

Blackrod Insitu Oil Sands Pilot Project

Scheme Approval No. 11522H

2022 Annual Performance Presentation



Introduction

Directive 54: Section 4.1

Overview



- 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°C
 - Depth: 300m
- Traditional SAGD recovery process
- IPC is the 100% W.I. Owner



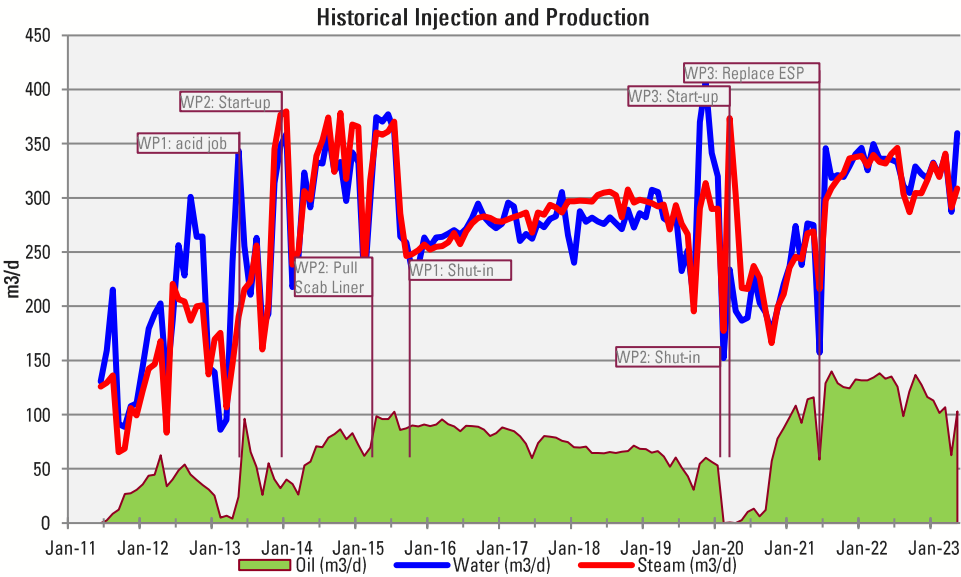
➤ Project History:

- 2011 – Constructed Blackrod facility and start Well Pair 1 (WP1)
- 2013 – Commission Well Pair 2 (WP2) facility expansion and start WP2
- 2015 – Shut-in WP1
- 2019 – Drill and complete Well Pair 3 (WP3)
- 2020 – Shut-in WP2 and start WP3
- 2021 – Continue ramping up WP3 production
- 2022 – Continue operation of WP3



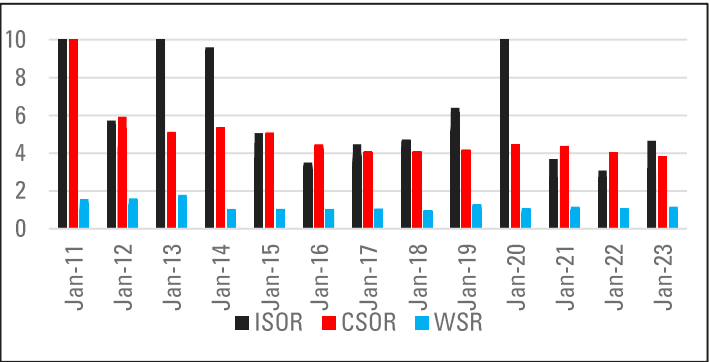
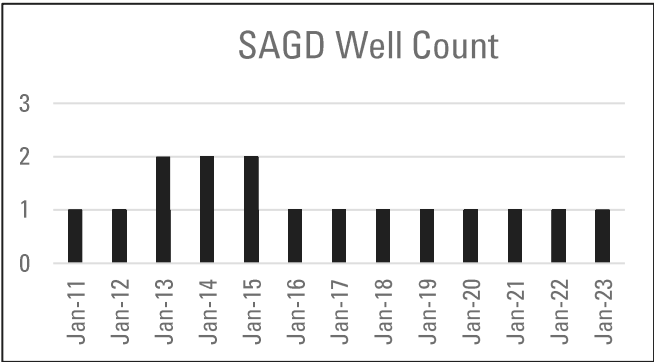
Subsurface

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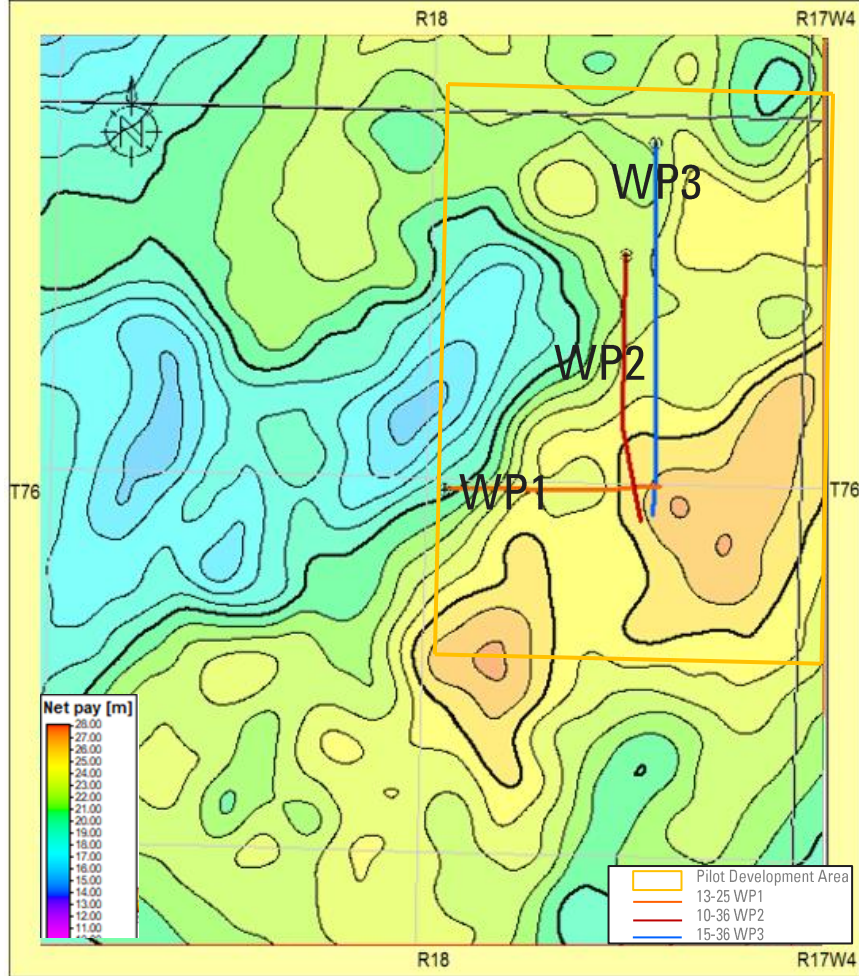
2022 Highlights

- Continue ramping WP3
- Average daily production peak of 869 bbls/day in April



Development Maps

Net Pay Map

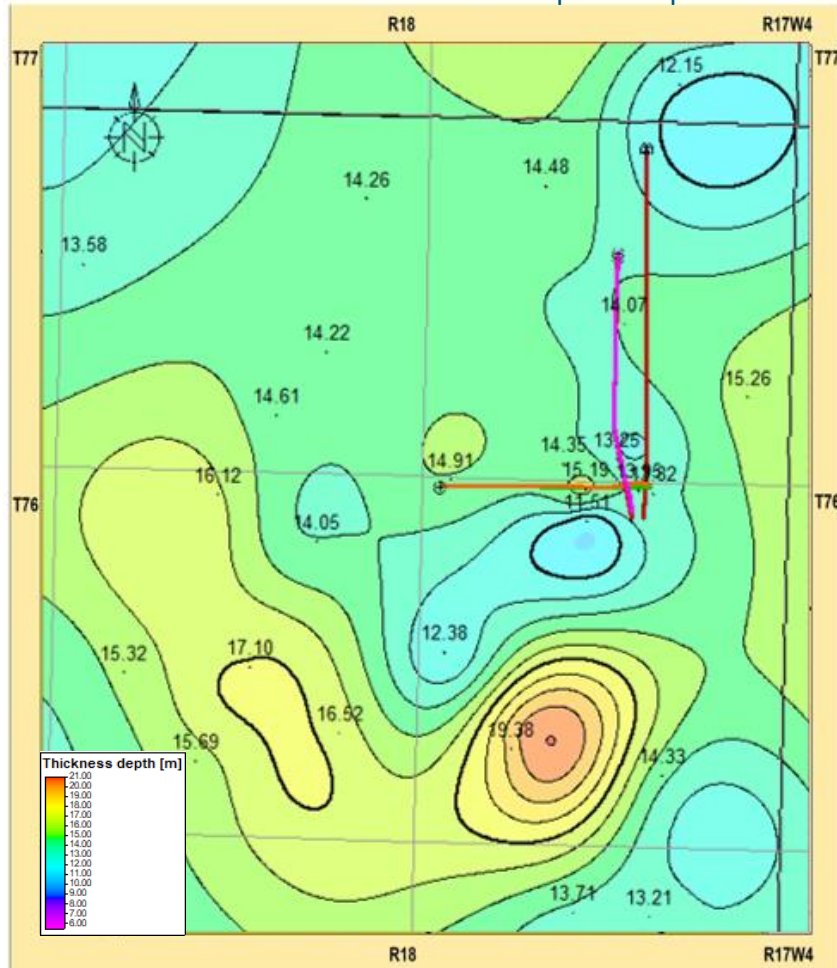


LOG CUTOFFS

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

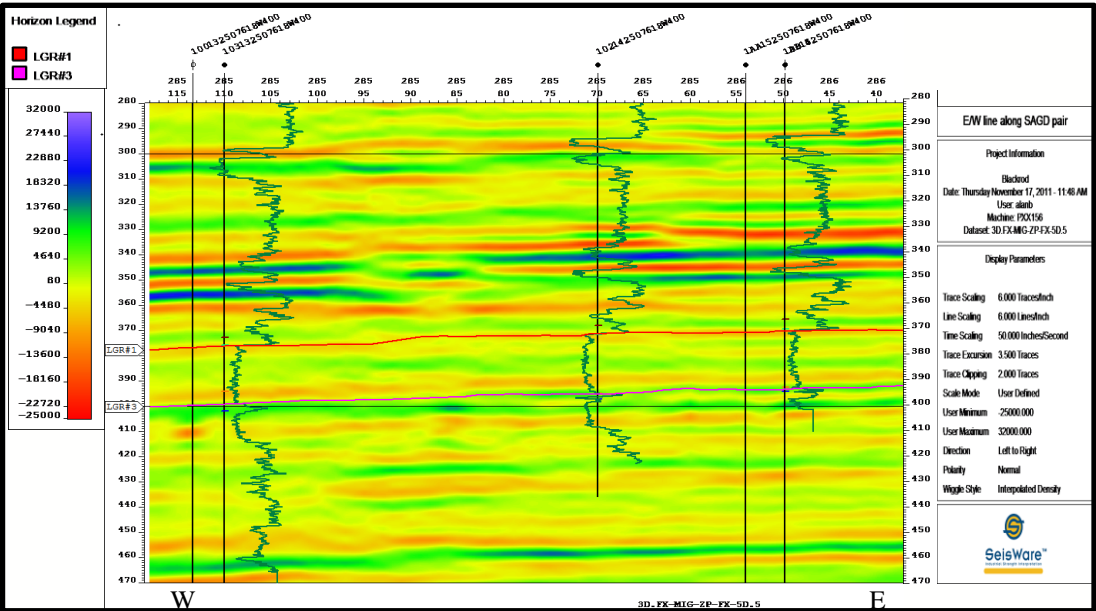
Development Maps

L. GR Unit 3 Bottom Water Isopach Map

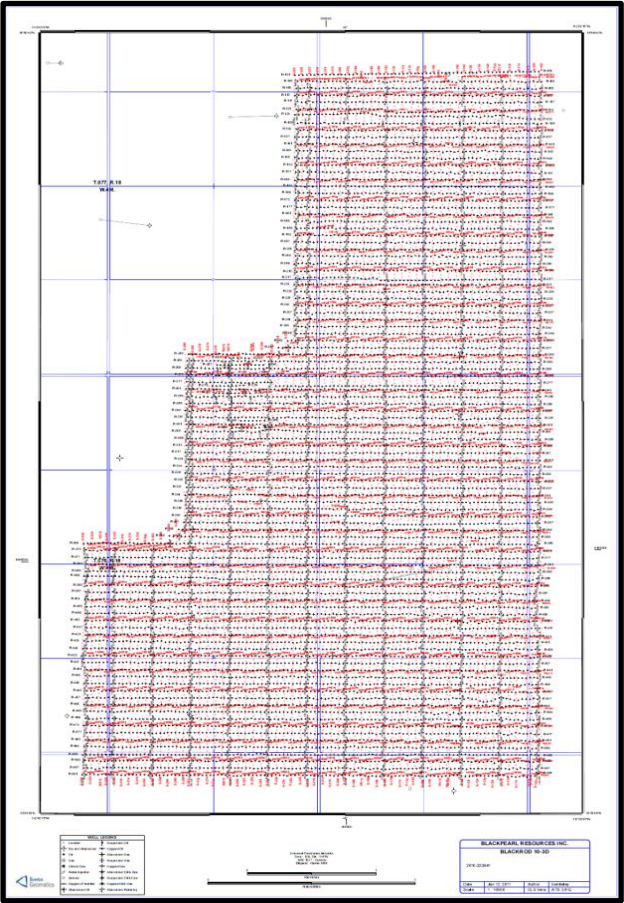


- No major gas intervals in communication with pay within the development area
- No geomechanical anomalies within the development area

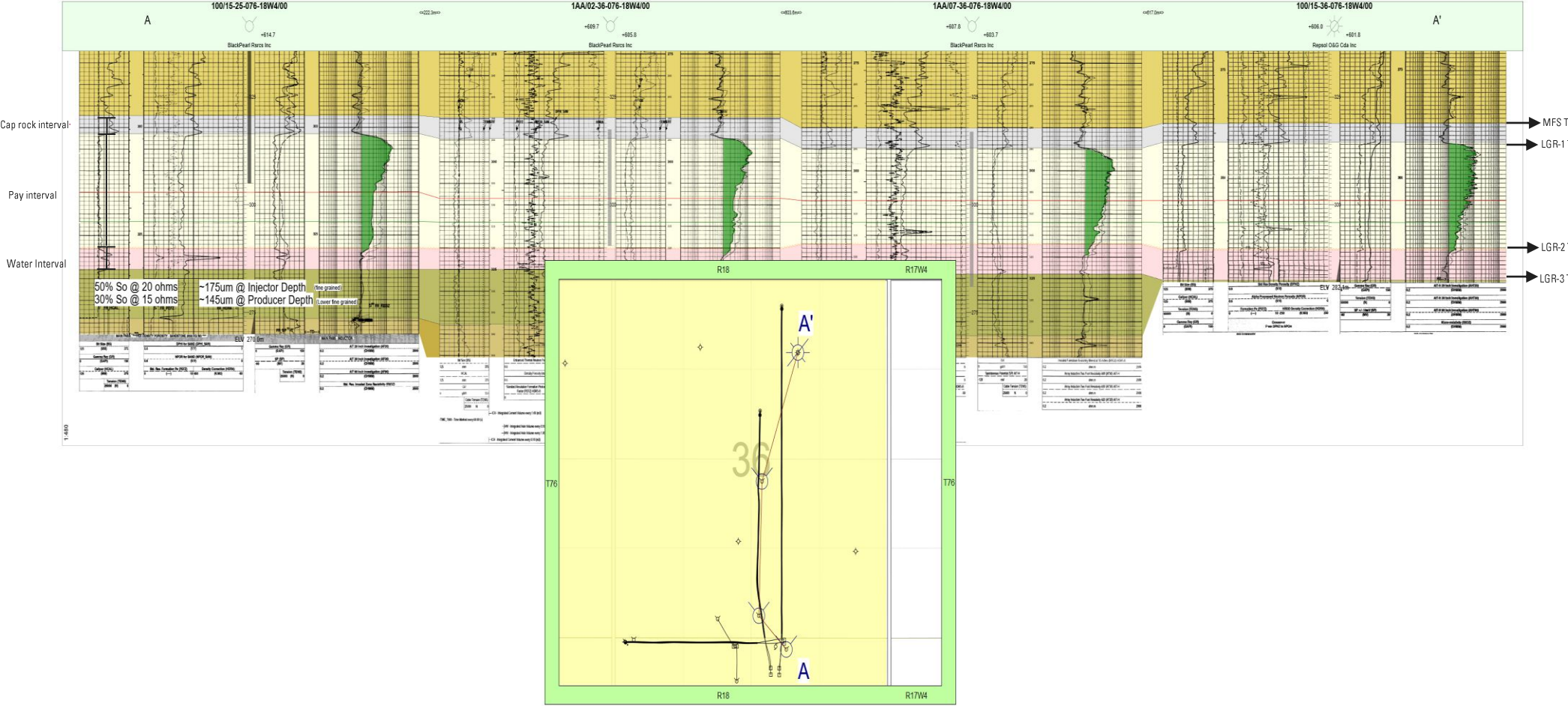
3D X-Line along 13-25 WP1



3D Seismic Area Coverage



Representative Well Cross-Section A - A'



Original Bitumen in Place and Reservoir Properties

➤ Development Area OBIP

Well	Area (m ²)	Net Pay thickness (m)	Porosity (%)	S _o (%)	Horizontal Permeability (mD)	Vertical Permeability (mD)	OBIP (Mm ³)	PBIP (Mm ³)	Cumulative Oil Prod. (Mm ³)	Current Recovery (%)	Estimated Ultimate Recovery (%)
WP1	56,000	22	34	63	3450*	3024*	264	133	45	17%	55%
WP2	73,500	25	35	59	3450*	3024*	379	285	149	39.3%	55%
WP3	100,000	25	35	61	3450*	3024*	534	423	97	18.2%	55%
Pilot Totals	229,500	25	35	60	3450*	3024*	1205	898	291	24.1%	55%
Project/Development Area	3,804,190	25	35	60	3450	3024	19972	14,300	291	1.46%	55%

*Permeability for the well pairs are assumed to be the same as the development area average

Co-Injection

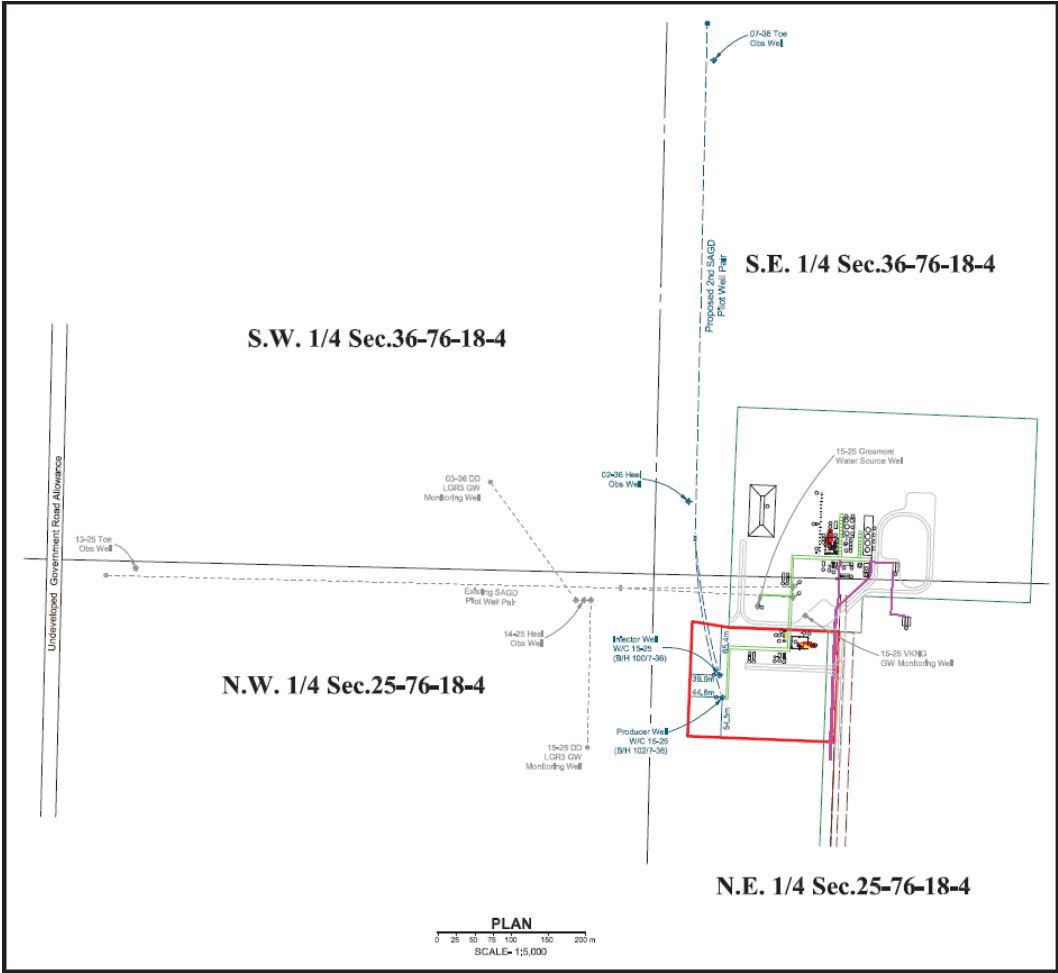
- No Co-Injection has been implemented



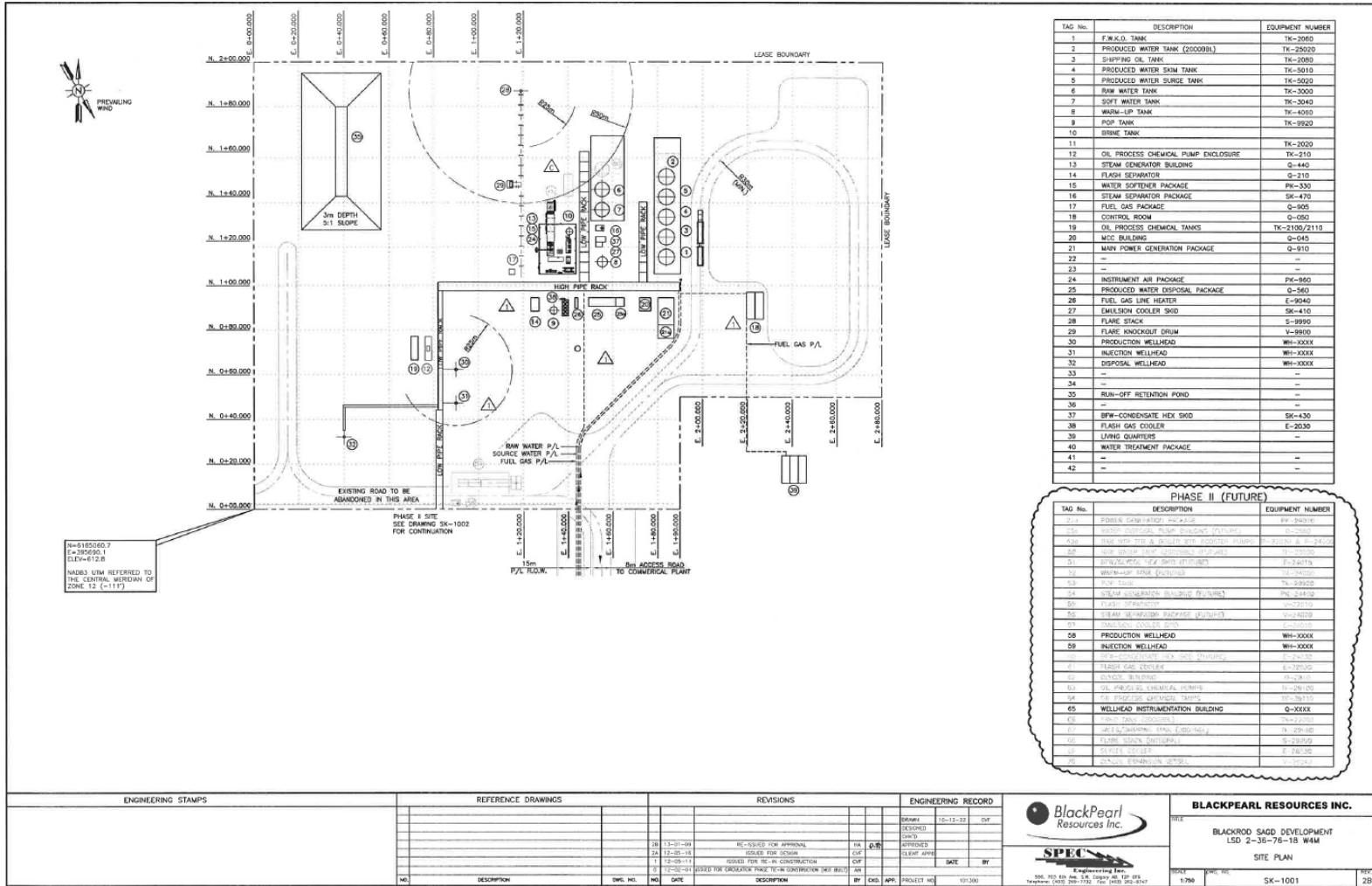
Surface

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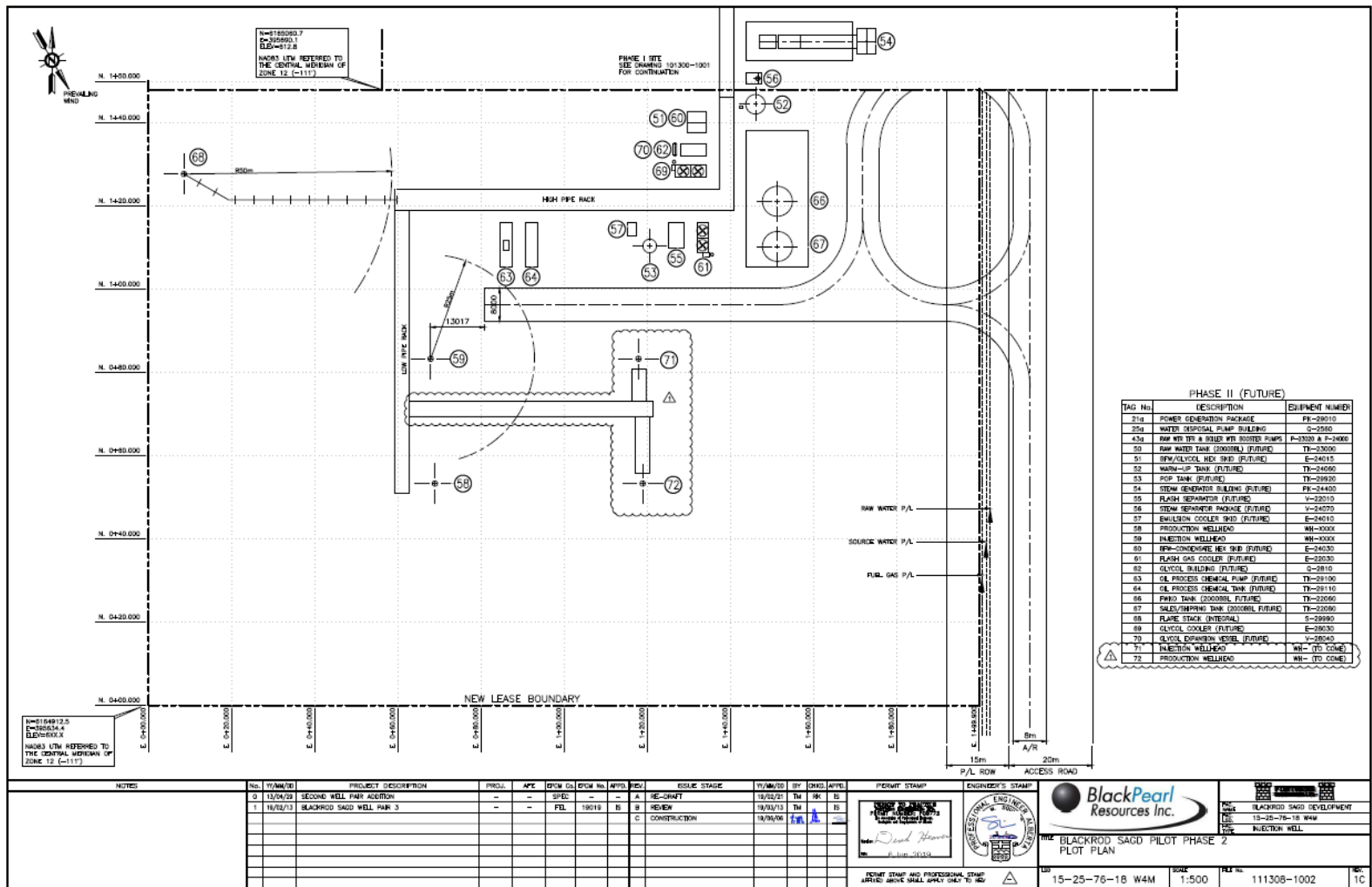
Facility Overview



Plot plan



Plot plan

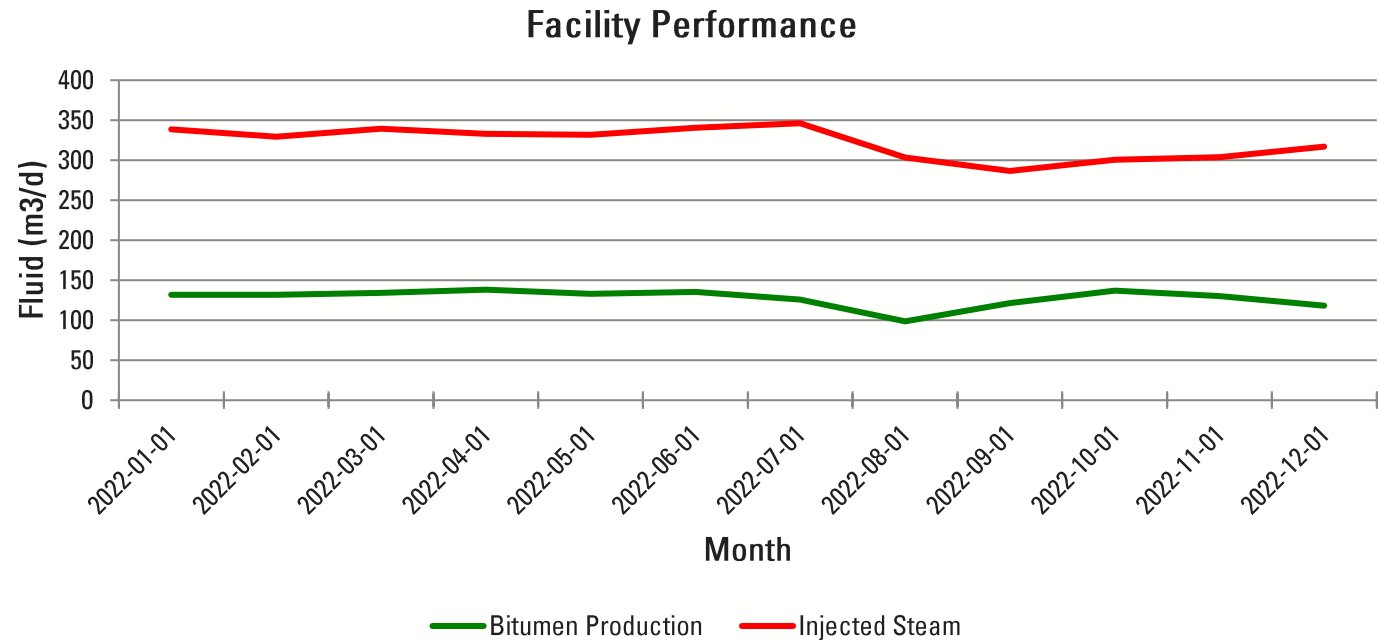


Facility performance

➤ No modifications to the facility that required an AER application approval

➤ Facility Design

- Steam 440m³/d
- Bitumen 160m³/d





History and Upcoming Activity

Directive 54: Section 4.4

Suspension and Abandonment Summary

➔ Suspended/abandoned wells

- Suspension of well pair 2 production well and steam injection well
- Remaining Reserves below

Well	Area (m ²)	Net Pay thickness (m)	Porosity (%)	S _o (%)	Horizontal Permeability (mD)	Vertical Permeability (mD)	OBIP (Mm ³)	PBIP (Mm ³)	Cumulative Oil Prod. (Mm ³)	Current Recovery (%)	Estimated Ultimate Recovery (%)
WP2	73,500	25	35	59	3450*	3024*	379	285	149	39.3%	55%

- WP2 was suspended as the pilot facility can only sustain the one longer well pair (WP3)
- Possibility of well pair 2 being restarted and tied into the commercial scheme to achieve 50% recovery

Recent Regulatory and Operational Changes

⇒ EPEA renewal

- Application No: 005-264736
- Approval No: 264736-01-00
- Effective Date: June 14, 2021

⇒ Technical Innovations

- Trial new produced water treatment technology
 - Zero Lime softening skid fully operational.
 - Resin replacement complete and skid has been providing treated produced water to the OTSG

⇒ Summary of events

- There were no phase expansions or changes that would materially affect scheme performance at the pilot in 2022

⇒ Lessons, Successes, Failures

- Peak oil rates achieved

Compliance History

- No reportable incidents, self-disclosures, contraventions or corresponding remediation
- 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

Heave Data

- ➔ No heave data has been collected at the pilot in 2022
 - Heave data has not been collected as part of the overall monitoring as it was not a commitment that was made through the regulatory process.
 - With only one well pair operational at a time, no relevant heave data would be collected

Future Plans

- Approved Commercial SAGD Application No. 1728831
 - 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
- No planned activity expected to significantly alter performance, or material balance of the scheme
- Submitted AER Directive 23 Amendment and EPEA amendment for commercial scheme in Q4
- Phase 1 Full Development Area
 - 14 Well patterns, Drilled from 10 surface locations
 - 50m Spacing ~192 Well pairs
- D23 Amendment
 - 80,000 bbl/d (12,720 m³/d) to be developed in phases, with the first two phases planned for 30,000 bbl/d and one additional phase of 20,000 bbl/d

