90	2013/10/02	09:32:00	162.0167	1881.93	29.67	162.0167	1880.85	29.57	1.08
91	2013/10/02	11:32:00	164.0167	1881.19	29.66	164.0167	1880.21	29.57	0.98
92	2013/10/02	13:32:00	166.0167	1880.13	29.65	166.0167	1879.24	29.56	0.89
93	2013/10/02	15:32:00	168.0167	1879.31	29.65	168.0167	1878.35	29.55	0.96
94	2013/10/02	17:32:00	170.0167	1878.58	29.64	170.0167	1877.46	29.55	1.12
95	2013/10/02	19:32:00	172.0167	1877.94	29.64	172.0167	1877.17	29.54	0.78
96	2013/10/02	21:32:00	174.0167	1877.45	29.63	174.0167	1876.72	29.54	0.74
97	2013/10/02	23:32:00	176.0167	1877.64	29.63	176.0167	1876.78	29.53	0.87
98	2013/10/03	01:32:00	178.0167	1878.08	29.62	178.0167	1876.95	29.52	1.13
99	2013/10/03	03:32:00	180.0167	1879.31	29.61	180.0167	1878.40	29.52	0.91
100	2013/10/03	05:32:00	182.0167	1881.26	29.60	182.0167	1880.50	29.51	0.76
101	2013/10/03	07:32:00	184.0167	1883.47	29.60	184.0167	1882.71	29.50	0.76
102	2013/10/03	09:32:00	186.0167	1885.04	29.60	186.0167	1884.22	29.50	0.82
103	2013/10/03	11:32:00	188.0167	1886.14	29.59	188.0167	1885.25	29.50	0.88
104	2013/10/03	13:32:00	190.0167	1887.01	29.58	190.0167	1886.05	29.49	0.95
105	2013/10/03	15:32:00	192.0167	1887.66	29.58	192.0167	1886.63	29.48	1.03
106	2013/10/03	17:32:00	194.0167	1888.20	29.58	194.0167	1887.25	29.48	0.95
107	2013/10/03	19:32:00	196.0167	1888.51	29.57	196.0167	1887.44	29.47	1.06
108	2013/10/03	21:32:00	198.0167	1888.55	29.56	198.0167	1887.98	29.47	0.57
109	2013/10/03	23:32:00	200.0167	1888.95	29.56	200.0167	1887.95	29.46	1.00
110	2013/10/04	01:32:00	202.0167	1888.93	29.55	202.0167	1888.04	29.46	0.88
111	2013/10/04	03:32:00	204.0167	1889.04	29.55	204.0167	1888.04	29.45	1.01
112	2013/10/04	05:32:00	206.0167	1889.33	29.55	206.0167	1888.16	29.45	1.17
113	2013/10/04	07:32:00	208.0167	1889.25	29.54	208.0167	1888.40	29.45	0.85
114	2013/10/04	09:32:00	210.0167	1889.22	29.53	210.0167	1888.49	29.44	0.74
115	2013/10/04	11:32:00	212.0167	1889.51	29.53	212.0167	1888.76	29.44	0.75
116	2013/10/04	13:32:00	214.0167	1889.47	29.53	214.0167	1888.70	29.44	0.77
117	2013/10/04	15:32:00	216.0167	1889.72	29.52	216.0167	1888.87	29.43	0.85
118	2013/10/04	17:32:00	218.0167	1889.95	29.52	218.0167	1889.03	29.43	0.92
119	2013/10/04	19:32:00	220.0167	1890.44	29.52	220.0167	1889.48	29.42	0.96
120	2013/10/04	21:32:00	222.0167	1890.49	29.51	222.0167	1889.74	29.42	0.75

LOWER Serial Number: 40432 Start Date: 2013/09/25 15:31:00 Run Depth: 914.00

UPPER Serial Number: 40442 Start Date: 2013/09/25 15:31:00 Run Depth: 913.70

Print Filter: Print every 2 hour

TUNDRA OIL & GAS PARTNERSHIP
102/13-28-010-29W1/00
Start Test Date: 2013/09/25
Final Test Date: 2013/10/05

KOLA UNIT No.2 HZNTL (9B-32) 13A-28-10-29
Formation: BAKKEN

RESERVOIR PRESSURE SURVEY

	LOWER Date yyyy/mm/dd	LOWER Clk Time hh:mm:ss	LOWER Time hr	LOWER Pres. kPa(a)	LOWER Temp. °C	UPPER Time hr	UPPER Pres. kPa(a)	UPPER Temp. °C	Diff. G1 - G2 kPa
121	2013/10/04	23:32:00	224.0167	1891.07	29.51	224.0167	1890.02	29.41	1.05
122	2013/10/05	01:32:00	226.0167	1891.25	29.50	226.0167	1890.39	29.41	0.85
123	2013/10/05	03:32:00	228.0167	1891.76	29.50	228.0167	1890.85	29.40	0.91
124	2013/10/05	05:32:00	230.0167	1892.30	29.49	230.0167	1891.49	29.40	0.81
125	2013/10/05	07:32:00	232.0167	1892.38	29.49	232.0167	1891.59	29.39	0.80
126	2013/10/05	09:32:00	234.0167	1893.09	29.49	234.0167	1892.25	29.39	0.83
127	2013/10/05	11:32:00	236.0167	1893.24	29.48	236.0167	1892.25	29.39	0.99
128	2013/10/05	13:10:00	237.6500	1893.74	29.48	237.6500	1892.76	29.38	0.98
129	2013/10/05	13:10:00	237.6500	FINAL PRESSURE, UNSETTING BRIDGE PLUG					
130	2013/10/05	13:10:30	237.6584	6151.78	29.58	237.6584	6550.51	29.45	-398.73
131	2013/10/05	13:12:00	237.6834	8403.35	27.56	237.6834	8404.60	27.34	-1.24
132	2013/10/05	13:12:00	237.6834	BRIDGE PLUG IS UNSET					
133	2013/10/05	13:12:30	237.6917	8387.29	27.18	237.6917	8383.14	26.99	4.15
134	2013/10/05	13:22:00	237.8500	8080.38	26.47	237.8500	8079.33	26.37	1.05
135	2013/10/05	13:22:00	237.8500	PULL OUT OF HOLE BY THE SERVICE RIG					
136	2013/10/05	13:22:30	237.8584	7986.48	26.41	237.8584	7981.34	26.30	5.14
137	2013/10/05	13:32:00	238.0167	6166.98	23.99	238.0167	6161.88	23.84	5.10
138	2013/10/05	14:10:00	238.6500	100.30	13.34	238.6500	100.06	13.45	0.24
139	2013/10/05	14:10:00	238.6500	TOOLS AT SURFACE					
140	2013/10/05	14:10:30	238.6584	100.28	13.33	238.6584	100.00	13.44	0.28
141	2013/10/05	15:32:00	240.0167	103.28	18.95	240.0167	103.00	15.60	0.28
142	2013/10/05	16:15:00	240.7334	102.55	19.18	240.7334	102.49	18.33	0.05

LOWER Serial Number: 40432 Start Date: 2013/09/25 15:31:00 Run Depth: 914.00
UPPER Serial Number: 40442 Start Date: 2013/09/25 15:31:00 Run Depth: 913.70
Print Filter: Print every 2 hour



DATE: September 25 - October 5, 2013	COMPANY: Tundra Oil & Gas Partnership
WELLNAME: Kola Unit No. 2 (9-32)13-28-10-29 WPM	ADDRESS: Virden, MB
LOCATION: 9-32-13-28-10-29WPM	UWI: 102.13-28-101-29W1.00
FIELD: Kola Unit No. 2	FORMATION: Bakken
CO HQ REP: Chris Perkins	PHONE: 204-851-2146
FIELD REP: Brent Dalziel	PHONE: 204-522-0864
REPORTS TO (NAME & EMAIL ADDRESS): Chris Perkins - chris.perkins@tundraoilandgas.com Craig Lane - craig.lane@tundraoilandgas.com	

STATUS: oil well (completion)		TEST TYPE: build up
ESTIMATED H2S CONTENT: 0%		ESTIMATED CO2 CONTENT: 0%
PRODUCING THROUGH: casing		SHUT IN TIME/DATE: 16:31 Sep 25, 2013
KOP: 680 kPa	TVD: see survey	LICENCE #: 9559
PBTD: n/a	TD: 2196 mKB	WELL TYPE: horizontal
CASING SIZE: 177.8 mm	CSG WEIGHT: 34 & 29 kg/m	CSG DEPTH: 972 mKB
TUBING SIZE: none	TBG WEIGHT: n/a	TBG DEPTH: n/a
Elevations KB: 537.00 m	GRD: 532.90 m	CF: 533.05 m

PRODUCING INTERVAL

TYPE: open hole	SIZE: 159 mm	INTERVAL: 972.0 - 2196.0 mKB
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RECORDER INFORMATION

TOP S/N: 40442	FILE NAME: 9-32-13-28-10-29w1,7100.hp	RANGE: 20,680 kPa
BOTTOM S/N: 40432	FILE NAME: 9-32-13-28-10-29w1,7100.hp	RANGE: 20,680 kPa
TOP BATTERY S/N: n/a	BOTTOM BATTERY S/N: n/a	
CONNECT TIME: 15:30 Sep 25, 2013	DISCONNECT TIME: 16:26 Oct 5, 2013	

SURFACE TEMP: 15 deg C	LEASE CONDITION: good
WIRELINE OPERATOR: Bart Royan	PHONE: 306-421-9700
WIRELINE ASSISTANT: n/a	
DIRECTIONS: from junction of hwy #257 & #542 go north on hwy #542 for 4.5km and west into well.	

DWG WELL HEAD PRESSURES:

TUBING (before survey): 0 kPa	CASING (before survey): 0 kPa
TUBING (after survey): 0 kPa	CASING (after survey): 0 kPa

FLUID LEVEL: n/a	RUN DEPTH: 914 mKB
TIME ON BOTTOM: 16:26 Sep 25, 2013	TIME OFF BOTTOM: 13:22 Oct 5, 2013

GRADIENT STOPS

DEPTH mKB:	none	FROM:	n/a	UNTIL:	n/a
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COMMENTS:

DESCRIPTION OF WORK DONE:

September 25, 2013
 15:30 21 mPA KC-2 recorders begin logging as they were ran into the well below a Tryton bridge plug by the drilling rig.
 16:26 Tools at set depth.
 16:31 Bridge plug is set, well shut in for a build-up.

October 5, 2013

13:12 Bridge plug is unset.

13:22 Tools are pulled from the well by the service rig.

14:10 Tools are at surface.

16:25 Download data from recorders and do preliminary report.



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Prepared for:

**JUSTIN ROBERTSON
LLOYD SCHMIDT
BILL JENKINS**

**100/05-33-010-29 W1M
TUNDRA DALY 5-33-29-1
BAKKEN**

**LICENSE # 4574
ACOUSTIC PRESSURE BUILD-UP REPORT**

Test Date: October 30 – November 12, 2013

Release Date: November 18, 2013

Prepared By: Orry Goulet, CE

Wellbore Properties:

Wellbore Orientation:	Vertical
Completed Interval (mKB TVD):	857.8 – 860.8
Datum Depth (mKB TVD):	859.3
KB-CF (m):	3.88
Tubing Size (mm):	60.3
Tubing Set Depth (mKB MD):	863.18
Average Joint Length (m):	9.729
Casing Size (mm):	114.3
Casing Set Depth (mKB MD):	872.5

Test Information:

Initial Casing Pressure (kPaa):	365.3
Final Casing Pressure (kPaa):	457.1
Initial Fluid Level (mKB TVD):	854.71
Final Fluid Level (mKB TVD):	752.89
Shut in Date and Time:	October 30, 2013 13:36
Final Date and Time:	November 12, 2013 7:26
Test Duration (days):	13

Summary:

The data used in the interpretations and calculations of the acoustic build-up report were collected from Birchcliff Energy Ltd and/or from public data sources. The average joint length used in the depth calculation was 9.729 m and casing pressures were corrected to absolute using 93 kPa as the atmospheric pressure.

The initial fluid level was at 854.71 mKB TVD from surface and slowly moved uphole to final depth of 752.89 mKB TVD at the end of the test.

No calculations or interpretations were requested at this time for the data collected. If you have any questions or concerns please contact the undersigned or your Surface Solutions representative.

Regards,

Orry Goulet, CET | Southern Operations Manager

C: 1.403.357.9491 | B: 1.403.358.5940

E-mail: orryg@surfacesolutions.ca

Web: www.surfacesolutions.ca

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Item	Date Clock Time	Gauge Time	Casing Pressure	Fluid Level (Log)
	YYYY/MM/DD HH:mm:ss	h	kPa(a)	m
1	2013/10/30 13:26:48	2.1144	365.29	850.830
2	2013/10/30 13:36:48	2.2811	366.52	849.779
3	2013/10/30 13:46:48	2.4478	367.68	848.721
4	2013/10/30 13:56:48	2.6144	368.83	847.668
5	2013/10/30 14:06:48	2.7811	369.98	846.626
6	2013/10/30 14:16:48	2.9478	371.04	845.596
7	2013/10/30 14:26:48	3.1144	372.14	844.573
8	2013/10/30 14:36:48	3.2811	373.18	843.559
9	2013/10/30 14:46:48	3.4478	374.26	842.559
10	2013/10/30 14:56:48	3.6144	375.29	841.579
11	2013/10/30 15:06:48	3.7811	376.29	840.614
12	2013/10/30 15:16:48	3.9478	377.32	839.654
13	2013/10/30 15:26:48	4.1144	378.23	838.695
14	2013/10/30 15:36:48	4.2811	379.22	837.733
15	2013/10/30 15:46:48	4.4478	380.19	836.774
16	2013/10/30 15:56:48	4.6144	381.02	835.819
17	2013/10/30 16:06:48	4.7811	381.91	834.865
18	2013/10/30 16:16:48	4.9478	382.81	833.904
19	2013/10/30 16:26:48	5.1144	383.61	832.943
20	2013/10/30 16:36:48	5.2811	384.43	831.995
21	2013/10/30 16:46:48	5.4478	385.24	831.068
22	2013/10/30 16:56:48	5.6144	386.05	830.169
23	2013/10/30 17:06:48	5.7811	386.81	829.298
24	2013/10/30 17:16:48	5.9478	387.60	828.448
25	2013/10/30 17:26:48	6.1144	388.39	827.607
26	2013/10/30 17:36:48	6.2811	389.09	826.762
27	2013/10/30 17:46:48	6.4478	389.80	825.908
28	2013/10/30 17:56:48	6.6144	390.51	825.049
29	2013/10/30 18:06:48	6.7811	391.26	824.197
30	2013/10/30 18:16:48	6.9478	391.90	823.366
31	2013/10/30 18:26:48	7.1144	392.56	822.555
32	2013/10/30 18:36:48	7.2811	393.23	821.770
33	2013/10/30 18:46:48	7.4478	393.90	821.006
34	2013/10/30 18:56:48	7.6144	394.50	820.262
35	2013/10/30 19:06:48	7.7811	395.15	819.531
36	2013/10/30 19:16:48	7.9478	395.75	818.804
37	2013/10/30 19:26:48	8.1144	396.34	818.080
38	2013/10/30 19:36:48	8.2811	396.89	817.362
39	2013/10/30 19:46:48	8.4478	397.47	816.651
40	2013/10/30 19:56:48	8.6144	397.99	815.946
41	2013/10/30 20:06:48	8.7811	398.51	815.245
42	2013/10/30 20:16:48	8.9478	399.02	814.549
43	2013/10/30 20:26:48	9.1144	399.51	813.859
44	2013/10/30 20:36:48	9.2811	399.95	813.180
45	2013/10/30 20:46:48	9.4478	400.46	812.516
46	2013/10/30 20:56:48	9.6144	400.91	811.867
47	2013/10/30 21:06:48	9.7811	401.37	811.226
48	2013/10/30 21:16:48	9.9478	401.84	810.581
49	2013/10/30 21:26:48	10.1144	402.26	809.927
50	2013/10/30 21:36:48	10.2811	402.69	809.272
51	2013/10/30 21:46:48	10.4478	403.12	808.621
52	2013/10/30 21:56:48	10.6144	403.58	807.989
53	2013/10/30 22:06:48	10.7811	404.03	807.378
54	2013/10/30 22:16:48	10.9478	404.51	806.791
55	2013/10/30 22:26:48	11.1144	404.97	806.225
56	2013/10/30 22:36:48	11.2811	405.39	805.679
57	2013/10/30 22:46:48	11.4478	405.82	805.139
58	2013/10/30 22:56:48	11.6144	406.22	804.591
59	2013/10/30 23:06:48	11.7811	406.66	804.031
60	2013/10/30 23:16:48	11.9478	407.09	803.461
61	2013/10/30 23:26:48	12.1144	407.41	802.894
62	2013/10/30 23:36:48	12.2811	407.86	802.342
63	2013/10/30 23:46:48	12.4478	408.28	801.816
64	2013/10/30 23:56:48	12.6144	408.63	801.320
65	2013/10/31 00:06:48	12.7811	409.02	800.847
66	2013/10/31 00:16:48	12.9478	409.41	800.389
67	2013/10/31 00:26:48	13.1144	409.79	799.938
68	2013/10/31 00:36:48	13.2811	410.18	799.490
69	2013/10/31 00:46:48	13.4478	410.51	799.041
70	2013/10/31 00:56:48	13.6144	410.90	798.592
71	2013/10/31 01:06:48	13.7811	411.25	798.143
72	2013/10/31 01:16:48	13.9478	411.59	797.696
73	2013/10/31 01:26:48	14.1144	412.00	797.253
74	2013/10/31 01:36:48	14.2811	412.35	796.817
75	2013/10/31 01:46:48	14.4478	412.72	796.391
76	2013/10/31 01:56:48	14.6144	413.08	795.975
77	2013/10/31 02:06:48	14.7811	413.47	795.562
78	2013/10/31 02:16:48	14.9478	413.75	795.157
79	2013/10/31 02:26:48	15.1144	414.09	794.759
80	2013/10/31 02:46:48	15.4478	414.64	794.018

Item	Date Clock Time	Gauge Time	Casing Pressure	Fluid Level (Log)
	YYYY/MM/DD HH:mm:ss	h	kPa(a)	m
81	2013/10/31 03:06:48	15.7811	415.14	793.327
82	2013/10/31 03:26:48	16.1144	415.70	792.643
83	2013/10/31 03:46:48	16.4478	416.22	791.965
84	2013/10/31 04:06:48	16.7811	416.74	791.298
85	2013/10/31 04:26:48	17.1144	417.18	790.647
86	2013/10/31 04:46:48	17.4478	417.58	790.019
87	2013/10/31 05:06:48	17.7811	418.02	789.420
88	2013/10/31 05:26:48	18.1144	418.43	788.848
89	2013/10/31 05:46:48	18.4478	418.86	788.301
90	2013/10/31 06:06:48	18.7811	419.23	787.769
91	2013/10/31 06:26:48	19.1144	419.58	787.246
92	2013/10/31 06:46:48	19.4478	419.93	786.728
93	2013/10/31 07:06:48	19.7811	420.30	786.224
94	2013/10/31 07:26:48	20.1144	420.72	785.737
95	2013/10/31 07:46:48	20.4478	421.08	785.268
96	2013/10/31 08:06:48	20.7811	421.47	784.812
97	2013/10/31 08:26:48	21.1144	421.82	784.368
98	2013/10/31 08:46:48	21.4478	422.16	783.933
99	2013/10/31 09:06:48	21.7811	422.53	783.510
100	2013/10/31 09:26:48	22.1144	422.97	783.096
101	2013/10/31 09:46:48	22.4478	423.29	782.687
102	2013/10/31 10:06:48	22.7811	423.66	782.277
103	2013/10/31 10:26:48	23.1144	423.99	781.862
104	2013/10/31 10:46:48	23.4478	424.36	781.441
105	2013/10/31 11:06:48	23.7811	424.64	781.030
106	2013/10/31 11:26:48	24.1144	425.00	780.641
107	2013/10/31 11:56:48	24.6144	425.28	780.100
108	2013/10/31 12:26:48	25.1144	425.66	779.599
109	2013/10/31 12:56:48	25.6144	426.00	779.126
110	2013/10/31 13:26:48	26.1144	426.28	778.664
111	2013/10/31 13:56:48	26.6144	426.57	778.215
112	2013/10/31 14:26:48	27.1144	426.88	777.775
113	2013/10/31 14:56:48	27.6144	427.16	777.347
114	2013/10/31 15:26:48	28.1144	427.58	776.935
115	2013/10/31 15:56:48	28.6144	427.88	776.547
116	2013/10/31 16:26:48	29.1144	428.23	776.169
117	2013/10/31 16:56:48	29.6144	428.60	775.796
118	2013/10/31 17:26:48	30.1144	428.91	775.443
119	2013/10/31 18:26:48	31.1144	429.57	774.768
120	2013/10/31 19:26:48	32.1144	430.18	774.139
121	2013/10/31 20:26:48	33.1144	430.62	773.538
122	2013/10/31 21:26:48	34.1144	431.05	772.969
123	2013/10/31 22:26:48	35.1144	431.56	772.432
124	2013/10/31 23:26:48	36.1144	431.97	771.908
125	2013/11/01 00:26:48	37.1144	432.24	771.394
126	2013/11/01 01:26:48	38.1144	432.64	770.912
127	2013/11/01 03:26:48	40.1144	433.33	770.012
128	2013/11/01 05:26:48	42.1144	433.91	769.236
129	2013/11/01 07:26:48	44.1144	434.48	768.516
130	2013/11/01 09:26:48	46.1144	434.99	767.854
131	2013/11/01 11:26:48	48.1144	435.35	767.238
132	2013/11/01 13:26:48	50.1144	435.70	766.649
133	2013/11/01 15:26:48	52.1144	436.09	766.091
134	2013/11/01 17:26:48	54.1144	436.44	765.565
135	2013/11/01 19:26:48	56.1144	436.98	765.070
136	2013/11/01 21:26:48	58.1144	437.59	764.606
137	2013/11/01 23:26:48	60.1144	438.07	764.168
138	2013/11/02 01:26:48	62.1144	438.53	763.752
139	2013/11/02 03:26:48	64.1144	439.02	763.356
140	2013/11/02 05:26:48	66.1144	439.37	762.972
141	2013/11/02 07:26:48	68.1144	439.69	762.586
142	2013/11/02 09:26:48	70.1144	440.00	762.195
143	2013/11/02 11:26:48	72.1144	439.80	761.797
144	2013/11/02 13:26:48	74.1144	439.74	761.404
145	2013/11/02 15:26:48	76.1144	440.08	761.031
146	2013/11/02 17:26:48	78.1144	440.37	760.701
147	2013/11/02 19:26:48	80.1144	441.13	760.419
148	2013/11/02 21:26:48	82.1144	441.38	760.171
149	2013/11/02 23:26:48	84.1144	441.67	759.932
150	2013/11/03 01:26:48	86.1144	441.93	759.686
151	2013/11/03 03:26:48	88.1144	442.26	759.432
152	2013/11/03 05:26:48	90.1144	442.51	759.183
153	2013/11/03 07:26:48	92.1144	442.74	758.945
154	2013/11/03 09:26:48	94.1144	443.13	758.734
155	2013/11/03 11:26:48	96.1144	443.18	758.537
156	2013/11/03 13:26:48	98.1144	443.29	758.349
157	2013/11/03 15:26:48	100.1144	443.54	758.167
158	2013/11/03 19:26:48	104.1144	444.02	757.793
159	2013/11/03 23:26:48	108.1144	444.49	757.424
160	2013/11/04 03:26:48	112.1144	445.11	757.081

Item	Date Clock Time	Gauge Time	Casing Pressure	Fluid Level (Log)
	YYYY/MM/DD HH:mm:ss	h	kPa(a)	m
161	2013/11/04 07:26:48	116.1144	445.23	756.769
162	2013/11/04 11:26:48	120.1144	445.64	756.500
163	2013/11/04 15:26:48	124.1144	446.00	756.242
164	2013/11/04 19:26:48	128.1144	446.45	755.997
165	2013/11/04 23:26:48	132.1144	446.86	755.753
166	2013/11/05 03:26:48	136.1144	447.15	755.499
167	2013/11/05 07:26:48	140.1144	447.50	755.241
168	2013/11/05 11:26:48	144.1144	447.73	754.991
169	2013/11/05 15:26:48	148.1144	447.55	754.756
170	2013/11/05 19:26:48	152.1144	448.38	754.537
171	2013/11/05 23:26:48	156.1144	448.90	754.325
172	2013/11/06 03:26:48	160.1144	448.93	754.117
173	2013/11/06 07:26:48	164.1144	449.51	753.905
174	2013/11/06 11:26:48	168.1144	449.38	753.689
175	2013/11/06 15:26:48	172.1144	449.07	753.474
176	2013/11/06 19:26:48	176.1144	450.05	753.267
177	2013/11/06 23:26:48	180.1144	450.48	753.073
178	2013/11/07 03:26:48	184.1144	450.48	752.889
179	2013/11/07 07:26:48	188.1144	450.59	752.707
180	2013/11/07 11:26:48	192.1144	450.52	752.526
181	2013/11/07 15:26:48	196.1144	450.16	752.347
182	2013/11/07 19:26:48	200.1144	450.91	752.173
183	2013/11/07 23:26:48	204.1144	451.40	752.010
184	2013/11/08 03:26:48	208.1144	451.47	751.852
185	2013/11/08 07:26:48	212.1144	451.68	751.700
186	2013/11/08 11:26:48	216.1144	451.72	751.551
187	2013/11/08 15:26:48	220.1144	451.94	751.403
188	2013/11/08 19:26:48	224.1144	452.13	751.253
189	2013/11/08 23:26:48	228.1144	452.29	751.104
190	2013/11/09 03:26:48	232.1144	452.59	750.956
191	2013/11/09 07:26:48	236.1144	452.93	750.816
192	2013/11/09 11:26:48	240.1144	453.20	750.686
193	2013/11/09 15:26:48	244.1144	453.34	750.573
194	2013/11/09 19:26:48	248.1144	453.80	750.477
195	2013/11/09 23:26:48	252.1144	454.35	750.394
196	2013/11/10 03:26:48	256.1144	454.29	750.317
197	2013/11/10 07:26:48	260.1144	454.13	750.248
198	2013/11/10 11:26:48	264.1144	455.03	750.189
199	2013/11/10 15:26:48	268.1144	455.25	750.138
200	2013/11/10 19:26:48	272.1144	455.67	750.084
201	2013/11/10 23:26:48	276.1144	455.93	750.011
202	2013/11/11 03:26:48	280.1144	456.30	749.901
203	2013/11/11 07:26:48	284.1144	456.57	749.757
204	2013/11/11 11:26:48	288.1144	456.47	749.594
205	2013/11/11 15:26:48	292.1144	455.94	749.437
206	2013/11/11 19:26:48	296.1144	456.82	749.307
207	2013/11/11 23:26:48	300.1144	456.76	749.203
208	2013/11/12 03:26:48	304.1144	456.85	749.110
209	2013/11/12 07:26:48	308.1144	457.12	749.006
210	2013/11/12 07:26:48		457.12	0.000



**TUNDRA
OIL & GAS PARTNERSHIP**

**Tundra Daly 5-33-10-29
100/05-33-010-29W1**

License # 4574

*General History
&
Optimization Report*

February 13, 2013

NAME: Tundra Daly 5-33-10-29
UWI: 100/05-33-010-29W1
SURFACE UWI: 05-33-010-29W1

GL: 530.75 m
KB ELEVATION: 534.95 m

SPUD DATE: January 26, 1996
RIG RELEASE: February 1, 1996

TVD: 878 m
PBTD: 868.37 m MD

CASING: **Surface:** 10 jts., 219.1mm, 35.7 kg/m, J-55, ST&C
Landed at 123m
Cemented with 13T, 0:1:0 "A", 3% CaCl₂, 2.0 m3 returns
Production: 71 jts., 114.3mm, 14.14 kg/m, J-55, ST&C
Landed at 872.5m
Cemented with 22T, 2:1:8 "A", 0.5% T-10 (fill) and
7T, 0:1:0 "G", 0.7% NFL-2, 0.1% SPC 12000 (tail) 2.0 m3 returns

LOGS: DI-SFL
CNL-LDT-GR

PERFS: 857.8-860.8 mKB

STATUS: Producing
PRODUCING ZONE: Bakken

HISTORY:

DATE	JOB DESCRIPTION	COMMENTS
2/12/1996	Initial Completion	Perf Bakken from 857.8-860.8m with 23 gm, 20 SPM, 60° Phasing Acidize with 500L 15% MDA and 1000L 15% HCl Swabbed and landed production tubing Set 7 Day electronic pressure recorders
2/20/1996	Pull Records, Run Pump & Rods	Pull records, doing gradient on way out Run in pump and rods and bring well online
11/4/2002	Rod Repair	Rod coupler on on bottom of rod 110 was stripped out Pump was worn and had some scale on barrel
10/21/2005	Scale Inhibitor	Pumped 208L of 206W
12/22/2007	Tubing Repair	Split in joint 88 due to spiral guide on pump wearing through Pump had a cracked barrel and was corroded
2/7/2008	Scale Inhibitor	Pumped 208L of 206W
3/18/2008	Pump Change	Pump was seized, scale and sand in wipers
9/3/2010	Problem Well	Operator could not get well to pump
9/5/2010	Troubleshoot	Tubing was feeding - suspect hole in tubing or split pump
7/9/2010	Scale Inhibitor	Pumped 208L of 206W
10/12/2010	Tubing repair	Found hole in joint 87 due to rod wear Entire tubing string was egged and worn and had to be replaced
12/3/2010	Pump Repair	Pulled BHP # 5069 20-150-RWAC -12-3, tagged fill at 863.84m KB. Circulated clean to 866.94mKB, scale rubber & packing in returns. RIH BHP # HF 2688 20-150-RWAC-12-3 max stroke 79".
1/9/2012	Pump Change	PT to 7 MPa (good). Could not pressure up with BHP. POOH with rods to find a broken pull rod. Could not fish BHP. POOH with tubing to retrieve BHP (HF-2668). BHP was full of scale. BHP was badly pounded, broken pull rod as well. Replaced joint above PSN with a TK-99 joint of tubing. Replaced bottom 19mm-3x2" Scr Rod due to wear. RIH with new BHP (CEFV-39511 20-150-RWAC-12-3) and rods.
11/9/2012	Scale Squeeze	208L of 206W
2/11/2013	Problem Well	Suspected Rod Break

DATE	OIL, WATER (m³/d)	SPM, SL (inches),PRODUCING FLUID LEVEL (jts from surface)
12/17/2011	1.1, 1.0	8.0 SPM, 48" SL, 90 JTF
1/11/2013	0.30, 1.10	8.0 SPM, 48" SL, 90 JTF, 8.75% Pump Efficiency

TUBING STRING DETAILS:

1 - 60.3mm tail joint w/ BC	9.63m
1 - 60.3mm PSN	0.33m
1-60.3mm TK-99 Joint Tubing	9.57m

86 - joints 60.3mm tubing	836.72m
1 - 60.3mm pup joint	3.05m
KB-TH	3.88m

BOT @ 863.18 mKB (5.19m above PBTD, 2.38m below perfs)

PSN @ 853.55 mKB

Previous Fill @ 866.92 mKB

PUMP/ROD STRING DETAILS:

1 - BHP (CEFV-39511) 20-150-RWAC-12-3	
10 - 19mm 3x2" scraped rods	(10/04)
57 - 19mm plain rods	(05/83)
20 - 19mm 3x2" scraped rods	(09/08)
23 - 19mm 8x2" scraped rods	(01/08)
1 - 19mm x 1.83m scraped pony	(10/04)
1 - 19mm x 2.44m scraped pony	(10/04)
1 - 19mm x 3.05m scraped pony	(10/07)
1 - 31.8mm x 4.88m polish rod	

Surface Equipment:

Flowlined to Daly 4-28 Battery

Pumpjack: Churchill 57-95-48

Motor HP: 10

Motor RPM: 1165

Motor Shaft Size: 1.625"

Motor Sheave Size: 5"

Reducer Sheave Size: 24"

Reducer Ratio: ??

Stroke Length: 48"

SPM: 8

Recommendation:

Well has a history of scale, is currently on the scale inhibitor program. The last pump report stated the pump was full of scale despite the scale squeezes performed. An injectivity test is important for this well as the history of scale problems may be affecting the inflow. If injectivity is low, be prepared to complete a 1.5m³ 15% HCl Acid job. There is not much room below the tubing intake for cellar, so be prepared to circulate the well clean if any new fill is noted.

This well currently makes ~\$120/day. The estimated cost to repair this well is \$15,000. The payback period for these repairs is 125 days. The current BHP has a run life of 1.1 years. It is recommended to repair this well.

Recommend PT TBG and BHP to 7 mPa. POOH with BHP (CEFV-39511) and rods. Be sure to closely examine rods for pitting, corrosion, scale, and/or wear. If noted contact Tundra representative to discuss replacement

details. If PT failed, POOH with tubing to have it inspected. Replace all red, green, and blue band with yellow band tubing. RIH with 1 joint of tubing to tag for fill. If any new fill is noted, reverse circulate the well clean back to PBTD. Perform an injectivity test. RIH with a new BHP (20-150-RWAC-12-3) and the same rod string.

Consultant to examine flow "T" and fittings for corrosion and/or pitting.



#104 8715 – 109 Street
Grande Prairie, AB, Can | T8V 8H7
B - 780-538-1074 | F - 780-532-3574
reports@surfacesolutions.ca
www.surfacesolutions.ca



Prepared for:

**JUSTIN ROBERTSON
LLOYD SCHMIDT
BILL JENKINS**

**100/07-33-010-29 W1/00
TUNDRA DALY 7-33-29-1 KOLA U #2
BAKKEN**

**LICENSE # 4431
ACOUSTIC PRESSURE BUILD-UP REPORT**

Test Date: October 30 – November 12, 2013

Release Date: November 18, 2013

Prepared By: Orry Goulet, CE

Wellbore Properties:

Wellbore Orientation:	Vertical
Completed Interval (mKB TVD):	857.0 – 863.0
Datum Depth (mKB TVD):	860.0
KB-CF (m):	3.85
Tubing Size (mm):	60.3
Tubing Set Depth (mKB MD):	868.72
Average Joint Length (m):	9.04
Casing Size (mm):	114.3
Casing Set Depth (mKB MD):	923.5

Test Information:

Initial Casing Pressure (kPaa):	130.6
Final Casing Pressure (kPaa):	156.6
Initial Fluid Level (mKB TVD):	863.27
Final Fluid Level (mKB TVD):	799.33
Shut in Date and Time:	October 30, 2013 10:47
Final Date and Time:	November 12, 2013 10:45
Test Duration (days):	13

Summary:

The data used in the interpretations and calculations of the acoustic build-up report were collected from Birchcliff Energy Ltd and/or from public data sources. The average joint length used in the depth calculation was 9.04 m and casing pressures were corrected to absolute using 93 kPa as the atmospheric pressure.

The initial fluid level was at 863.27 mKB TVD from surface and slowly moved uphole to final depth of 799.33 mKB TVD at the end of the test.

No calculations or interpretations were requested at this time for the data collected. If you have any questions or concerns please contact the undersigned or your Surface Solutions representative.

Regards,

Orry Goulet, CET | Southern Operations Manager

C: 1.403.357.9491 | B: 1.403.358.5940

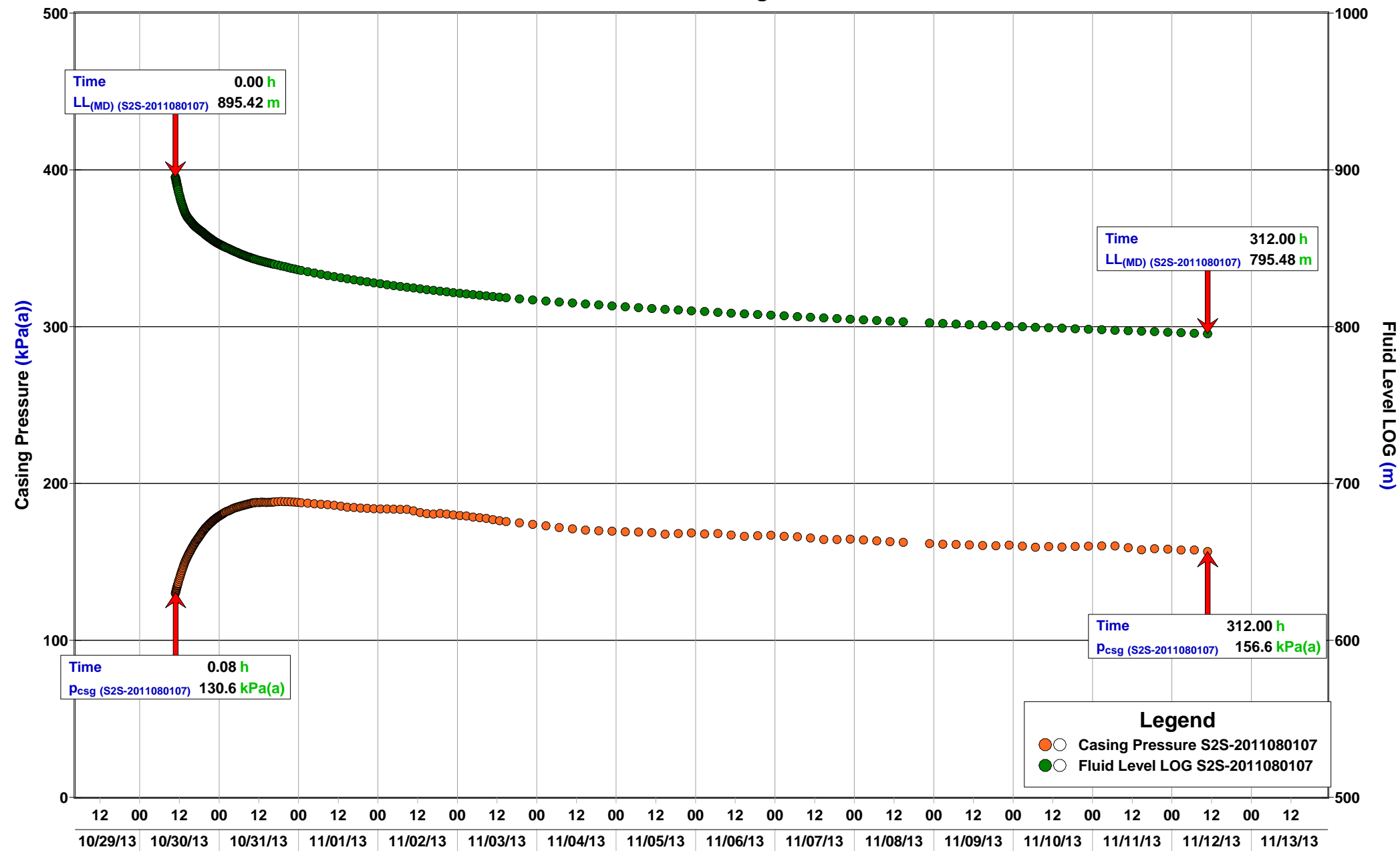
E-mail: orryg@surfacesolutions.ca

Web: www.surfacesolutions.ca

**#104 8715 – 109 Street
Grande Prairie, AB, Can | T8V 8H7
B - 780-538-1074 | F - 780-532-3574**

reports@surfacesolutions.ca www.surfacesolutions.ca

Fluid Level and Casing Pressure



Item	Date Clock Time	Gauge Time	Casing Pressure	Fluid Level (Log)
	YYYY/MM/DD HH:mm:ss	h	kPa(a)	m
1	2013/10/30 10:45:47	0.0000	129.91	895.418
2	2013/10/30 10:50:47	0.0833	130.59	894.600
3	2013/10/30 10:55:47	0.1667	131.26	893.782
4	2013/10/30 11:00:47	0.2500	131.95	892.964
5	2013/10/30 11:05:47	0.3333	132.67	892.146
6	2013/10/30 11:10:47	0.4167	133.37	891.330
7	2013/10/30 11:15:47	0.5000	134.00	890.515
8	2013/10/30 11:20:47	0.5833	134.63	889.699
9	2013/10/30 11:25:47	0.6667	135.25	888.887
10	2013/10/30 11:30:47	0.7500	135.88	888.078
11	2013/10/30 11:35:47	0.8333	136.46	887.294
12	2013/10/30 11:45:47	1.0000	137.75	885.808
13	2013/10/30 11:55:47	1.1667	138.93	884.394
14	2013/10/30 12:05:47	1.3333	140.01	883.045
15	2013/10/30 12:15:47	1.5000	141.19	881.743
16	2013/10/30 12:25:47	1.6667	142.29	880.490
17	2013/10/30 12:35:47	1.8333	143.42	879.272
18	2013/10/30 12:45:47	2.0000	144.56	878.103
19	2013/10/30 12:55:47	2.1667	145.60	876.989
20	2013/10/30 13:05:47	2.3333	146.61	875.936
21	2013/10/30 13:15:47	2.5000	147.60	874.946
22	2013/10/30 13:25:47	2.6667	148.57	874.020
23	2013/10/30 13:35:47	2.8333	149.49	873.151
24	2013/10/30 13:45:47	3.0000	150.38	872.337
25	2013/10/30 13:55:47	3.1667	151.24	871.580
26	2013/10/30 14:05:47	3.3333	152.03	870.892
27	2013/10/30 14:15:47	3.5000	152.74	870.280
28	2013/10/30 14:25:47	3.6667	153.49	869.742
29	2013/10/30 14:35:47	3.8333	154.21	869.262
30	2013/10/30 14:45:47	4.0000	154.90	868.819
31	2013/10/30 14:55:47	4.1667	155.55	868.394
32	2013/10/30 15:05:47	4.3333	156.23	867.970
33	2013/10/30 15:15:47	4.5000	156.84	867.539
34	2013/10/30 15:25:47	4.6667	157.53	867.099
35	2013/10/30 15:35:47	4.8333	158.17	866.653
36	2013/10/30 15:45:47	5.0000	158.83	866.208
37	2013/10/30 15:55:47	5.1667	159.44	865.772
38	2013/10/30 16:05:47	5.3333	160.10	865.355
39	2013/10/30 16:15:47	5.5000	160.68	864.958
40	2013/10/30 16:25:47	5.6667	161.29	864.584
41	2013/10/30 16:35:47	5.8333	161.81	864.232
42	2013/10/30 16:45:47	6.0000	162.44	863.902
43	2013/10/30 16:55:47	6.1667	162.95	863.594
44	2013/10/30 17:05:47	6.3333	163.48	863.304
45	2013/10/30 17:15:47	6.5000	163.97	863.023
46	2013/10/30 17:25:47	6.6667	164.49	862.749
47	2013/10/30 17:35:47	6.8333	164.97	862.479
48	2013/10/30 17:45:47	7.0000	165.49	862.208
49	2013/10/30 17:55:47	7.1667	165.98	861.936
50	2013/10/30 18:05:47	7.3333	166.49	861.664
51	2013/10/30 18:15:47	7.5000	167.01	861.392
52	2013/10/30 18:25:47	7.6667	167.53	861.120
53	2013/10/30 18:35:47	7.8333	168.06	860.847
54	2013/10/30 18:45:47	8.0000	168.55	860.572
55	2013/10/30 18:55:47	8.1667	169.06	860.291
56	2013/10/30 19:05:47	8.3333	169.54	860.002
57	2013/10/30 19:15:47	8.5000	170.05	859.701
58	2013/10/30 19:25:47	8.6667	170.46	859.395
59	2013/10/30 19:35:47	8.8333	170.98	859.090
60	2013/10/30 19:45:47	9.0000	171.34	858.795
61	2013/10/30 19:55:47	9.1667	171.73	858.511
62	2013/10/30 20:05:47	9.3333	172.10	858.230
63	2013/10/30 20:15:47	9.5000	172.46	857.947
64	2013/10/30 20:25:47	9.6667	172.84	857.665
65	2013/10/30 20:35:47	9.8333	173.23	857.392
66	2013/10/30 20:45:47	10.0000	173.58	857.132
67	2013/10/30 20:55:47	10.1667	173.90	856.886
68	2013/10/30 21:05:47	10.3333	174.24	856.650
69	2013/10/30 21:15:47	10.5000	174.60	856.414
70	2013/10/30 21:25:47	10.6667	174.91	856.175
71	2013/10/30 21:35:47	10.8333	175.27	855.925
72	2013/10/30 21:45:47	11.0000	175.57	855.667
73	2013/10/30 21:55:47	11.1667	175.87	855.400
74	2013/10/30 22:05:47	11.3333	176.18	855.134
75	2013/10/30 22:15:47	11.5000	176.53	854.869
76	2013/10/30 22:25:47	11.6667	176.88	854.615
77	2013/10/30 22:35:47	11.8333	177.12	854.376
78	2013/10/30 22:45:47	12.0000	177.36	854.153
79	2013/10/30 22:55:47	12.1667	177.66	853.942
80	2013/10/30 23:05:47	12.3333	177.93	853.736

Item	Date Clock Time	Gauge Time	Casing Pressure	Fluid Level (Log)
	YYYY/MM/DD HH:mm:ss	h	kPa(a)	m
81	2013/10/30 23:15:47	12.5000	178.19	853.532
82	2013/10/30 23:25:47	12.6667	178.48	853.334
83	2013/10/30 23:35:47	12.8333	178.70	853.140
84	2013/10/30 23:45:47	13.0000	178.88	852.954
85	2013/10/30 23:55:47	13.1667	179.13	852.769
86	2013/10/31 00:05:47	13.3333	179.33	852.587
87	2013/10/31 00:15:47	13.5000	179.56	852.405
88	2013/10/31 00:25:47	13.6667	179.78	852.223
89	2013/10/31 00:35:47	13.8333	180.00	852.041
90	2013/10/31 00:45:47	14.0000	180.23	851.860
91	2013/10/31 00:55:47	14.1667	180.49	851.679
92	2013/10/31 01:05:47	14.3333	180.64	851.498
93	2013/10/31 01:15:47	14.5000	180.91	851.320
94	2013/10/31 01:25:47	14.6667	181.16	851.148
95	2013/10/31 01:35:47	14.8333	181.36	850.983
96	2013/10/31 01:45:47	15.0000	181.60	850.821
97	2013/10/31 02:05:47	15.3333	181.95	850.509
98	2013/10/31 02:25:47	15.6667	182.25	850.183
99	2013/10/31 02:45:47	16.0000	182.53	849.849
100	2013/10/31 03:05:47	16.3333	182.83	849.517
101	2013/10/31 03:25:47	16.6667	183.18	849.191
102	2013/10/31 03:45:47	17.0000	183.57	848.870
103	2013/10/31 04:05:47	17.3333	183.86	848.547
104	2013/10/31 04:25:47	17.6667	184.22	848.220
105	2013/10/31 04:45:47	18.0000	184.48	847.892
106	2013/10/31 05:05:47	18.3333	184.69	847.572
107	2013/10/31 05:25:47	18.6667	184.91	847.266
108	2013/10/31 05:45:47	19.0000	185.15	846.975
109	2013/10/31 06:05:47	19.3333	185.31	846.694
110	2013/10/31 06:25:47	19.6667	185.49	846.419
111	2013/10/31 06:45:47	20.0000	185.67	846.146
112	2013/10/31 07:05:47	20.3333	185.92	845.874
113	2013/10/31 07:25:47	20.6667	186.14	845.602
114	2013/10/31 07:45:47	21.0000	186.34	845.329
115	2013/10/31 08:05:47	21.3333	186.53	845.057
116	2013/10/31 08:25:47	21.6667	186.70	844.784
117	2013/10/31 08:45:47	22.0000	186.92	844.515
118	2013/10/31 09:05:47	22.3333	187.10	844.251
119	2013/10/31 09:25:47	22.6667	187.26	843.998
120	2013/10/31 09:45:47	23.0000	187.41	843.756
121	2013/10/31 10:05:47	23.3333	187.60	843.531
122	2013/10/31 10:25:47	23.6667	187.74	843.310
123	2013/10/31 10:45:47	24.0000	187.79	843.092
124	2013/10/31 11:15:47	24.5000	188.05	842.769
125	2013/10/31 11:45:47	25.0000	187.92	842.450
126	2013/10/31 12:15:47	25.5000	187.85	842.137
127	2013/10/31 12:45:47	26.0000	188.15	841.835
128	2013/10/31 13:15:47	26.5000	187.97	841.544
129	2013/10/31 13:45:47	27.0000	187.95	841.262
130	2013/10/31 14:15:47	27.5000	187.94	840.990
131	2013/10/31 14:45:47	28.0000	187.96	840.721
132	2013/10/31 15:15:47	28.5000	188.00	840.443
133	2013/10/31 15:45:47	29.0000	188.02	840.167
134	2013/10/31 16:15:47	29.5000	188.11	839.898
135	2013/10/31 16:45:47	30.0000	188.22	839.662
136	2013/10/31 17:45:47	31.0000	188.42	839.219
137	2013/10/31 18:45:47	32.0000	188.60	838.747
138	2013/10/31 19:45:47	33.0000	188.48	838.249
139	2013/10/31 20:45:47	34.0000	188.41	837.737
140	2013/10/31 21:45:47	35.0000	188.26	837.236
141	2013/10/31 22:45:47	36.0000	188.19	836.762
142	2013/10/31 23:45:47	37.0000	187.97	836.298
143	2013/11/01 00:45:47	38.0000	187.73	835.862
144	2013/11/01 02:45:47	40.0000	187.43	835.012
145	2013/11/01 04:45:47	42.0000	187.06	834.187
146	2013/11/01 06:45:47	44.0000	186.72	833.379
147	2013/11/01 08:45:47	46.0000	186.46	832.608
148	2013/11/01 10:45:47	48.0000	186.09	831.883
149	2013/11/01 12:45:47	50.0000	185.51	831.182
150	2013/11/01 14:45:47	52.0000	184.89	830.513
151	2013/11/01 16:45:47	54.0000	184.72	829.862
152	2013/11/01 18:45:47	56.0000	184.36	829.225
153	2013/11/01 20:45:47	58.0000	184.17	828.592
154	2013/11/01 22:45:47	60.0000	183.98	827.964
155	2013/11/02 00:45:47	62.0000	183.76	827.348
156	2013/11/02 02:45:47	64.0000	183.75	826.750
157	2013/11/02 04:45:47	66.0000	183.70	826.177
158	2013/11/02 06:45:47	68.0000	183.55	825.634
159	2013/11/02 08:45:47	70.0000	183.54	825.118
160	2013/11/02 10:45:47	72.0000	182.50	824.616

Item	Date Clock Time	Gauge Time	Casing Pressure	Fluid Level (Log)
	YYYY/MM/DD HH:mm:ss	h	kPa(a)	m
161	2013/11/02 12:45:47	74.0000	181.50	824.119
162	2013/11/02 14:45:47	76.0000	180.78	823.622
163	2013/11/02 16:45:47	78.0000	180.57	823.129
164	2013/11/02 18:45:47	80.0000	180.92	822.643
165	2013/11/02 20:45:47	82.0000	180.57	822.165
166	2013/11/02 22:45:47	84.0000	180.03	821.694
167	2013/11/03 00:45:47	86.0000	179.60	821.237
168	2013/11/03 02:45:47	88.0000	179.22	820.798
169	2013/11/03 04:45:47	90.0000	178.61	820.378
170	2013/11/03 06:45:47	92.0000	178.16	819.974
171	2013/11/03 08:45:47	94.0000	177.74	819.583
172	2013/11/03 10:45:47	96.0000	176.91	819.196
173	2013/11/03 12:45:47	98.0000	176.24	818.810
174	2013/11/03 14:45:47	100.0000	175.79	818.437
175	2013/11/03 18:45:47	104.0000	174.85	817.722
176	2013/11/03 22:45:47	108.0000	173.91	817.050
177	2013/11/04 02:45:47	112.0000	173.07	816.383
178	2013/11/04 06:45:47	116.0000	171.90	815.721
179	2013/11/04 10:45:47	120.0000	171.07	815.074
180	2013/11/04 14:45:47	124.0000	170.27	814.442
181	2013/11/04 18:45:47	128.0000	169.93	813.833
182	2013/11/04 22:45:47	132.0000	169.59	813.247
183	2013/11/05 02:45:47	136.0000	169.22	812.684
184	2013/11/05 06:45:47	140.0000	168.99	812.139
185	2013/11/05 10:45:47	144.0000	168.65	811.609
186	2013/11/05 14:45:47	148.0000	167.73	811.096
187	2013/11/05 18:45:47	152.0000	168.07	810.597
188	2013/11/05 22:45:47	156.0000	168.45	810.107
189	2013/11/06 02:45:47	160.0000	167.81	809.617
190	2013/11/06 06:45:47	164.0000	168.10	809.127
191	2013/11/06 10:45:47	168.0000	167.17	808.643
192	2013/11/06 14:45:47	172.0000	166.32	808.177
193	2013/11/06 18:45:47	176.0000	166.73	807.730
194	2013/11/06 22:45:47	180.0000	167.04	807.299
195	2013/11/07 02:45:47	184.0000	166.34	806.877
196	2013/11/07 06:45:47	188.0000	166.01	806.456
197	2013/11/07 10:45:47	192.0000	165.30	806.031
198	2013/11/07 14:45:47	196.0000	164.26	805.609
199	2013/11/07 18:45:47	200.0000	164.30	805.194
200	2013/11/07 22:45:47	204.0000	164.53	804.794
201	2013/11/08 02:45:47	208.0000	164.00	804.395
202	2013/11/08 06:45:47	212.0000	163.46	803.997
203	2013/11/08 10:45:47	216.0000	162.90	803.594
204	2013/11/08 14:45:47	220.0000	162.55	803.188
205	2013/11/08 22:45:47	228.0000	161.67	802.392
206	2013/11/09 02:45:47	232.0000	161.33	802.005
207	2013/11/09 06:45:47	236.0000	161.16	801.633
208	2013/11/09 10:45:47	240.0000	160.87	801.276
209	2013/11/09 14:45:47	244.0000	160.42	800.931
210	2013/11/09 18:45:47	248.0000	160.30	800.592
211	2013/11/09 22:45:47	252.0000	160.69	800.258
212	2013/11/10 02:45:47	256.0000	160.11	799.934
213	2013/11/10 06:45:47	260.0000	159.39	799.620
214	2013/11/10 10:45:47	264.0000	159.77	799.310
215	2013/11/10 14:45:47	268.0000	159.51	798.997
216	2013/11/10 18:45:47	272.0000	159.95	798.674
217	2013/11/10 22:45:47	276.0000	160.00	798.348
218	2013/11/11 02:45:47	280.0000	160.13	798.029
219	2013/11/11 06:45:47	284.0000	160.21	797.720
220	2013/11/11 10:45:47	288.0000	159.12	797.421
221	2013/11/11 14:45:47	292.0000	157.80	797.122
222	2013/11/11 18:45:47	296.0000	158.37	796.813
223	2013/11/11 22:45:47	300.0000	158.15	796.490
224	2013/11/12 02:45:47	304.0000	157.63	796.153
225	2013/11/12 06:45:47	308.0000	157.61	795.812
226	2013/11/12 10:45:47	312.0000	156.62	795.476



TUNDRA OIL & GAS PARTNERSHIP

Daly 07-33-010-29W1 (KOLA U #2)
100/07-33-010-29W1/00

License # 4431

General History
&
Optimization Report

July 14, 2011

NAME: Daly 07-33-010-29W1 (KOLA U #2)
UWI: 100/07-33-010-29W1/00
SURFACE UWI: 100/07-33-010-29W1/00

GL: 528.49 m
KB ELEVATION: 532.6 m

SPUD DATE: December 14, 1993
RIG RELEASE: December 19, 1993

MEASURED DEPTH: 924 m KB
Max TVD: 924 m KB
Estimated PBTD: 978.41 m

CASING: **Surface:** 9 jts., 219.1 mm, 35.72 kg/m, J-55, ST&C
Landed @ 119 m KB
Cemented w/ 13T class "A" plus 3% CaCl₂

Production: 76 jts., 114.3 mm, 14.14 kg/m, J-55, ST&C
Landed @ 923.5 m KB
Cemented w/ 22T of 2:1:8 class "A" (fill) and 7T 0:1:0 class "G" (tail)

LOGS: DI-SFL-SP and CNL-FDC-GR-CALIPER

DST'S: #1: 889.0-904.0 m Birdbear Formation
#2: 857.0-863.0 m Bakken Sand Formation

PERFS: 857.0-863.0 m KB

STATUS: Inactive
PRODUCING ZONE: Bakken

HISTORY:

DATE	JOB DESCRIPTION	COMMENTS
29-Dec-1993	Initial Completion	Rigged up wireline unit then RIH with a H.S.C. 13 SPM, 13gm, 120° phasing and perforated intervals 857.0-863.0 m KB . RIH with swab string. Swabbed and evaluated fluid. RU acid unit and performed acid squeeze with 0.5 m3 MDA and 1.0 m3 15% HCL c/w 5% mutual solvent. Rigged out acid pumper. Swabbed and evaluated fluid. Landed production string followed by new pump (LTV-6593) and rods.
28-Jul-1994	Acid Squeeze	Treated well w/ 1500L of 15% HCL with 5% mutual solvent. Rigged up swab equipment. Swabbed and evaluated fluid. Repaired pump (LTV-6593) and ran back in hole along with rods.
3-Feb-1997	Acid Squeeze	POOH with rods and pump. RIH to PBTD @ 914.1 m. Treated well with 1.25 m3 of 15% HCL acid with additives to perforations. RO acid truck then RIH with new pump (LTV-5156) and rods.
10-Sep-1999	Fracture Stimulation	POOH with rods and pump. Landed tubing @ 867.67 m KB for acid job . Spot 1 m3 of HCL at perforations. Rig in swab equipment. Swab and evaluate fluid. Pulled 4 joints and landed tubing @ 832.24 m KB for frac. Frac'd well w/ 4T of 20/40 sand . Installed JU and circulated well clean. RO circulating equipment then rigged up swab equipment to swab and evaluate fluid. Landed production string followed by new pump (KEY-9714) and rods
5-Nov-2005	Pump Change & Acid Stimulation	PT tubing to 7000kPa . Could not unset pump. Unthreaded off and recovered all rods but not pump. Stripped pipe out of hole. Found pump to be stuck in nipple due to iron oxide build up. RIH with tubing for acid job. Performed squeeze with 1.5 m3 15% HCL acid with 3% mutual solvent, corrosion inhibitor. Rigged out acid unit. Rigged up swab equipment. Swabbed and evaluated fluids. Landed production string followed by new pump (CEFV-7304) and rods
15-Feb-2008	Scale Inhibitor Squeeze	Pumped 208L of 206W scale inhibitor down csg.
11-Aug-2009	Scale Inhibitor Squeeze	Pumped 208L of 206W scale inhibitor down csg.
19-Nov-2009	Pump Change	PT tubing. Failed . No unset action with pump. POOH with rods and pump. Found broken rod. Installed BOP's RIH and tagged PBTD @ 894.62 m KB . POOH with tubing and found barrel was broke off in tubing. RIH with production string replaciong tail joint and joint above PSN. RIH with new pump (HF-3030) and rods.

DATE	OIL, WATER (m ³ /d)	SPM, SL (inches), PRODUCING FLUID LEVEL (jts from surface)
30-Jun-2011	0.66 oil / 0.14 water	7.0 SPM, 45" SL, 95 JTF, Pump Efficiency: 6.09%

TUBING STRING DETAILS:

- 1 - Epoxy coated BC NEW
- 1 - 60.3 mm tail jt. (Re-Run)
- 1 - API PSN NEW
- 95 - 60.3 mm jts (RE-RUN)
- 1 - 60.3 mm tubing nipple (RE-RUN)
- 1 - 60.3 mm Hanger (RE-RUN)

KB-TH

3.85 m

TOP OF PSN Landed @ 858.79 m KB

BOT Landed @ 868.72 m KB

PUMP/ROD STRING DETAILS:

- 1 - 20-150-RWAC-12-3 (HF-3030) Max Stroke: 77" 3.66 m
- 1 - 19.1 mm 1' pick up pony 0.3048 m
- 10 - 19 mm 8x2" scraped rods (WCN 1985/05) 76.2 m
- 83 - 19.1 mm plain rods (WCN 1986/02) 632.46 m
- 19 - 19 mm 8x2" scraped rods (WCN 1985/05) 144.78 m
- 1 - 19.1 mm scraped pony rod (WCN 85/04) 1.83 m
- 1 - 19.1 mm scraped pony rod (WCN 85/05) 0.61 m
- 1 - 31.8 mm polish rod 4.88 m

Surface Equipment:

Legrand 57-89-42 Pumpjack
 Reducer sheave size = 20"
 7.5 hp, 1200 RPM motor
 Sheave Size = 3.4"
 SPM = 7.0
 Stroke Length = 42"

Recommendation:

This well needs a pump change

This well makes about \$280/day.

Payout period for maintenance job = 35 days

Pump currently in well had a run life of 1.5 years, recommend fixing well.

Recommend POOH with pump (HF-3030) and rods. Be sure to closely examine rods for pitting, corrosion, scale, and wear, if noted contact Tundra representative to discuss replacement. Rig up to tag for fill and circulate if tagged high.

Recommend performing a 1.5 m3 acid job with 15% HCl before RIH with new pump and rods. This well responded very well to an acid squeeze in November of 2005 seeing incremental oil of about 1.0 m3 OPD as seen on the production history.

Pump can be replaced in kind.

Consultant to examine flow "T" and fittings for corrosion and/or pitting.

Recommend treating the well with scale inhibitor shortly after rig is off of well.