PROPOSED SINCLAIR UNIT NO. 18

Application for Enhanced Oil Recovery Waterflood Project

Middle Bakken/Three Forks Formations

Bakken – Torquay Pool (01 62A)

Daly Sinclair Field, Manitoba

October 21, 2016
Tundra Oil and Gas Partnership

INTRODUCTION

The Sinclair portion of the Daly Sinclair Oil Field is located in Ranges 28 and 29 W1 in Townships 7 and 8 (Figure 1). Since discovery in 2004, the main oilfield area was developed with vertical and horizontal wells at 40 acre spacing on Primary Production. Since early 2009, a significant portion of the main oilfield has been unitized and placed on Secondary Waterflood (WF) Enhanced Oil Recovery (EOR) Production, mainly from the Lyleton A & B members of the Three Forks Formation. Tundra Oil and Gas (Tundra) currently operates and continues to develop Sinclair Units 1, 2, 3, 5, 6, 7, 8, 10, 11, 12, 13, 14 and 17.

In the southern part of the Sinclair field, potential exists for incremental production and reserves from a Waterflood EOR project in the Three Forks and Middle Bakken oil reservoirs. The following represents an application by Tundra to establish Sinclair Unit No. 18 (E/2 Section 21, Section 22, W/2 Section 23-7-29W1) and implement a Secondary Waterflood EOR scheme within the Three Forks and Middle Bakken formations as outlined on Figure 2.

The proposed project area falls within the existing designated 01-62A Bakken-Torquay Pool of the Daly Sinclair Oilfield (Figure 3).

SUMMARY

1. The proposed Sinclair Unit No. 18 will include 11 horizontal wells and 6 vertical wells, within 32 Legal Sub Divisions (LSD) of the Middle Bakken/Three Forks producing reservoir. The project is located south of Sinclair Unit No. 8, 11 and 14 (Figure 2).

2. Total Net Original Oil in Place (OOIP) in Sinclair Unit No. 18 has been calculated to be **1,771** e^3m^3 (**11,142** Mbbl) for an average of **55.3** net e^3m^3 (**348.1** Mbbl) OOIP per 40 acre LSD based on a 0.5 md cutoff.

3. Cumulative production to the end of June 2016 from the 17 wells within the proposed Sinclair Unit No. 18 project area was 59.8 e^3m^3 (376.0 Mbbl) of oil, and 162.6 e^3m^3 (1,022.4 Mbbl) of water, representing a **3.4%** Recovery Factor (RF) of the Net OOIP.

4. Figure 4 shows the production from the Sinclair Unit No. 18 peaked in November 2013 at 50.7 m^3 of oil per day (OPD). As of June 2016, production was 15.1 m^3 OPD, 51.1 m^3 of water per day (WPD) and a 77.2% watercut.

5. In November 2013, production averaged 2.98 m^3 OPD per well in Sinclair Unit No. 18. As of June 2016, average per well production has declined to 0.90 m^3 OPD. Decline analysis of the group primary production data forecasts total oil to continue declining at an annual rate of approximately **22.7%** in the project area.

6. Estimated Ultimate Recovery (EUR) of Primary Proved Producing oil reserves in the proposed Sinclair Unit No. 18 project area has been calculated to be **87.1** e^3m^3 (548.4 Mbbl), with **27.3** e^3m^3 (**171.8** Mbbl) remaining as of the end of June 2016.

7. Ultimate oil recovery of the proposed Sinclair Unit No. 18 OOIP, under the current Primary Production method, is forecasted to be **4.9%.**

8. Estimated Ultimate Recovery (EUR) of proved oil reserves under Secondary WF EOR for the proposed Sinclair Unit No. 18 has been calculated to be **114.8** e^3m^3 **(722.3** Mbbl), with **54.9** e^3m^3 (**345.7** Mbbl) remaining. An incremental **27.7** e^3m^3 **(173.9** Mbbl) of proved oil reserves, or **1.6%**, are forecasted to be recovered under the proposed Unitization and Secondary EOR production vs the existing Primary Production method.

9. Total RF under Secondary WF in the proposed Sinclair Unit No. 18 is estimated to be **6.5%**.

10. Based on the waterflood response in the adjacent main portion of the Sinclair field, the Three Forks and Middle Bakken Formations in the proposed project area are believed to be suitable reservoirs for WF EOR operations.

11. Existing horizontal wells, with multi-stage hydraulic fractures, will be converted to injection wells (Figure 5) within the proposed Sinclair Unit No. 18, to complete waterflood patterns with effective 30 acre spacing similar to that of Red River's Sinclair Unit No. 4.

DISCUSSION

The proposed Sinclair Unit No. 18 project area is located within Township 7, Range 29 W1 of the Daly Sinclair Oil Field. The proposed Sinclair Unit No. 18 currently consists of 11 horizontal and 6 vertical wells, within an area covering 32 LSDs (Figure 2). This includes the E/2 Section 21, Section 22, W/2 Section 23-007-29W1. A project area well list complete with recent production statistics is attached as Table 3.

Tundra believes that the waterflood response in the adjacent main portion of the Sinclair field demonstrates potential for incremental production and reserves from a WF EOR project in the subject Middle Bakken and/or Three Forks oil reservoirs.

Geology

Stratigraphy:

The stratigraphy of the reservoir section for the proposed unit is shown on the structural cross-section attached as Appendix 1. The section runs SE to NW through the proposed Unit area. The producing sequence in descending order consists of the Upper Bakken Shale, Middle Bakken Siltstone, Lyleton A Siltstone (broken into Upper and Lower members), the Red Shale Marker, Lyleton B Siltstone and the Torquay Silty Shale. The reservoir units are represented by the Middle Bakken, Lyleton A and Lyleton B Siltstones. The Upper Bakken Shale is a black, organic rich, platy shale which forms the top seal for the underlying Middle Bakken and Lyleton reservoirs. The reservoir units in the proposed unit are analogous to the Bakken / Lyleton producing reservoirs that have been approved adjacent to the proposed unit (Sinclair Unit 2, Sinclair Unit 4, Sinclair Unit 8, Sinclair Unit 11, Sinclair Unit 14 and Sinclair Unit 15) as noted on the Offsetting Units Map at Appendix 2.

Sedimentology:

The Middle Bakken reservoir consists of fine to coarse grained grey siltstone to fine sandstone which may be subdivided on the basis of lithologic characteristics into upper and lower units. The upper portion is very often heavily bioturbated and is generally non-reservoir. These bioturbated beds often contain an impoverished fauna consisting of well-worn brachiopod, coral and occasional crinoid fragments suggesting deposition in a marginal marine environment. The lower part of the Middle Bakken is generally finely laminated with alternating light and dark laminations with occasional bioturbation. Reservoir quality is highly variable within the Unit area. Within the proposed unit, the Middle Bakken thickness ranges from about 1.5m in the North West to 4+m in the East (Appendix 4).

The Lyleton A reservoir within the proposed unit area consists of buff to tan medium to coarse siltstone (occasionally fine sandstone) made up of quartz, feldspar and detrital dolomite with minor mica and clay mostly in the form of clay clasts or chips. Clays do not generally occur as pore filling material, but rather as discrete grains within the siltstone. The Upper part is generally well bedded and shows evidence of parallel lamination with occasional wind ripples. The coarser siltstones are interbedded with finer grained grey-green siltstone similar in composition to the reservoir siltstone, but generally with lower permeability (i.e. < 0.1mD). These finer grained siltstones show evidence of haloturbation producing smeared siltstone clasts floating in a fine grained grey-green siltstone matrix. The lower part of the Lyleton A generally shows a greater proportion of the grey-green fine-grained siltstone than the Upper and is generally a

poorer reservoir. It also tends to exhibit greater amounts of haloturbation and pseudo-breccia of siltstone clasts in a finer grained siltstone matrix. Because of the fine grained matrix in this pseudo-breccia the connectivity between the clasts is much lower than the bedded siltstone and the Lower part of the Lyleton A is generally a poorer reservoir than the Upper part of the Lyleton A. Within the proposed unit area the Upper Lyleton A has a limited occurrence and has been thinned, where it exists, in comparison to the offsetting Sinclair Unit 8 to the North West (Appendix 5). The Lower Lyleton A is fairly consistent in the proposed unit area ranging from 3.3m in the South and East to 3.9m in the North (Appendix 6).

The Red Shale Marker lies between the overlying Middle Bakken / Lyleton A and the underlying Lyleton B reservoir. It consists of brick red dolomitic siltstone which is highly water soluble and has low permeability. The Red Shale Marker is about 4.0m at its thickest and is fairly consistent throughout the proposed unit area, reaching 3m at its thinnest in the North West (Appendix 7). The effectiveness of the Red Shale Marker unit as a permeability barrier is significantly decreased by induced hydraulic fracturing. As such, the Red Shale Marker is not an effective barrier to flow between the Middle Bakken and the Lyleton B over the proposed unit area.

The Lyleton B reservoir consists of buff to tan fine grained siltstone (occasionally very fine siltstone) made up of quartz, feldspar and detrital dolomite with minor mica and clay mostly in the form of clay clasts or chips. The Lyleton B is generally well bedded and shows evidence of parallel lamination with occasional wind ripples. The coarser siltstones are interbedded with dark grey-green or red very fine grained siltstone which is generally non-reservoir. The Lyleton B is between 4.6m-5.3m thick within the proposed unit (Appendix 8).

The Torquay (Three Forks) forms the base of the reservoir sequence and is a brick red or mint green dolomitic very fine siltstone similar to the Red Shale Marker and it forms a good basal seal to the Lyleton B reservoir (Appendix 9).

Structure:

Structure contour maps are provided for the top of each major unit (Appendices 10 through 16). The structure within the proposed unit area generally consists of an overall dip to the Southeast. Structural variations in the area are interpreted as being caused by dissolution of the underlying Prairie Evaporites. Structural variations cause by dissolution are common in the Sinclair Field but do not appear to represent continuous barriers to lateral fluid flow within the reservoir as they do not appear to interrupt the lateral continuity of the reservoir beds (see cross-section Appendix 1).

Reservoir Continuity:

Lateral continuity of the reservoir units is an essential requirement of a successful waterflood. As demonstrated by the cross section and the isopach maps, all reservoir formations, the Middle Bakken, Lyleton A, and Lyleton B, are continuous throughout the proposed unit area. Only the Upper Lyleton A pinches out but the Lower Lyleton A is continuous.

Vertical continuity between the Middle Bakken and underlying Lyleton A reservoir exists throughout the proposed unit as they are in direct contact. Vertical continuity between the Middle Bakken and Lyleton A to the underlying Lyleton B reservoir is broken by the Red Shale marker in this area. This break in vertical

continuity will not impede waterflood or production as induced hydraulic fracturing allows flow across the Red Shale.

Reservoir Quality:

Permeability (k-h in mD*m) and porosity (Phi-h in por*m) maps for all four reservoir units are provided (Appendix 17 through 24). These maps are generated using core data and are generated as follows. First the core is divided into the reservoir units present. This data is then subject to a permeability cutoff. Intervals that meet or exceed the cutoff are multiplied by the interval thickness and then summed to get the total value for the Phi-h or k-h for that particular reservoir unit. The permeability cutoffs applied are as follows:

- Middle Bakken = 0.5 md
- Upper Lyleton A = 0.5 md
- Lower Lyleton A = 0.5 md
- Lyleton B = 0.5 md

As can be noted from the Phi-h and k-h maps the bulk of the reservoir in the proposed unit is contained in the Middle Bakken and Lyleton B formations and in the Upper Lyleton A where it has not been eroded completely. It is important to note that the 0.5 md cutoff effectively ignores pore volume with permeability between 0.2 and 0.49 md that may contain moveable oil.

Fluid Contacts:

The oil/water contact for the Middle Bakken and Lyleton reservoir is estimated from production to be at about -525 m subsea. In tight reservoirs such as these, the transition zone could be considerable and the top of the transition zone is estimated to be at about -490 m subsea based on production and simulation studies of the reservoir. The postulated oil/water contact at -525 m subsea is 20m below the lowest elevation the reservoir reaches within the unit area (Appendix 15).

Gross OOIP Estimates

Total volumetric OOIP for the Middle Bakken and Lyleton B within the proposed unit has been calculated to be 1**,771** e^3m^3 (1**1,142** Mbbl) using Tundra internally created maps. Maps used were generated from core data from wells available in the greater Sinclair area (Appendix 25).

Net pay for each cored well is calculated using the formation specific permeability cut off discussed above. Representative intervals that had a measured permeability greater than the formation specific cutoff were considered pay. The weighted average porosity (phi) of all pay intervals for each formation was calculated for each cored well. The height of pay (h) was derived by summing the heights of each representative sample that met the permeability cut off. From these two parameters, a phi*h value was calculated for all four productive horizons in all wells with core over each respective formation.

The phi*h values for all cored wells were contoured using IHS's Petra software program using a 150m grid node spacing. Phi*h values for each LSD were calculated off the associated grid by determining the average values over each LSD.

Tabulated parameters for each LSD from the calculations can be found in Table 4.

OOIP values were calculated using the following volumetric equation:

$$OOIP = \frac{Area * Net\ Pay *\ Porosity * (1 - Water\ Saturation)}{Initial\ Formation\ Volume\ Factor\ of\ Oil}$$

or

$$OOIP(m3) = \frac{A * h * \emptyset * (1 - Sw)}{Bo} * \frac{10{,}000m2}{ha}$$

or

$$OOIP(Mbbl) = \frac{A * h * \emptyset * (1 - Sw)}{Bo} * 3.28084\frac{ft}{m} * 7{,}758.367\frac{bbl}{acre * ft} * \frac{1Mbbl}{1{,}000bbl}$$

where

OOIP	= Original Oil in Place by LSD (Mbbl, or m3)
A	= Area (40acres, or 16.187 hectares, per LSD)
h * Ø	= Net Pay * Porosity, or Phi * h (ft, or m)
Bo	= Formation Volume Factor of Oil (stb/rb, or sm3/rm3)
Sw	= Water Saturation (decimal)

The initial oil formation volume factor was adopted from PVT information taken from the 100/03-07-008-29W1 Bakken well and is thought to be representative of the fluid characteristics in the reservoir.

Historical Production

A historical group production history plot for the proposed Sinclair Unit No. 18 is shown as Figure 4. Oil production commenced from the proposed Unit area in July 2004 and peaked during November 2013 at 50.7 m^3 (OPD). As of June 2016, production was 15.1 m^3 OPD, 51.1 m^3 of water per day (WPD) and a 77.2% watercut.

From peak production in November 2013 to date, oil production is declining at an annual rate of approximately **22.7%** under the current Primary Production method.

The remainder of the field's production and decline rates indicate the need for pressure restoration and maintenance. Waterflooding is deemed to be the most efficient means of secondary recovery to introduce energy back into the system and provide areal sweep between wells.

UNITIZATION

Unitization and implementation of a Waterflood EOR project is forecasted to increase overall recovery of OOIP from the proposed project area.

Unit Name

Tundra proposes that the official name of the new Unit shall be Sinclair Unit No. 18.

Unit Operator

Tundra Oil and Gas (Tundra) will be the Operator of record for Sinclair Unit No. 18.

Unitized Zone

The Unitized zone(s) to be waterflooded in the Sinclair Unit No. 18 will be the Middle Bakken and Three Forks formations.

Unit Wells

The 11 horizontal wells and 6 vertical wells to be included in the proposed Sinclair Unit No. 18 are outlined in Table 3.

Unit Lands

The Sinclair Unit No. 18 will consist of 32 LSDs as follows:

E/2 Section 21 of Township 7, Range 29, W1M
Section 22 of Township 7, Range 29, W1M
W/2 Section 23 of Township 7, Range 29, W1M

The lands included in the 40 acre tracts are outlined in Table 1.

Tract Factors

The proposed Sinclair Unit No. 18 will consist of 32 Tracts based on the 40 acre LSDs containing the existing 11 horizontal and 6 vertical wells.

The Tract Factor contribution for each of the LSD's within the proposed Sinclair Unit No. 18 was calculated as follows:

- Gross OOIP by LSD, minus cumulative production to date for the LSD as distributed by the LSD specific Production Allocation (PA) % in the applicable producing horizontal or vertical well (to yield Remaining Gross OOIP)
- Tract Factor by LSD = the product of Remaining Gross OOIP by LSD as a % of total proposed Unit Remaining Gross OOIP

Tract Factor calculations for all individual LSDs based on the above methodology are outlined within Table 2.

Working Interest Owners

Table 1 outlines the working interest (WI) for each recommended Tract within the proposed Sinclair Unit No. 18. Tundra Oil and Gas Partnership holds a 100% WI ownership in all the proposed Tracts.

Tundra Oil and Gas Partnership will have a 100% WI in the proposed Sinclair Unit No. 18.

WATERFLOOD EOR DEVELOPMENT

Technical Studies

The waterflood performance predictions for the proposed Sinclair Unit No. 18 Bakken project are based on internal engineering assessments. Project area specific reservoir and geological parameters were utilized and then compared to Red River's Sinclair Unit No. 4 parameters, yielding the WF EOR response observed there to date.

Reserves Recovery Profiles and Production Forecasts

The primary waterflood performance predictions for the proposed Sinclair Unit No. 18 are based on oil production decline curve analysis, and the secondary predictions are based on internal engineering analysis performed by the Tundra reservoir engineering group using Red River's Sinclair Unit No. 4 as an analogy because it is developed with a similar waterflood pattern design of a horizontal injector with offsetting horizontal producers at 30 acre spacing.

Primary Production Forecast

Cumulative production in the Sinclair Unit No. 18 project area, to the end of June 2016 from 17 wells, was 59.8 e^3m^3 of oil and 162.6 e^3m^3 of water for a recovery factor of **3.4%** of the calculated Net OOIP.

Ultimate Primary Proved Producing oil reserves recovery for Sinclair Unit No. 18 has been estimated to be **87.1** e^3m^3, or a **4.9**% Recovery Factor (RF) of OOIP. Remaining Producing Primary Reserves has been estimated to be **27.3** e^3m^3 to end of February 2016.

The expected production decline and forecasted cumulative oil recovery under continued Primary Production is shown in Figures 7 & 8.

Pre-Production Schedule/Timing for Conversion of Horizontal Wells to Water Injection

Tundra will plan an injection conversion schedule to allow for the most expeditious development of the waterflood within the proposed Sinclair Unit No. 18, while maximizing reservoir knowledge.

Criteria for Conversion to Water Injection Well

Five (5) water injection wells are required for this proposed unit as shown in Figure 5.

Tundra will monitor the following parameters to assess the best timing for each individual horizontal well to be converted from primary production to water injection service.

- Measured reservoir pressures at start of and/or through primary production
- Fluid production rates and any changes in decline rate
- Any observed production interference effects with adjacent vertical and horizontal wells
- Pattern mass balance and/or oil recovery factor estimates
- Reservoir pressure relative to bubble point pressure

The above allows for the proposed Sinclair Unit No. 18 project to be developed equitably and efficiently. It also provides the Unit Operator flexibility to manage the reservoir conditions and response to help ensure maximum ultimate recovery of OOIP.

Secondary EOR Production Forecast

The proposed project oil production profile under Secondary Waterflood has been developed based on the response observed to date in Red River's Sinclair Unit No. 4 Waterflood (Figure 6).

Secondary Waterflood plots of the expected oil production forecast over time and the expected oil production vs. cumulative oil are plotted in Figures 9 & 10, respectively. Total Secondary EUR for the proposed Sinclair Unit No. 18 is estimated to be **114.8** e^3m^3 with **54.9** e^3m^3 remaining, representing a total secondary recovery factor of **6.5%** for the proposed Unit area. An incremental **27.7** e^3m^3 of oil, or a **1.6%** recovery factor, are forecasted to be recovered under the proposed Unitization and Secondary EOR production scheme vs. the existing Primary Production method.

Estimated Fracture Pressure

Completion data from the existing producing wells within the project area indicate an actual fracture pressure gradient range of 18.0 to 22.0 kPa/m true vertical depth (TVD).

WATERFLOOD OPERATING STRATEGY

Water Source

The injection water for the proposed Sinclair Unit No. 18 will be supplied from the existing Sinclair 3-4-8-29W1 Battery source and injection water system. All existing injection water is obtained from the Lodgepole formation in the 102/16-32-7-29W1 licensed water source well. Lodgepole water from the 102/16-32 source well is pumped to the main Sinclair Units Water Plant at 3-4-8-29W1, filtered, and pumped up to injection system pressure. A diagram of the Sinclair water injection system and new pipeline connection to the proposed Sinclair Unit No. 18 project area injection wells is shown as Figure 11.

Produced water is not currently used for any water injection in the Tundra operated Sinclair Units due to technical and economic factors that limit Tundra's ability to filter down to the necessary particle size for this tight formation. Therefore, there are no current plans to use produced water as a source supply for Sinclair Unit No. 18.

Since all producing Middle Bakken/Three Forks wells in the Daly Sinclair areas, whether vertical or horizontal, have been hydraulically fractured, produced waters from these wells are inherently a mixture of Three Forks and Bakken native sources. This mixture of produced waters has been extensively tested for compatibility with 102/16-32 source Lodgepole water, by a highly qualified third party, prior to implementation by Tundra in Sinclair Unit 1. All potential mixture ratios between the two waters, under a range of temperatures, have been simulated and evaluated for scaling and precipitate producing tendencies. Testing of multiple scale inhibitors has also been conducted and minimum inhibition concentration requirements for the source water volume determined. At present, continuous scale inhibitor application is maintained into the source water stream out of the Sinclair injection water facility.

Review and monitoring of the source water scale inhibition system is also part of an existing routine maintenance program.

Injection Wells

The water injection wells for the proposed Sinclair Unit No. 18 will be current producing wells configured downhole for injection as shown in Figures 12a & 12b. The horizontal injection well will have been stimulated by multiple hydraulic fracture treatments to obtain suitable injection. Tundra has extensive experience with horizontal fracturing in the area, and all jobs are rigorously programmed and monitored during execution. This helps ensure optimum placement of each fracture stage to prevent, or minimize, the potential for out-of-zone fracture growth and thereby limit the potential for future out-of-zone injection.

Wellhead injection pressures will be maintained below the least value of either:

- the area specific known and calculated fracture gradient, or
- the licensed surface injection Maximum Allowable Pressure (MOP)

Tundra has a thorough understanding of area fracture gradients. A management program will be utilized to set and routinely review injection target rates and pressures vs. surface MOP and the known area formation fracture pressures.

All new water injection wells are surface equipped with injection volume metering and rate/pressure control. An operating procedure for monitoring water injection volumes and meter balancing will also be utilized to monitor the entire system measurement and integrity on a daily basis.

The proposed Sinclair Unit No. 18 horizontal water injection well rate is forecasted to average **10 - 30** m^3 WPD, based on expected reservoir permeability and pressure.

Reservoir Pressure

Initial reservoir pressure build-up tests were conducted on 02/07-21-007-29W1/0 and 00/06-23-007-29W1/0 at the time of drilling. The results of these tests can be seen in the table below.

UWI	Depth (mTVD)	Pressure (kPa)	Temperature (°C)
02/07-21-007-29W1/0	1012.2	8451.1	32.9
00/06-23-007-29W1/0	1001.5	8914.3	35.4

Reservoir Pressure Management during Waterflood

Tundra expects it will take 2-4 years to re-pressurize the reservoir due to cumulative primary production voidage and pressure depletion. Initial monthly Voidage Replacement Ratio (VRR) is expected to be approximately 1.25 to 2.00 within the patterns during the fill up period. As the cumulative VRR approaches 1, target reservoir operating pressure for waterflood operations will be 75-90% of original reservoir pressure.

Waterflood Surveillance and Optimization

Sinclair Unit No. 18 EOR response and waterflood surveillance will consist of the following:

- Regular production well rate and WCT testing
- Daily water injection rate and pressure monitoring vs target
- Water injection rate/pressure/time vs. cumulative injection plot
- Reservoir pressure surveys as required to establish pressure trends
- Pattern VRR
- Potential use of chemical tracers to track water injector/producer responses
- Use of some or all of: Water Oil Ratio (WOR) trends, Log WOR vs Cum Oil, Hydrocarbon Pore Volumes Injected, Conformance Plots

The above surveillance methods will provide an ever increasing understanding of reservoir performance, and provide data to continually control and optimize the Sinclair Unit No. 18 waterflood operation. Controlling the waterflood operation will significantly reduce or eliminate the potential for out-of-zone injection, undesired channeling or water breakthrough, or out-of-Unit migration. The monitoring and surveillance will also provide early indicators of any such issues so that waterflood operations may be altered to maximize ultimate secondary reserves recovery from the proposed Sinclair Unit No. 18.

On Going Reservoir Pressure Surveys

Any pressures taken during the operation of the proposed unit will be reported within the Annual Progress Reports for Sinclair Unit No. 18 as per Section 73 of the Drilling and Production Regulation.

Economic Limits

Under the current Primary recovery method, existing wells within the proposed Sinclair Unit No. 18 will be deemed uneconomic when the net oil rate and net oil price revenue stream becomes less than the current producing operating costs. With any positive oil production response under the proposed Secondary recovery method, the economic limit will be significantly pushed out into the future. The actual economic cut off point will then again be a function of net oil price, the magnitude and duration of production rate response to the waterflood, and then current operating costs. Waterflood projects generally become uneconomic to operate when Water Oil Ratios (WOR's) exceed 100.

WATER INJECTION FACILITIES

The Sinclair Unit No. 18 waterflood operation will utilize the existing Tundra operated source well supply and water plant (WP) facilities located at 3-4-8-29 W1M Battery. Injection wells will be connected to the existing high pressure water pipeline system supplying other Tundra-operated Waterflood Units.

A complete description of all planned system design and operational practices to prevent corrosion related failures is shown in Figure 13.

NOTIFICATION OF MINERAL AND SURFACE RIGHTS OWNERS

Tundra is in the process of notifying all mineral rights and surface rights owners of this proposed EOR project and formation of Sinclair Unit No. 18. Copies of the notices and proof of service, to all surface and mineral rights owners will be forwarded to the Petroleum Branch when available to complete the Sinclair Unit No. 18 Application.

Sinclair Unit No. 18 Unitization, and execution of the formal Sinclair Unit No. 18 Agreement by affected Mineral Owners, is expected during Q4 2016. Copies of same will be forwarded to the Petroleum Branch, when available, to complete the Sinclair Unit No. 18 Application.

Should the Petroleum Branch have further questions or require more information, please contact Stuart McColl at 587.747.5362 or by email at stuart.mccoll@tundraoilandgas.com.

TUNDRA OIL & GAS PARTNERSHIP

Original Signed by Abhy Pandey, October 21, 2016, in Calgary, AB

Proposed Sinclair Unit No. 18

Application for Enhanced Oil Recovery Waterflood Project

List of Figures

Figure No. 1

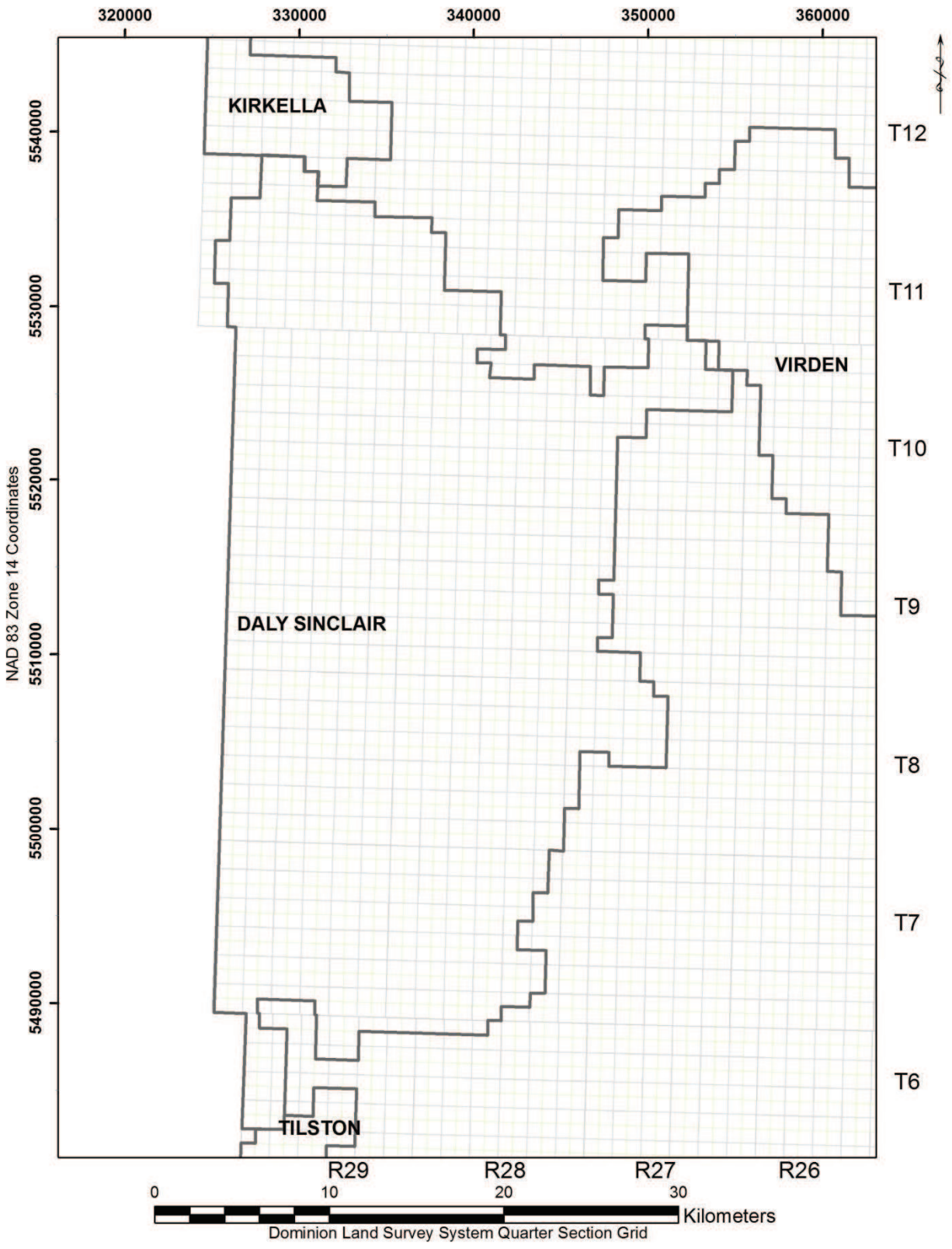
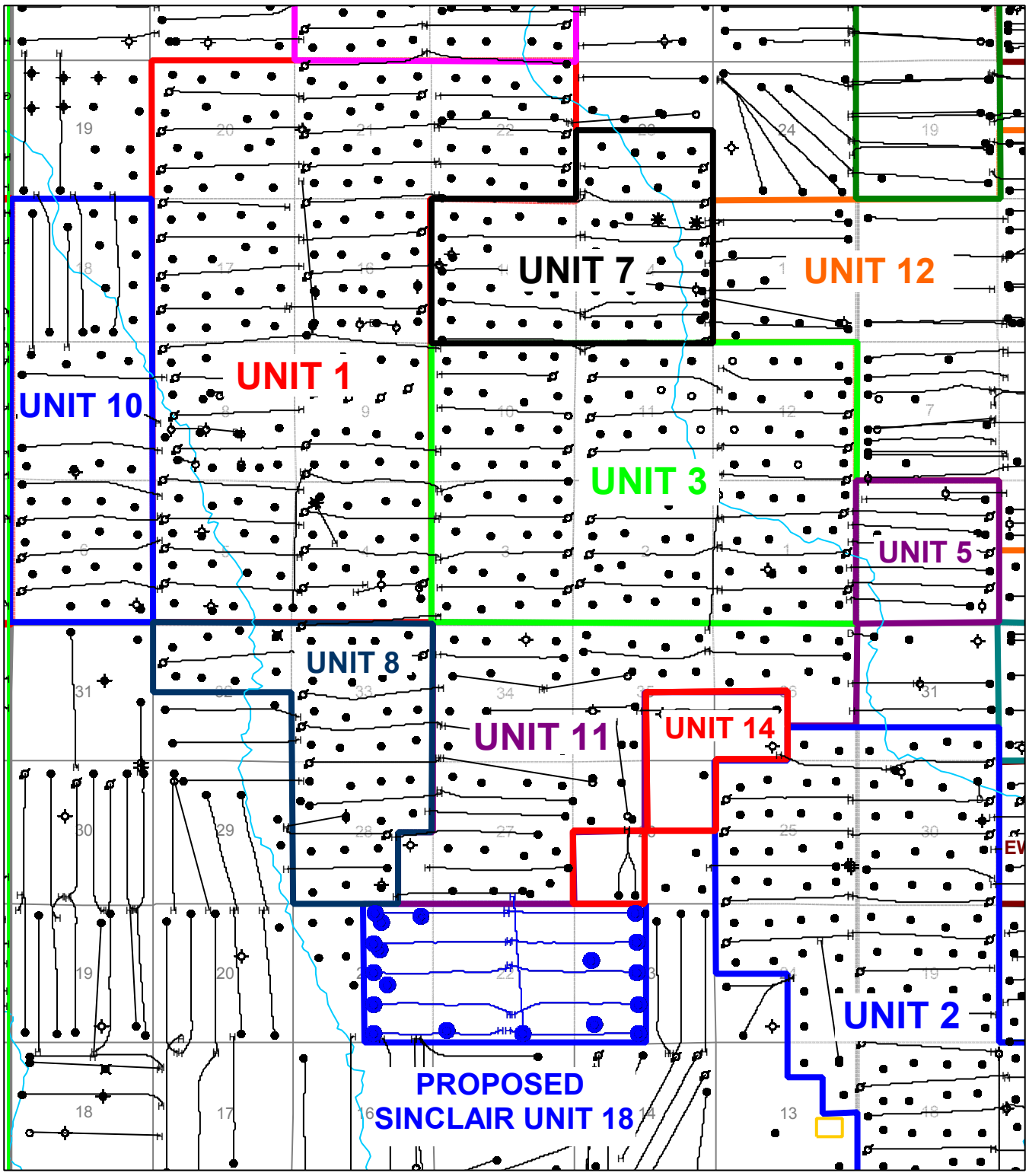


Figure 2 - Daly Sinclair Field (01)

Figure No. 2



Datum: NAD27 Projection: Stereographic DLS Version AB: ATS 2.6, BC: PRB 2.0, SK: STS 2.5, MB: MLI07

Figure 2
Sinclair Unit 18 Proposed Area
November 27, 2015
\\FS02\AccuMapData$\Sharon.Baker\New_AccuMap\Sinclair Units\Sinclair Units Map Template.accumap

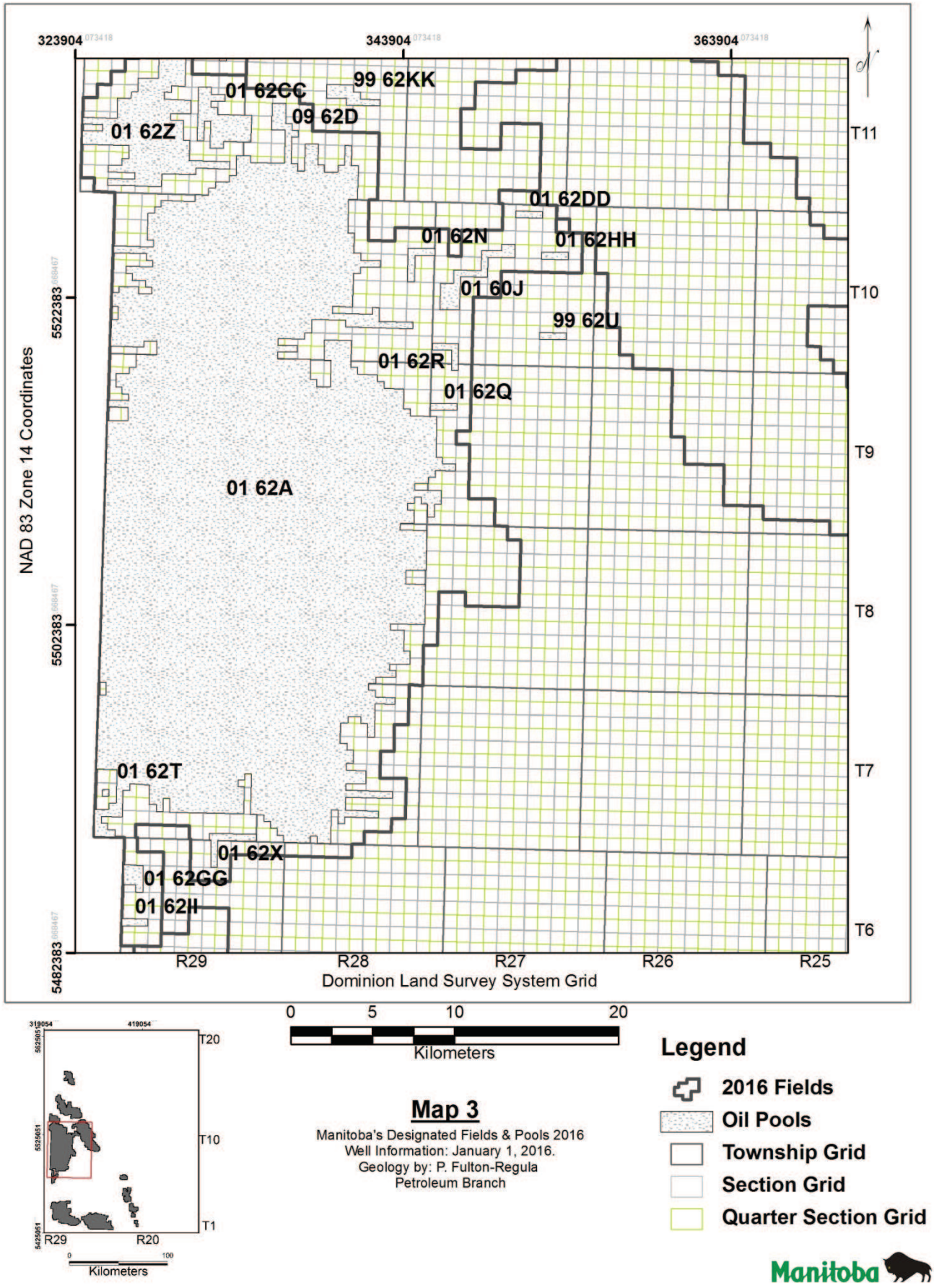


Figure 21 - Map 3 Bakken & Bakken Torquay Formation Pools (60 & 62)

Well Information as of 9/9/2016 - Group Well Report

Figure No. 4

Production Graph

Group:	sinclair unit 18 well list.lwell	**On Prod:**	2004-07 to 2016-06	**Cum Oil:**	59848.2 m3
# of Wells:	17	**Prod Form:**	BAKKEN; THREEFK; BAKKENM; TORQUAY	**Cum Gas:**	0.0 E3m3
Fluid:	Oil	**Field:**	DALY (1)	**Cum Wtr:**	162578.5 m3
Mode:	Producing	**Pool Code:**	62A	**Cum Inj Oil:**	0.0 m3
		Unit Code:		**Cum Inj Gas:**	0.0 E3m3
				Cum Inj Wtr:	0.0 m3

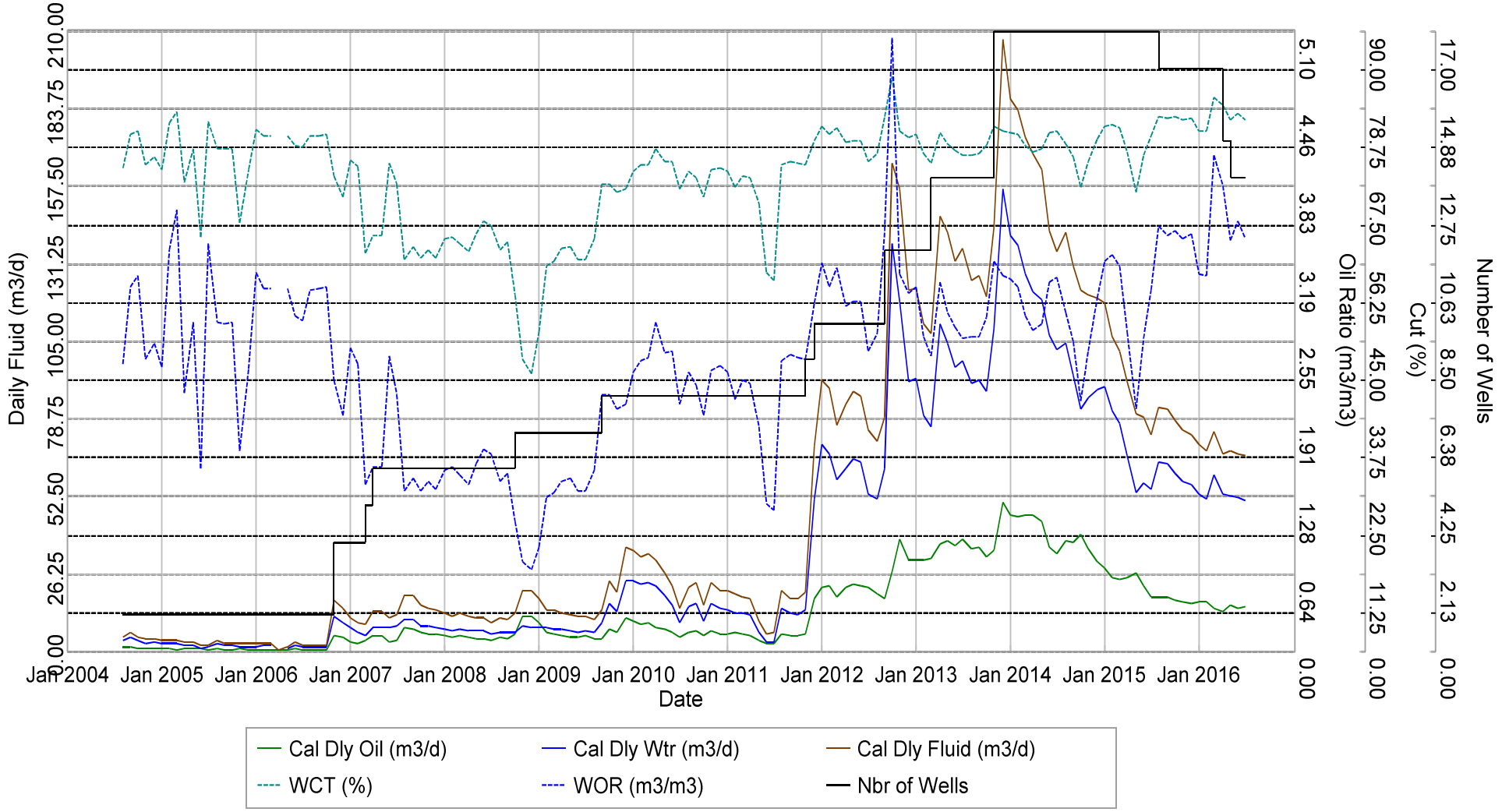


Figure No. 5

R29W1

Proposed Sinclair
UNIT 18 Development

5 exisiting producers to
be converted to injectors

T7

T7

R29W1

Datum: NAD27 Projection: Stereographic DLS Version AB: ATS 2.6, BC: PRB 2.0, SK: STS 2.5, MB: MLI07

Figure No. 6

Well Information as of 5/18/2016 - Group Well Report

Production Graph

Group:	sinclair unit no. 4 well list.lwell	**On Prod:**	2005-02 to 2016-02	**Cum Oil:**	61358.9 m3
# of Wells:	17	**Prod Form:**	BAKKEN; BAKKENU; TORQUAY; THREEFK	**Cum Gas:**	0.0 E3m3
Fluid:	Oil; Water Injection	**Field:**	DALY (1)	**Cum Wtr:**	190713.4 m3
Mode:	Producing; Injection	**Pool Code:**	62B	**Cum Inj Oil:**	0.0 m3
		Unit Code:	162B04	**Cum Inj Gas:**	0.0 E3m3
				Cum Inj Wtr:	135022.7 m3

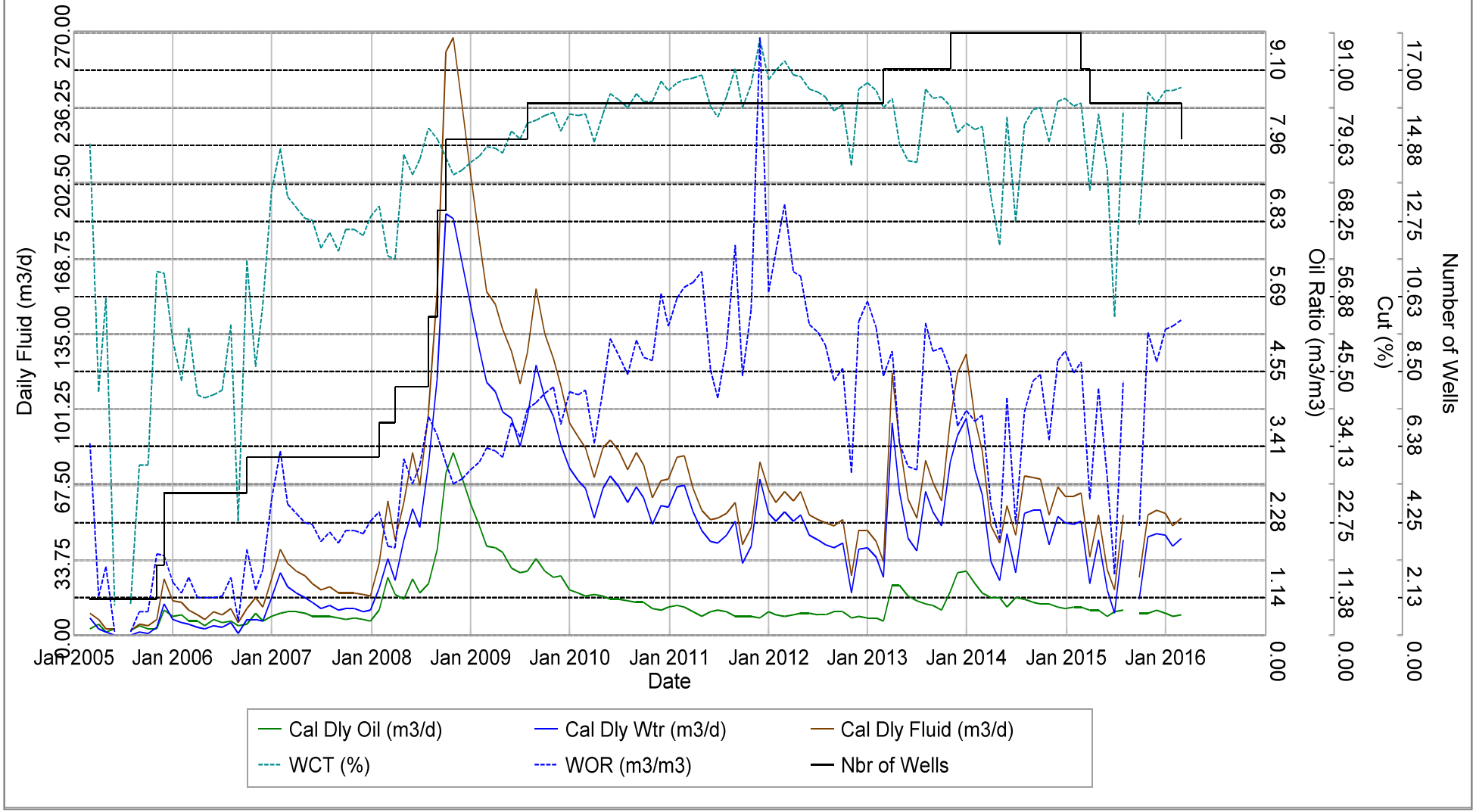
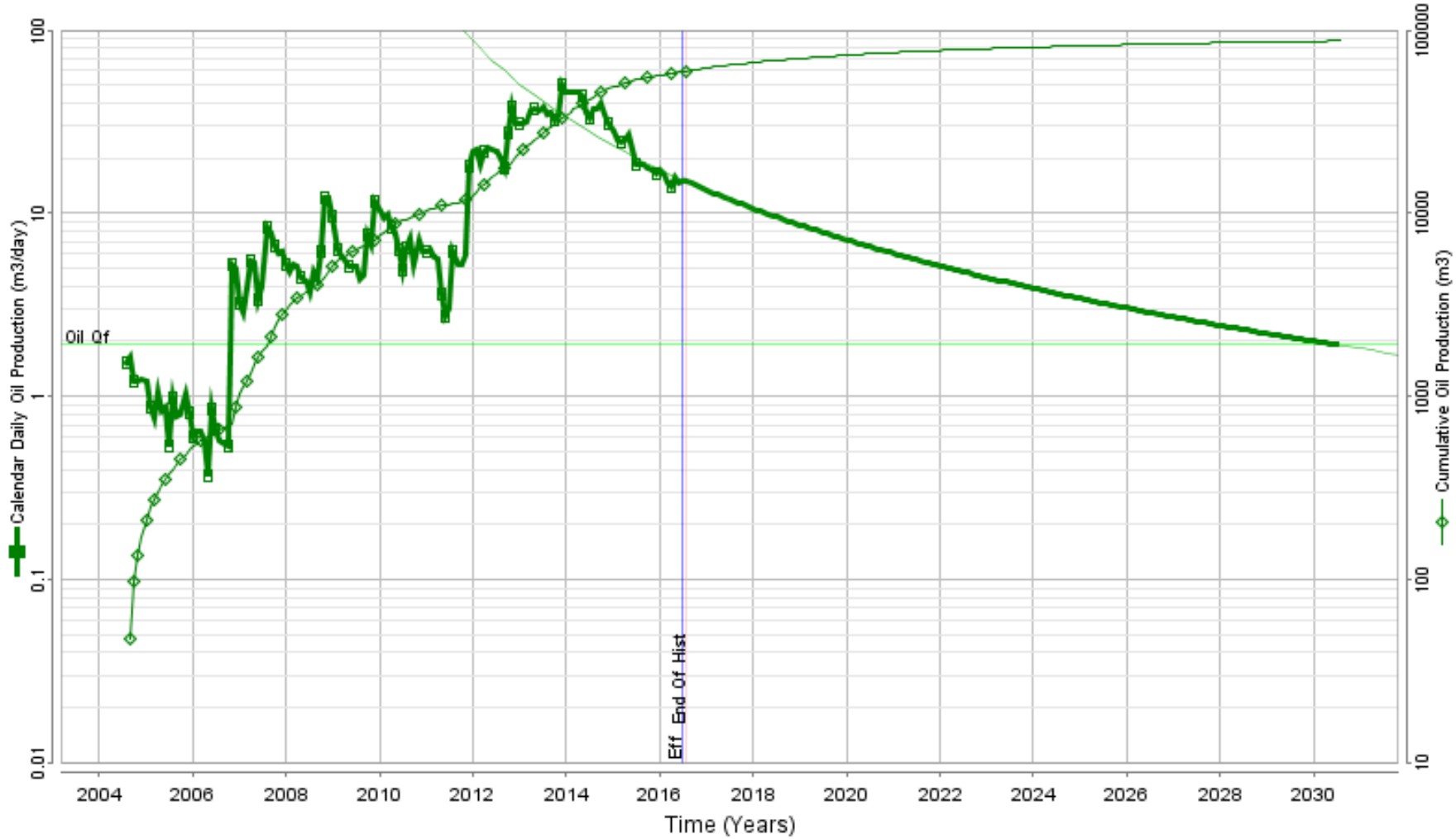


Figure No. 7

Province: Manitoba
Field: multi zone (2)
Pool: multi zone (2)
Unit: multi zone (18)
Status: n/a
Operator: TUNDRA OIL & GAS LIMITED

Primary Forecast

Sinclair Unit No. 18
Sinclair Unit No. 18 - Forecast
Base



Cum Oil(m3):	59,848	Cum Gas(E3m3):	0	Cum Water(m3):	162,578	Cum Cond(m3):	0
Forecast Start:	07/01/2016	Calculation Type:	Undefined	Est. Cum Prod (m3):	59,848	Decline Exponent:	0.500
Forecast End:	06/22/2030	OVIP (m3):	0	Remaining (m3):	27,298	Initial Decline (%/yr):	22.8
Initial Rate (m3):	15.0	Recovery Factor:	0.000				
Final Rate (m3):	1.9	Ult. Recoverable (m3):	87,146				

Figure No. 8

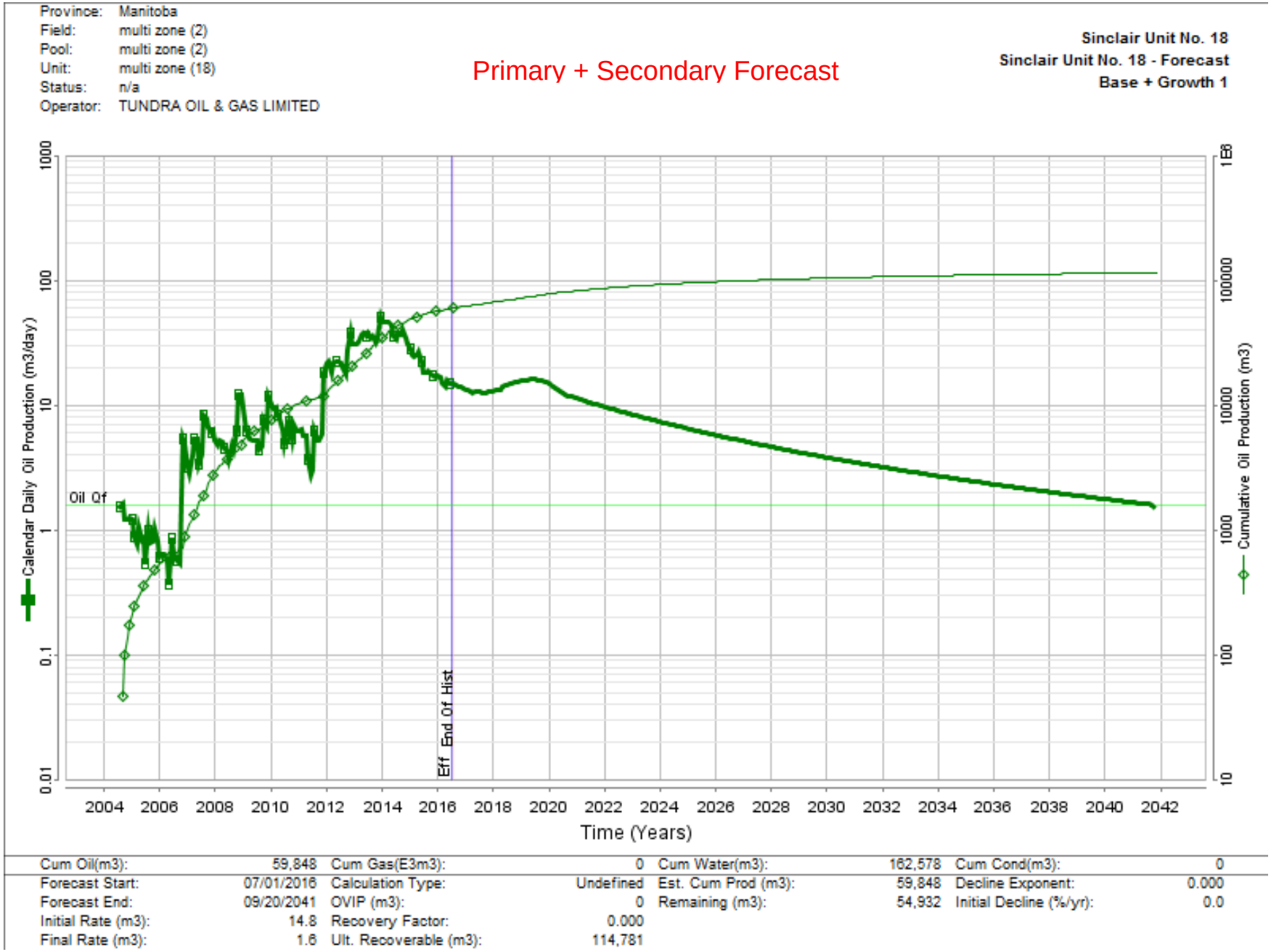
Province: Manitoba
Field: multi zone (2)
Pool: multi zone (2)
Unit: multi zone (18)
Status: n/a
Operator: TUNDRA OIL & GAS LIMITED

Primary Forecast

Sinclair Unit No. 18
Sinclair Unit No. 18 - Forecast
Base

Cum Oil(m3):	59,848	Cum Gas(E3m3):	0	Cum Water(m3):	162,578	Cum Cond(m3):	0
Forecast Start:	07/01/2016	Calculation Type:	Undefined	Est. Cum Prod (m3):	59,848	Decline Exponent:	0.500
Forecast End:	06/22/2030	OVIP (m3):	0	Remaining (m3):	27,298	Initial Decline (%/yr):	22.8
Initial Rate (m3):	15.0	Recovery Factor:	0.000				
Final Rate (m3):	1.9	Ult. Recoverable (m3):	87,146				

Figure No. 9



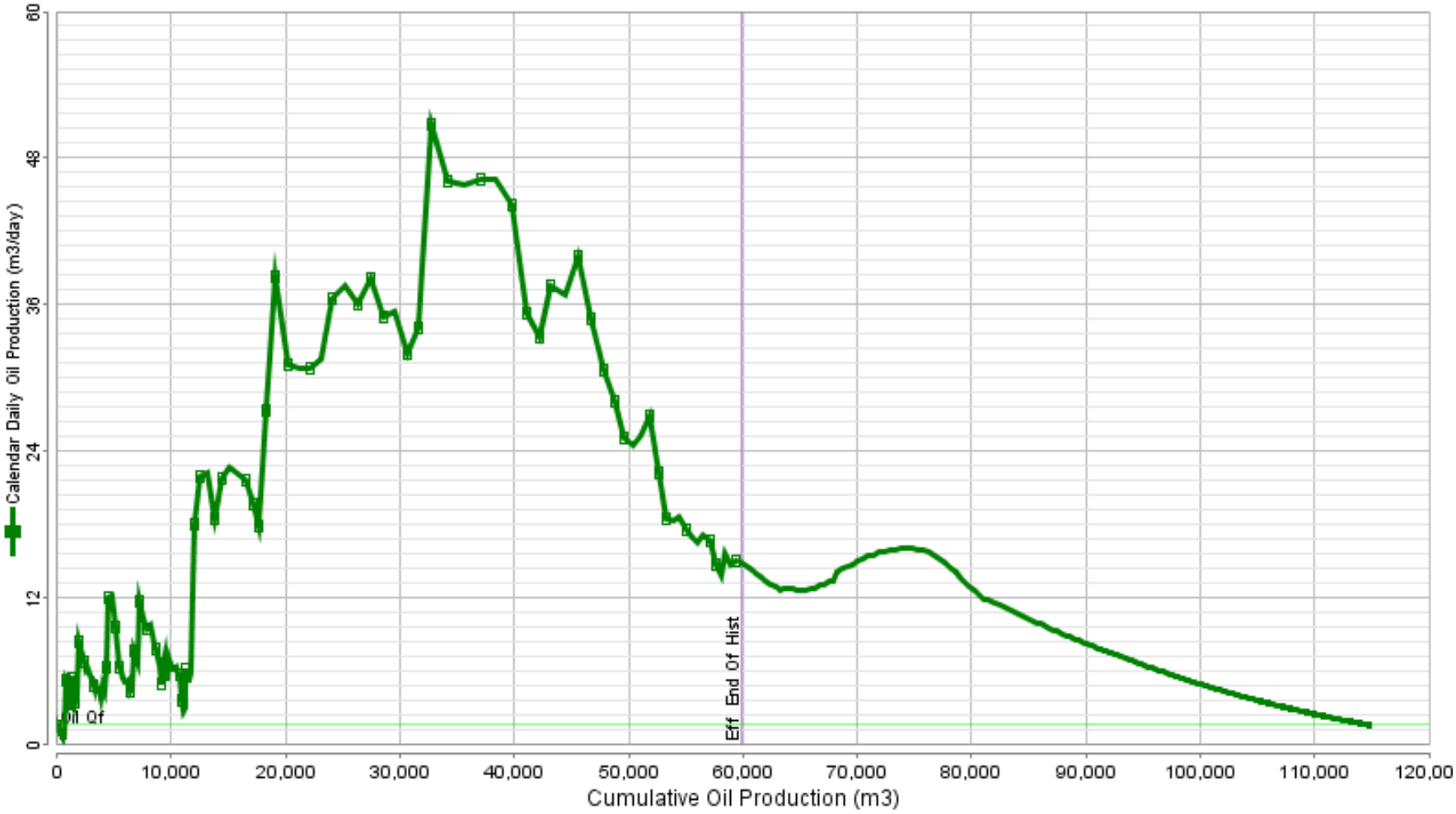
Cum Oil(m3):	59,848	Cum Gas(E3m3):	0	Cum Water(m3):	162,578	Cum Cond(m3):	0
Forecast Start:	07/01/2016	Calculation Type:	Undefined	Est. Cum Prod (m3):	59,848	Decline Exponent:	0.000
Forecast End:	09/20/2041	OVIP (m3):	0	Remaining (m3):	54,932	Initial Decline (%/yr):	0.0
Initial Rate (m3):	14.8	Recovery Factor:	0.000				
Final Rate (m3):	1.6	Ult. Recoverable (m3):	114,781				

Figure No. 10

Province: Manitoba
Field: multi zone (2)
Pool: multi zone (2)
Unit: multi zone (18)
Status: n/a
Operator: TUNDRA OIL & GAS LIMITED

Primary + Secondary Forecast

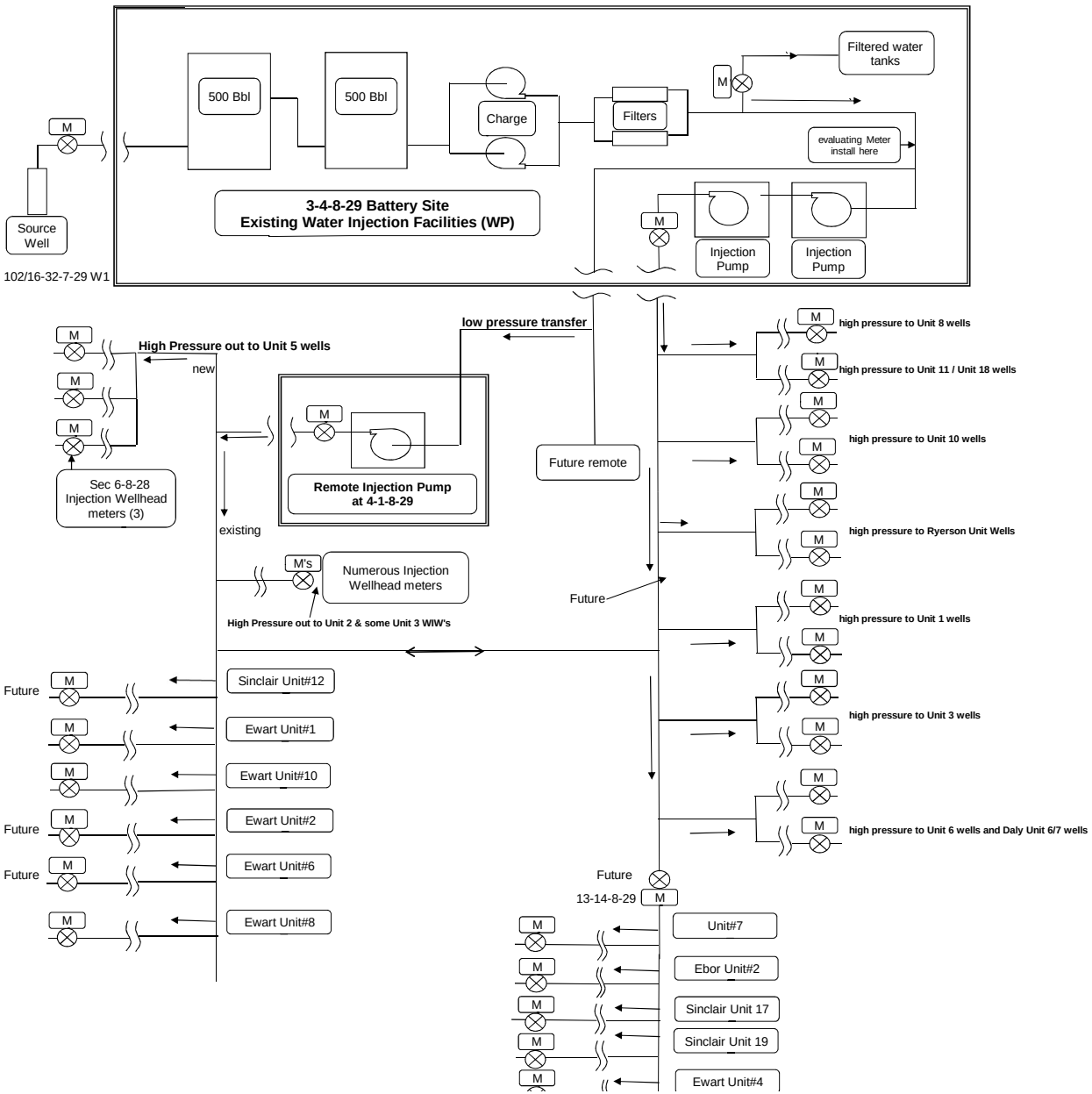
Sinclair Unit No. 18
Sinclair Unit No. 18 - Forecast
Base + Growth 1



Cum Oil(m3):	59,848	Cum Gas(E3m3):	0	Cum Water(m3):	162,578	Cum Cond(m3):	0
Forecast Start:	07/01/2016	Calculation Type:	Undefined	Est. Cum Prod (m3):	59,848	Decline Exponent:	0.000
Forecast End:	09/20/2041	OVIP (m3):	0	Remaining (m3):	54,932	Initial Decline (%/yr):	0.0
Initial Rate (m3):	14.8	Recovery Factor:	0.000				
Final Rate (m3):	1.6	Ult. Recoverable (m3):	114,781				

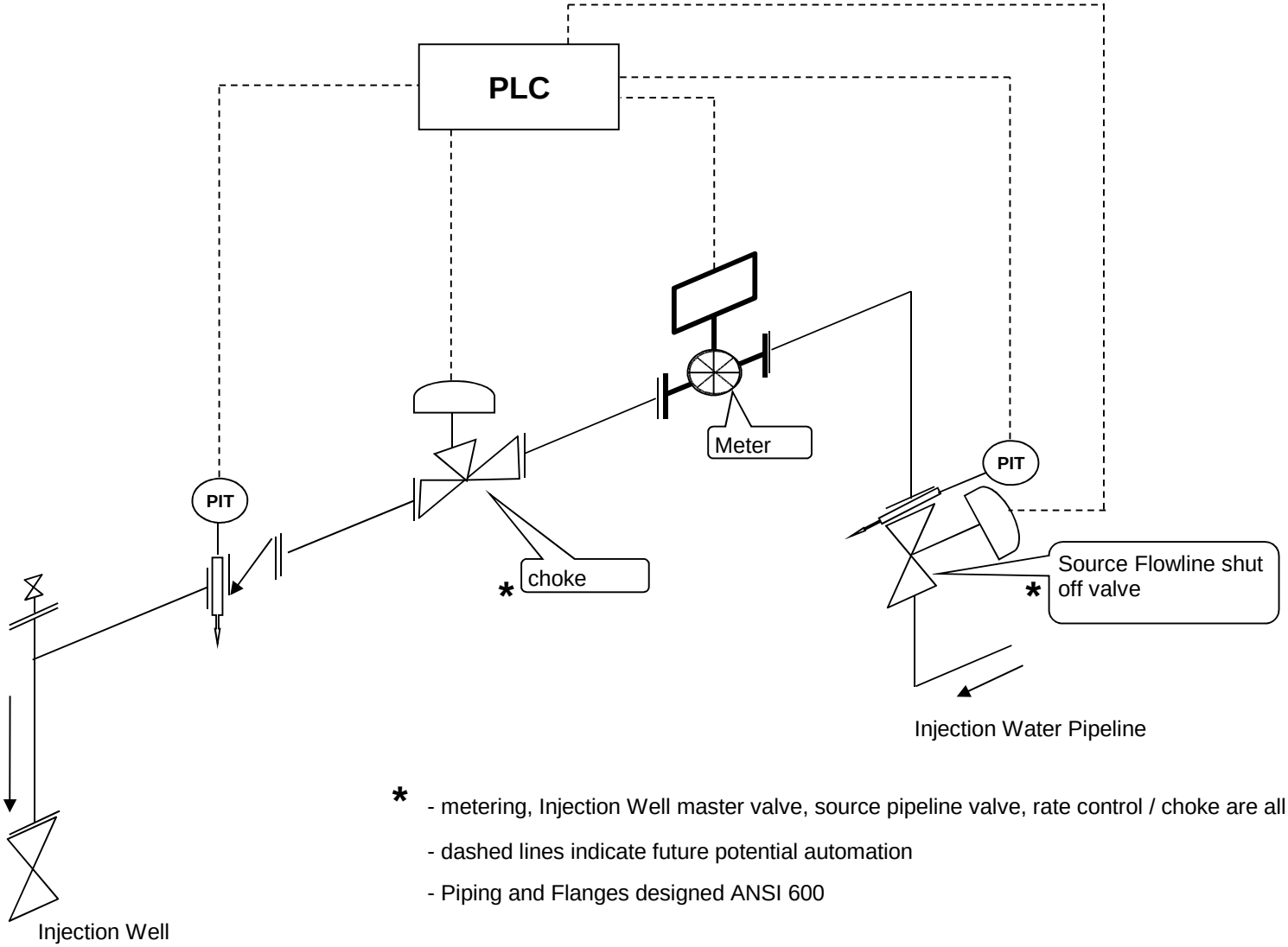
Figure No. 11

Sinclair Water Injection System



Sinclair Unit No. 18

Proposed Injection Well Surface Piping P&ID



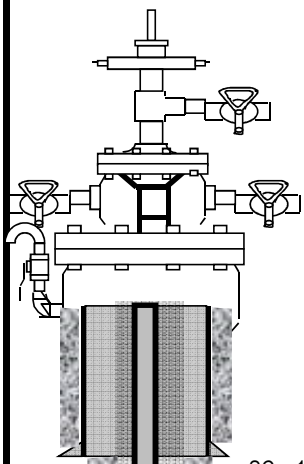
* - metering, Injection Well master valve, source pipeline valve, rate control / choke are all standard

- dashed lines indicate future potential automation
- Piping and Flanges designed ANSI 600

Tundra Oil And Gas Partnership

Figure 12a

TYPICAL CEMENTED LINER WATER INJECTION WELL (WIW) DOWNHOLE DIAGRAM



WELL NAME:	Tundra Sinclair Unit 18 HZNTL Cemented Liner WIW				**WELL LICENCE:**	
Prepared by	WRJ	(average depths)		Date:	2012	
Elevations :						
KB [m]		KB to THF [m]			TD [m]	2400.0
GL [m]		CF (m)			PBTD [m]	
Current Perfs:	**Cemented Casing / Liner**			950.0	to	2400.0
Current Perfs:					to	
KOP:	700 m MD		Total Interval		to	

Tubulars	**Size [mm]**	**Wt - Kg/m**	**Grade**	**Landing Depth [mKB]**		
Surface Casing	244.5	48.06	H-40 - ST&C	Surface	to	140.0
Intermed Csg (if run)	177.8	34.23 & 29.76	J-55 - LT&C	Surface	to	950.0
Production Liner	114.3	17.26	L-80	Surf or from Intermed Csg to		2400.0
Tubing	60.3 or 73.0 - TK-99	6.99 or 9.67	J-55	Surface	to	940.0

Date of Tubing Installation:

Item	Description	K.B.--Tbg. Flg.	Length 0.00	Top @ m KB
	Corrosion Protected ENC Coated Packer (set inside 114.3 mm Casing / Liner)			
	60.3 mm or 73 mm TK-99 Internally Coated Tubing			
	TK-99 Internally Coated Tubing Pup Jt			
	Coated Split Dognut			
	Annular space above injection packer filled with inhibited fresh water			
	Bottom of Tubing mKB			

Rod String :

Date of Rod Installation:

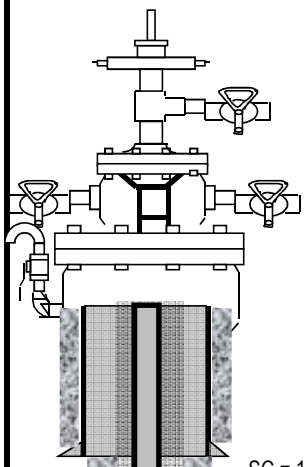
Bottomhole Pump:

Directions:

Tundra Oil And Gas Partnership

Figure 12b

TYPICAL OPEN HOLE WATER INJECTION WELL (WIW) DOWNHOLE DIAGRAM



SC = 140mKB

WELL NAME:	Tundra Sinclair Unit 18 HZNTL Open Hole WIW				**WELL LICENCE:**	
Prepared by	WRJ	(average depths)		Date:	2012	
Elevations :						
KB [m]		KB to THF [m]			TD [m]	2400.0
GL [m]		CF (m)			PBTD [m]	
Current Perfs:	**Open Hole**			950.0	to	2400.0
Current Perfs:					to	
KOP:	700 m MD		Total Interval		to	

Tubulars	**Size [mm]**	**Wt - Kg/m**	**Grade**	**Landing Depth [mKB]**		
Surface Casing	244.5	48.06	H-40 - ST&C	Surface	to	140.0
Intermed Csg (if run)	177.8	34.23 & 29.76	J-55 - LT&C	Surface	to	950.0
Open Hole Latera	none	none	none	950.0	to	2400.0
Tubing	60.3 or 73.0 - TK-99	6.99 or 9.67	J-55	Surface	to	940.0

Date of Tubing Installation:

Item	Description	K.B.--Tbg. Flg.	Length 0.00	Top @ m KB
	Corrosion Protected ENC Coated Packer (set within 15 m of Intermed Csg shoe)			
	60.3 mm or 73 mm TK-99 Internally Coated Tubing			
	TK-99 Internally Coated Tubing Pup Jt			
	Coated Split Dognut			
	Annular space above injection packer filled with inhibited fresh water			
	Bottom of Tubing mKB			

Rod String :

Date of Rod Installation:

Bottomhole Pump:

Directions:

KOP = ~ 700 mMD

Inhibited Annular Fluid

Injection Packer set within 15 m of Intermediate Casing Shoe

Intermediate Casing Shoe

Open Hole Fractures

Figure No. 13

Sinclair Unit No. 18

EOR Waterflood Project

Planned Corrosion Control Program **

Source Well

- Continuous downhole corrosion inhibition
- Continuous surface corrosion inhibitor injection
- Downhole scale inhibitor injection
- Corrosion resistant valves and internally coated surface piping

Pipelines

- Source well to 3-4-8-29 Water Plant – Fiberglass
- New High Pressure Pipeline to Unit 9 injection wells – 2000 psi high pressure Fiberglass

Facilities

- 3-4-8-29 Water Plant and New Injection Pump Station
  - Plant piping – 600 ANSI schedule 80 pipe, Fiberglass or Internally coated
  - Filtration – Stainless steel bodies and PVC piping
  - Pumping – Ceramic plungers, stainless steel disc valves
  - Tanks – Fiberglass shell, corrosion resistant valves

Injection Wellhead / Surface Piping

- Corrosion resistant valves and stainless steel and/or internally coated steel surface piping

Injection Well

- Casing cathodic protection where required
- Wetted surfaces coated downhole packer
- Corrosion inhibited water in the annulus between tubing / casing
- Internally coated tubing surface to packer
- Surface freeze protection of annular fluid
- Corrosion resistant master valve
- Corrosion resistant pipeline valve

Producing Wells

- Casing cathodic protection where required
- Downhole batch corrosion inhibition as required
- Downhole scale inhibitor injection as required

** subject to final design and engineering

Proposed Sinclair Unit No. 18

Application for Enhanced Oil Recovery Waterflood Project

List of Tables

TABLE NO. 1: TRACT PARTICIPATION FOR PROPOSED SINCLAIR UNIT NO. 18

Working Interest				Royalty Interest		
Tract No.	**Land Description**	**Owner**	**Share (%)**	**Owner**	**Share (%)**	**Tract Participation**
1	01-21-007-29W1M	Tundra Oil & Gas Partnership	100%	Clover Hill Oil Kids Co. Ltd.	100.00000%	3.825721201%
2	02-21-007-29W1M	Tundra Oil & Gas Partnership	100%	Clover Hill Oil Kids Co. Ltd.	100.00000%	4.166254431%
3	07-21-007-29W1M	Tundra Oil & Gas Partnership	100%	Clover Hill Oil Kids Co. Ltd.	100.00000%	3.452259814%
4	08-21-007-29W1M	Tundra Oil & Gas Partnership	100%	Clover Hill Oil Kids Co. Ltd.	100.00000%	3.181641524%
5	09-21-007-29W1M	Tundra Oil & Gas Partnership	100%	Cloverhill Resources Ltd.	100.00000%	3.394796999%
6	10-21-007-29W1M	Tundra Oil & Gas Partnership	100%	Cloverhill Resources Ltd.	100.00000%	3.854147865%
7	15-21-007-29W1M	Tundra Oil & Gas Partnership	100%	Cloverhill Resources Ltd.	100.00000%	3.888106153%
8	16-21-007-29W1M	Tundra Oil & Gas Partnership	100%	Cloverhill Resources Ltd.	100.00000%	3.487599796%
9	01-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Minister of Finance - Manitoba	100.00000%	1.768430448%
10	02-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Minister of Finance - Manitoba	100.00000%	2.467784283%
11	03-22-007-29W1M	Tundra Oil & Gas Partnership	100%	6489509 Manitoba Ltd.	100.00000%	2.987530165%
12	04-22-007-29W1M	Tundra Oil & Gas Partnership	100%	6489509 Manitoba Ltd.	100.00000%	3.502780468%
13	05-22-007-29W1M	Tundra Oil & Gas Partnership	100%	6489509 Manitoba Ltd.	100.00000%	3.096095598%
14	06-22-007-29W1M	Tundra Oil & Gas Partnership	100%	6489509 Manitoba Ltd.	100.00000%	2.982879748%
15	07-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Minister of Finance - Manitoba	100.00000%	2.843087549%
16	08-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Minister of Finance - Manitoba	100.00000%	2.554119345%
17	09-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Minister of Finance - Manitoba	100.00000%	3.451531327%
18	10-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Minister of Finance - Manitoba	100.00000%	3.250041515%
19	11-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Craig Michael Buffington	12.50000%	3.119913518%
	11-22-007-29W1M			William Douglas Buffington	12.50000%	
	11-22-007-29W1M			Kathy Schuelke	25.00000%	
	11-22-007-29W1M			6489509 Manitoba Ltd.	50.00000%	
20	12-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Craig Michael Buffington	12.50000%	3.193091483%
	12-22-007-29W1M			William Douglas Buffington	12.50000%	
	12-22-007-29W1M			Kathy Schuelke	25.00000%	
	12-22-007-29W1M			6489509 Manitoba Ltd.	50.00000%	
21	13-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Craig Michael Buffington	12.50000%	3.411874093%
	13-22-007-29W1M			William Douglas Buffington	12.50000%	
	13-22-007-29W1M			Kathy Schuelke	25.00000%	
	13-22-007-29W1M			6489509 Manitoba Ltd.	50.00000%	
22	14-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Craig Michael Buffington	12.50000%	3.402083846%
	14-22-007-29W1M			William Douglas Buffington	12.50000%	
	14-22-007-29W1M			Kathy Schuelke	25.00000%	
	14-22-007-29W1M			6489509 Manitoba Ltd.	50.00000%	
23	15-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Minister of Finance - Manitoba	100.00000%	3.606347501%
24	16-22-007-29W1M	Tundra Oil & Gas Partnership	100%	Minister of Finance - Manitoba	100.00000%	3.845529497%
25	03-23-007-29W1M	Tundra Oil & Gas Partnership	100%	6320180 Manitoba Ltd.	16.66670%	1.493119861%
	03-23-007-29W1M			723837 Alberta Ltd.	16.66670%	
	03-23-007-29W1M			6589741 Manitoba Ltd.	16.66670%	
	03-23-007-29W1M			Pioneer Legacy Investments Ltd.	33.33320%	
	03-23-007-29W1M			Crystal Rhodes Inc.	8.33335%	
	03-23-007-29W1M			Curtis Rhodes	8.33335%	
26	04-23-007-29W1M	Tundra Oil & Gas Partnership	100%	6320180 Manitoba Ltd.	16.66670%	0.933108579%
	04-23-007-29W1M			723837 Alberta Ltd.	16.66670%	
	04-23-007-29W1M			6589741 Manitoba Ltd.	16.66670%	
	04-23-007-29W1M			Pioneer Legacy Investments Ltd.	33.33320%	
	04-23-007-29W1M			Crystal Rhodes Inc.	8.33335%	
	04-23-007-29W1M			Curtis Rhodes	8.33335%	
27	05-23-007-29W1M	Tundra Oil & Gas Partnership	100%	6320180 Manitoba Ltd.	16.66670%	2.243263628%
	05-23-007-29W1M			723837 Alberta Ltd.	16.66670%	
	05-23-007-29W1M			6589741 Manitoba Ltd.	16.66670%	
	05-23-007-29W1M			Pioneer Legacy Investments Ltd.	33.33320%	
	05-23-007-29W1M			Crystal Rhodes Inc.	8.33335%	
	05-23-007-29W1M			Curtis Rhodes	8.33335%	
28	06-23-007-29W1M	Tundra Oil & Gas Partnership	100%	6320180 Manitoba Ltd.	16.66670%	2.280434351%
	06-23-007-29W1M			723837 Alberta Ltd.	16.66670%	
	06-23-007-29W1M			6589741 Manitoba Ltd.	16.66670%	
	06-23-007-29W1M			Pioneer Legacy Investments Ltd.	33.33320%	
	06-23-007-29W1M			Crystal Rhodes Inc.	8.33335%	
	06-23-007-29W1M			Curtis Rhodes	8.33335%	
29	11-23-007-29W1M	Tundra Oil & Gas Partnership	100%	6320180 Manitoba Ltd.	16.66670%	3.217079553%
	11-23-007-29W1M			723837 Alberta Ltd.	16.66670%	
	11-23-007-29W1M			6589741 Manitoba Ltd.	16.66670%	
	11-23-007-29W1M			Pioneer Legacy Investments Ltd.	33.33320%	
	11-23-007-29W1M			Crystal Rhodes Inc.	8.33335%	
	11-23-007-29W1M			Curtis Rhodes	8.33335%	

Working Interest				Royalty Interest		
Tract No.	Land Description	Owner	Share (%)	Owner	Share (%)	Tract Participation
30	12-23-007-29W1M	Tundra Oil & Gas Partnership	100%	6320180 Manitoba Ltd.	16.66670%	3.545639429%
	12-23-007-29W1M			723837 Alberta Ltd.	16.66670%	
	12-23-007-29W1M			6589741 Manitoba Ltd.	16.66670%	
	12-23-007-29W1M			Pioneer Legacy Investments Ltd.	33.33320%	
	12-23-007-29W1M			Crystal Rhodes Inc.	8.33335%	
	12-23-007-29W1M			Curtis Rhodes	8.33335%	
31	13-23-007-29W1M	Tundra Oil & Gas Partnership	100%	6320180 Manitoba Ltd.	16.66670%	3.843604438%
	13-23-007-29W1M			723837 Alberta Ltd.	16.66670%	
	13-23-007-29W1M			6589741 Manitoba Ltd.	16.66670%	
	13-23-007-29W1M			Pioneer Legacy Investments Ltd.	33.33320%	
	13-23-007-29W1M			Crystal Rhodes Inc.	8.33335%	
	13-23-007-29W1M			Curtis Rhodes	8.33335%	
32	14-23-007-29W1M	Tundra Oil & Gas Partnership	100%	6320180 Manitoba Ltd.	16.66670%	3.710101995%
	14-23-007-29W1M			723837 Alberta Ltd.	16.66670%	
	14-23-007-29W1M			6589741 Manitoba Ltd.	16.66670%	
	14-23-007-29W1M			Pioneer Legacy Investments Ltd.	33.33320%	
	14-23-007-29W1M			Crystal Rhodes Inc.	8.33335%	
	14-23-007-29W1M			Curtis Rhodes	8.33335%	
						100.000000000%

TABLE NO. 2: TRACT FACTOR CALCULATIONS FOR SINCLAIR UNIT NO. 18

TRACT FACTORS BASED ON OIL-IN-PLACE (OOIP) - CUMULATIVE PRODUCTION TO JUNE 2016

LS-SE	Tract	OOIP (m3)	HZ Wells Alloc Prod (m3)	Vert Wells Cum Prodn (m3)	Sum Hz + Vert Alloc Cum Prodn	OOIP - Cum	OOIP Tract Factor	Tract
01-21	01-21-007-29W1M	67,164	1,682.7	0.0	1,682.7	65,482	3.825721201%	01-21-007-29W1M
02-21	02-21-007-29W1M	72,819	1,509.2	0.0	1,509.2	71,310	4.166254431%	02-21-007-29W1M
07-21	07-21-007-29W1M	63,280	1,194.1	2,996.7	4,190.8	59,089	3.452259814%	07-21-007-29W1M
08-21	08-21-007-29W1M	55,889	1,431.4	0.0	1,431.4	54,457	3.181641524%	08-21-007-29W1M
09-21	09-21-007-29W1M	59,681	1,574.9	0.0	1,574.9	58,106	3.394796999%	09-21-007-29W1M
10-21	10-21-007-29W1M	69,953	1,481.8	2,503.0	3,984.8	65,968	3.854147865%	10-21-007-29W1M
15-21	15-21-007-29W1M	70,991	1,668.2	2,773.5	4,441.7	66,549	3.888106153%	15-21-007-29W1M
16-21	16-21-007-29W1M	61,700	2,005.6	0.0	2,005.6	59,694	3.487599796%	16-21-007-29W1M
01-22	01-22-007-29W1M	31,866	1,597.2	0.0	1,597.2	30,269	1.768430448%	01-22-007-29W1M
02-22	02-22-007-29W1M	43,855	1,616.2	0.0	1,616.2	42,239	2.467784283%	02-22-007-29W1M
03-22	03-22-007-29W1M	52,172	1,036.8	0.0	1,036.8	51,135	2.987530165%	03-22-007-29W1M
04-22	04-22-007-29W1M	63,649	1,743.7	1,951.3	3,695.0	59,954	3.502780468%	04-22-007-29W1M
05-22	05-22-007-29W1M	54,205	1,212.0	0.0	1,212.0	52,993	3.096095598%	05-22-007-29W1M
06-22	06-22-007-29W1M	52,099	1,043.2	0.0	1,043.2	51,055	2.982879748%	06-22-007-29W1M
07-22	07-22-007-29W1M	49,936	1,273.7	0.0	1,273.7	48,663	2.843087549%	07-22-007-29W1M
08-22	08-22-007-29W1M	44,613	896.8	0.0	896.8	43,717	2.554119345%	08-22-007-29W1M
09-22	09-22-007-29W1M	60,361	1,284.3	0.0	1,284.3	59,077	3.451531327%	09-22-007-29W1M
10-22	10-22-007-29W1M	57,310	1,682.0	0.0	1,682.0	55,628	3.250041515%	10-22-007-29W1M
11-22	11-22-007-29W1M	54,895	1,494.3	0.0	1,494.3	53,401	3.119913518%	11-22-007-29W1M
12-22	12-22-007-29W1M	56,383	1,729.9	0.0	1,729.9	54,653	3.193091483%	12-22-007-29W1M
13-22	13-22-007-29W1M	60,434	2,036.2	0.0	2,036.2	58,398	3.411874093%	13-22-007-29W1M
14-22	14-22-007-29W1M	59,851	1,620.3	0.0	1,620.3	58,230	3.402083846%	14-22-007-29W1M
15-22	15-22-007-29W1M	63,686	1,958.9	0.0	1,958.9	61,727	3.606347501%	15-22-007-29W1M
16-22	16-22-007-29W1M	67,600	1,779.3	0.0	1,779.3	65,821	3.845529497%	16-22-007-29W1M
03-23	03-23-007-29W1M	27,025	1,468.2	0.0	1,468.2	25,556	1.493119861%	03-23-007-29W1M
04-23	04-23-007-29W1M	18,551	1,644.5	934.9	2,579.4	15,971	0.933108579%	04-23-007-29W1M
05-23	05-23-007-29W1M	39,294	897.7	0.0	897.7	38,396	2.243263628%	05-23-007-29W1M
06-23	06-23-007-29W1M	39,852	819.6	0.0	819.6	39,032	2.280434351%	06-23-007-29W1M
11-23	11-23-007-29W1M	56,173	1,109.5	0.0	1,109.5	55,064	3.217079553%	11-23-007-29W1M
12-23	12-23-007-29W1M	63,624	1,321.9	1,614.0	2,935.9	60,688	3.545639429%	12-23-007-29W1M
13-23	13-23-007-29W1M	67,544	1,756.6	0.0	1,756.6	65,788	3.843604438%	13-23-007-29W1M
14-23	14-23-007-29W1M	65,007	1,504.2	0.0	1,504.2	63,503	3.710101995%	14-23-007-29W1M
		1,771,460	**47,074.8**	**12,773.4**	**59,848.2**	**1,711,612**	**100.000000000%**	
	AVG	**55,358**						

Table No. 3: Sinclair Unit No. 18

UWI	License Number	Rig Release Date	Type	Pool Name	Producing Zone	Mode	On Prod Date	Prod Date	Cal Dly Oil (m3/d)	Monthly Oil (m3)	Cum Prd Oil (m3)	Cal Dly Water (m3/d)	Monthly Water (m3)	Cum Prd Water (m3)	WCT (%)
100/02-21-007-29W1/0	008225	2/26/2012	Horizontal	BAKKEN-THREE FORKS A	BAKKEN	Producing	8/16/2012	Jun-2016	1.8	54.2	5252.8	6.1	183.3	17404.3	77.18
100/07-21-007-29W1/0	006281	3/10/2007	Vertical	BAKKEN-THREE FORKS A	BAKKEN	Producing	3/14/2007	Mar-2016	0.1	2.7	2996.7	0.2	5.2	3116.6	65.82
102/07-21-007-29W1/0	009317	8/5/2013	Horizontal	BAKKEN-THREE FORKS A	THREEFK,BAKKEN	Producing	10/19/2013	Jun-2016	1.5	45.9	2867.0	6.4	190.9	8798.7	80.62
100/10-21-007-29W1/0	006272	2/20/2007	Vertical	BAKKEN-THREE FORKS A	BAKKEN	Producing	2/23/2007	Jun-2016	0.1	1.7	2503.0	0.4	10.6	3483.9	86.18
102/10-21-007-29W1/0	009058	11/20/2012	Horizontal	BAKKEN-THREE FORKS A	BAKKEN,THREEFK	Producing	2/2/2013	Jun-2016	2.0	60.6	4787.3	5.0	150.4	12241.2	71.28
103/10-21-007-29W1/0	009109	8/14/2013	Horizontal	BAKKEN-THREE FORKS A	BAKKENM	Producing	10/16/2013	Jun-2016	2.3	69.5	5503.3	6.3	187.6	11060.7	72.97
100/15-21-007-29W1/0	006729	8/18/2008	Vertical	BAKKEN-THREE FORKS A	BAKKEN	Producing	9/11/2008	Jun-2016	0.1	4.3	2773.5	0.6	18.0	2671.9	80.72
102/15-21-007-29W1/0	008164	9/11/2011	Horizontal	BAKKEN-THREE FORKS A	TORQUAY	Producing	10/25/2011	Jun-2016	1.5	44.5	6053.9	2.5	75.5	13684.9	62.92
100/02-22-007-29W1/0	007009	8/1/2009	Horizontal	BAKKEN-THREE FORKS A	BAKKEN	Producing	8/14/2009	Jun-2016	0.1	2.7	3435.3	0.6	17.8	11486.9	86.83
100/04-22-007-29W1/0	005271	6/15/2004	Vertical	BAKKEN-THREE FORKS A	BAKKEN	Producing	7/12/2004	Jun-2015	0.0	0.4	1951.3	0.1	1.6	4711.5	80.00
100/03-23-007-29W1/0	008509	2/19/2012	Horizontal	BAKKEN-THREE FORKS A	BAKKEN,THREEFK	Producing	8/10/2012	Jun-2016	1.4	40.9	5021.7	4.8	143.7	16259.3	77.84
100/04-23-007-29W1/0	006030	9/22/2006	Vertical	BAKKEN-THREE FORKS A	BAKKEN	Producing	10/3/2006	Feb-2016	0.0	0.2	934.9	0.1	3.9	3529.1	95.12
100/06-23-007-29W1/0	009316	7/29/2013	Horizontal	BAKKEN-THREE FORKS A	BAKKENM	Producing	10/23/2013	Jun-2016	1.0	29.0	2241.3	3.2	96.1	7448.5	76.82
100/11-23-007-29W1/0	009059	11/26/2012	Horizontal	BAKKEN-THREE FORKS A	BAKKEN	Producing	2/7/2013	Jun-2016	1.3	39.7	3486.7	6.4	192.6	14497.2	82.91
102/11-23-007-29W1/0	009110	8/20/2013	Horizontal	BAKKEN-THREE FORKS A	BAKKENM	Producing	10/19/2013	Jun-2016	1.3	37.5	3254.4	5.9	178.2	10883.8	82.61
100/12-23-007-29W1/0	006031	9/17/2006	Vertical	BAKKEN-THREE FORKS A	BAKKEN	Producing	10/3/2006	Feb-2016	0.0	0.4	1614.0	0.1	2.9	4389.3	87.88
100/14-23-007-29W1/0	008178	9/17/2011	Horizontal	BAKKEN-THREE FORKS A	TORQUAY	Producing	11/9/2011	Jun-2016	0.7	21.4	5171.1	2.9	87.2	16910.7	80.29
										455.6	**59848.2**			**162578.5**	
											376385.3 bbl			1022456.2 bbl	

Table No. 4: OOIP Calculation

UWI	MBKKN OOIP 0.5 md (m3)	Lyleton UA OOIP 0.5 md (m3)	Lyleton LA OOIP 0.5 md (m3)	Lyleton B OOIP 0.5 md (m3)	Total OOIP (m3)
01-21-007-29W1M	27355	16554	19226	4029	67164
02-21-007-29W1M	23770	30937	13934	4178	72819
07-21-007-29W1M	18147	31848	7905	5380	63280
08-21-007-29W1M	24371	15358	11043	5116	55889
09-21-007-29W1M	25595	14322	13711	6053	59681
10-21-007-29W1M	17749	38981	7401	5822	69953
15-21-007-29W1M	17490	33543	13353	6604	70991
16-21-007-29W1M	25754	4534	23942	7469	61700
01-22-007-29W1M	16517	30	9976	5342	31866
02-22-007-29W1M	23409	2	15404	5040	43855
03-22-007-29W1M	26853	583	20331	4404	52172
04-22-007-29W1M	27665	6759	25166	4059	63649
05-22-007-29W1M	28212	2253	18519	5221	54205
06-22-007-29W1M	28068	5	18123	5903	52099
07-22-007-29W1M	26514	0	16171	7251	49936
08-22-007-29W1M	22193	243	13937	8240	44613
09-22-007-29W1M	27483	1671	18021	13186	60361
10-22-007-29W1M	29101	24	17155	11031	57310
11-22-007-29W1M	29607	17	17255	8016	54895
12-22-007-29W1M	29909	1925	17830	6719	56383
13-22-007-29W1M	29061	843	21346	9185	60434
14-22-007-29W1M	30316	173	17829	11533	59851
15-22-007-29W1M	30683	11	18104	14888	63686
16-22-007-29W1M	29918	1107	19490	17085	67600
03-23-007-29W1M	10817	2971	9946	3289	27025
04-23-007-29W1M	8554	273	4808	4916	18551
05-23-007-29W1M	17570	1634	12186	7903	39294
06-23-007-29W1M	16333	4819	13619	5081	39852
11-23-007-29W1M	20357	10363	17349	8105	56173
12-23-007-29W1M	23406	8899	18255	13064	63624
13-23-007-29W1M	26284	5361	19257	16643	67544
14-23-007-29W1M	22875	10989	19214	11929	65007
					1,771,460 **M3**
					11,142 **MBBLS**

0.5 md Cutoff

Unit	Porosity	SW
MBKKN	0.162334	0.45
Lyleton Upper A	0.158291	0.35
Lyleton Lower A	0.156462	0.40
Lyleton B	0.166853	0.45

Bo: 1.08

TABLE NO. 5

Sinclair Unit 18 - Section 21, 22 & 23-07-29W1
Middle Bakken/Three Forks Fm (Lyleton) Rock and Fluid Properties

Formation Pressure		8,900 kPa @ -473 mSS	Initial Average Reservoir Pressure
Formation Temperature		30^{o}C	
Saturation Pressure		2040 kPa	Bubble Point
GOR		4-8 m^3/m^3	Gas-Oil Ratio
API Oil Gravity		37-43	
Swi (fraction)		0.35-0.45	Intial Water Saturation
Produced Water Sp. Gr.		1.1	
Produced Water pH		6.8-7.3	
Produced Water TDS (mg/L)		155,000-170,000	
Wettability		Moderately oil-wet	
Average Air Permeability	Middle Bakken	1.3	Wt. Average Core Data
	Lyleton A	3.5	(kmax>0.5 mD)
	Lyleton B	1.8	
Average Porosity (Fraction)	Middle Bakken	0.16	Wt. Average Core Data
	Lyleton A	0.16	(kmax>0.5 mD)
	Lyleton B	0.17	

Wt Average from all MBKKN/Lyleton Cores in the proposed Sinclair Unit 18 boundary and immediate area

Proposed Sinclair Unit No. 18

Application for Enhanced Oil Recovery Waterflood Project

LIST OF APPENDICES

A

100/04-23-007-29W1/00
Govt License Number: 6030
Date Well Spudded: 2006/09/18
Reference (KB) Elev.: +517.0 m
Cumulative Oil Prod: 934.9 m3
Cumulative Wtr Prod: 3529.1 m3
Well Name: TUNDRA SINCLAIR

<=1730.3m=>

100/04-22-007-29W1/00
Govt License Number: 5271
Date Well Spudded: 2004/06/09
Reference (KB) Elev.: +522.5 m
Cumulative Oil Prod: 1951.3 m3
Cumulative Wtr Prod: 4711.5 m3
Well Name: TUNDRA SINCLAIR

<=856.5m=>

100/07-21-007-29W1/00
Govt License Number: 6281
Date Well Spudded: 2007/03/07
Reference (KB) Elev.: +519.7 m
Cumulative Oil Prod: 2996.7 m3
Cumulative Wtr Prod: 3116.6 m3
Well Name: TUNDRA SINCLAIR

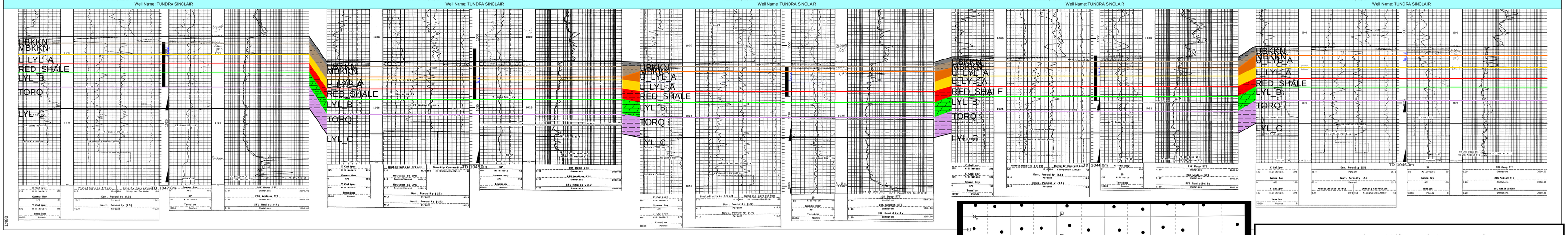
<=430.5m=>

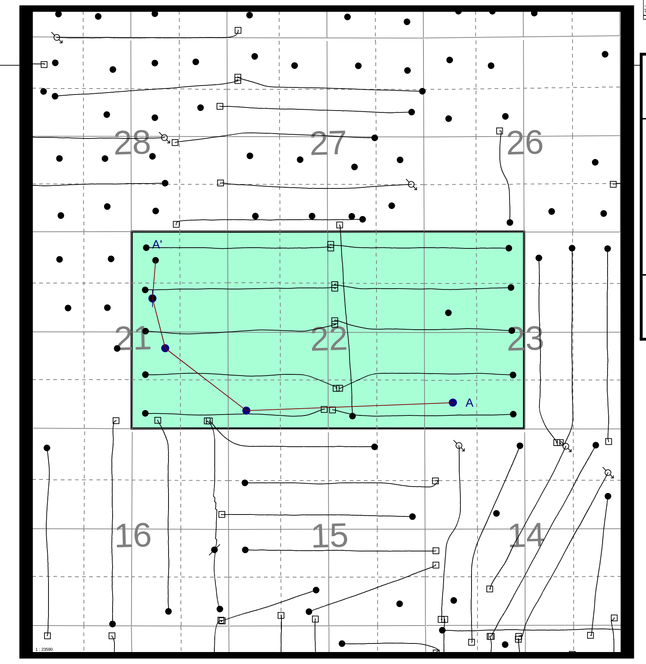
100/10-21-007-29W1/00
Govt License Number: 6272
Date Well Spudded: 2007/02/16
Reference (KB) Elev.: +522.1 m
Cumulative Oil Prod: 2497.9 m3
Cumulative Wtr Prod: 3454.4 m3
Well Name: TUNDRA SINCLAIR

<=320.1m=>

100/15-21-007-29W1/00
Govt License Number: 6729
Date Well Spudded: 2008/08/15
Reference (KB) Elev.: +524.3 m
Cumulative Oil Prod: 2748.5 m3
Cumulative Wtr Prod: 2612.2 m3
Well Name: TUNDRA SINCLAIR

A'





Tundra Oil and Gas Ltd

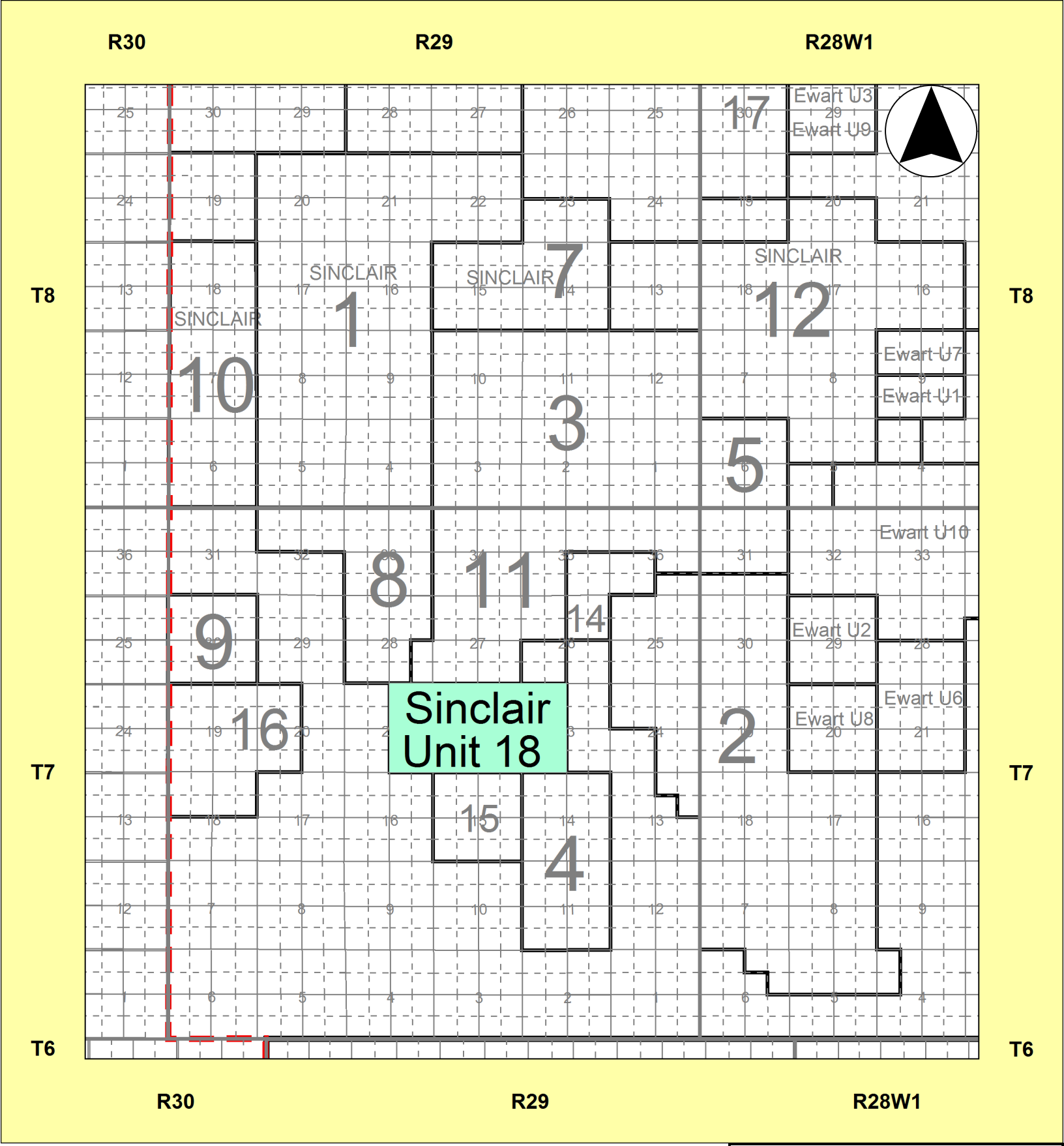
Structural Cross Section A-A'
Proposed Unit Area

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com

Date : 2016/06/10		By : Howell
Datum : Sea Level	Ref : 0.0 (m)	Scale = 1:480
Interval : From UBKKN to TORQ		

Appendix No. 1



Appendix No. 2

Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18

Proposed Sinclair Unit 18 Boundary

Offsetting Units in SW Manitoba

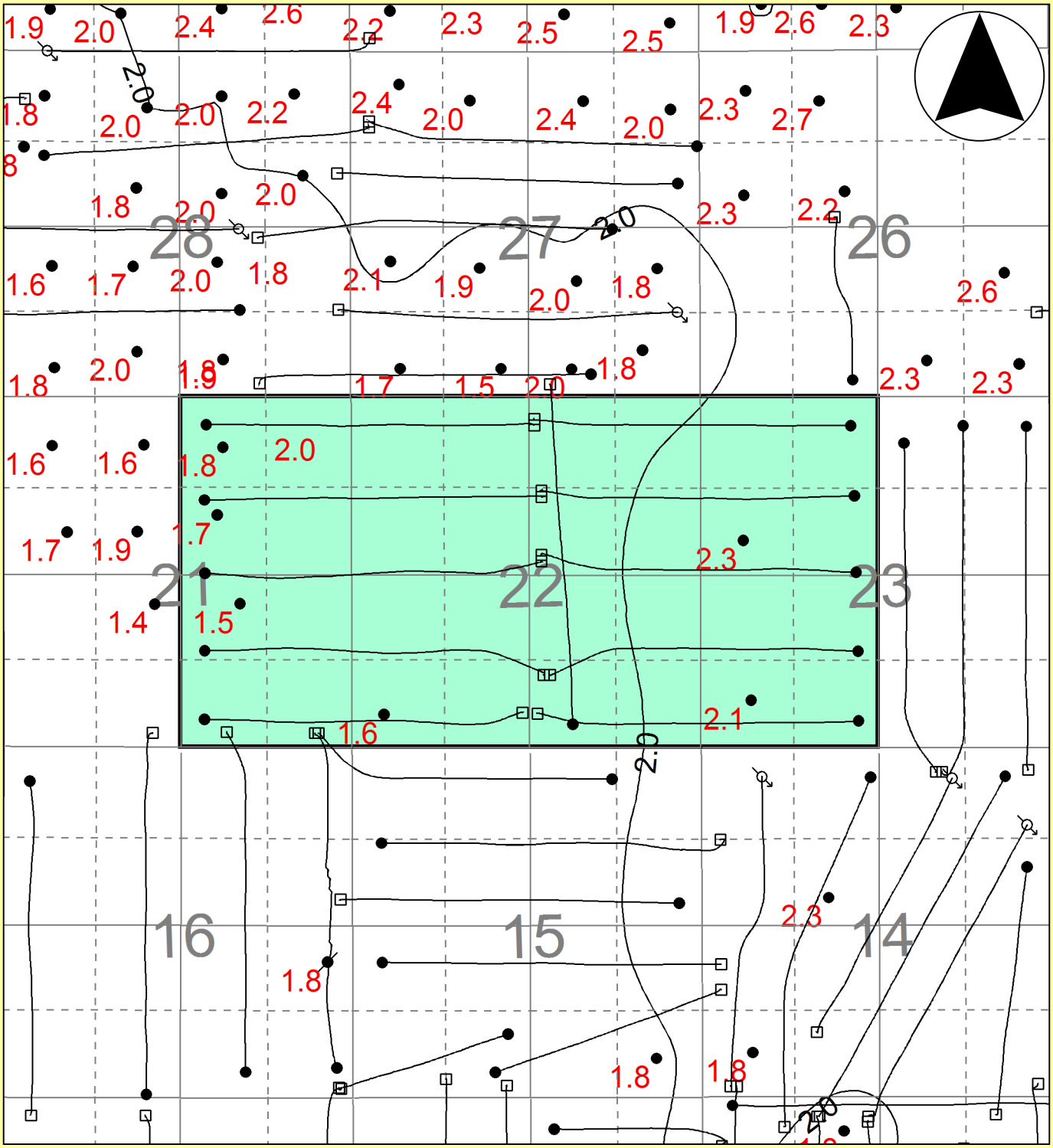
Licensed to : Tundra Oil and Gas Ltd

geoSCOUT

By : Howell | Date : 2016/06/10

Scale = 1:91500 | Project : Sinclair Daly 2015 Expansion

R29W1



T7

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R29W1

Appendix No. 3

Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18

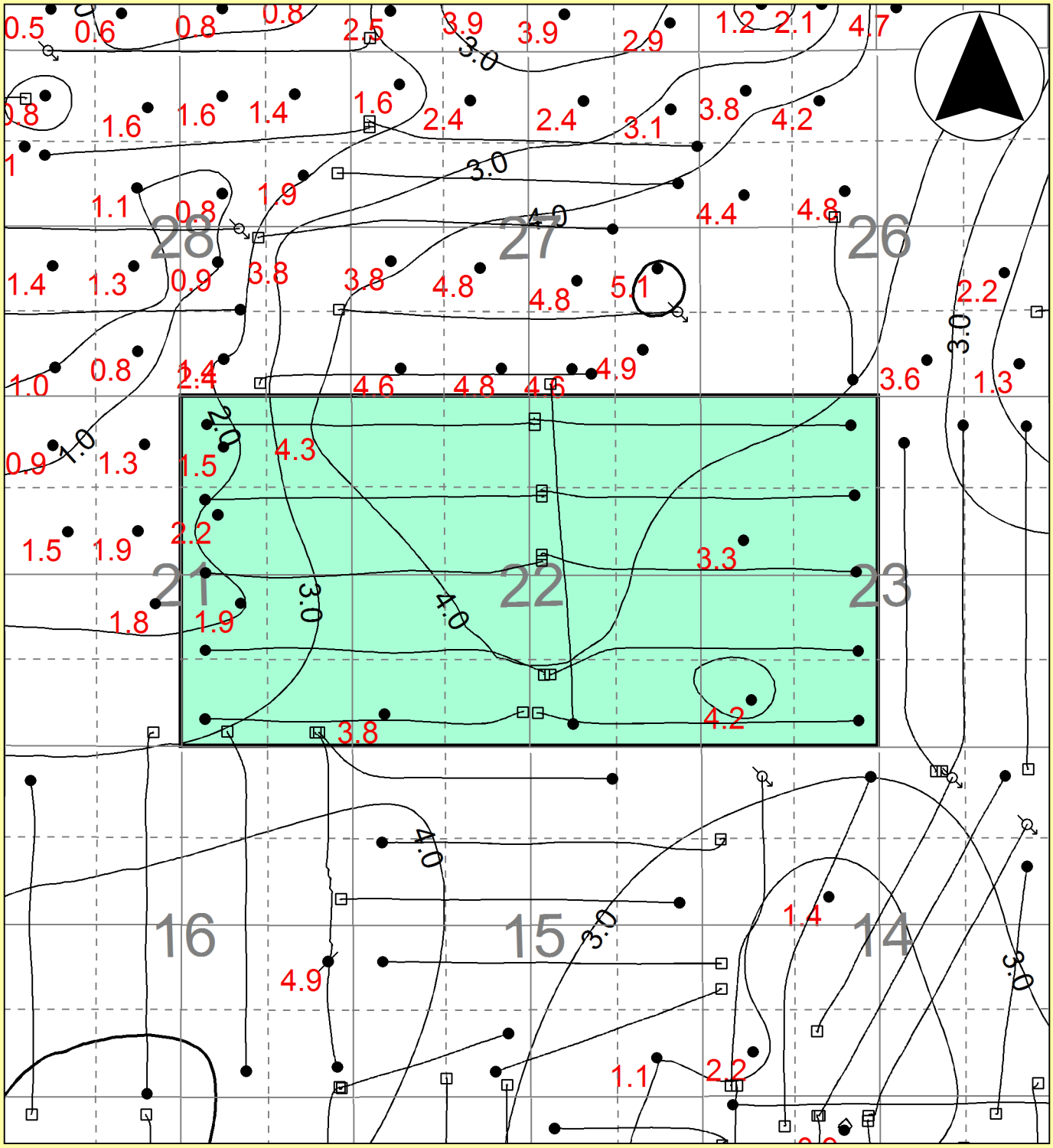
Upper Bakken Isopach

CI=1m, Well values posted in RED

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 4

Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18

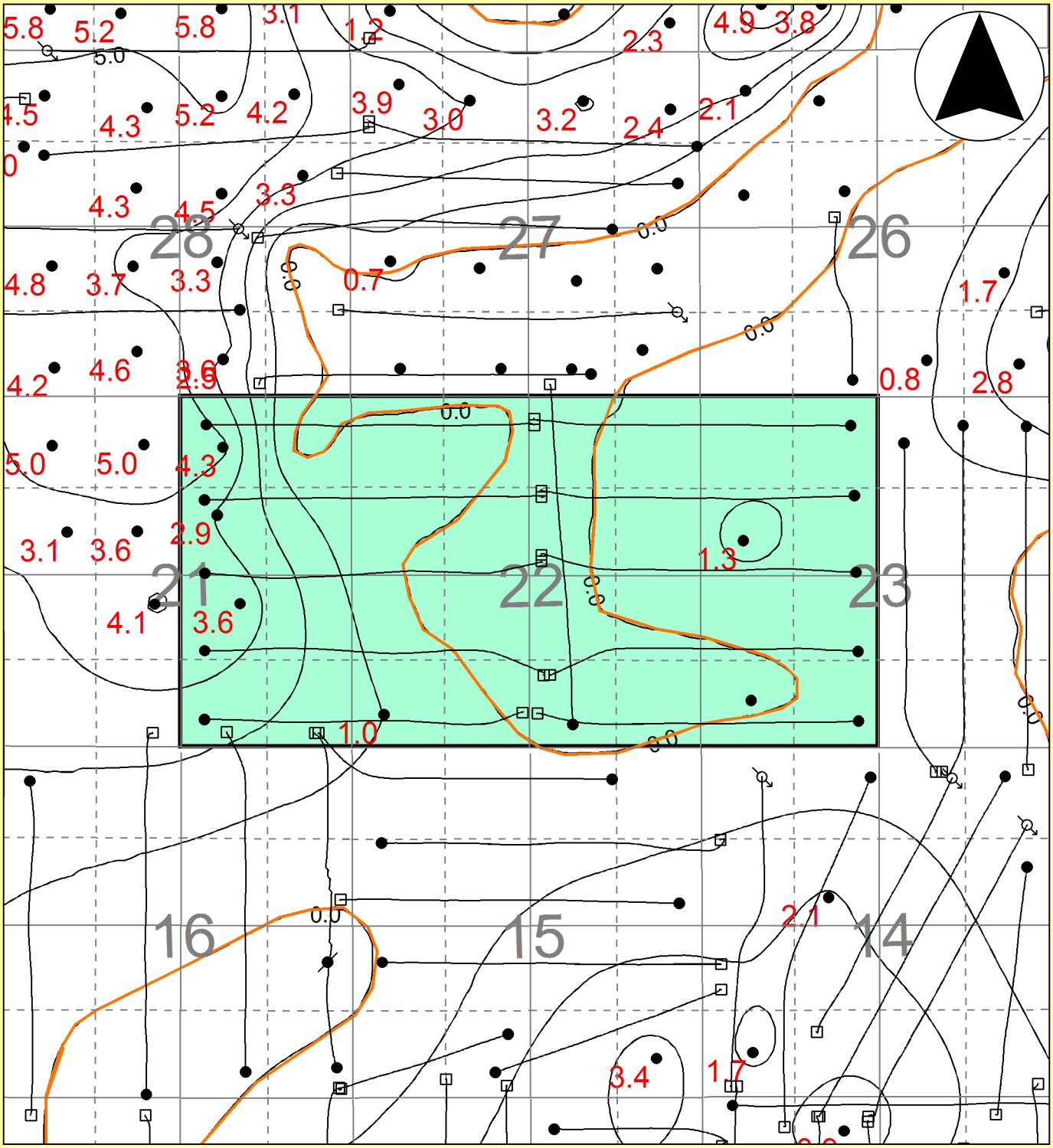
Middle Bakken Isopach

CI=1m, Well values posted in RED

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 5

Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18

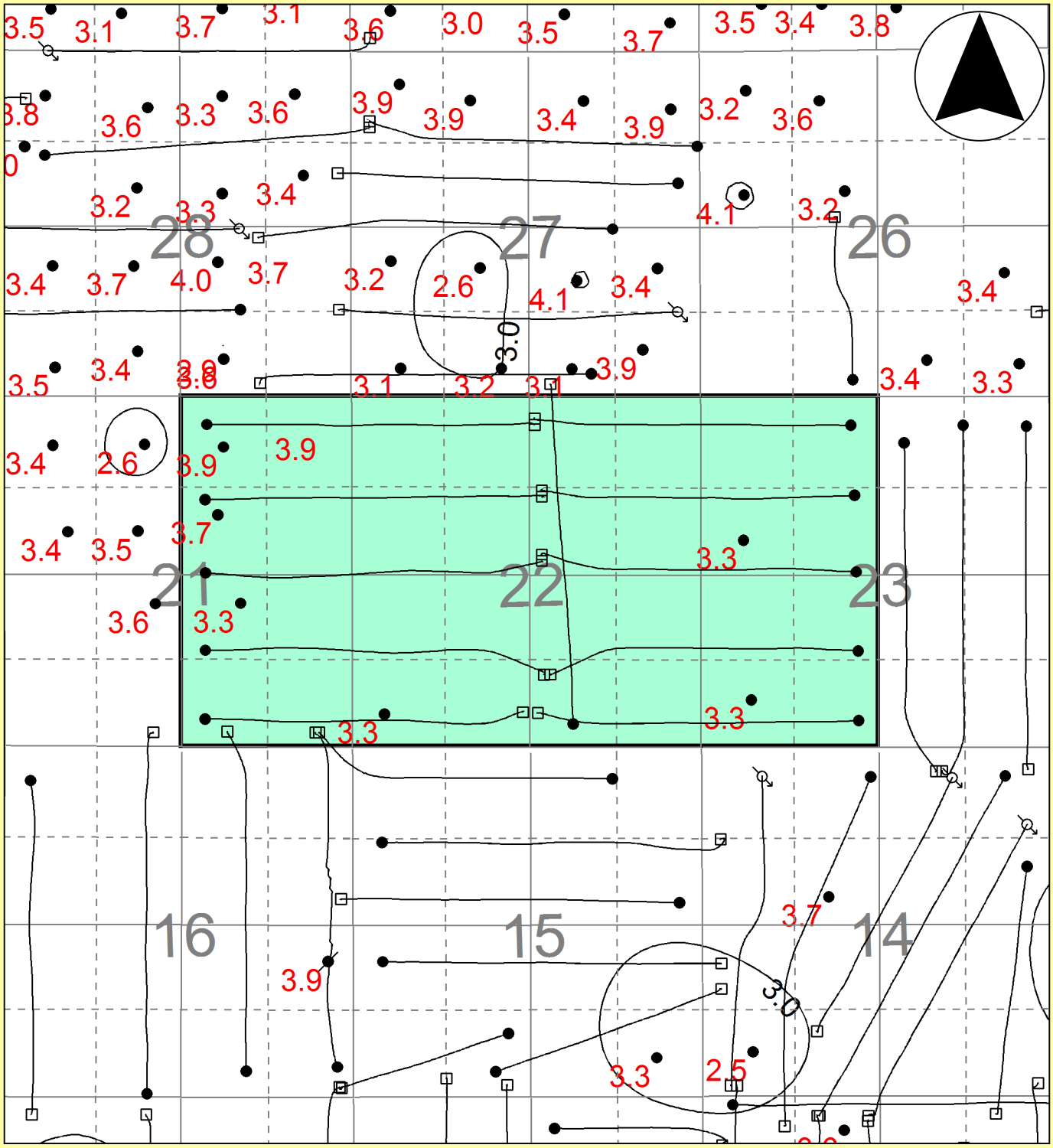
Upper Lyleton A Isopach

CI=1m, Well values posted in RED

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 6

Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18

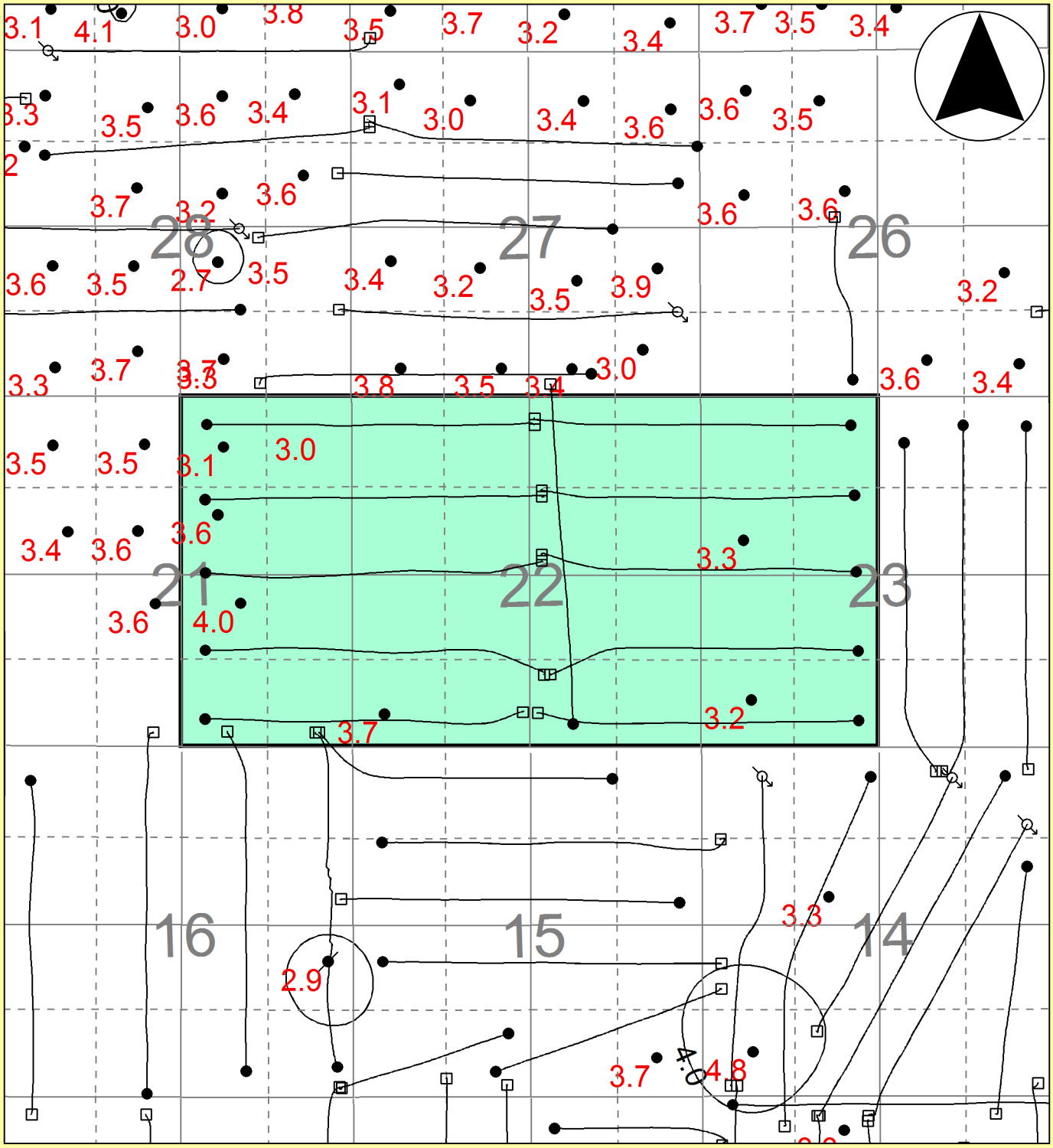
Lower Lyleton A Isopach

CI=1m, Well values posted in RED

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 7

Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18

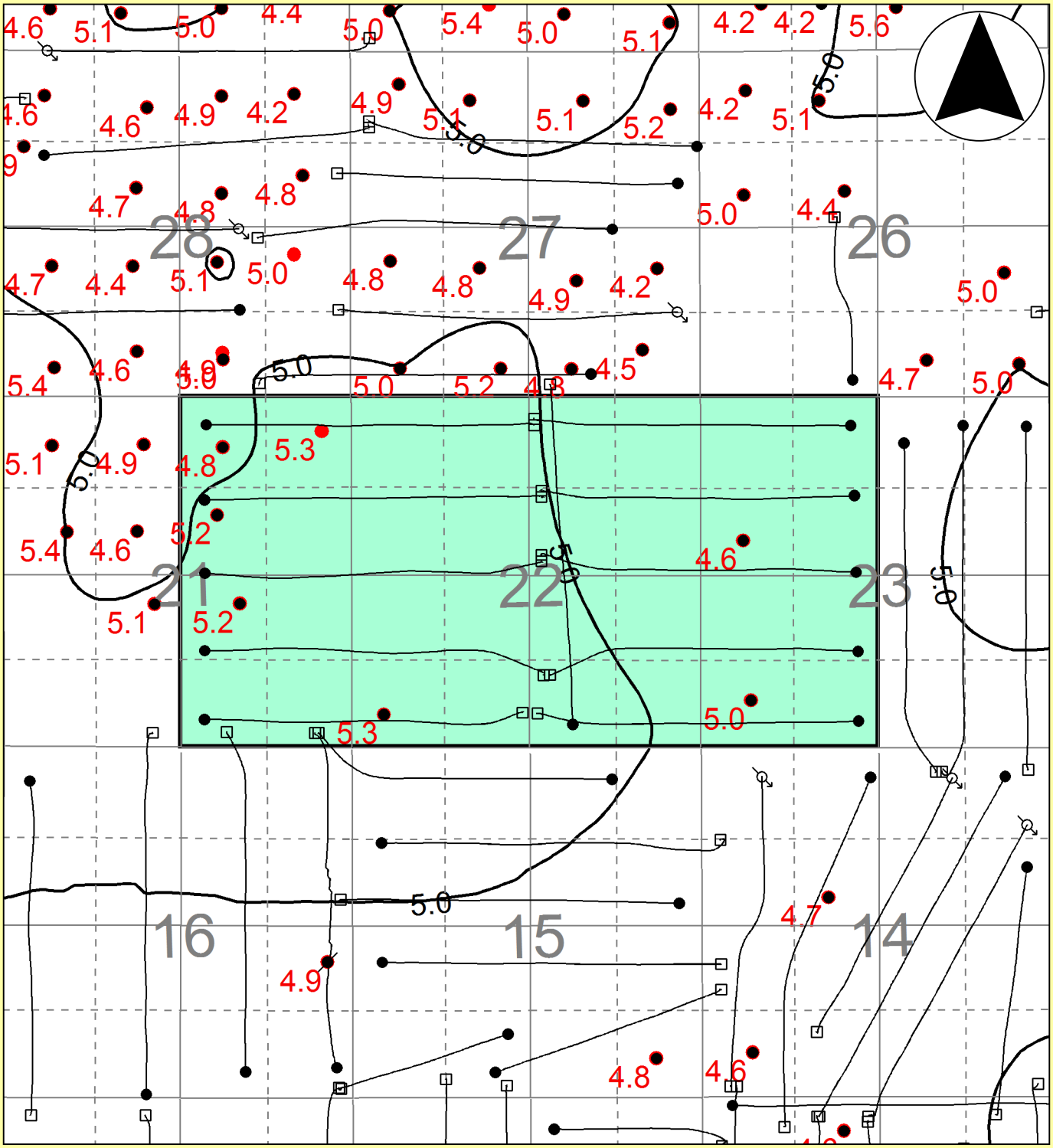
Red Shale Isopach

CI=1m, Well values posted in RED

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



R29W1

Appendix No. 8

Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18

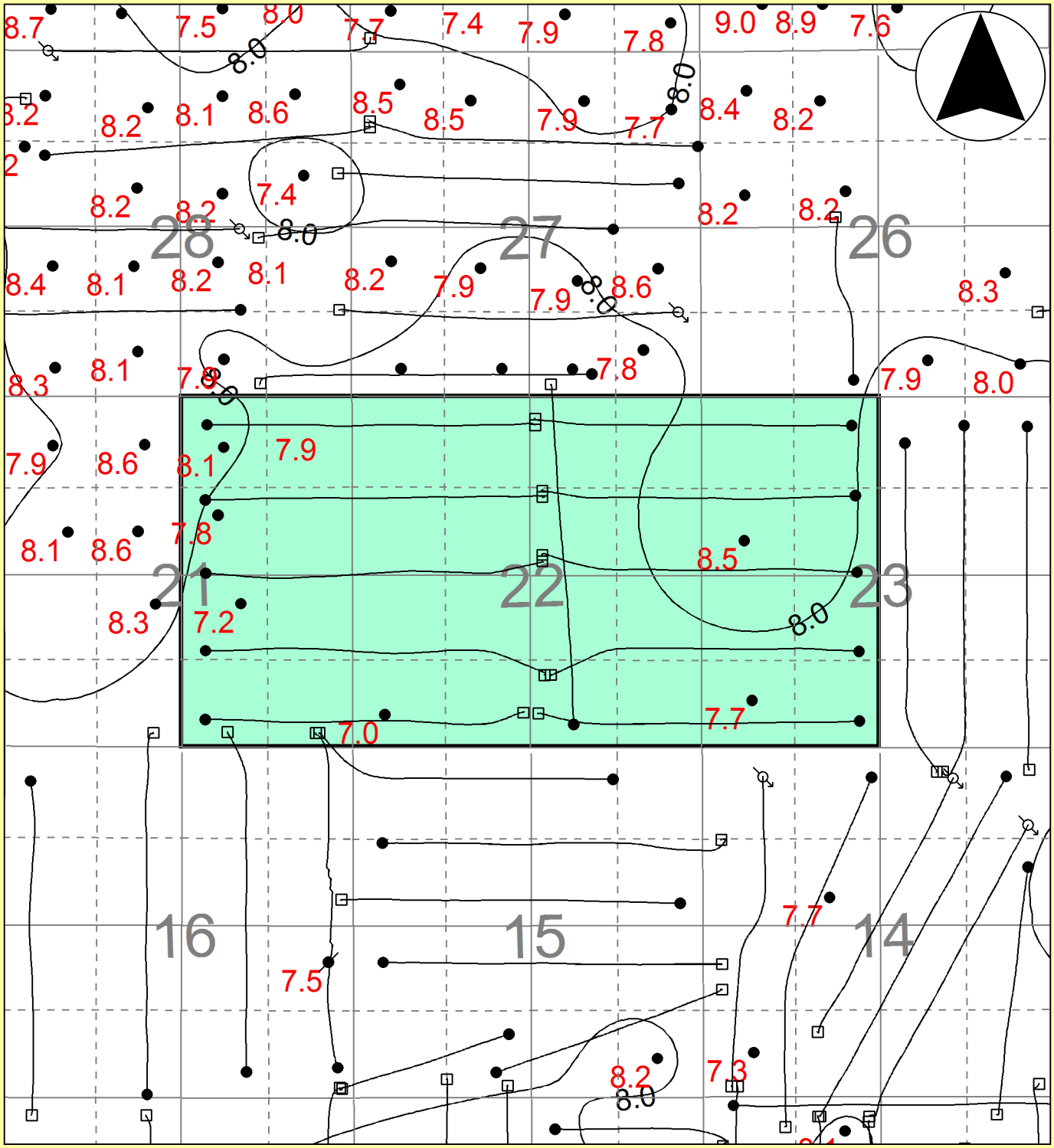
Lyleton B Isopach

CI=1m, Well values posted in RED

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 9

Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18

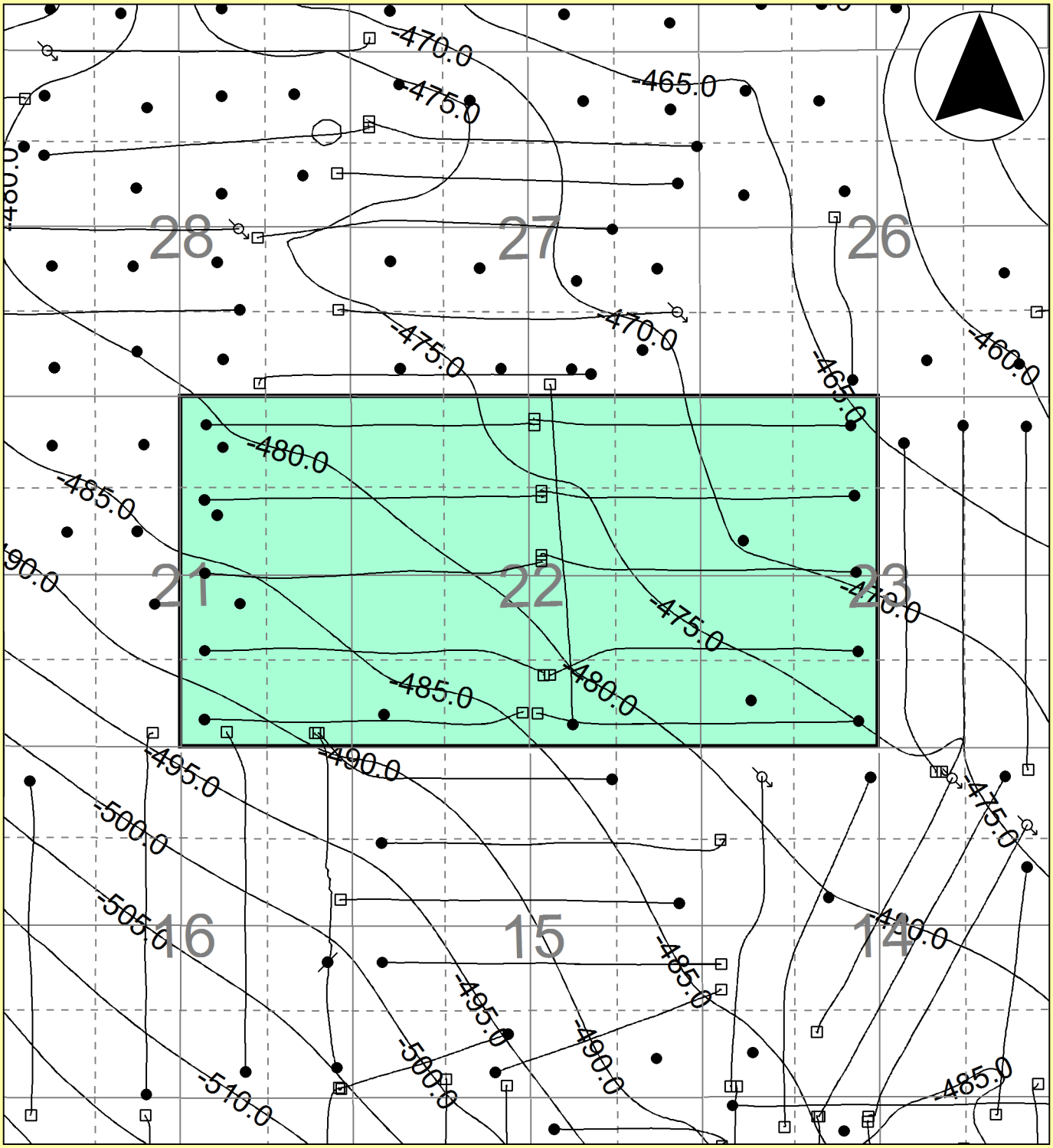
Torquay Shale Isopach

CI=1m, Well values posted in RED

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 10

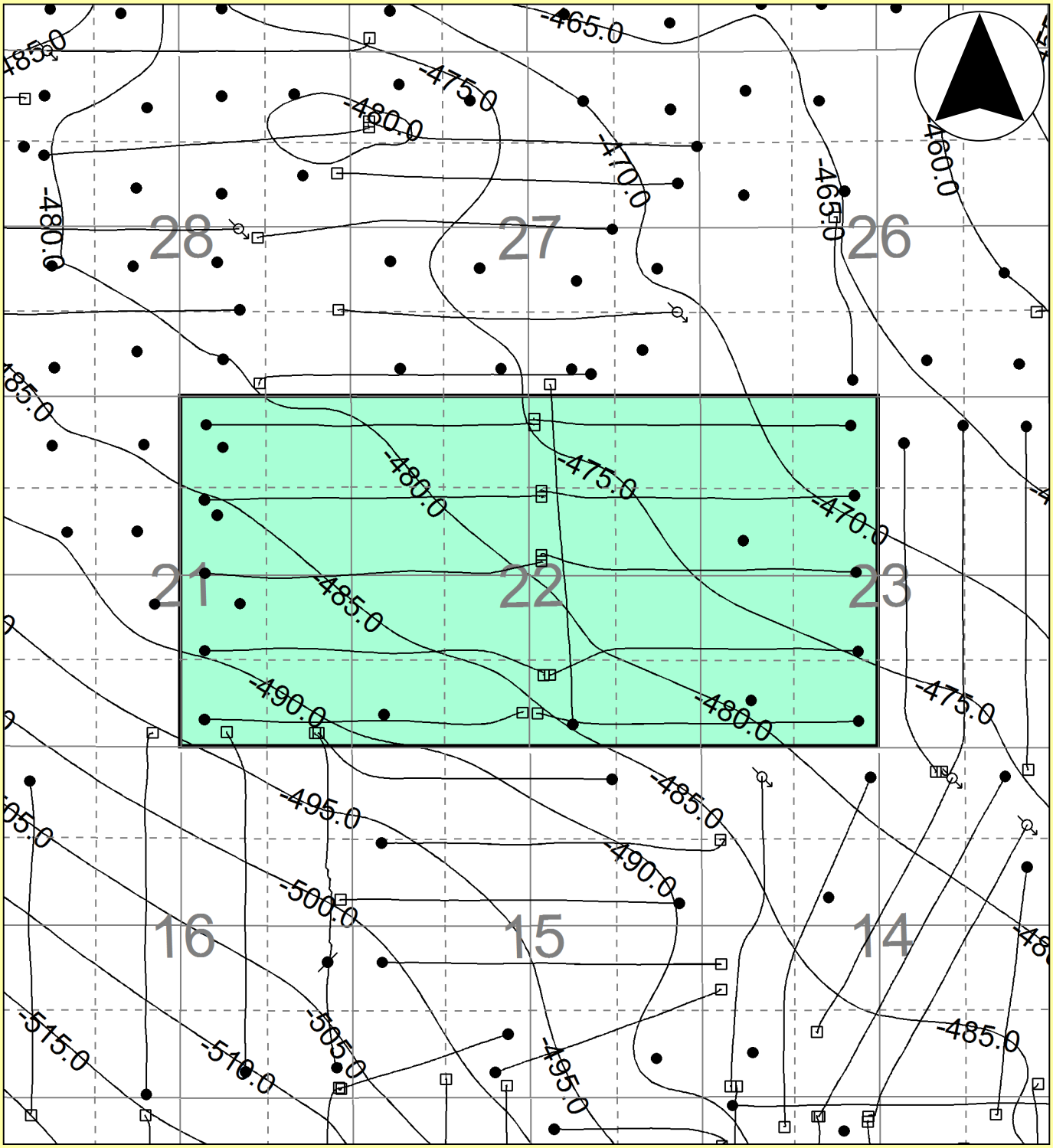
Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18
Upper Bakken Structure
CI=5m

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 11

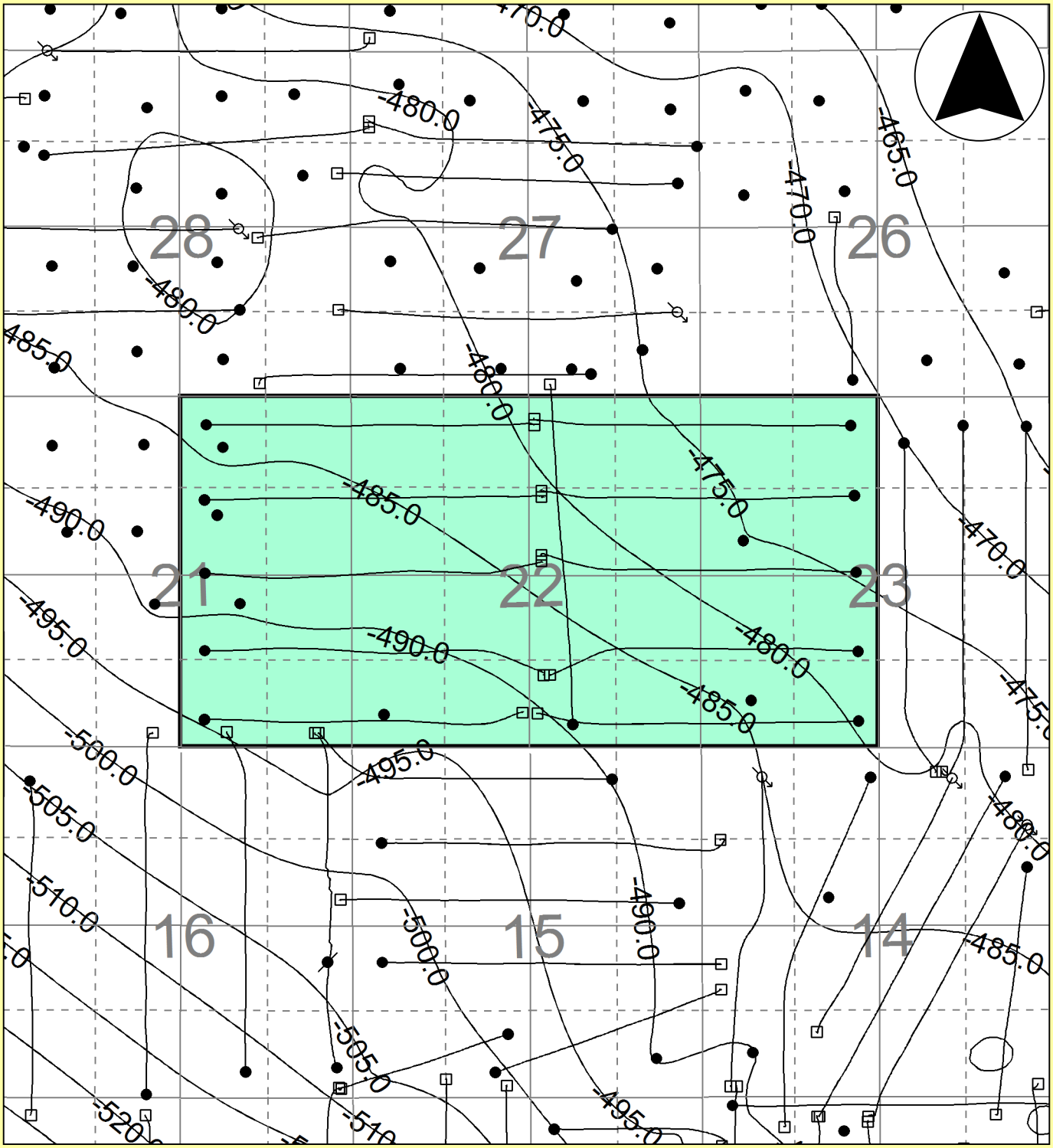
Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18
Middle Bakken Structure
CI=5m

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 12

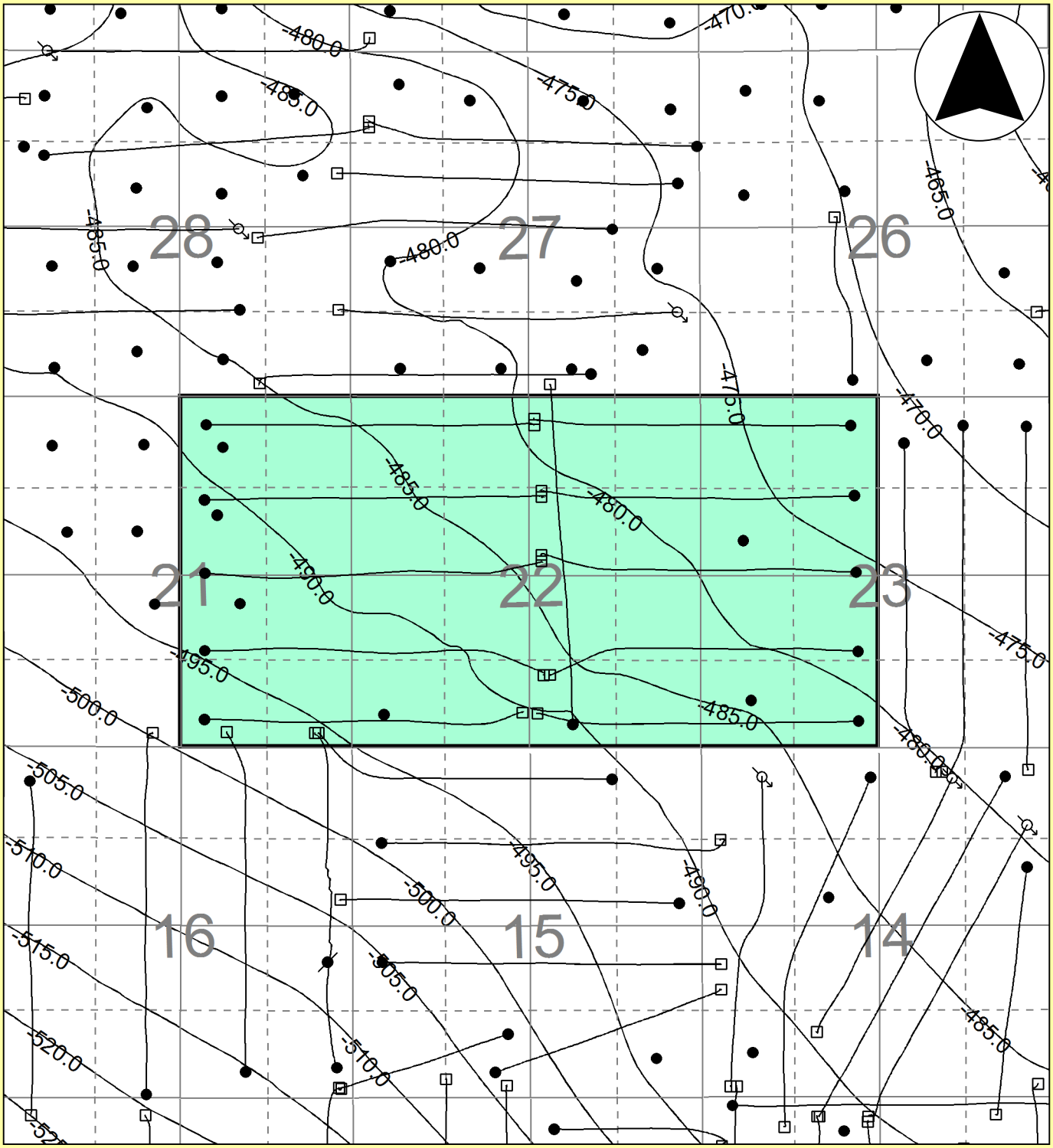
Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18
Upper Lyleton A Structure
CI=5m

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 13

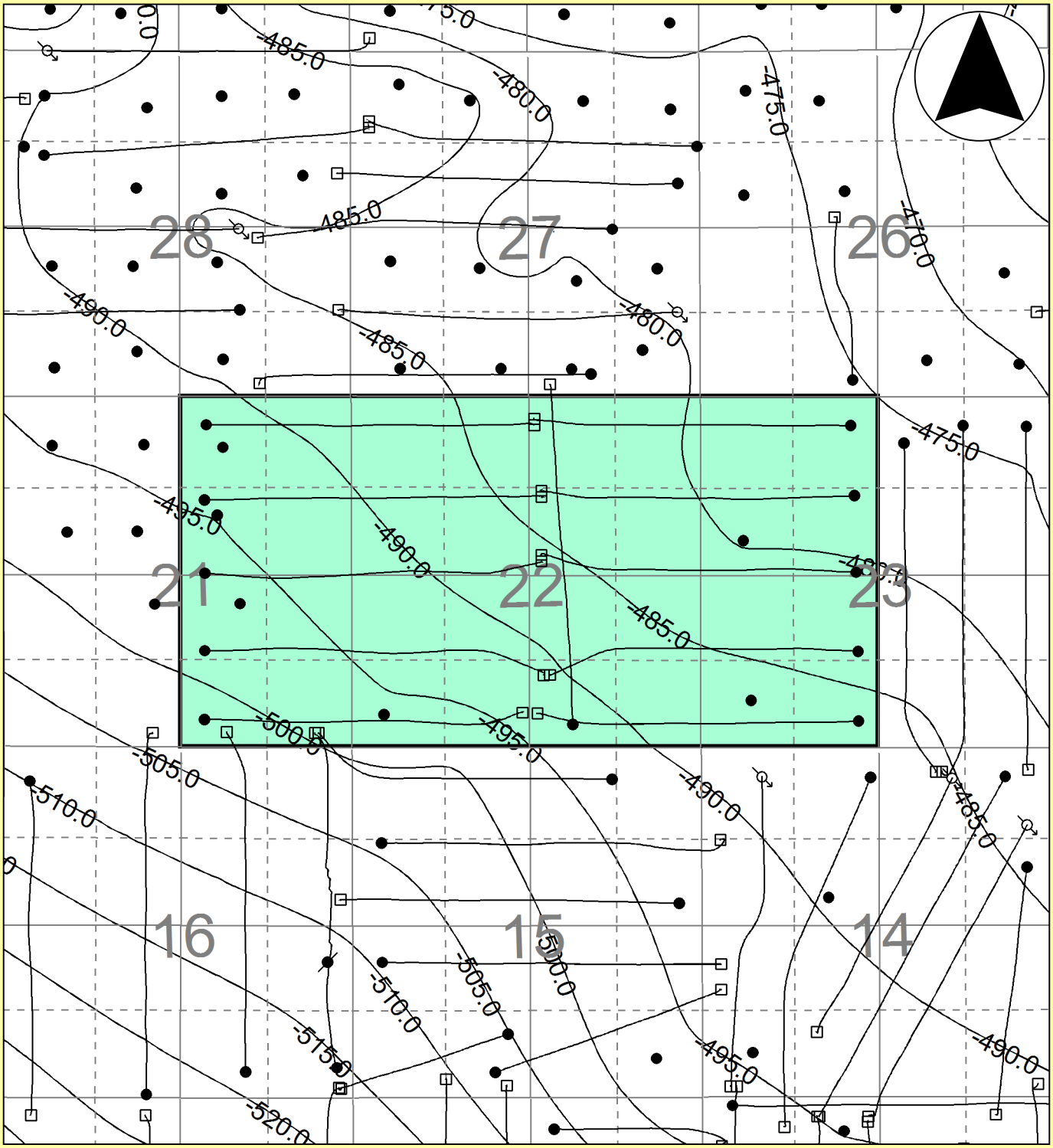
Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18
Lower Lyleton A Structure
CI=5m

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 14

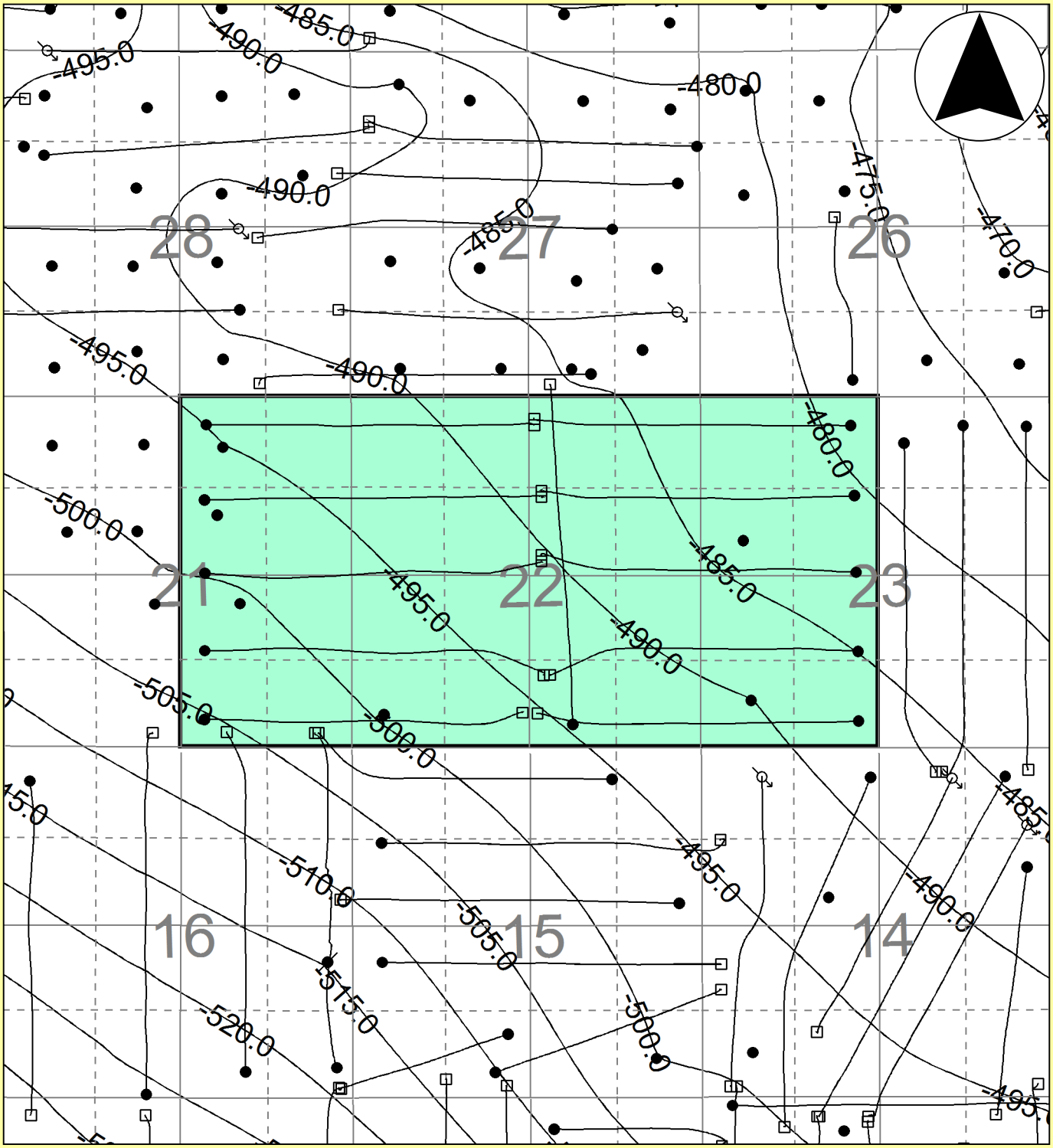
Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18
Red Shale Structure
CI=5m

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 15

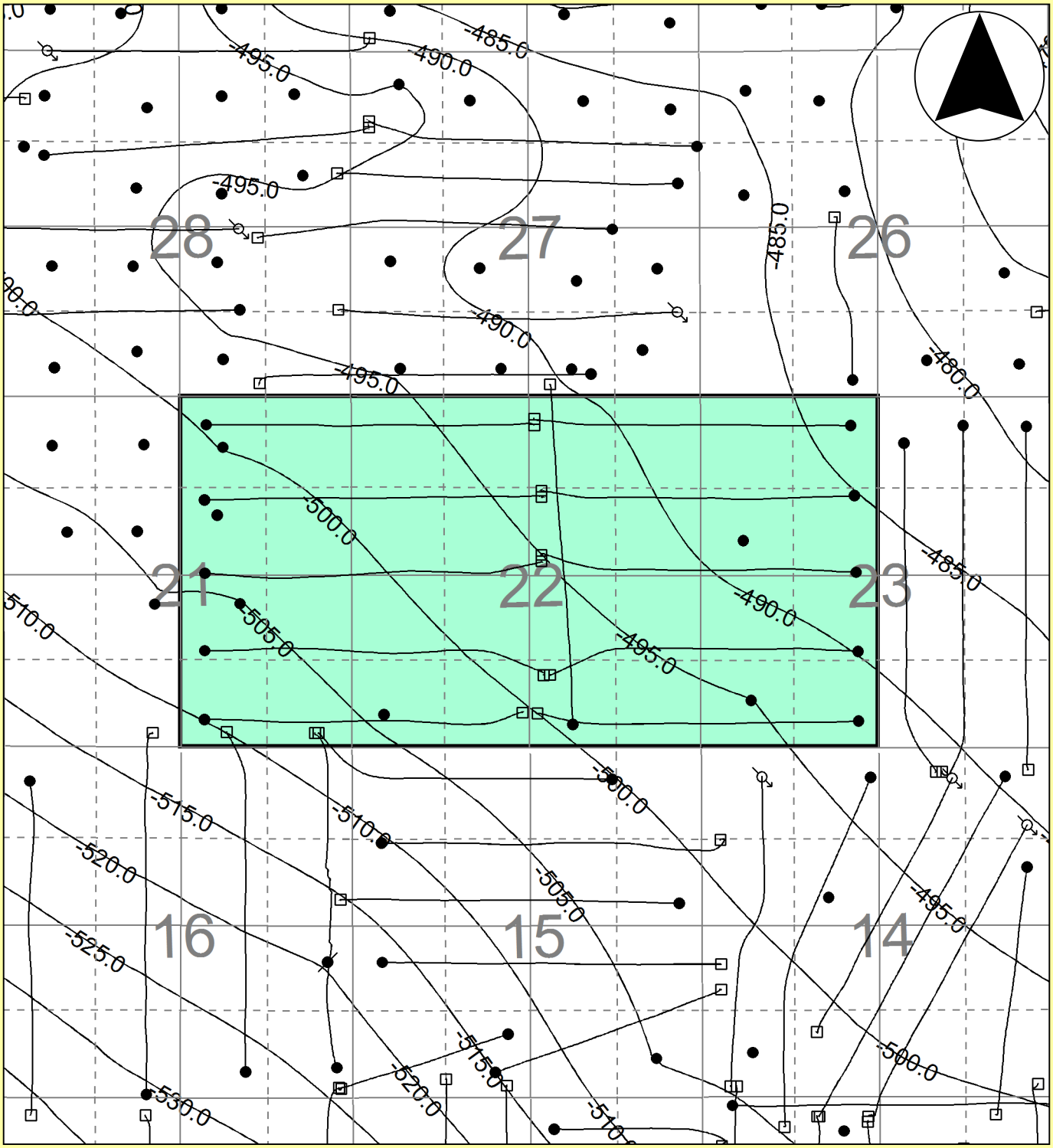
Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18
Lyleton B Structure
CI=5m

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 16

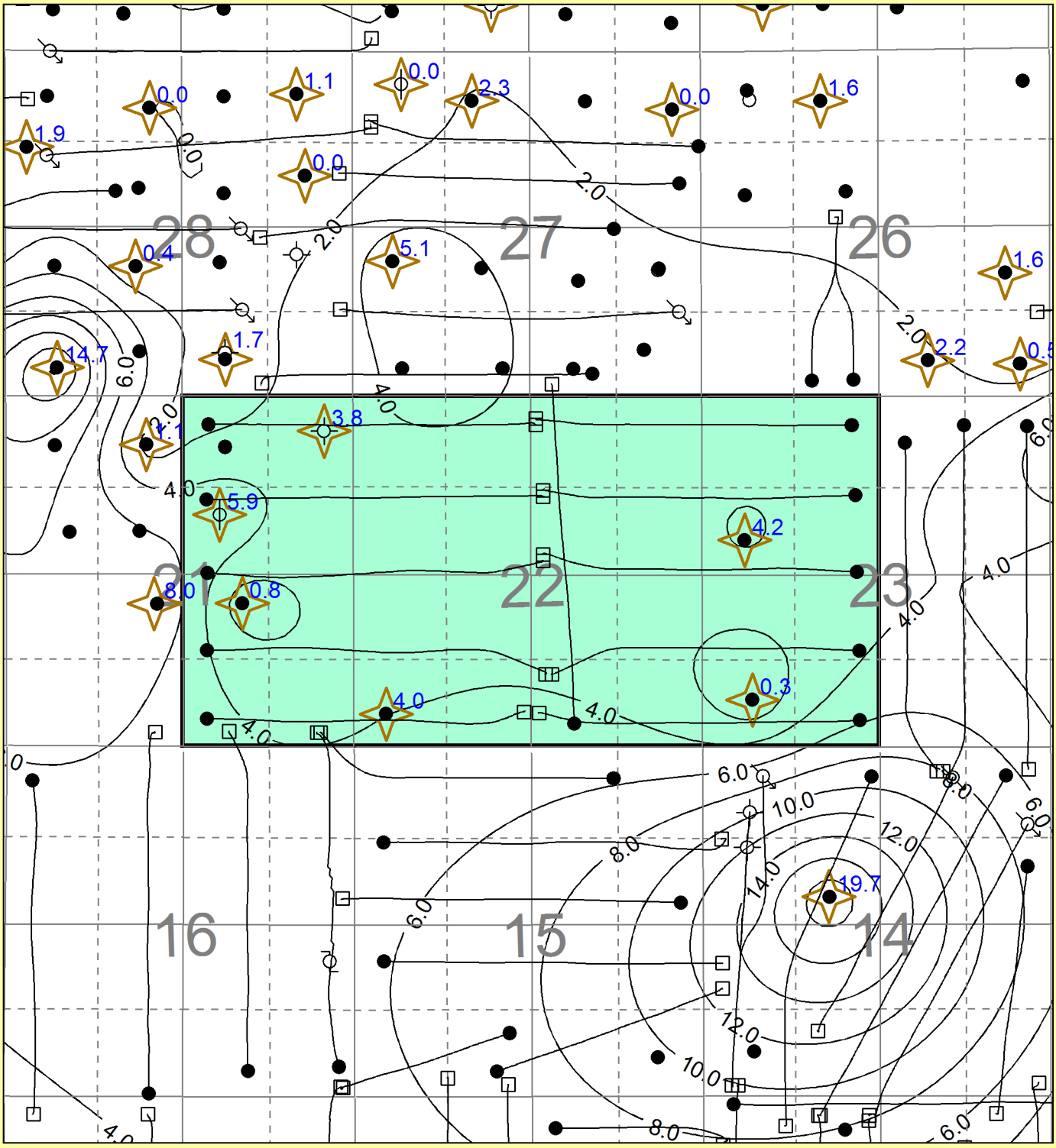
Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18
Torquay Shale Structure
CI=5m

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/10
	Scale = 1:27279	Project : Sinclair Daly 2015 Expansion

R29W1



T7

T7

R29W1

Appendix No. 17

Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18

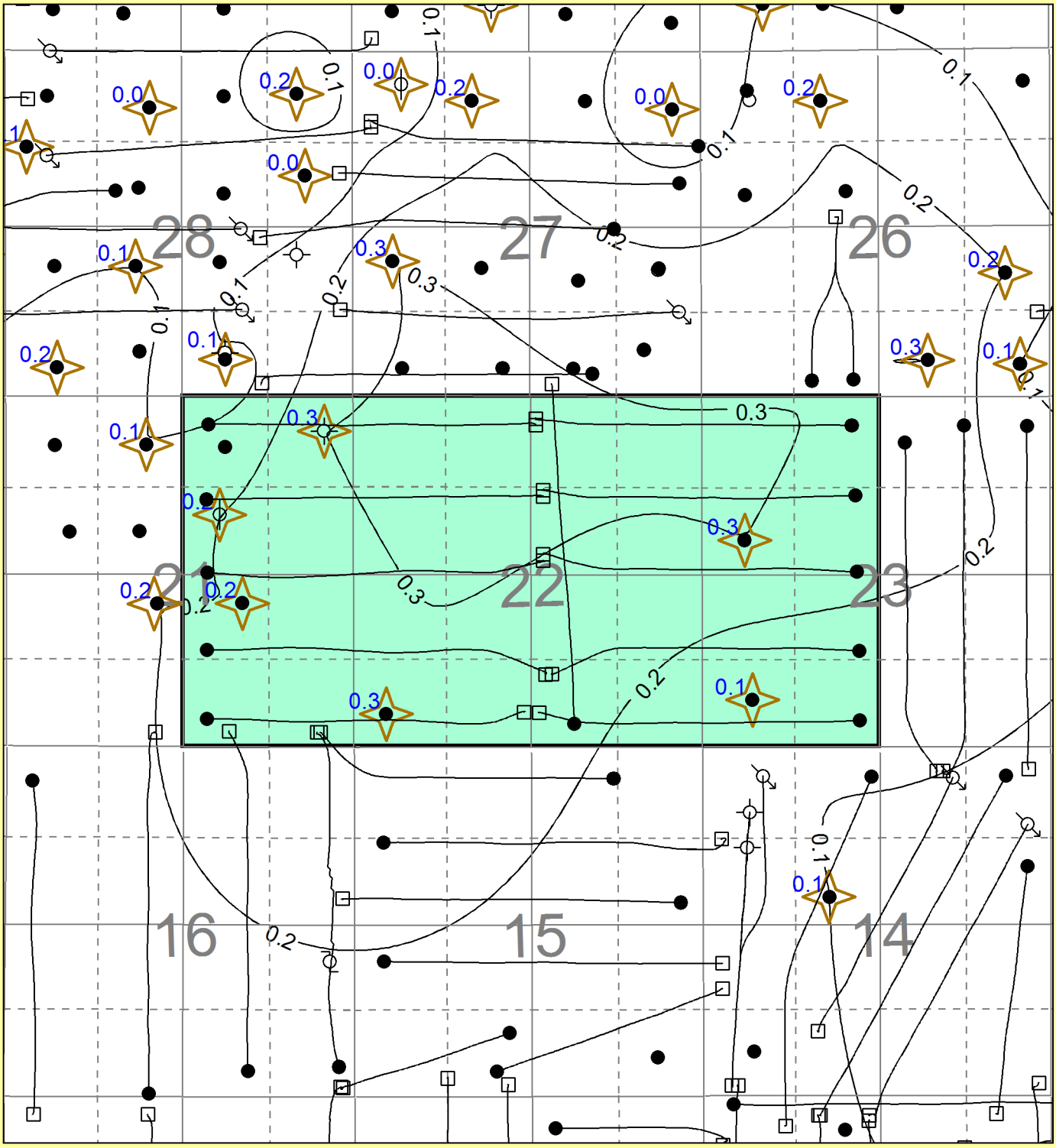
Middle Bakken K*H@0.5md CO, CI=2mD*m

Core points starred and values posted

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT	By : Howell	Date : 2016/06/13
	Scale = 1:27249	Project : Sinclair Daly 2015 Expansion

R29W1

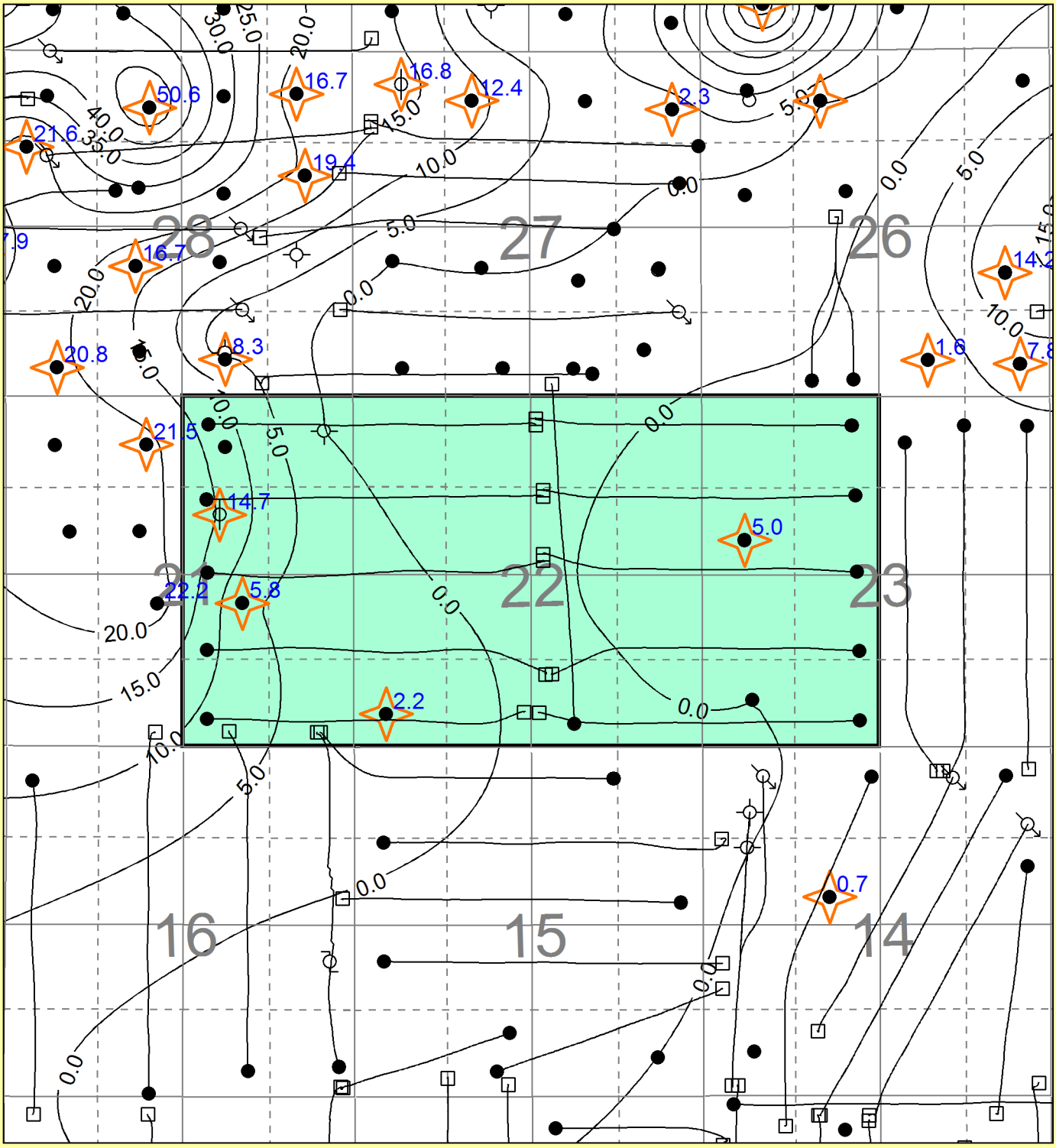


R29W1

Appendix No. 18

Tundra Oil and Gas Ltd		
PROPOSED SINCLAIR UNIT 18 Middle Bakken Phi*H@0.5md CO, CI=0.1phi*m Core points starred and values posted		
Licensed to : Tundra Oil and Gas Ltd		
geoSCOUT	By : Howell	Date : 2016/06/13
	Scale = 1:27249	Project : Sinclair Daly 2015 Expansion

R29W1



R29W1

Appendix No. 19

Tundra Oil and Gas Ltd

PROPOSED SINCLAIR UNIT 18

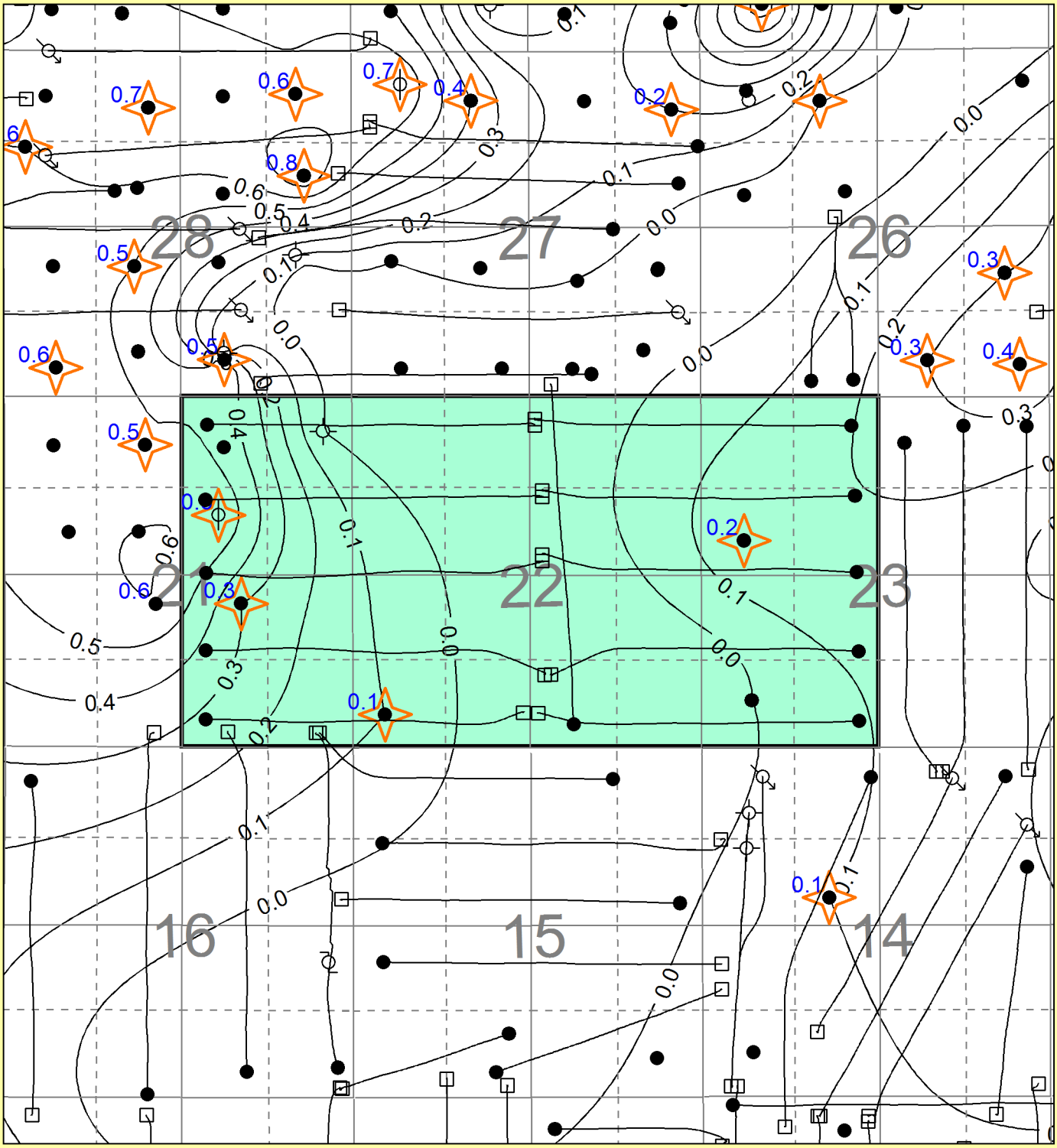
Upper Lyleton A K*H@0.5md CO, CI=5mD*m

Core points starred and values posted

Licensed to : Tundra Oil and Gas Ltd

geoSCOUT	By : Howell	Date : 2016/06/13
	Scale = 1:27249	Project : Sinclair Daly 2015 Expansion

R29W1

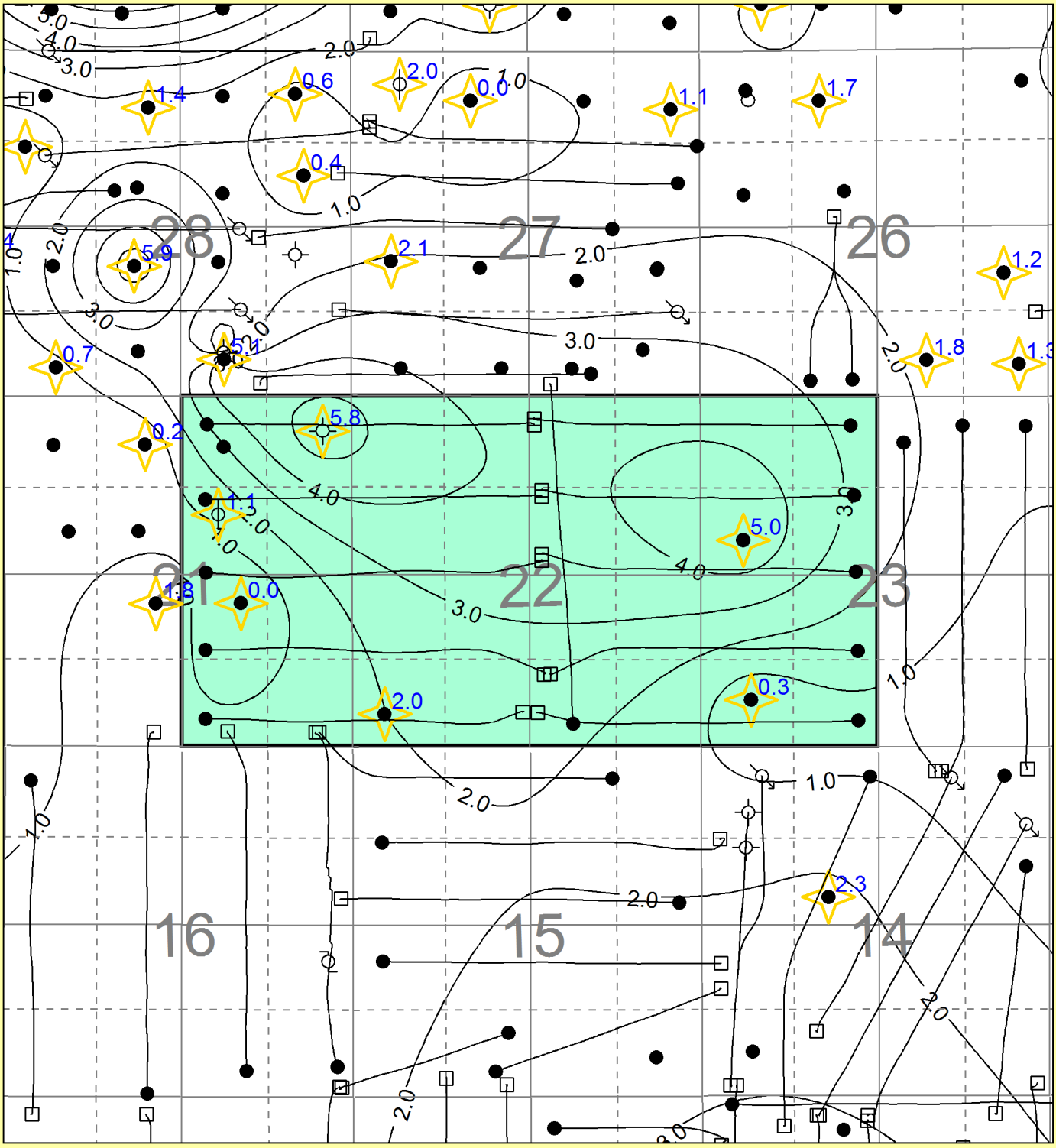


R29W1

Appendix No. 20

Tundra Oil and Gas Ltd		
PROPOSED SINCLAIR UNIT 18 Upper Lyleton A Phi*H@0.5md CO, CI=0.1phi*m Core points starred and values posted		
Licensed to : Tundra Oil and Gas Ltd		
geoSCOUT	By : Howell	Date : 2016/06/13
	Scale = 1:27249	Project : Sinclair Daly 2015 Expansion

R29W1

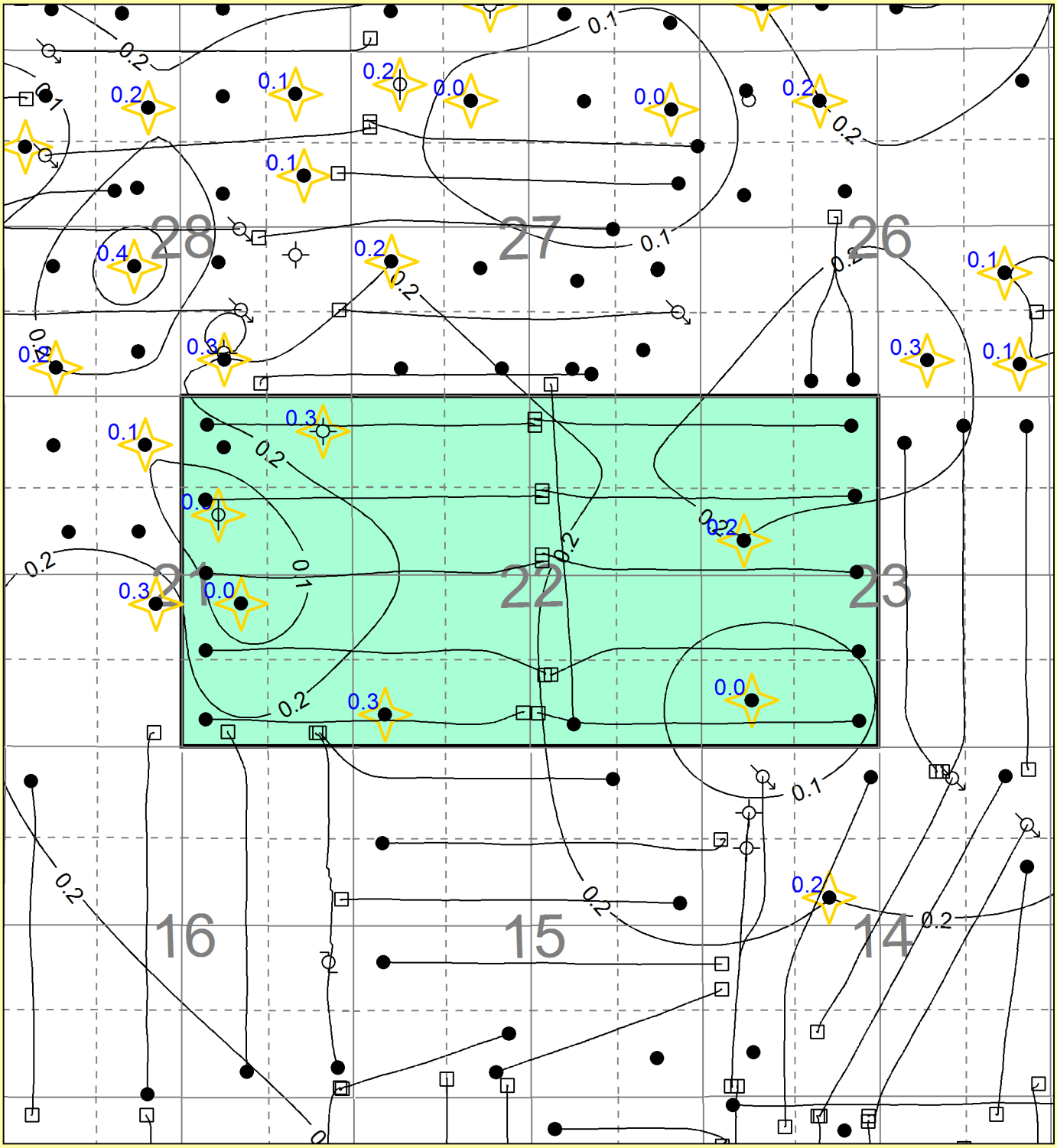


R29W1

Appendix No. 21

Tundra Oil and Gas Ltd		
PROPOSED SINCLAIR UNIT 18 Lower Lyleton A K*H@0.5md CO, CI=1mD*m Core points starred and values posted		
Licensed to : Tundra Oil and Gas Ltd		
geoSCOUT www.geologic.com	By : Howell	Date : 2016/06/13
	Scale = 1:27249	Project : Sinclair Daly 2015 Expansion

R29W1

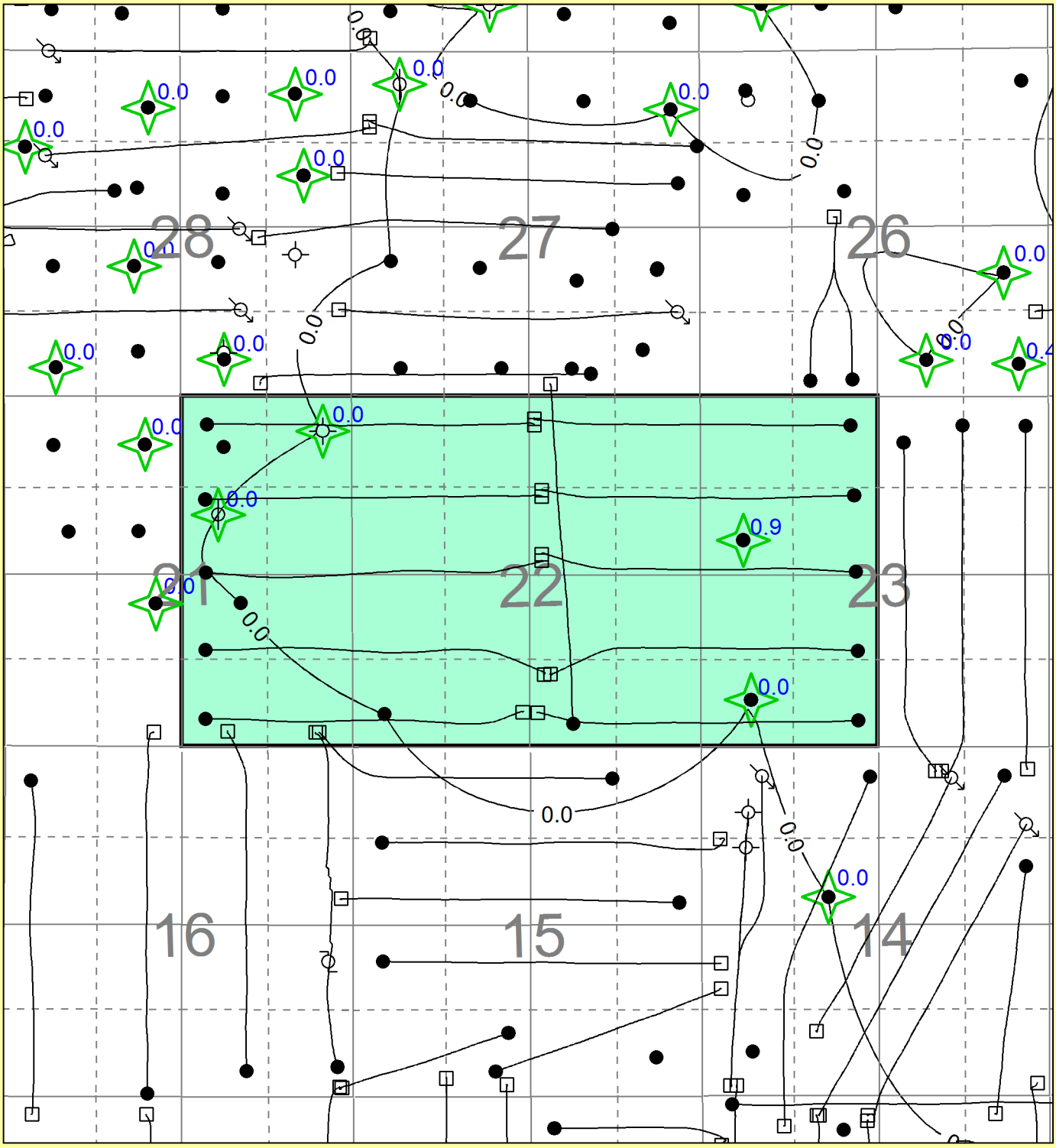


R29W1

Appendix No. 22

Tundra Oil and Gas Ltd		
PROPOSED SINCLAIR UNIT 18 Lower Lyleton A Phi*H@0.5md CO, CI=0.1phi*m Core points starred and values posted		
Licensed to : Tundra Oil and Gas Ltd		
geoSCOUT	By : Howell	Date : 2016/06/13
	Scale = 1:27249	Project : Sinclair Daly 2015 Expansion

R29W1



T7

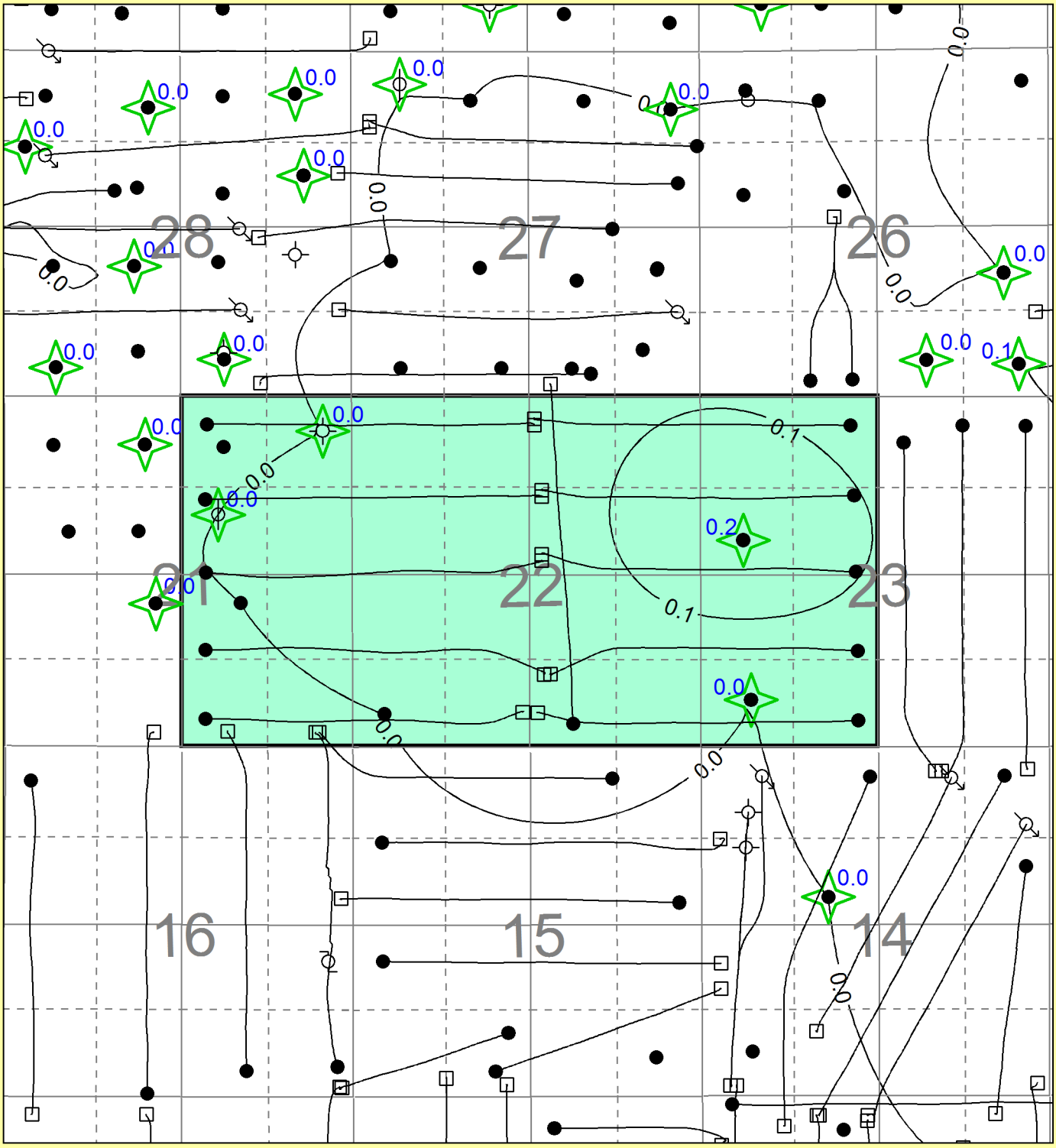
T7

R29W1

Appendix No. 23

Tundra Oil and Gas Ltd		
PROPOSED SINCLAIR UNIT 18 Lyleton B K*H@0.5md CO, CI=1mD*m Core points starred and values posted		
Licensed to : Tundra Oil and Gas Ltd		
geoSCOUT	By : Howell	Date : 2016/06/13
	Scale = 1:27249	Project : Sinclair Daly 2015 Expansion

R29W1



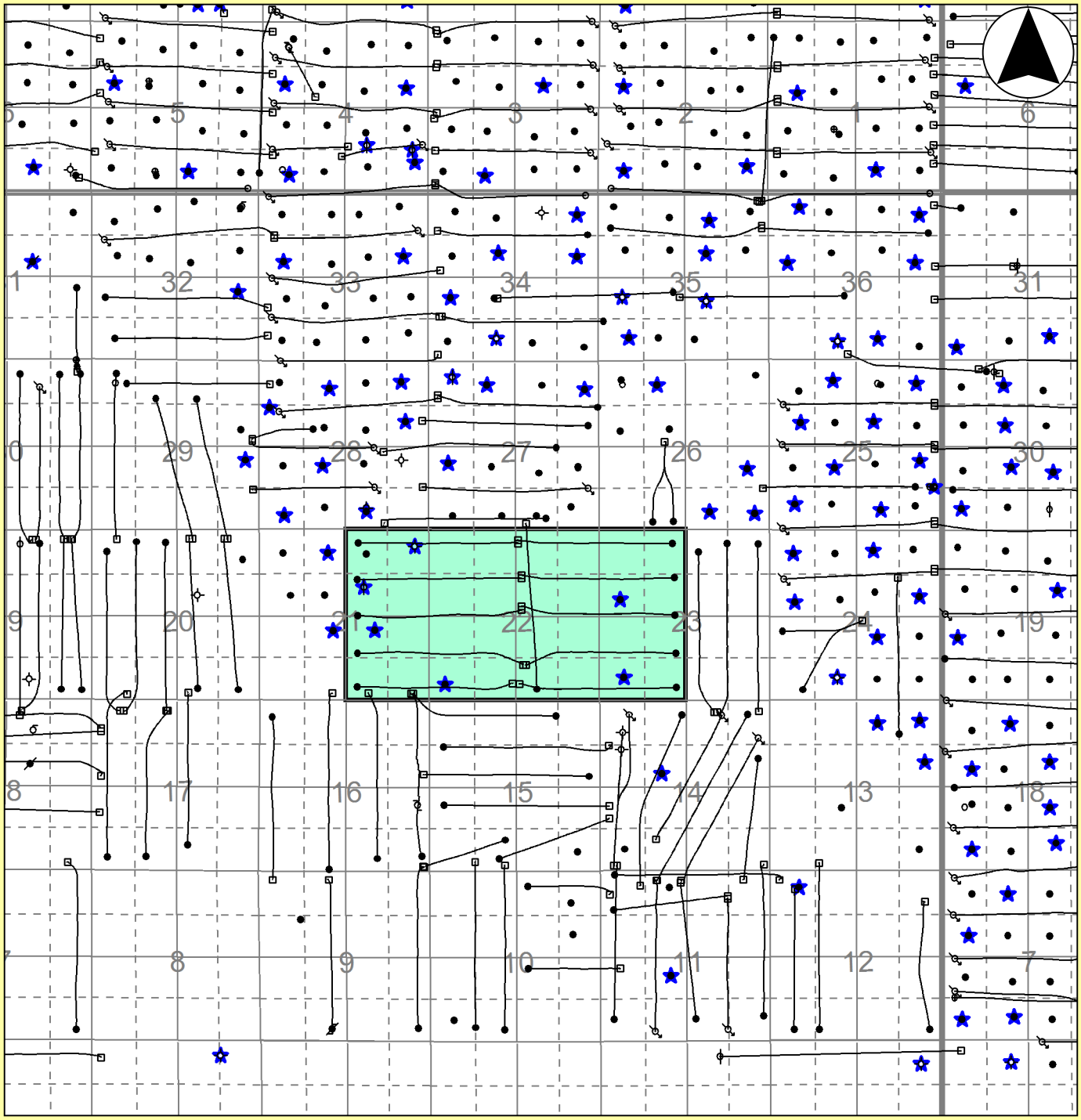
T7

T7

R29W1

Appendix No. 24

Tundra Oil and Gas Ltd		
PROPOSED SINCLAIR UNIT 18 Lyleton B phi*H@0.5md CO, CI=0.1phi*m Core points starred and values posted		
Licensed to : Tundra Oil and Gas Ltd		
geoSCOUT	By : Howell	Date : 2016/06/13
	Scale = 1:27249	Project : Sinclair Daly 2015 Expansion



Appendix No. 25

Tundra Oil and Gas Ltd	
PROPOSED UNIT 18	
Cored well coverage over Sinclair Unit 18 AOI	
Cored Wells Starred	
Licensed to : Tundra Oil and Gas Ltd	
geoSCOUT	By : Howell
	Date : 2016/06/13
	Scale = 1:57239
	Project : Sinclair Daly 2015 Expansion