

Proposed Birdtail Unit No. 5

Application for Enhanced Oil Recovery Waterflood Project

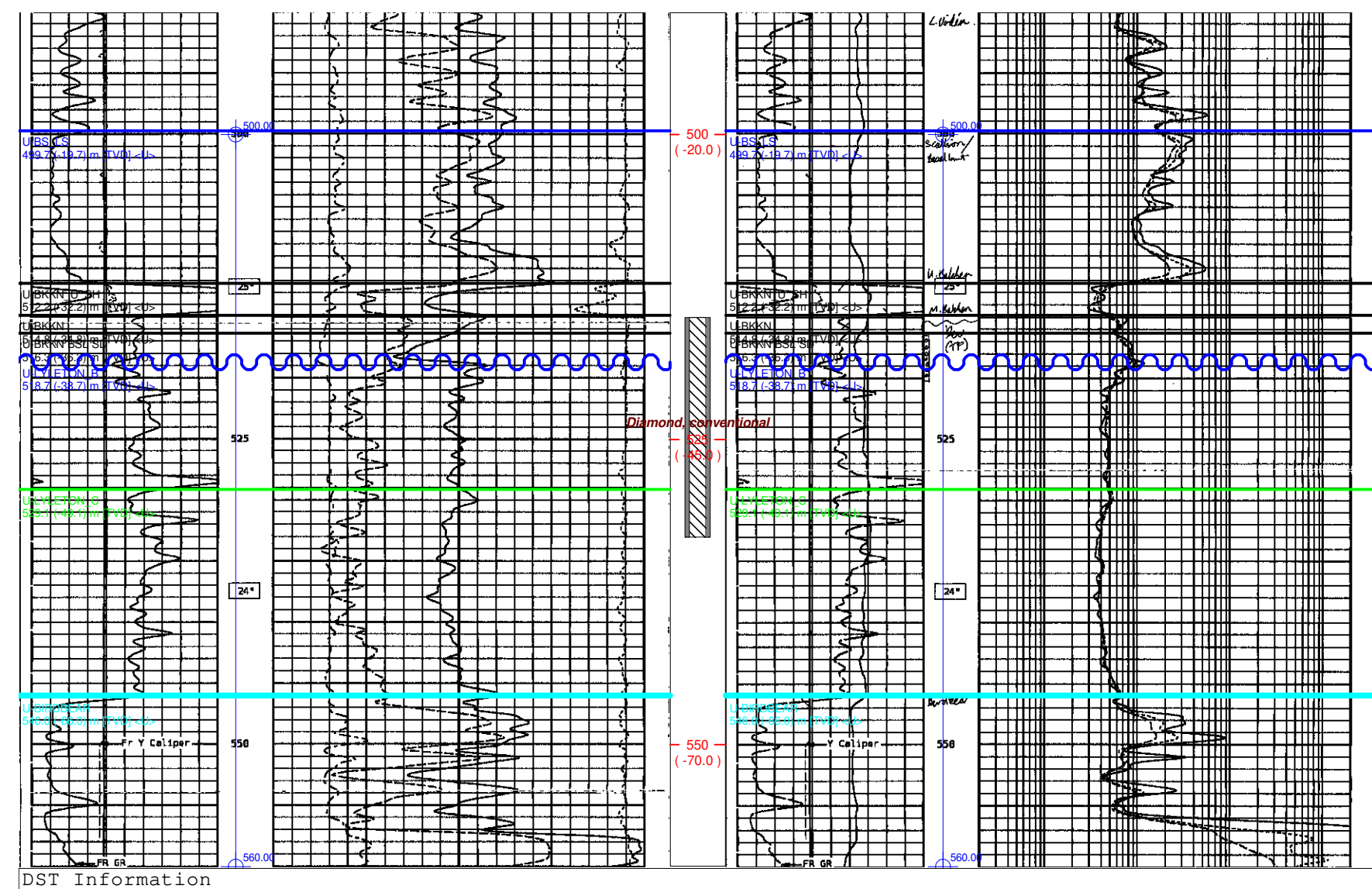
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00/04-30-016-27W1/0

KB: 480.0 m RR: 2011-07-24
 TD: 575.0 m [TVD] FormTD: BIRDBER
 Mode: Abnd Fluid: N/A
 TUNDRA ST. LAZARE HZNTL 3-25-16-28 (WPM)

1584.7m to next well >



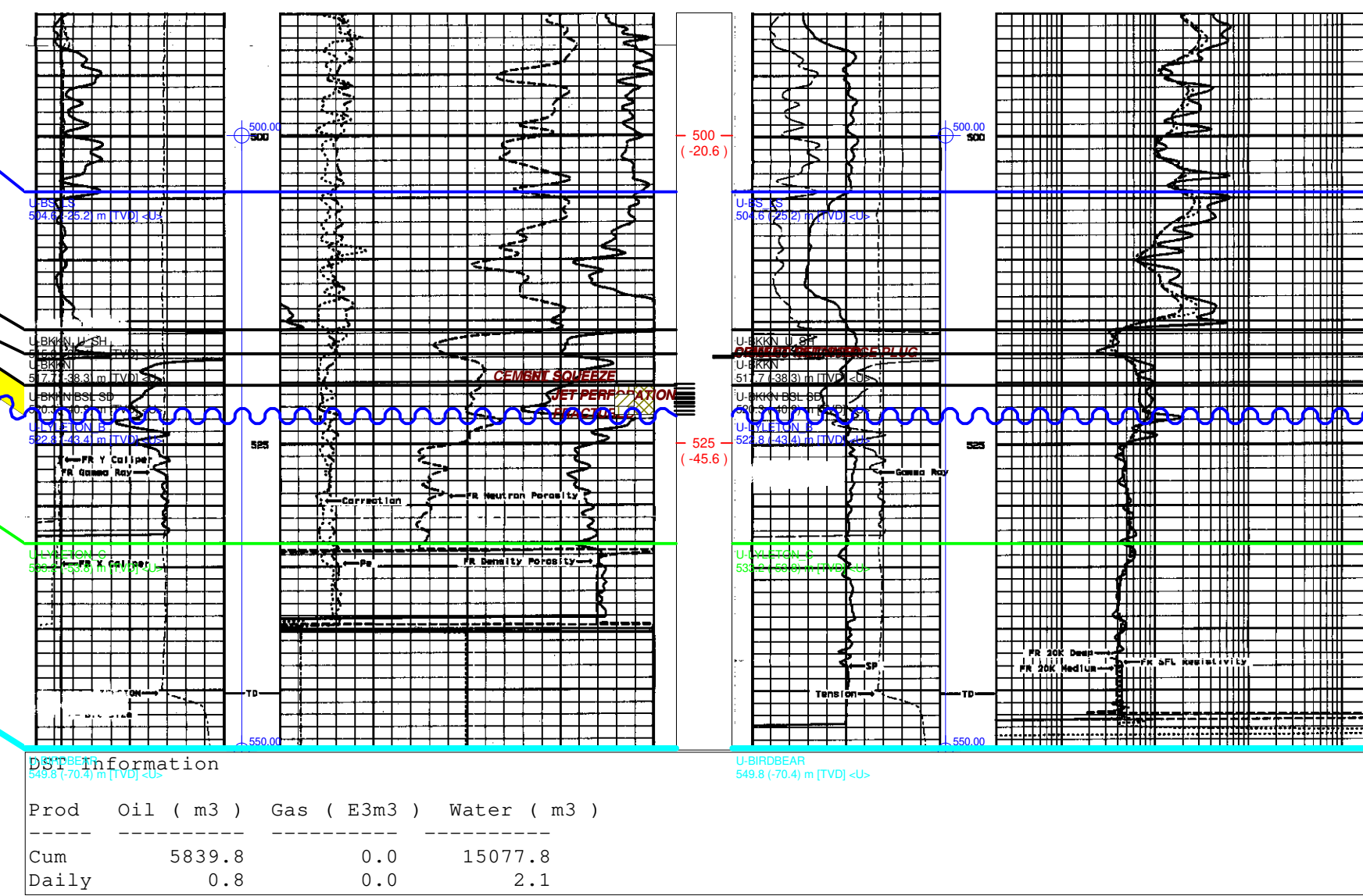
Prod	Oil (m3)	Gas (E3m3)	Water (m3)
Cum	0.0	0.0	0.0
Daily	0.0	0.0	0.0

00/07-19-016-27W1/0

KB: 479.4 m RR: 1997-12-07
 TD: 546.0 m [TVD] FormTD: TORQUAY
 Mode: Prod Fluid: Oil
 BIRDTAIL UNIT NO. 2 PROV. 7-19-16-27

< 1584.7m to previous well

403.8m to next well >

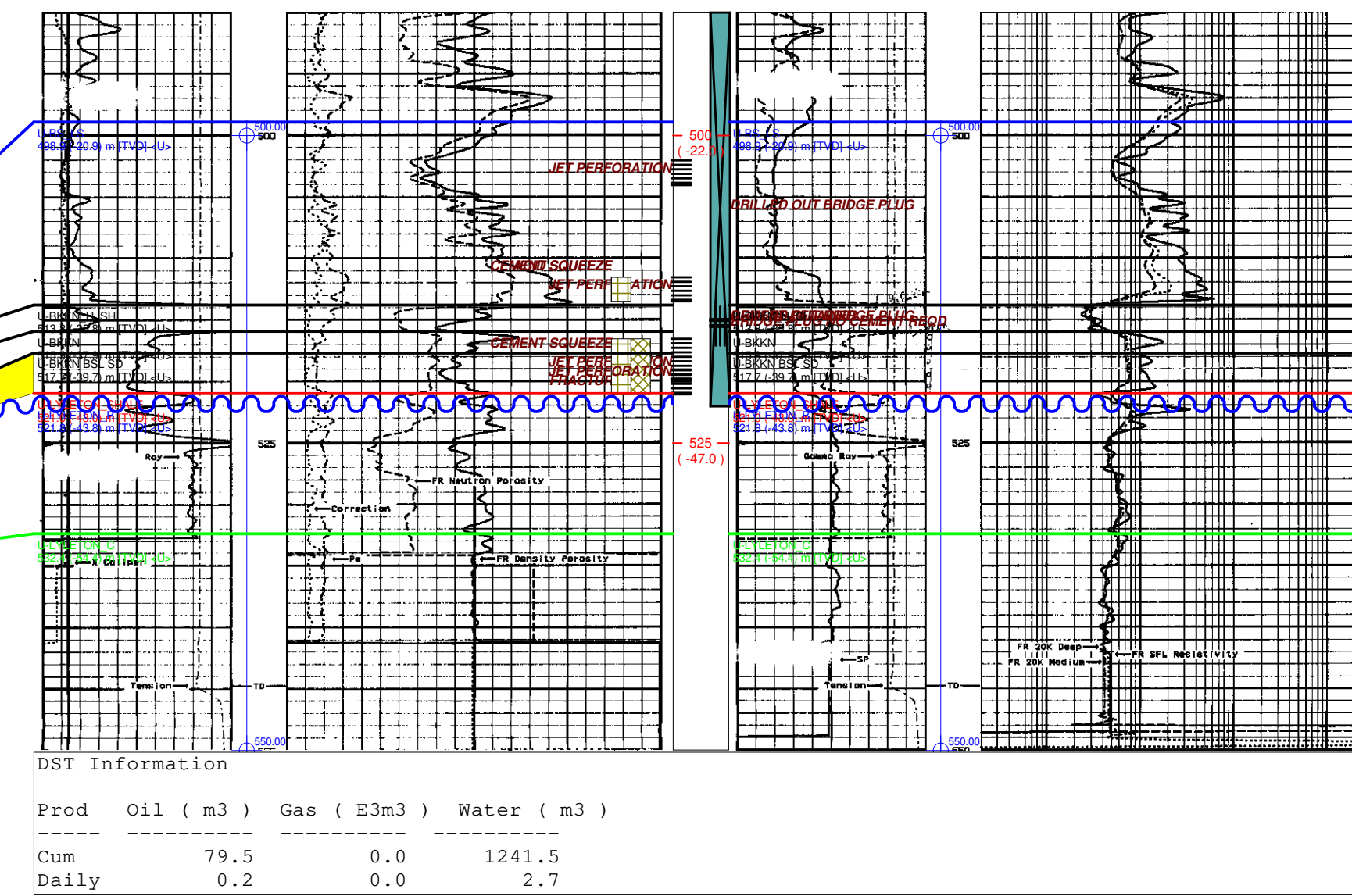


Prod	Oil (m3)	Gas (E3m3)	Water (m3)
Cum	5839.8	0.0	15077.8
Daily	0.8	0.0	2.1

00/02-19-016-27W1/0

KB: 478.0 m RR: 1998-01-17
 TD: 545.0 m [TVD] FormTD: TORQUAY
 Mode: Abd Zone Fluid: Oil
 BIRDTAIL UNIT NO. 2 PROV. 2-19-16-27

< 403.8m to previous well



Prod	Oil (m3)	Gas (E3m3)	Water (m3)
Cum	79.5	0.0	1241.5
Daily	0.2	0.0	2.7

Legend

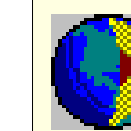
- ◊ Dry & Abandoned
- Oil
- Abandoned Oil
- Contact Type - Conformity
- Contact Type - Unconformity
- Contact Type - Time Equivalence
- Contact Type - Left Fault
- Contact Type - Right Fault
- Yellow
- Red

Depth Scale (actual scale 1: 480)



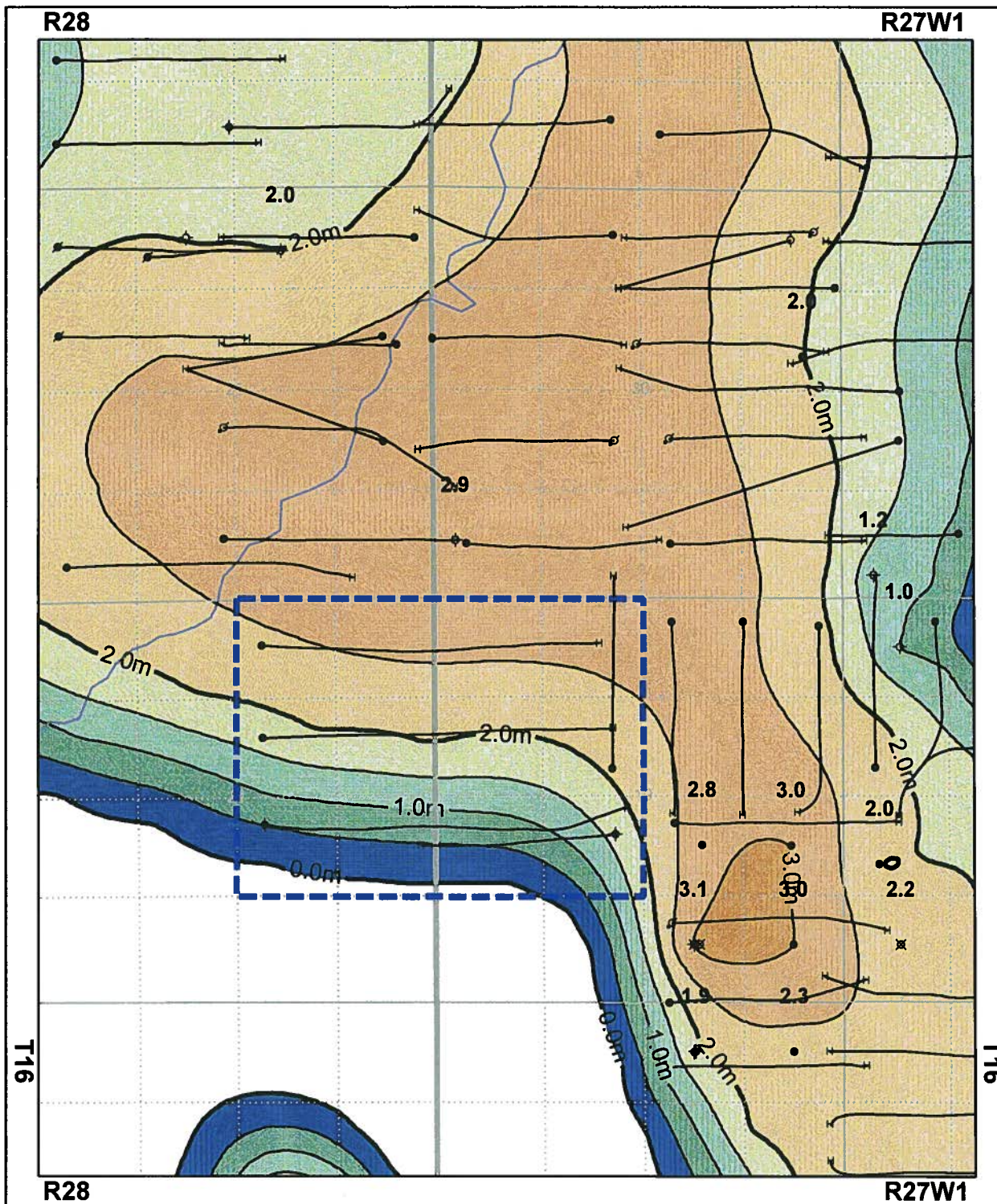
Tundra Oil and Gas Limited

Structural Cross Section A-A'

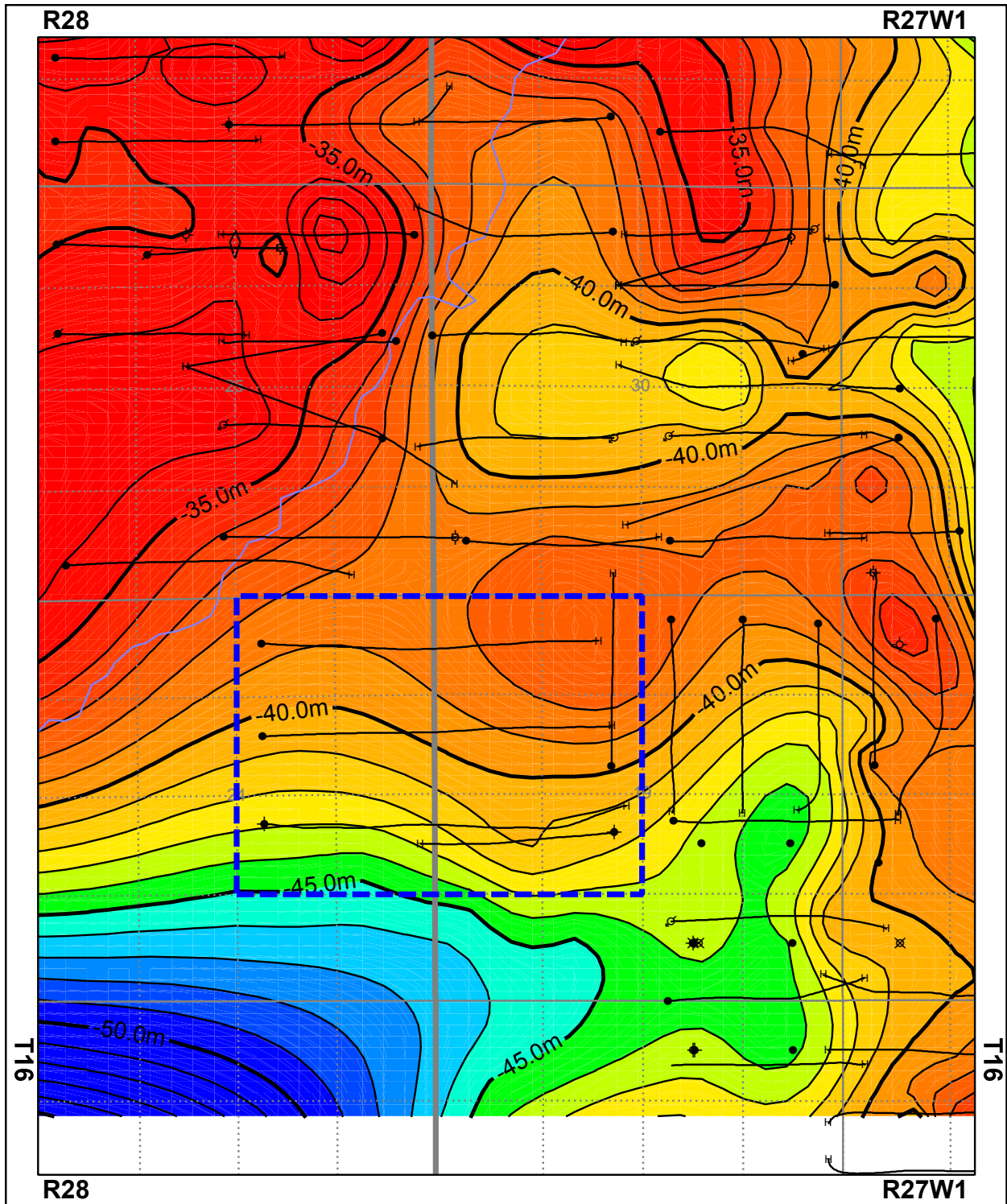


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 Start Formation: 5m. above U-BIS_LS
 End Formation: 5m. below U-BIRDBEAR
 Cross Section Name: BIRDTAILFF



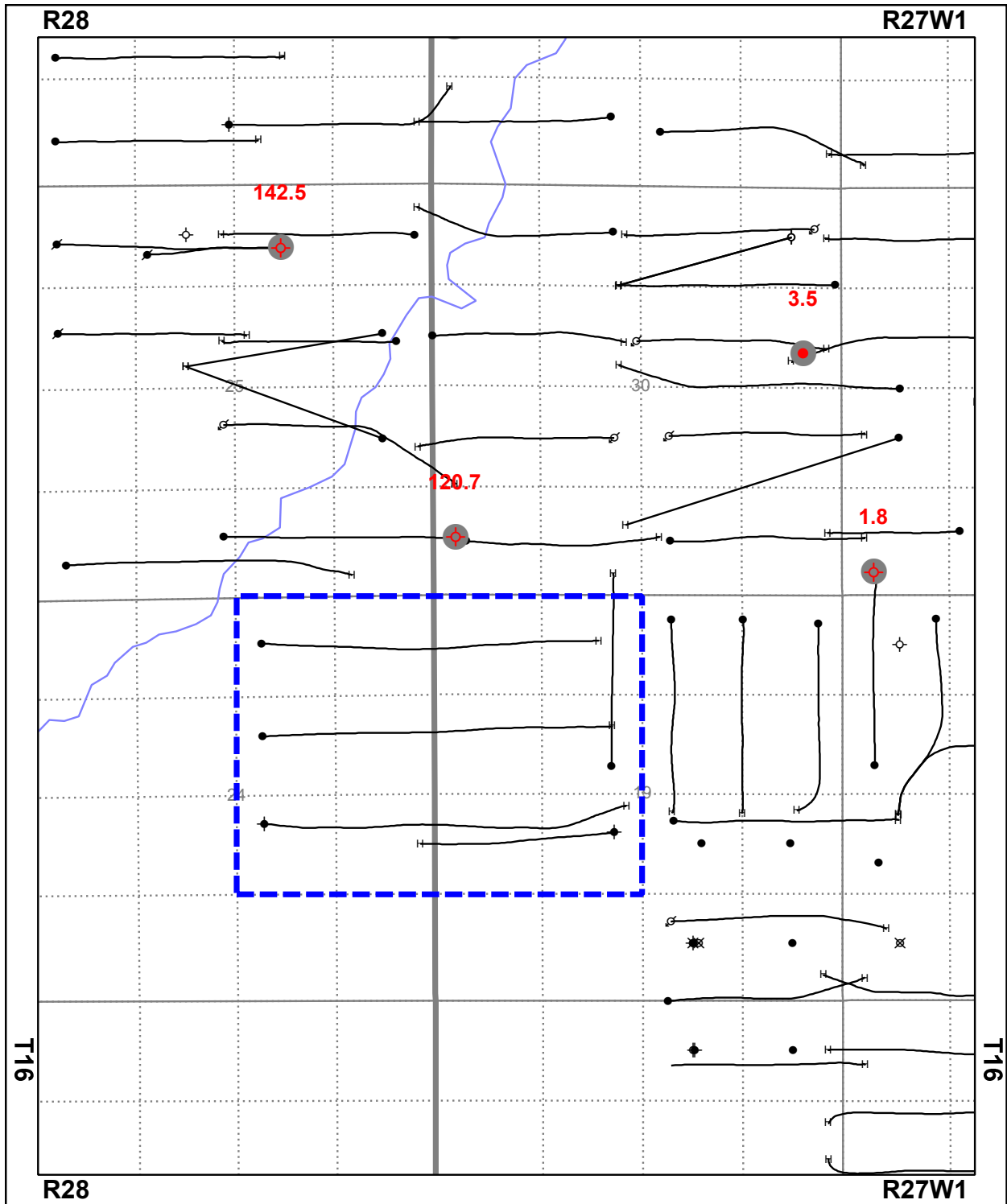
Tundra Oil and Gas Limited
Birdtail Unit 5 M Bakken Net Pay (CI=0.5m)
BW, January 21, 2019 North Bakken.accumap



Well Legend			
⌘ Abandoned Gas	⊕ Drilling	○ Location	⌘ Suspended Heavy Oil
⌘ Abandoned Heavy Oil	⊕ Dry & Abandoned	● Oil	⌘ Suspended Oil
⌘ Abandoned Oil	⊕ Gas	⌘ Oil & Gas	⌘ Suspended Oil & Gas
⌘ Abandoned Oil & Gas	⊕ Gas Injection	⌘ Service or Drain	
⌘ Abandoned Service	⊕ Heavy Oil	⌘ Suspended	
○ Canceled	⊕ Injection	⌘ Suspended Gas	

Tundra Oil and Gas Limited
Birdtail Unit 5
Lyleton Subsea Structure (m)
BW, January 28, 2019
North Bakken.accumap





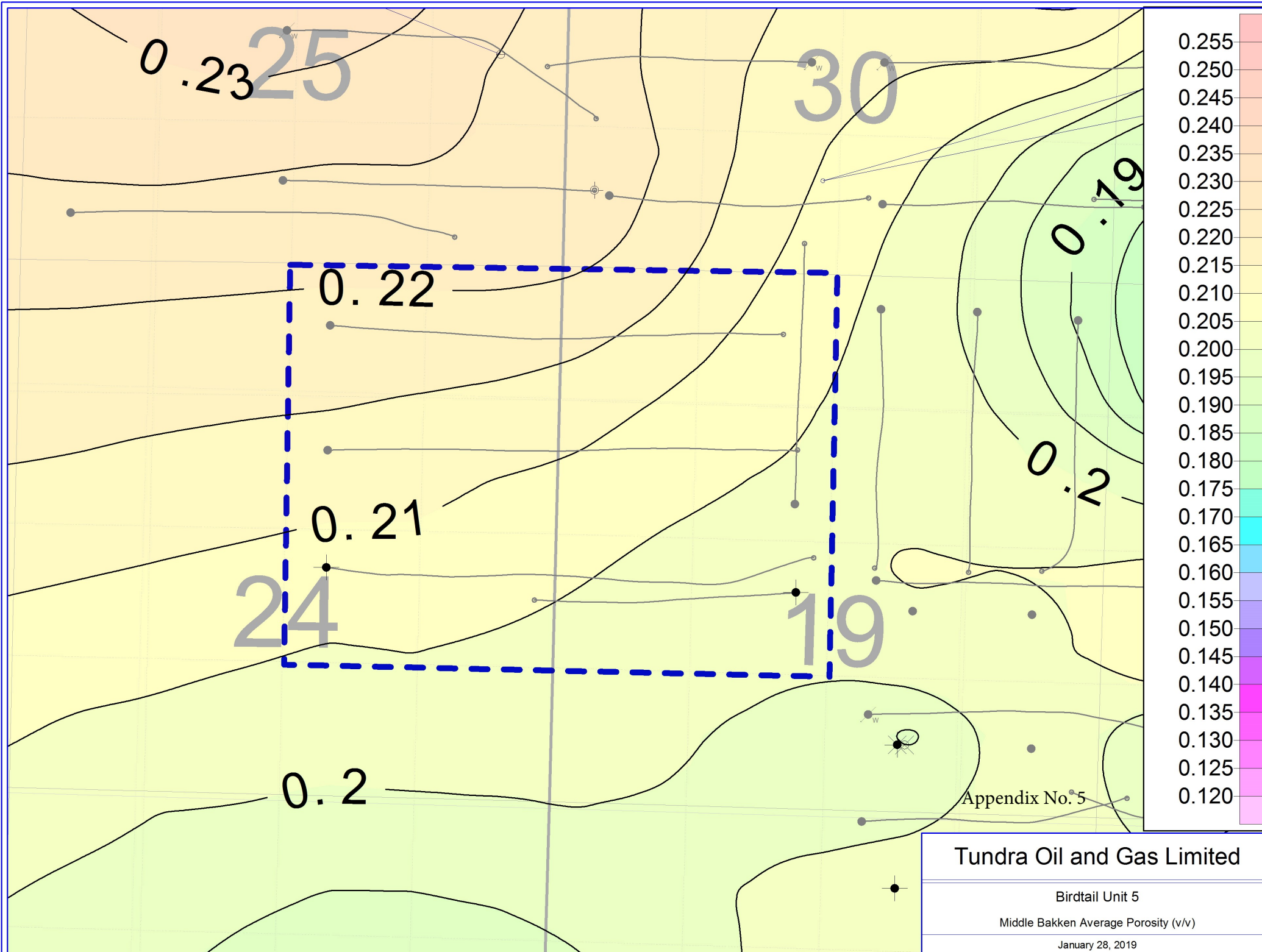
Well Legend			
✱ Abandoned Gas	⊕ Dry & Abandoned	✱ Oil & Gas Service or Drain	● Wells - Birdtail Analyzed Core
✱ Abandoned Heavy Oil	⊕ Gas	⊕ Suspended	● Wells Postings
✱ Abandoned Oil	⊕ Gas Injection	✱ Suspended Gas	● U-Kmaxh (U-BK00)
✱ Abandoned Oil & Gas	✱ Heavy Oil	✱ Suspended Heavy Oil	● Empty
✱ Abandoned Service	⊕ Injection	✱ Suspended Oil	● Empty
○ Canceled	○ Location	✱ Suspended Oil & Gas	
⊕ Drilling	● Oil		

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Birdtail Unit 5
M Bakken Kmaxh (mD*m)

BW, January 28, 2019
North Bakken.accumap





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Birdtail Unit 5

Middle Bakken Average Porosity (v/v)

January 28, 2019

Appendix 6 – Corrosion Controls

Injection Wells

- Corrosion inhibitor in the annulus between tubing and casing.
- Surface freeze protection of annular fluids near surface.
- Corrosion-resistant valves on wellhead and flowline.
- Corrosion-resistant flowline equipment.
- Installation of cathodic protection to protect casing.
- Scale inhibitor protection as needed.
- Bacteria control chemical treatments when needed.
- Water injector packer will be coated for corrosion resistance.

Producing Wells

- Downhole corrosion inhibitor, either batch or daily injection, as needed.
- Scale inhibitor treatment daily injection as required for horizontal wells.
- Paraffin treatment daily injection if needed.
- Casing cathodic protection where required.

Pipelines

- The water source line will be Flexcord 2000# pipe.
- Injection lines will be a mix of Flexpipe 601 pipe and Centron 2000# pipe.
- Producing lines existing as per original flowline licenses.
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Facilities

8-30-16-27W1 Water Plant

- Plant piping – internally coated, fiberglass or stainless steel.
- Filtration – stainless steel.
- Pumps – ceramic plungers, stainless steel disc valves.
- Tanks – fiberglass with stainless steel valves.