Blackrod SAGD Pilot Project
Athabasca Oil Sands Area
Scheme Approval No. 11522H

2019 Annual Performance Presentation
Alberta Energy Regulator

February 26, 2020

International Petroleum Corp.

Blackrod Subsurface

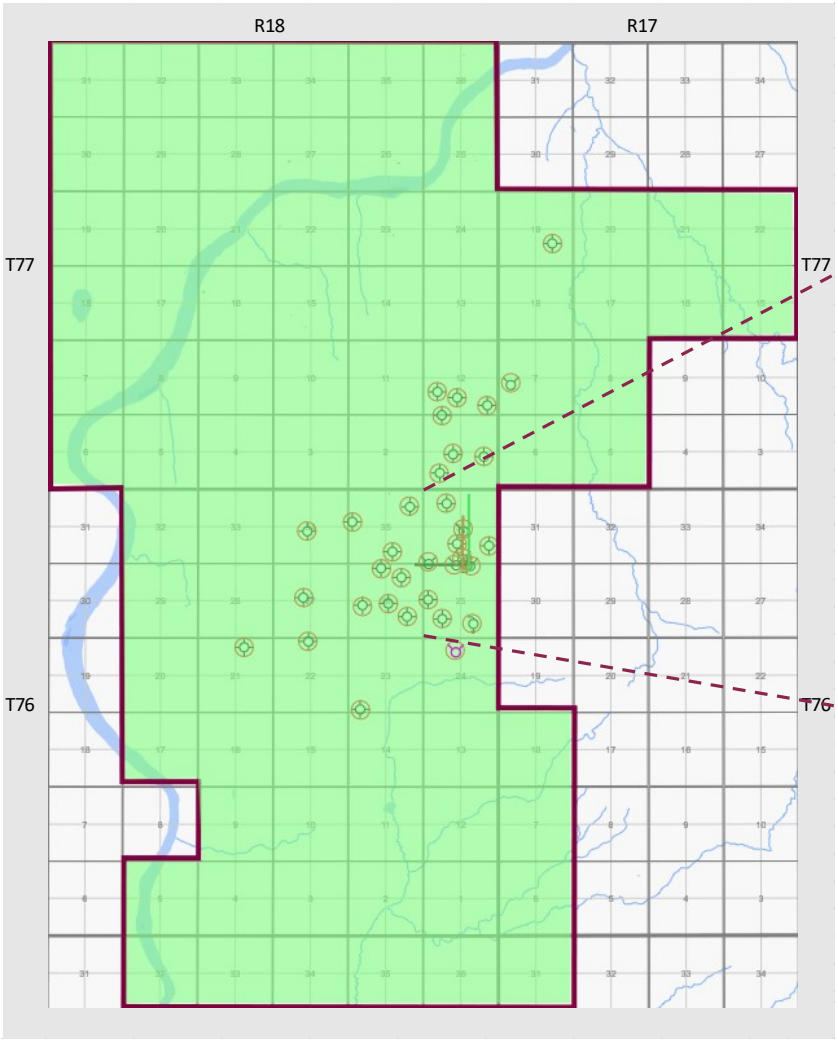
Subsurface Agenda

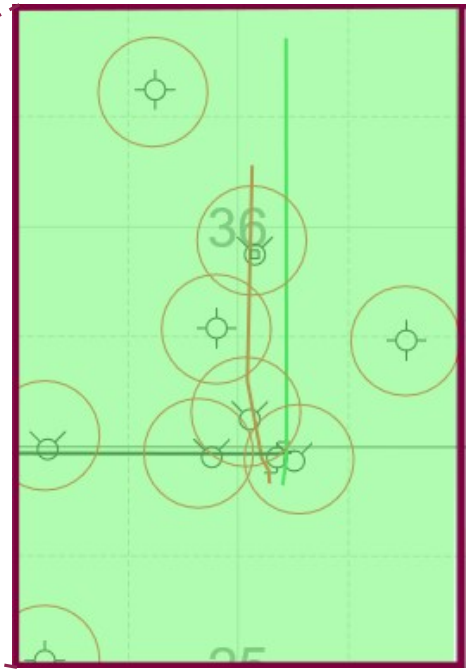
1. Background
2. Geology / Geoscience
3. Drilling & Completions
4. Artificial Lift
5. Well Instrumentation
6. Scheme Performance

Blackrod Subsurface

1. Background

Project Overview





Approved Development Area as per
AER Scheme Approval No. 11522H

CORED WELLS

IPC OIL SANDS
LEASE HOLDINGS

Project Summary

- AER Scheme Approval No. 11522H
- One (1) Operating SAGD Well Pair
- Portage area on Oil Sands Lease 7407060158
- Pilot site located in 02-36-076-18W4
- Target formation is the Lower Grand Rapids Unit 1 (L.GR1)
- Initial reservoir data:
  - Pressure: 1700 KPA
  - Temperature: 13^{o}C
  - Depth: 300m
- Traditional SAGD recovery process
- IPC is the 100% W.I. Owner

Blackrod Pilot Site

Project Milestones – 10-36 WP2

- ***Feb 2012*** AER Approval No. 11522C for 10-36 WP2 and facility expansion
- ***Feb 2013*** Drilled 10-36 WP2
- ***Oct 2013*** Commission Phase 2 Pilot Facility Expansion
- ***Nov 2013*** Commence Circulation Phase
- ***Mar 2014*** Convert to SAGD Production Phase
- ***Apr 2015*** Production surpasses commercial rate of 400 bopd
- ***Dec 2016*** 21 consecutive month of +500 bopd with an iSOR of <3.0
- ***Dec 2017*** Produced 645,000 cumulative barrels of oil
- ***Dec 2018*** Produced 800,000 cumulative barrels of oil
- ***Dec 2019*** Produced 900,000 cumulative barrels of oil
- ***Feb 2020*** Shut in for 15-36 WP3 Circulation Phase

Project Milestones – 15-36 WP3

- ***Aug 2018*** AER Approval No. 11522G for 15-36 WP3
- ***Sept 2019*** Drilled 15-36 WP3
- ***Feb 2020*** Commence Circulation Phase

Blackrod Subsurface

2. Geology / Geoscience

Original Bitumen in Place

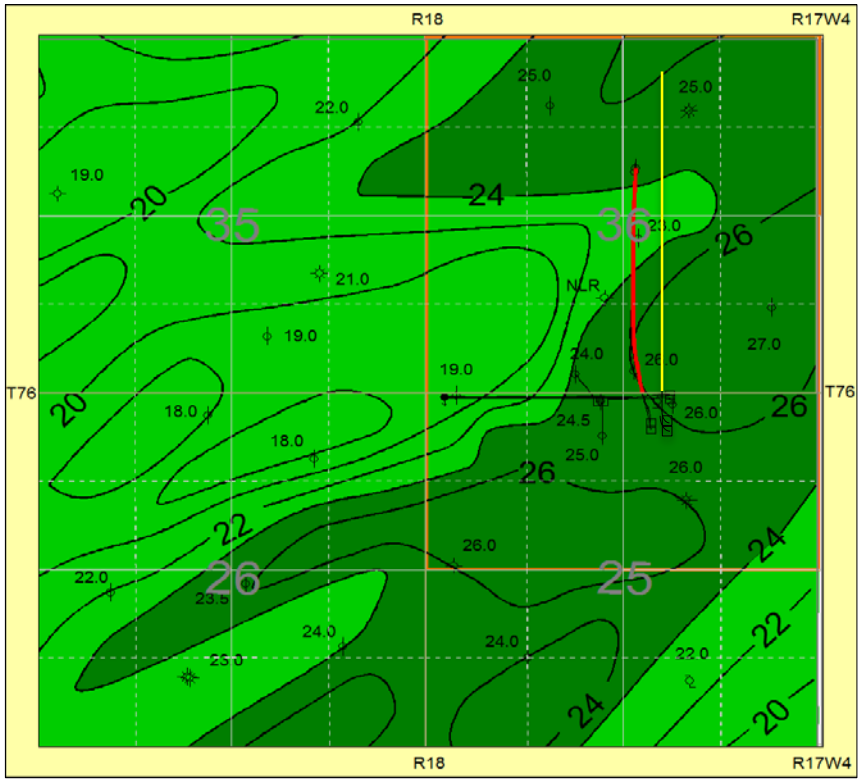
- $OBIP_{WP2}$ = A * h * So * Ø * Bo
  = (100 m * 1050 m) * 25 m * 0.63 * 0.34 * 1.0
  = 562,275 m^3

- $OBIP_{WP3}$ = A * h * So * Ø * Bo
  = (100 m * 1550 m) * 25 m * 0.63 * 0.34 * 1.0
  = 830,025 m^3

Where:

OBIP =	Original Bitumen In Place
A =	Drainage Area
h =	Thickness
So =	Oil Saturation
Ø =	Average Porosity
Bo =	Expansion Factor
WP2=	2nd Pilot Well Pair drilled at 10-36-076-18W4
WP3=	3rd Pilot Well Pair drilled at 15-36-076-18W4

Lower Grand Rapids (L. GR) Net Pay Map



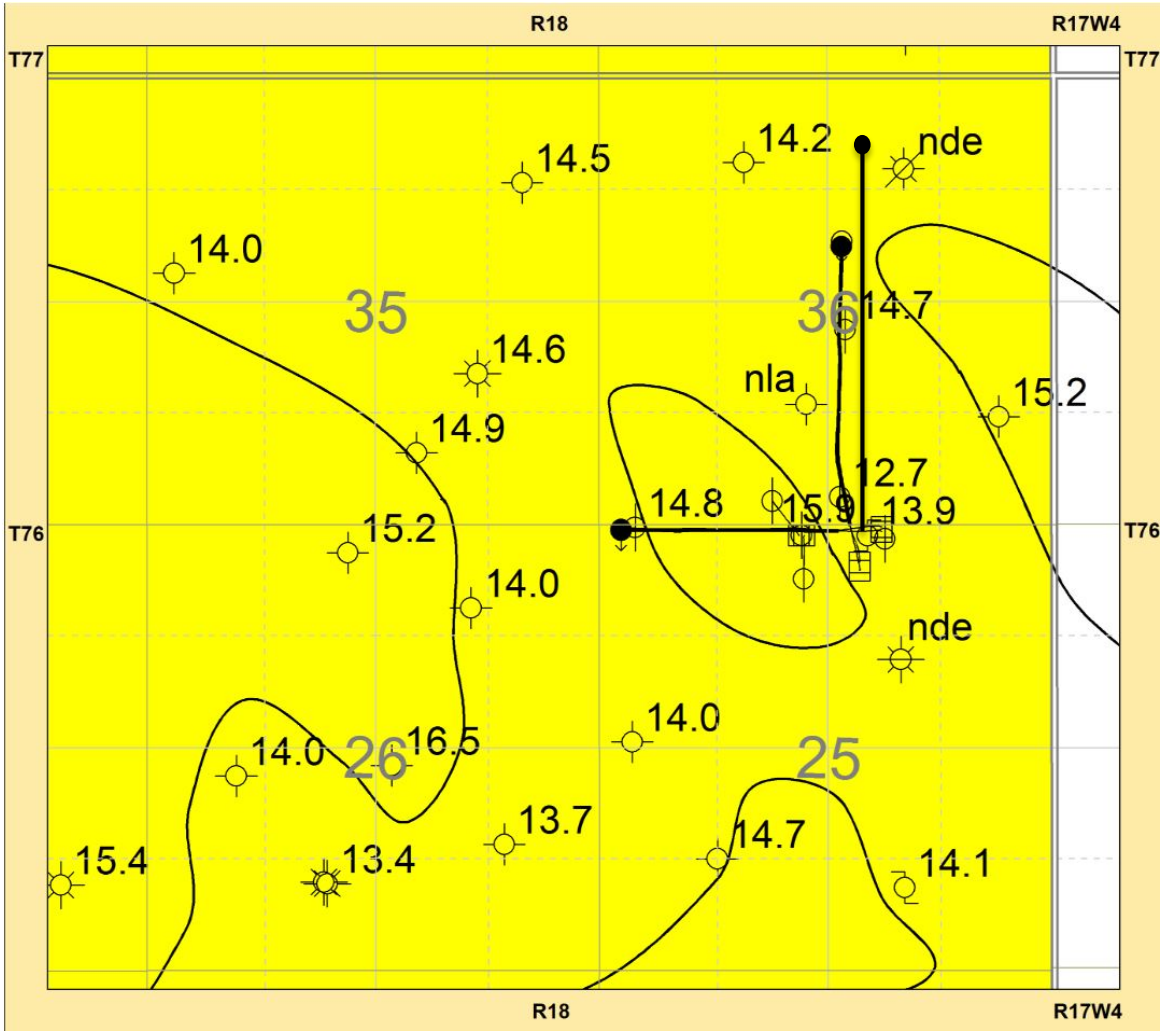
- Existing lease and access selected for Pilot surface location
- Bottom hole locations for both Pilot Well Pairs selected based on offsetting well control
- L. GR is a Shoreface deposit consisting of three (3) coarsening-upward parasequences:
  - L. GR Unit 1 = upper to middle shoreface bitumen target zone
  - L. GR Unit 2 = middle to lower shoreface transition zone
  - L. GR Unit 3 = bottom H2O saturated aquifer

LOG CUTOFFS

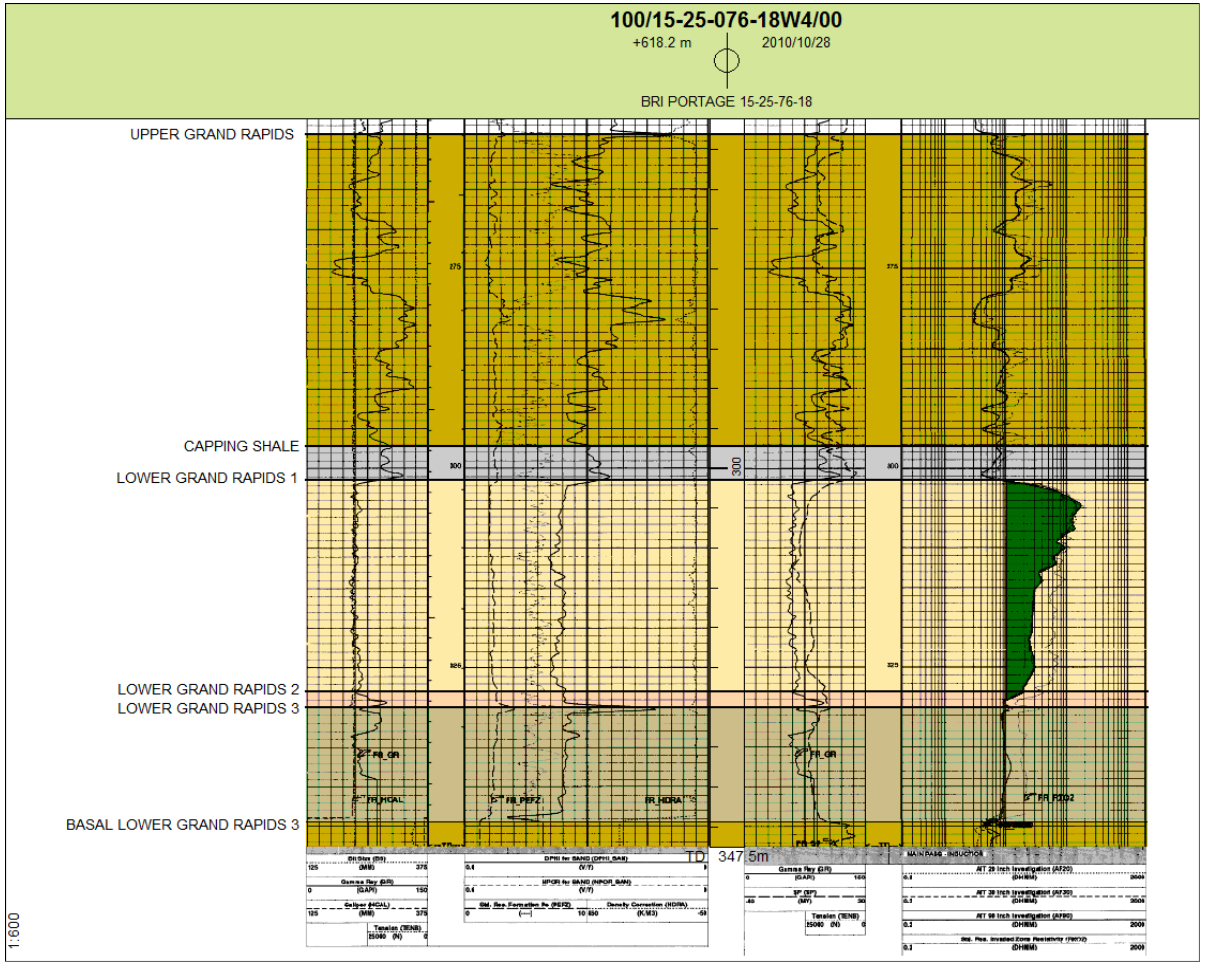
- Gamma Ray < 75 API
- Resistivity > 20 Ohm.m
- Porosity > 33%

Legend
Blackrod SAGD Pilot Project
Phase 1 Development Area
13-25 WP1
10-36 WP2
15-36 WP3

L. GR Unit 3 Bottom Water Isopach Map



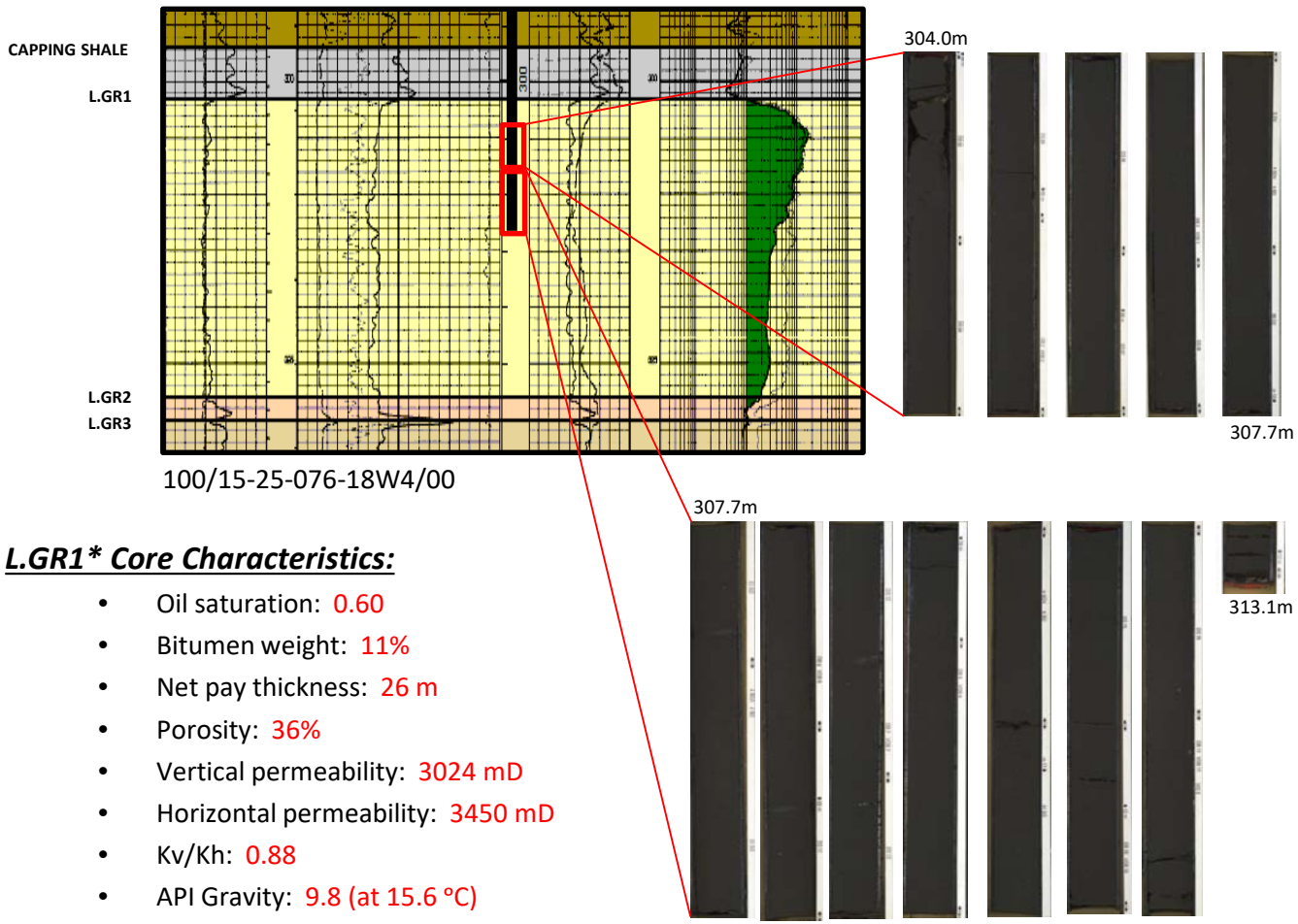
Type Log



LOG CUTOFFS

- Gamma Ray < 75 API
- Resistivity > 20 Ohm.m
- Porosity > 33%

Representative Core

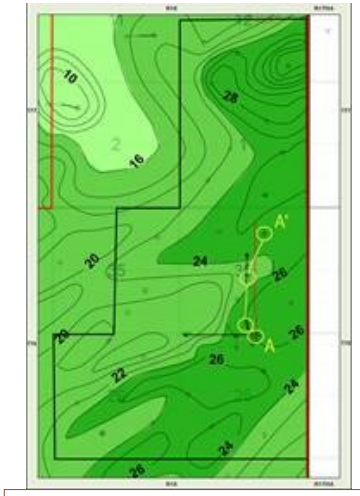


100/15-25-076-18W4/00

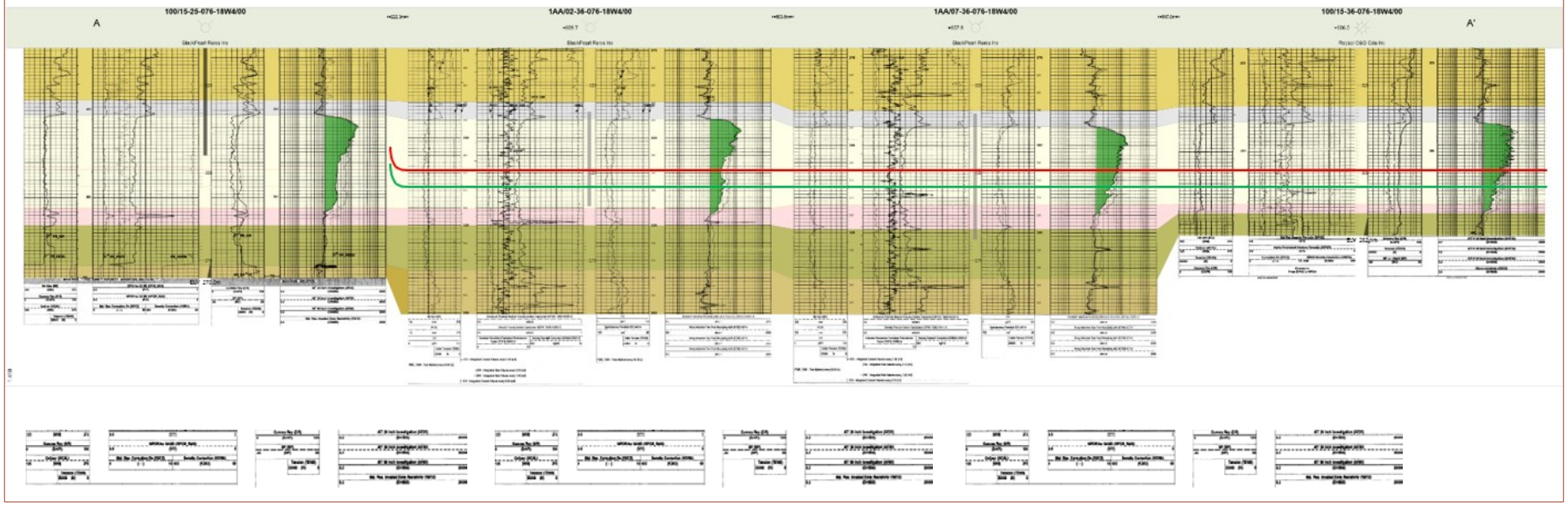
L.GR1* Core Characteristics:

- Oil saturation: 0.60
- Bitumen weight: 11%
- Net pay thickness: 26 m
- Porosity: 36%
- Vertical permeability: 3024 mD
- Horizontal permeability: 3450 mD
- Kv/Kh: 0.88
- API Gravity: 9.8 (at 15.6 °C)

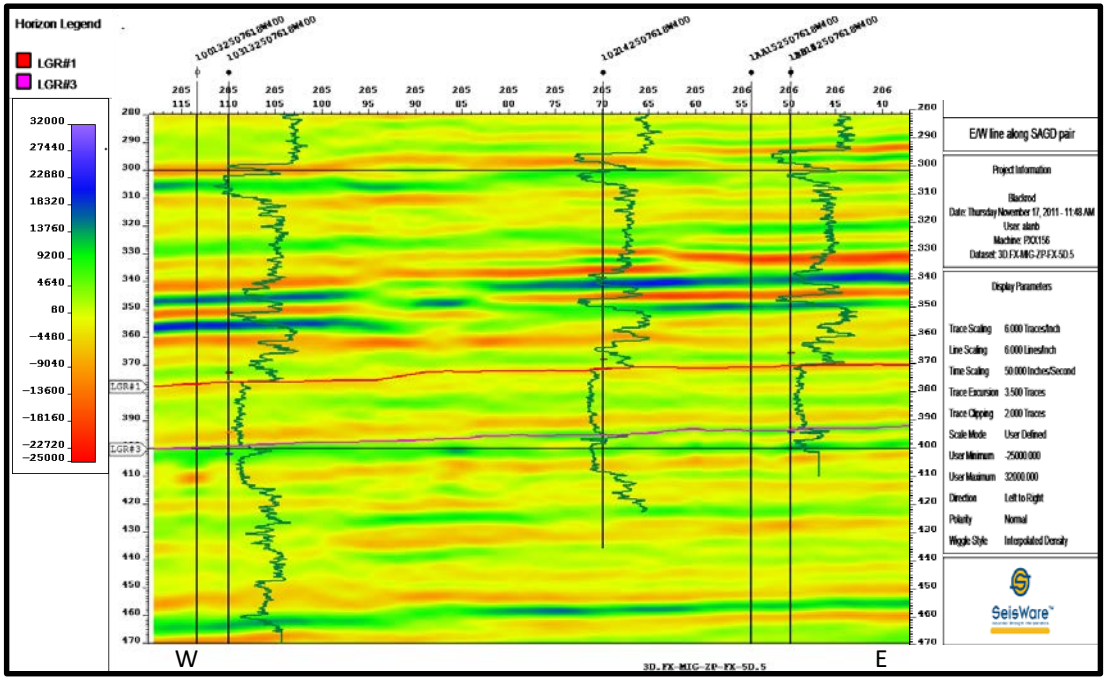
Cross Section Through 15-36 WP3



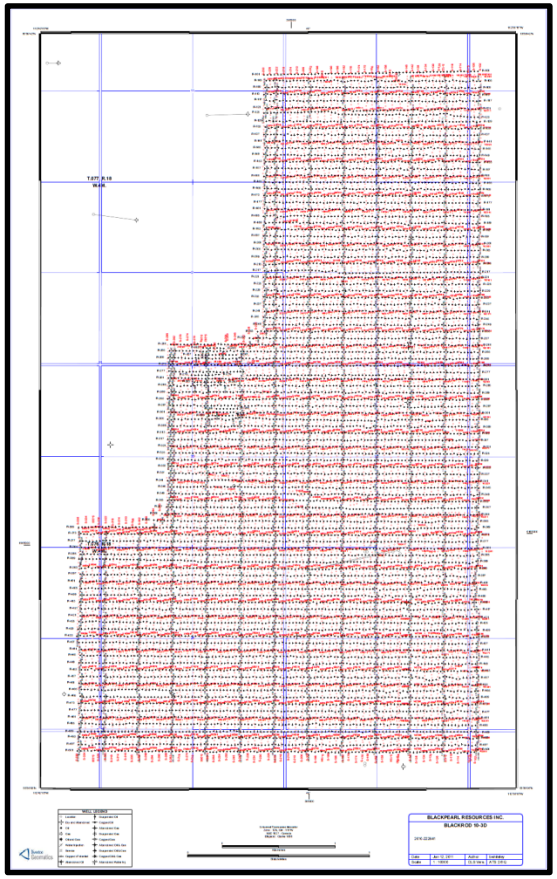
- 15-36 producer well was drilled with a minimum 5m standoff from LGR2 transition zone
- LGR2 transitions from 30% oil saturation to 100% water



Seismic



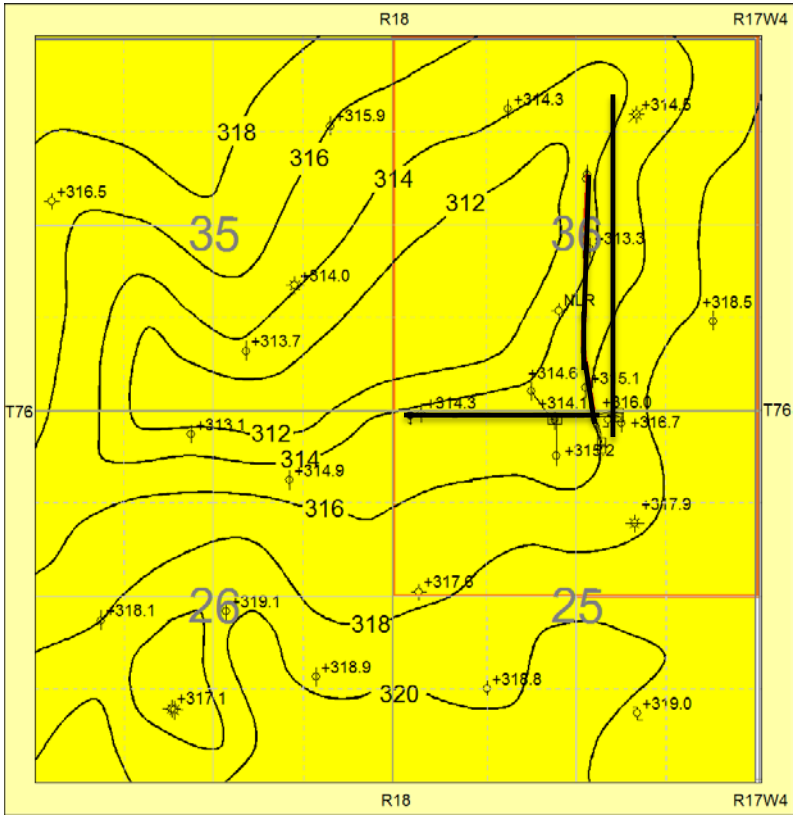
3D X-Line along 13-25 WP1



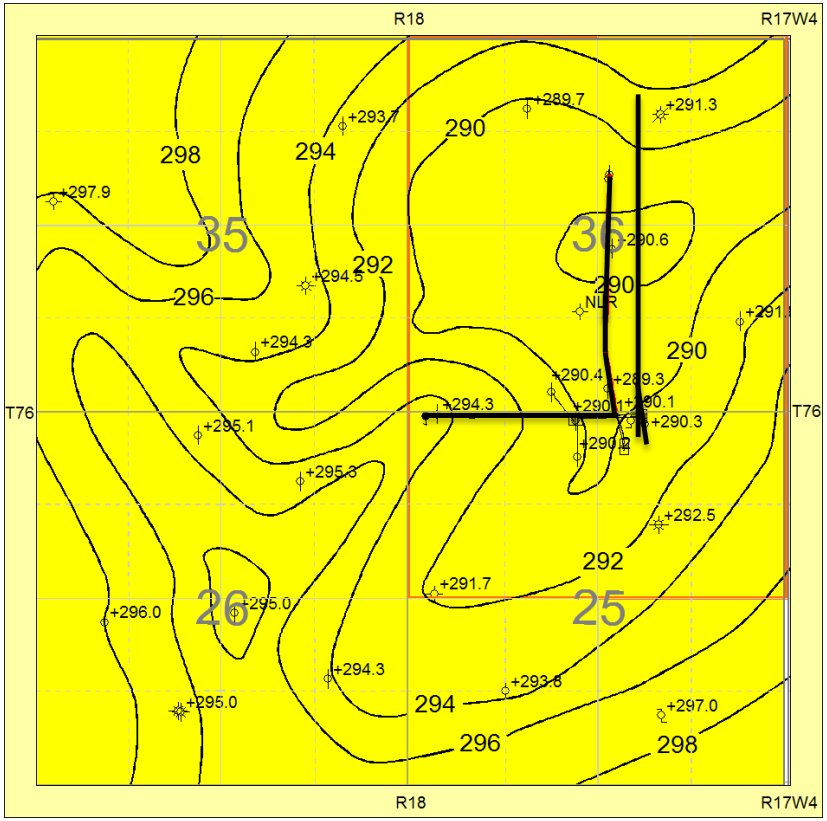
3D Seismic Area Coverage

Structure Map

L.GR1 TOP



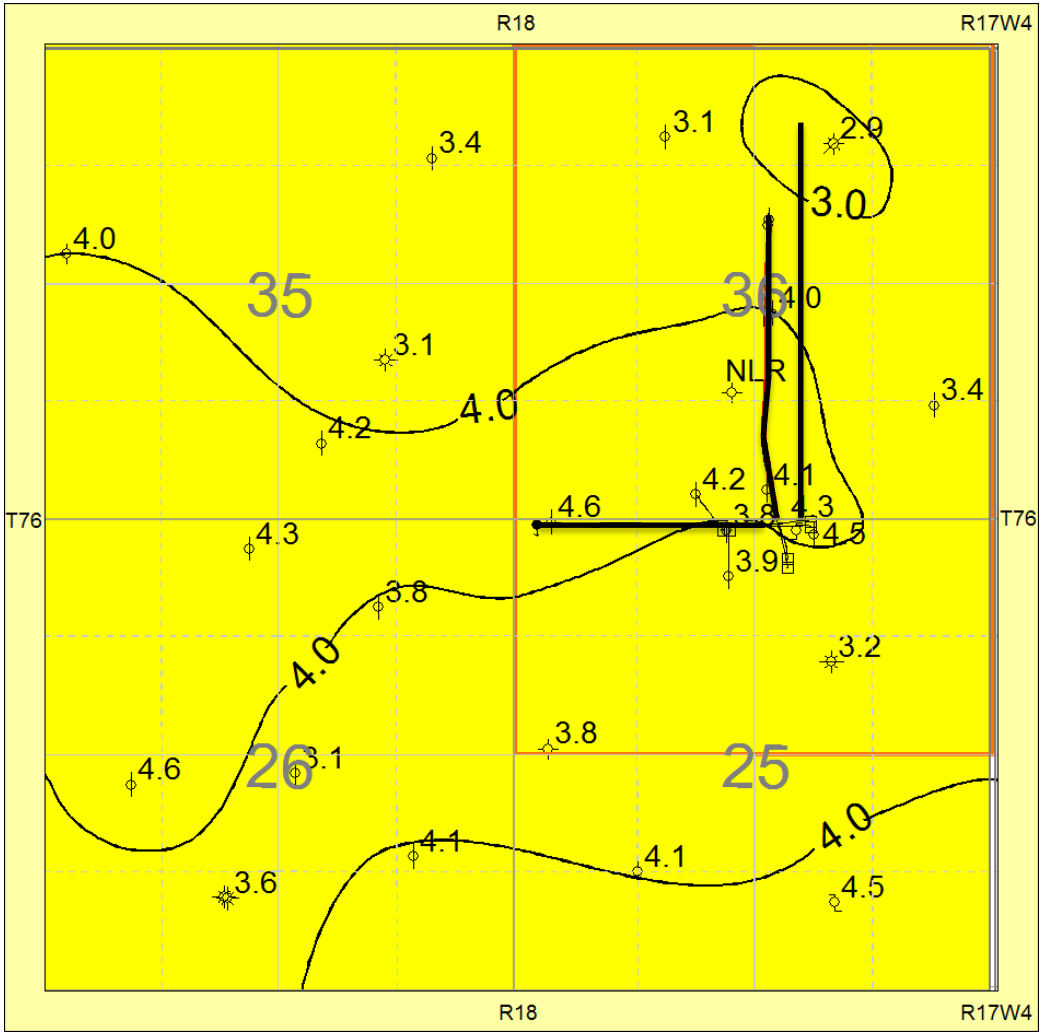
L.GR1 BASE



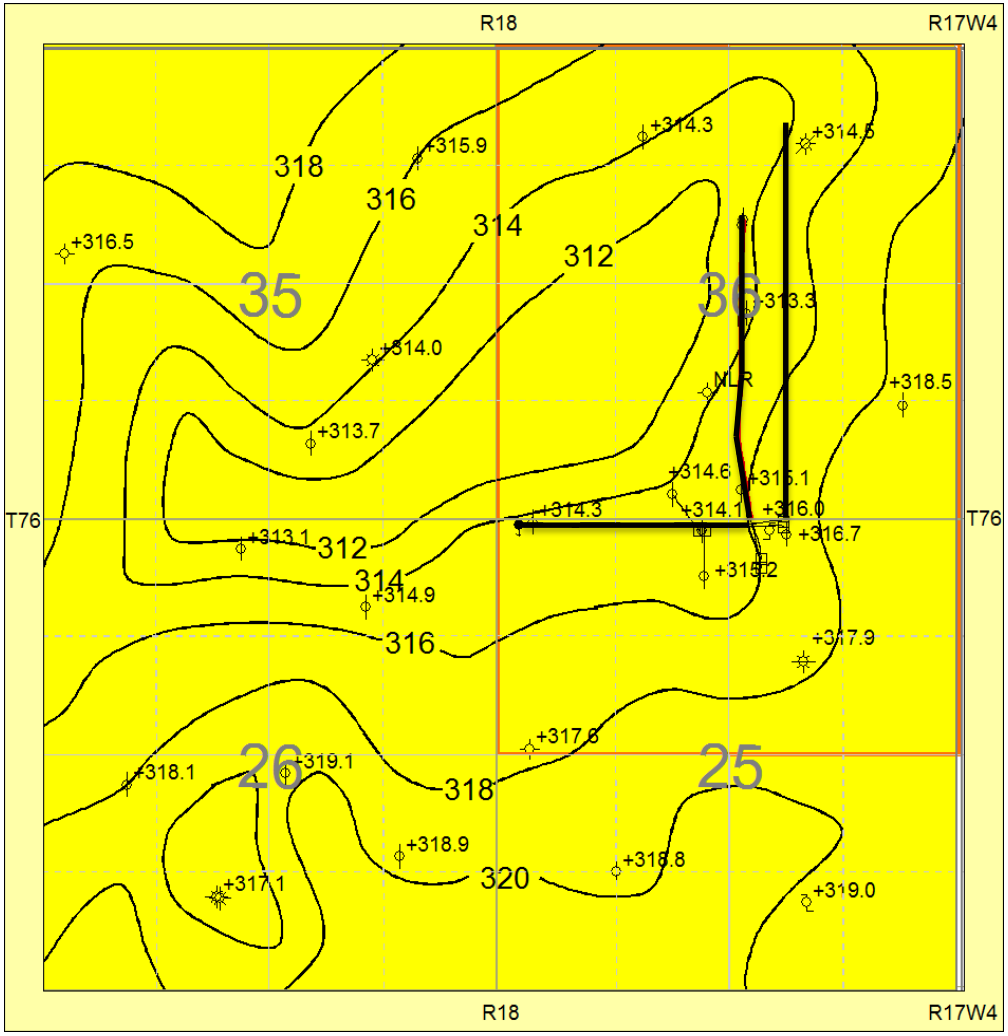
Primary Cap Rock

- MFS (Maximum Flooding Shale)
- Directly overlays Lower Grand Rapids formation
- Regionally extensive
- 3 m average thickness
- Mini Frac Analysis:
  - Performed on the 13-25-076-18W4 OSE Core Hole
  - Initial Breakdown Pressure = 8500 kPa
  - Closure Pressure Gradient = 13.7 kPa/m

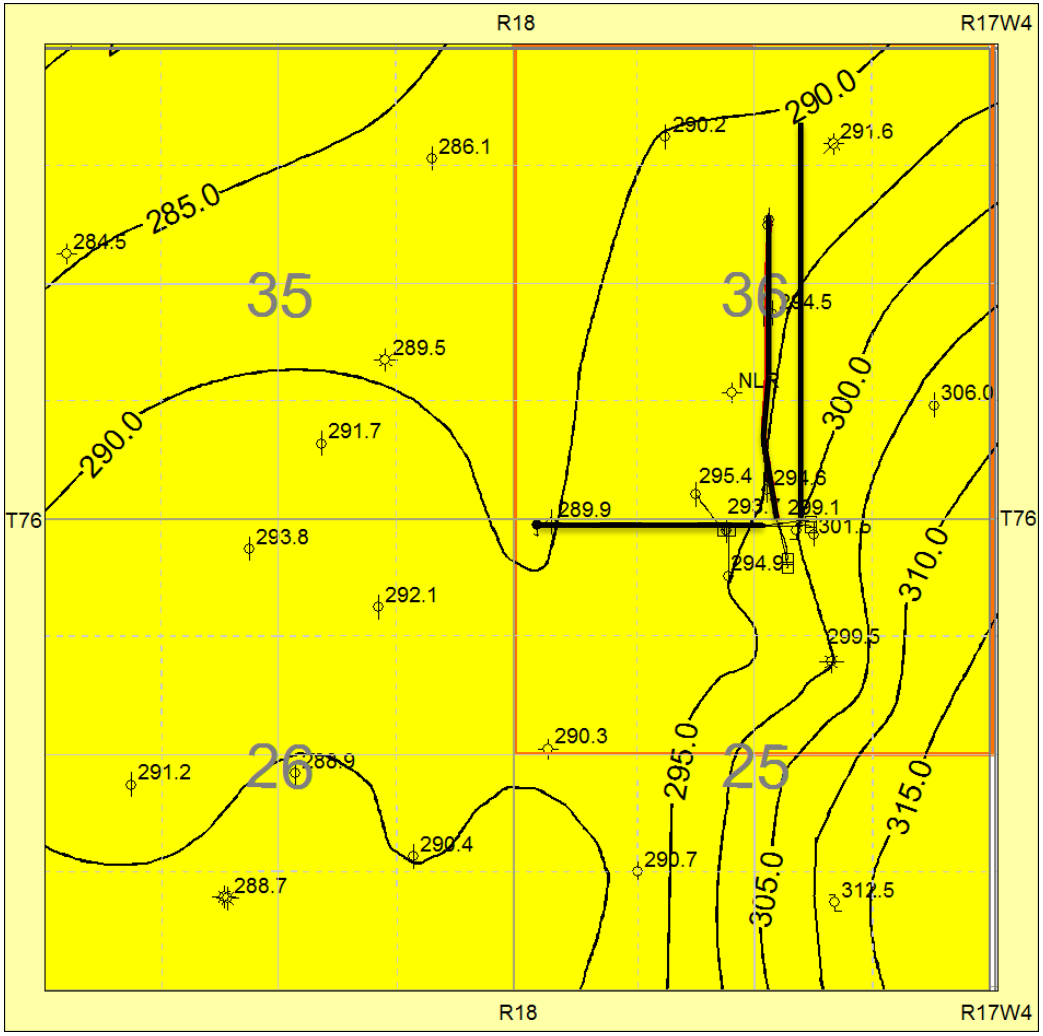
MFS Cap Rock Isopach Map



MFS Cap Rock Structure Map



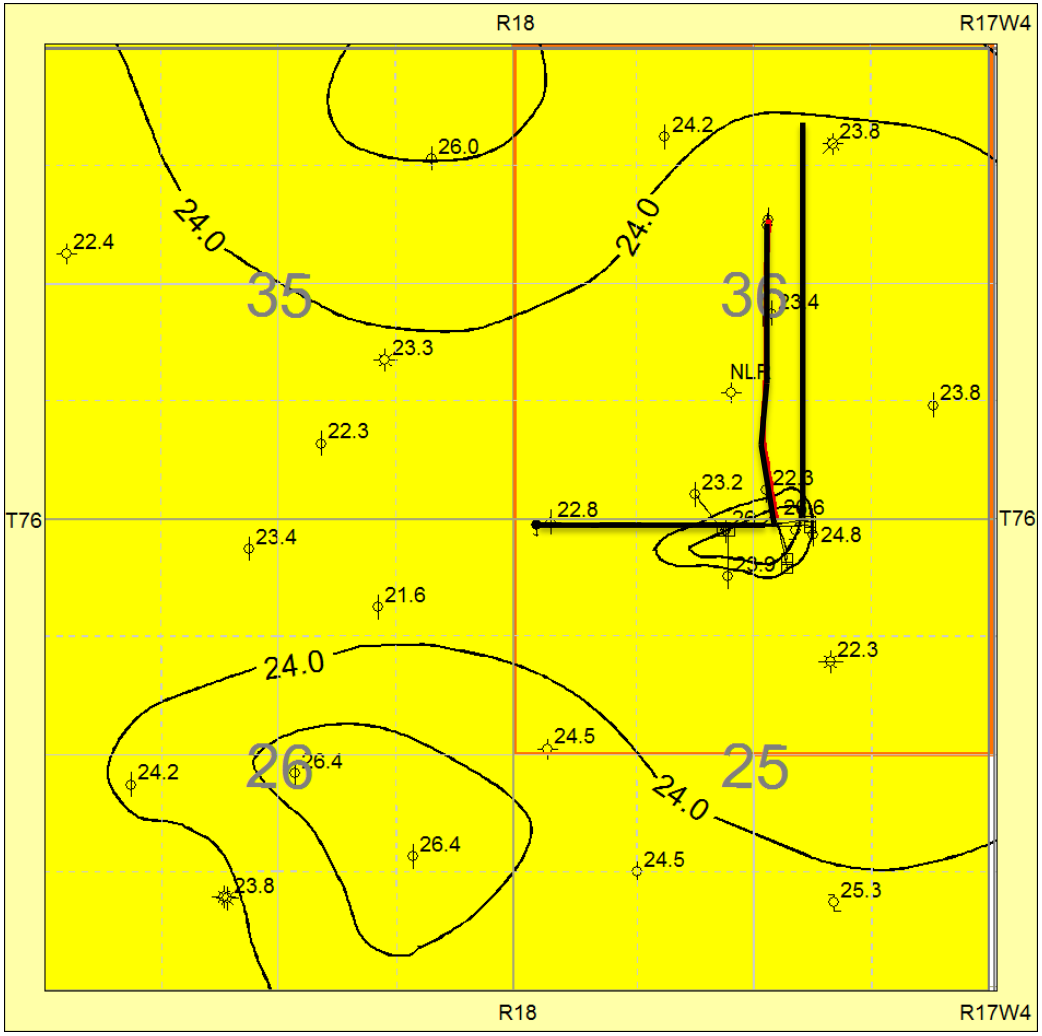
MFS Cap Rock Base Depth Map



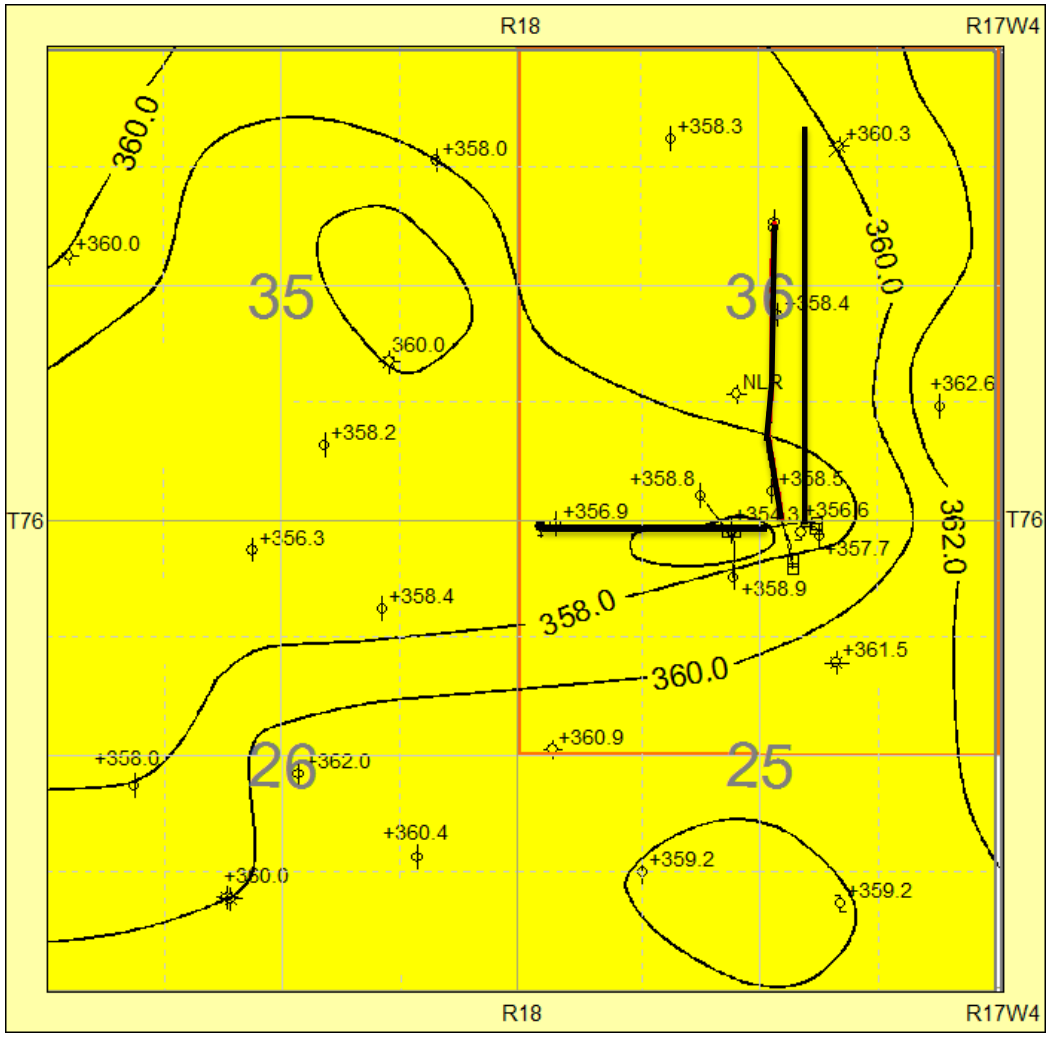
Secondary Cap Rock

- Joli Fou formation
- 45 m above Lower Grand Rapids formation
- Regionally extensive
- 20 m average thickness
- Mini Frac Analysis:
  - Performed on the 01-36-076-18W4 OSE Core Hole
  - Initial Breakdown Pressure = 12,750 kPa
  - Closure Pressure Gradient Range = 19.4 kPa/m

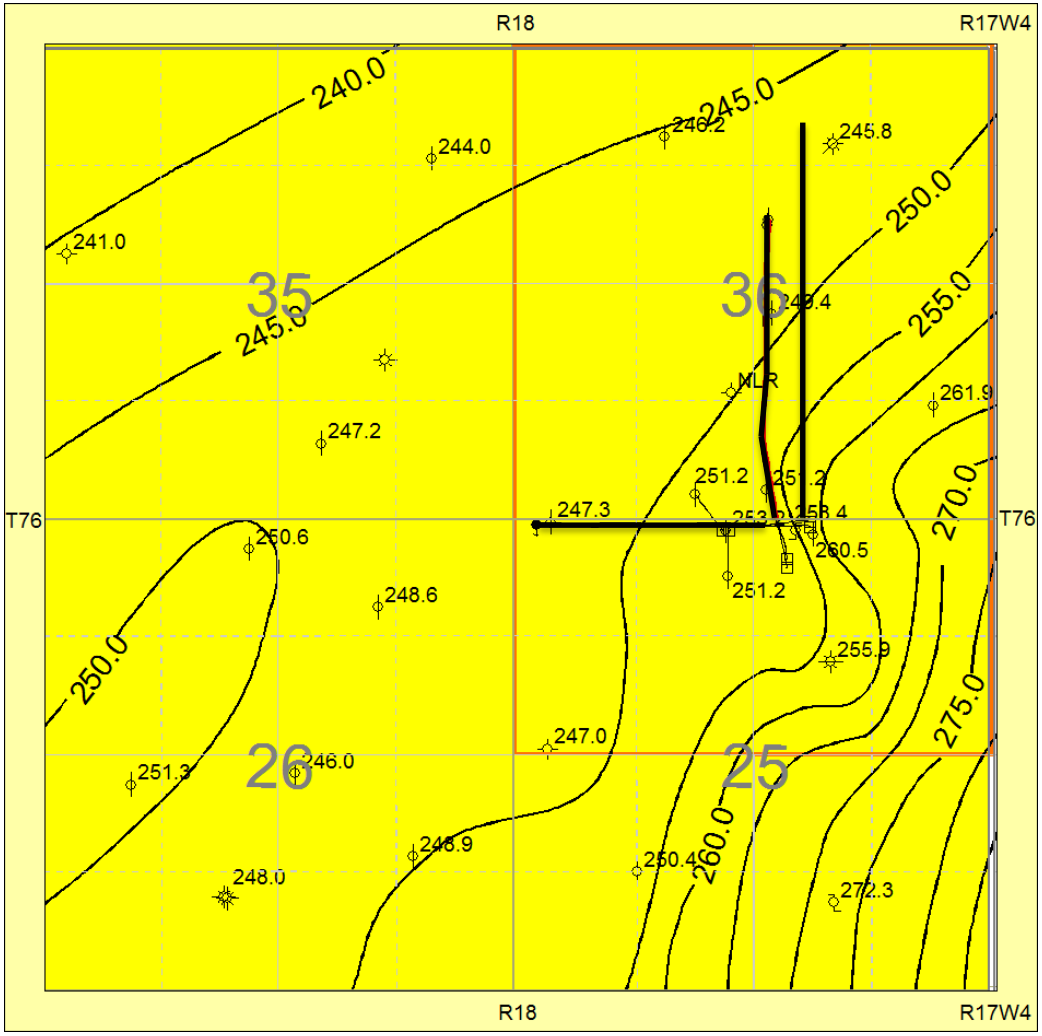
Joli Fou Cap Rock Isopach Map



Joli Fou Cap Rock Structure Map



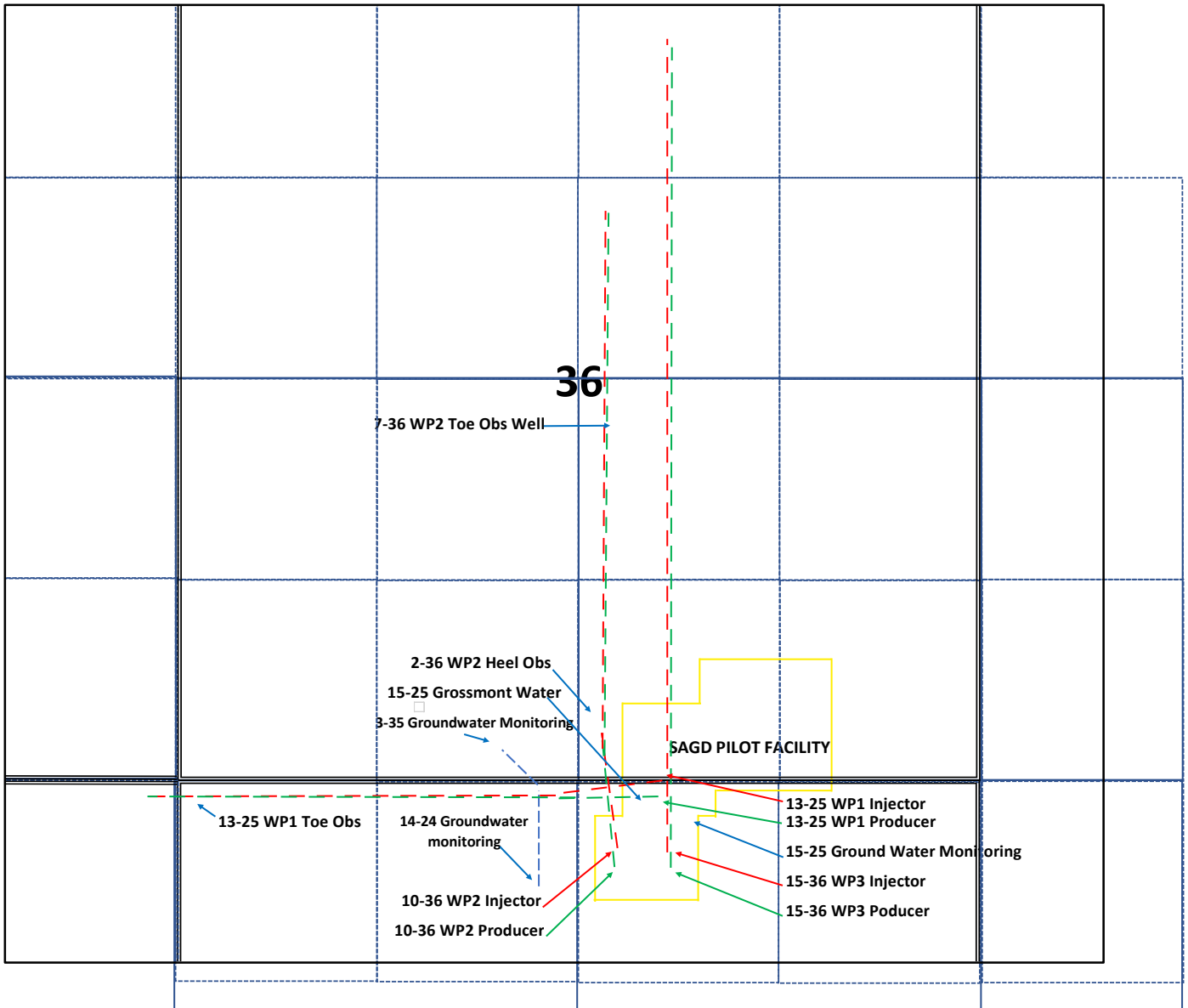
Joli Fou Cap Rock Base Depth Map



Blackrod Subsurface

3. Drilling and Completions

Blackrod Pilot Well Network



10-36 WP2 - Injector

IPC Canada Limited.

2nd SAGD PILOT INJECTOR WELL

SAGD PRODUCTION PHASE

BRI HZ INJ2 102 PORTAGE 10-36-76-18

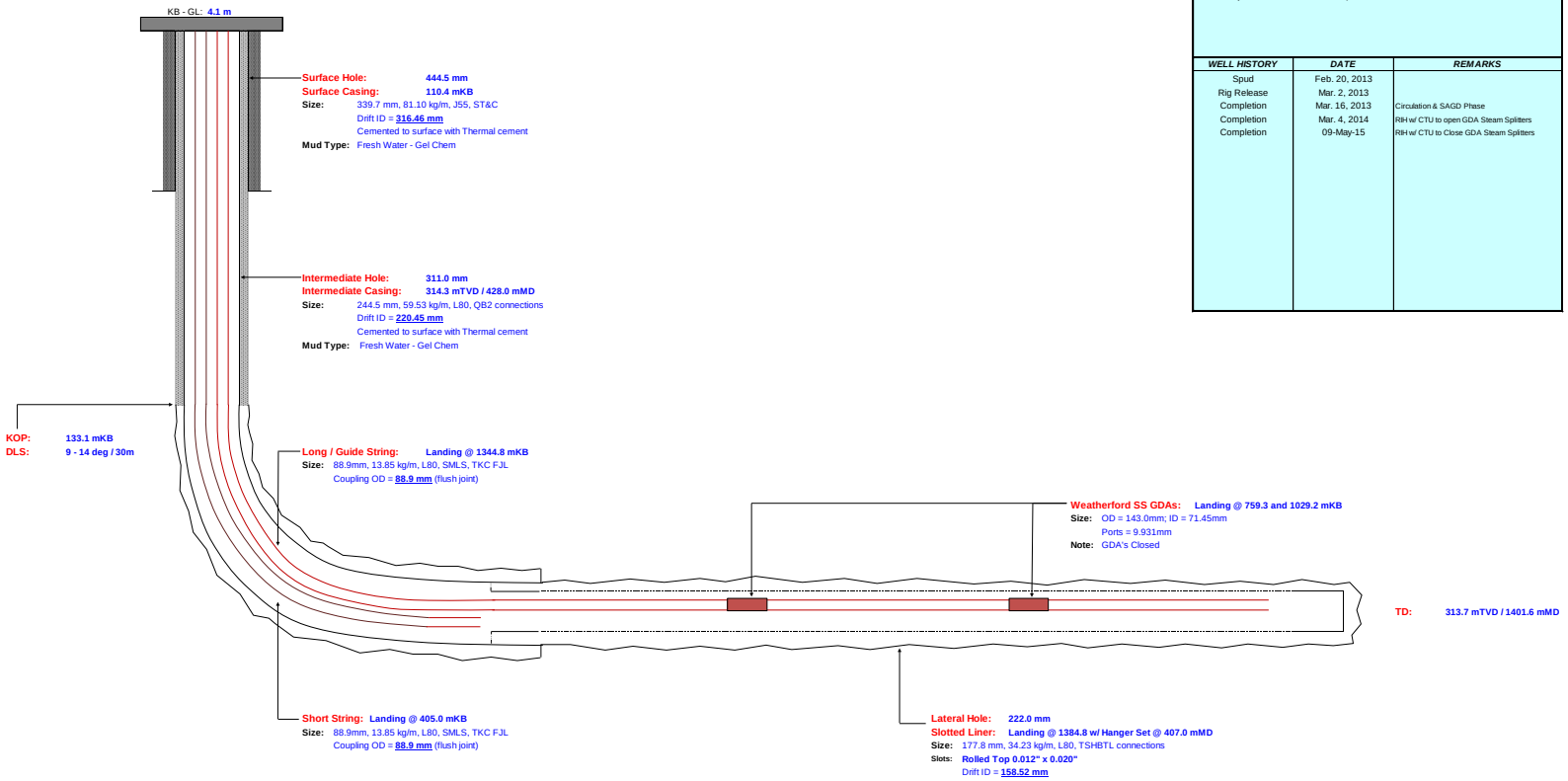
Well Name: BRI HZ INJ2 102 PORTAGE 10-36-76-18
UWI: 102/10-36-076-18W4/0
Licence #: 0453330

Surface Coords: 134.8 m S of N Sec. 25, 690.3 m W of E Sec. 25

KB: 617.1 m
GL: 613.0 m

Well Purpose:
2nd SAGD Injector Well - Circulation / Warm-up & Production Phase.

WELL HISTORY	DATE	REMARKS
Spud	Feb. 20, 2013	
Rig Release	Mar. 2, 2013	
Completion	Mar. 16, 2013	Circulation & SAGD Phase
Completion	Mar. 4, 2014	RIH w/ CTU to open GDA Steam Splitters
Completion	09-May-15	RIH w/ CTU to Close GDA Steam Splitters



10-36 WP2 – Producer (Prod. Phase)

IPC Canada Limited.

2nd SAGD PILOT PRODUCER WELL

SAGD PRODUCTION PHASE

BRI HZ PRD2 100 PORTAGE 10-36-76-18

Well Name: BRI HZ PRD2 100 PORTAGE 10-36-76-18
UWI: 100/10-36-076-18W4/0
Licence #: 0453203

Surface Coords: 164.8 m S of N Sec. 25; 689.6 m W of E Sec. 25

KB: 617.3 m
GL: 613.2 m

KB - GL: 4.1 m

Surface Hole: 444.5 mm
Surface Casing: 107.0 mKB
Size: 339.7 mm, 81.10 kg/m, J55, ST&C
Drift ID = 316.46 mm
Cemented to surface with Thermal cement
Mud Type: Fresh Water - Gel Chem

Intermediate Hole: 311.0 mm
Intermediate Casing: 320.9 mTVD / 460.0 mMD
Size: 244.5 mm, 59.53 kg/m, L80, TBlue connections
Drift ID = 220.45 mm
Cemented to surface with Thermal cement
Mud Type: Fresh Water - Gel Chem

KOP: 135.4 m
DLS: 8 - 11 deg / 30m

Guide String: Landing @ 474.5 mKB
Size: 52.4 mm, 4.84 kg/m, J55, IJ
Drift ID = 42.1 mm
Coupling OD = 52.4 mm (integral joint)

Bundle String: Landing @ 1319 mKB
Size: 31.8 mm, heavy walled coil tubing
Instrumentation: Thermocouples @ 419, 519, 619, 719, 819, 919, 1019, 1119, 1219, 1319 mKB
Nitrogen Purging Bubble Tube @ 1329 mKB
Note: Bundle string will come to location pre-fabricated with instrumentation already positioned inside 31.8 mm coil tubing

Tanget: 86.5 deg Inc. tangent from 418.3 to 439.0 mMD

TD: 319.3 mTVD / 1410.0 mMD

Short / ESP String: Landing @ 436.25 mKB
Size: 88.9mm, 13.69 kg/m, L80, TKC 4040 HOI connections, shaved
Coupling OD = 101.6 mm (special clearance)
Pump: Baker "ULTRA SAGD" ESP 66-400P29CSHD c/w 158.75 mm centralizers
Cable: Baker Centriline Lead Flat cable c/w **heel bubble tube landing @ 411.3mKB** (317.4 mTVD)

Lateral Hole: 222.0 mm
WWS Liner: Landing @ 1391.4 mMD w/ Hanger Set @ 446.0 mMD
Size: 177.8 mm, 34.23 kg/m, L80, TBlue connections
WWS: 0.014"
Drift ID = 158.52 mm

Well Purpose:
2nd SAGD Producer Well - Circulation / Warm-up Phase.

WELL HISTORY	DATE	REMARKS
Spud	Feb. 10, 2013	
Rig Release	Feb. 19, 2013	
Completion	Mar. 11, 2013	Circulation Phase
Completion	Mar. 10, 2014	Production Phase
Workover	Mar. 17, 2015	remove scab liner, replace ESP

10-36 WP2 – Downhole Modifications

- Injector Well:
  - No modifications
- Producer Well:
  - No modifications

15-36 WP3 - Injector

IPC Canada Limited.

3rd SAGD PILOT INJECTOR WELL

CIRCULATION & SAGD PRODUCTION PHASE

BLACKPEARL INJ3 PORTAGE 15-36-76-18

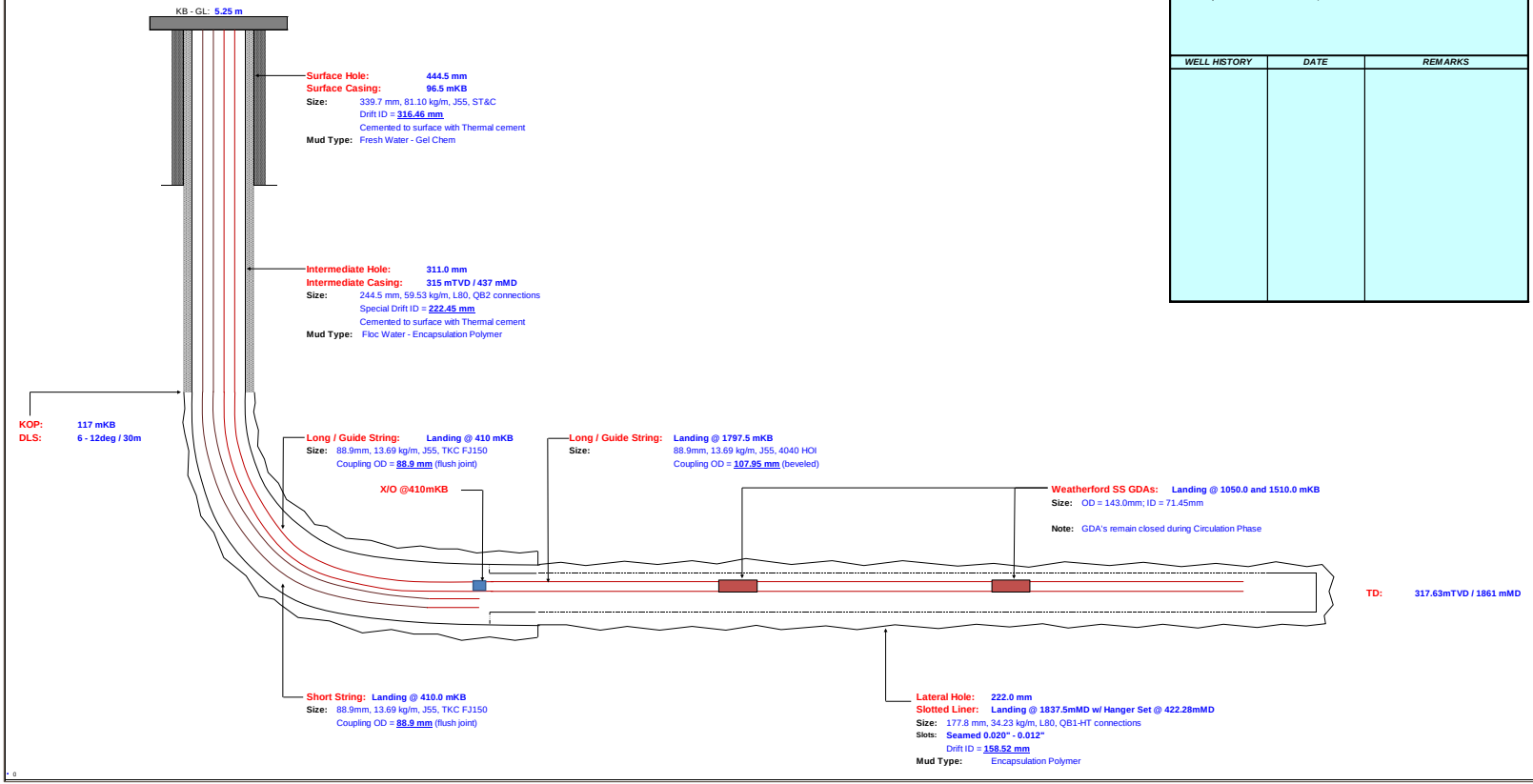
Well Name: BLACKPEARL INJ3 PORTAGE 15-36-76-18
UWI: 103/15-36-076-18W4/0
Licence #: 0493899

Surface Coords: 135.6 m S of N Sec. 25
640.3 m W of E Sec. 36

KB: 619.15 m
GL: 613.90 m

Well Purpose:
3rd SAGD Injector Well - Circulation / Warm-up & Production Phase.

WELL HISTORY	DATE	REMARKS



15-36 WP3 – Producer

IPC Canada Limited.

3rd SAGD PILOT PRODUCER WELL

CIRCULATION PHASE

BLACKPEARL PRD3 PORTAGE 15-36-76-18

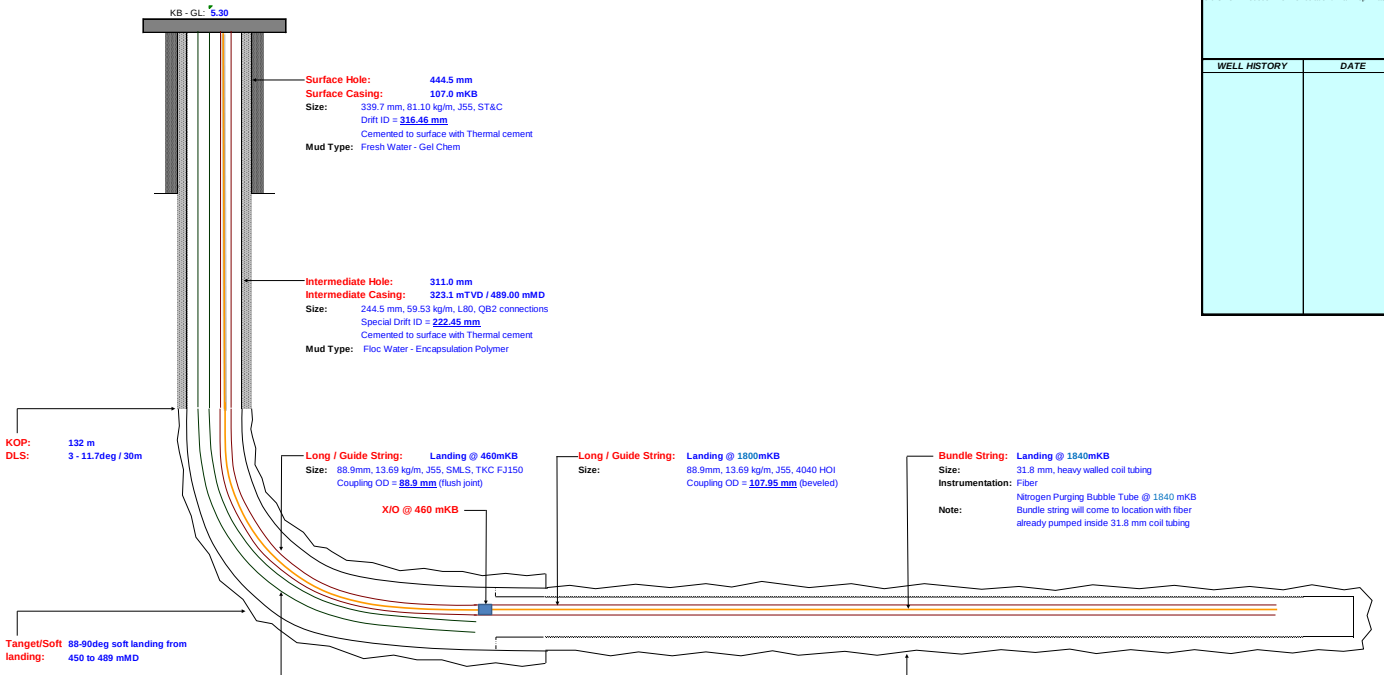
Well Name: BLACKPEARL PRD3 PORTAGE 15-36-76-18
UWI: 104/15-36-076-18W4/0
Licence #: 0493913

Surface Coords: 165.7 m S of N Sec. 25; 639.8 m W of E Sec. 36

KB: 619.20 m
GL: 613.90 m

Well Purpose:
3rd SAGD Producer Well - Circulation / Warm-up Phase.

WELL HISTORY	DATE	REMARKS



Blackrod Subsurface

4. Artificial Lift

Electrical Submersible Pump

- Fluid production via “Ultra Temp” Electrical Submersible Pumps (ESP)
- ESP advantages:
  - Operate and lift fluids at controlled downhole pressures
  - Maintain continuous fluid production
- Variable Flow Drive (VFD) utilized to control pump speed and production rates
- WP2 ESP ran for +1600 prior to failing in Sept 2019

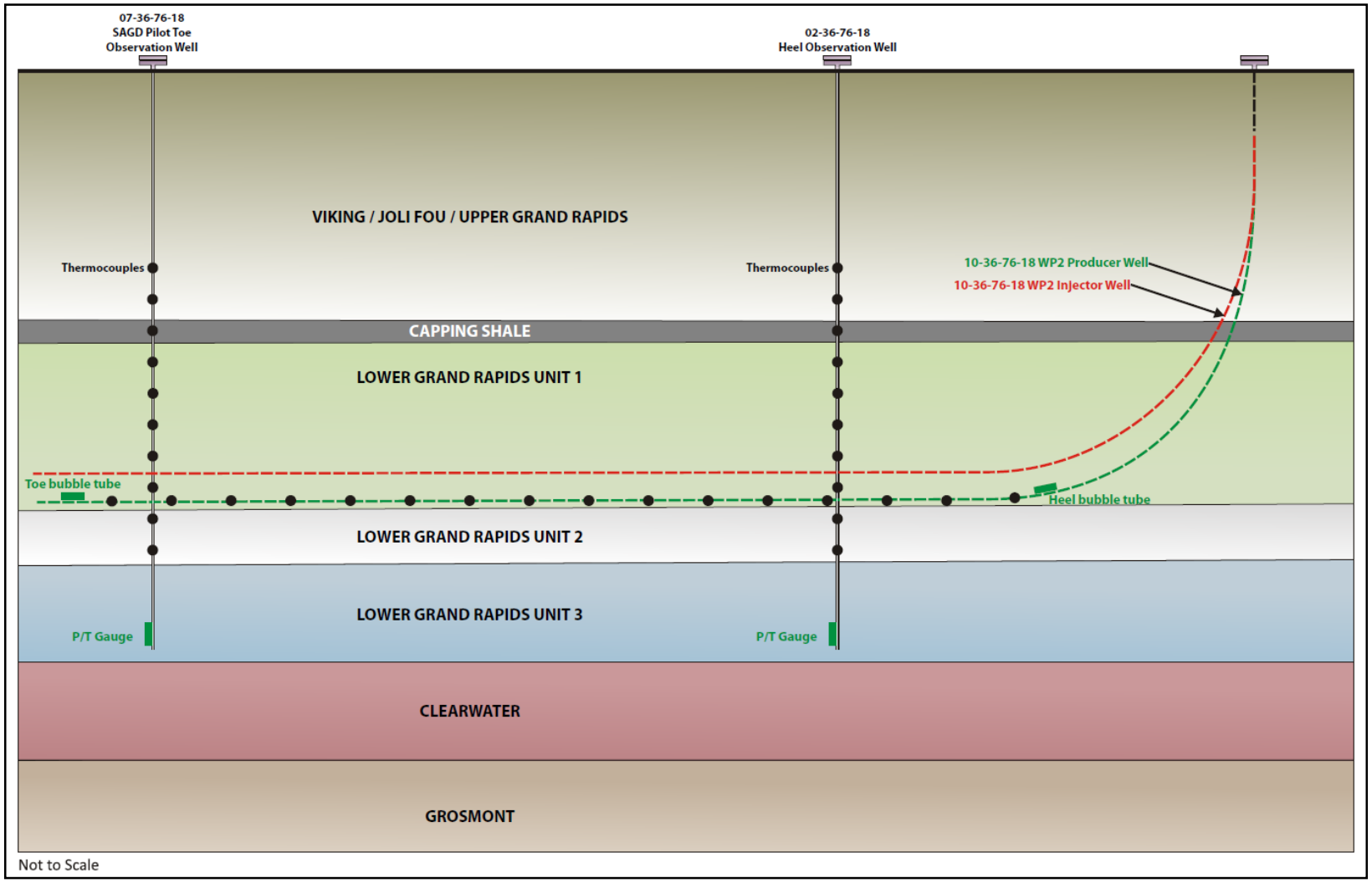
Blackrod Subsurface

5. Well Instrumentation

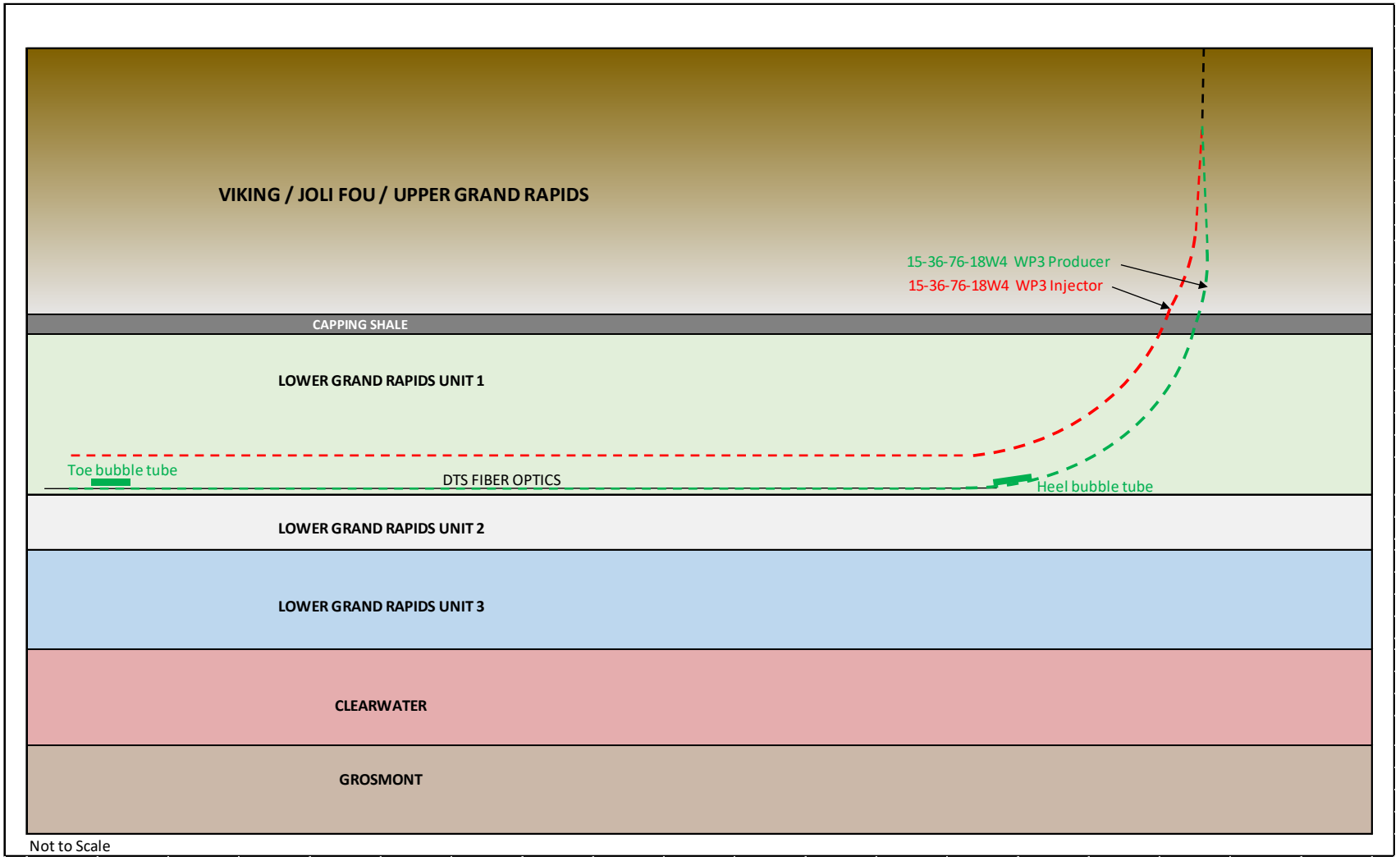
10-36 WP2 – Obs Wells

- Toe Obs Well:
  - 100/07-36-076-18W4
  - 17.5 m West of WP2
  - Thermocouples to monitor temperature above, below, and within L.GR1
  - P/T gauge to monitor pressure & temperature within L.GR3 aquifer
- Heel Obs Well:
  - 100/02-36-076-18W4
  - 16.1 m East of WP2
  - Thermocouples to monitor temperature above, below, and within L.GR1
  - P/T gauge to monitor pressure & temperature within L.GR3 aquifer

10-36 WP2 – Instrumentation Overview



15-36 WP3 – Instrumentation Overview



Groundwater Monitoring Wells

- 100/03-36-076-18W4 GWM:
  - Directionally drilled from 14-25 lease
  - PCP to sample/analyze non-saline L.GR3 H_2O
  - P/T gauge to monitor pressure & temperature within L.GR3 aquifer
- 100/14-25-076-18W4 GWM:
  - Directionally drilled from 14-25 lease
  - PCP to sample/analyze non-saline L.GR3 H_2O
  - P/T gauge to monitor pressure & temperature within L.GR3 aquifer
- 100/15-25-076-18W4 GWM:
  - PCP to sample/analyze non-saline Viking H_2O
  - P/T gauge to monitor pressure & temperature within Viking aquifer

** Annual Groundwater Monitoring Summary Report Submitted to the AER in Q1 2020*

Blackrod Subsurface

6. Scheme Performance

10-36 WP2 Performance as of Dec 31, 2019

- 71 months of SAGD Production Phase
- Maturing steam chamber / Oil production in decline
- Oil production currently averaging 56 m^3/d

10-36 WP2 Summary

- Applied Learnings:
  - Improved well design (i.e. longer HZ section and WWS for sand control)
- Objective(s):
  - Evaluate SAGD performance from a commercial well pair prototype
  - Target 100% up-time
- Well Placement:
  - “Cautious” placement above L. GR Unit 3 Bottom Water

10-36 WP2 Key Learnings

- Longer ramp-up periods now expected at Blackrod
- WWS favorable to the Blackrod L. GR reservoir
- Scab liner effective in protecting ESP and facilitating heat conformance across HZ section
- Heat conformance can be achieved across 950+ m HZ section

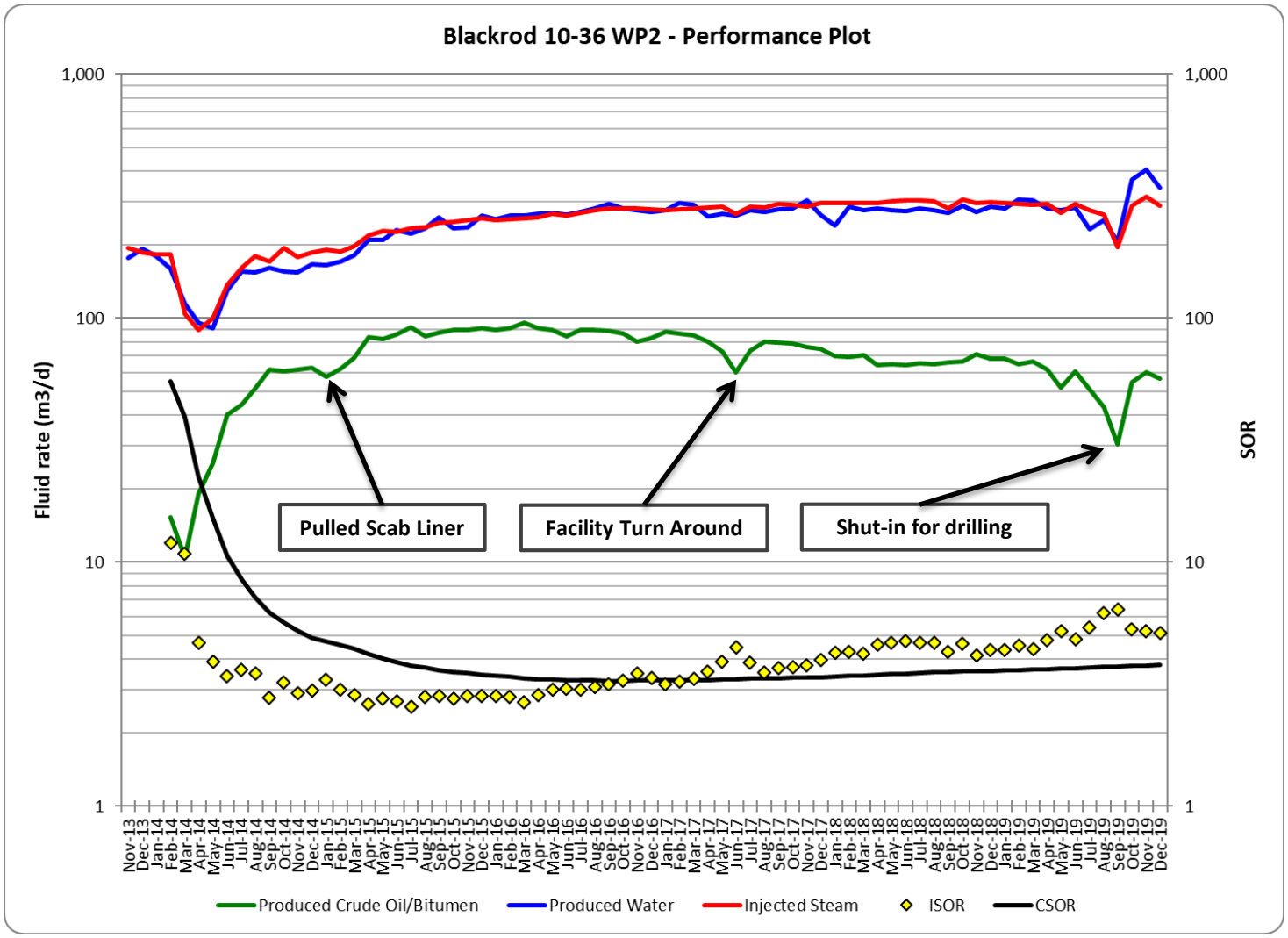
10-36 WP2 Oil Production as of Dec 31, 2019

- Cumulative Production = 147,600 m^3
- Recovery = 26.2%
- Ultimate Recovery = 40 - 50%
- CSOR including Circ. Phase = 3.80
- CSOR during Prod. Phase only = 3.65
- Average Rate during Prod. Phase = 68.32 m^3/day (429.66 bopd)
- Current Rate = 56.37 m^3/day (354.5 bopd)

10-36 WP2 Steam Injection as of Dec 31, 2019

- Average Steam Chamber Pressure = 2070 kPa
- Average Surface Steam Temperature = 265 °C
- Wellhead Steam Quality = 95 – 100%

10-36 WP2 Performance Plot



15-36 WP3 Summary

- Objective(s):
  - Evaluate heat conformance across a longer Hz lateral
  - Evaluate new completion including flow control devices
  - Target 100% up-time
- Well Placement:
  - Producer well placed 5m above LGR2 Transition Zone
  - Targeted 5.5m separation between injector and producer
  - Well drilled south to north 120m east of WP2

International Petroleum Corp.

Blackrod Surface Operations

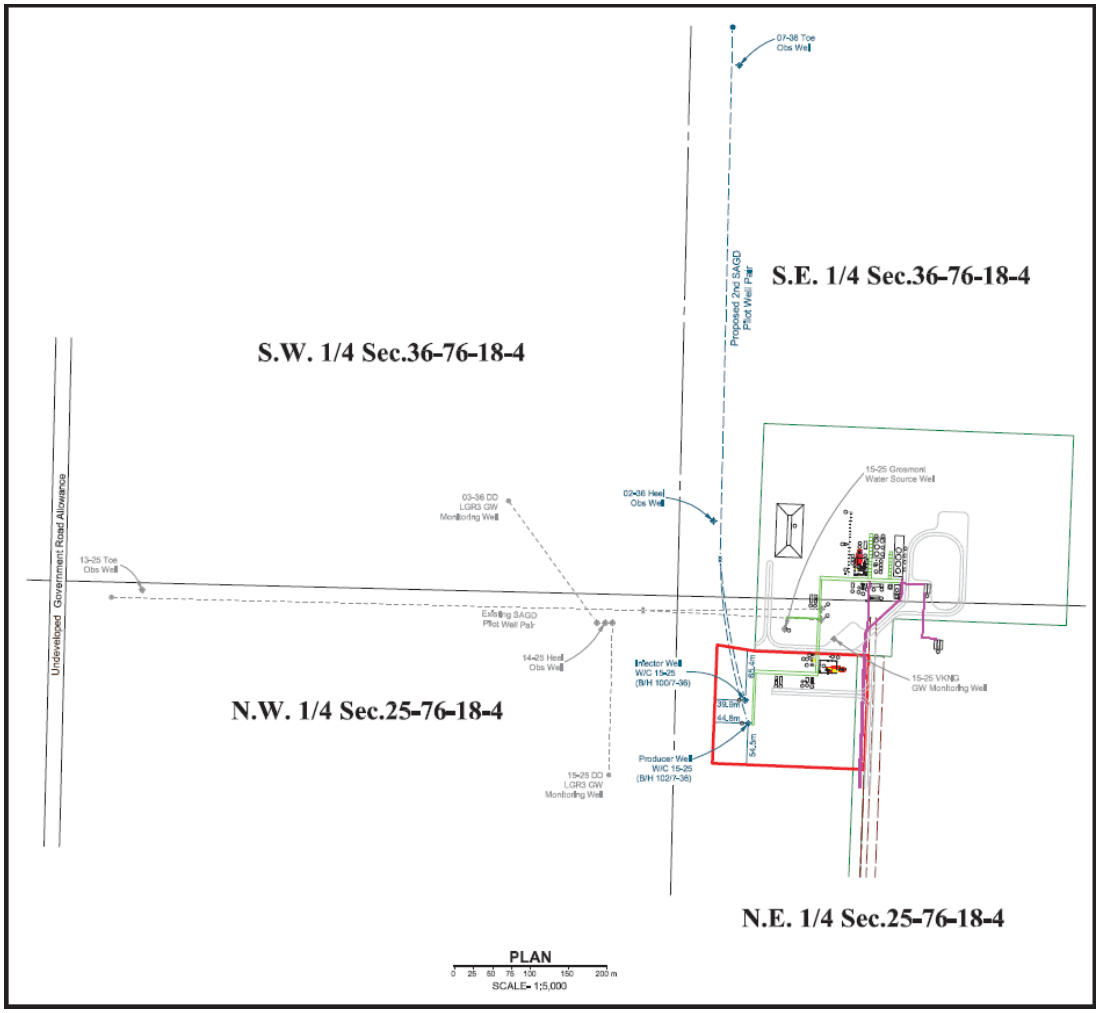
Surface Operations Agenda

1. Facilities
2. Measurement & Reporting
3. Water Source
4. Disposal
5. Environmental
6. Compliance Statement

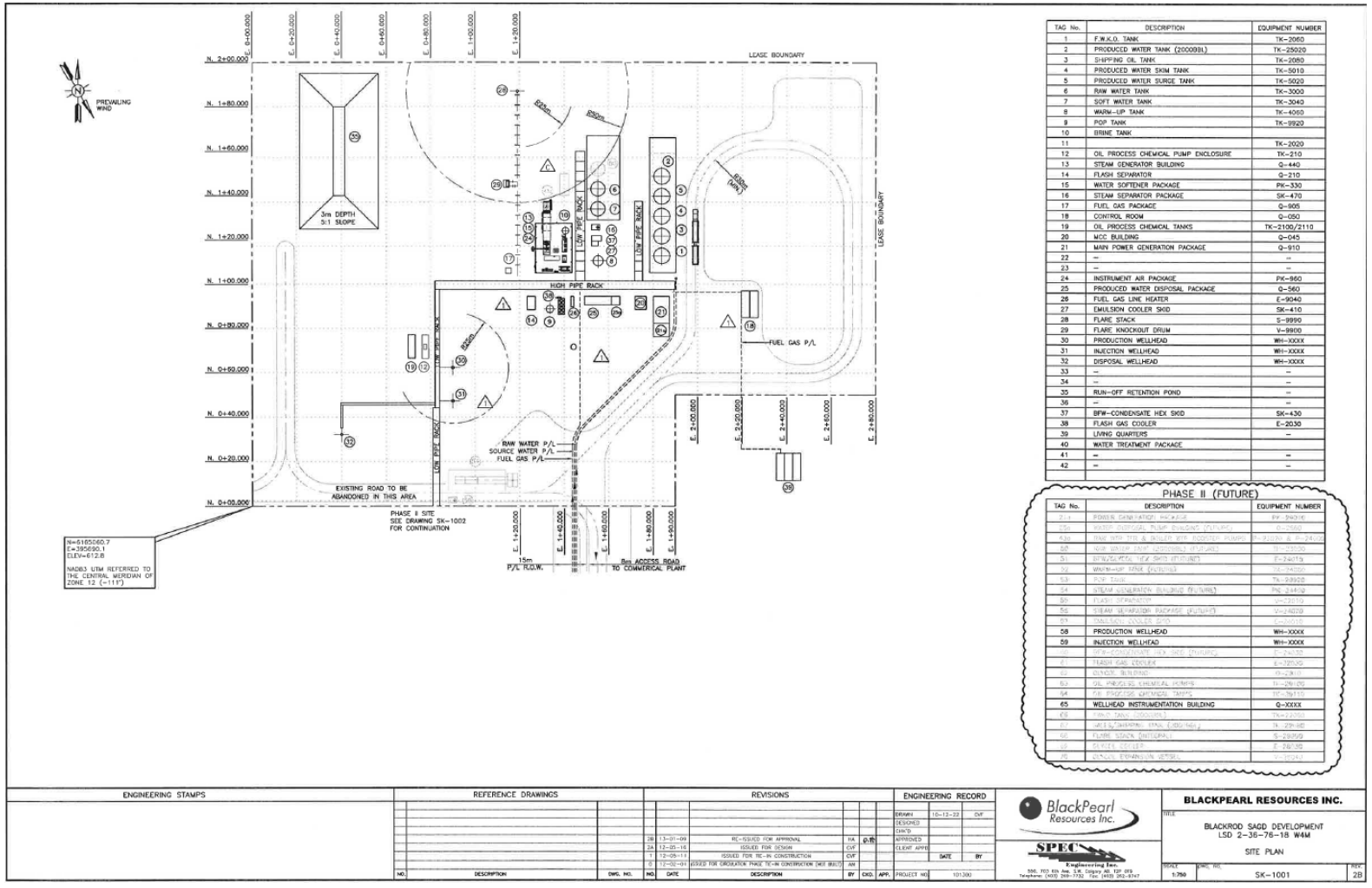
Blackrod Surface Operations

1. Facilities

Pilot Facility Overview



Pilot Facility Plot Plan



TAG No.	DESCRIPTION	EQUIPMENT NUMBER
1	F.W.K.O. TANK	TK-2050
2	PRODUCED WATER TANK (20000BL)	TK-2020
3	SHIPPING OIL TANK	TK-2080
4	PRODUCED WATER SKIM TANK	TK-5010
5	PRODUCED WATER SURGE TANK	TK-5020
6	RAW WATER TANK	TK-3000
7	SOFT WATER TANK	TK-3040
8	WARM-UP TANK	TK-4050
9	POP TANK	TK-9920
10	BRINE TANK	
11		TK-2020
12	OIL PROCESS CHEMICAL PUMP ENCLOSURE	TK-210
13	STEAM GENERATOR BUILDING	Q-440
14	FLASH SEPARATOR	Q-210
15	WATER SOFTENER PACKAGE	PK-330
16	STEAM SEPARATOR PACKAGE	SK-470
17	FUEL GAS PACKAGE	Q-905
18	CONTROL ROOM	Q-050
19	OIL PROCESS CHEMICAL TANKS	TK-2100/2110
20	MCC BUILDING	Q-045
21	MAIN POWER GENERATION PACKAGE	Q-910
22	--	--
23	--	--
24	INSTRUMENT AIR PACKAGE	PK-960
25	PRODUCED WATER DISPOSAL PACKAGE	Q-560
26	FUEL GAS LINE HEATER	E-9040
27	EMULSION COOLER SKID	SK-410
28	FLARE STACK	S-9990
29	FLARE KNOCKOUT DRUM	V-9900
30	PRODUCTION WELLHEAD	WH-XXXX
31	INJECTION WELLHEAD	WH-XXXX
32	DISPOSAL WELLHEAD	WH-XXXX
33	--	--
34	--	--
35	RUN-OFF RETENTION POND	--
36	--	--
37	BFW-CONDENSATE HEX SKID	SK-430
38	FLASH GAS COOLER	E-2030
39	LIVING QUARTERS	--
40	WATER TREATMENT PACKAGE	
41	--	--
42	--	--

PHASE II (FUTURE)

TAG No.	DESCRIPTION	EQUIPMENT NUMBER
21	POWER GENERATION PACKAGE	PK-9X00
25A	WATER DISPOSAL PUMP SKIDS (FUTURE)	Q-2560
43A	RAW WTR TFR & BOILER WTR BOOSTER PUMPS	P-3030 & P-3040
50	WAR-UP TANK (NOT ASSEMBLY FIGURE)	TK-4050
51	BFW/CONDENSATE HEX SKID (FUTURE)	E-2A030
52	WARM-UP TANK (FUTURE)	TK-4050
53	POP TANK	TK-9992B
54	STEAM GENERATOR BUILDING (FUTURE)	PK-2A400
55	FLASH SEPARATOR	V-2A210
56	STEAM SEPARATOR PACKAGE (FUTURE)	V-2A470
57	EMULSION COOLER SKID	SK-410
58	PRODUCTION WELLHEAD	WH-XXXX
59	INJECTION WELLHEAD	WH-XXXX
60	BFW-CONDENSATE HEX SKID (FUTURE)	E-2A030
61	FLASH GAS COOLER	E-2A030
62	CONTROL BUILDING	Q-2A10
63	OIL PROCESS CHEMICAL PUMPS	TK-2A100
64	OIL PROCESS CHEMICAL TANKS	TK-2A110
65	WELLHEAD INSTRUMENTATION BUILDING	Q-XXXX
66	FIRE TANK (FUTURE)	TK-2A200
67	WATER/CHEMICAL TANK (FUTURE)	TK-2A140
68	FLARE STACK (FUTURE)	S-2A990
69	SALES COOLER	E-2A030
70	DEGAS EXPANSION VESSEL	V-2A240

ENGINEERING STAMPS

REFERENCE DRAWINGS

NO.	DESCRIPTION	DWG. NO.

REVISIONS

NO.	DATE	DESCRIPTION	BY	CKD.	APP.
2B	13-01-09	RE-ISSUED FOR APPROVAL	HA		
2A	12-05-16	ISSUED FOR DESIGN	CVF		
1	12-05-11	ISSUED FOR TIE-IN CONSTRUCTION	CVF		
0	12-02-01	ISSUED FOR EXCAVATION PHASE TIE-IN CONSTRUCTION (NOT USED)	AH		

ENGINEERING RECORD

	DATE	BY
DRAWN	10-12-22	CVF
DESIGNED		
CHKD		
APPROVED		
CLIENT APPR.		
PROJECT NO.	101300	

BlackPearl Resources Inc.

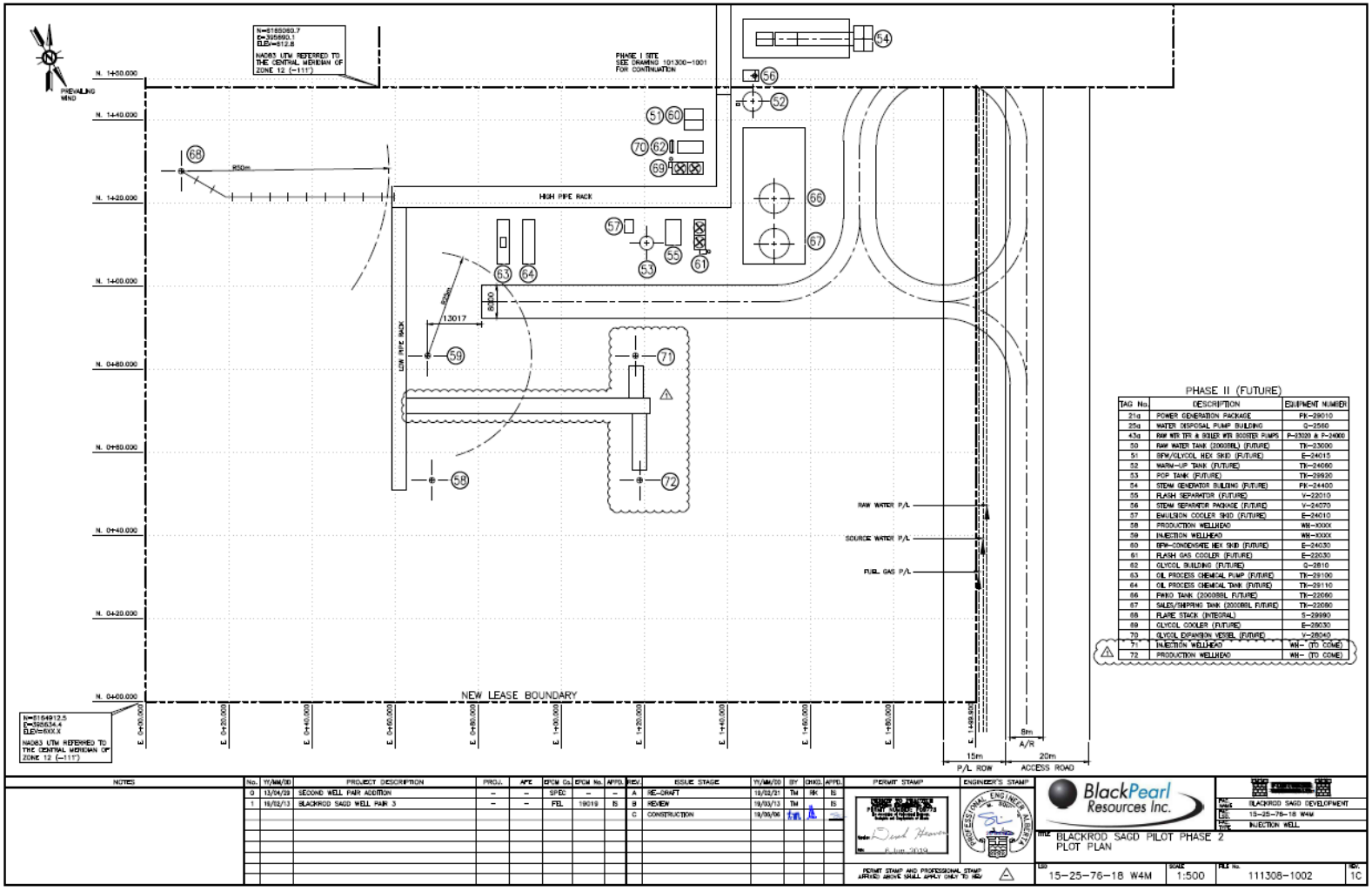
SPEC Engineering Inc.
500, 703 6th Ave. S.W. Calgary AB T2P 0T9
Telephone: (403) 269-7732 Fax: (403) 262-8747

BLACKPEARL RESOURCES INC.

TITLE: BLACKROD SAGD DEVELOPMENT
LSD 2-36-78-18 W4M
SITE PLAN

SCALE: 1:750 | DWG. NO.: SK-1001 | REV.: 2B

Pilot Facility Plot Plan (cont.)



Pilot Facility Performance

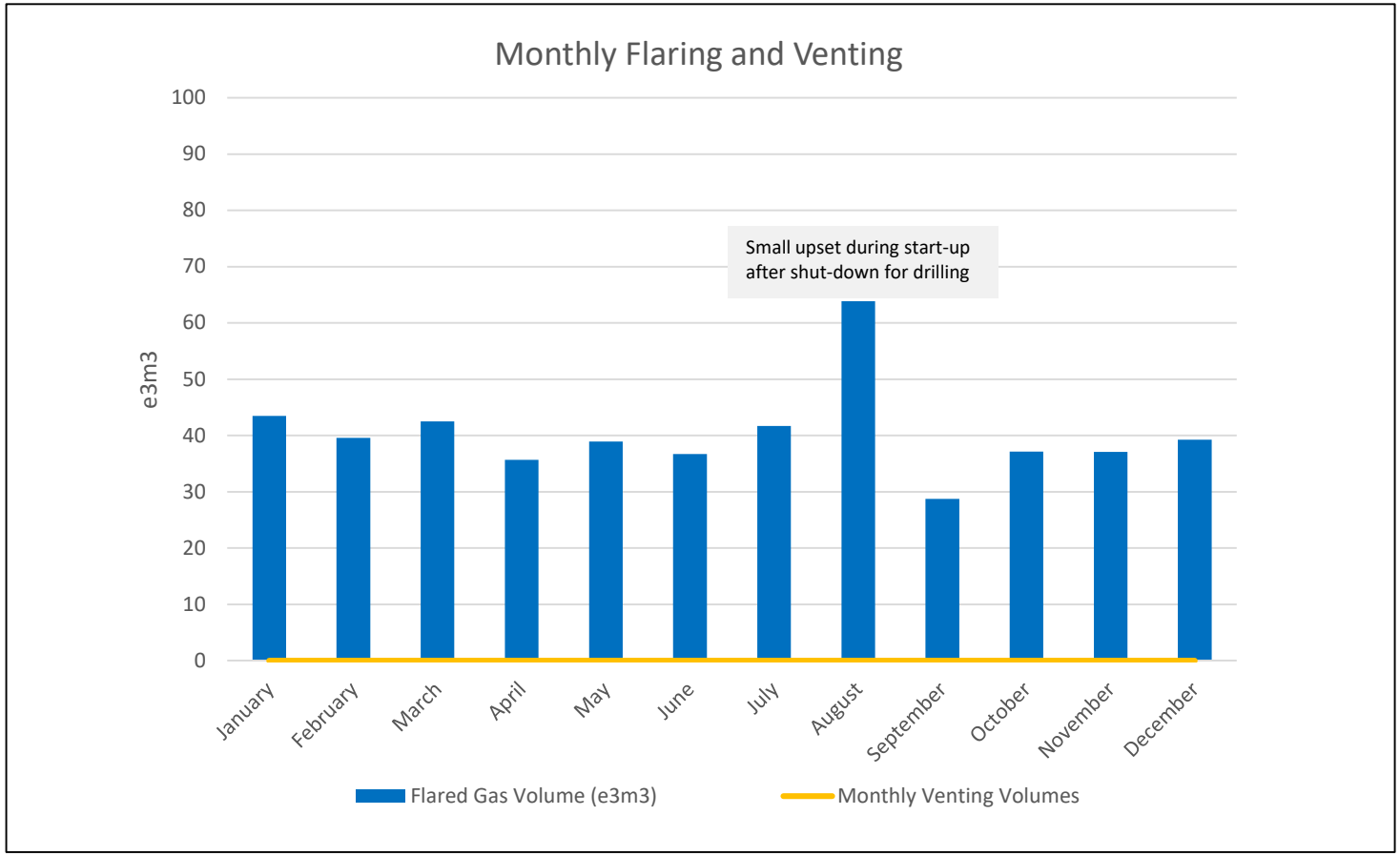
- No issues with bitumen treatment, water treatment, or steam generation
- Pilot Facility uptime 97.3% in 2019
- Generated steam, produced bitumen, produced water, and produced gas volumes reported to Petrinex
- Pilot facility is reported as single well battery, therefore no proration factors
- Purchased gas volumes reported to Petrinex
- Flared gas volumes reported to AER and Petrinex
- SO_2 & No_x emissions and ambient air quality data submitted to AER both monthly and annually as per terms of EPEA Approval 00264736-00-02
- GHG emissions reporting not required for Blackrod Pilot Facility as per terms of EPEA Approval 00264736-00-02

Pilot Facility Monthly Volumes

2019	Steam Generated (m^3)	Bitumen Volumes (m^3)	Produced Water Volumes (m^3)	Purchased Gas (e^3m^3)	Produced Gas (e^3m^3)	Fuel Gas to Flare Volume (e3m3)	Flared Gas Volume (e^3m^3)
January	10294.4	2111	8744.9	877.7	29	15	43
February	12108.1	1819	8612	797	26	13	40
March	10388.1	2055	9464.8	856	16	27	43
April	10044.6	1844	8432.9	828	15	21	36
May	9983	1612	8598	792	14	25	39
June	8319.1	1817	8556.2	837	14	23	37
July	10200.7	1582	7210	820	12	30	42
August	10064	1335	7804	822	10	54	64
September	7696	916	6162	616	9	20	29
October	11262.7	1693	11470	931	13	24	37
November	11444	1808	12215	950	13	24	37
December	11139	1747.6	10584	958	12	27	39
Total	**122943.86**	**20339.6**	**107853.1**	**10084.7**	**181.74**	**303**	**484.51**

- Fuel gas is combined with produced gas upstream of flare to maintain a minimum lower heating value of 12MJ/m^3

Pilot Facility Monthly Volumes



Pilot Facility Modifications

- Installed produced water treatment package in preparation for completing 1 year trial.
- Commissioning is ongoing, no water has been treated to date.

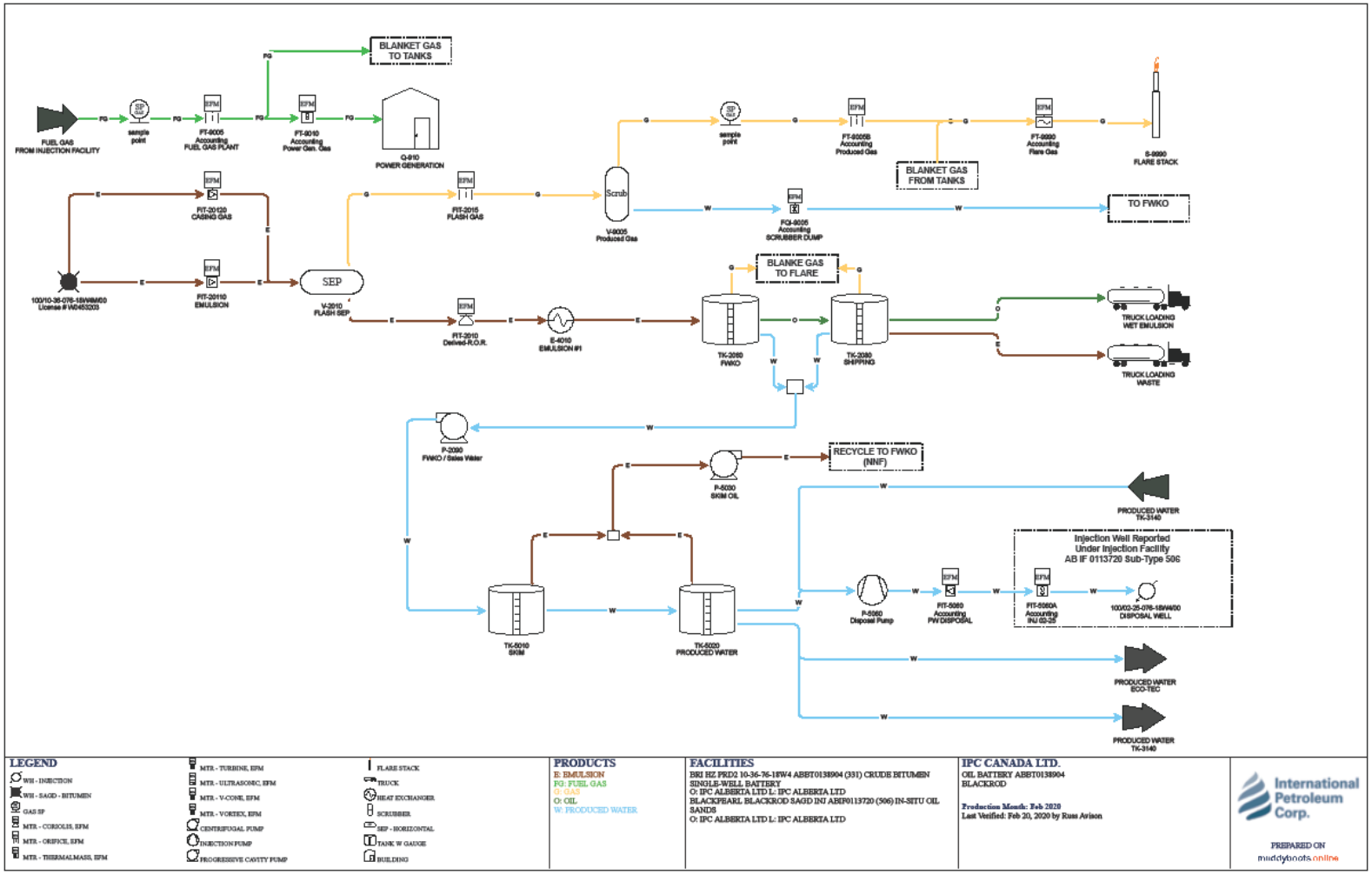
Blackrod Surface Operations

2. Measurement & Reporting

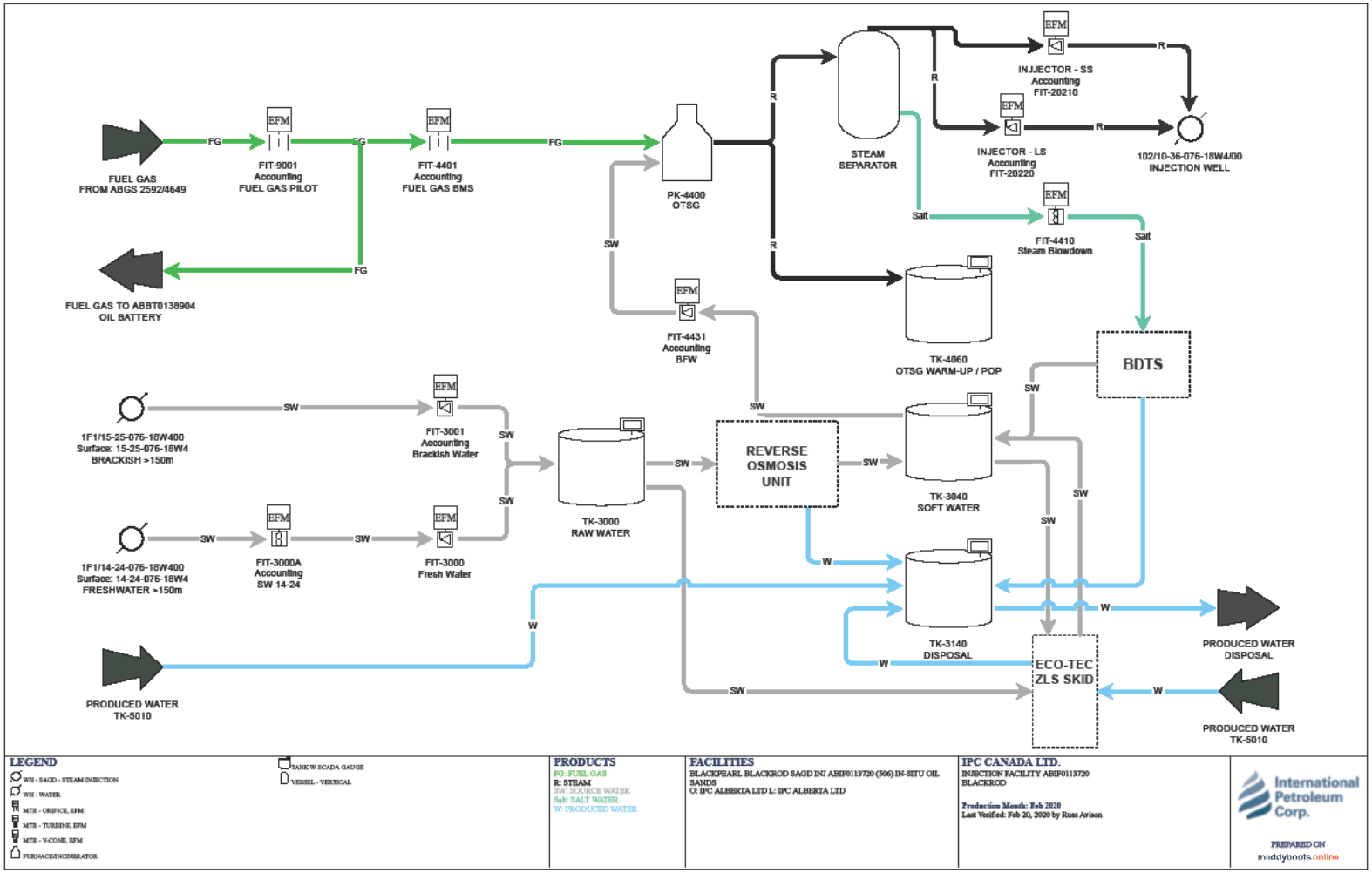
Blackrod MARP

- IPC remains compliant with AER Directive 017 as well as Directive 042 as per the terms of our approved MARP (Measurement, Accounting, and Reporting Plan)
- To validate compliance with Directive 017 and Directive 042, IPC performs a detailed EPAP (Enhanced Production Audit Program) review annually as per Directive 076 with an independent consulting group

Process Flow Diagram



Process Flow Diagram (cont.)



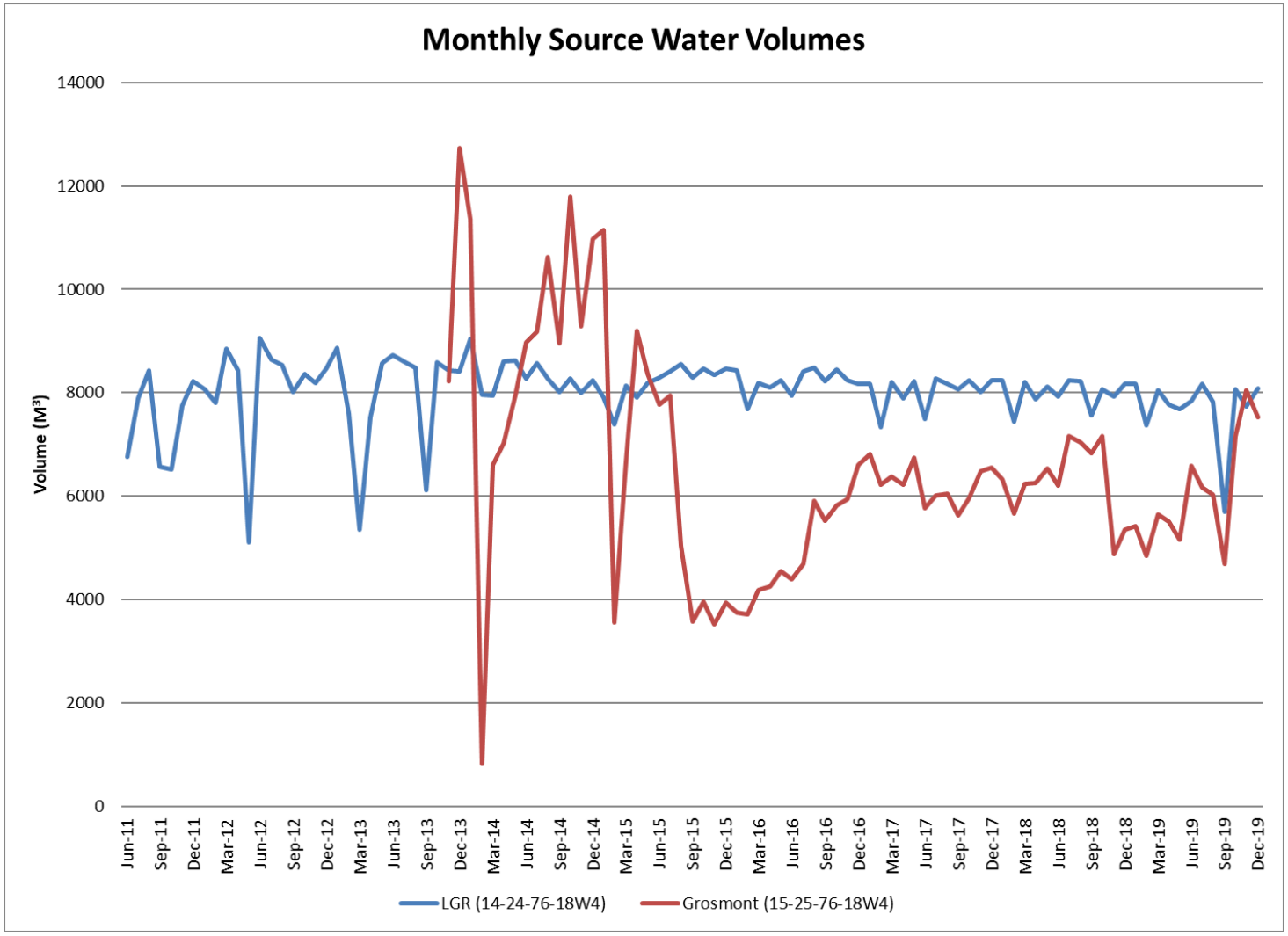
Blackrod Surface Operations

3. Water Source

Blackrod Water Source(s)

- 1F1/14-24-076-18W4 L.GR3 WSW*:*
  - Non-saline (~3700 TDS)
  - AER Water Act Licence No. 00308617-01-00 valid until Jun 2019
  - Approved for 109,500 m^3 annually
  - Production volumes reported to AER and Petrinex
  - 100/14-24-076-18W4 monitoring well 20 m North of 1F1/14-24 WSW
  - No issues with water softening process
- 1F1/15-25-076-18W4 Grosmont Member D WSW:
  - Saline (~13,800 TDS)
  - No issues with saline treatment process

Blackrod Water Source(s)



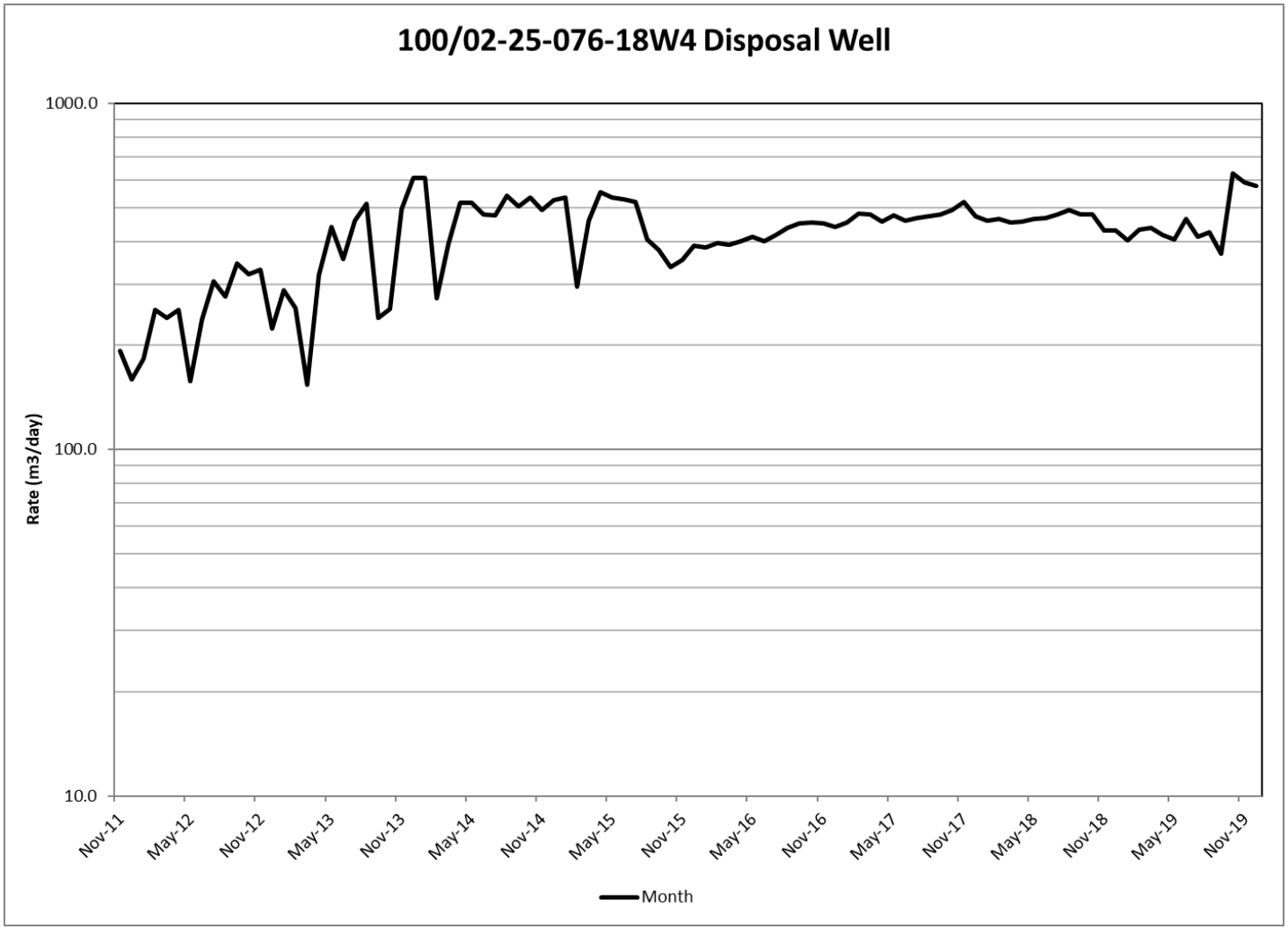
Blackrod Surface Operations

4. Disposal

Blackrod Disposal

- Produced Water:
  - 100/02-25-076-18W4 Class 1b Disposal Well
  - AER Scheme Approval No. 11703A
  - Disposal into Grosmont Members B, A
  - Maximum wellhead injection pressure of 6300 kPa
  - This well continues to operate on vacuum with no pressure at the wellhead
  - All disposal volumes reported to Petrinex

Blackrod Disposal



Annual volume of high-quality nonsaline make-up water was less then 500,00 m^3, therefore Blackrod facility is exempt from disposal limit.

Blackrod Surface Operations

5. Environmental Issues

Blackrod Environmental

- No environmental issues to date
- IPC remains compliant with the terms of AER Approval No. 264736-00-00:
  - CPP (Caribou Protection Plan)
  - Air Monitoring
  - Groundwater Monitoring
  - Soil Monitoring
  - Etc.

Blackrod Surface Operations

6. Compliance

Blackrod Compliance Programs

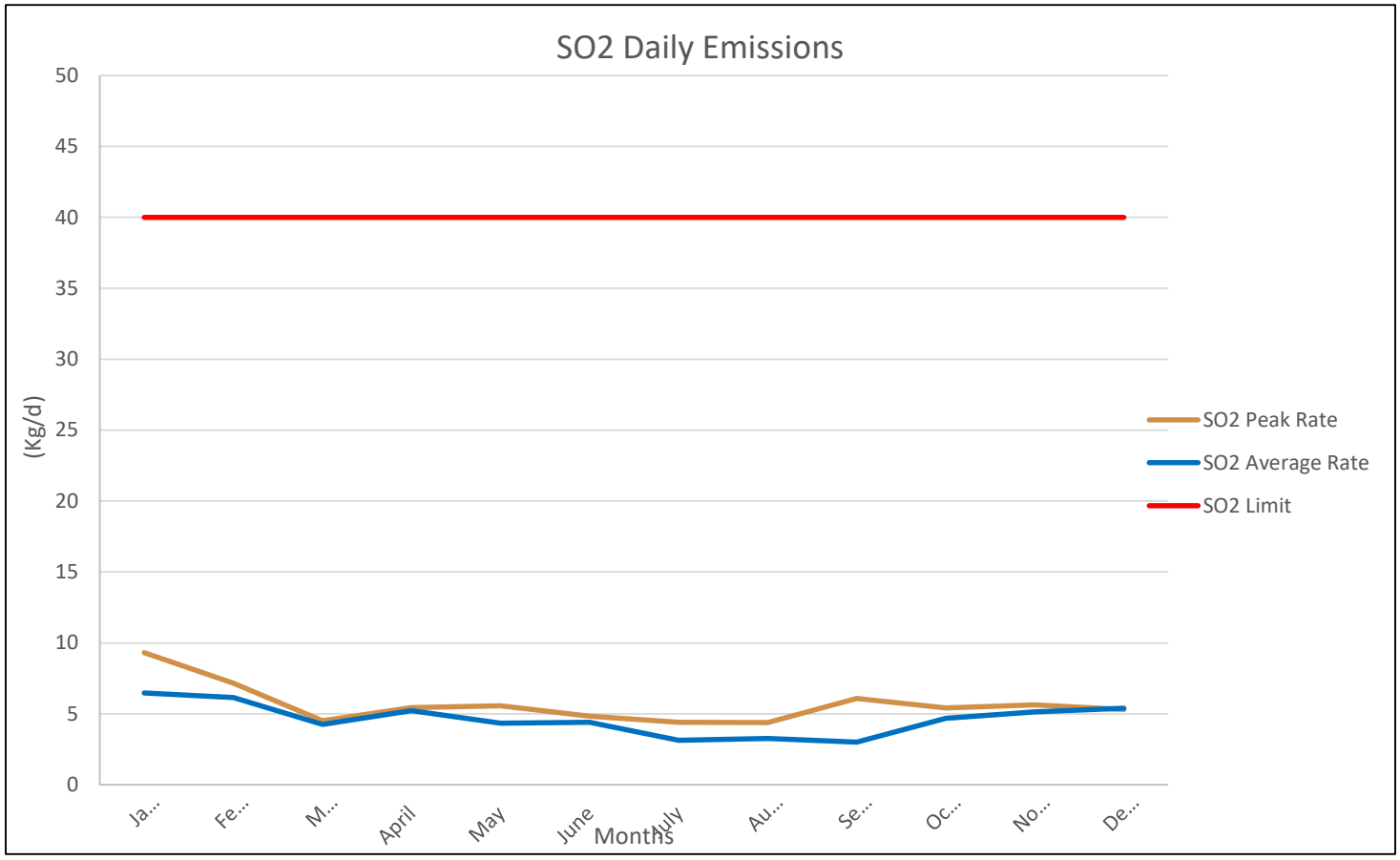
- Passive air monitoring stations, no exceedance of SO_2 , No_x , H2S emissions
- Industrial Waste (i.e. sewage, sludge, etc.) trucked out to third party disposal facilities.
- All Industrial Runoff was within parameters and pumped off lease
- GHG emissions reporting not required for Blackrod Pilot Facility as per terms of EPEA Approval 00264736-00-02

Blackrod NOx Emissions

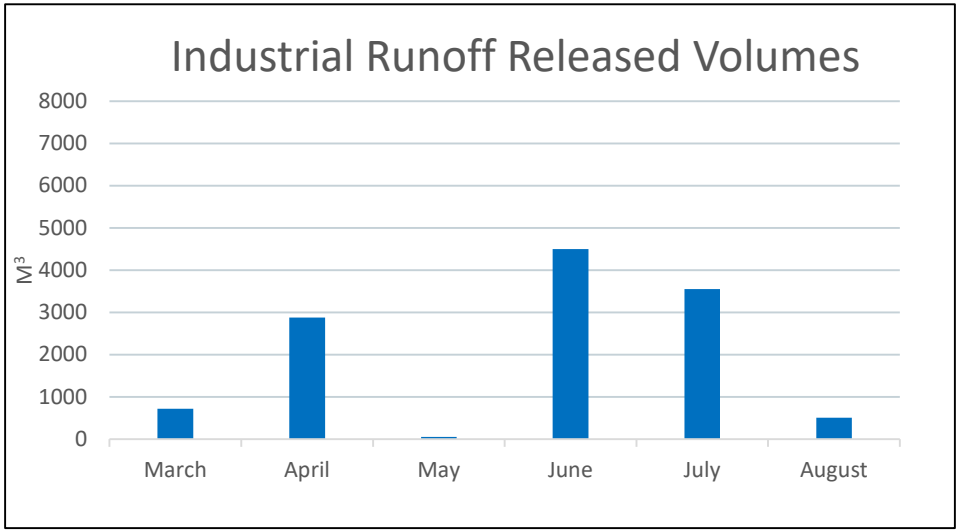
2019	Run Time (hours)	No_x (tonnes)
January	744	0.21
February	660	0.19
March	744	0.21
April	720	0.20
May	685	0.19
June	720	0.2
July	744	0.21
August	744	0.21
September	552	0.16
October	744	0.21
November	720	0.20
December	744	0.21
Total		**2.4**

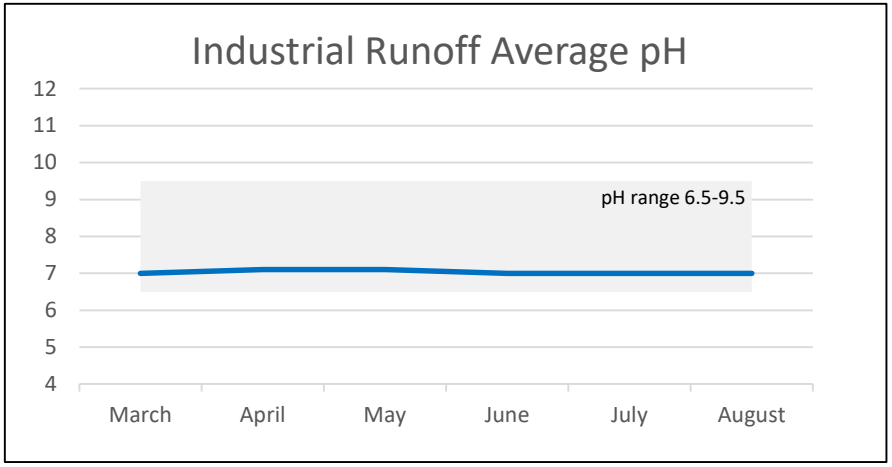
- Under Section 4.1.17 and 4.1.18 of the EPEA approval, IPC is required to conduct a manual stack survey on the 15 MW steam generator once within six months of commissioning.
- A manual stack survey was conducted which gave an average mass flow rate of 0.28 kg/h which is below the 1.4 kg/hr limit for NOx in the approval
- Monthly NOx is calculated by using the hourly emissions rate and knowing the monthly run time hours

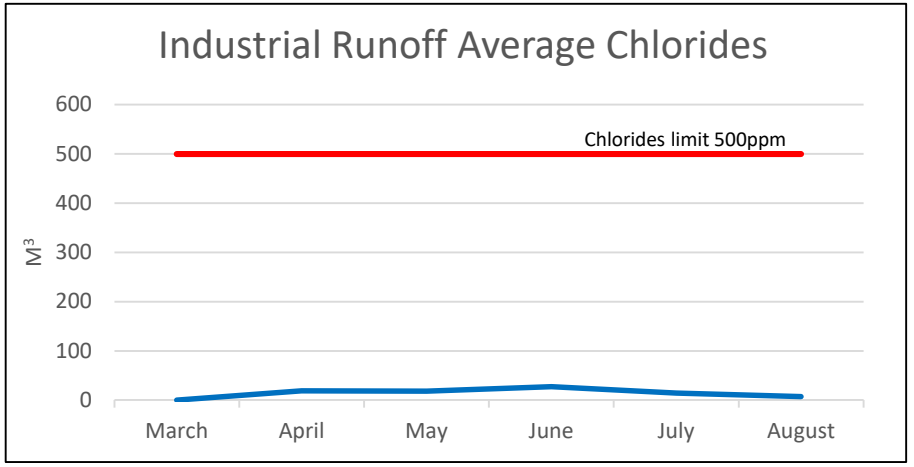
Blackrod SO2 Emissions



Blackrod Industrial Runoff Monitoring







Blackrod Compliance

- To the best of IPC's knowledge, the Blackrod SAGD Pilot Project is currently in full compliance with all conditions and regulatory requirements related to AER Scheme Approval No. 11522H

International Petroleum Corp.

Blackrod Future Plans

Blackrod Future Plans

1. Ongoing Pilot Objectives

Ongoing Pilot Objectives

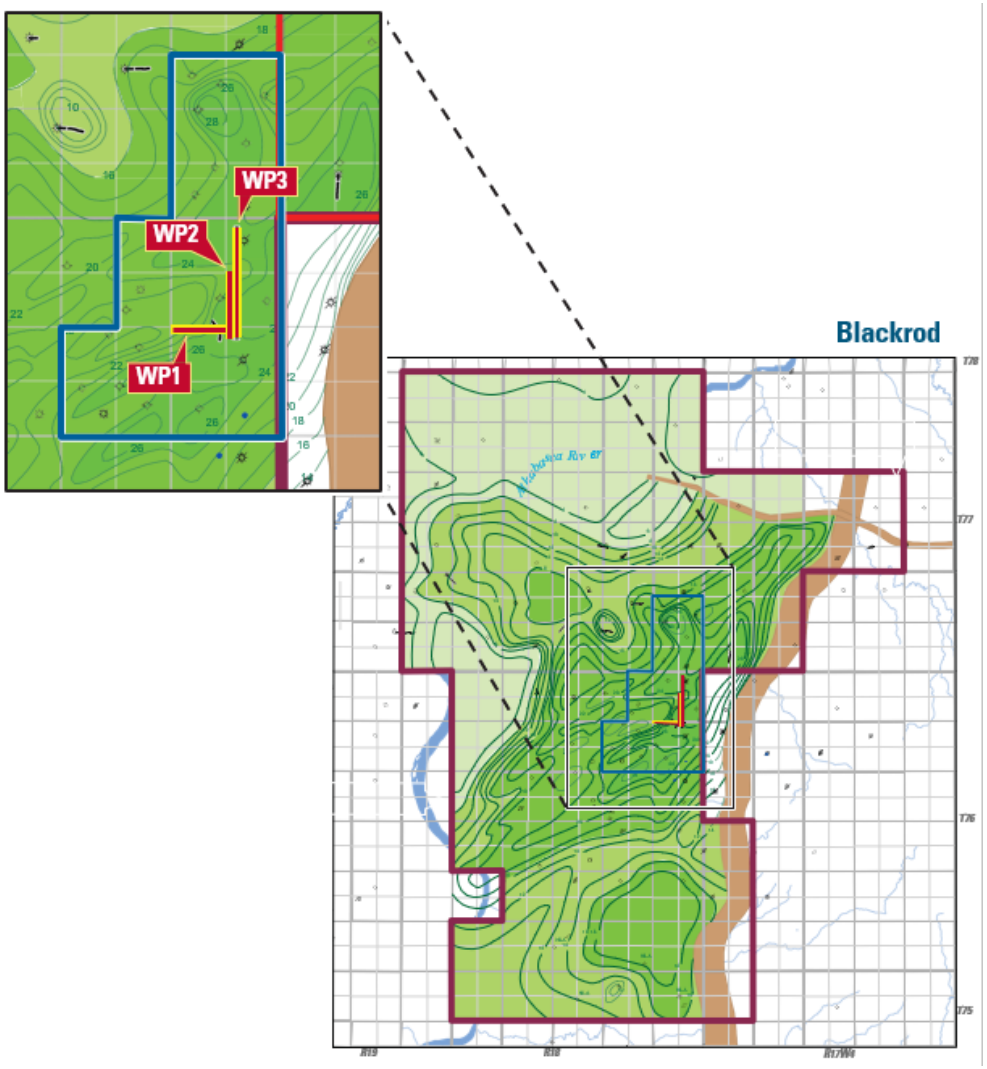
- Complete warm-up on WP3 and convert to production phase.
- Trial new produced water treatment technology
  - Commissioning will be completed in Q1 2020 followed by a 1-year trial. Learnings from the trial will be applied to the commercial facility design.

Blackrod Future Plans

2. SAGD Commercial Development

SAGD Commercial Development

- Commercial SAGD Application No. 1728831- Approved
- 80,000 bbl/d (12,720 m3/d) to be developed in phases, with the first phase planned for 20,000 bbl/d; two additional phases of 30,000 bbl/d each to follow



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Appendices

Appendices

1. Pressure & Temperature Data
    - 10-36 WP2
    - Heel & Toe Observation Wells