

November 8, 2012

Manitoba Science, Technology, Energy and Mines  
Petroleum Branch  
Suite 360, 1395 Ellice Avenue  
Winnipeg, Manitoba  
R3G 3P2

**Attention: Mr. Keith Lowdon Director, Petroleum**

Manitoba Science, Technology, Energy and Mines  
Petroleum Branch  
Box 1359 - 227-King Street  
Virden, Manitoba Canada  
R0M 2C0

**Attention: Ms. Jennifer Abel, Chief Petroleum Engineer**

RE: **APPLICATION FOR A NEW UNIT NO. 9 AND  
NEW ENHANCED RECOVERY SCHEME IN THE BAKKEN-THREE FORKS POOL  
IN SECTION 30-007-29W1M  
IN THE DALY SINCLAIR FIELD**

Fekete Associates Inc. (Fekete) on behalf of Red River Oil Inc. (Red River), operator and working interest owner of the subject lands and wells, submits this application for approval for a new Unit No. 9 (**Exhibit 1**) and a new enhanced oil recovery scheme by the injection of water into wells 100/13-30-007-29 W1M, 100/14-30-007-29 W1M, 100/15-30-007-29 W1M, and 100/16-30-007-29 W1M in the Middle Bakken and Three Forks Formation (Bakken-Three Forks B Pool - 01 62B) to improve oil production from Section 30-007-29W1, in accordance with Sections 116 and 134 of the Oil and Gas Act of Manitoba (OGAM) and Section 71 of the Drilling and Production Regulation of Manitoba (DPRM).

## **SUMMARY**

The Sinclair portion of the Daly Sinclair Oil Field is located in Townships 007 and 008 Ranges 28 and 29 W1M (**Exhibit 2**). Since discovery in 2004, the main oilfield area was developed with vertical wells at 40 acre spacing on primary production. Since early 2009, a significant portion of the main oilfield has been unitized and placed on enhanced oil recovery by waterflood, mainly from the Lyleton A and B members of the Three Forks Formation. Recently, horizontal well development has been successfully used to further develop and recover oil from the Bakken-Three Forks Formation in the Field.

- ER by waterflood has been proven to be effective in the Daly Sinclair Bakken-Three Forks Pool by offset operators.
- Red River is a working interest owner and operator in the area of application.
- Injection water for the proposed Sinclair Unit No. 9 will be supplied from a new water source well to be drilled in 15-18-007-029 W1M. All injection water will be obtained from the Lodgepole Formation and will be filtered prior to injection.
- The injected water will be confined to the producing zone.
- Red River expects to recover an incremental 5-10% of initial oil in place in section 30-007-29W1.

### **Exhibits 1 and 2 – Approval Area and Field Map**

Maps illustrating the application area and mineral ownership in the Daly Sinclair Bakken-Three Forks B Pool are included in **Exhibit 1**. Section 30-007-29W1 is subject to default spacing stipulating one well per pool per legal subdivision (LSD) with centre targets in accordance with Section 11 of the DPRM. To date, there are 4 horizontal wells that have been drilled on the section. The Bakken-Three Forks B Pool is a very large pool; production history for those wells offsetting the area of application and potentially having an impact or being impacted by the proposed new scheme have been shown on the map and included on the well status summary in **Exhibit 2**.

### **Exhibit 3- Equity and Notification**

Red River is the only well licensee and lessee in the Bakken-Three Forks B Pool within the application area. The Crown is the lessor. Red River and Tundra are the lessees offsetting the area of application with the lessors being a mixture of Crown and freehold owners. Offsetting wells are licensed to Red River or Tundra Oil and Gas Limited (Tundra), primarily. The required setbacks have been adhered to in the wells in and offsetting section 30-007-29W1 to insure there will be no adverse impact on offset wells.

Sample notification letters to the lessors, lessees, well licensees and surface owners has been attached along with the record of mailing and receipt of registered letters to the recipients, as required. Letters were mailed October 29, 2012, however notification of the individual freeholders did not get sent out until November 8, 2012.



As required by Section 71 (e) of the DPRM, letters to the surface owners were sent by Canada Post 'double registered'. The registration record is attached and will be updated as individuals pick up their letters and complete the registration return. To date, one of the surface owners has retrieved their letter. Please note, all confidential information has been included in Exhibit 12 and is only available to Manitoba Petroleum Branch staff.

After the 3 week notification period elapses, the results of the notification will be forwarded to the Manitoba Petroleum Branch. No concerns or objections have been received to date, and none are expected. A land data map, land schedules, well status summary and proof of notification are attached.

#### **Exhibit 4 – Unitization Calculations and Tract Factor Allocation**

Total oil production from the first 90 operating days (2160 hours) for each legal subdivision (LSD) and the original oil in place (OOIP) by LSD were used to determine the proposed Unit tract factors. Both the 90 day production volume and original oil in place values each received an equal 50% weighting in calculating the overall individual Tract Factors. Tract Factor calculations for all individual LSD's based on the above methodology are detailed in Tables 1-4 in Exhibit 4. The tract factors have been calculated to 9 decimal places.

Red River proposes that the official name of the new Unit shall be Sinclair Unit No. 9 and that Red River Oil Inc. will be the operator of record for Sinclair Unit No. 9. The unitized zone(s) to be waterflooded in the Sinclair Unit No. 9 will be the Middle Bakken and Three Forks formations.

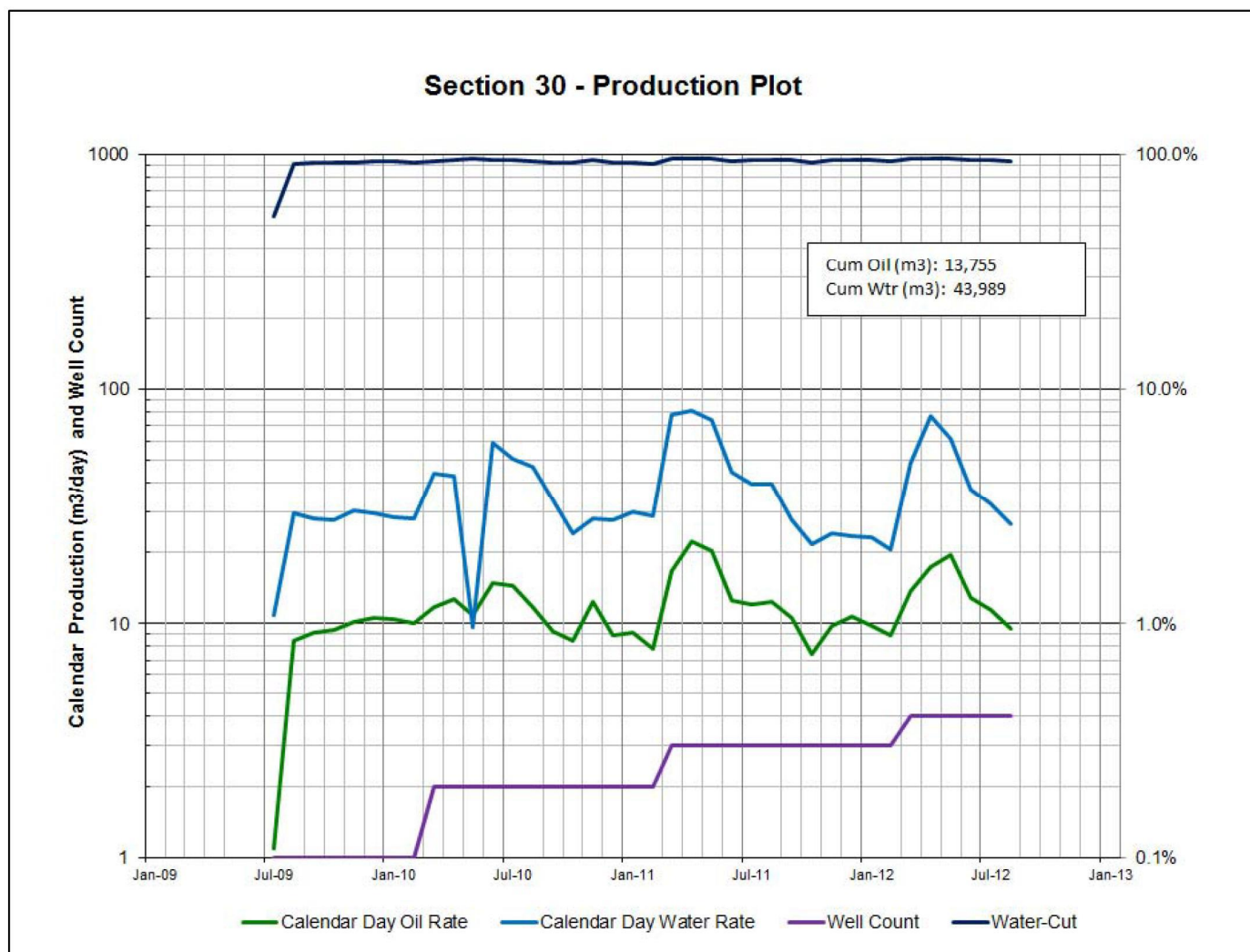
#### **Exhibit 5 – Reserves and Production Data**

The proposed Sinclair Unit No. 9 project area is located within Township 007 Range 29 W1 of the Daly Sinclair oil field. The proposed Unit 9 currently consists of 4 existing producing horizontal wells within the section. The production, as at September 30, 2012 for the individual wells is:

UWI	On Production	Last Production	Current Oil Producing Rate m <sup>3</sup> /cday	Cum Oil m <sup>3</sup>	Cum Gas 10 <sup>3</sup> m <sup>3</sup>	Cum Water m <sup>3</sup>
100/13-30-007-29W1	March 2011	Sept 2012	2.7	3138	-	10419

100/14-30-007-29W1	February 2010	Sept 2012	1.3	2628	-	11500
100/15-30-007-29W1	February 2012	Sept 2012	4.5	1554	-	6036
100/16-30-007-29W1	July 2009	Sept 2012	2.6	6435	-	16034

A group production plot for Section 30 wells is shown below. Oil production commenced from the proposed Unit area in July 2009 in the well 100/16-30-007-29W1 (16-30). As additional wells were drilled, oil production peaked at 22.3 m<sup>3</sup>/calendar day in April 2011 but has since declined to 11 m<sup>3</sup>/calendar day (cday) in September 2012.





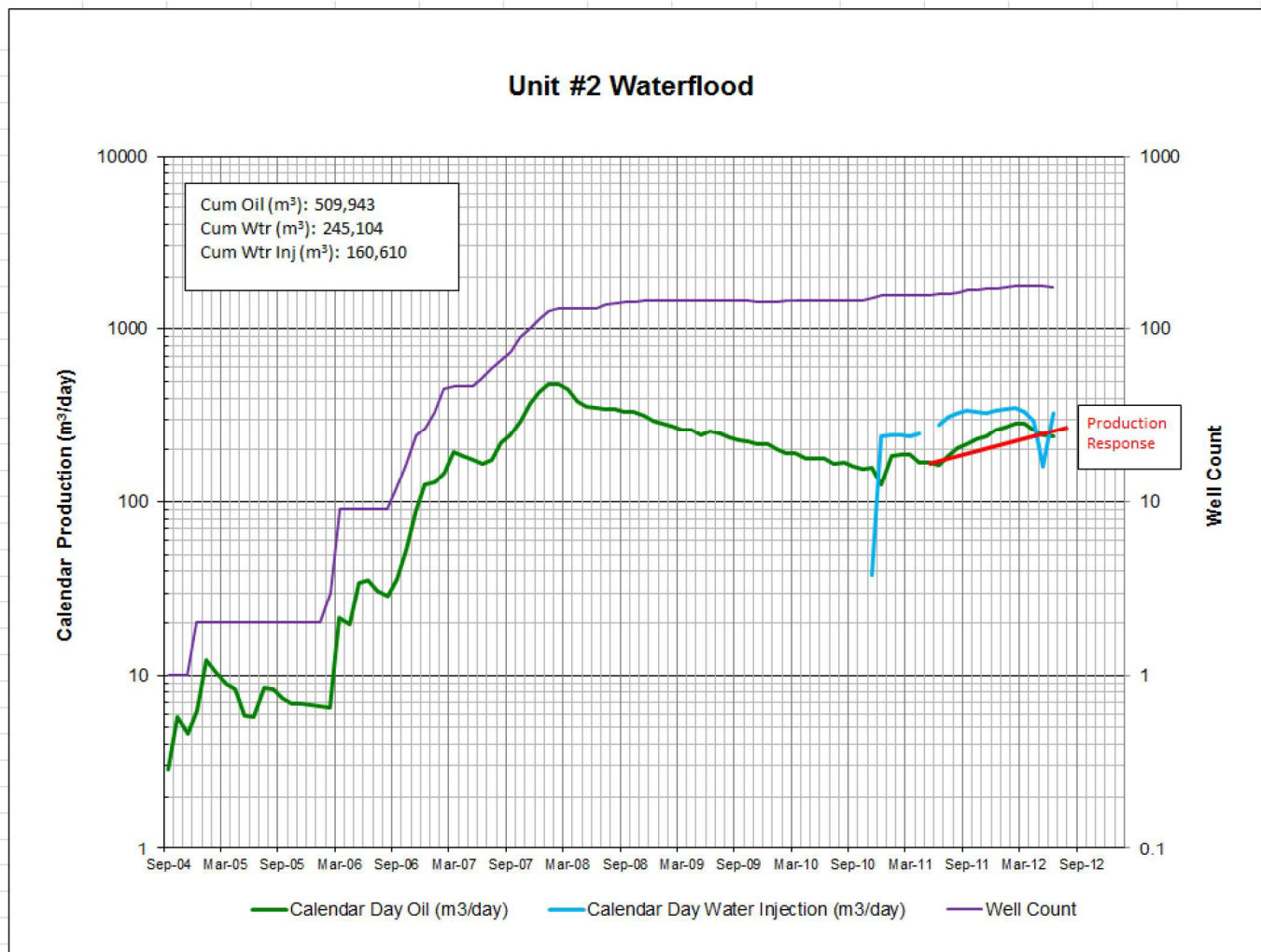
All section 30-007-29W1 wells produce from the Daly Sinclair Bakken-Three Forks Pool. A well status summary of wells in and offsetting the area of application is included in the attachments. Net pay mapping and volumetrics were used to estimate the OOIP for the Bakken-Three Forks B Pool in the Section 30-007-29W1 application area. As shown in Exhibit 4, Table 1, the OOIP is estimated to be  $1,212 \times 10^3 \text{ m}^3$  (7,628,933 barrels). As at September 2012,  $13,754 \text{ m}^3$  of oil and  $43,989 \text{ m}^3$  of water have been produced from the 4 producing wells in section 30-007-29W1. This equates to a recovery of 1.1% of the original oil in place at watercuts in the 70-80% range. Decline analysis estimates 2.1% of the OOIP or  $25,200 \text{ m}^3$  will be recovered through primary depletion. Based on the success of the offsetting schemes, it is estimated that an incremental 5-10% of the initial oil in place or  $60,616 \text{ m}^3$  (381,273 barrels) to  $121,231 \text{ m}^3$  (762,893 barrels) of oil is recoverable by implementing a new ER in section 30-007-29W1 in the Bakken-Three Forks B Pool.

#### Waterflood Production Forecast

Due to the unconventional nature of the reservoir, reservoir simulation cannot be used to accurately model and predict ultimate recoveries and sweep efficiency of the proposed waterflood. The absence of water breakthrough in offsetting waterfloods increases the difficulty in obtaining a production match and hence a reliable reservoir model for predictive purposes.

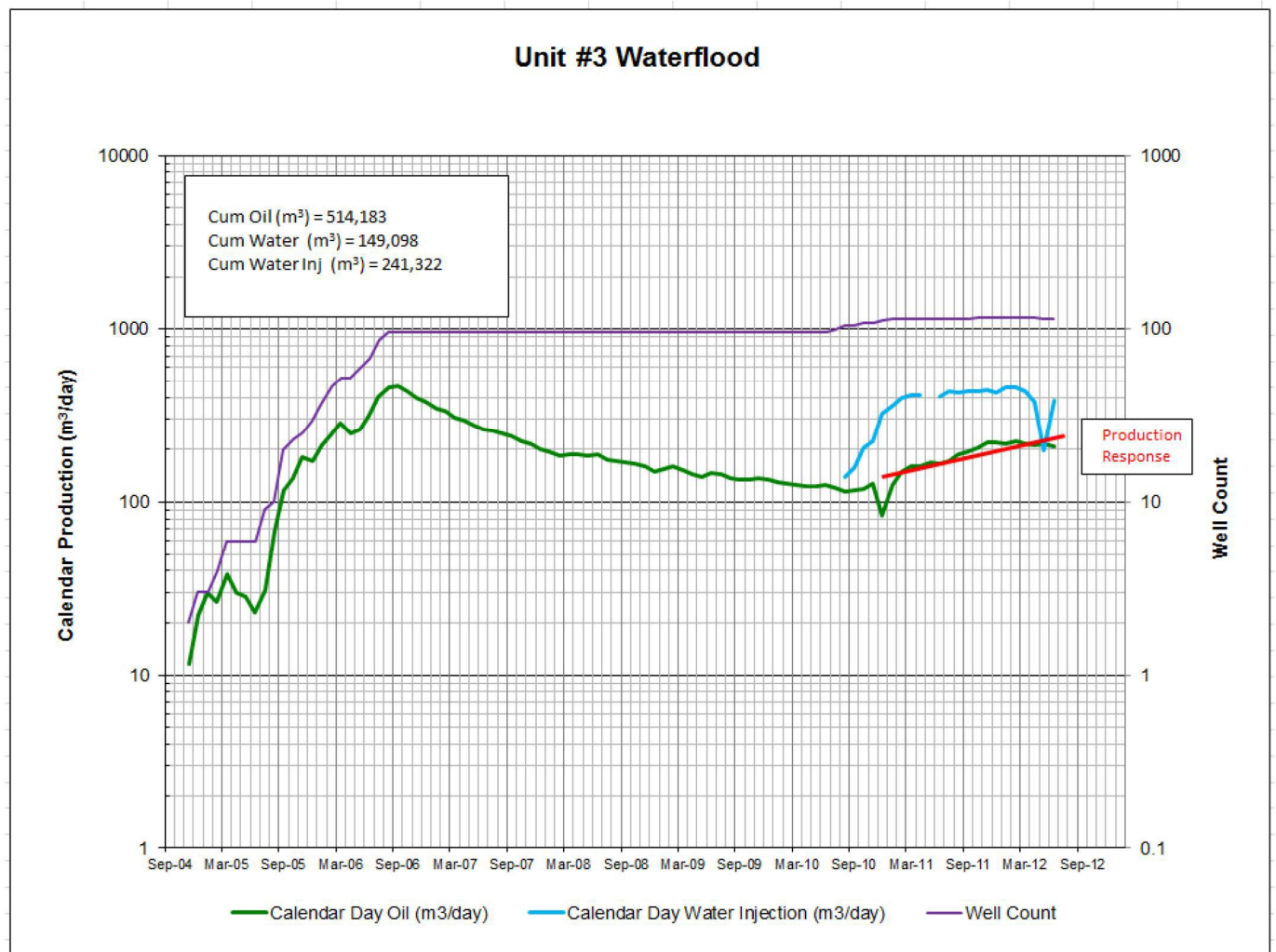
Red River believes the offsetting Tundra waterflood projects are suitable analogues because the geology and well spacing is similar. Red River's scheme will be comprised of horizontal producers and injectors while Tundra's schemes are generally vertical producers with horizontal injectors. Because Red River's scheme is comprised of horizontal wells entirely, Red River expects the waterflood sweep and performance to actually be better because of a lower pressure drop profile at the horizontal producers.

As can be seen from the Rate vs Time plots of the Unit #2 and Unit #3 Schemes, shortly after the commencement of water injection a positive response in the oil production occurs.



The oil rate in Unit #2 peaked at 478 m<sup>3</sup>/ cday from 126 wells in January 2008 and then began to decline despite the fact the well count remained constant or increased. Prior to commencement of water injection in Unit #2, in November 2010, the production had declined to 157 m<sup>3</sup>/cd of oil at a water cut of 29% from 150 wells. A year later, as at November 2011, production from Unit #2 increased to 241 m<sup>3</sup>/cd of oil due to the initiation of water injection. The injection rate since startup in November 2010 has been approximately 300 m<sup>3</sup>/cd.

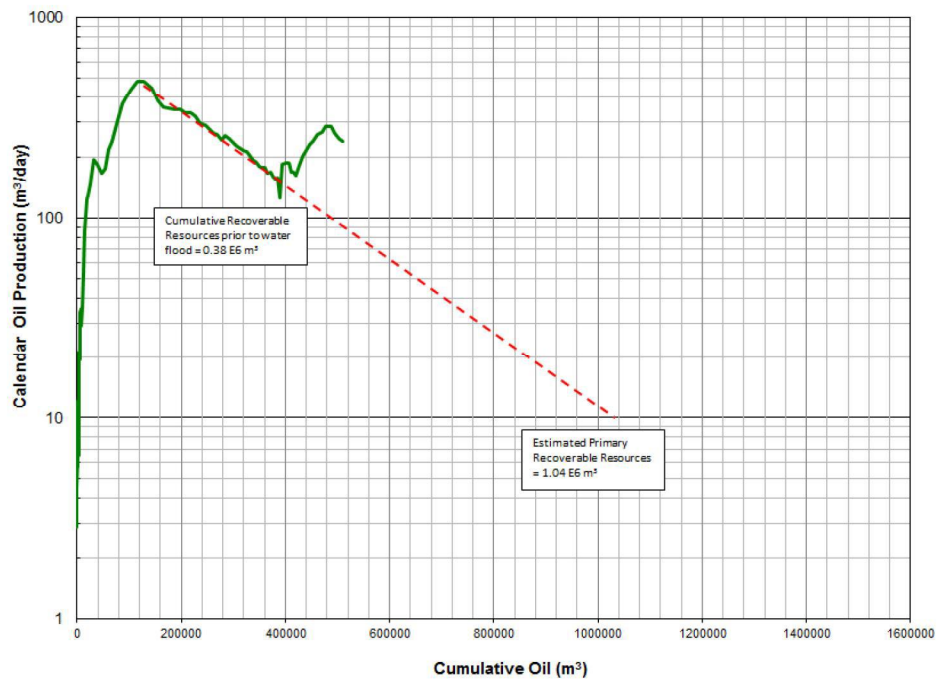




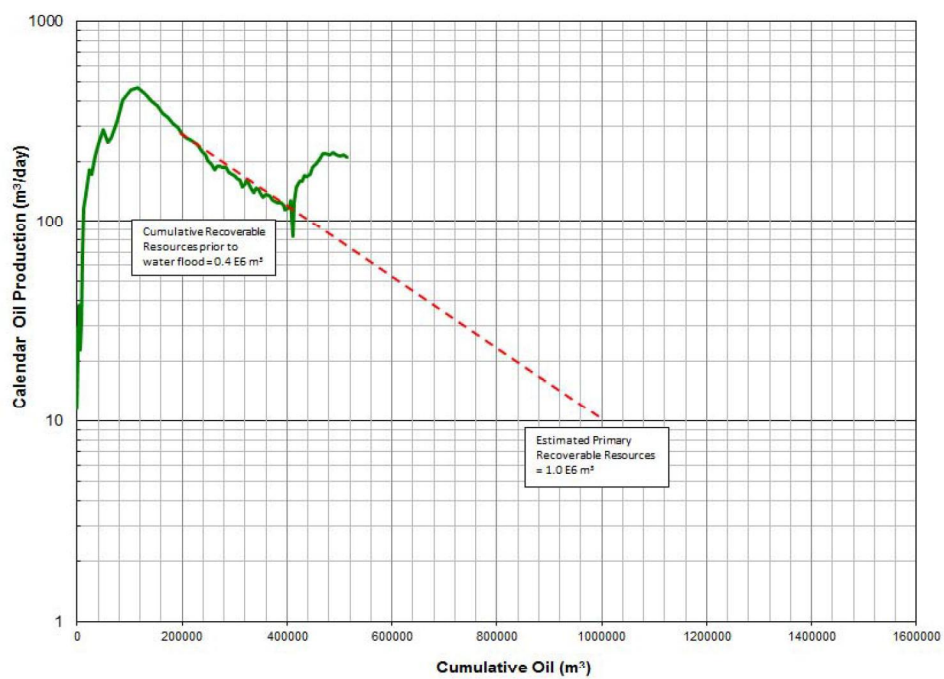
Similarly, the oil rate in Unit #3 peaked at 468 m³/calendar day (cday) from 96 wells in September 2006 and then began to decline. Prior to commencement of water injection in Unit #3, in August 2010, the production had declined to 115 m³/cday of oil at a water cut of 27% from 104 wells. As at November 2011, Unit #3's production rate increased to 218 m³/cday of oil at a watercut of 29%, from 110 wells. The initial injection rate since startup in August 2010 has averaged approximately 400 m³/cday of water.

In both Units #2 and #3, the daily production rate is beginning to stabilize or flatten so the incremental recovery cannot yet be predicted, but it is evident in the plots, the incremental oil recovery is likely significant.

### Unit #2 Waterflood



### Unit #3 Waterflood





Based on the success, to date, of the offsetting Tundra waterflood units, Red River believes the proposed ER scheme and unitization in section 30-007-29W1M has the potential to recover similar significant volumes of oil from the section. Hence, if the scheme is as successful as anticipated, Red River intends to expand Unit #9 to offsetting sections in which they (Red River) are the working interest owner.

#### **Exhibit 6 – Development Plan**

Red River recently acquired the asset from Fairborne Energy Ltd. As previously discussed, there are 4 producing horizontal wells already in section 30. It is Red River's intention to drill 3 horizontal infill producers and convert the 4 existing producers to injectors as shown in **Exhibit 6**. This is a similar ER pattern to that in the nearby Sinclair Unit No. 5 and Unit No. 8.

In addition, Red River will be constructing an injection facility at or near its existing satellite at 16-19-7-29 W1 that can be used to service the proposed section 30 ER scheme as well as Red River's plans for expansion. Once success of the scheme in section 30 is evaluated and budget and cashflow allows, Red River intends to expand the waterflood to nearby sections where Red River is a lessee.

Red River is concurrently submitting a request for unitization in section 30-007-29W1 with this ER scheme application. Red River plans to drill infill horizontal producers, convert existing producers to injectors, and construct the injection facility in the first quarter of 2013, or as soon as possible, upon approval of this application and unitization.

Under the current primary depletion strategy, existing wells within the proposed Sinclair Unit No. 9 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 waterflood scheme, Red River expects the economic limit will be significantly delayed into the future. The actual economic cut off will be a function of net oil price and the production rate response to the waterflood versus the scheme operating costs.

#### **Exhibits 7-9 Geology**

Red River is currently developing light 42° API oil from the Bakken-Three Forks reservoir system in the Sinclair area with long reach horizontal wells and multi-stage frac completions. Initial production from Section 30-7-29W1 commenced in July 2009 (100/16-30-7-29W1). Four

horizontal wells are currently on production in Section 30 (100/13-30, 100/14-30, 100/15-30 and 100/16-30-7-29W1). These wells were drilled south to north and spaced 360-600 m apart. Fracture treatments vary from 8 fracs per well at 100/14-30 to 23 fracs per well at 100/13-30 and 100/14-30. In order to maximize oil recovery from this area, Red River Oil plans to implement the water flood in Section 30-7-29W1 by drilling three more horizontal infill wells and converting the existing producers to water injection wells.

Producing zones of interest for this water flood application are the Upper Devonian Lyleton A Member of the Three Forks Formation and the immediately overlying Mississippian Middle Bakken Siltstones (Cross-section attached). Horizontal wells have undulated through both the Three Forks Lyleton A Member and the Bakken Siltstones over the length of the laterals.

### **Stratigraphy**

**Exhibit 7** is a cross-section that ties three wells on and in the immediate vicinity of Section 30-007-29W1. The Bakken Siltstones are highlighted, immediately overlying Lyleton A dolomitic siltstones. The Upper Bakken Shales and Red Bed Shales represent effective top and bottom seals to the Bakken Siltstone/Lyleton A reservoir package and will contain water injection to facilitate effective sweep efficiencies.

**Exhibit 8** is a map identifying the location of the Three Forks and Bakken cores used in the analysis.

The Lyleton A Member of the Three Forks Formation was deposited in an evaporitic, shallow marine tidal flat/sabkha setting. Three distinct cleaning upward cycles make up the Lyleton A section in this area. These cycles grade upward from green shale/dolomitic siltstone breccias (poorer grade reservoir: core  $\phi$  0.12–0.19,  $K_{\max}$  0.3-1.5 mD) into cleaner, more massive ripple bedded dolomitic siltstones (best reservoir: core  $\phi$  0.12-0.19,  $K_{\max}$  1.0-15.0 mD). Cycles 1, 2 and 3 highlighted on Cross-section A-A' represent the top of each of these cleaning upward zones. These cycles can be correlated across the entire Sinclair area and represent excellent continuous reservoir units in which to efficiently sweep oil via water flood. The Lyleton A member is the primary oil producing horizon in this area and is approximately 8 m thick with net pay in the order of 3–4 m.

The Middle Bakken Siltstones unconformably overlie the Three Forks in this area. Bakken silts were deposited in a shallow marine setting and in this area are made up of finely laminated



quartzose siltstones, very fine sands and shales. Core porosities of 0.09-0.18 and permeabilities of 0.3-5 mD are characteristic of this zone. The silts vary from less than 1m thick on the east side of Section 30-7-29W1 to greater than 4 m thick on the west side of Section 30. Generally, when the silts thicken, they do so at the expense of Three Forks, resulting in an eroded and thinned Three Forks reservoir section. Net Pay in the Bakken Silts in section 30-7-29W1 varies from 0.5-3.0 m.

The Three Forks and Bakken net pay mapping and core interpretations are illustrated in **Exhibits 5 and 8**, respectively. Volumetric reserve estimates for Section 30-7-29W1 have been determined on an LSD basis by quantifying the Bakken Siltstones and Lyleton A reserves separately. Summing these separate analyses gives an accurate assessment of OOIP for this reservoir package. **Exhibit 4 Table 1** lists the parameters and ultimate volumetric reserves for Section 30-7-29W1.

Three D seismic mapping of the Upper Bakken Shale in the Sinclair area provides detailed control on the structural configuration of the Bakken Siltstone/Lyleton A reservoir package. **Exhibit 9** is a depth converted 3D seismic structure map of the Upper Bakken Shale over Section 30-7-29W1. This map shows a regional SW dipping surface with a shallow structural low extending northeast into Section 30. This mapping is used to design the trajectory of horizontal wells to maximize reservoir contact during drilling. Wells drilled from south to north on the west side of this section have drilled up-dip in the Lyleton A reservoir approximately 10-15m while 100/16-30-7-29W1Hz on the east side of Section 30 was effectively flat. No faults in the reservoir package were encountered in the four horizontal wells drilled across Section 30 to date. 100/13-30-7-29 encountered thicker Bakken Siltstones over the last 300m of the lateral suggesting that the Lyleton A cycle 3 and part of cycle 2 have been eroded and replaced by Bakken Siltstones in the vicinity of LSD 13.

No obvious fluid contacts have been recognized within the Bakken Siltstone/Lyleton A reservoir package in this immediate area.

### **Pressure Data**

The original reservoir pressure in the project area is estimated to be 9.5 MPa. No recent or representative pressure surveys are currently available from the horizontal producing wells within the proposed Unit 9 project area; however, it is expected that current reservoir pressure is lower due to production from these producers.

## **Exhibit 10 – Wellbore Schematic**

Completion data from the existing producing wells within the project area indicate an actual fracture pressure gradient range of 16 to 18 kPa/m true vertical depth (TVD). Red River expects the fracture gradient that will be encountered during completion of the proposed horizontal infill wells to be similar to these values.

A typical waterflood Injection Well Diagram is shown in Exhibit 10.

## **Exhibit 11 – Water Injection Facility Schematic Details and Corrosion Control Details**

The Sinclair Unit No. 9 waterflood operation will utilize the proposed 15-18-007-029W1M water source well and injection facilities planned to be located at or near Red River's existing satellite at 16-19-7-29W1M. A complete description of all planned system design and operational practices to prevent corrosion related failures is shown in **Exhibit 11**. A diagram of the proposed Sinclair Unit 9 water injection system and the piping to the Sinclair Unit No. 9 project area injection wells is also included in **Exhibit 11**.

## **Waterflood Operating Strategy**

The 7 wells to be included in the proposed Sinclair Unit No. 9 are:

<b>Proposed Producers</b>	<b>Proposed Injectors</b>
200/14-30-007-29W1	100/13-30-007-29W1
200/15-30-007-29W1	100/14-30-007-29W1
200/16-30-007-29-W1	100/15-30-007-29W1
	100/16-30-007-29W1

The injection water for the proposed Sinclair Unit 9 will be supplied from a new water source well to be drilled in 15-18-007-029W1M. All injection water will be obtained from the Lodgepole Formation and will be filtered prior to injection. Note that water from the Lodgepole Formation has been and currently is been used extensively in Sinclair Units 1 through 8. 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 will be tested for compatibility with the 15-18 source water, prior to implementation of Sinclair Unit #9. Red River will review and monitor the source water scale inhibition system as part of a routine



maintenance program. Injection well rates vs. time plots will be monitored for evidence of any injection restriction due to scaling.

New horizontal infill wells will be drilled as producers. These stimulations will be rigorously programmed to ensure optimum placement of each fracture stage to prevent or minimize the potential for out-of-zone fracture growth. Existing horizontal producers will be converted to water injection wells for the proposed Sinclair Unit 9 as shown in the attachments.

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 Wellhead Injection Pressure (MWIP)

Red River 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. MWIP and the known area formation fracture pressures. All water injection wells will be surface equipped with injection volume metering and rate/pressure control (**Exhibit 11**). 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 Unit 9 horizontal water injection well rates are forecasted to average 15 – 35 m<sup>3</sup>/cday of water to meet voidage requirements.

### **Annual Reporting and Monitoring**

In accordance with Section 73 of the DPRM and Section 116 of the OGAM, Red River will submit an annual EOR report within 60 days after the end of each calendar year.

The solution gas to oil ratio (Rs) is virtually zero in the Daly Sinclair Bakken-Three Forks Pool. Consequently, all initial production is primarily a result of depletion drive in this dead oil system. Therefore, Red River believes paying strict attention to and managing volumes withdrawn versus volumes injected is key to the success of this proposed waterflood scheme. Red River is implementing the scheme very early in the life of section 30-007-29W1. Hence, initially Red River intends to inject water volumes 1.0-1.5 times the fluid withdrawal volumes from the section in order to achieve a cumulative voidage ratio as close as possible to 1.0.

Red River's Unit #9 waterflood surveillance and annual reporting will consist of the following:

- a) the oil production rate, injection rate, GOR, and WOR during each month for each injection pattern and for the whole project;

- b) the cumulative volume of oil, gas, and water produced and fluid injected for each injection pattern and for the whole project at the end of the year;
- c) the monthly wellhead injection pressure for each injection well;
- d) a summary of the results of any survey of reservoir pressure conducted during the year;
- e) the date and type of any well servicing conducted during the year;
- f) voidage replacement ratio calculations on a monthly and cumulative basis for the project area;
- g) an outline of the method used for quality control and treatment of the injected fluid;
- h) a report of any unusual performance problems and remedial measures taken or being considered;
- i) any other information that the operator or director considers necessary to evaluate the performance of the project.

Red River will review the data for trends and anomalies and provide an analysis if appropriate.

#### **Emergency Response Plan (ERP)**

A site specific ERP for this ER scheme is not required. Red River Oil does have an ERP for the Greater Sinclair Area.

In summary, we believe implementation of a new ER scheme in section 30-007-29W1 in the Bakken-Three Forks B Pool will respond similarly to the offsetting Unit #2 and Unit #3 schemes and is necessary to maximize oil recovery in this portion of the Pool.

In support of the application the following information has been attached:

Exhibit 1	Application Area and Lessor/Lessee Maps and Lists
Exhibit 2	Sinclair Daly Pool Map and Well Status Summary
Exhibit 3	Notification Lists, Sample Letters and Proof of Notification
Exhibit 4	Unitization and Tract Factor Calculations
Exhibit 5	Three Forks & Middle Bakken Net Pay Maps and Original Oil in Place Calculation
Exhibit 6	Development Plan
Exhibit 7	Cross Section

- Exhibit 8      Core Location Map and Interpretation
- Exhibit 9      Structural Mapping
- Exhibit 10     Wellbore Schematic
- Exhibit 11     Water Injection Facility Schematic and Corrosion Control Details
- Exhibit 12     Confidential Information

We trust this information and application meets your requirements and in the interest of conservation of the oil, your earliest attention to this application would be appreciated. Please contact the undersigned at 403-213-4250 if you have any questions or discussions regarding this application.

Yours truly,  
**FEKETE ASSOCIATES INC.**

A handwritten signature in black ink, appearing to read "Robyn Swanson".

Robyn Swanson, C.E.T., P.Eng.  
Senior Engineer

cc. Ken Frankiw, Red River  
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**EXHIBIT 1 APPLICATION AREA AND LESSOR/LESSEE MAPS AND LISTS**

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R30W1

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T8

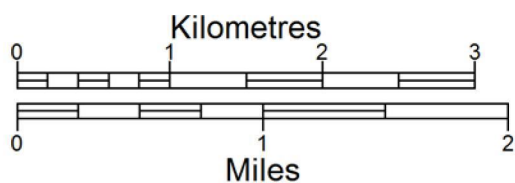
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	14	13	18	17	16	

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R30W1



Fekete Associates Inc

## Daly Sinclair Field, MB Application Area

Licensed to : Fekete Associates Inc

geoSCOUT  
www.geologic.com

By : zac

Date : 2012/11/01

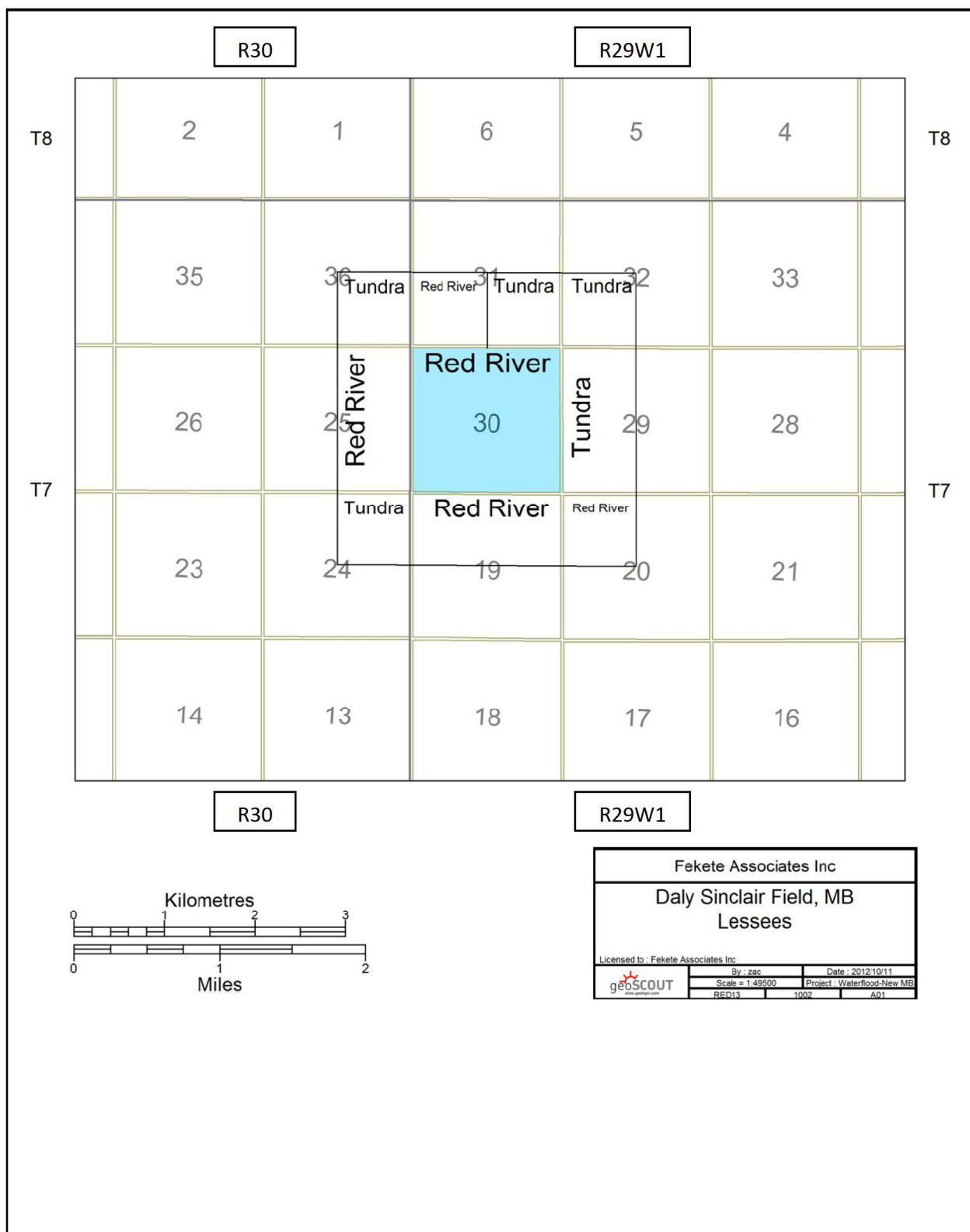
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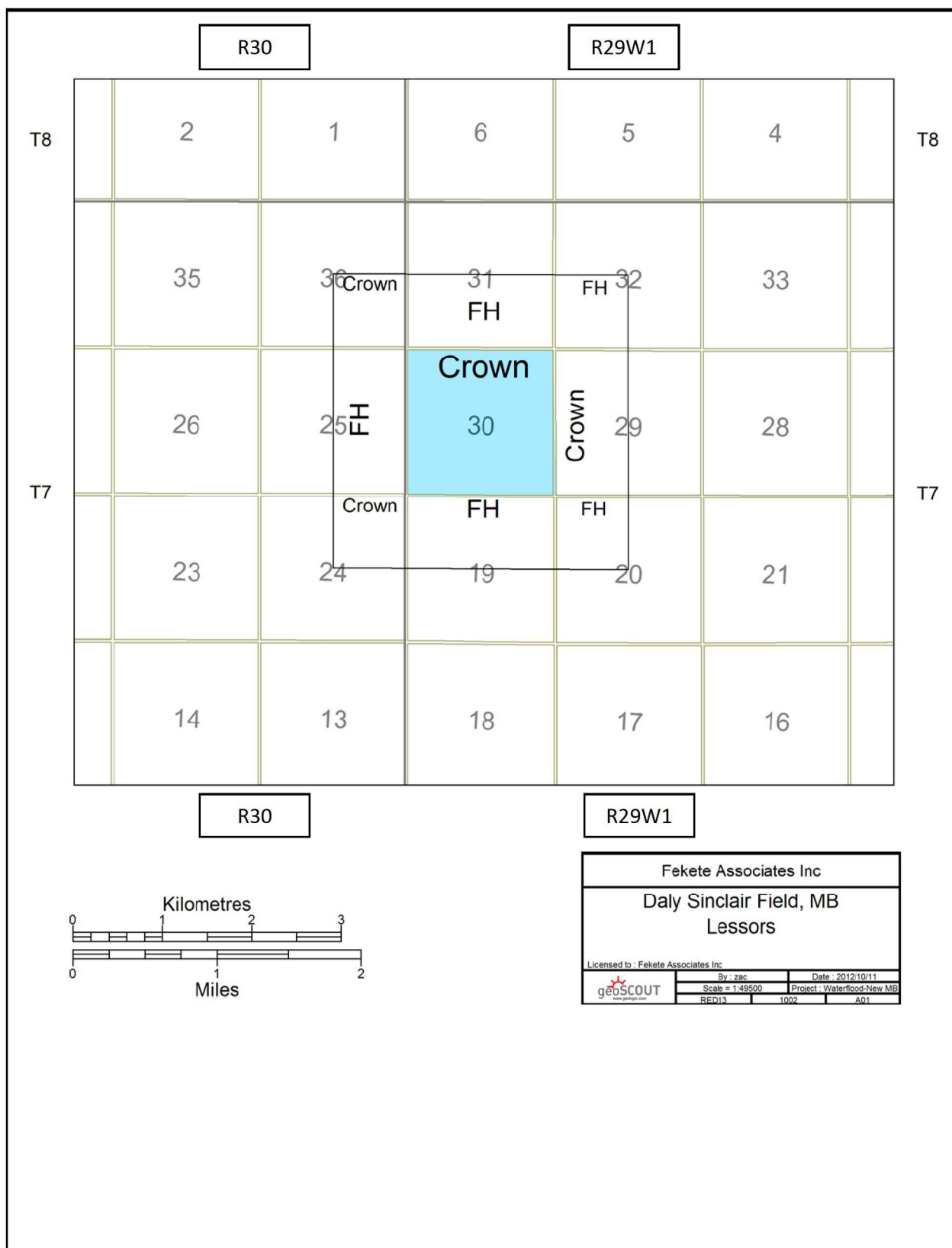
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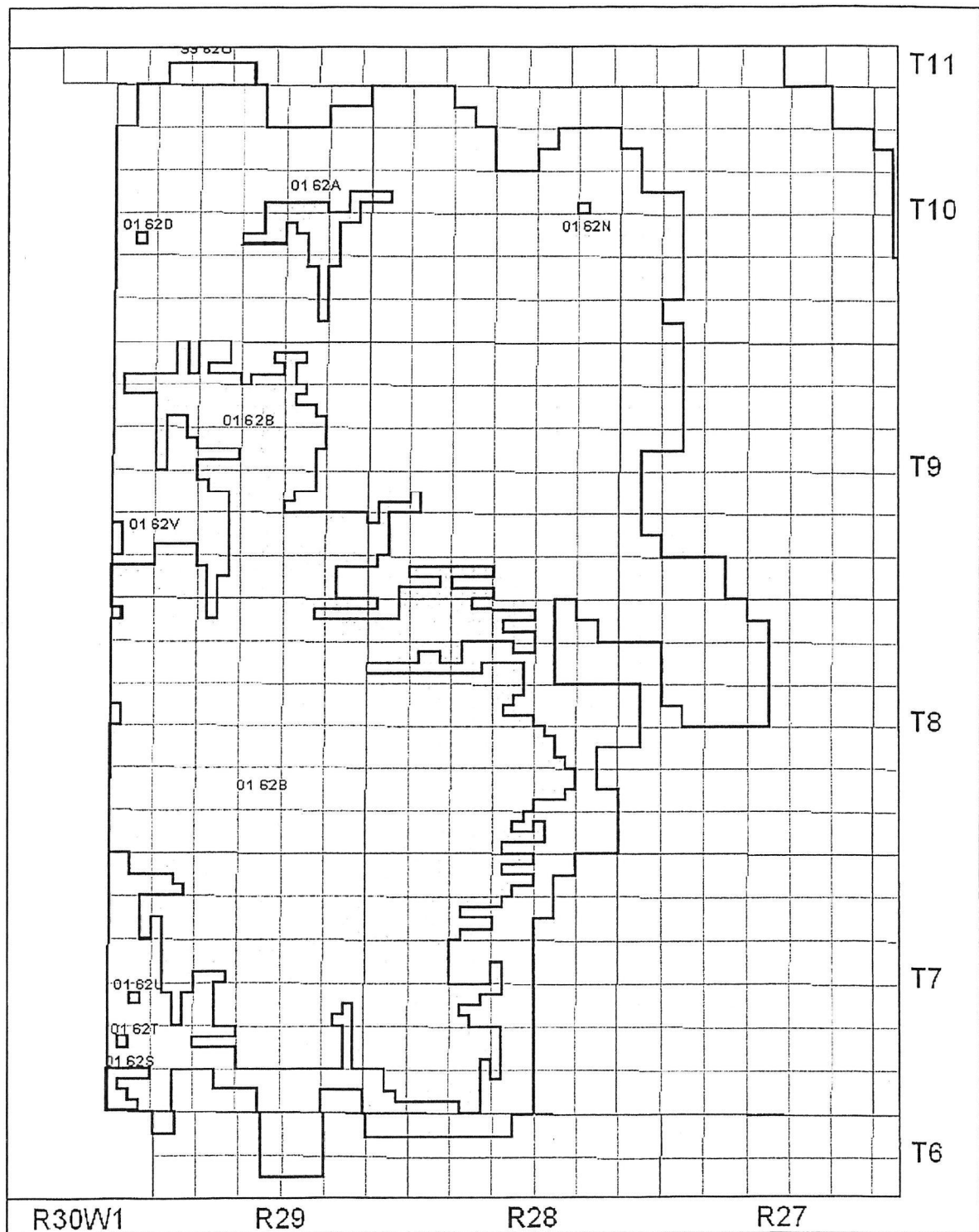
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**EXHIBIT 2 SINCLAIR DALY POOL MAP AND WELL STATUS SUMMARY**



DALY SINCLAIR BAKKEN-THREE FORKS POOLS  
(01 62A - 01 62V)





**FEKETE ASSOCIATES INC.**

**Daly Sinclair Field, MB**  
**Offsetting Wells**

**Daly Sinclair Field, MB  
Well Status Summary**

Location	Field	Pool Name	Producing Formation	Status	Spud Date	Licensee	Unit	Initial Prod Date	Last Prod Date	Gas Cum (E <sup>3</sup> M <sup>3</sup> )	Oil Cum (M <sup>3</sup> )	Water Cum (M <sup>3</sup> )
<b>INSIDE AREA</b>												
00/11-30-007-29W1/00	Other Areas			Abandoned Dry	9/25/1963	Socony Mobil Oil of Canada Ltd.	UNKNOWN					
00/13-30-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	8/1/2011	Red River Oil Inc.	UNKNOWN	1/3/2011	7/31/2012	0	3018.9	10210.5
00/14-30-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	1/26/2010	Red River Oil Inc.	UNKNOWN	1/3/2010	7/31/2012	0	2546.9	11160.5
00/15-30-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	1/24/2012	Red River Oil Inc.	UNKNOWN	1/3/2012	7/31/2012	0	1287.3	5212.1
00/16-30-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	6/27/2009	Red River Oil Inc.	UNKNOWN	1/7/2009	7/31/2012	0	6266.8	15681
<b>OUTSIDE AREA</b>												
00/13-19-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	1/18/2009	Red River Oil Inc.	UNKNOWN	1/2/2009	7/31/2012	0	13173.1	17928.7
00/15-19-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	12/27/2010	Red River Oil Inc.	UNKNOWN	1/2/2011	7/31/2012	0	5574.2	9005.3
00/13-20-007-29W1/0	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	8/29/2012	Red River Oil Inc.	UNKNOWN					
00/14-20-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	10/18/2008	Red River Oil Inc.	UNKNOWN	1/12/2008	7/31/2012	0	4316.7	13280.9
00/13-29-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	9/22/2008	Tundra Oil & Gas Partnership	UNKNOWN	1/10/2008	8/31/2012	0	4946.7	11884.4
00/14-29-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	2/13/2009	Tundra Oil & Gas Partnership	UNKNOWN	1/3/2009	8/31/2012	0	3545.9	14452.5
00/08-31-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	3/10/2010	Relative Resources Ltd.	UNKNOWN					
00/08-31-007-29W1/02	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	3/10/2010	Relative Resources Ltd.	UNKNOWN					
00/08-31-007-29W1/03	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	3/10/2010	Relative Resources Ltd.	UNKNOWN	1/2/2011	8/31/2012	0	853.5	4068.9
00/14-31-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	10/10/2009	Red River Oil Inc.	UNKNOWN	11/1/2009	8/31/2012	0	2366.1	13010.6
AA/04-32-007-29W1/00	Daly Sinclair			Location			UNKNOWN					
00/05-32-007-29W1/00	Daly Sinclair	Daly Sinclair Bakken - Three Forks B	Bakken - Three Forks	Capable Of Oil Production	11/11/2011	Tundra Oil & Gas Partnership	UNKNOWN	1/1/2012	8/31/2012	0	1525.7	7260.7

**NOTE: Within application area and the areas within 800 meters from the application area**

November 8, 2012

**PROJECT NO. RED13\_1002\_A\_01**

**RE: APPLICATION FOR A NEW UNIT NO. 9 AND  
NEW ENHANCED RECOVERY SCHEME IN THE  
BAKKEN-THREE FORKS POOL  
IN SECTION 30-007-29W1M  
IN THE DALY SINCLAIR FIELD**

Fekete Associates Inc. (Fekete) on behalf of Red River Oil Inc. (Red River), operator and working interest owner of the subject lands and wells, submits this application for approval for a new Unit No. 9 and a new enhanced oil recovery scheme by the injection of produced water into wells 100/13-30-007-29W1M, 100/14-30-007-29W1M, 100/15-30-007-29W1M, and 100/16-30-007-29W1M in the Middle Bakken and Three Forks Formation (Bakken and Three Forks B Pool - 01 62B) to improve oil production from Section 30-007-29W1M, in accordance with Sections 116 and 134 of the Oil and Gas Act of Manitoba (OGAM) and Section 71 of the Drilling and Production Regulation of Manitoba (DPRM).

**SUMMARY**

The Sinclair portion of the Daly Sinclair Oil Field is located in Townships 007 and 008 Ranges 28 and 29 W1M. Since discovery in 2004, the main oilfield area was developed with vertical wells at 40 acre spacing on primary production. Since early 2009, a significant portion of the main oilfield has been unitized and placed on enhanced oil recovery by waterflood, mainly from the Lyleton A and B members of the Three Forks Formation.

- ER by waterflood has been proven to be effective in the Daly Sinclair Bakken Three Forks Pool by offset operators.
- Red River is a working interest owner and operator in the area of application.
- The injected water will be produced water and water sourced from the Lodgepole formation, also a brine water source.



- The injected water will be confined to this zone.

You are being notified as a mineral owner/well licensee in the Daly Sinclair Bakken and Three Forks B Pool (01 62B Pool), within or 0.5 km offsetting the area of application.

Any questions regarding this application are to be directed to the undersigned at 403-213-4250. If you have any concerns regarding the application, a written submission must be filed with the undersigned, quoting the project number as shown above.

Submissions can be sent to the address on this letterhead or by fax or e-mail within 15 working days from the date of this letter. The applicant will then contact you to discuss your concerns. Should your concerns remain unresolved, they will be included as a submission to the application when filed with the Manitoba Petroleum Branch.

In the absence of a response on or before 15 working days from the date of this letter, we will assume that you have no objections to the proposed application and the Manitoba Petroleum Branch may process the application without further contact with you.

Copies of the application may be obtained by contacting the undersigned or may be viewed electronically the Manitoba Petroleum Branch web site at: [www.manitoba.ca](http://www.manitoba.ca) .

Yours truly,  
**FEKETE ASSOCIATES INC.**



Robyn Swanson, C.E.T., P. Eng.  
Senior Technical Advisor

Fax: 403-213-4298  
Email: [rswanson@fekete.com](mailto:rswanson@fekete.com)

cc : Ken Frankiw, Red River

## EXHIBIT 4 UNITIZATION AND TRACT FACTOR CALCULATIONS

TABLE 1 OOIP

# Red River Oil Inc.

## Sinclair Unit #9

### DETERMINATION OF TRACT FACTORS BASED ON OOIP

		Bakken Silts				Lyleton A / Three Forks								
Section	Lsd	Net Pay		Phi	Sw	OOIP ( m <sup>3</sup> )	Area (Ha)		Net Pay (m)	Avg Phi	Sw	OOIP ( m <sup>3</sup> )	Tract Factor 100% OOIP (%)	Tract Factor 50% OOIP (%)
		Area (Ha)	Net Pay (m)											
30-7-29 W1M	1	16	1.7	0.14	0.5	18,667	16	4	0.16	0.4	60,235	6.508378	3.254189041	
30-7-29 W1M	2	16	2.1	0.15	0.5	24,706	16	4	0.16	0.4	60,235	7.006534	3.503267128	
30-7-29 W1M	3	16	2.1	0.15	0.5	24,706	16	3.5	0.15	0.4	49,412	6.113735	3.056867439	
30-7-29 W1M	4	16	2.2	0.15	0.5	25,882	16	2.75	0.14	0.4	36,235	5.123892	2.561946044	
30-7-29 W1M	5	16	3	0.15	0.5	35,294	16	2.75	0.14	0.4	36,235	5.900239	2.950119687	
30-7-29 W1M	6	16	2.5	0.15	0.5	29,412	16	3.5	0.15	0.4	49,412	6.501909	3.25095426	
30-7-29 W1M	7	16	1.5	0.14	0.5	16,471	16	4	0.16	0.4	60,235	6.327230	3.163615191	
30-7-29 W1M	8	16	1	0.14	0.5	10,980	16	4	0.16	0.4	60,235	5.874361	2.937180565	
30-7-29 W1M	9	16	1	0.14	0.5	10,980	16	4	0.16	0.4	60,235	5.874361	2.937180565	
30-7-29 W1M	10	16	1.7	0.15	0.5	20,000	16	4	0.16	0.4	60,235	6.618361	3.309180307	
30-7-29 W1M	11	16	2.5	0.15	0.5	29,412	16	3.5	0.15	0.4	49,412	6.501909	3.25095426	
30-7-29 W1M	12	16	3	0.15	0.5	35,294	16	2.75	0.14	0.4	36,235	5.900239	2.950119687	
30-7-29 W1M	13	16	3.4	0.15	0.5	40,000	16	3	0.14	0.4	39,529	6.560135	3.280067283	
30-7-29 W1M	14	16	2.7	0.15	0.5	31,765	16	3.5	0.15	0.4	49,412	6.695995	3.347997671	
30-7-29 W1M	15	16	1.7	0.15	0.5	20,000	16	4	0.16	0.4	60,235	6.618361	3.309180307	
30-7-29 W1M	16	16	1	0.14	0.5	10,980	16	4	0.16	0.4	60,235	5.874361	2.937180565	
Total		384,549					827,765					100.000000		50.000000

384,549

1,212,313.73

TABLE 2 90 DAY TRACT FACTOR

# Red River Oil Inc.

## Sinclair Unit #9

### DETERMINATION OF TRACT FACTORS BASED ON FIRST 90 PRODUCING DAYS

Section	Lsd	Well	Oil Volume (m <sup>3</sup> )	Produced Hrs (hrs)	Produced Days (Days)	Tract Factor 100% Production (%)	Tract Factor 50% Production (%)
30-7-29 W1M	1	16-30-7-29 W1M	185.6	2160	90	5.430553	2.715276355
30-7-29 W1M	2	15-30-7-29 W1M	243.9	2160	90	7.137110	3.568554876
30-7-29 W1M	3	14-30-7-29 W1M	117.4	2160	90	3.433596	1.716797847
30-7-29 W1M	4	13-30-7-29 W1M	307.6	2160	90	8.998742	4.499370922
30-7-29 W1M	5	13-30-7-29 W1M	307.6	2160	90	8.998742	4.499370922
30-7-29 W1M	6	14-30-7-29 W1M	117.4	2160	90	3.433596	1.716797847
30-7-29 W1M	7	15-30-7-29 W1M	243.9	2160	90	7.137110	3.568554876
30-7-29 W1M	8	16-30-7-29 W1M	185.6	2160	90	5.430553	2.715276355
30-7-29 W1M	9	16-30-7-29 W1M	185.6	2160	90	5.430553	2.715276355
30-7-29 W1M	10	15-30-7-29 W1M	243.9	2160	90	7.137110	3.568554876
30-7-29 W1M	11	14-30-7-29 W1M	117.4	2160	90	3.433596	1.716797847
30-7-29 W1M	12	13-30-7-29 W1M	307.6	2160	90	8.998742	4.499370922
30-7-29 W1M	13	13-30-7-29 W1M	307.6	2160	90	8.998742	4.499370922
30-7-29 W1M	14	14-30-7-29 W1M	117.4	2160	90	3.433596	1.716797847
30-7-29 W1M	15	15-30-7-29 W1M	243.9	2160	90	7.137110	3.568554876
30-7-29 W1M	16	16-30-7-29 W1M	185.6	2160	90	5.430553	2.715276355

**Total Production**

**3417.7**

**100.000000**

**50.000000**



TABLE 3 TOTAL TRACT FACTOR

# Red River Oil Inc.

## Sinclair Unit #9

### DETERMINATION OF 50% Production and 50% OOIP

Section	Lsd	Well	Tract Factor 50% OOIP	Tract Factor 50% of 90 Day Producing Oil	Tract Factor
30-7-29 W1M	1	16-30-7-29 W1M	3.254189041	2.715276355	5.969465396
30-7-29 W1M	2	15-30-7-29 W1M	3.503267128	3.568554876	7.071822004
30-7-29 W1M	3	14-30-7-29 W1M	3.056867439	1.716797847	4.773665285
30-7-29 W1M	4	13-30-7-29 W1M	2.561946044	4.499370922	7.061316966
30-7-29 W1M	5	13-30-7-29 W1M	2.950119687	4.499370922	7.449490609
30-7-29 W1M	6	14-30-7-29 W1M	3.250954260	1.716797847	4.967752107
30-7-29 W1M	7	15-30-7-29 W1M	3.163615191	3.568554876	6.732170067
30-7-29 W1M	8	16-30-7-29 W1M	2.937180565	2.715276355	5.652456921
30-7-29 W1M	9	16-30-7-29 W1M	2.937180565	2.715276355	5.652456921
30-7-29 W1M	10	15-30-7-29 W1M	3.309180307	3.568554876	6.877735183
30-7-29 W1M	11	14-30-7-29 W1M	3.250954260	1.716797847	4.967752107
30-7-29 W1M	12	13-30-7-29 W1M	2.950119687	4.499370922	7.449490609
30-7-29 W1M	13	13-30-7-29 W1M	3.280067283	4.499370922	7.779438205
30-7-29 W1M	14	14-30-7-29 W1M	3.347997671	1.716797847	5.064795517
30-7-29 W1M	15	15-30-7-29 W1M	3.309180307	3.568554876	6.877735183
30-7-29 W1M	16	16-30-7-29 W1M	2.937180565	2.715276355	5.652456921

**Total**

**50.000000000**

**50.000000000**

**100.000000000**

TABLE 4 TRACT PARTICIPATION

# Red River Oil Inc.

## Sinclair Unit #9

### Tract Participation

Tract No.	Land Description	Working Interest		Royalty Interest		Tract Participation (%)
		Owner	Share (%)	Owner	Share (%)	
1	Lsd 1-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	5.969465396
2	Lsd 2-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	7.071822004
3	Lsd 3-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	4.773665285
4	Lsd 4-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	7.061316966
5	Lsd 5-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	7.449490609
6	Lsd 6-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	4.967752107
7	Lsd 7-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	6.732170067
8	Lsd 8-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	5.652456921
9	Lsd 9-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	5.652456921
10	Lsd 10-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	6.877735183
11	Lsd 11-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	4.967752107
12	Lsd 12-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	7.449490609
13	Lsd 13-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	7.779438205
14	Lsd 14-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	5.064795517
15	Lsd 15-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	6.877735183
16	Lsd 16-30-7-29 W1M	Red River Oil Inc.	100.000000	HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF MANITOBA	100.000000	5.652456921

100.000000000

**EXHIBIT 5 THREE FORKS & MIDDLE BAKKEN NET PAY MAPS AND ORIGINAL OIL IN  
PLACE CALCULATION**

# Red River Oil Inc.

## Sinclair Unit #9 DETERMINATION OF OOIP

		Bakken Silts					Lyleton A / Three Forks			
Section	Lsd	Net Pay		Phi	Sw	OOIP ( m <sup>3</sup> )	Net Pay		OOIP ( m <sup>3</sup> )	
		Area (Ha)	(m)				Area (Ha)	(m)		
30-7-29 W1M	1	16	1.7	0.14	0.5	18,667	16	4	60,235	
30-7-29 W1M	2	16	2.1	0.15	0.5	24,706	16	4	60,235	
30-7-29 W1M	3	16	2.1	0.15	0.5	24,706	16	3.5	49,412	
30-7-29 W1M	4	16	2.2	0.15	0.5	25,882	16	2.75	36,235	
30-7-29 W1M	5	16	3	0.15	0.5	35,294	16	2.75	36,235	
30-7-29 W1M	6	16	2.5	0.15	0.5	29,412	16	3.5	49,412	
30-7-29 W1M	7	16	1.5	0.14	0.5	16,471	16	4	60,235	
30-7-29 W1M	8	16	1	0.14	0.5	10,980	16	4	60,235	
30-7-29 W1M	9	16	1	0.14	0.5	10,980	16	4	60,235	
30-7-29 W1M	10	16	1.7	0.15	0.5	20,000	16	4	60,235	
30-7-29 W1M	11	16	2.5	0.15	0.5	29,412	16	3.5	49,412	
30-7-29 W1M	12	16	3	0.15	0.5	35,294	16	2.75	36,235	
30-7-29 W1M	13	16	3.4	0.15	0.5	40,000	16	3	39,529	
30-7-29 W1M	14	16	2.7	0.15	0.5	31,765	16	3.5	49,412	
30-7-29 W1M	15	16	1.7	0.15	0.5	20,000	16	4	60,235	
30-7-29 W1M	16	16	1	0.14	0.5	10,980	16	4	60,235	
Total		384,549					827,765			



SINCLAIR DALY FIELD  
Section 30-007-29W1M

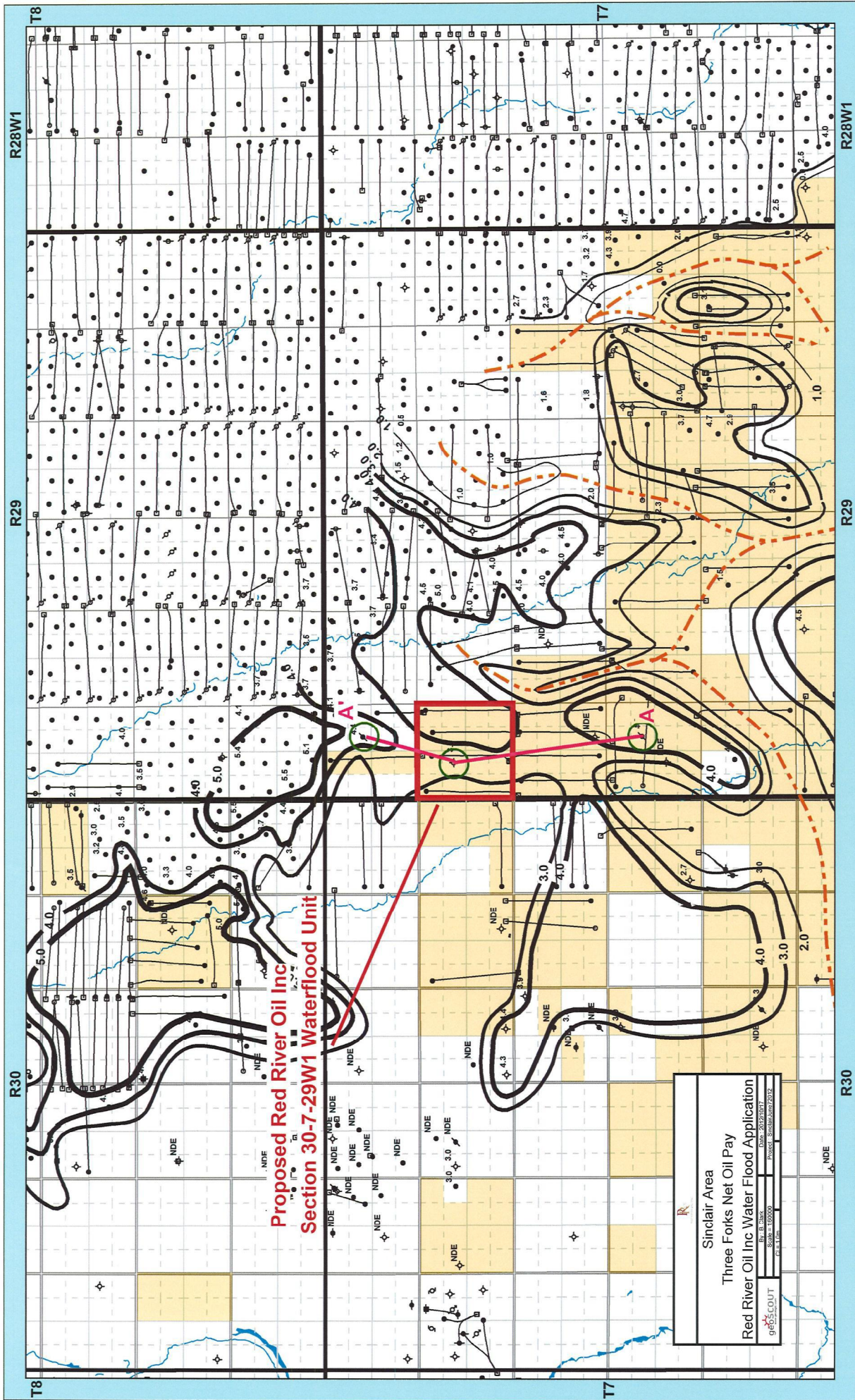
Production to Sept 30, 2012

Well	Oil (m <sup>3</sup> )					Total	Water (m <sup>3</sup> )					Total
	Prod to May 31	June	July	August	Sept		Prod to May 31	June	July	August	Sept	
13-30-7-29 W1M	2935.3	40.3	44.6	37	80.3	3137.5	10034.5	93.7	86.9	76.2	127.8	10419.1
14-30-7-29 W1M	2464.8	39.8	43.4	40.1	39.5	2627.6	10810.6	177.4	177.4	168	166.6	11500
15-30-7-29 W1M	887	219.9	180.8	132.5	133.7	1553.9	3968.8	680.7	564.4	401.5	420.5	6035.9
16-30-7-29 W1M	6099	84.7	87.9	86.2	77.5	6435.3	15354.6	159.8	173.6	178.5	167.6	16034.1
Total Produced (m3) OOIP (m3) Current RF (%)							Total Produced (m <sup>3</sup> ) Avg Watercut: 76%					
						13754.3						
						1,212,314						
						1.13%						

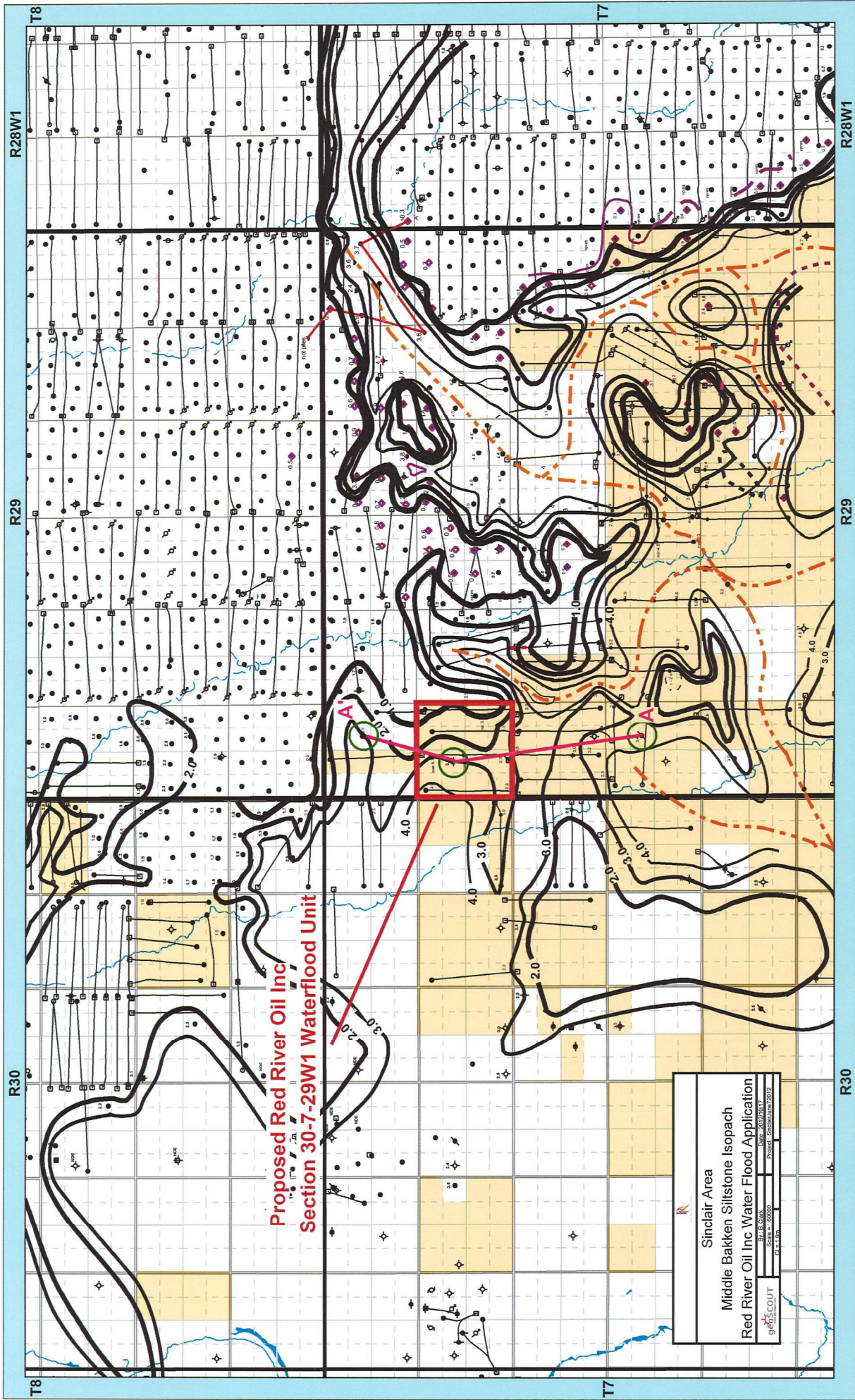
Current Production Rate

Well	Calendar Day	
	Sept (m <sup>3</sup> )	Rate (m <sup>3</sup> /day)
13-30-7-29 W1M	80.3	2.7
14-30-7-29 W1M	39.5	1.3
15-30-7-29 W1M	133.7	4.5
16-30-7-29 W1M	77.5	2.6



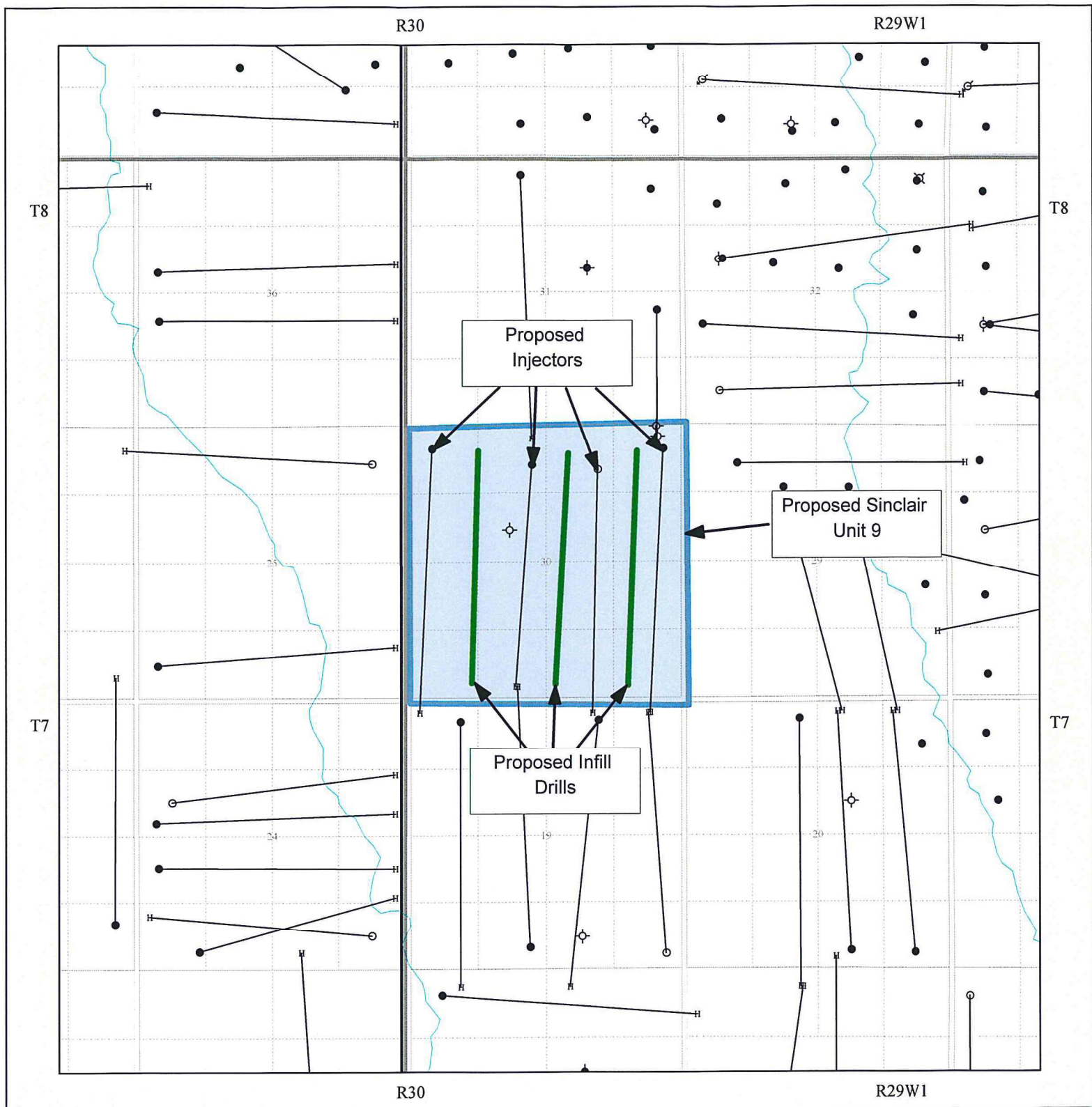






## EXHIBIT 6 DEVELOPMENT PLAN

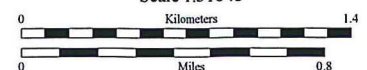




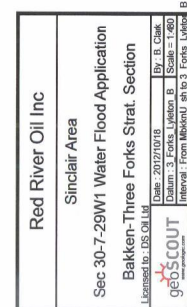
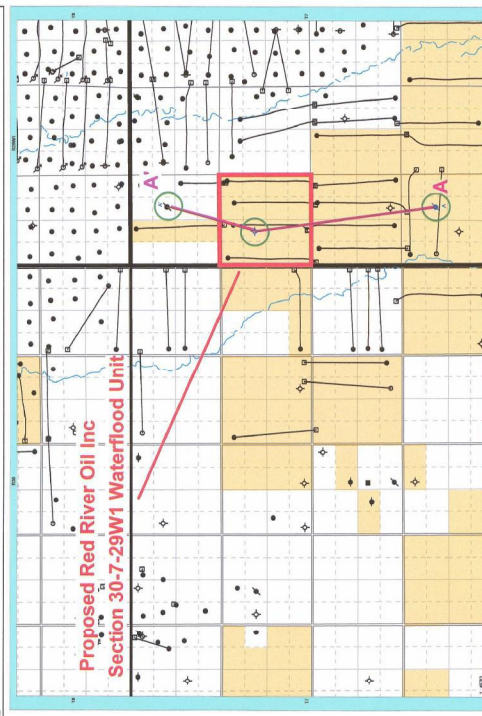
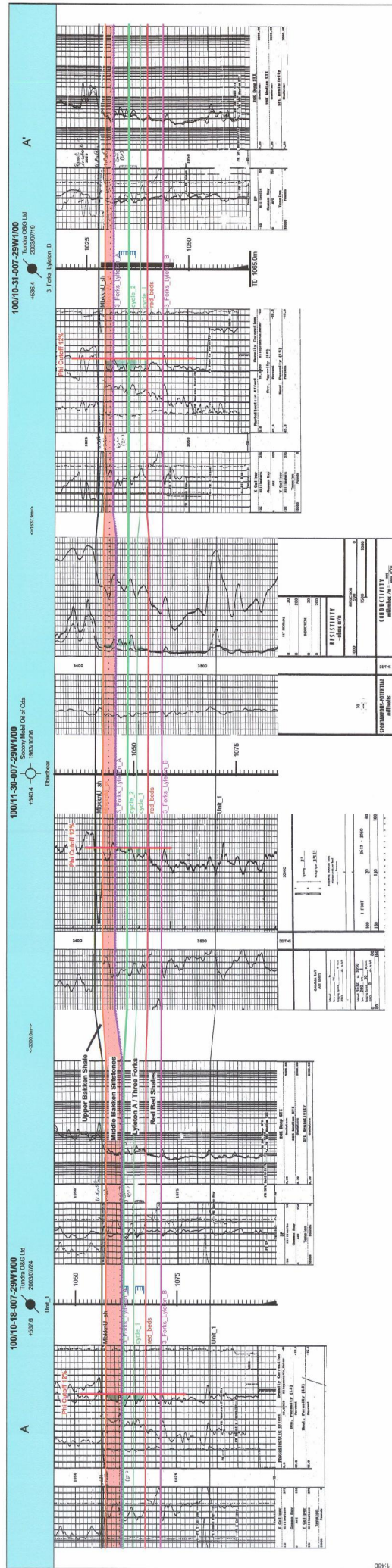
WELL LEGEND	
Bottom Hole Locations:	
○ Location	◇ Suspended
⊗ Service or Drain	● Oil
⊕ Dry & Abandoned	⚡ Abandoned Oil
⚡ Injection	
Surface Hole Locations:	
—H— Horizontal	

Proposed Sinclair Unit 9	
Proposed Injectors Proposed Infill Drills	
 Created in AccuMap™ Product of IHS Datum: NAD83 Vol. 22 No. 09, Sep 20 2012 (403) 770-4646 Copyright © 1991-2012	Author: Ken Date: October 10, 2012 File: Section 30 Water-Flood -2.MAP Scale: 1:31843 Projection: Stereographic Center: N49.59943 W101.40590
Grid Information: DLS: IHS Enhanced Grid NTS: Theoretical Grid FPS: Theoretical Grid US: IHS US Grid	DLS Version Information: AB: ATS 4.1 BC: PRB 2.0 SK: STS 2.5 MB: MI.107

Scale 1:31843

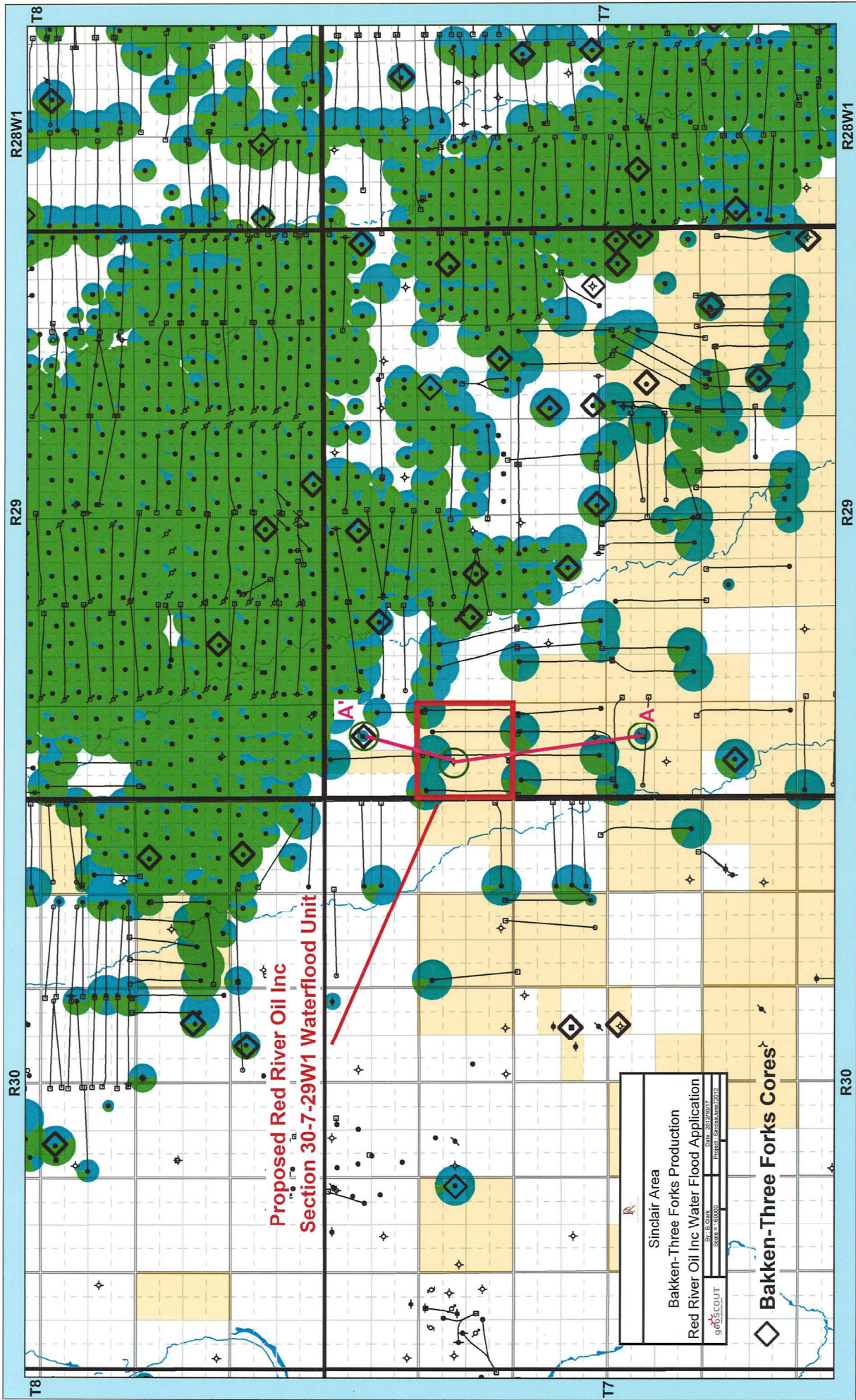


## EXHIBIT 7 CROSS SECTION



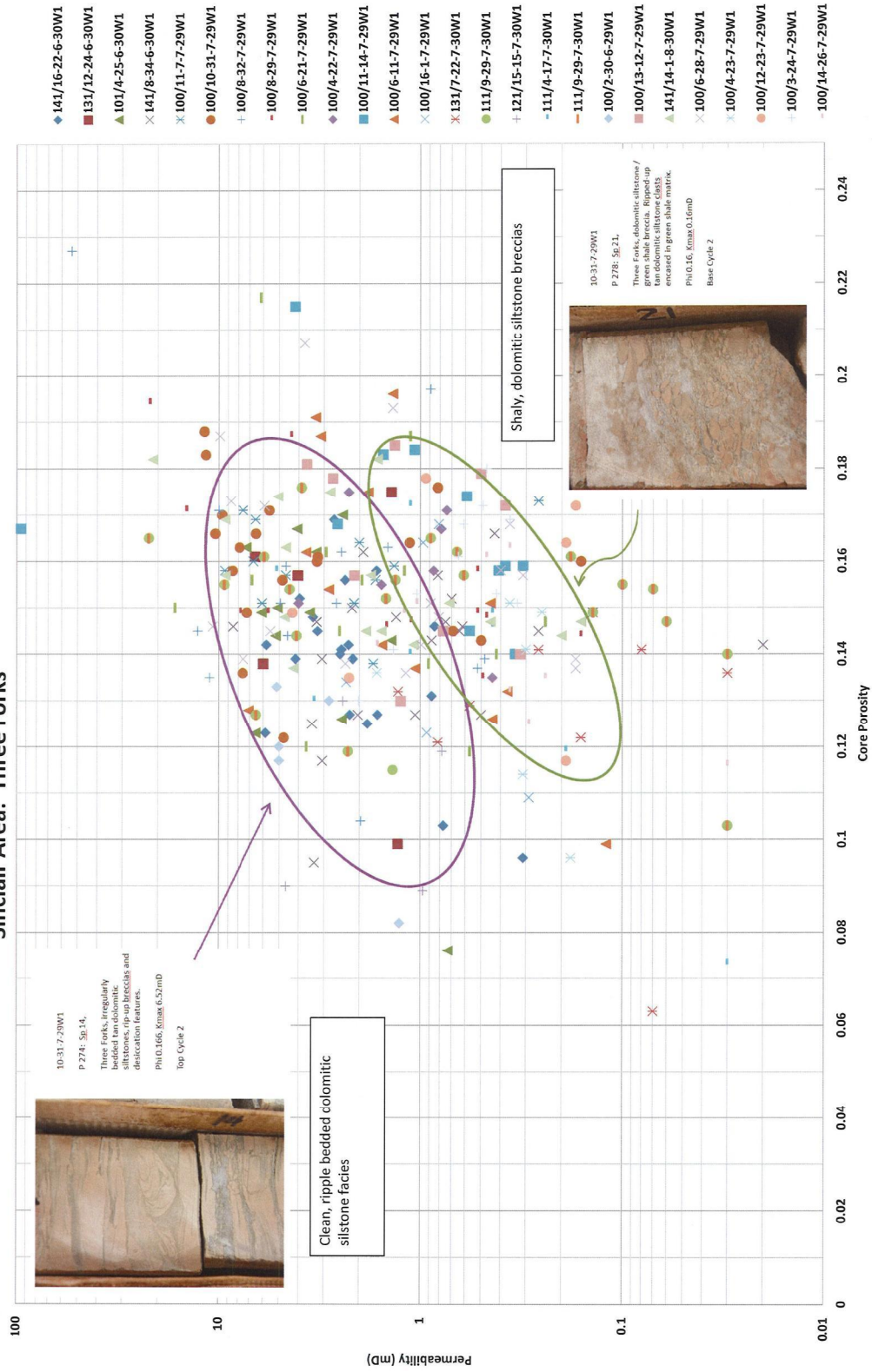


## EXHIBIT 8 CORE LOCATION MAP AND INTERPRETATION

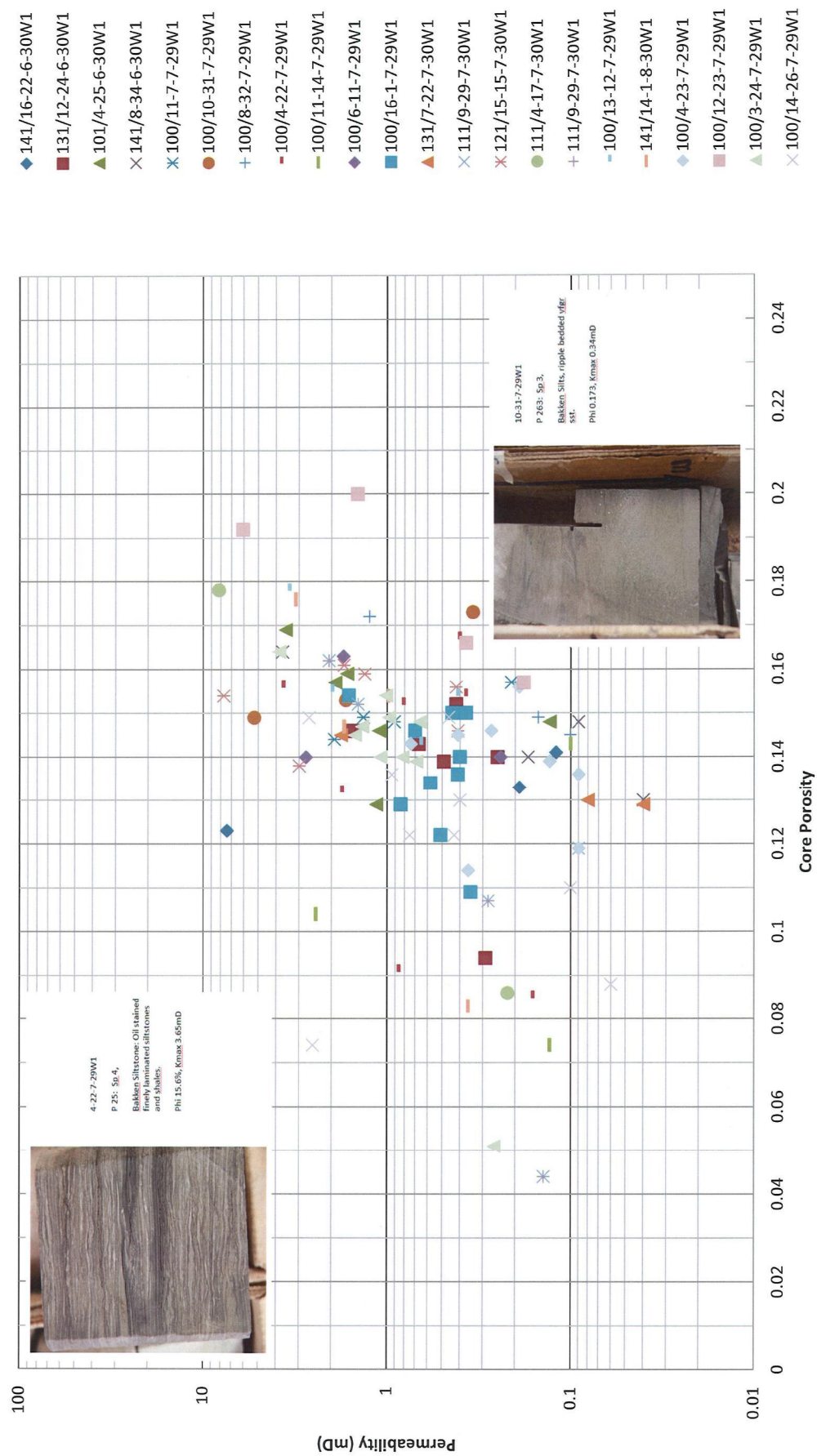




# Sinclair Area: Three Forks

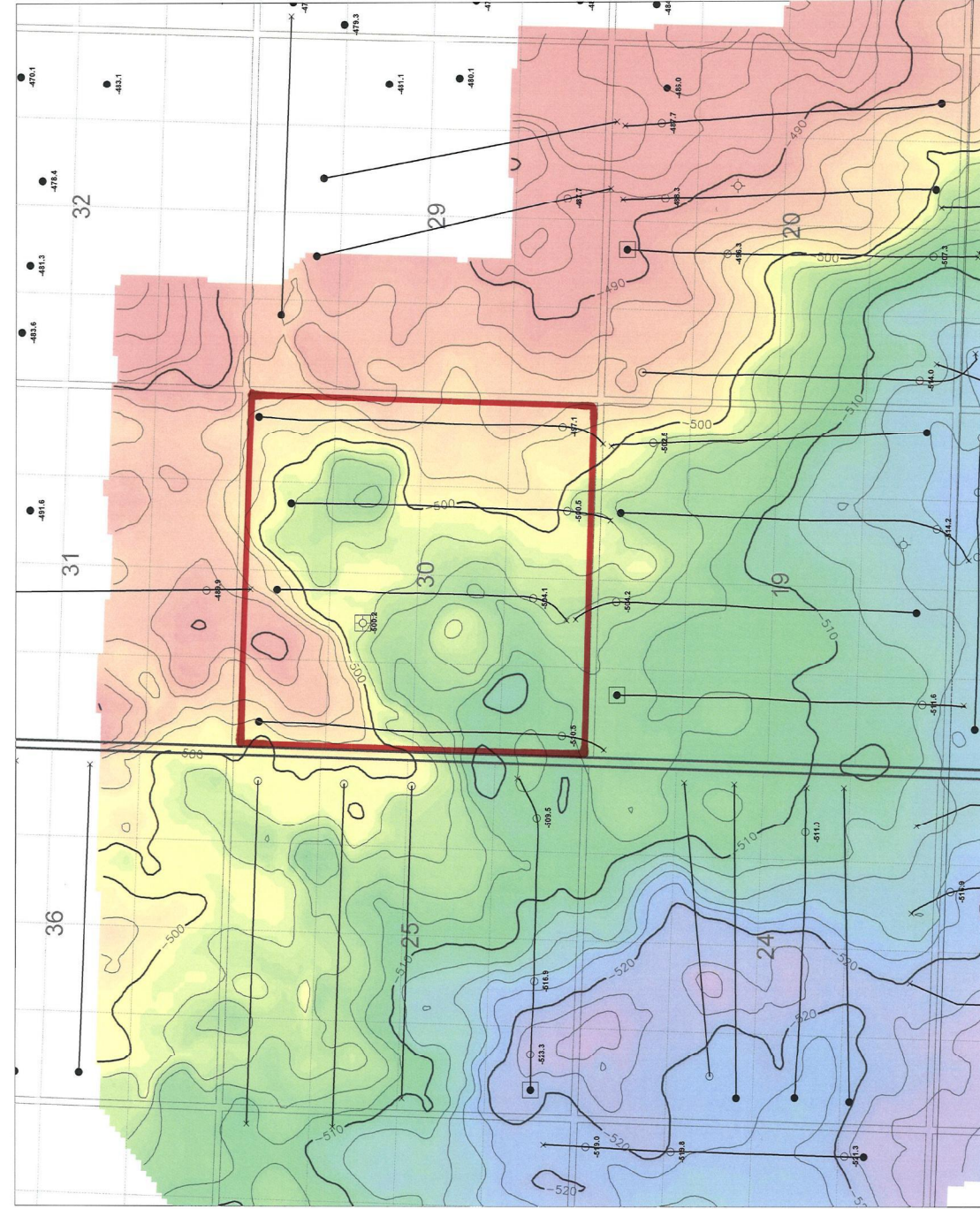
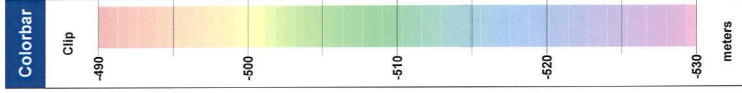


# Sinclair Area: Bakken Siltstones





## EXHIBIT 9 STRUCTURAL MAP



## Description

BAKKEN\_SH DEPTH MAP  
Cl: 2 meters

## Parameters

Posting : BAKKEN\_SH\_Oct18\_elevation (above sea) in  
Interpolation : Color Pixel + 3D 2X2 Bin  
Contouring : BAKKEN\_SH\_Oct18\_elevation\_(above\_s  
Map Scale : 1 : 20000 meters  
UTM Range : 323221, 5494211 -> 328768, 5498683



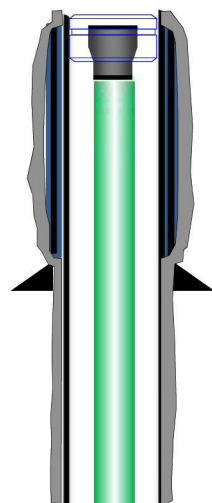
Map Scale 1:20000  
UTM [Zone 14] NAD83

19/10/2012 10:41:19 AM

SINCLAIR\_NAD83

## EXHIBIT 10 WELLBORE SCHEMATIC

## TYPICAL WATERFLOOD INJECTION WELL DIAGRAM



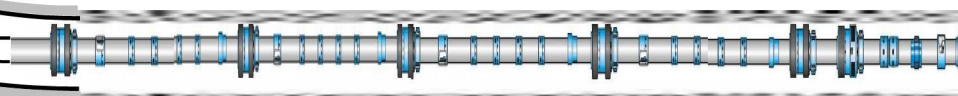
KOP at ~800 m

Coated or Fiberglass  
89 mm Tubing

Cross Over

Packer at ~1070 m

<b>WELL NAME:</b> Sec 30-7-29W1 Injection Wells				<b>LICENCE</b>	
<b>PREPARED BY</b>				<b>DATE:</b>	
<b>ELEVATIONS (meters):</b>				<b>DEPTHS (mKB)</b>	
KB: m	GL: m	KB-GL: m	KB-THF:m	TD:	2,198.0
512.06	507.14	4.92	4.00	PBTD:	2,198.0
<b>CASING/TUBING</b>	<b>SIZE (mm)</b>	<b>WEIGHT (Kg/m)</b>	<b>GRADE</b>	<b>DEPTHS (mKB)</b>	
Surface Csg:	244.50	48.07	H-40	135.00	
Intermediate Csg:	177.80	34.22	J-55	1,093.33	
Intermediate Csg:	0.00	0.00	0.00	0.00	
Production Csg:	0.00	0.00	0.00	0.00	
Liner Csg:	88.90	13.80	L-80	2,188.90	
Tubing					
Tubing					
<b>Remarks</b>					
<b>TUBING STRING / BOTTOM HOLE ASSEMBLY</b>					
<b>ITEM</b>	<b>DESCRIPTION (From Top Down)</b>			<b>LENGTH (m)</b>	<b>Btm (mKB)</b>
1	197.4 mm x 88.9 mm CTC1A-EN tbg hangar w BPV threads and extd neck				
2	pup joint 88.9 Stainless J55 EUE				
3	pup joint 88.9 Centron Fiberglass DH2000				
4	pup joint 88.9 Stainless J55 EUE				
5	pup joint 88.9 Centron Fiberglass DH2000				
6	119 joints 88.9 mm Centron Fiberglass DH200				
7	X-over SS 8rd x DH2000 Fiberglass				
8	Pup Joint J-55 SSR222 Coated				
9	On / Off tool 147 mm Packer plus SSR222 Coated				
10					
11					
12					
13					
14					
15					
16					
17					
				<b>Total Tubing (m)</b>	
				<b>Total (Mkb)</b>	
<b>PRODUCTION ROD STRING</b>					
<b>ITEM</b>	<b>DESCRIPTION (From Top Down)</b>			<b>LENGTH (m)</b>	<b>Btm (m KB)</b>
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					



Cemented Liner with Frac Ports or Packers Plus Liner

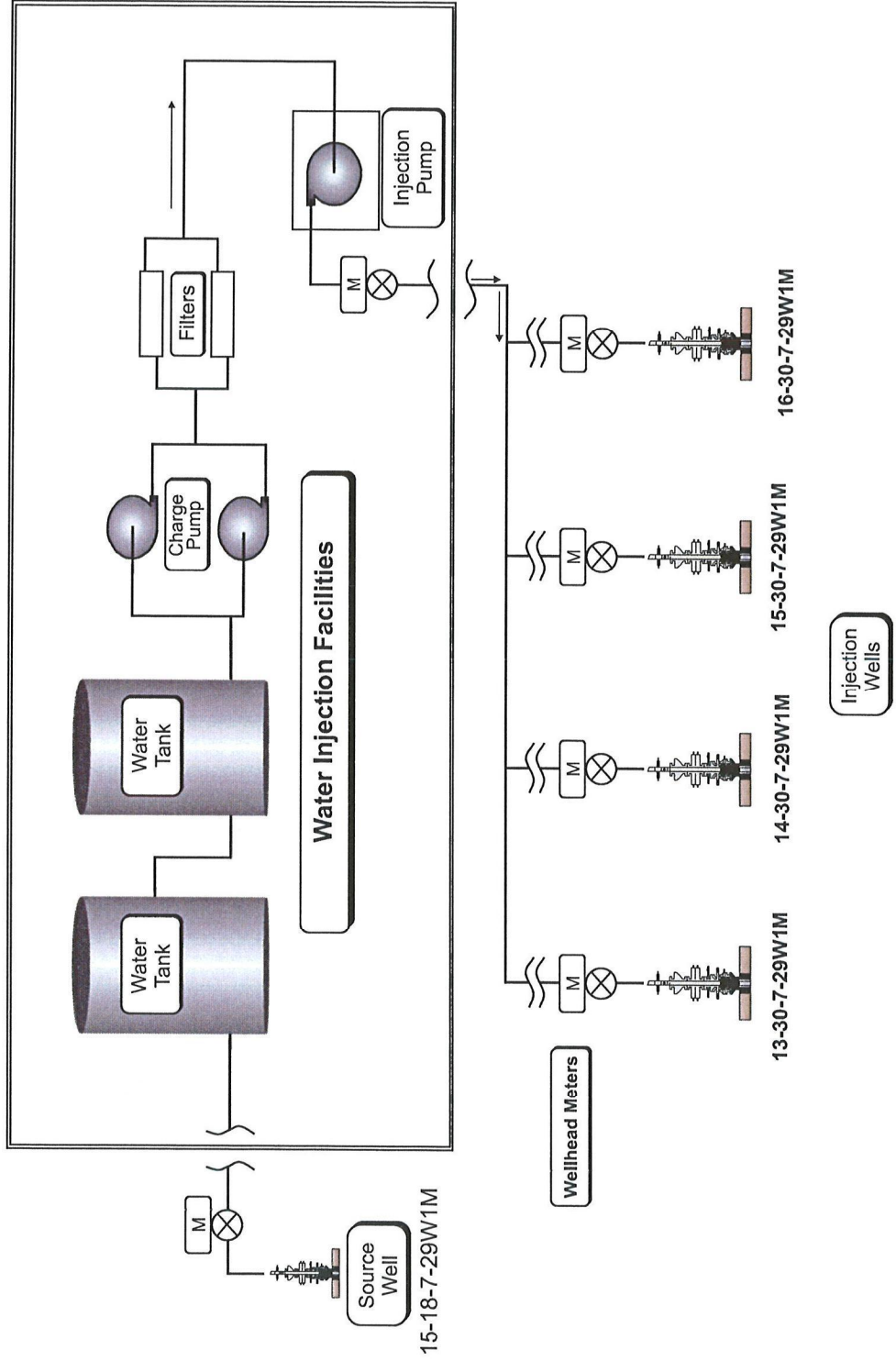


**EXHIBIT 11 WATER INJECTION FACILITY SCHEMATIC AND CORROSION CONTROL  
DETAILS**



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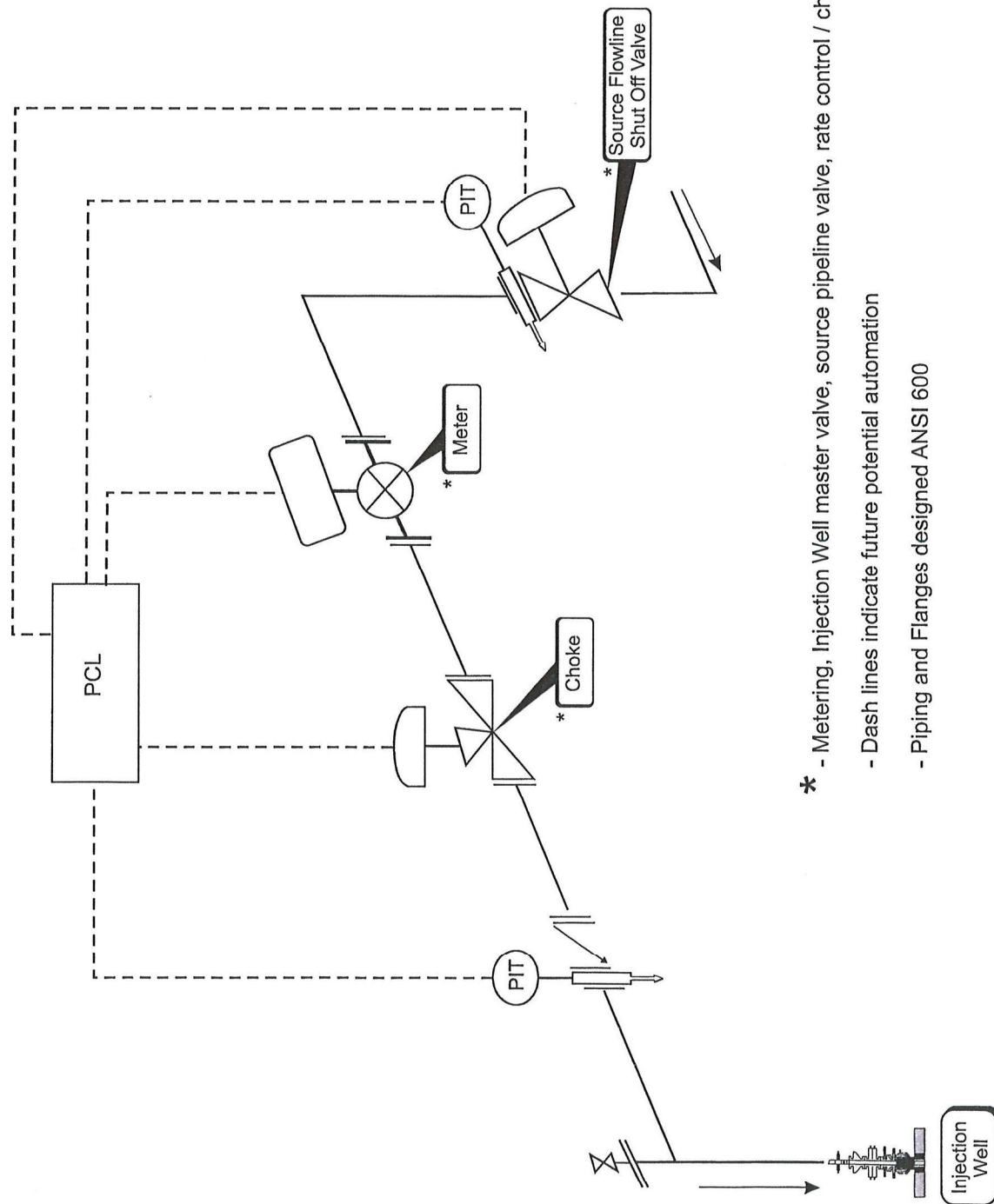
# Sinclair Unit No. 9 Sinclair Section 30-7-29W1M Water Injection System





RED RIVER OIL INC.

# Sinclair Unit No. 9 Sinclair Section 30-7-29W1M Proposed Typical Injection Well Surface Piping P&ID



- \* - Metering, Injection Well master valve, source pipeline valve, rate control / choke are all standard
- Dash lines indicate future potential automation
- Piping and Flanges designed ANSI 600





**SINCLAIR UNIT #9 -WATERFLOOD PROJECT APPLICATION**  
**NOVEMBER 1, 2012**

**SPILL & CORROSION MITIGATION DETAILS**

**1. Source Well**

- Regular downhole batch treatments or continuous injection with corrosion inhibitor
- Regular downhole batch treatments or continuous injection with scale inhibitor

**2. Pipelines**

- Source well flowline to injection facility will be 1000 psi fiberglass
- Group Injection flowline and individual injection well flowlines to be 2000-2500 psi fiberglass, strapped for ease of line locating
- Buried flowlines in proximity of the flowline construction area will be surveyed and line located.
- Where construction is in close proximity to or requires pipeline/utility crossings, all such lines will be hydrovac'd and exposed per Red River Oil's Ground Disturbance Policy & Procedures
- Isolation valves will be installed at both ends of all injection lines; i.e. at the source/injection wellheads and injection/water plant -see injection system & P&ID drawings
- Low pressure shutdown on the group injection line
- Fittings and valves will be stainless steel or fiberglass

**3. Water plant and Injection Facilities**

- Plant piping -600 ANSI stainless steel schedule 80 pipe
- Filtration –stainless steel bodies, piping, and valves
- Pumping –ceramic plungers, stainless steel disc valves, or other corrosion resistant material as required for the specific pump style
- Tanks -100% internally coated or fiberglass, corrosion resistant valves

**4. Injection Well & Surface Wellhead Piping**

- Cathodic protection where required
- Internally coated or fiberglass tubing -surface to packer
- Downhole packer and tubular fittings coated where in contact with injection fluid
- Corrosion inhibited water in annulus between tubing and casing
- Corrosion resistant master/pipeline valves and stainless steel or internally coated surface wellhead piping
- Surface freeze protection during winter months

**5. Producing Wells**

- Regular downhole batch treatments or continuous injection with corrosion inhibitor
- Regular downhole batch treatments or continuous injection with scale inhibitor