

PROPOSED VIRDEN ROSELEA UNIT NO. 6
APPLICATION FOR ENHANCED OIL RECOVERY WATERFLOOD PROJECT
LODGEPOLE FORMATION
VIRDEN, MANITOBA

April 12, 2023
Corex Resources Ltd.

Table of Contents

INTRODUCTION	4
SUMMARY	4
GEOLOGY	5
Stratigraphy	5
Sedimentology	6
Structure	7
Reservoir	7
OIL IN PLACE, PRODUCTION HISTORY AND ESTIMATED RECOVERY	8
Original Oil in Place	8
Historical Production	8
Primary Recovery	9
Secondary Recovery	9
UNITIZATION	9
Unit Name	9
Unit Operator	9
Unitized Zones	9
Unit Wells	9
Unit Lands	10
Tract Factors	10
Working Interest Owners	10
WATERFLOOD DEVELOPMENT	10
Estimated Recovery	11
Economic Limit	11
Source of Injection Water and Waterflood Facilities	11
Operating Strategy	12
Pressure	12
Wellbore and Surface Piping Specifications and Corrosion Control	12
Waterflood Surveillance	13
Project Schedule	13
NOTIFICATIONS	14

List of Tables

1. Summary of Original Oil In Place and Tract Factor Calculations
2. Well List – Status
3. Cumulative Oil Production and Estimated Ultimate Recovery
4. Summary of Rock and Fluid Properties

List of Figures

1. Location of Proposed Virden Roselea Unit No. 6
2. Location of Virden Roselea Unit No. 6 within the Virden Lodgepole B Pool
3. Production History of Wells within Proposed Virden Roselea Unit No. 6
4. Proposed Injector Locations
5. Wellbore Schematic for Typical Injector
6. A) Simplified Flow Diagram and Metering B) Injection pump at 2-06-011-25W1 Battery
7. Corrosion Control System

List of Appendices

- I. Stratigraphy of Lodgepole Formation
- II. Scallion – Gross Pay
- III. Scallion – Net Pay
- IV. Scallion – Porosity-Thickness
- V. Scallion – Permeability-Thickness
- VI. Sandhill/Oolites – Gross Pay
- VII. Sandhill/Oolites – Net Pay
- VIII. Sandhill/Oolite – Porosity-Thickness
- IX. Sandhill/Oolites – Permeability-Thickness
- X. Scallion – Top of Structure
- XI. Sandhill/Oolites – Top of Structure
- XII. Scallion – Reservoir Model
- XIII. Tract Description and Working Interest Owners

INTRODUCTION

The Virden Lodgepole B Pool is located in Townships 9 to 11 Ranges 25 to 26 W1M. The field was originally developed with vertical wells, but recent exploitation has shifted to horizontal development. The first horizontal well in the application area was drilled in December 2015 at 102/10-01-010-26W1M and operated by Corex Resources Ltd. (“Corex”). Since that time, an additional ten (10) horizontal wells have been drilled within the proposed unit lands.

Corex believes potential exists for incremental production and reserves from an Enhanced Oil Recovery (“EOR”) waterflood project in the Lodgepole formation. Corex is the operator of the lands within the application area that contains eleven (11) horizontal wells and ten (10) vertical wells. One of the vertical wells was dry and abandoned and the other nine (9) vertical wells produced between March 1954 and June 1961 and have all been abandoned and the surface reclaimed. We anticipate drilling one (1) additional horizontal wells and ultimately converting six (6) horizontal wells into injectors when implementing the EOR waterflood project.

Corex hereby applies to establish Virden Roselea Unit No. 6 and implement an EOR Waterflood Project within the Lodgepole formation (Figure 1).

The proposed Virden Roselea Unit No. 6 falls within the Virden Lodgepole B Pool (Figure 2).

SUMMARY

1. The proposed Virden Roselea Unit No. 6 is to include twenty-two (22) wells:
 - 1 vertical well that was drilled and abandoned,
 - 9 vertical wells that were previously produced and now abandoned,
 - 11 producing horizontal wells,
 - 1 additional horizontal well, and
 - all these wells are completed in the Lodgepole formation (Figure 1).
2. The original oil in place (OOIP) for the proposed Virden Roselea Unit No. 6 is calculated as $2,240 \times 10^3 \text{m}^3$ (14,090 Mbbbl), for an average of $74.7 \times 10^3 \text{m}^3$ (470 Mbbbl) per LSD.
3. Cumulative production in the proposed Virden Roselea Unit No. 6 to the end of November 2022 is $29.5 \times 10^3 \text{m}^3$ (185 Mbbbl) of oil. This represents a 1.3% recovery factor of the total OOIP.
4. The last production from the original nine vertical wells was in June 1961 and all are now abandoned. In December 2015, the first horizontal well was drilled and is still currently

producing. As of November 2022, the proposed Virden Roselea Unit No. 6 is producing 12.2 m³/d (76.5 b/d) of oil and 249.0 m³/d (1,566 b/d) of water, at a water cut of 95.3%. Peak production for the proposed unit occurred in March 2020, with 19.7 m³/d (124 b/d) of oil and 155 m³/d (975 b/d) of water, giving a water cut of 88.7%.

5. The Estimated Ultimate Recovery (EUR) of oil on primary production within the proposed Virden Roselea Unit No. 6 using decline analysis and a reservoir model is 57.3 10³m³ (361 Mbbbl), with 27.9 10³m³ (175 Mbbbl) remaining as of November 2022. The Estimated Ultimate Recovery Factor (EURF) on primary would be 2.6% of the total OOIP in the Lodgepole section.
6. With the implementation of a waterflood within the Scallion member of the Lodgepole formation, incremental reserves of 165 10³m³ (1,035 Mbbbl) are expected. Based on the total OOIP for the Lodgepole formation, the incremental recovery factor is expected to be 7.3%, for an overall recovery factor of 9.9%.
7. The development plan will be to continue producing the existing horizontal wells and in 2023 drill the additional horizontal well (Figure 4), convert the producers into injection wells, and commence waterflooding in the first quarter of 2024. This timing is contingent upon the approval of the unitization and EOR waterflood application. All horizontal wells in the proposed Virden Roselea Unit No. 6 are completed openhole.

GEOLOGY

Stratigraphy

The Lodgepole formation in the proposed unit area conformably overlies the Bakken formation and contains a number of hydrocarbon-bearing intervals. It was deposited in a gently sloping carbonate ramp setting and has been subdivided by Corex into a series of laterally continuous, shallowing upwards cycles. In ascending order, the sequence consists of a non-reservoir cycle, the Routledge Shale, which is overlain by two reservoir cycles, the Scallion and the Sandhill/Oolites, and is then capped by three non-reservoir cycles, the Virden, the Whitewater Lake and the Flossie Lake. The Flossie Lake member of the Lodgepole has been eroded over much of the proposed unit area. The Lodgepole formation is unconformably overlain by the red silts and shales of the Lower Amaranth, which are in turn overlain by the anhydrites and shales of the Upper Amaranth that form the top seal for the Lodgepole hydrocarbon system. The stratigraphy of the Lodgepole formation is shown on a structural cross section which runs west to east through the proposed unit (Appendix I).

Sedimentology

Starting at the base of the Lodgepole section and working upwards, the first cycle immediately overlying the Bakken formation is the Routledge Shale. The Routledge Shale is a black to dark grey to, occasionally, brown fissile calcareous shale. This shale cycle was deposited in a relatively deep, low energy, distal ramp environment. The Routledge Shale is non-reservoir, and it is capped by the Scallion.

The overlying Scallion is the first reservoir quality cycle deposited within the Lodgepole Formation. It is comprised of cream to tan microcrystalline limestone with varying amounts of chert and anhydrite, and occasional vertical fracturing. This unit is typically biofragmental with minor argillaceous interbeds. Bioclastic components are dominated by crinoids and shell fragments. All of this indicates deposition in a relatively quiet shallow marine proximal ramp environment. Most of the wells in the proposed unit area do not go through the entire Scallion reservoir interval. Therefore, reservoir parameters and fluid contacts have been interpreted from the available data in these wells along with data in offset vertical wells. The Scallion reservoir thickness varies across the area, as seen from the isopach (gross pay) map (Appendix II). The reservoir generally thins as the structure drops off to the south, but it also thins in the southeast of Section 12-10-26W1 where a salt collapse feature drops the Scallion below the oil/water contact. The net pay values, using a 9% porosity cutoff and 1mD permeability cutoff, have an interpreted range of 0 to 6.5m with gross reservoir thickness (above the oil/water contact) ranging from 1 to 7m (Appendices III and II respectively). Porosity ranges from 9 to 18% and permeability ranges from 1 to over 100mD in the nearby wells with core analysis data. The Scallion is the primary target for horizontal wells drilled by Corex and for the proposed waterflood.

The Sandhill/Oolites is the next reservoir unit and consists of a package of five thin shallowing upwards cycles, indicating frequent sea level changes. Each cycle consists of an oil-bearing cream to tan oolitic wackestone that is capped by a barren pink to maroon argillaceous mudstone. Anhydrite is present in minor amounts, and in the proposed unit area the upper two cycles are more dolomitized. There is also occasional vertical fracturing. The oolitic wackestones are indicative of deposition in a relatively high energy but shallow water environment, while the argillaceous limestones are indicative of a relative sea level fall and the development of a lower energy, shallow, restricted environment. This is typical of a proximal to restricted ramp setting. The thickness of the Sandhill/Oolites section is relatively consistent in the proposed unit area, with gross thickness values ranging from 6 to 9m (Appendix VI) and net pays from 2 to 5m (Appendix VII), using a 9% porosity cutoff and 1mD permeability cutoff. The nearby wells with core analysis data show that porosity ranges from 9 to 15% and permeability ranges from 1 to over 100mD in the reservoir zones. The Sandhill/Oolites are tight in the southeast corner of the proposed unit area but are a secondary target for drilling and waterflood everywhere else (Appendix VII).

The Virden is a cream to tan cryptocrystalline dolomite with varying amounts of anhydrite and minor argillaceous components. Deposition of this shallowing upward sequence occurred in a

more lagoonal, shallow marine, restricted ramp environment. Within the proposed unit area, the Virden is tight and is considered non-reservoir. The member varies in gross thickness from 7.5 to 10m.

The next cycle of the Lodgepole sequence is the Whitewater Lake. The Whitewater Lake is a cream to tan to grey micritic dolomudstone to cryptocrystalline dolomite. Anhydrite is common, as are minor argillaceous partings. There is a minor bioclastic component composed of skeletal fragments. Deposition of this cycle occurred in a very shallow water, nearshore lagoon, restricted ramp environment. Within the proposed unit area, the Whitewater Lake is tight and is considered non-reservoir. The gross isopach ranges from 6 to 15m.

The final cycle of the Lodgepole sequence in the proposed unit area is the Flossie Lake. It has been eroded across much of the proposed unit and where present it is thin and discontinuous. The Flossie is a cream to off-white microcrystalline to cryptocrystalline dolomite with very common anhydrite partings and nodules. Deposition of this cycle occurred in very shallow, near shore restricted water to a partially exposed sabkha environment. Within the proposed unit area, the Flossie is tight and is considered non-reservoir. The gross isopach across the proposed unit ranges from 0 to 6.5m and is generally less than 4m.

Structure

The structure within the proposed unit area is generally relatively flat, and dips gently down to the south and to the east. There is also a small salt dissolution in Section 12-10-26W1, identified by the 100/8-12-10-26W1 horizontal well. In this dissolution event, the Scallion reservoir drops below the oil-water contact, however the Sandhill and Oolite reservoirs remain above it. There is no direct evidence from wells or 3D seismic indicating significant faulting at the Lodgepole level in the vicinity of the proposed unit area. Structure maps for the two reservoir units are included in Appendices X and XI.

Reservoir

Maps for each of the two reservoir units were generated using available open-hole logs and core data, and include net pay, porosity-thickness, and permeability-thickness. These maps are in Appendices III to V for the Scallion and VII to IX for the Sandhill/Oolites. Pore volume and permeability-thickness values could only be calculated for wells with core analysis data, which is a very small number of the wells in and around the proposed unit area. Net pay for the Scallion and Sandhill/Oolites was calculated using a 9% porosity cutoff and a 1mD permeability cutoff. Both reservoir units are considered conventional reservoirs and are produced from open-hole completions. Weighted average permeability and porosity were calculated using the same cutoffs as used for net pay.

Fluid Contacts

The oil/water contact in the proposed unit area is interpreted at -202m SS from log and core data in vertical wells that drilled through the contact, along with gas data and drill cuttings from several of the horizontal wells that also penetrated the contact. In the proposed unit area this contact lies mainly within the Scallion reservoir unit, although in those areas where the structure has dropped down it lies within the Sandhill/Oolites.

OIL IN PLACE, PRODUCTION HISTORY AND ESTIMATED RECOVERY

Original Oil in Place

The original-oil-in-place (OOIP) for the proposed Virden Roselea Unit No. 6 is 2,240 10^3m^3 (14,090 Mbbbl), for the Lodgepole formation. The OOIP was calculated in-house. Values of thickness, porosity, and water saturation of each LSD for the various reservoir zones are used to calculate the OOIP on an individual LSD basis. Details of the calculations are summarized in Table 1.

Historical Production

Figure 3 shows the production history of the wells within the proposed Virden Roselea Unit No. 6. The unit consists of twenty-two (22) wells, nine (9) vertical wells that produced and are abandoned, and one (1) dry and abandoned well. In addition, there are eleven (11) horizontal wells on production, and one (1) additional horizontal well is to be drilled. Historically, there has been no injection or disposal into the Lodgepole formation within the proposed Virden Roselea Unit No. 6. Production from the producing wells is from the Lodgepole formation.

Up to and including the month of November 2022, the proposed Virden Roselea Unit No. 6 has produced cumulative volumes of oil of 29.5 10^3m^3 (185 Mbbbl) and water of 410 10^3m^3 (2,576 Mbbbl). The current recovery factor is 1.3%.

Development began in March 1954, with one (1) vertical well, which was on production for two months. Nine (9) additional vertical wells were drilled and produced between February 1956 and June 1961. In December 2015, a horizontal well was drilled at 102/10-01-010-26W1M and put on production in January 2016. Corex drilled another ten (10) horizontal wells within the proposed unit area. One (1) additional horizontal well is planned within the proposed unit area.

At the end of November 2022, the proposed Virden Roselea Unit No. 6 was producing 12.2 m^3/d (76.5 b/d) of oil and 249 m^3/d (1,566 b/d) of water, at a water cut of 95.3%. Peak production for the proposed unit occurred in March 2020, with 19.7 m^3/d (124 b/d) of oil and 155 m^3/d (975 b/d) of water, giving a water cut of 88.7%. Presently, there is no water injection or disposal; all fluids are flowlined to the Virden Roselea Unit No. 3 battery.

Primary Recovery

Table 3 lists the wells within the proposed unit area; together with the cumulative oil production to the end of November 2022 and the estimated ultimate recovery (EUR) using decline analysis. The total EUR for the proposed Virden Roselea Unit No. 6 is $57.3 \times 10^3 \text{m}^3$ (361 Mbbl), for a recovery factor of 2.6% of the total OOIP in the Lodgepole section.

Secondary Recovery

Within the Lodgepole formation, the proposed waterflood will target the Scallion member, which contains 59% of the total OOIP. A reservoir model of the proposed unit was built to estimate the expected recovery from waterflooding the Scallion member. This reservoir model used average reservoir properties and was tuned to a type well production profile of a representative horizontal producer within the Scallion member. The model results suggest an EURF of 3.1% under primary depletion, similar to the EURF using decline analysis. By converting producers into injection wells, the reservoir model predicts an incremental recovery factor on waterflood of 13.8%. Additional information on the reservoir model is included in Appendix XII.

UNITIZATION

The basis for unitization is to implement a waterflood to increase the ultimate recovery of the OOIP from the proposed project area.

Unit Name

Corex proposes the name of the new unit shall be Virden Roselea Unit No. 6.

Unit Operator

Corex will be the Operator for Virden Roselea Unit No. 6.

Unitized Zones

The unitized zone to be waterflooded in the Virden Roselea Unit No. 6 will be the Lodgepole Formation.

Unit Wells

The unit will include twenty-two (22) wells:

- 1 vertical well that was drilled and abandoned,
- 9 vertical wells that previously produced and now abandoned,

- 11 producing horizontal wells, and
- 1 horizontal well to be drilled as future production/injection wells.

These wells in the proposed Virden Roselea Unit No. 6 are outlined in Table 2 with their current status.

Unit Lands

The Virden Roselea Unit No. 6 will consist of 30 LSDs as follows:

- LSDs 1, 5, 6, 7, 8, NE $\frac{1}{4}$ and NW $\frac{1}{4}$ of Section 6 of Township 010, Range 25, W1M
- LSDs 1, 2, 3, 4, 5, and 7 of Section 7 of Township 010, Range 25, W1M
- LSDs 1, 8, and NE $\frac{1}{4}$ of Section 1 of Township 010, Range 26, W1M
- SE $\frac{1}{4}$ and LSD 10 of Section 12 of Township 010, Range 26, W1M

The lands included in the 40 acre tracts are outlined in Appendix XIII.

Tract Factors

The proposed Virden Roselea Unit No. 6 will consist of thirty (30) tracts based on remaining OOIP per LSD using maps created internally by Corex as of November 2022, with the production from the horizontal wells being divided according to the existing production allocation agreements. The calculation of the tract factors is outlined in Table 1.

Working Interest Owners

Appendix XIII outlines the working interest for each recommended tract within the proposed Virden Roselea Unit No. 6. Corex will have a 100% WI across all tracts.

WATERFLOOD DEVELOPMENT

The objective of implementing a waterflood is to provide pressure support and improve recovery. The Lodgepole formation is relatively shallow, with undersaturated oil having low solution gas-oil ratios and as such, there is not much drive energy within the system. Corex believes additional energy is required to improve the recovery. Waterflooding will enhance the recovery by providing pressure support as well as displacing the oil from the injectors towards the producers.

With the success of the recently drilled producing horizontal wells, Corex intends to drill one (1) additional horizontal wells, and convert six (6) horizontal producers to injection in 2023. Waterflood is expected to commence in early 2024, although this timing will be dependent upon

the approval of the Unitization and Waterflood application, as well as the various stake holders coming to agreement.

Rock and Fluid Properties

Rock and fluid properties for the Lodgepole formation are summarized in Table 4. These properties were estimated using standard correlations in the literature and using existing oil analysis and PVT data.

Using Corex's internal database on step rate tests in the Lodgepole, the fracture gradient for the Lodgepole formation in the Virden area is estimated to be 22 kPa/m. Based on the average fracture gradient a surface fracturing pressure of 7,400 kPa is anticipated. The surrounding units have maximum allowable injection pressures (MAP) ranging from 7,000 kPa to 8,000 kPa, which Corex feels is appropriate for the proposed Virden Roselea Unit No. 6.

Estimated Recovery

Using the results from a reservoir model and analogs within the area, incremental reserves of 165 10³m³ (1,035 Mbbbl) are expected. Based on the total OOIP for the Lodgepole formation, the incremental recovery factor is expected to be 7.3% for an overall recovery factor of 9.9%.

Economic Limit

The economic limit will be when the net oil rate and net oil price revenue stream becomes less than the current producing operating costs. Based on current price forecasts, the economic limit for the project would be 1 m³/d.

Source of Injection Water and Waterflood Facilities

The source of the injection water will be from the Lodgepole formation and water supply will come from the offsetting unit, Virden Roselea Unit No. 3 (VRU #3). This unit is also operated by Corex Resources. VRU #3 produces from the Lodgepole formation and already has facilities in place for water injection. Flowlines will be installed from the VRU #3 high pressure injection system to the injectors in VRU #6. Figure 5 shows the wellbore schematic for a typical injector. There will be no additional waterflood facilities required for Virden Roselea Unit No. 6.

A simplified process flow diagram of the system is located in Figure 6. All producing wells will flow to test separators before entering gathering system in Roselea Unit #3. All injection wells will have turbine meters (totalizers) at the wellhead to record water injection volumes.

Water injection volumes and balancing will be utilized to monitor the entire system measurement and integrity on a daily basis. The corrosion control program outlining the planned system design and operational practices to prevent corrosion is located in Figure 7.

Operating Strategy

The proposed injection scheme within the proposed Virden Roselea Unit No. 6 can be seen in Figure 4. Six horizontal wells will be converted into injectors, forming alternating producer-injector pairs.

Injection rates are expected to be in the range of 50 m³/d to 100 m³/d, subject to a maximum injection pressure of 6,600 kPa at the well head. This maximum pressure is based on a fracture pressure of 7,400 kPa and a safety factor of 90%. Initially, injection will target a monthly voidage replacement ratio (VRR) between 1.25 and 1.75. This over-injection will serve to replace the existing voidage within the proposed unit area. Once a cumulative VRR of one (1.0) is attained, the injection rate will be scaled back to maintain the VRR at one (1.0), both on a monthly basis and a cumulative basis.

All producers will be kept at pump-off condition.

Pressure

The initial pressure for the proposed unit area was somewhat normally pressured, with the first recorded pressures from the 103/10-01-010-26W1/00 well and the 100/08-06-010-25W1/00 well being around 6,000 kPa. A normally pressured reservoir for this formation would be expected to have pressures in the range of 6,000 kPa to 6,500 kPa. The current average reservoir pressure is around 2,500 kPa. The pressure is lower than the initial pressure due to production depleting the reservoir. Waterflooding will help to re-pressurize and add energy to the reservoir, and to displace oil from the injectors to the producers. Upon conversion, during the initial over-injection period, the reservoir pressure is expected to increase from the current level. Once the cumulative VRR reaches one (1.0), a monthly VRR of one (1.0) will be maintained.

Wellbore and Surface Piping Specifications and Corrosion Control

All injection flowlines will have a maximum operating pressure of at least 8,825 kPa (consistent with injection systems in VRU #3). Typical operating pressure is expected to be around 6,000 kPa.

Maximum pump discharge from the VRU #3 injection pump is less 7,500 kPa, limiting maximum wellhead pressure to 7,500 kPa. All wellheads are rated to 21,000 kPa.

All emulsion flowlines will have a maximum operating pressure of greater than 3,415 kPa (consistent with the VRU #3 gathering system). Typical operating pressure is around 800 kPa.

Corex's planned corrosion control program is as follows:

Pipelines

- All pipelines are fiberglass. No corrosion inhibitor is required.

Surface piping

- All above ground piping and wellheads are to be internally coated for producing wells. Injection well piping will be either internally coated or stainless steel. No corrosion inhibitor is required.

Producing Wells (Downhole)

- Continuous corrosion inhibition down annulus as required.
- Cathodic protection on casing

Injection Wells (Downhole)

- Inhibited fluid in annulus
- Internally coated packer and tubing
- Cathodic protection on casing

Waterflood Surveillance

Waterflood response within the proposed Virden Roselea Unit No. 6 will be closely monitored with the following:

- Regular production well testing to monitor fluid rate and water cut to watch for waterflood response
- Real time monitoring of injection rates and pressures
- Monitor monthly and cumulative voidage replacement ratio by pattern and overall unit
- Evaluation of Hall plots
- New injection targets will be sent to the field on a regular basis

Project Schedule

Horizontal drilling in the area has been successful. After a period of primary recovery, Corex intends to implement a waterflood by converting horizontal producers into injection to support the remaining producers.

The injection conversions are expected to start in the second half of 2023. This schedule is contingent upon the approval of the Unitization and Waterflood application, as well as the various stake holders consenting to same.

NOTIFICATIONS

Corex will notify all surface and mineral owners of the proposed EOR project and formation of the Virden Roselea Unit No. 6. Copies of the Notices, and proof of service, to all surface and mineral owners within the application area and mineral owners offsetting the application area will be forwarded to the Petroleum Branch, when available, to complete the Virden Roselea Unit No. 6 Application.

Unitization and execution of the formal Virden Roselea Unit No. 6 agreement by affected mineral owners will occur once the Petroleum Branch has reviewed and approved the tract factors. Copies of the agreement will be forwarded to the Petroleum Branch to complete the Virden Roselea Unit No. 6 application.

Should you have any comments and/or questions regarding this application, please contact Peter Parkinson (at 403-718-6371 or peterp@corexresources.ca), or Dan Hompoth, Engineering, (at 587-390-0293 or danielh@corexresources.ca).

Yours truly,

Corex Resources Ltd.

David McGuinness
Executive VP Land

Table 1 – Summary of Original Oil In Place and Tract Factor Calculations

Proposed Virden Roselea Unit No. 6

Lodgpole Unit

Tract LSD	Tract Weighting	Total	01-06 01-06-010-25W1	05-06 05-06-010-25W1	06-06 06-06-010-25W1	07-06 07-06-010-25W1
Tract Factor		100.000000000%	0.114422442%	2.203397547%	2.067749245%	0.445521652%
Virden						
Area (ac)		1,200	40	40	40	40
h (m)			0.0	0.0	0.0	0.0
Vb (ac-ft)		0	0	0	0	0
phi			9.5%	9.5%	9.5%	9.5%
Sw			30%	30%	30%	30%
HCPV			0.000	0.000	0.000	0.000
OOIP (Mrb)		0	0	0	0	0
OOIP (Mstb)		0	0	0	0	0
OOIP (10 ³ m ³)		0	0	0	0	0
Sandhill/Oolites						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			0.0	1.8	0.4	0.4
Vb (ac-ft)		11,706	0	236	52	52
phi			10.3%	12.0%	12.0%	9.0%
Sw			30%	30%	30%	30%
HCPV		6	0.000	0.151	0.034	0.025
OOIP (Mrb)		6,239	0	154	34	26
OOIP (Mstb)		5,830	0	144	32	24
OOIP (10 ³ m ³)		927	0	23	5	4
Scallion						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			0.2	2.0	3.2	0.5
Vb (ac-ft)		13,320	26	262	420	66
phi			12.0%	12.2%	12.0%	12.0%
Sw			30%	30%	30%	30%
HCPV		9	0.017	0.171	0.269	0.042
OOIP (Mrb)		8,838	17	174	274	43
OOIP (Mstb)		8,260	16	163	256	40
OOIP (10 ³ m ³)		1,313	3	26	41	6
Total Lodgpole						
Total OOIP (Mstb)		14,090	16	306	288	64
Total OOIP (10³ m³)		2,240	3	49	46	10
Cumulative Oil (Mstb)		185.4	0.07	0.00	0.21	1.99
OOIP-Cum Prd (Mstb)	100%	13,905	16	306	288	62

Comments:

Bo

Cumulative production to September 2022

1.07

Well 1			100/08-06-010-25W1/00	102/05-06-010-25W1/00	102/05-06-010-25W1/00	100/06-06-010-25W1/00
Factor (%)			0.23	5.90	4.06	1.07
Cumulative Oil (Mstb)			31.9	0.0	0.0	1.7
Well 2				103/05-06-010-25W1/00	100/06-06-010-25W1/00	100/07-06-010-25W1/00
Factor (%)			0.00	6.45	12.55	10.99
Cumulative Oil (Mstb)			0.0	0.0	1.7	14.0
Well 3					102/07-06-010-25W1/00	102/07-06-010-25W1/00
Factor (%)			0.00	0.00	0.01	11.07
Cumulative Oil (Mstb)			0.0	0.0	3.9	3.9
Well 4						100/08-06-010-25W1/00
Factor (%)			0.00	0.00	0.00	0.02
Cumulative Oil (Mstb)			0.0	0.0	0.0	31.9

Table 1 – Summary of Original Oil In Place and Tract Factor Calculations (continued)

Proposed Virden Roselea Unit No. 6

Lodgepole Unit

Tract LSD	Tract Weighting	Total	08-06 08-06-010-25W1	09-06 09-06-010-25W1	10-06 10-06-010-25W1	11-06 11-06-010-25W1
Tract Factor		100.000000000%	1.265937354%	3.881525362%	3.630730458%	3.423914846%
Virden						
Area (ac)		1,200	40	40	40	40
h (m)			0.0	0.0	0.0	0.0
Vb (ac-ft)		0	0	0	0	0
phi			9.5%	9.5%	9.5%	9.5%
Sw			30%	30%	30%	30%
HCPV			0.000	0.000	0.000	0.000
OOIP (Mrb)		0	0	0	0	0
OOIP (Mstb)		0	0	0	0	0
OOIP (10 ³ m ³)		0	0	0	0	0
Sandhill/Oolites						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			0.4	2.1	2.2	2.2
Vb (ac-ft)		11,706	52	276	289	289
phi			9.0%	9.0%	9.0%	9.0%
Sw			30%	30%	30%	30%
HCPV		6	0.025	0.132	0.139	0.139
OOIP (Mrb)		6,239	26	135	141	141
OOIP (Mstb)		5,830	24	126	132	132
OOIP (10 ³ m ³)		927	4	20	21	21
Scallion						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			2.0	4.8	4.3	4.5
Vb (ac-ft)		13,320	262	630	564	591
phi			12.0%	13.2%	13.2%	11.5%
Sw			30%	30%	30%	30%
HCPV		9	0.168	0.444	0.397	0.362
OOIP (Mrb)		8,838	171	452	405	369
OOIP (Mstb)		8,260	160	422	378	345
OOIP (10 ³ m ³)		1,313	25	67	60	55
Total Lodgepole						
Total OOIP (Mstb)		14,090	184	548	510	477
Total OOIP (10 ³ m ³)		2,240	29	87	81	76
Cumulative Oil (Mstb)		185.4	7.80	8.17	5.07	0.46
OOIP-Cum Prd (Mstb)	100%	13,905	176	540	505	476

Comments:

Bo

Well 1			100/07-06-010-25W1/00	100/07-06-010-25W1/00	100/06-06-010-25W1/00	102/05-06-010-25W1/00
Factor (%)			0.31	1.10	1.56	13.34
Cumulative Oil (Mstb)			14.0	14.0	1.7	0.0
Well 2			100/08-06-010-25W1/00	100/08-06-010-25W1/00	100/07-06-010-25W1/00	100/06-06-010-25W1/00
Factor (%)			24.35	25.14	28.29	27.35
Cumulative Oil (Mstb)			31.9	31.9	14.0	1.7
Well 3					102/07-06-010-25W1/00	
Factor (%)			0.00	0.00	28.13	0.00
Cumulative Oil (Mstb)			0.0	0.0	3.9	0.0
Well 4						
Factor (%)			0.00	0.00	0.00	0.00
Cumulative Oil (Mstb)			0.0	0.0	0.0	0.0

Table 1 – Summary of Original Oil In Place and Tract Factor Calculations (continued)

Proposed Virden Roselea Unit No. 6
Lodgepole Unit

Tract LSD	Tract Weighting	Total	12-06 12-06-010-25W1	13-06 13-06-010-25W1	14-06 14-06-010-25W1	15-06 15-06-010-25W1
Tract Factor		100.000000000%	1.985452790%	3.491427114%	4.867783737%	5.242784509%
Virden						
Area (ac)		1,200	40	40	40	40
h (m)			0.0	0.0	0.0	0.0
Vb (ac-ft)		0	0	0	0	0
phi			9.5%	9.5%	9.5%	9.5%
Sw			30%	30%	30%	30%
HCPV			0.000	0.000	0.000	0.000
OOIP (Mrb)		0	0	0	0	0
OOIP (Mstb)		0	0	0	0	0
OOIP (10 ³ m ³)		0	0	0	0	0
Sandhill/Oolites						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			2.5	3.8	3.3	3.3
Vb (ac-ft)		11,706	328	499	433	433
phi			9.8%	9.8%	9.0%	9.0%
Sw			30%	30%	30%	30%
HCPV		6	0.172	0.261	0.208	0.208
OOIP (Mrb)		6,239	175	265	212	212
OOIP (Mstb)		5,830	163	248	198	198
OOIP (10 ³ m ³)		927	26	39	31	31
Scallion						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			1.5	3.1	6.0	6.1
Vb (ac-ft)		13,320	197	407	787	801
phi			11.3%	11.5%	12.0%	13.2%
Sw			30%	30%	30%	30%
HCPV		9	0.119	0.250	0.504	0.564
OOIP (Mrb)		8,838	121	254	513	574
OOIP (Mstb)		8,260	113	237	480	536
OOIP (10 ³ m ³)		1,313	18	38	76	85
Total Lodgepole						
Total OOIP (Mstb)		14,090	276	485	677	734
Total OOIP (10 ³ m ³)		2,240	44	77	108	117
Cumulative Oil (Mstb)		185.4	0.00	0.00	0.51	5.11
OOIP-Cum Prd (Mstb)	100%	13,905	276	485	677	729

Comments:

Bo

Well 1			102/05-06-010-25W1/00	102/05-06-010-25W1/00	102/05-06-010-25W1/00	100/06-06-010-25W1/00
Factor (%)			16.89	17.59	13.80	0.06
Cumulative Oil (Mstb)			0.0	0.0	0.0	1.7
Well 2			103/05-06-010-25W1/00	103/05-06-010-25W1/00	100/06-06-010-25W1/00	100/07-06-010-25W1/00
Factor (%)			29.30	30.39	29.94	28.33
Cumulative Oil (Mstb)			0.0	0.0	1.7	14.0
Well 3						102/07-06-010-25W1/00
Factor (%)			0.00	0.00	0.00	29.16
Cumulative Oil (Mstb)			0.0	0.0	0.0	3.9
Well 4						100/08-06-010-25W1/00
Factor (%)			0.00	0.00	0.00	0.05
Cumulative Oil (Mstb)			0.0	0.0	0.0	31.9

Table 1 – Summary of Original Oil In Place and Tract Factor Calculations (continued)

Proposed Virden Roselea Unit No. 6

Lodgepole Unit

Tract LSD	Tract Weighting	Total	16-06 16-06-010-25W1	01-07 01-07-010-25W1	02-07 02-07-010-25W1	03-07 03-07-010-25W1
Tract Factor		100.000000000%	5.980048630%	3.908282447%	3.665347205%	5.276192771%
Virden						
Area (ac)		1,200	40	40	40	40
h (m)			0.0	0.0	0.0	0.0
Vb (ac-ft)		0	0	0	0	0
phi			9.5%	9.5%	9.5%	9.5%
Sw			30%	30%	30%	30%
HCPV			0.000	0.000	0.000	0.000
OOIP (Mrb)		0	0	0	0	0
OOIP (Mstb)		0	0	0	0	0
OOIP (10 ³ m ³)		0	0	0	0	0
Sandhill/Oolites						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			3.6	3.6	3.3	3.3
Vb (ac-ft)		11,706	472	472	433	433
phi			9.0%	9.0%	9.0%	9.0%
Sw			30%	30%	30%	30%
HCPV		6	0.227	0.227	0.208	0.208
OOIP (Mrb)		6,239	231	231	212	212
OOIP (Mstb)		5,830	216	216	198	198
OOIP (10 ³ m ³)		927	34	34	31	31
Scallion						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			7.1	4.3	3.8	6.1
Vb (ac-ft)		13,320	932	564	499	801
phi			13.2%	12.0%	13.2%	13.2%
Sw			30%	30%	30%	30%
HCPV		9	0.656	0.361	0.351	0.564
OOIP (Mrb)		8,838	668	368	357	574
OOIP (Mstb)		8,260	624	344	334	536
OOIP (10 ³ m ³)		1,313	99	55	53	85
Total Lodgepole						
Total OOIP (Mstb)		14,090	840	559	532	734
Total OOIP (10 ³ m ³)		2,240	134	89	85	117
Cumulative Oil (Mstb)		185.4	8.49	16.03	22.24	0.46
OOIP-Cum Prd (Mstb)	100%	13,905	832	543	510	734

Comments:

Bo

Well 1			100/07-06-010-25W1/00	100/08-06-010-25W1/00	100/06-06-010-25W1/00	102/05-06-010-25W1/00
Factor (%)			0.62	23.81	0.00	12.80
Cumulative Oil (Mstb)			14.0	31.9	1.7	0.0
Well 2			100/08-06-010-25W1/00	100/01-07-010-25W1/00	100/07-06-010-25W1/00	100/06-06-010-25W1/00
Factor (%)			26.39	100.00	27.11	27.46
Cumulative Oil (Mstb)			31.9	8.4	14.0	1.7
Well 3					102/07-06-010-25W1/00	
Factor (%)			0.00	0.00	28.78	0.00
Cumulative Oil (Mstb)			0.0	0.0	3.9	0.0
Well 4					100/02-07-010-25W1/00	
Factor (%)			0.00	0.00	100.00	0.00
Cumulative Oil (Mstb)			0.0	0.0	17.3	0.0

Table 1 – Summary of Original Oil In Place and Tract Factor Calculations (continued)

Proposed Virden Roselea Unit No. 6

Lodgepole Unit

Tract LSD	Tract Weighting	Total	04-07 04-07-010-25W1	05-07 05-07-010-25W1	07-07 07-07-010-25W1	01-01 01-01-010-26W1
Tract Factor		100.000000000%	3.733800845%	3.305096322%	3.227574187%	2.384911700%
Virden						
Area (ac)		1,200	40	40	40	40
h (m)			0.0	0.0	0.0	0.0
Vb (ac-ft)		0	0	0	0	0
phi			9.5%	9.5%	9.5%	9.3%
Sw			30%	30%	30%	30%
HCPV			0.000	0.000	0.000	0.000
OOIP (Mrb)		0	0	0	0	0
OOIP (Mstb)		0	0	0	0	0
OOIP (10 ³ m ³)		0	0	0	0	0
Sandhill/Oolites						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			3.8	3.3	2.6	3.1
Vb (ac-ft)		11,706	499	433	341	407
phi			9.0%	10.0%	8.2%	12.5%
Sw			30%	30%	30%	30%
HCPV		6	0.239	0.231	0.149	0.271
OOIP (Mrb)		6,239	244	235	152	276
OOIP (Mstb)		5,830	228	220	142	258
OOIP (10 ³ m ³)		927	36	35	23	41
Scallion						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			3.5	3.0	3.9	1.0
Vb (ac-ft)		13,320	459	394	512	131
phi			12.5%	12.0%	12.1%	12.4%
Sw			30%	30%	30%	30%
HCPV		9	0.306	0.252	0.330	0.087
OOIP (Mrb)		8,838	312	257	336	88
OOIP (Mstb)		8,260	291	240	314	83
OOIP (10 ³ m ³)		1,313	46	38	50	13
Total Lodgepole						
Total OOIP (Mstb)		14,090	519	460	456	341
Total OOIP (10³ m³)		2,240	83	73	73	54
Cumulative Oil (Mstb)		185.4	0.00	0.00	7.52	9.06
OOIP-Cum Prd (Mstb)	100%	13,905	519	460	449	332

Comments:

Bo

Well 1			102/05-06-010-25W1/00	103/05-06-010-25W1/00	100/07-06-010-25W1/00	102/01-01-010-26W1/00
Factor (%)			15.61	3.52	3.24	23.10
Cumulative Oil (Mstb)			0.0		14.0	22.2
Well 2			103/05-06-010-25W1/00		102/07-06-010-25W1/00	100/01-01-010-26W1/00
Factor (%)			30.34	0.00	2.85	100.00
Cumulative Oil (Mstb)			0.0	0.0	3.9	3.9
Well 3					100/07-07-010-25W1/00	
Factor (%)			0.00	0.00	100.00	0.00
Cumulative Oil (Mstb)			0.0	0.0	7.0	0.0
Well 4						
Factor (%)			0.00	0.00	0.00	0.00
Cumulative Oil (Mstb)			0.0	0.0	0.0	0.0

Table 1 – Summary of Original Oil In Place and Tract Factor Calculations (continued)

Proposed Virden Roselea Unit No. 6

Lodgepole Unit

Tract LSD	Tract Weighting	Total	08-01 08-01-010-26W1	09-01 09-01-010-26W1	10-01 10-01-010-26W1	15-01 15-01-010-26W1
Tract Factor		100.000000000%	5.291156020%	2.329459214%	3.606605549%	3.566359144%
Virden						
Area (ac)		1,200	40	40	40	40
h (m)			0.0	0.0	0.0	0.0
Vb (ac-ft)		0	0	0	0	0
phi			9.2%	9.5%	9.5%	9.3%
Sw			30%	30%	30%	30%
HCPV			0.000	0.000	0.000	0.000
OOIP (Mrb)		0	0	0	0	0
OOIP (Mstb)		0	0	0	0	0
OOIP (10 ³ m ³)		0	0	0	0	0
Sandhill/Oolites						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			4.3	2.9	3.5	4.1
Vb (ac-ft)		11,706	564	381	459	538
phi			12.2%	9.8%	9.8%	10.0%
Sw			30%	30%	30%	30%
HCPV		6	0.367	0.199	0.240	0.287
OOIP (Mrb)		6,239	374	203	244	292
OOIP (Mstb)		5,830	349	189	228	273
OOIP (10 ³ m ³)		927	56	30	36	43
Scallion						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			4.8	1.8	3.7	3.3
Vb (ac-ft)		13,320	630	236	486	433
phi			12.3%	12.1%	12.5%	11.5%
Sw			30%	30%	30%	30%
HCPV		9	0.413	0.152	0.324	0.266
OOIP (Mrb)		8,838	421	155	330	270
OOIP (Mstb)		8,260	393	145	308	253
OOIP (10 ³ m ³)		1,313	63	23	49	40
Total Lodgepole						
Total OOIP (Mstb)		14,090	743	334	537	526
Total OOIP (10 ³ m ³)		2,240	118	53	85	84
Cumulative Oil (Mstb)		185.4	6.91	10.45	35.00	29.94
OOIP-Cum Prd (Mstb)	100%	13,905	736	324	502	496

Comments:

Bo

Well 1			102/01-01-010-26W1/00	102/01-01-010-26W1/00	102/10-01-010-26W1/00	102/10-01-010-26W1/00
Factor (%)			26.47	27.05	36.44	37.50
Cumulative Oil (Mstb)			22.2	22.2	29.6	29.6
Well 2			100/08-01-010-26W1/00	102/10-01-010-26W1/00	103/10-01-010-26W1/00	103/10-01-010-26W1/00
Factor (%)			100.00	13.24	50.20	49.80
Cumulative Oil (Mstb)			1.0	29.6	30.8	30.8
Well 3				100/09-01-010-26W1/00	100/10-01-010-26W1/00	100/15-01-010-26W1/00
Factor (%)			0.00	100.00	100.00	100.00
Cumulative Oil (Mstb)			0.0	0.5	8.8	3.5
Well 4						
Factor (%)			0.00	0.00	0.00	0.00
Cumulative Oil (Mstb)			0.0	0.0	0.0	0.0

Table 1 – Summary of Original Oil In Place and Tract Factor Calculations (continued)

Proposed Virden Roselea Unit No. 6

Lodgepole Unit

Tract LSD	Tract Weighting	Total	16-01 16-01-010-26W1	01-12 01-12-010-26W1	02-12 02-12-010-26W1	07-12 07-12-010-26W1
Tract Factor		100.000000000%	4.378088597%	2.772917884%	5.722159033%	2.826340866%
Virden						
Area (ac)		1,200	40	40	40	40
h (m)			0.0	0.0	0.0	0.0
Vb (ac-ft)		0	0	0	0	0
phi			9.2%	9.5%	9.5%	9.5%
Sw			30%	30%	30%	30%
HCPV			0.000	0.000	0.000	0.000
OOIP (Mrb)		0	0	0	0	0
OOIP (Mstb)		0	0	0	0	0
OOIP (10 ³ m ³)		0	0	0	0	0
Sandhill/Oolites						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			4.1	4.8	4.8	4.3
Vb (ac-ft)		11,706	538	630	630	564
phi			10.0%	9.0%	10.0%	10.0%
Sw			30%	30%	30%	30%
HCPV		6	0.287	0.302	0.336	0.301
OOIP (Mrb)		6,239	292	308	342	306
OOIP (Mstb)		5,830	273	288	320	286
OOIP (10 ³ m ³)		927	43	46	51	46
Scallion						
Area (ac)		1,200	40.0	40.0	40.0	40.0
h (m)			4.5	1.5	6.5	1.5
Vb (ac-ft)		13,320	591	197	853	197
phi			11.5%	9.8%	11.0%	10.7%
Sw			30%	30%	30%	30%
HCPV		9	0.362	0.103	0.501	0.112
OOIP (Mrb)		8,838	369	105	510	114
OOIP (Mstb)		8,260	345	98	476	107
OOIP (10 ³ m ³)		1,313	55	16	76	17
Total Lodgepole						
Total OOIP (Mstb)		14,090	618	386	796	393
Total OOIP (10³ m³)		2,240	98	61	127	63
Cumulative Oil (Mstb)		185.4	8.99	0.07	0.26	0.30
OOIP-Cum Prd (Mstb)	100%	13,905	609	386	796	393

Comments:

Bo

Well 1			102/01-01-010-26W1/00	100/08-12-010-26W1/00	100/08-12-010-26W1/00	100/08-12-010-26W1/00
Factor (%)			23.38	50.48	0.58	2.08
Cumulative Oil (Mstb)			22.2	0.0	0.0	0.0
Well 2			102/10-01-010-26W1/00	100/01-12-010-26W1/00	100/10-12-010-26W1/00	100/10-12-010-26W1/00
Factor (%)			12.83	100.00	31.57	36.04
Cumulative Oil (Mstb)			29.6	0.1	0.8	0.8
Well 3						
Factor (%)			0.00	0.00	0.00	0.00
Cumulative Oil (Mstb)			0.0	0.0	0.0	0.0
Well 4						
Factor (%)			0.00	0.00	0.00	0.00
Cumulative Oil (Mstb)			0.0	0.0	0.0	0.0

Table 1 – Summary of Original Oil In Place and Tract Factor Calculations (continued)

Proposed Virden Roselea Unit No. 6				
Lodgepole Unit				
Tract LSD	Tract Weighting	Total	08-12 08-12-010-26W1	10-12 10-12-010-26W1
Tract Factor		100.000000000%	1.963897814%	3.441114716%
Virden				
Area (ac)		1,200	40	40
h (m)			0.0	0.0
Vb (ac-ft)		0	0	0
phi			9.5%	9.5%
Sw			30%	30%
HCPV			0.000	0.000
OOIP (Mrb)		0	0	0
OOIP (Mstb)		0	0	0
OOIP (10 ³ m ³)		0	0	0
Sandhill/Oolites				
Area (ac)		1,200	40.0	40.0
h (m)			4.1	3.3
Vb (ac-ft)		11,706	538	433
phi			10.0%	11.6%
Sw			30%	30%
HCPV		6	0.287	0.268
OOIP (Mrb)		6,239	292	273
OOIP (Mstb)		5,830	273	255
OOIP (10 ³ m ³)		927	43	41
Scallion				
Area (ac)		1,200	40.0	40.0
h (m)			0.0	3.0
Vb (ac-ft)		13,320	0	394
phi			11.8%	11.2%
Sw			30%	30%
HCPV		9	0.000	0.235
OOIP (Mrb)		8,838	0	239
OOIP (Mstb)		8,260	0	224
OOIP (10 ³ m ³)		1,313	0	36
Total Lodgepole				
Total OOIP (Mstb)		14,090	273	479
Total OOIP (10³ m³)		2,240	43	76
Cumulative Oil (Mstb)		185.4	0.00	0.27
OOIP-Cum Prd (Mstb)	100%	13,905	273	478
Comments:				
Bo				
Well 1			100/08-12-010-26W1/00	100/10-12-010-26W1/00
Factor (%)			46.86	32.39
Cumulative Oil (Mstb)			0.0	0.8
Well 2				
Factor (%)			0.00	0.00
Cumulative Oil (Mstb)			0.0	0.0
Well 3				
Factor (%)			0.00	0.00
Cumulative Oil (Mstb)			0.0	0.0
Well 4				
Factor (%)			0.00	0.00
Cumulative Oil (Mstb)			0.0	0.0

Table 2 – Well List – Status

Well ID	Prod./Inject. Formation	First Prod. YYYY/MM	Last Prod. YYYY/MM	Well Type
100/05-06-010-25W1/00	Drilled and Abandoned			Vertical
102/05-06-010-25W1/00		2022-11-01	2023-01-31	Horizontal
103/05-06-010-25W1/00		2022-11-01	2023-01-31	Horizontal
100/06-06-010-25W1/00	Mlodgepl	2022-03-01	2023-01-31	Horizontal
100/06-06-010-25W1/02				Horizontal
100/07-06-010-25W1/00	Mlodgepl	2019-12-01	2023-01-31	Horizontal
100/07-06-010-25W1/02				Horizontal
102/07-06-010-25W1/00	Mlodgepl	2022-03-01	2023-01-31	Horizontal
102/07-06-010-25W1/02				Horizontal
100/08-06-010-25W1/00	Mlodgepl	2018-12-01	2023-01-31	Horizontal
100/08-06-010-25W1/02				Horizontal
100/01-07-010-25W1/00	Mlodgepl	1956-03-01	1959-09-30	Vertical
100/02-07-010-25W1/00	Mlodgepl	1956-08-01	1961-06-30	Vertical
100/07-07-010-25W1/00	Mlodgepl	1956-02-01	1957-12-31	Vertical
100/01-01-010-26W1/00	Mlodgepl	1957-02-01	1958-09-30	Vertical
102/01-01-010-26W1/00	Mlodgepl	2020-02-01	2023-01-31	Horizontal
102/01-01-010-26W1/02				Horizontal
100/08-01-010-26W1/00	Mlodgepl	1957-02-01	1957-05-31	Vertical
100/09-01-010-26W1/00	Mlodgepl	1957-03-01	1957-08-31	Vertical
100/10-01-010-26W1/00	Mlodgepl	1956-09-01	1959-08-31	Vertical
102/10-01-010-26W1/00	Mlodgepl	2016-01-01	2023-01-31	Horizontal
103/10-01-010-26W1/00	Moolite 1;Mscallion	2017-03-01	2023-01-31	Horizontal
103/10-01-010-26W1/02				Horizontal
100/15-01-010-26W1/00	Mlodgepl	1956-11-01	1957-10-31	Vertical
100/01-12-010-26W1/00	Mlodgepl	1954-03-01	1954-04-30	Vertical
100/08-12-010-26W1/00				Horizontal
100/10-12-010-26W1/00		2022-11-01	2023-01-31	Horizontal
100/10-12-010-26W1/02				Horizontal

Table 3 – Cumulative Oil Production and Estimated Ultimate Recovery

Well	Well Type	Cumulative Oil (Mbbbl)	Expected Ultimate Recovery (Mbbbl)
100/05-06-010-25W1/00	Vertical	0.000	0.000
102/05-06-010-25W1/00	Horizontal	0.000	30.000
103/05-06-010-25W1/00	Horizontal	0.000	30.000
100/06-06-010-25W1/00	Horizontal	1.690	2.814
100/06-06-010-25W1/02	Horizontal		
100/07-06-010-25W1/00	Horizontal	13.991	19.588
100/07-06-010-25W1/02	Horizontal		
102/07-06-010-25W1/00	Horizontal	3.863	4.048
102/07-06-010-25W1/02	Horizontal		
100/08-06-010-25W1/00	Horizontal	31.845	64.684
100/08-06-010-25W1/02	Horizontal		
100/01-07-010-25W1/00	Vertical	8.443	8.443
100/02-07-010-25W1/00	Vertical	17.325	17.325
100/07-07-010-25W1/00	Vertical	6.948	6.948
100/01-01-010-26W1/00	Vertical	3.930	3.930
102/01-01-010-26W1/00	Horizontal	22.201	29.294
102/01-01-010-26W1/02	Horizontal		
100/08-01-010-26W1/00	Vertical	1.028	1.028
100/09-01-010-26W1/00	Vertical	0.528	0.528
100/10-01-010-26W1/00	Vertical	8.779	8.779
102/10-01-010-26W1/00	Horizontal	29.568	35.693
103/10-01-010-26W1/00	Horizontal	30.746	33.904
103/10-01-010-26W1/02	Horizontal		
100/15-01-010-26W1/00	Vertical	3.529	3.529
100/01-12-010-26W1/00	Vertical	0.068	0.068
100/08-12-010-26W1/00	Horizontal		30.000
100/10-12-010-26W1/00	Horizontal	0.830	30.000
100/10-12-010-26W1/02	Horizontal		

Table 4 – Summary of Rock and Fluid Properties

Proposed Virden Roselea Unit No. 6		
Rock and Fluid Properties		
Formation Pressure	kPa	6,500
Oil Gravity	°API	34.3
Solution Gas-Oil Ratio	m ³ /m ³	22
Oil Formation Volume Factor	Rm ³ /Sm ³	1.06
Average Porosity	fraction	0.12
Average Air Permeability	mD	15

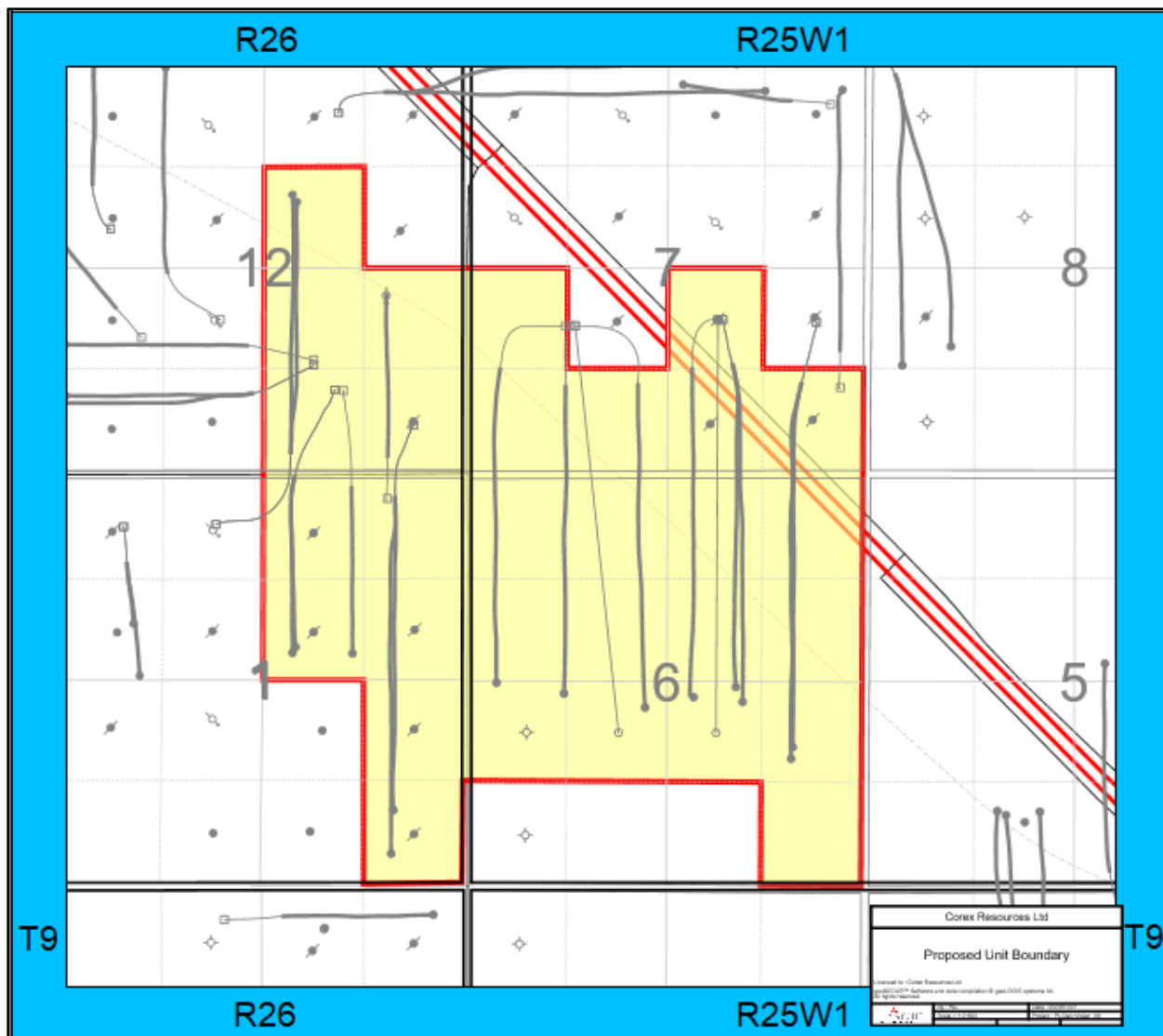


Figure 1 – Location of Proposed Virde Roselea Unit No. 6

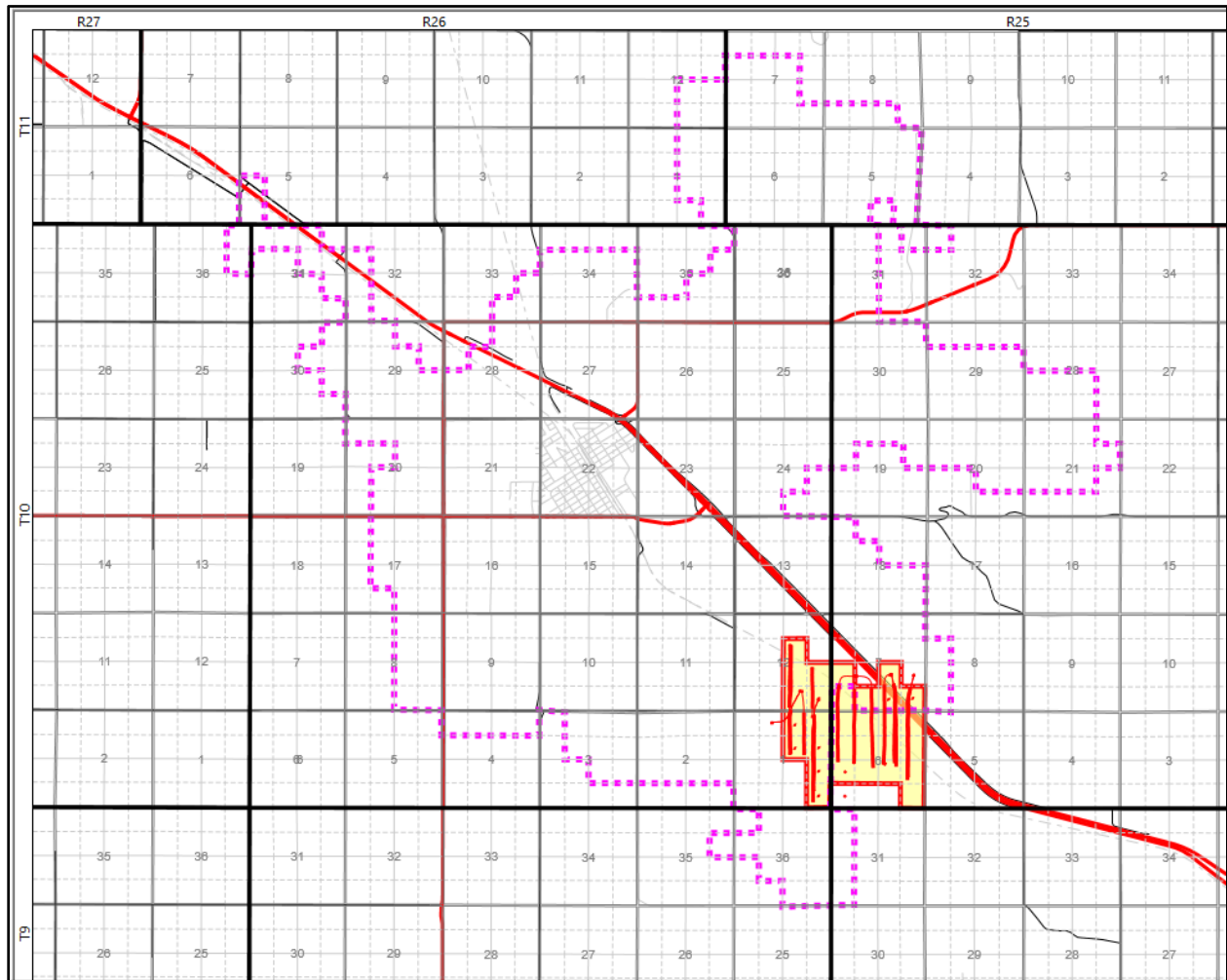


Figure 2 – Location of Proposed Virde Roselea Unit No. 6 within the Virde Lodgepole B Pool

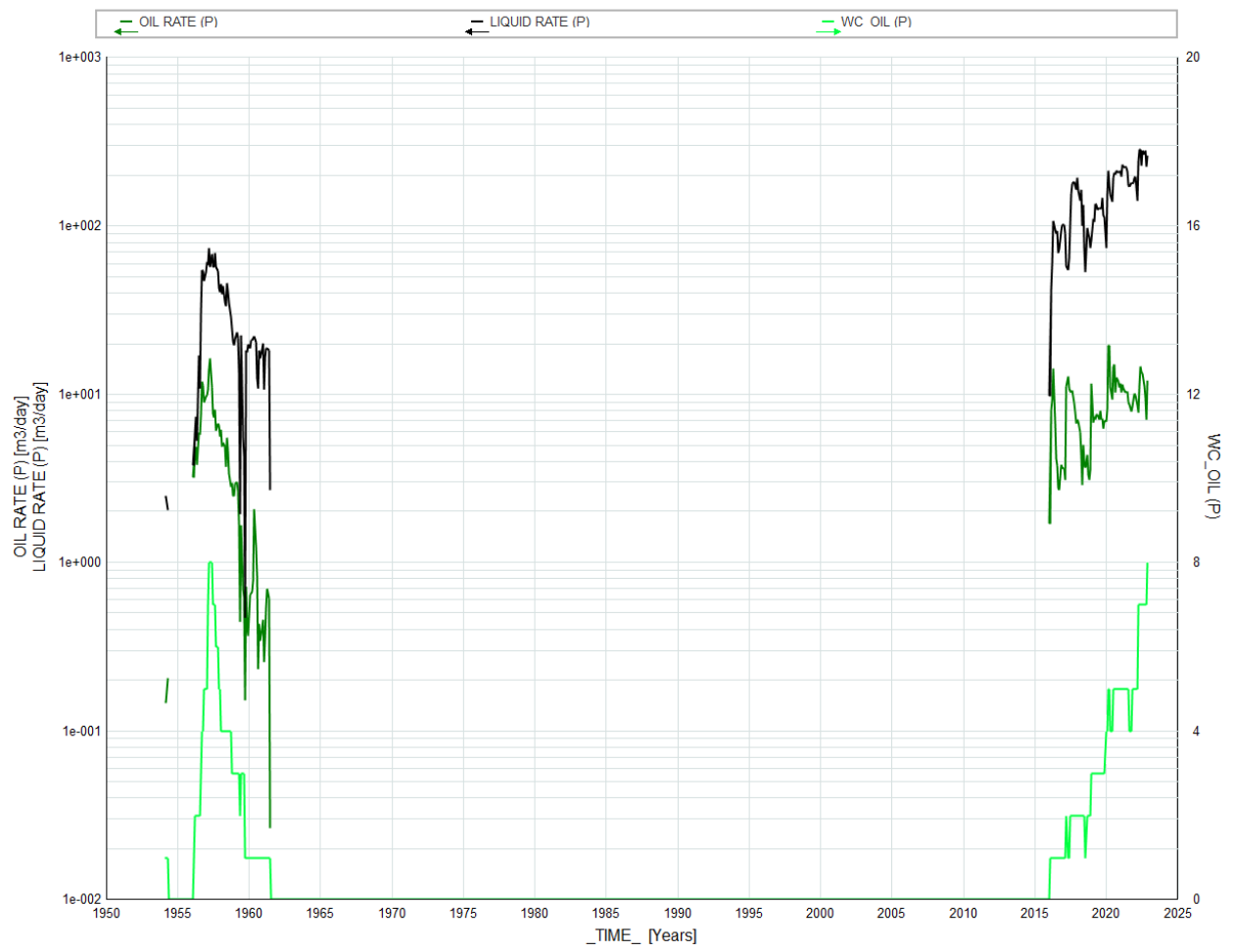


Figure 3 – Production History of Wells within Proposed Virden Roselea Unit No. 6

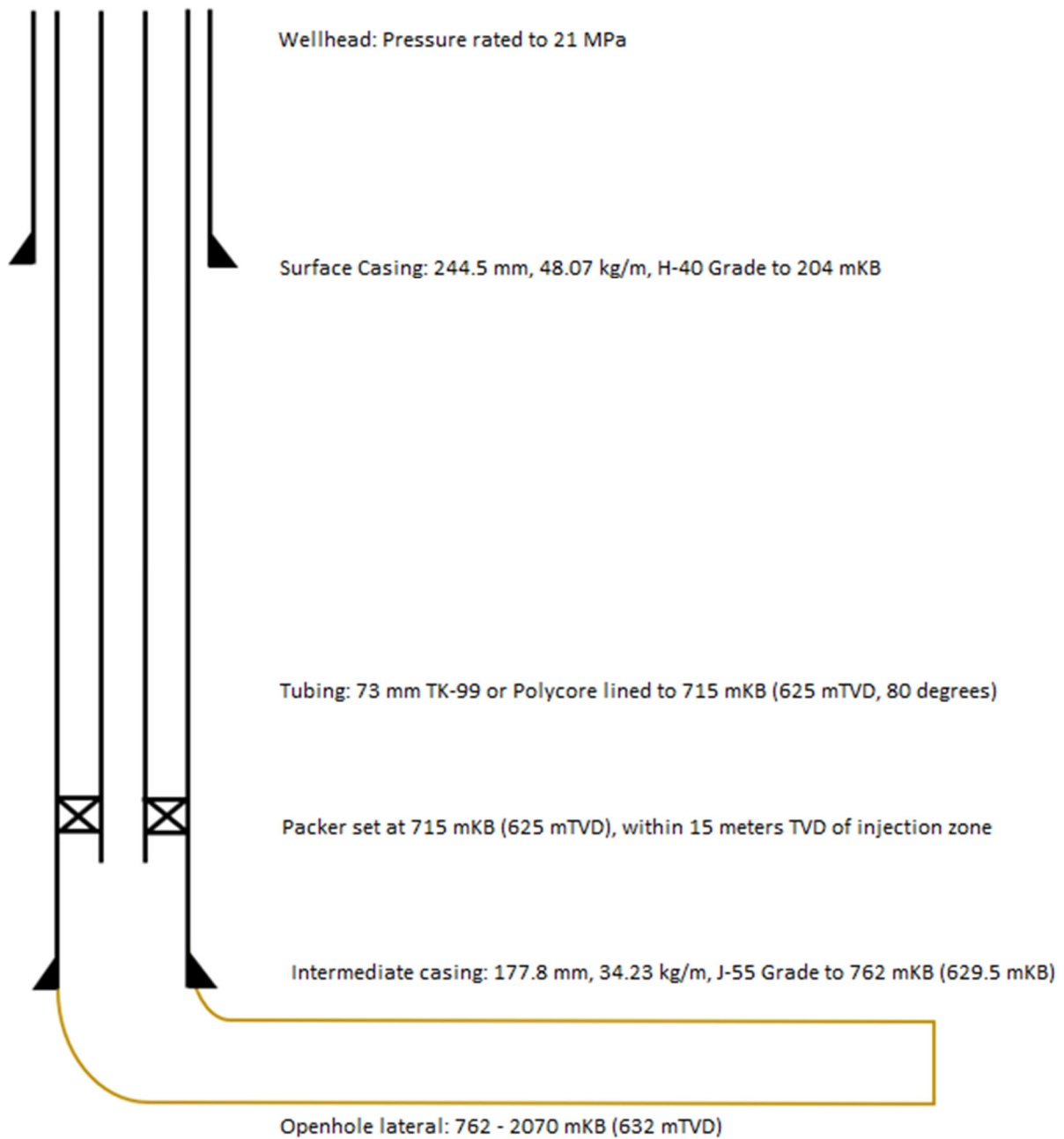
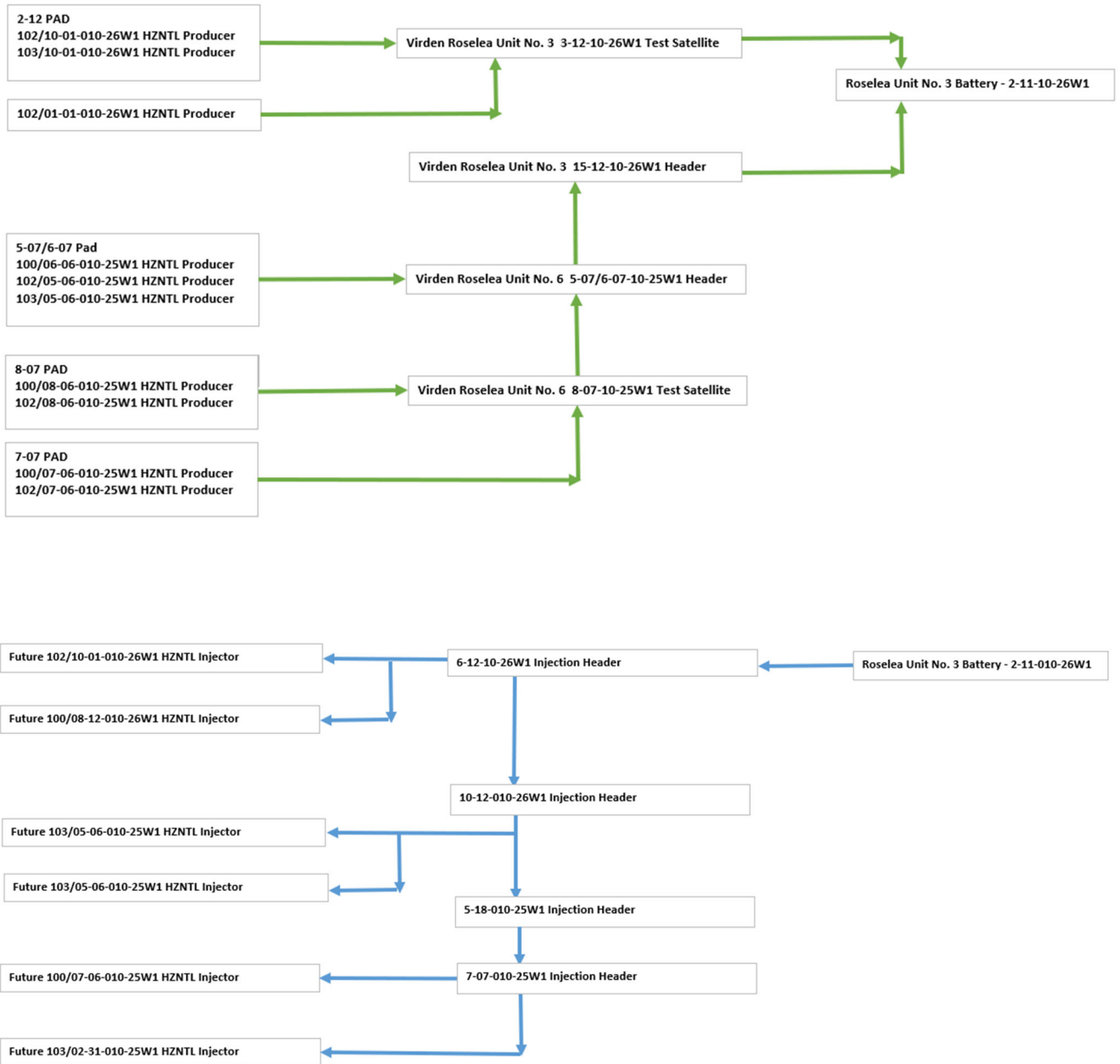


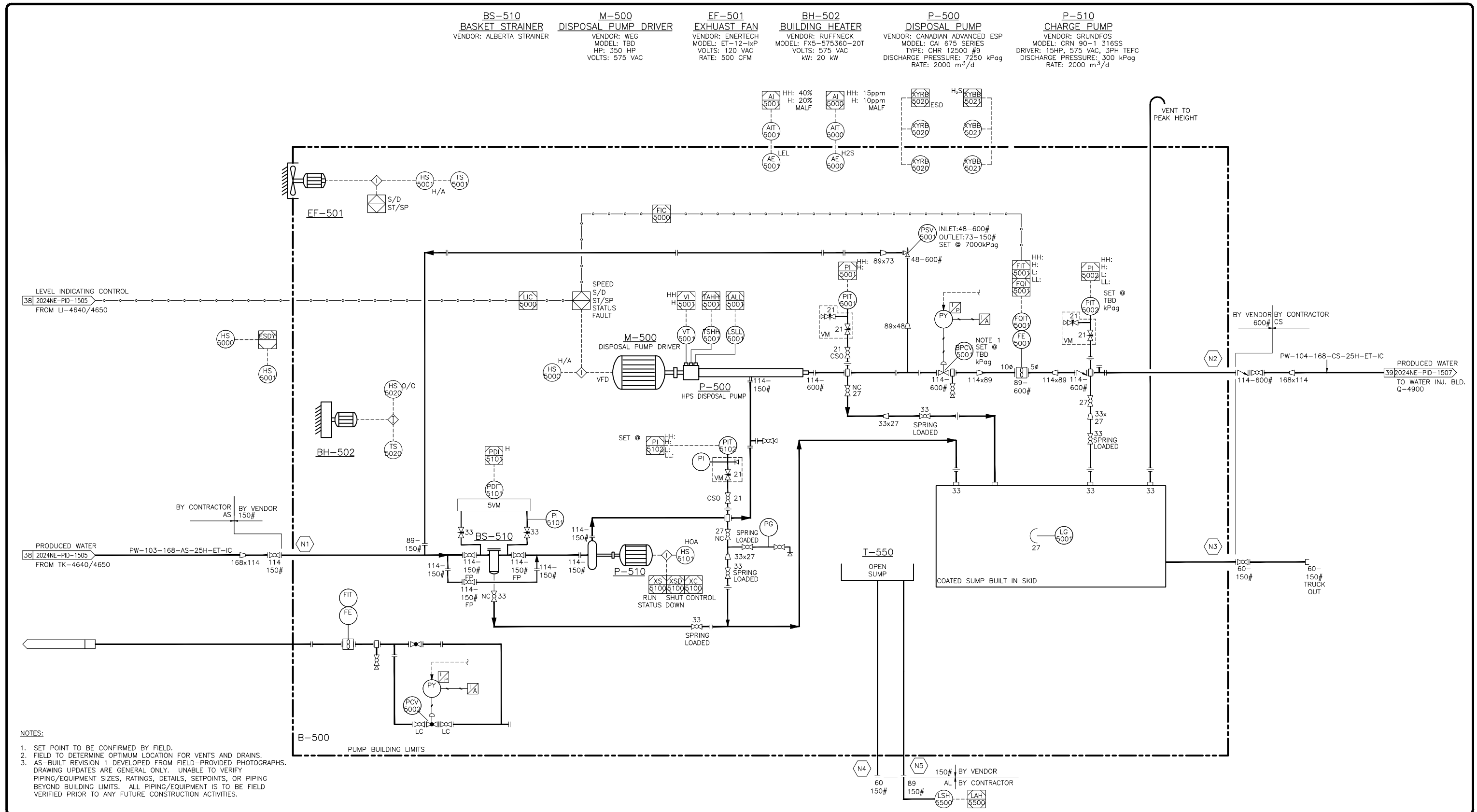
Figure 5 – Wellbore Schematic for Typical Injector (100/07-06-010-25W1)



An injection pump is located at the 2-11-010-26W1 Battery. Oil rates for all wells are measured at the test satellites shown above. Injection rates are measured through turbine meters at the wellhead

Figure 6a – Simplified Flow Diagram and Metering

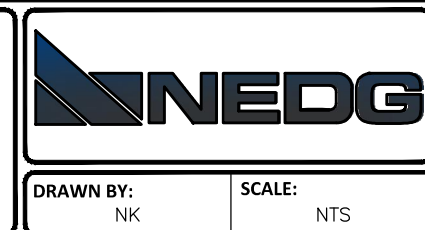
Figure 6b - Injection Pump at 2-11-10-26W1 Battery



REV	DESCRIPTION	BY	CHK	DATE	CHK	APP
		DRAFTING	ENGINEER		ENGINEER	
1	AS-BUILT (TWA JOB# 23005)	PL		11APR2023		
0	ISSUED FOR CONSTRUCTION (NEDG #2024NE)	RAK		17OCT2014		
B	ISSUED FOR APPROVAL (NEDG #2024NE)	RAK		10OCT2014		
A	ISSUED FOR REVIEW (NEDG #2024NE)	NK		21AUG2014		

REFERENCE DRAWING

P.ENG AND PERMIT TO PRACTICE STAMP APPLY TO CLOUDED AREAS AND OUTSIDE OF VENDOR PACKAGES ONLY.



VIRDEN ROSELEA #3 BATTERY MODIFICATION LSD: 02-11-010-26 W1M		
DISPOSAL PUMP BUILDING PIPING & INSTRUMENTATION DIAGRAM		
DRAWN BY: NK	SCALE: NTS	PROJECT NUMBER: 2024NE
DRAWING NUMBER: 2024NE-PID-1511	REV NO: 1	

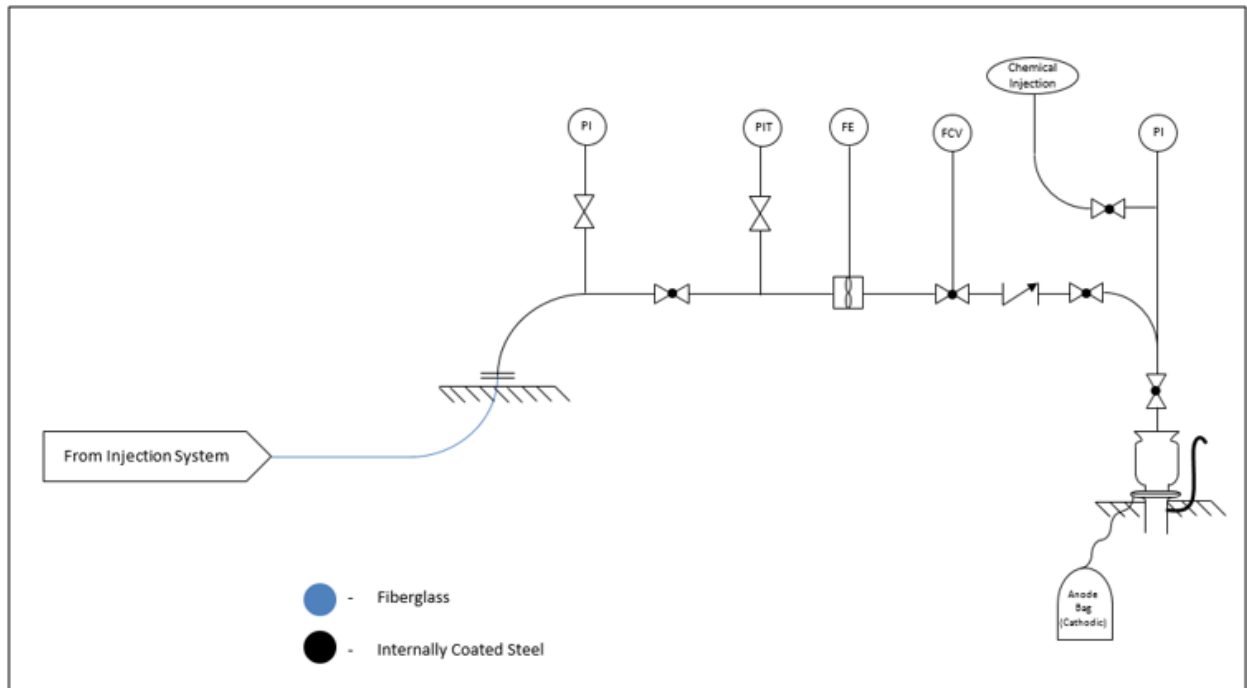
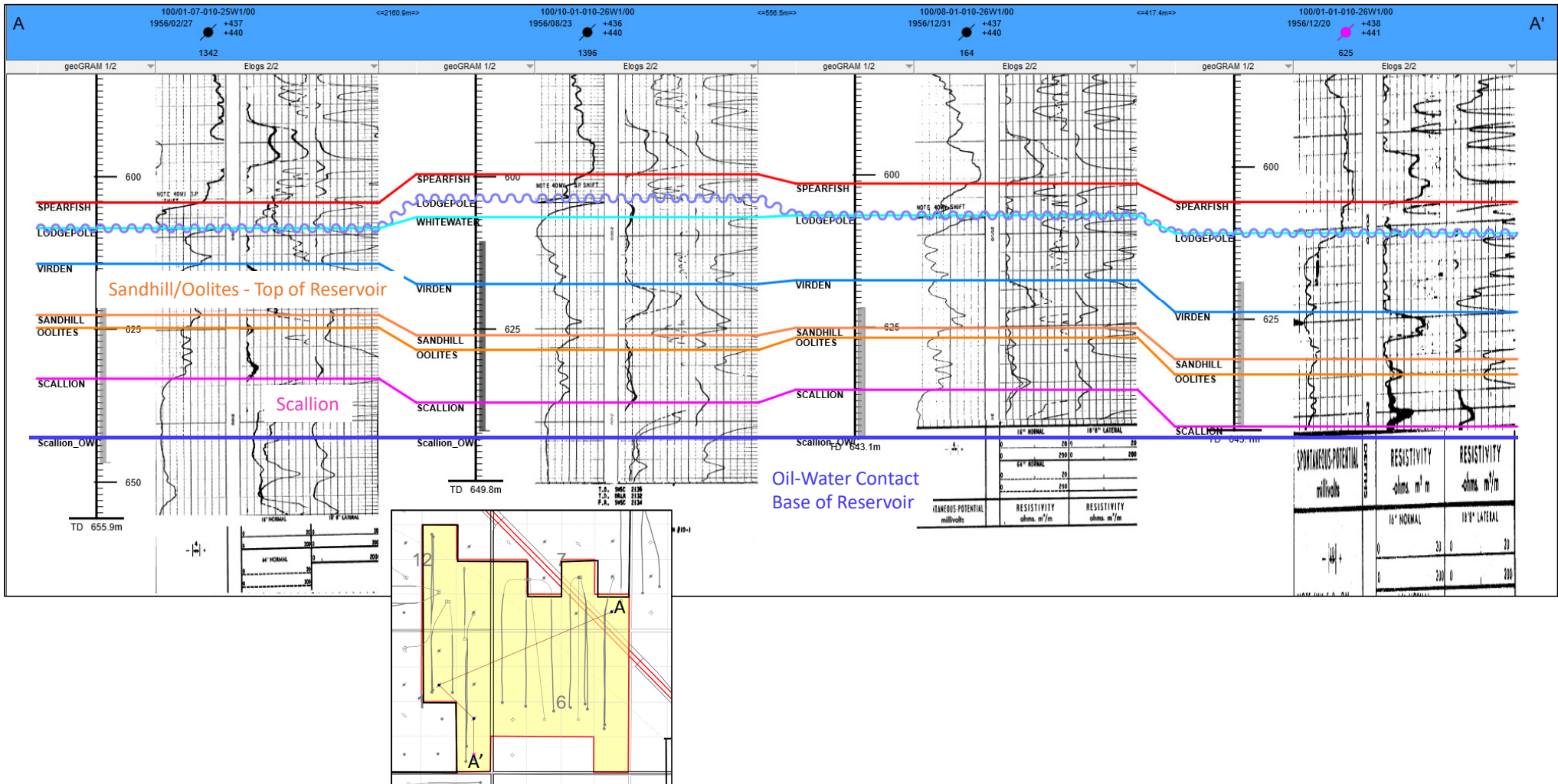
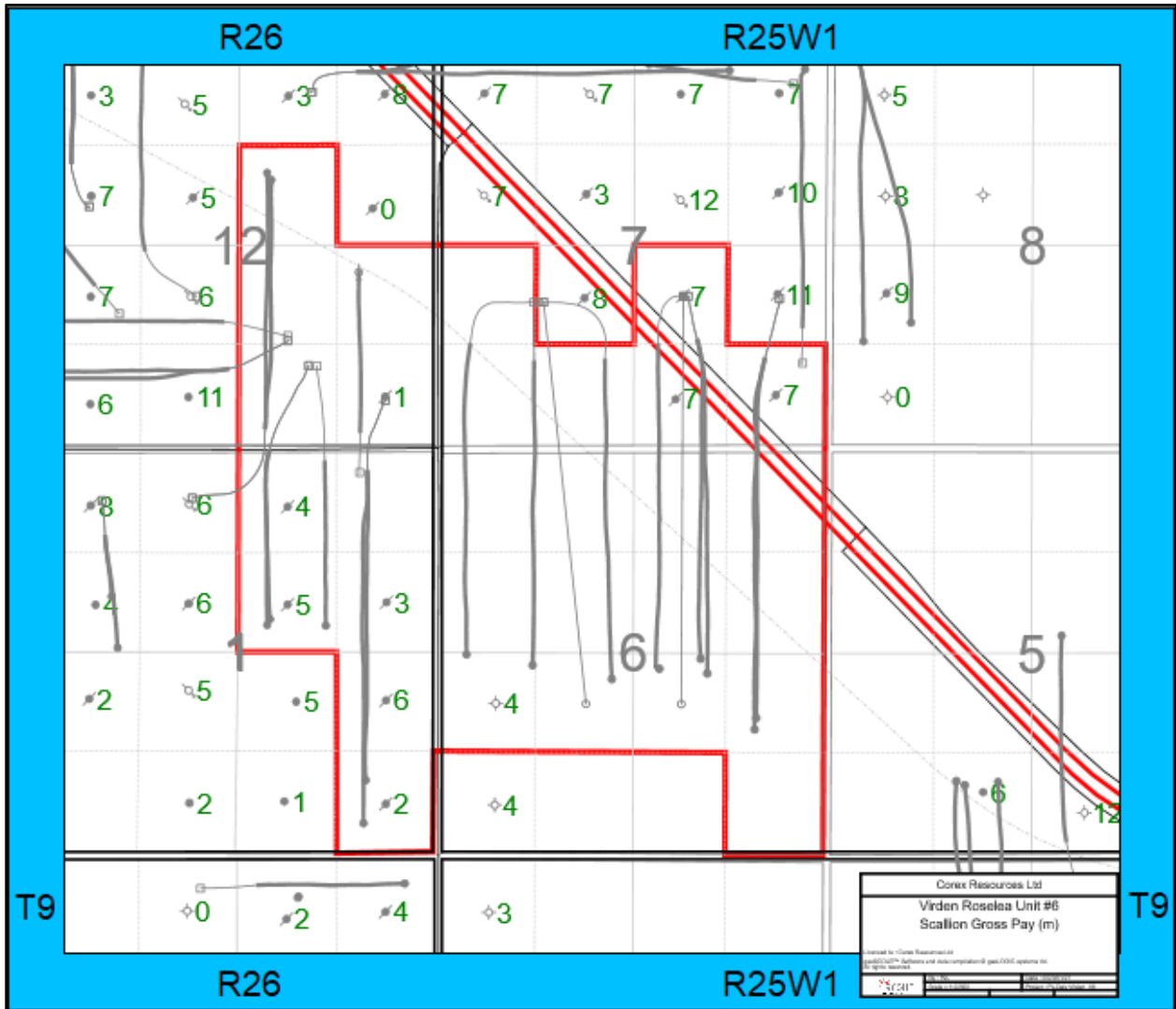


Figure 7 – Corrosion Control System

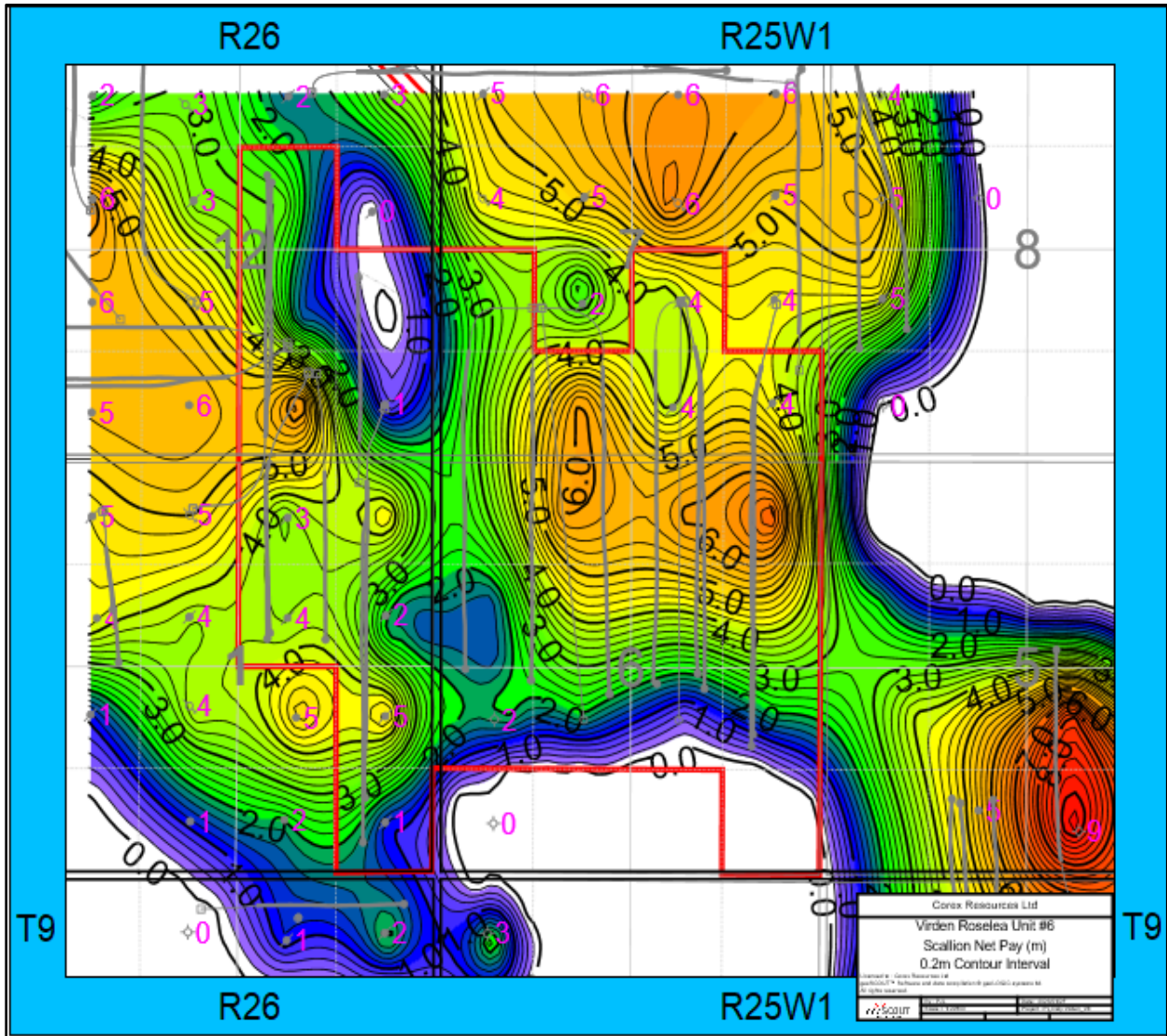
Appendix I - Stratigraphy of Lodgepole Formation



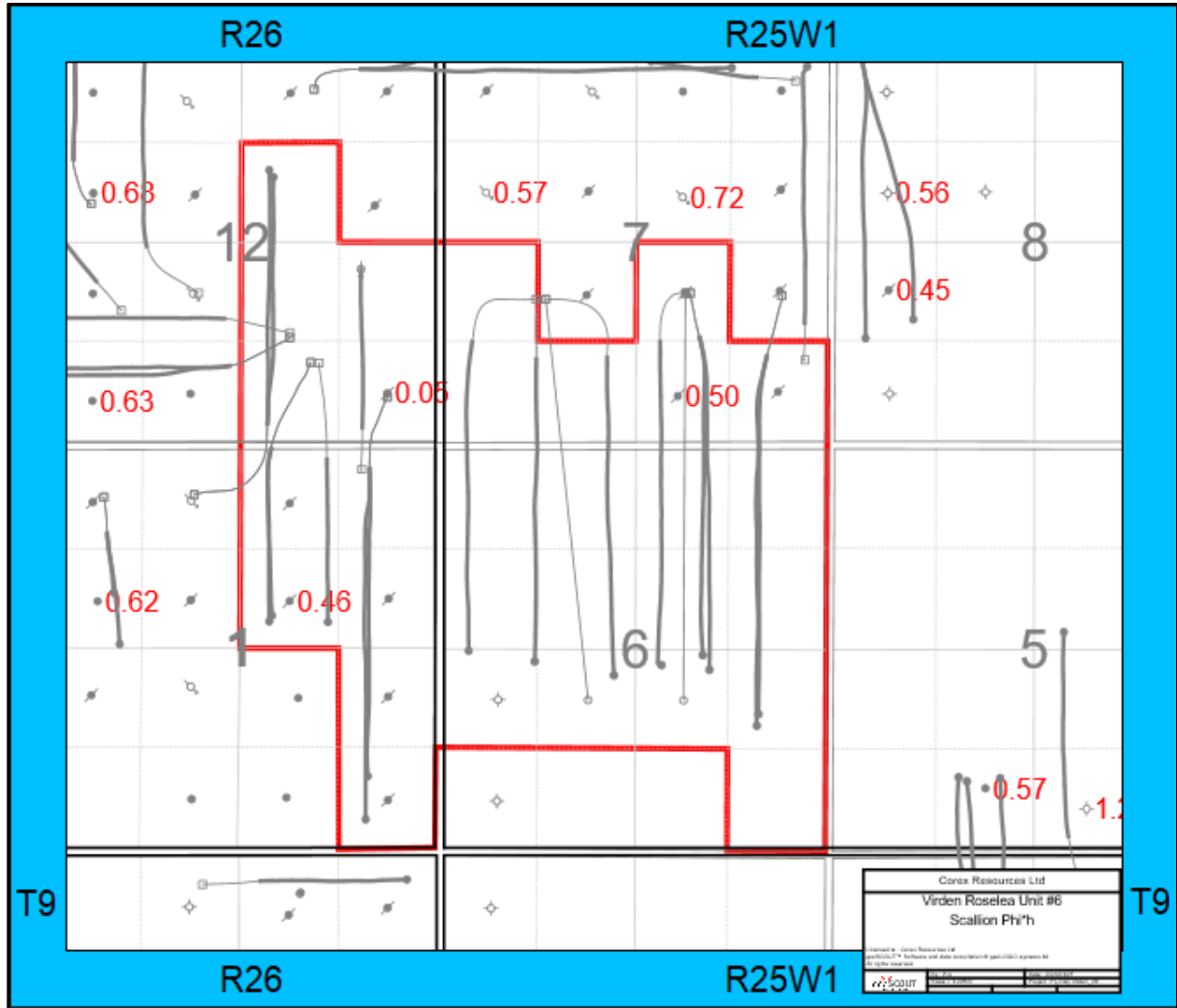
Appendix II – Scallion – Gross Pay



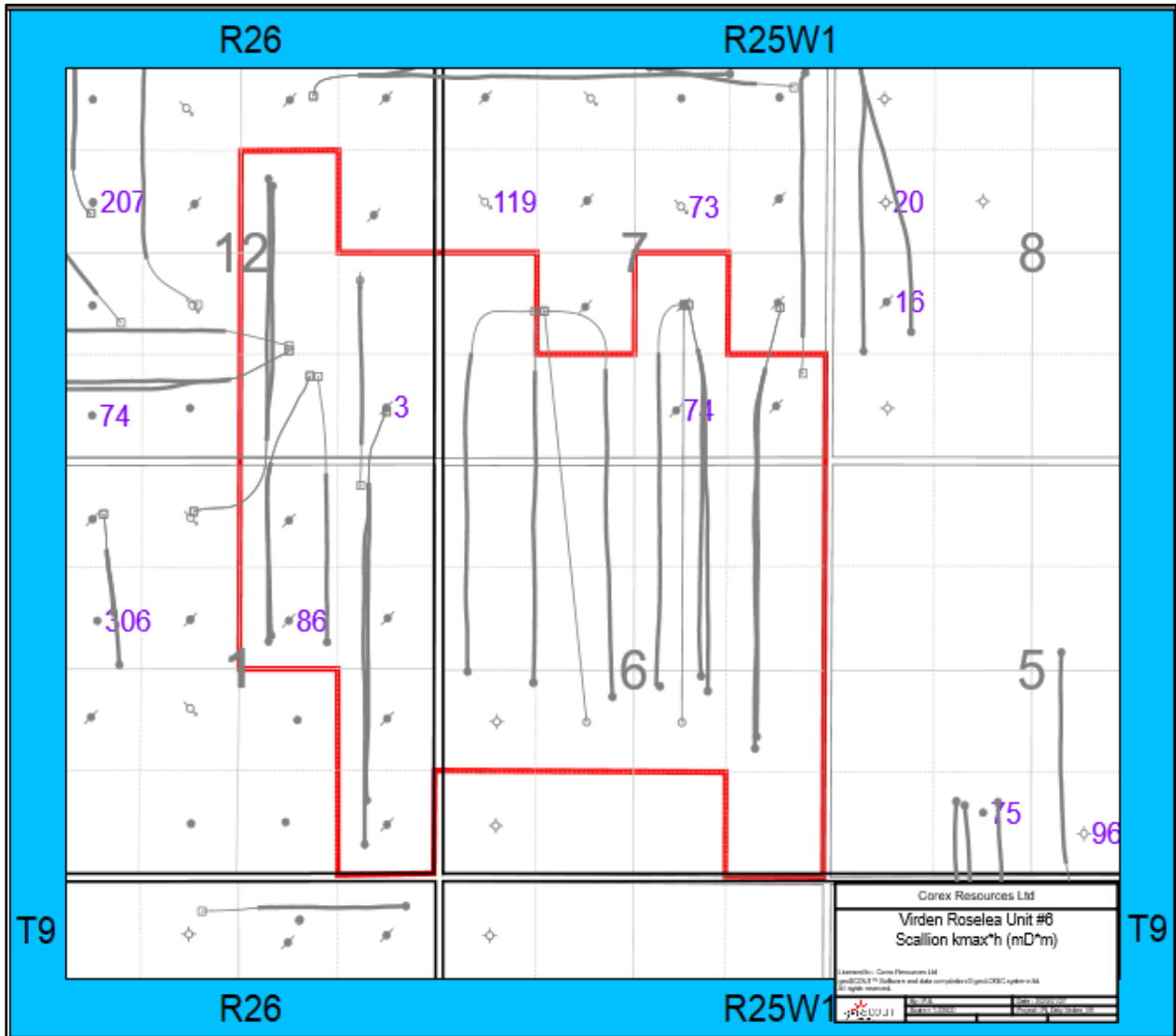
Appendix III – Scallion – Net Pay



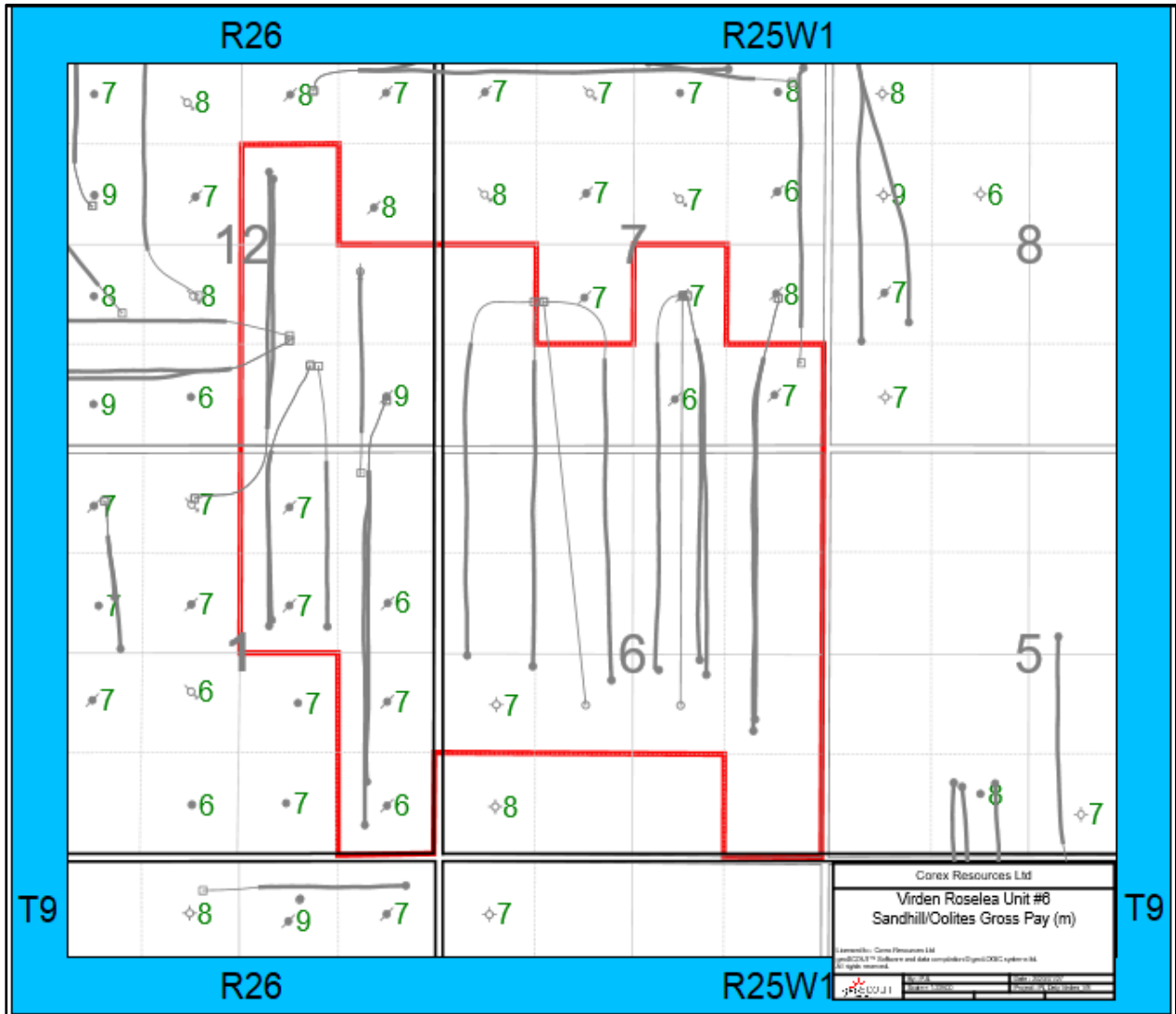
Appendix IV – Scallion – Porosity-Thickness



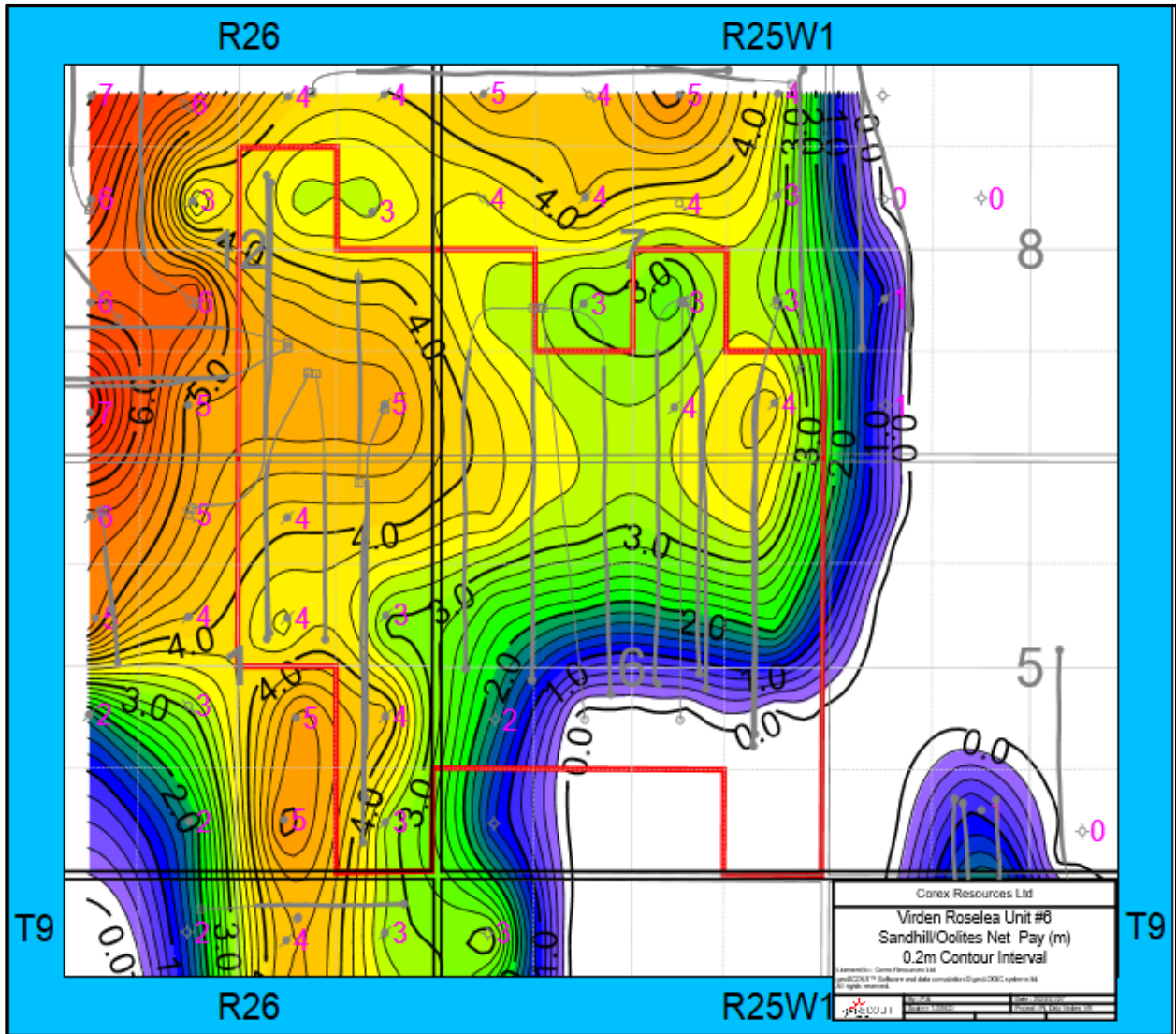
Appendix V – Scallion – Permeability-Thickness



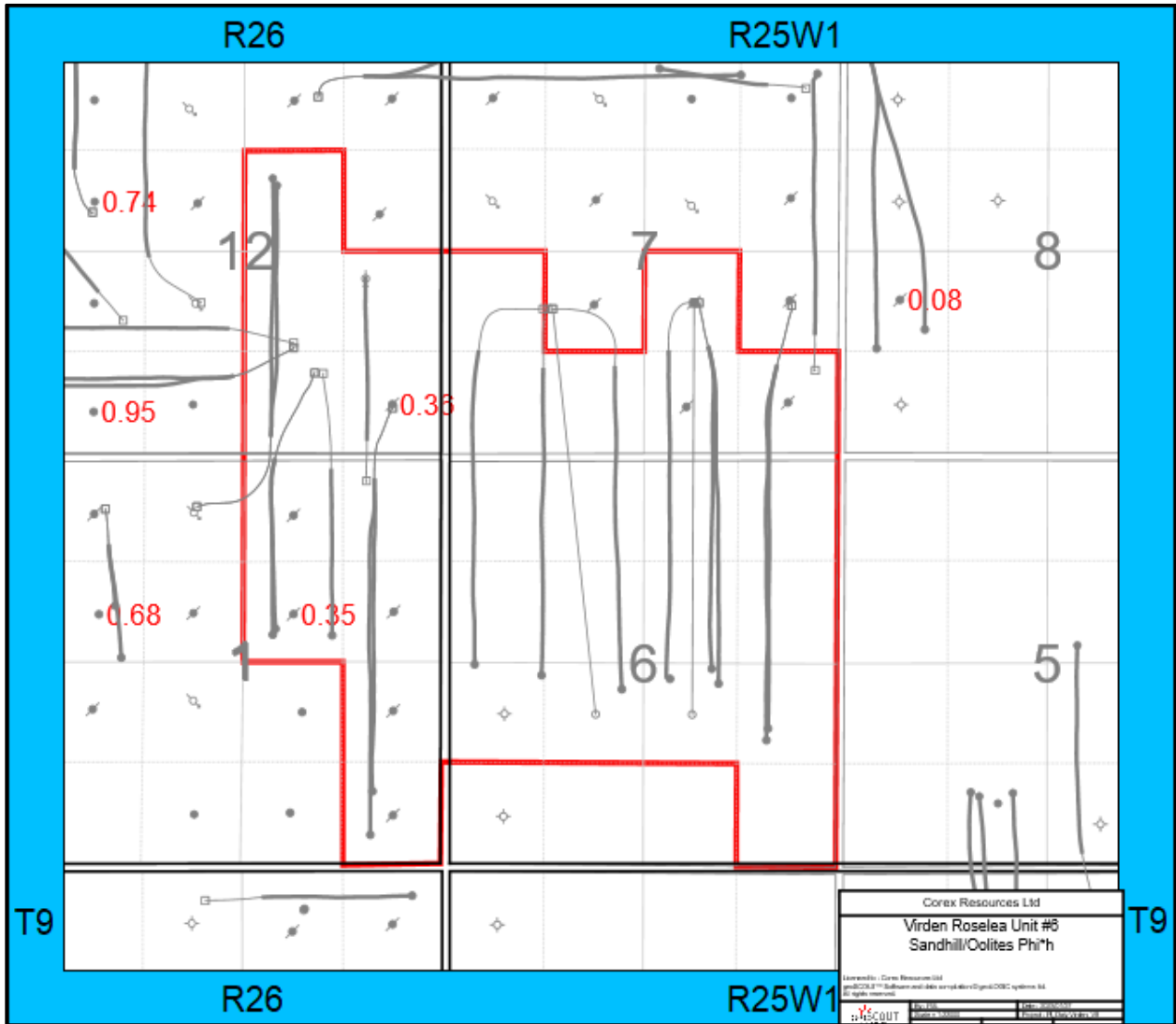
Appendix VI – Sandhill/Oolites – Gross Pay



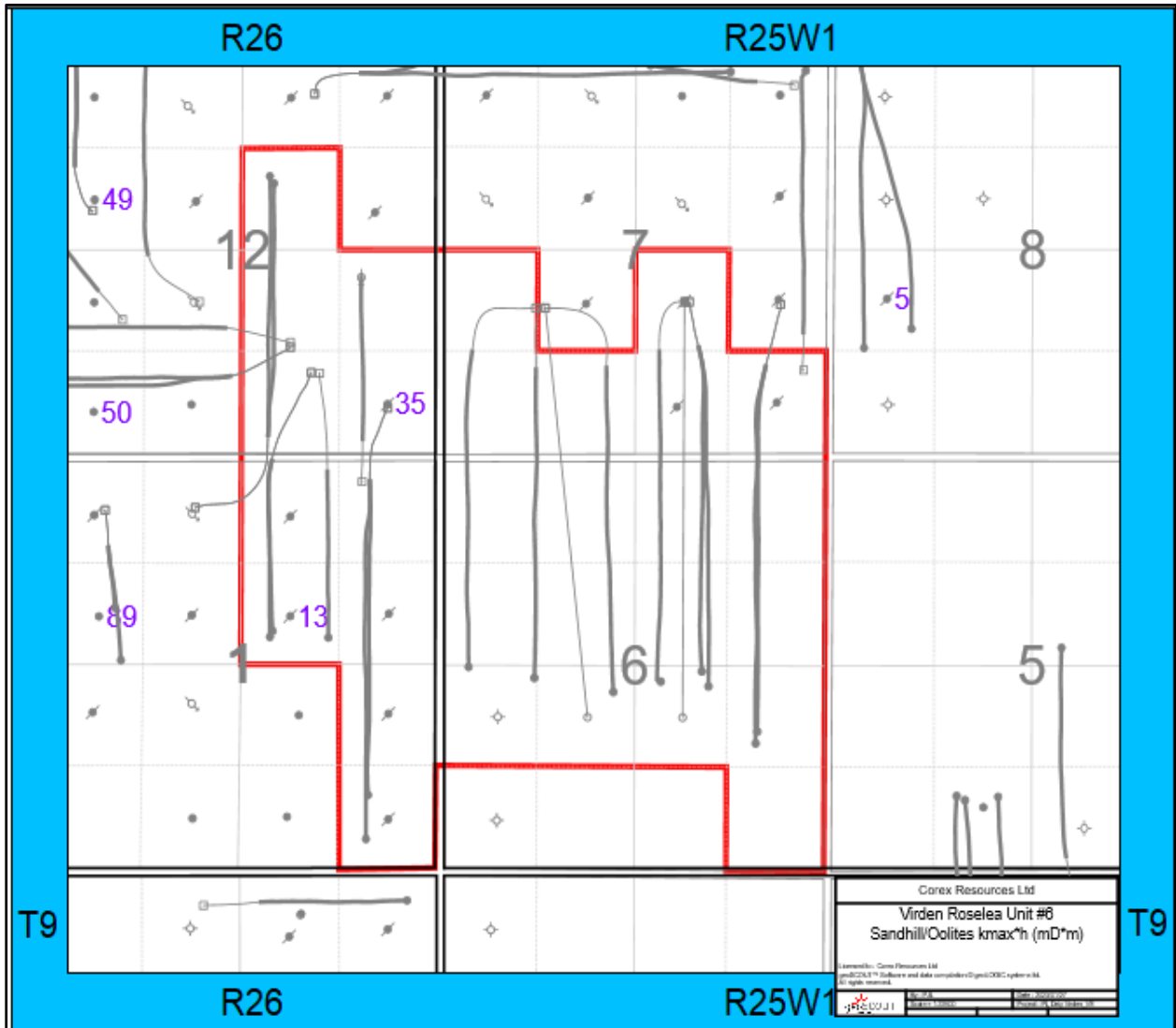
Appendix VII – Sandhill/Oolites – Net Pay



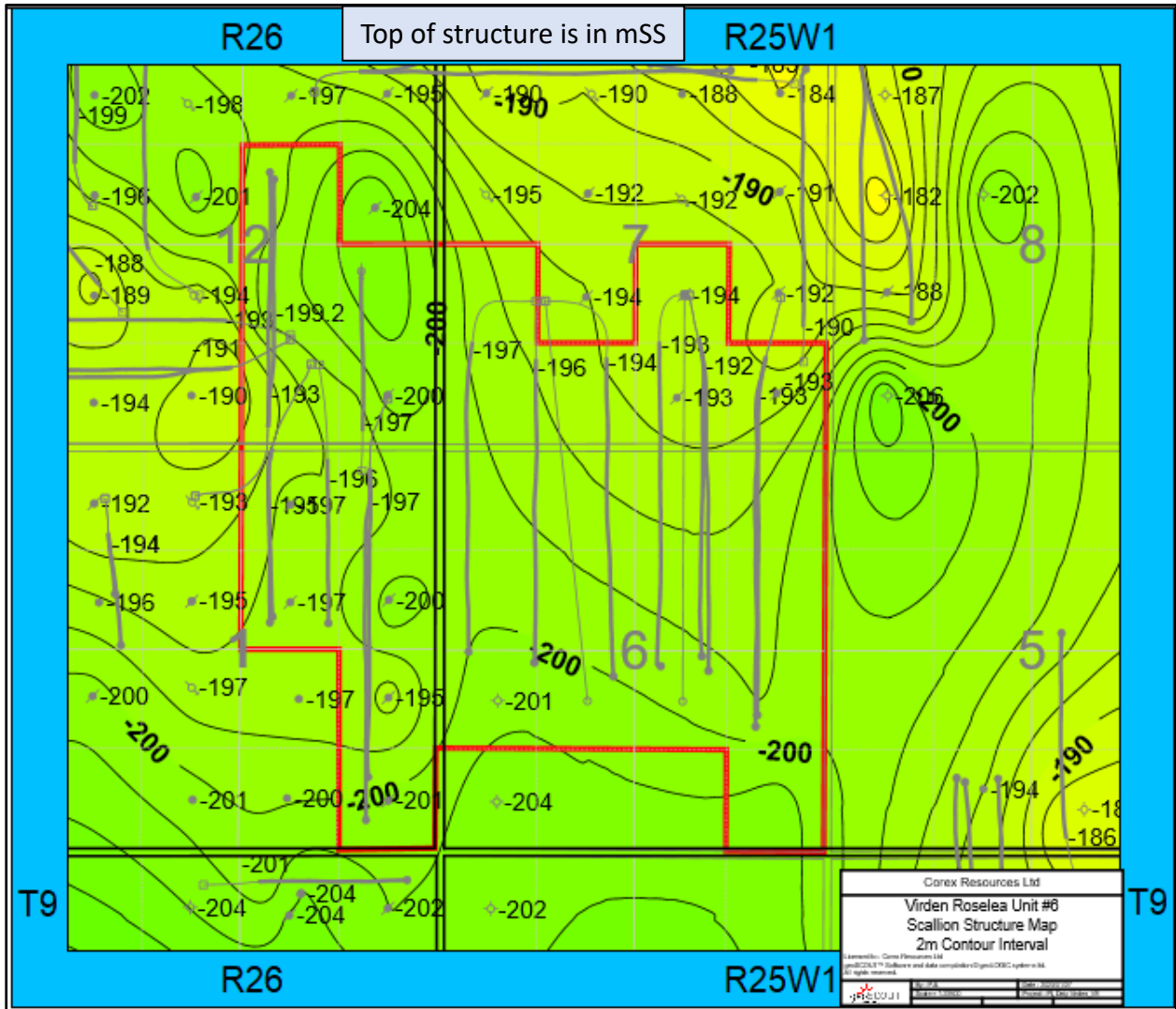
Appendix VIII – Sandhill/Oolite – Porosity-Thickness



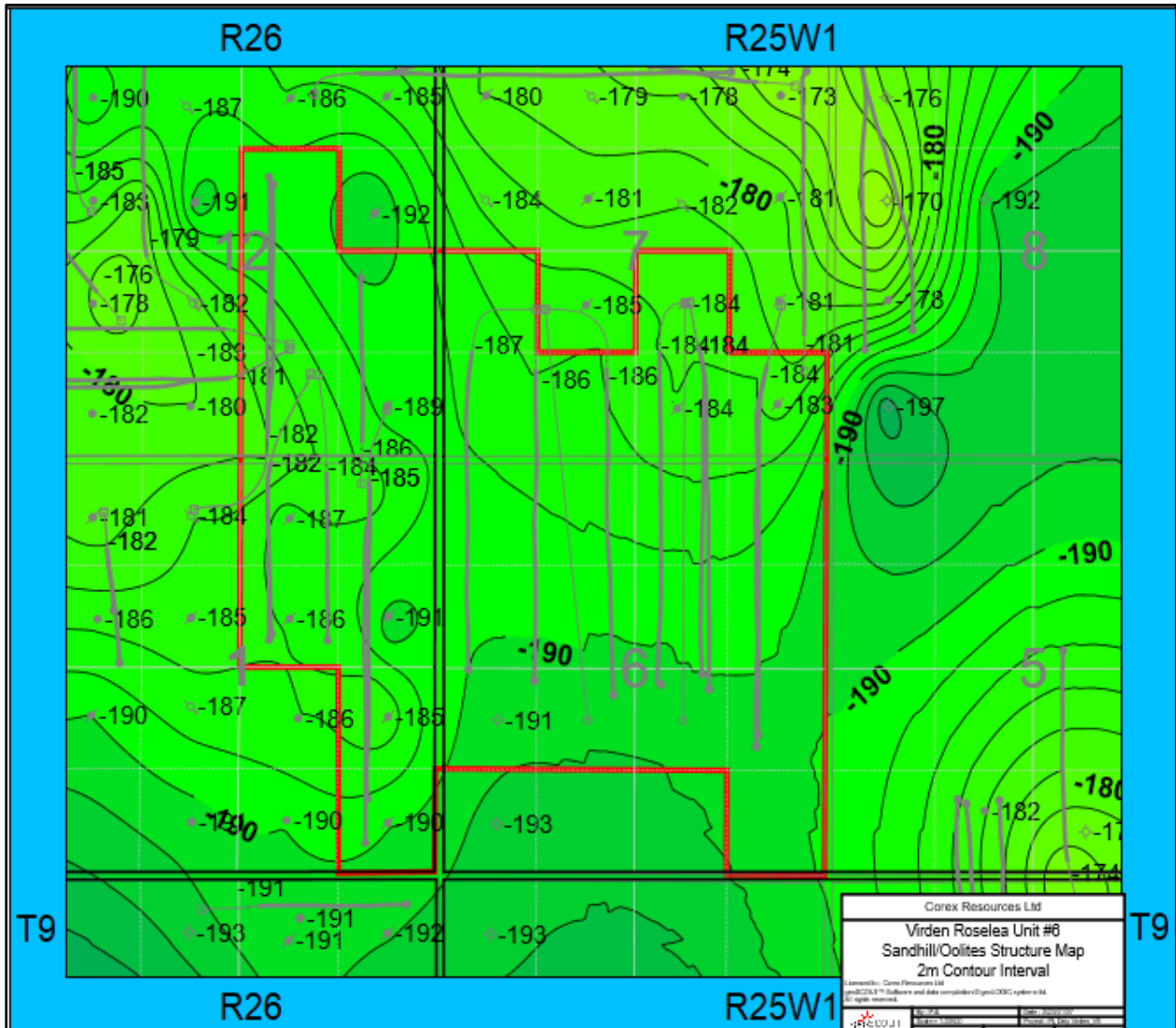
Appendix IX – Sandhill/Oolites – Permeability-Thickness



Appendix X – Scallion – Top of Structure

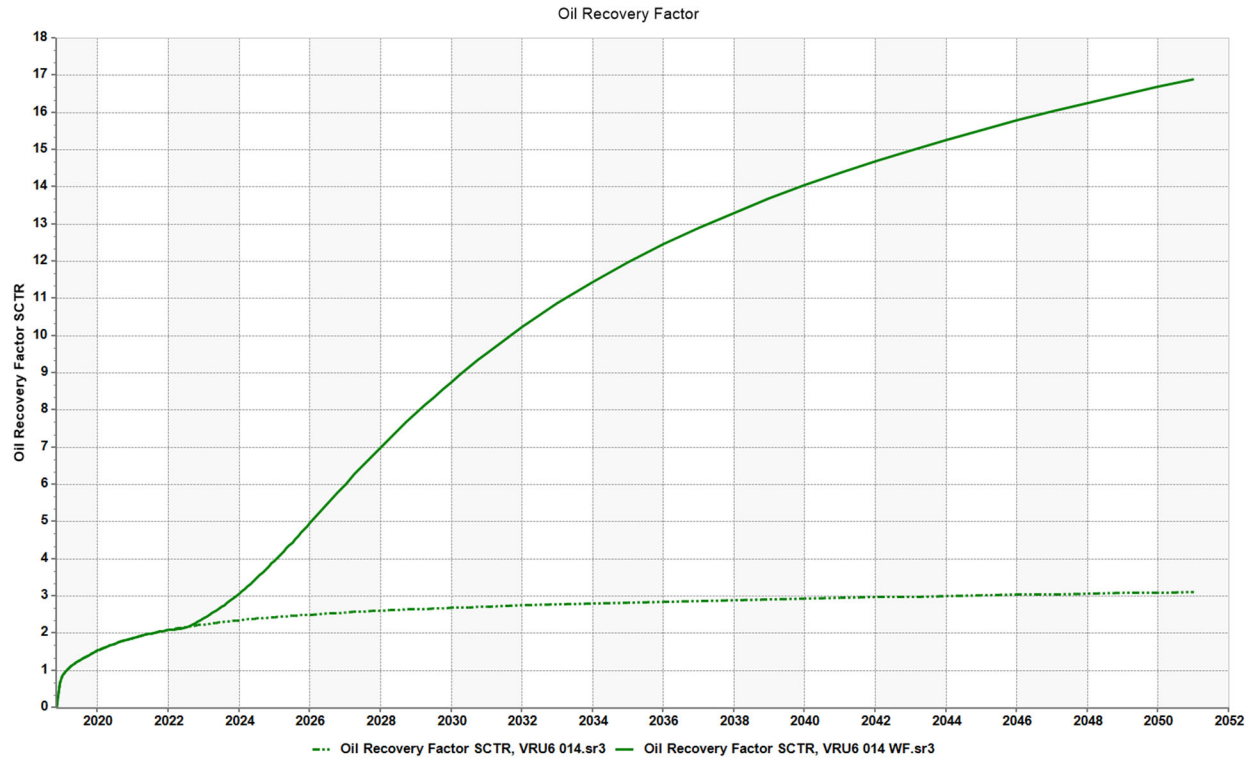


Appendix XI – Sandhill/Oolites – Top of Structure



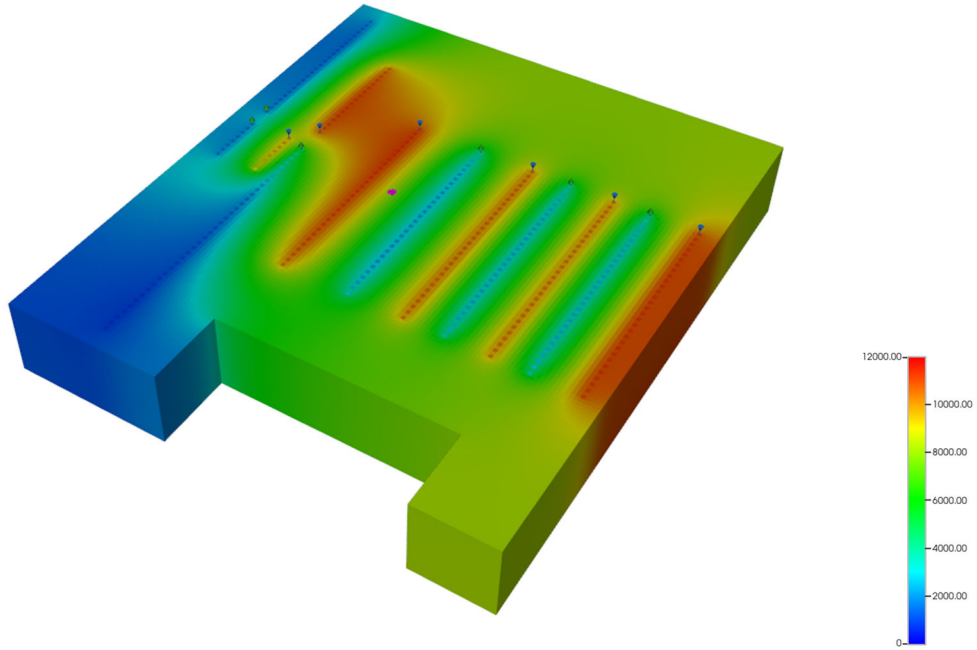
Top of structure is in mSS

Appendix XII – Reservoir Model



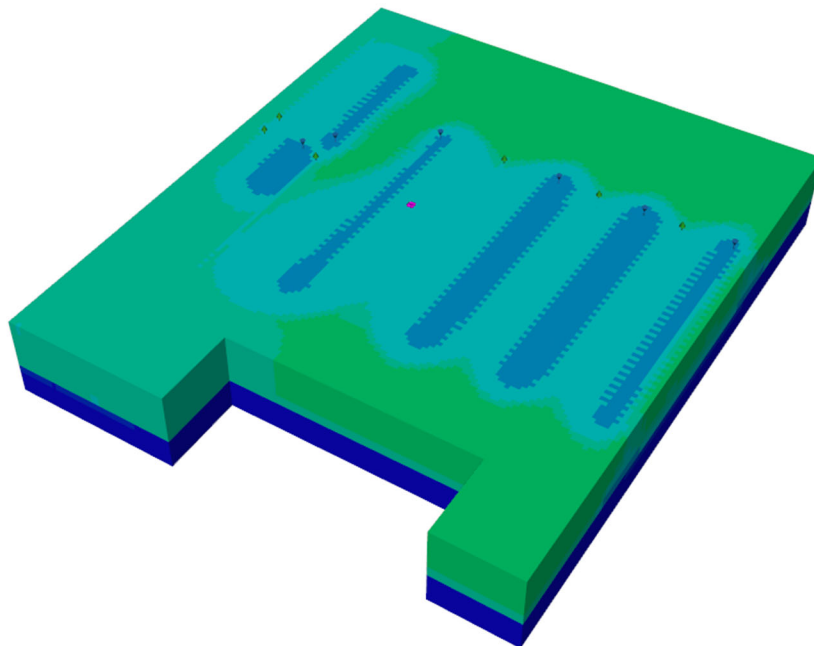
Reservoir Model – Scallion – Recovery Factor

VRU6 014 WF.sr3
Pressure (kPa) 2051-Jan-01



Reservoir Model – Scallion – Pressure

VRU6 014 WF.sr3
Ternary 2051-Jan-01



Reservoir Model – Scallion – Ternary Saturation