

SINCLAIR UNIT NO. 10
WATERFLOOD EOR PROJECT
ANNUAL REPORT FOR 2014

March 27, 2015

Tundra Oil and Gas Partnership

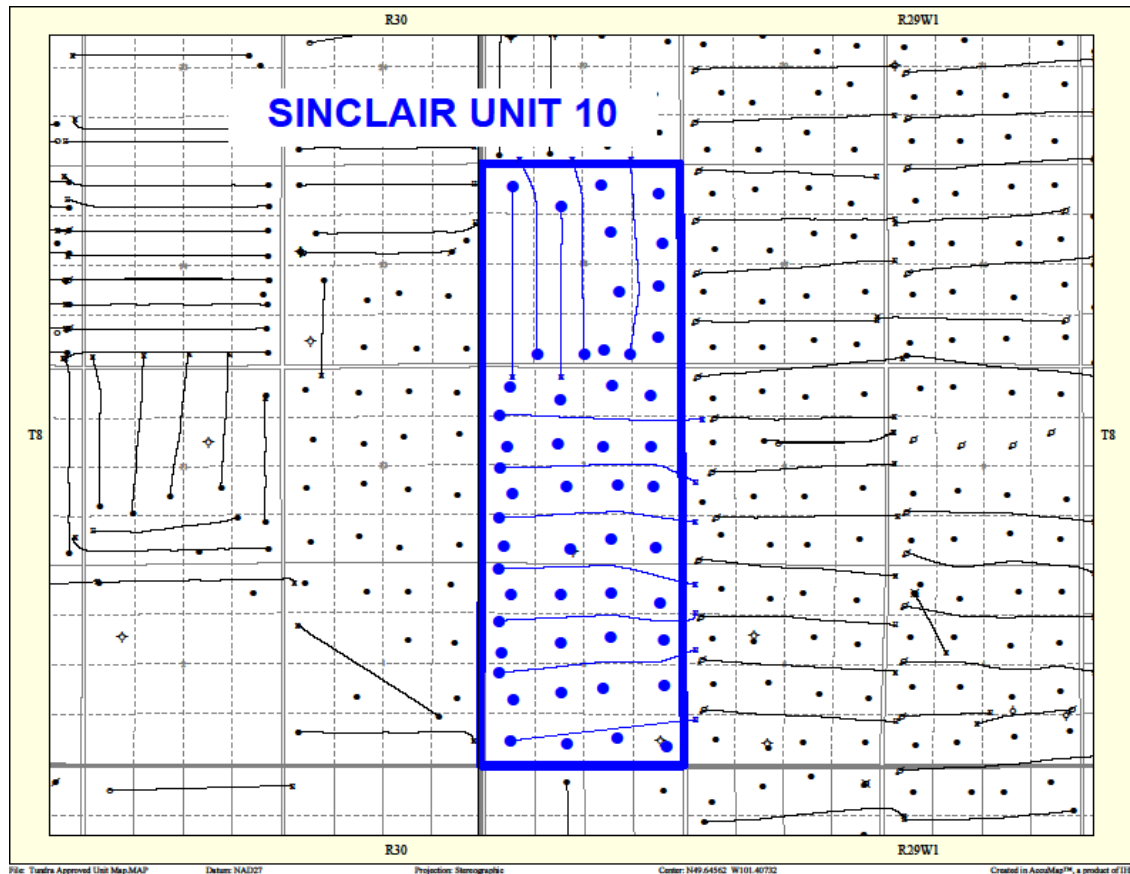
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102/12-06-008-29W1/0	
102/13-06-008-29W1/0	
102/04-07-008-29W1/0	
102/05-07-008-29W1/0	
102/13-07-008-29W1/0	
102/02-18-008-29W1/0	
100/03-18-008-29W1/0	
102/03-18-008-29W1/0	

INTRODUCTION

Sinclair Unit No. 10 was approved on August 1, 2013 with Tundra Oil and Gas (Tundra) as Operator. The Unit area contains 41 producing wells in 48 LSDs in Township 8 Range 29 W1 as shown in the figure below.

Figure 1: Sinclair Unit No. 10 Area Outline



In accordance with Section 73 of the Manitoba Drilling and Production Regulation, Tundra hereby submits the following 2014 Annual Progress Report for Sinclair Unit No. 10.

DISCUSSION

Production History

For the wells included in Sinclair Unit No. 10, production started in February 2003 with the 02/03-07-008-29W1 well. Average oil production peaked at 5.4 m³/d per well in July 2006. This production was coming from 27 wells and totaled 145.9 m³/d for the whole

Unit. In December 2014, the Unit was producing 59.33 m³/d of oil and 23.97 m³/d of water. Water injection commenced in Sinclair Unit No. 10 in October 2014. The rates and WOR are presented in Figure 2.

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

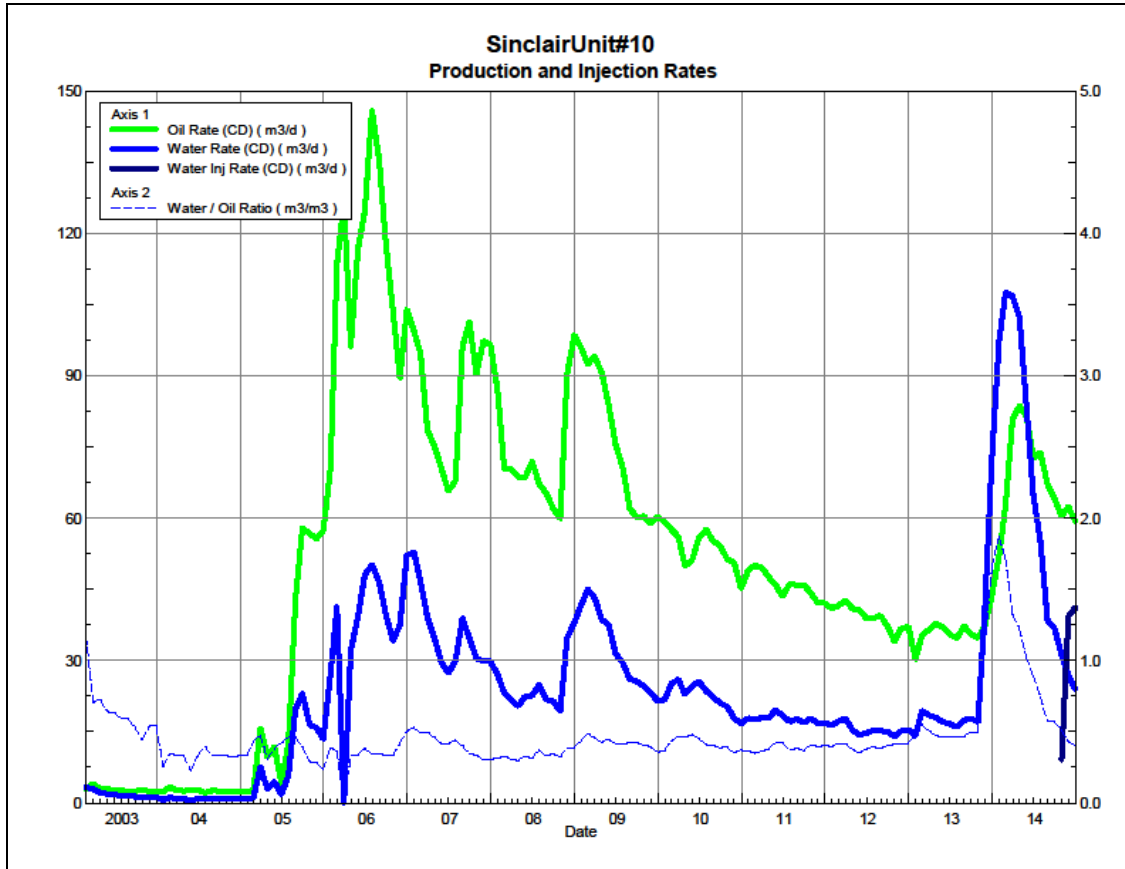
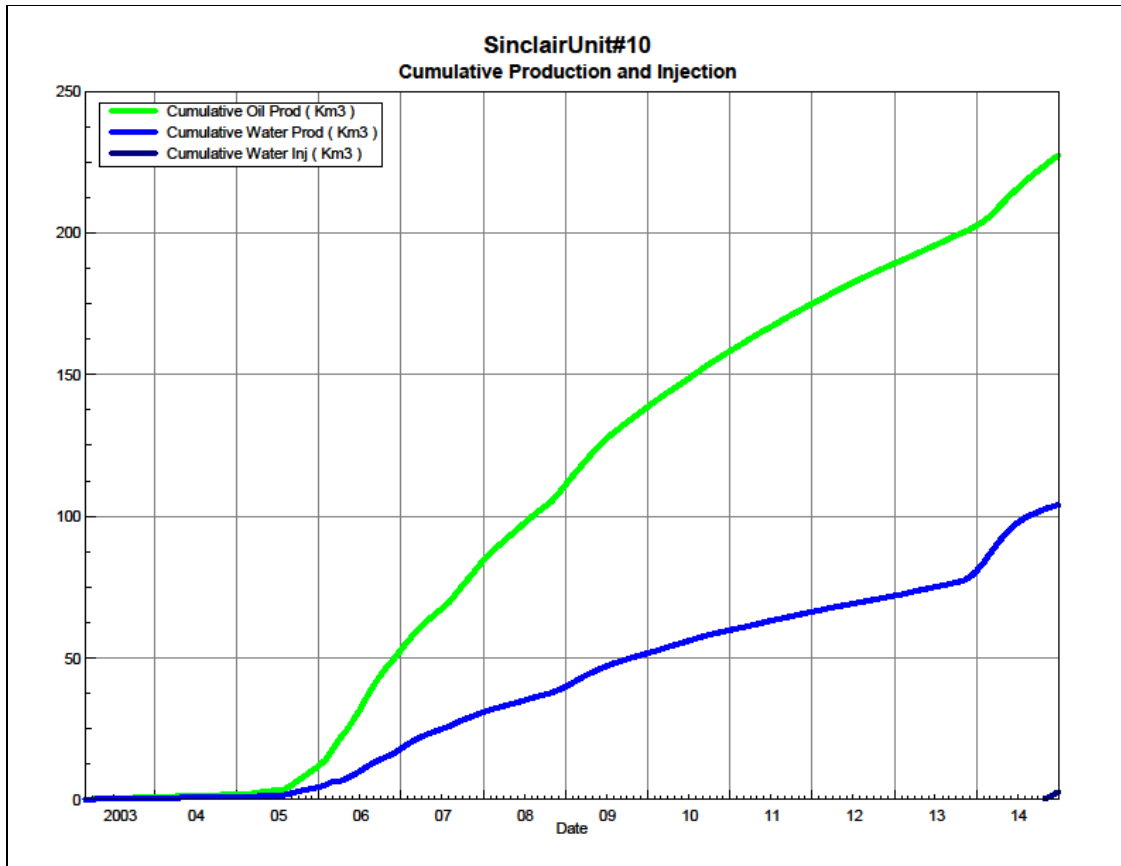


Figure 3 shows the cumulative production for Sinclair Unit No. 10 to the end of December 2014 as 227.5 e³m³ of oil, and 104.1 e³m³ of water, representing a 9.3% recovery factor of the OOIP.

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



Waterflood Development Plan

Sinclair Unit No. 10 Waterflood (WF) Development Plan

Sinclair Unit No. 10 is still in the development phase at the end of 2014. In 2013, the 10 proposed horizontal injectors were drilled. In 2014, the 02/05-06, 02/12-06 and 02/05-07-008-29W1 wells were converted to water injection. All of the horizontal wells are fracture stimulated to improve the injection rates. In order to maximize recovery from this Unit, Tundra expects to produce all of the injectors for a short period of time to clean-up the reservoir near the wellbores prior to being converted into water injectors.

Production performance by injector pattern are summarized in Appendix A.

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

Waterflood EOR Operating Strategy and Performance

Water Source and Quality

The injection water for Sinclair Unit No. 10 will be sourced from the 16-32-007-29W1 well (Lodgepole formation). The water is treated at the 03-04-008-29W1 battery where it is filtered to 0.5 microns and has scale inhibitor added. The injection water is then distributed to the injectors through the dedicated infrastructure system.

Injection Wellhead Pressures

Injection started in this Unit in October 2014. The monthly wellhead injection pressure for each injector is summarized in Appendix C. Since injection in this Unit is still in the early stages, the injectors are still building up to a target injection pressure of 6300 kPaa.

Reservoir Pressure

Where practical, Tundra is committed to collecting pressure data from newly drilled injection wells. For Sinclair Unit No. 10, pressure data taken in 2013 from 7 locations is available. A summary table is presented in Appendix B. Pressures are corrected to a common datum of -450 m SS for comparison with other units in the area.

Well Servicing

The following table summarizes the well servicing performed within Sinclair Unit No. 10 during 2014:

Table 1: Sinclair Unit No. 10 Well Servicing

02/05-06-008-29W1/0	WIW Conversion	8/5/2014
02/12-06-008-29W1/0	WIW Conversion	7/31/2014
02/05-07-008-29W1/0	WIW Conversion	10/2/2014
00/03-18-008-29W1/0	Pump Change	1/30/2014

Waterflood Performance Discussion

At the end of 2014, the waterflood area had 3 of the proposed horizontal injection wells on injection and 7 wells producing. Tundra is planning to convert 3 more locations to injectors in 2015. Conversion of the remaining horizontal wells to water injection wells is anticipated to take place in 2016.

Plots of the production and injection data along with the VRR information is presented in Appendix D for each of the injection patterns.

List of Appendices

Appendix A: Sinclair Unit No. 10 Injection Pattern Summary

Appendix B: Sinclair Unit No. 10 Reservoir Pressure Summary

Appendix C: Sinclair Unit No. 10 Monthly Injection Pressure Table

Appendix D: Injector Pattern Production/Injection Rates, Cumulative and VRR Plots
for the following injectors:

100/04-06-008-29W1/0

102/05-06-008-29W1/0

102/12-06-008-29W1/0

102/13-06-008-29W1/0

102/04-07-008-29W1/0

102/05-07-008-29W1/0

102/13-07-008-29W1/0

102/02-18-008-29W1/0

100/03-18-008-29W1/0

102/03-18-008-29W1/0

Appendix A

Sinclair Unit No. 10 Injection Pattern Summary as of December 2014

Pattern Name	Injector BH Location (008-29W1)	Injector Surf. Location (008-29W1)	Status	No. of Supported Wells	Supported Wells (008-29W1)	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 Water (E³m³)	Cum Inj Water (E³m³)	Monthly VRR	Cum VRR
00/04-06-008-29W1 Injector	00/04-06	04-05-008-29W1	Capable of OIL Prod	7	02/01-06, 02-06, 03-06, 05-06, 06-06, 07-06, 08-06	0.5	Jul 2005	-	1.2	1.8	1.51		11.5	11.8	0.0	0.00
02/05-06-008-29W1 Injector	02/05-06	02/12-05-008-29W1	Water Injection	8	05-06, 06-06, 07-06, 08-06, 09-06, 10-06, 11-06, 12-06	0.5	Dec 2005	Oct 2014	1.8	1.8	1.04	20.1	14.4	12.8	5.5	0.05
02/12-06-008-29W1 Injector	02/12-06	02/13-05-008-29W1	Water Injection	8	09-06, 10-06, 11-06, 12-06, 13-06, 14-06, 15-06, 16-06	0.5	Jan 2006	Oct 2014	2.2	1.4	0.64	19.3	15.5	12.1	5.2	0.05
02/13-06-008-29W1 Injector	02/13-06	02/13-05-008-29W1	Capable of OIL Prod	8	13-06, 14-06, 15-06, 16-06, 01-07, 02-07, 02/03-07, 04-07	0.5	Feb 2003	-	4.5	2.5	0.56		21.5	10.4	0.0	0.00
02/04-07-008-29W1 Injector	02/04-07	02/04-08-008-29W1	Capable of OIL Prod	8	01-07, 02-07, 02/03-07, 04-07, 05-07, 06-07, 07-07, 08-07	0.5	Feb 2003	-	9.2	3.4	0.37		26.1	8.8	0.0	0.00
02/05-07-008-29W1 Injector	02/05-07	02/05-08-008-29W1	Water Injection	8	05-07, 06-07, 07-07, 08-07, 09-07, 10-07, 11-07, 12-07	0.5	Mar 2005	Dec 2014	2.4	0.4	0.17	1.7	22.3	5.3	0.1	0.00
02/13-07-008-29W1 Injector	02/13-07	02/12-08-008-29W1	Capable of OIL Prod	8	09-07, 10-07, 11-07, 12-07, 13-07, 14-07, 15-07, 16-07	0.5	Feb 2005	-	12.7	1.8	0.14		25.0	6.5	0.0	0.00
02/02-18-008-29W1 Injector	02/02-18	02/02-19-008-29W1	Capable of OIL Prod	8	01-18, 02-18, 07-18, 08-18, 09-18, 10-18, 15-18, 16-18	0.5	Mar 2005	-	8.5	2.0	0.24		21.6	6.7	0.0	0.00
00/03-18-008-29W1 Injector	00/03-18	04-19-008-29W1	Capable of OIL Prod	2	13-18, 14-18	0.5	Oct 2008	-	5.9	3.5	0.59		17.2	9.0	0.0	0.00
02/03-18-008-29W1 Injector	02/03-18	02/03-19-008-29W1	Capable of OIL Prod	5	02-18, 07-18, 10-18, 14-18, 15-18	0.5	Mar 2005	-	5.2	3.4	0.64		16.4	8.8	0.0	0.00

APPENDIX B

Sinclair Unit No. 10 - Pressure Summary

Location	Test Date	Final Pressure (kPaa)	MPP (mTVD)	KB	Datum Depth	Gradient	Pressure @ -450 masl
02/12-06-008-29W1/0	Sept 19 - 24, 2013	3788.1	1008.75	529.81	-450	8.25	3549
02/13-06-008-29W1/0	Sept 10 - 22, 2013	2646.1	1003.49	529.59	-450	8.25	2449
02/04-07-008-29W1/0	Oct 16 - 26, 2013	2593.0	1003.8	529.06	-450	8.25	2389
02/05-07-008-29W1/0	Nov 23 - 25, 2013	2325.1	995.54	528.58	-450	8.25	2185
02/13-07-008-29W1/0	Nov 15 - 24, 2013	2447.0	997.5	530.4	-450	8.25	2306
02/02-18-008-29W1/0	Oct 24 - 31, 2013	2381.6	1004.15	541.14	-450	8.25	2274
00/03-18-008-29W1/0	Nov 8 - 15, 2013	2333.0	995.31	534.32	-450	8.25	2242

Appendix C

Average Monthly Injection Pressure

Month	Injection Pressure		
	102/05-06	102/12-06	102/05-07
Jan-14	-	-	-
Feb-14	-	-	-
Mar-14	-	-	-
Apr-14	-	-	-
May-14	-	-	-
Jun-14	-	-	-
Jul-14	-	-	-
Aug-14	-	-	-
Sep-14	-	-	-
Oct-14	-76	-76	0
Nov-14	-83	-82	0
Dec-14	-82	-82	671

Appendix D

Rates and VRR Plots

Pattern: 00/04-06-008-29Inj Set: SinclairUnit#10

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 1.51 m3/m3

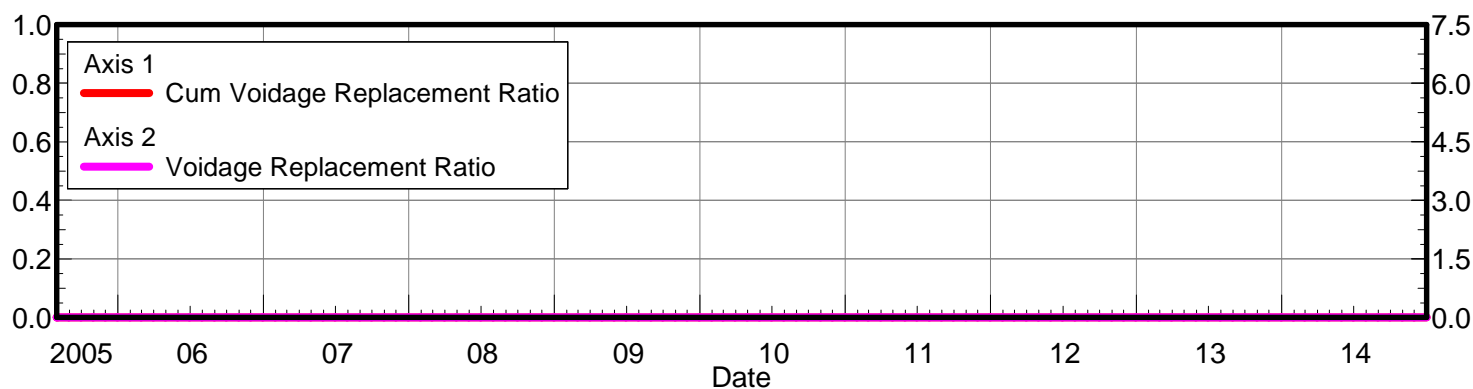
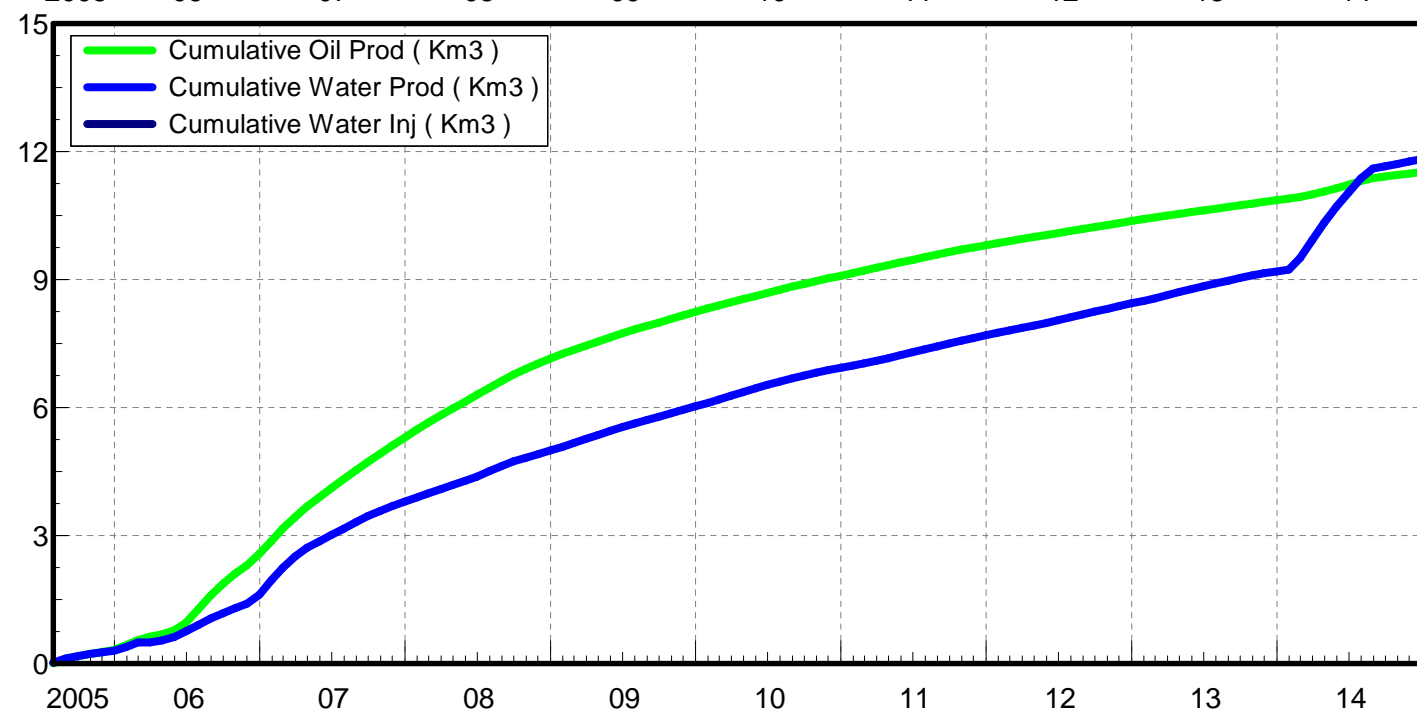
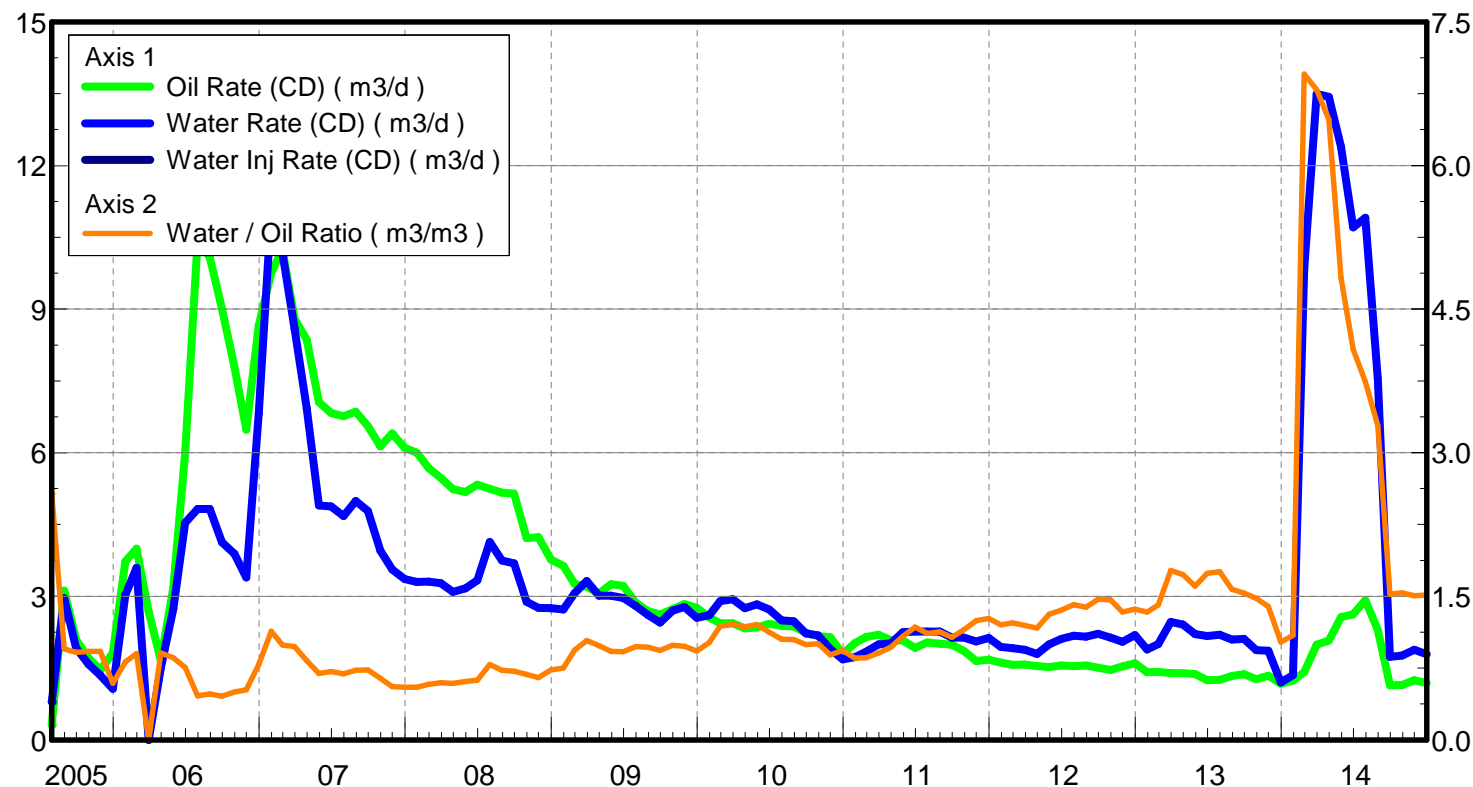
March 25, 2015

Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 1.18 m3/d

Water Rate (CD) : 1.79 m3/d

Water Inj Rate (CD) : * m3/d



Pattern: 02/05-06-008-29Inj Set: SinclairUnit#10

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 1.04 m3/m3

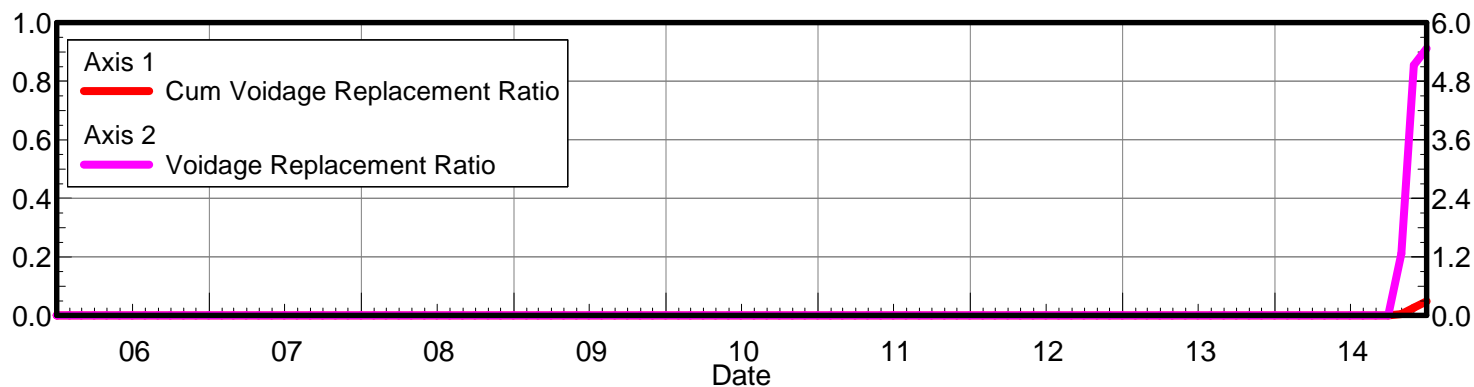
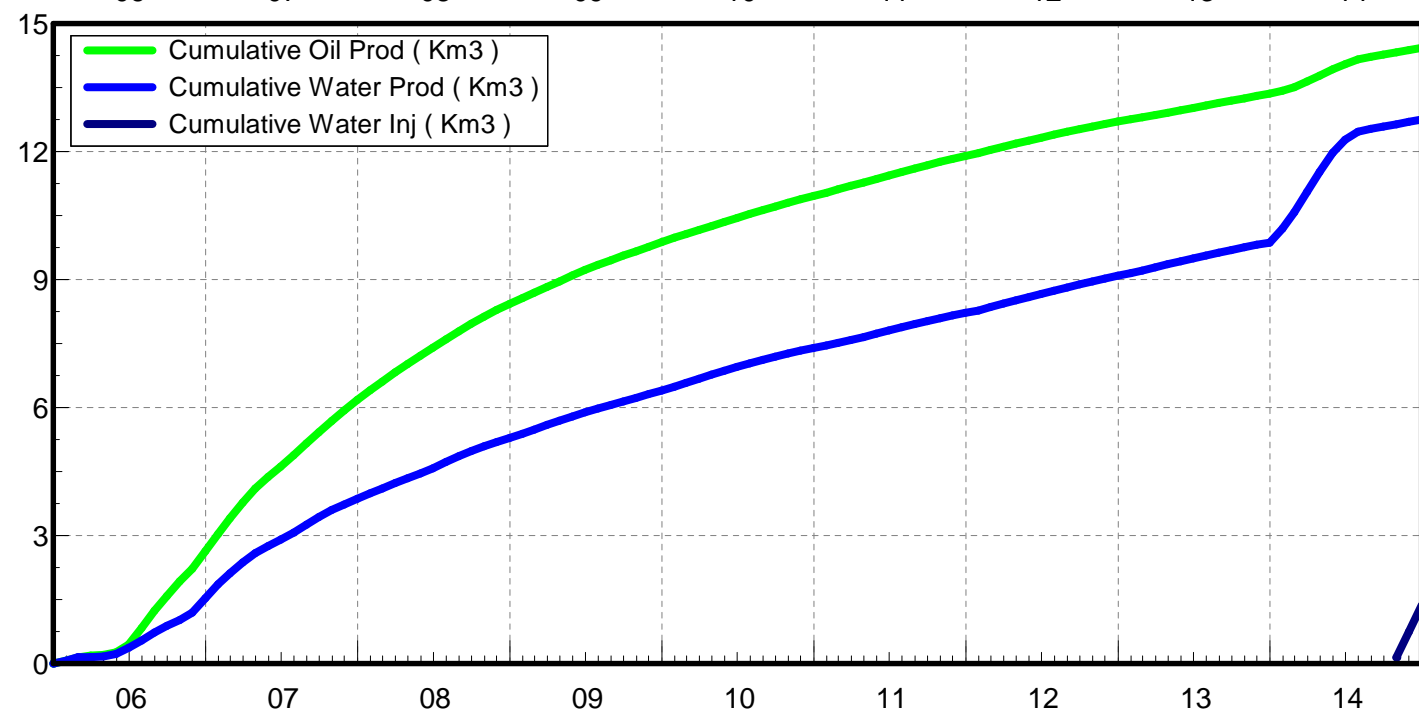
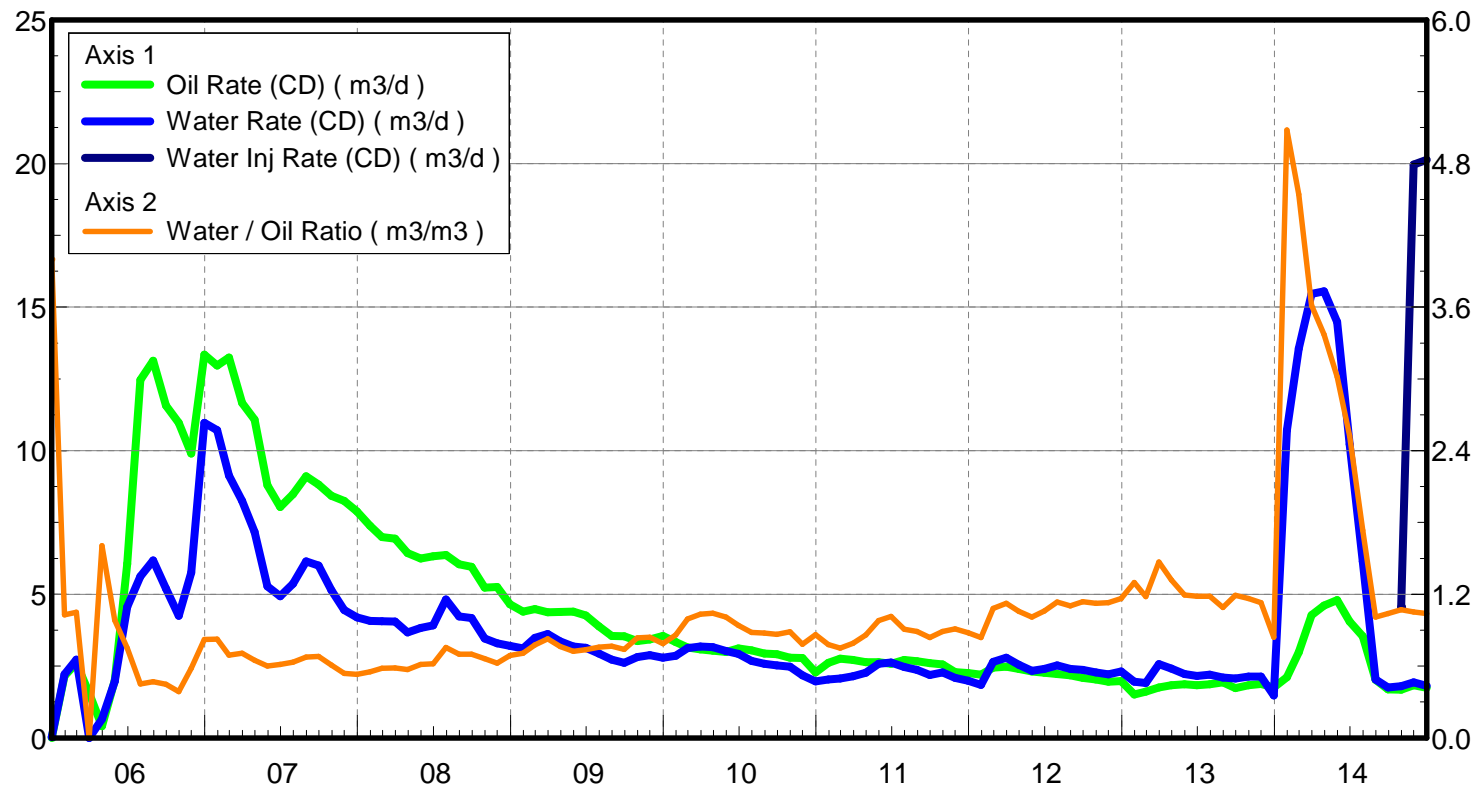
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Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 1.75 m3/d

Water Rate (CD) : 1.81 m3/d

Water Inj Rate (CD) : 20.13 m3/d



Pattern: 02/12-06-008-29Inj Set: SinclairUnit#10

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 0.64 m3/m3

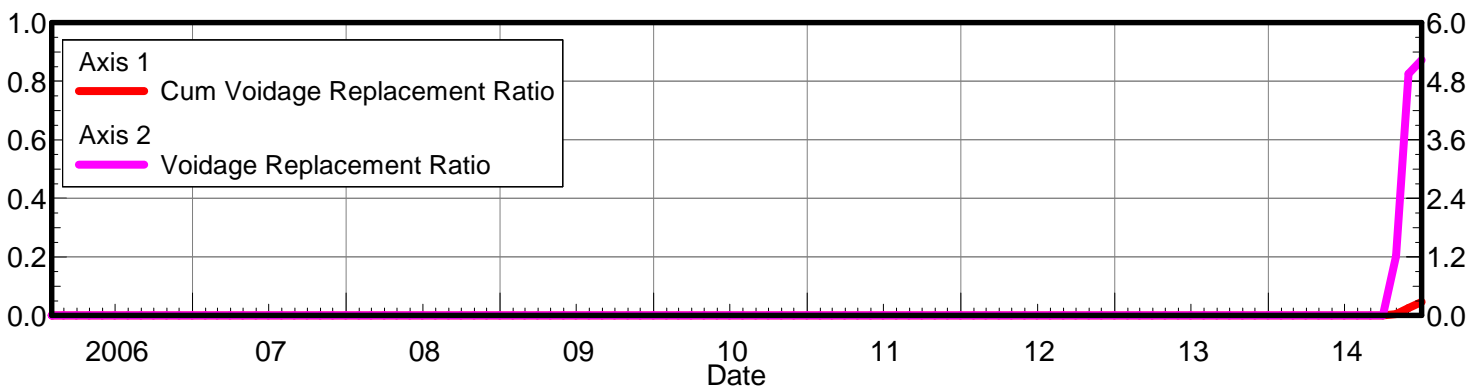
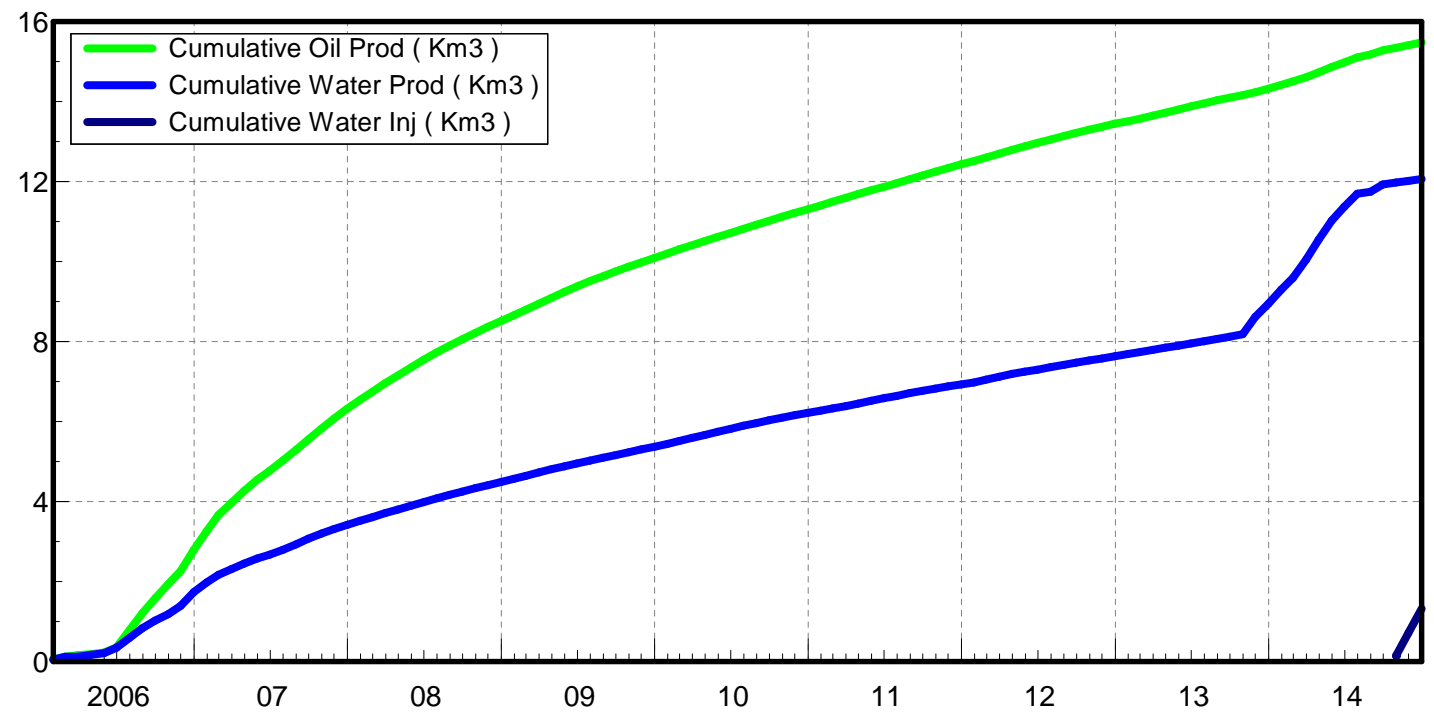
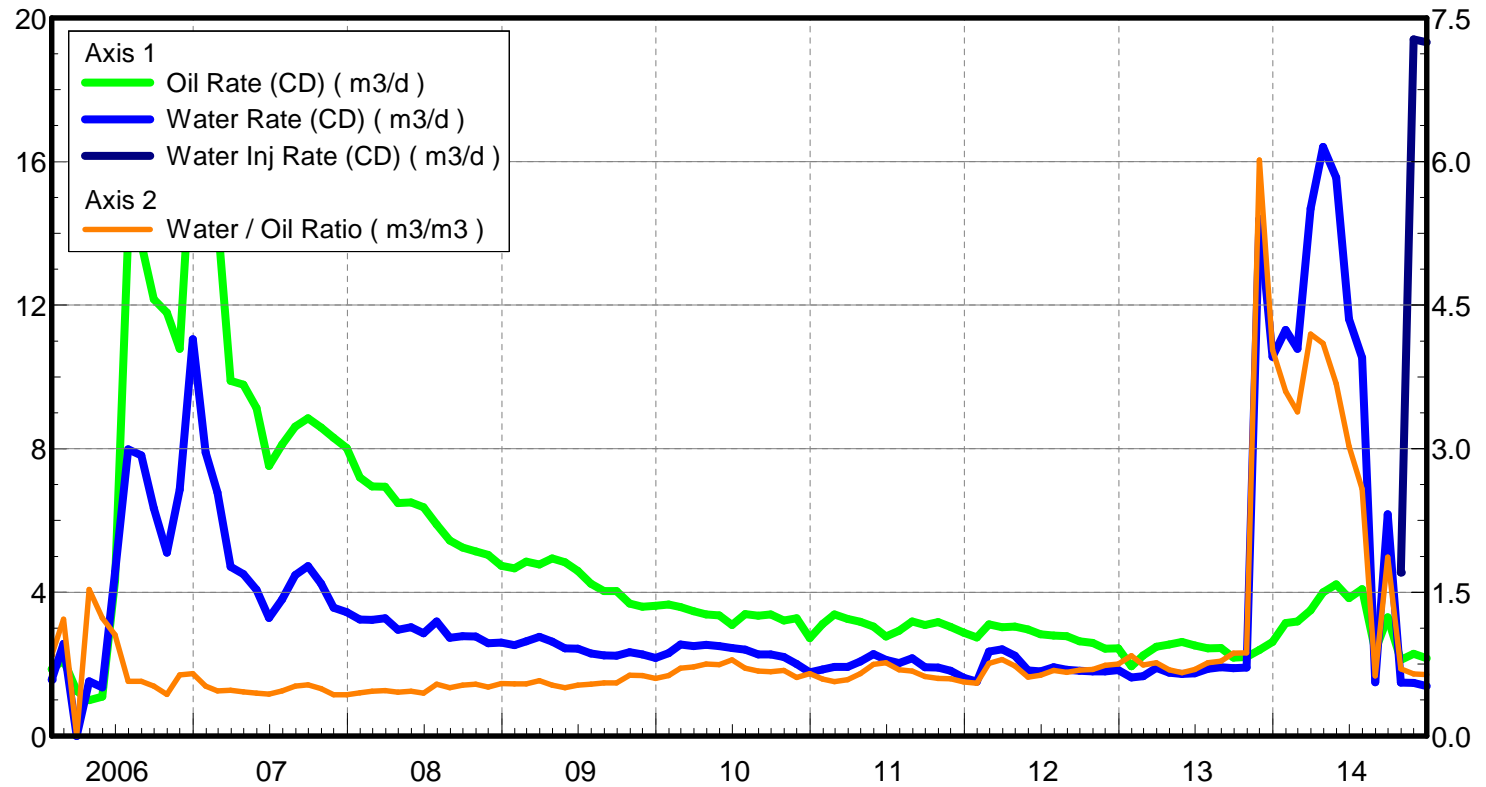
March 25, 2015

Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 2.16 m3/d

Water Rate (CD) : 1.38 m3/d

Water Inj Rate (CD) : 19.32 m3/d



Pattern: 02/13-06-008-29Inj Set: SinclairUnit#10

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 0.56 m3/m3

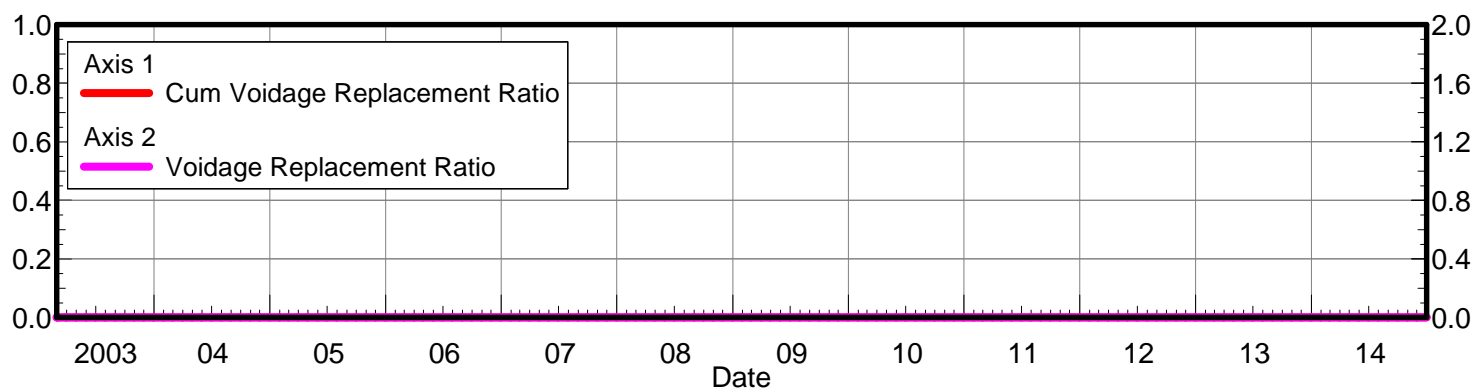
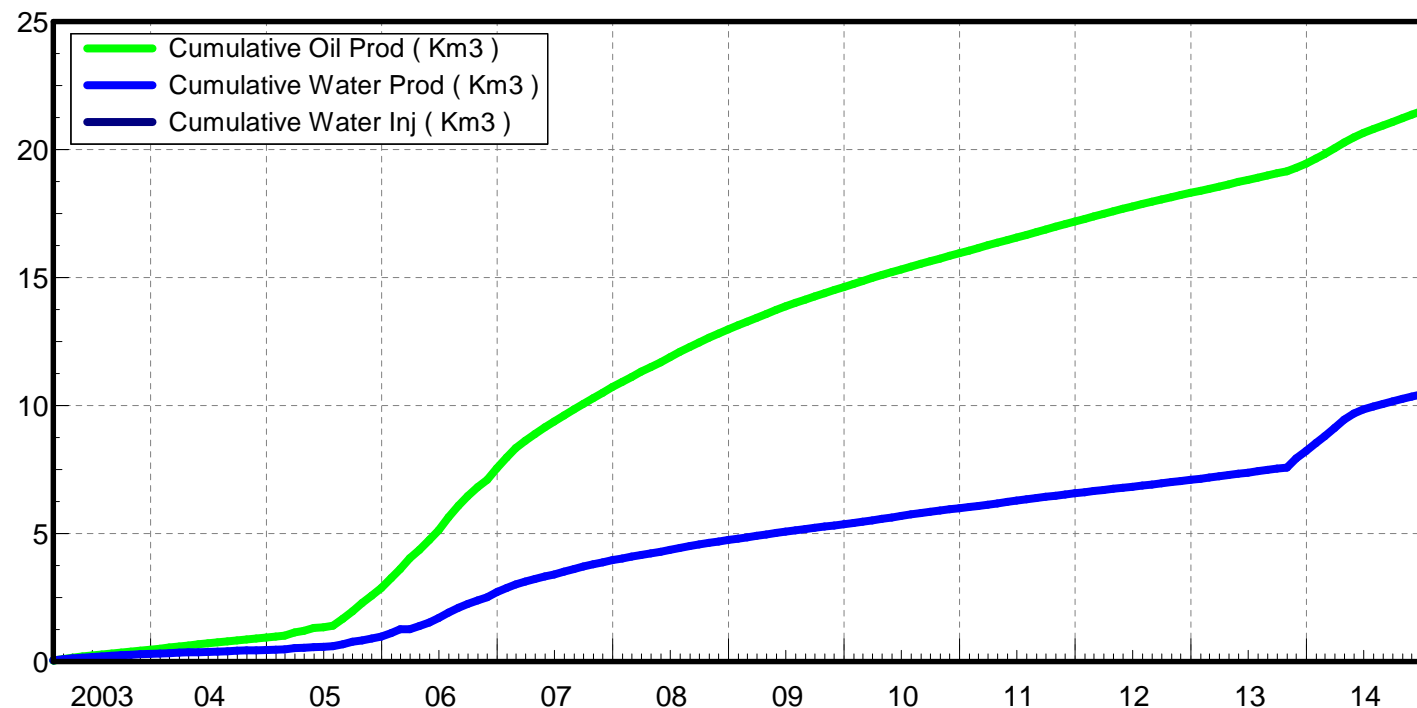
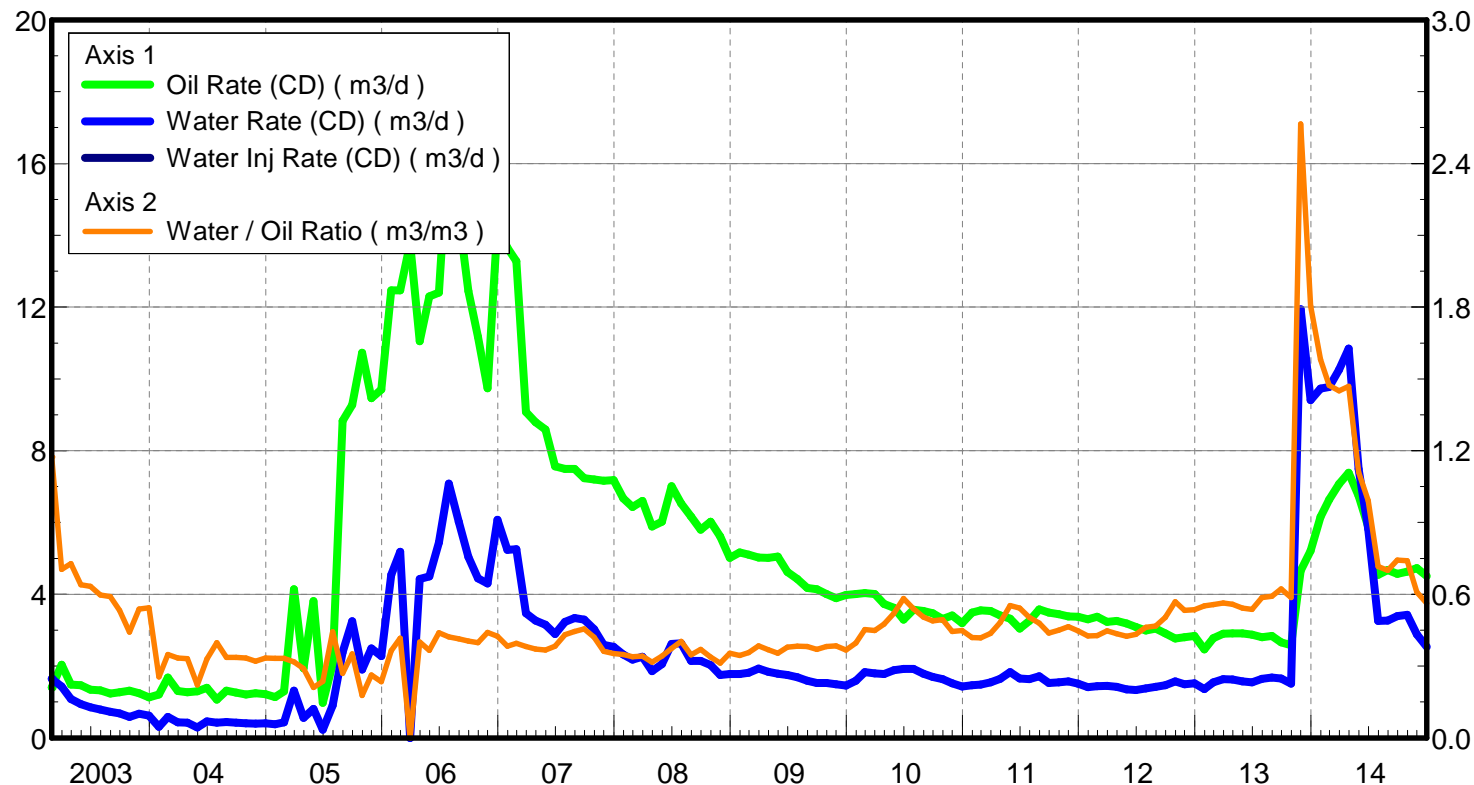
March 25, 2015

Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 4.51 m3/d

Water Rate (CD) : 2.54 m3/d

Water Inj Rate (CD) : * m3/d



Pattern: 02/04-07-008-29Inj Set: SinclairUnit#10

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 0.37 m3/m3

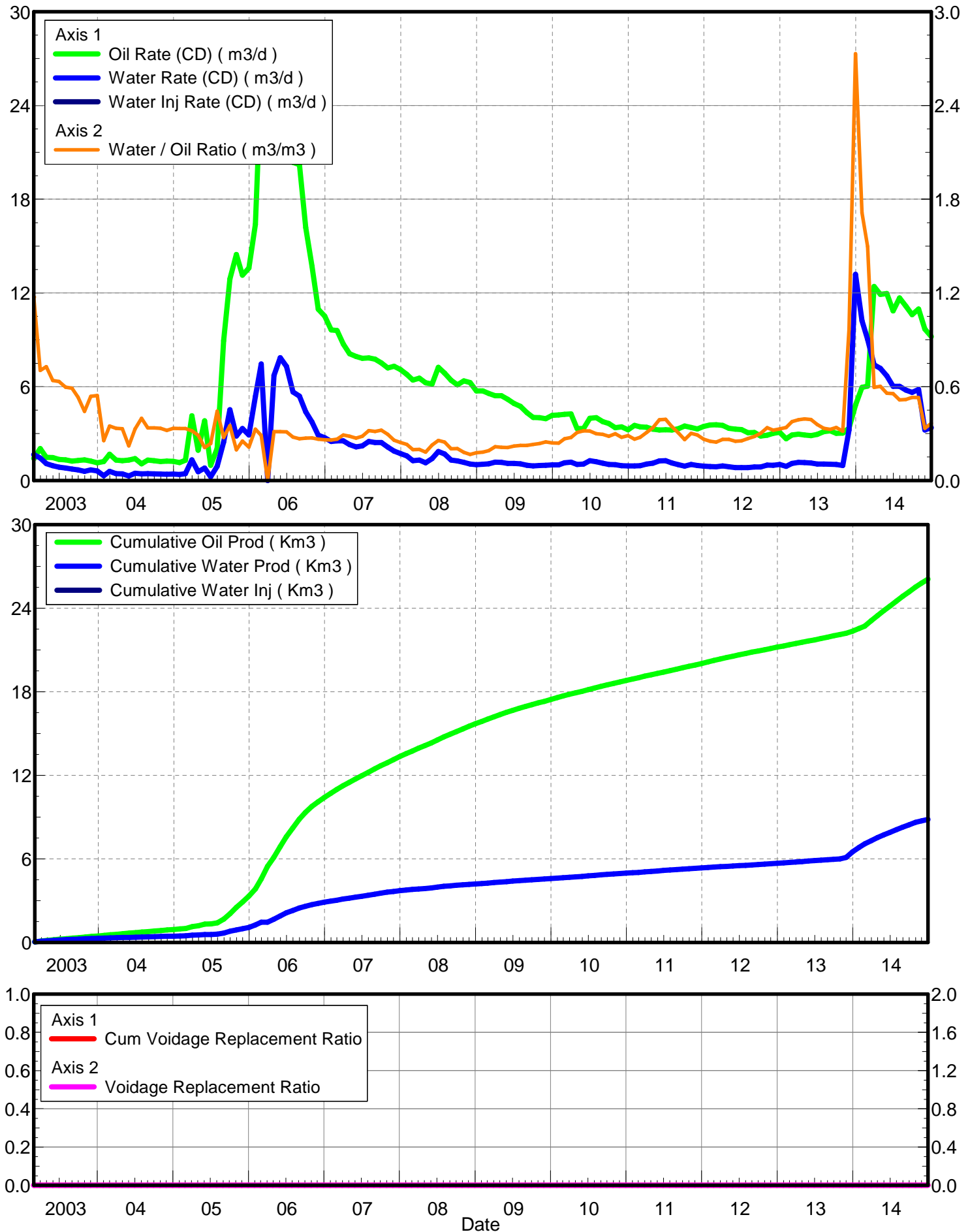
March 25, 2015

Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 9.20 m3/d

Water Rate (CD) : 3.37 m3/d

Water Inj Rate (CD) : * m3/d



Pattern: 02/05-07-29Inj Set: SinclairUnit#10

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 0.17 m3/m3

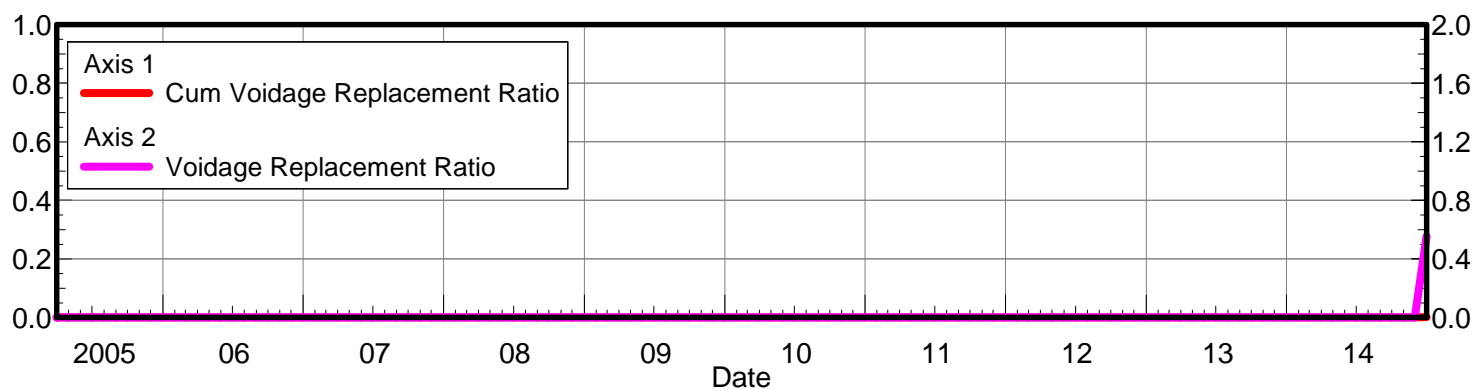
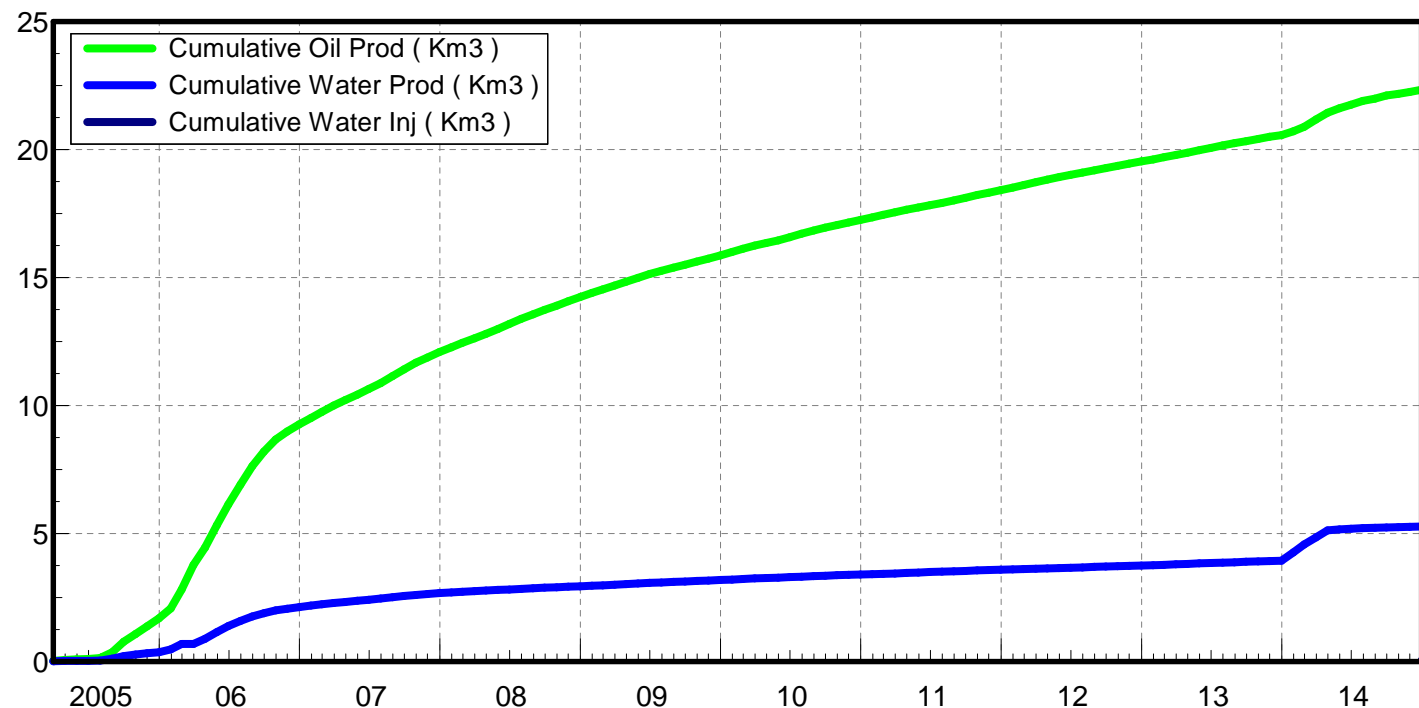
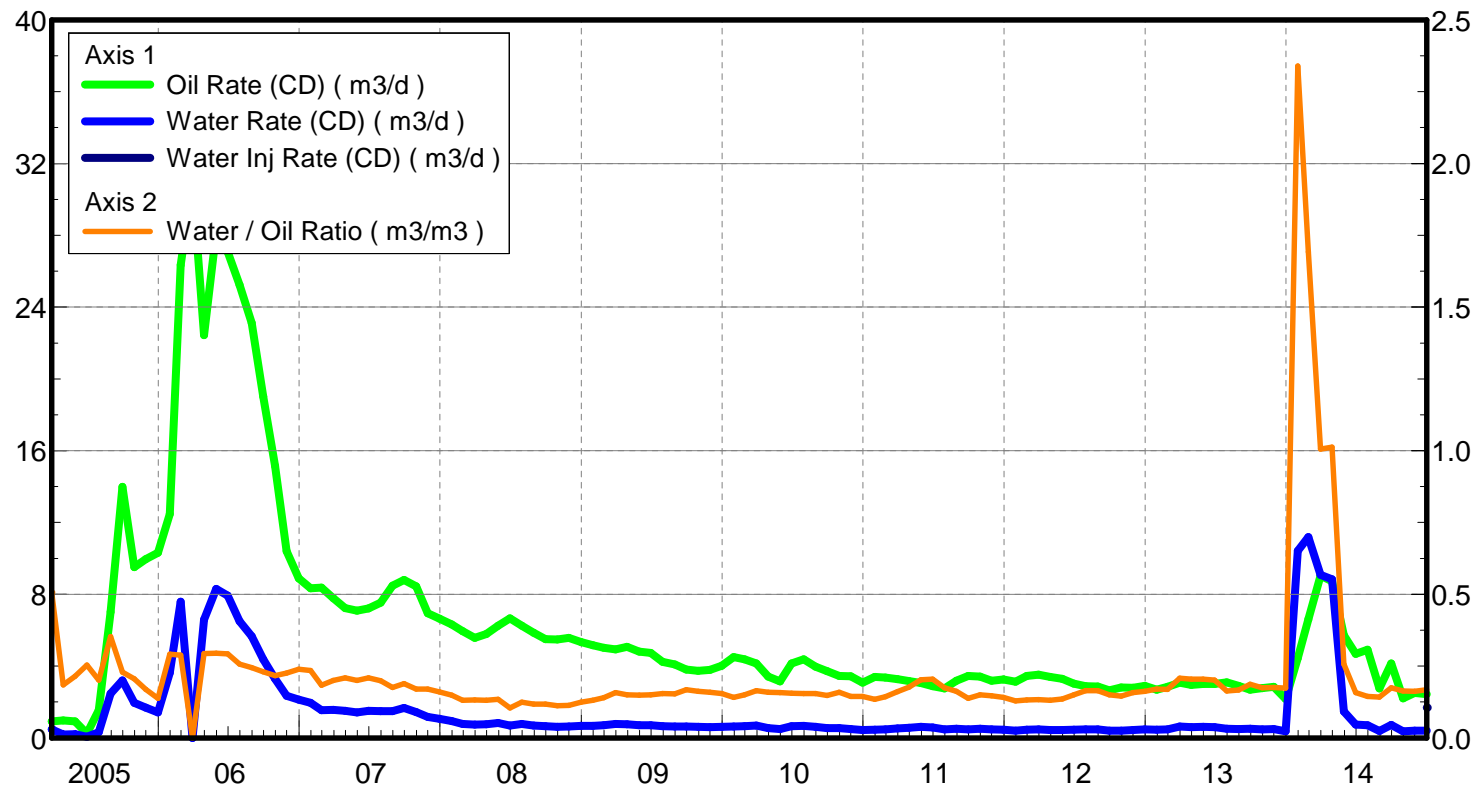
March 25, 2015

Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 2.44 m3/d

Water Rate (CD) : 0.41 m3/d

Water Inj Rate (CD) : 1.68 m3/d



Pattern: 02/13-07-008-29Inj Set: SinclairUnit#10

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 0.14 m3/m3

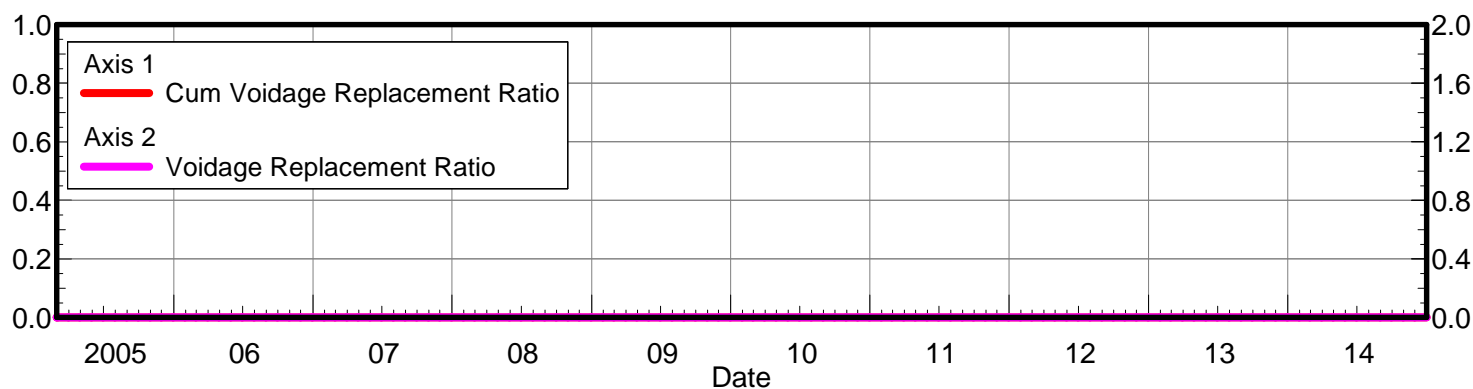
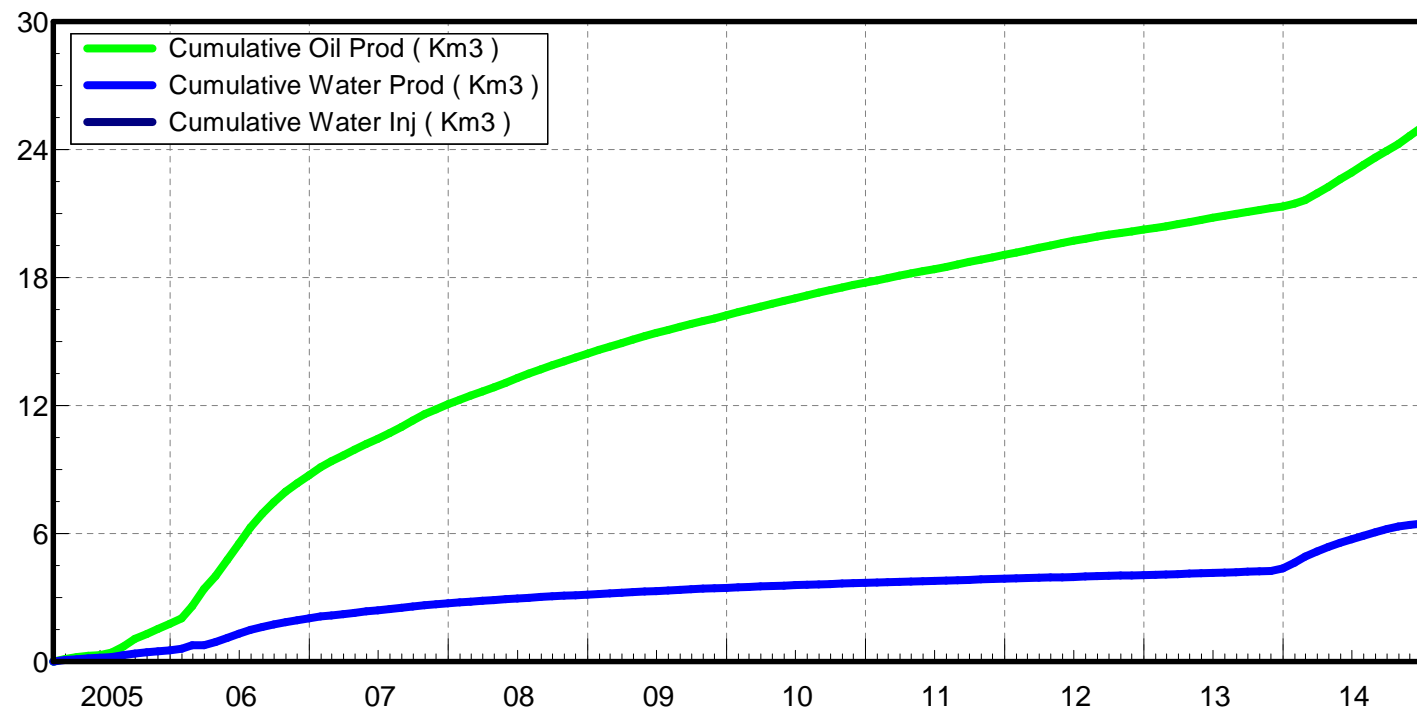
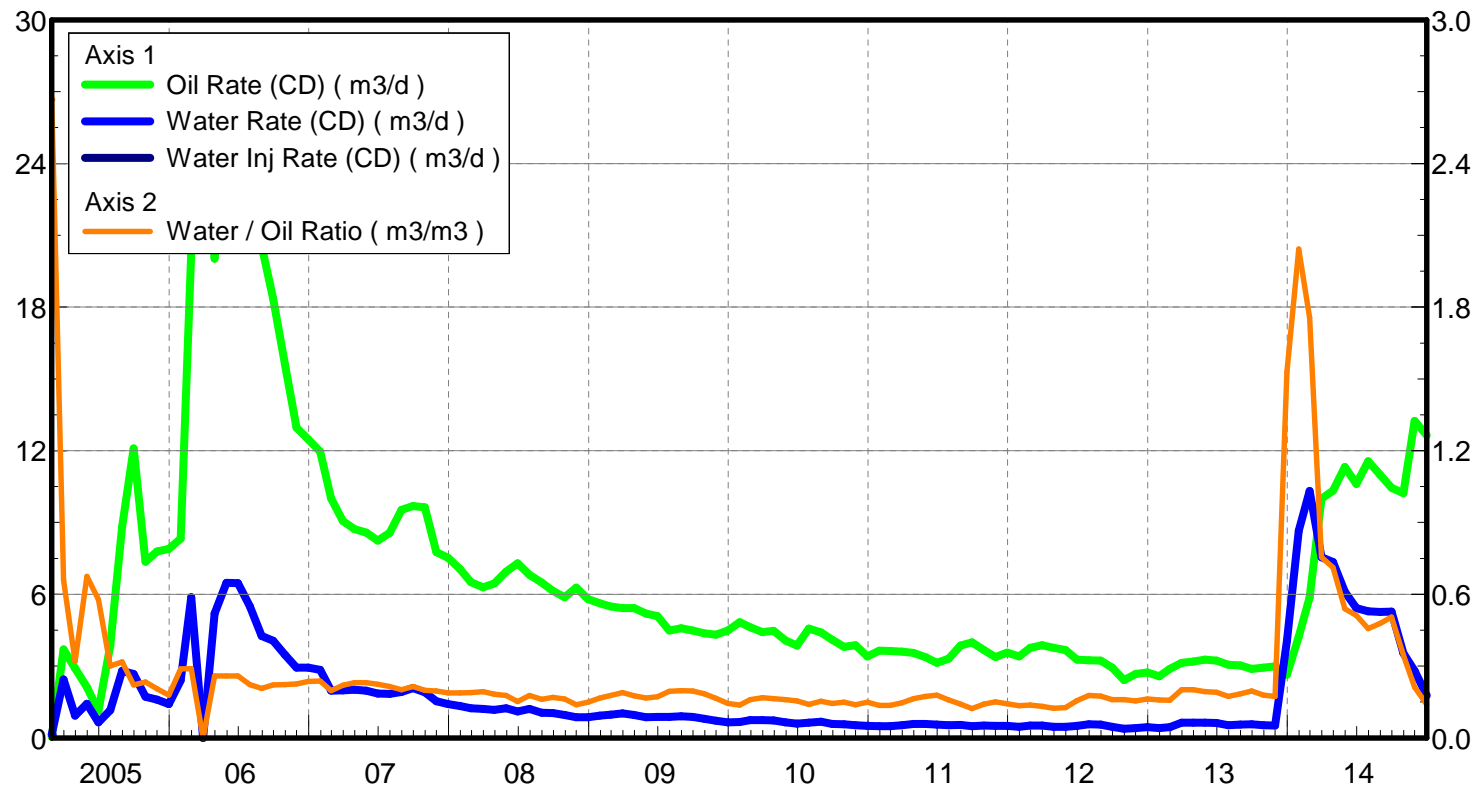
March 25, 2015

Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 12.65 m3/d

Water Rate (CD) : 1.77 m3/d

Water Inj Rate (CD) : * m3/d



Pattern: 02/02-18-008-29Inj Set: SinclairUnit#10

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 0.24 m3/m3

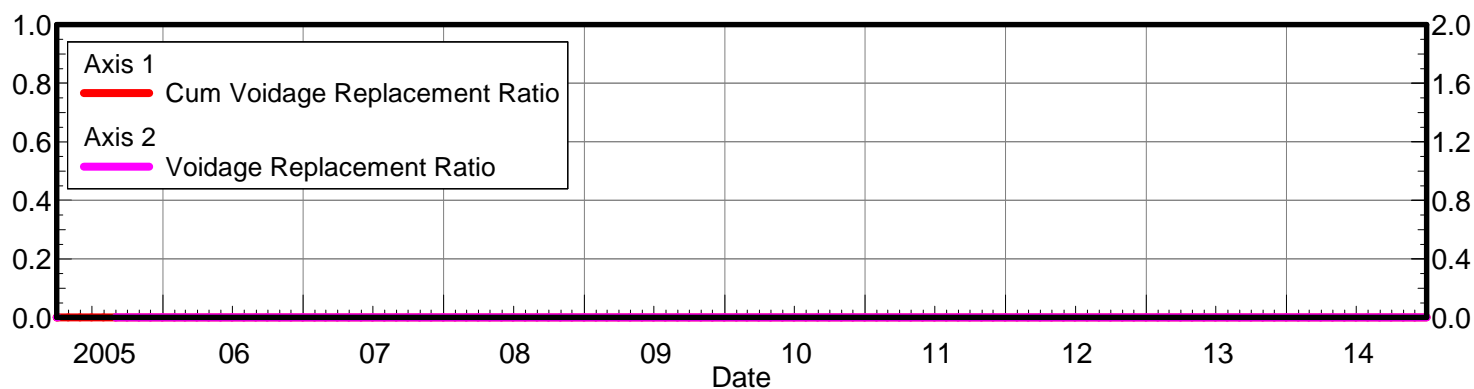
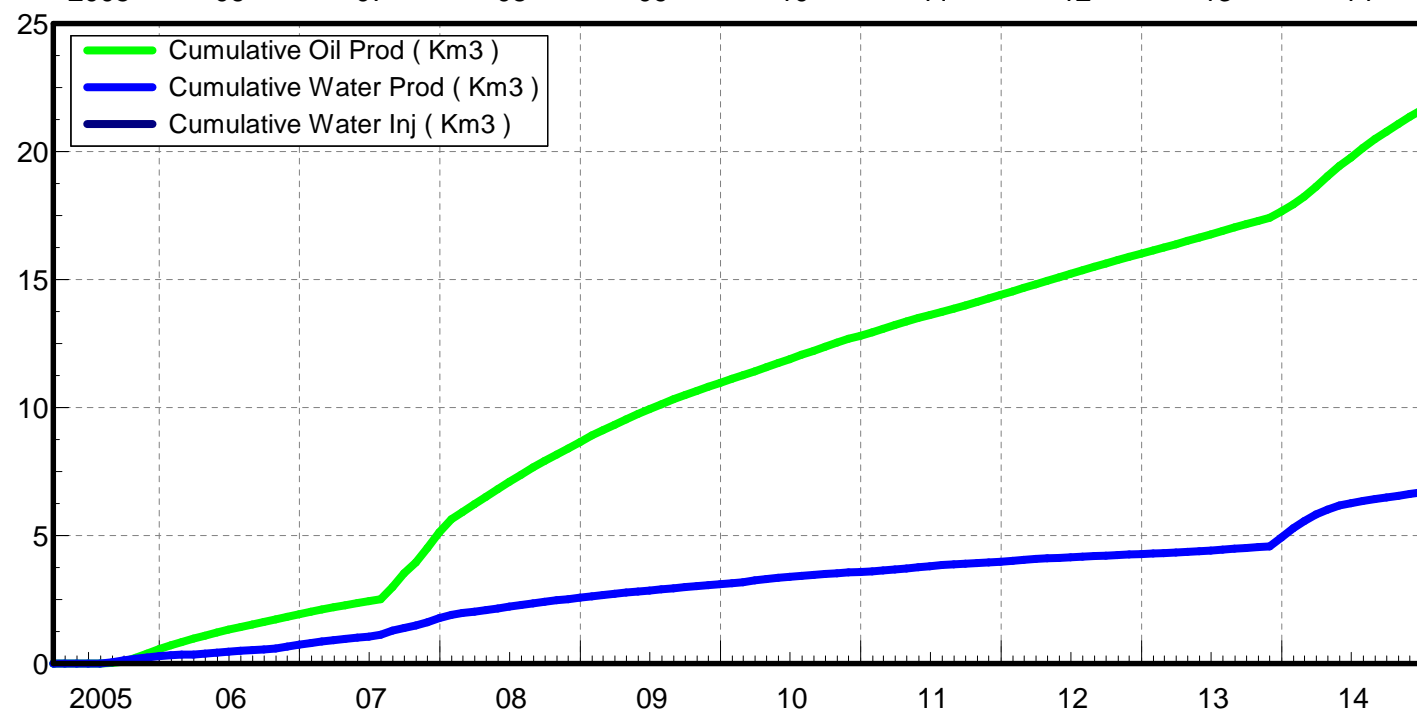
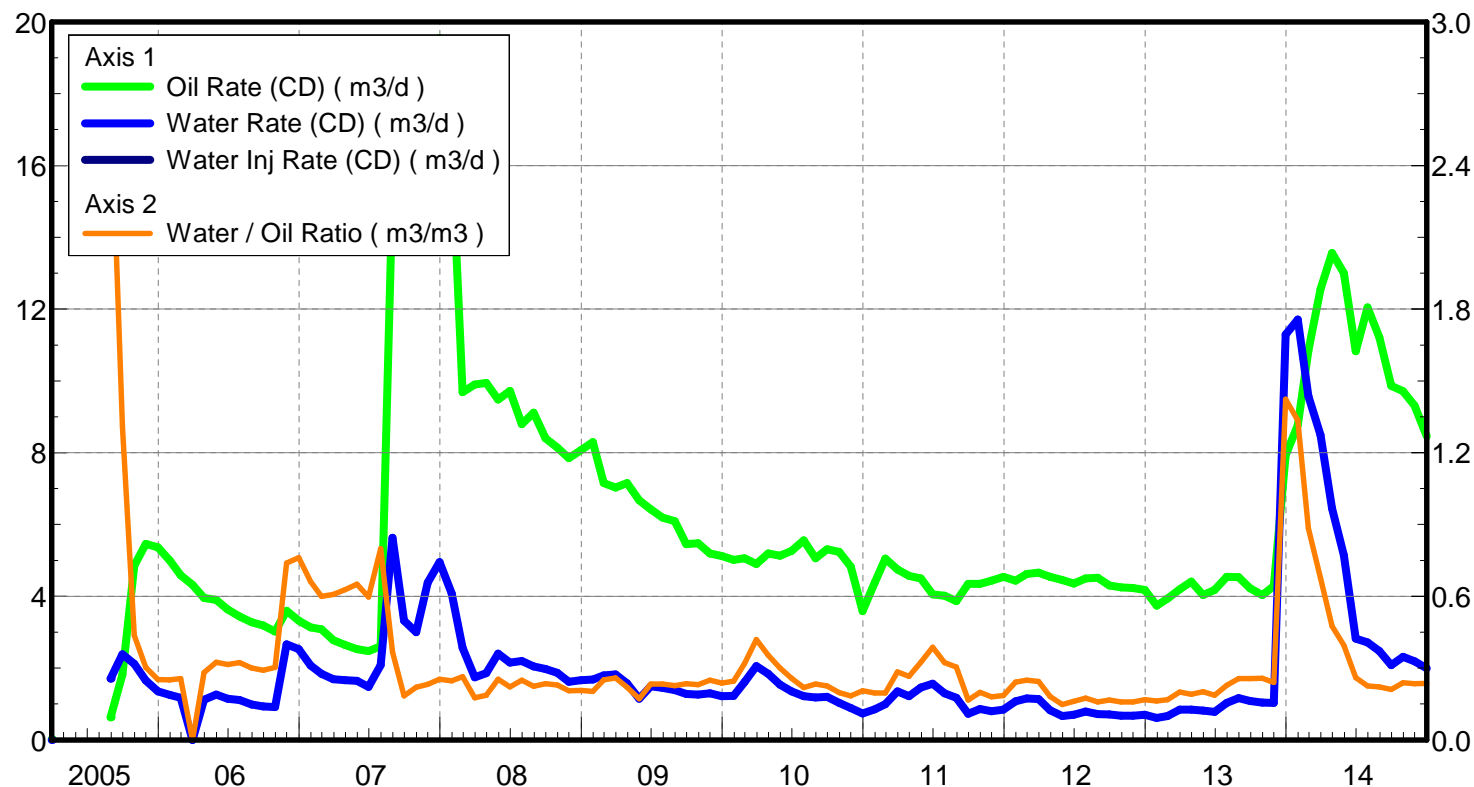
March 25, 2015

Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 8.45 m3/d

Water Rate (CD) : 1.99 m3/d

Water Inj Rate (CD) : * m3/d



Pattern: 00/03-18-008-29Inj Set: SinclairUnit#10

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 0.59 m3/m3

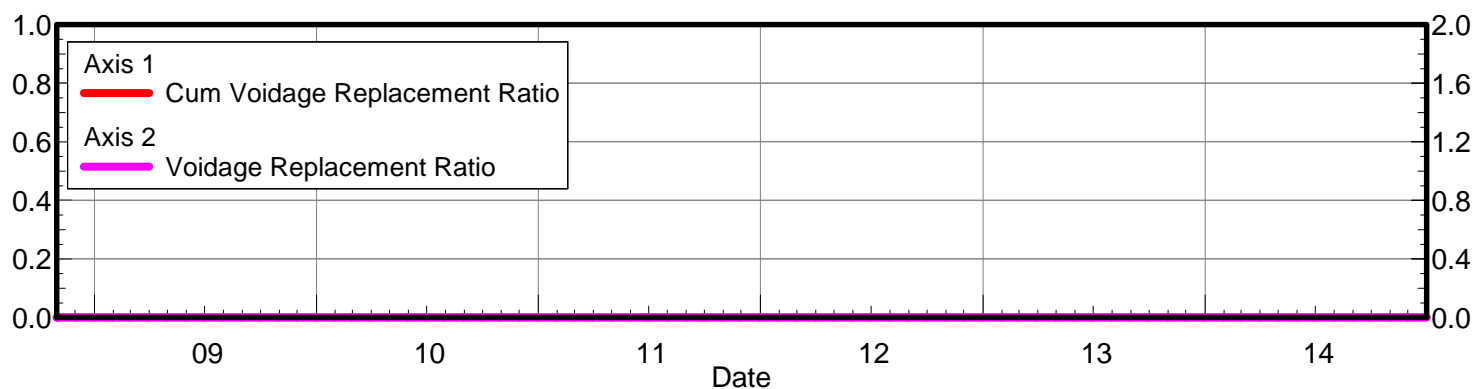
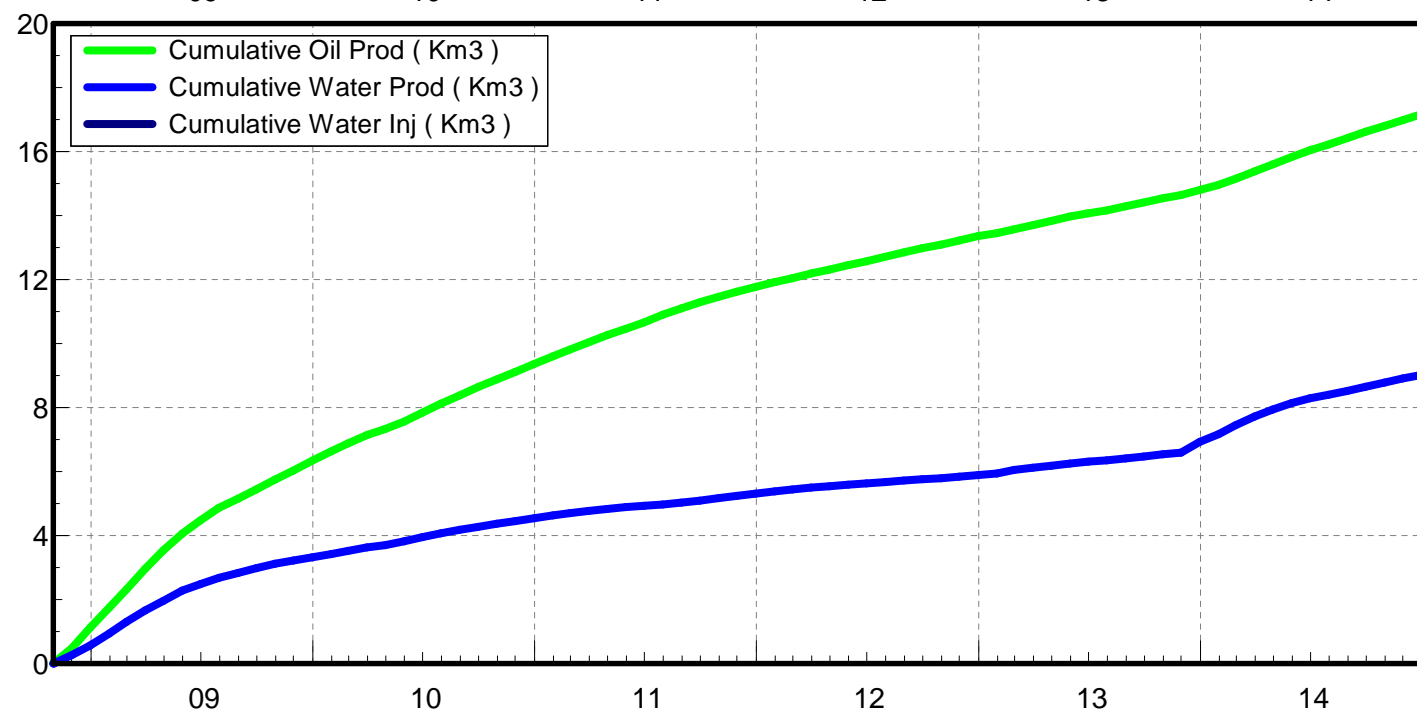
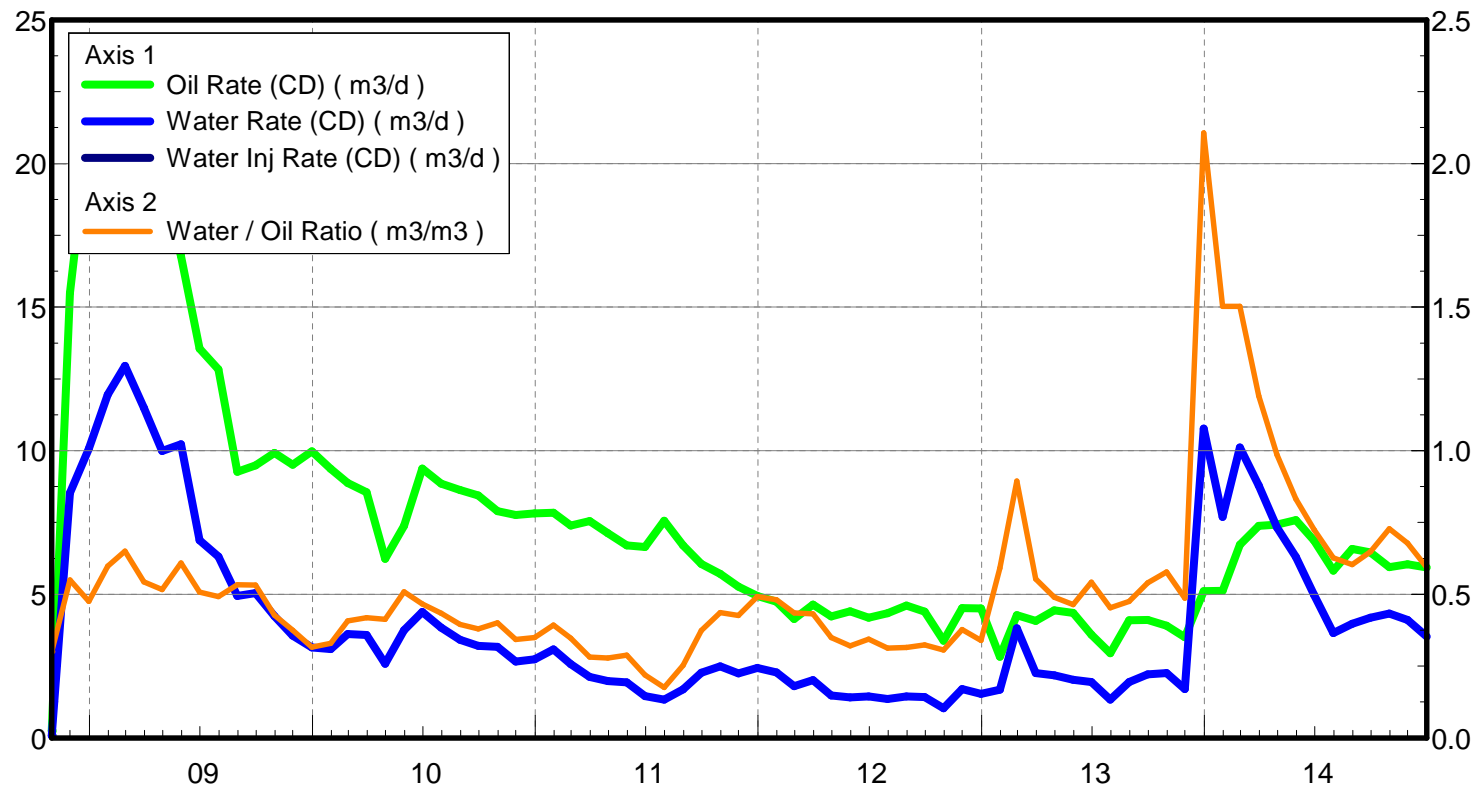
March 25, 2015

Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 5.94 m3/d

Water Rate (CD) : 3.52 m3/d

Water Inj Rate (CD) : * m3/d



Pattern: 02/03-18-008-29Inj Set: SinclairUnit#10

Oil Formation Vol Factor : 1.07100 m3/m3

Water Formation Vol Factor : 1.00150 m3/m3

Water / Oil Ratio : 0.64 m3/m3

March 25, 2015

Operator: Tundra_O&G_Prtshp

Oil Rate (CD) : 5.19 m3/d

Water Rate (CD) : 3.35 m3/d

Water Inj Rate (CD) : * m3/d

