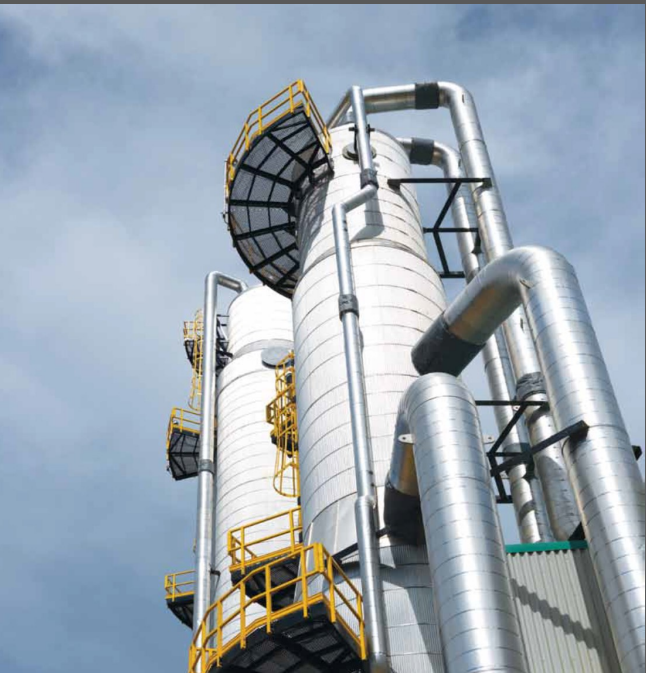




Great Divide SAGD Project – Scheme Approval No. 10587, November 2023

# CONNACHER PERFORMANCE PRESENTATION FOR THE 2022 CALENDAR YEAR

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# INTRODUCTION

- Scheme Setting and Background

# OUTLINE – CONNACHER GREAT DIVIDE SAGD PROJECT PERFORMANCE PRESENTATION (2022 CALENDAR YEAR)

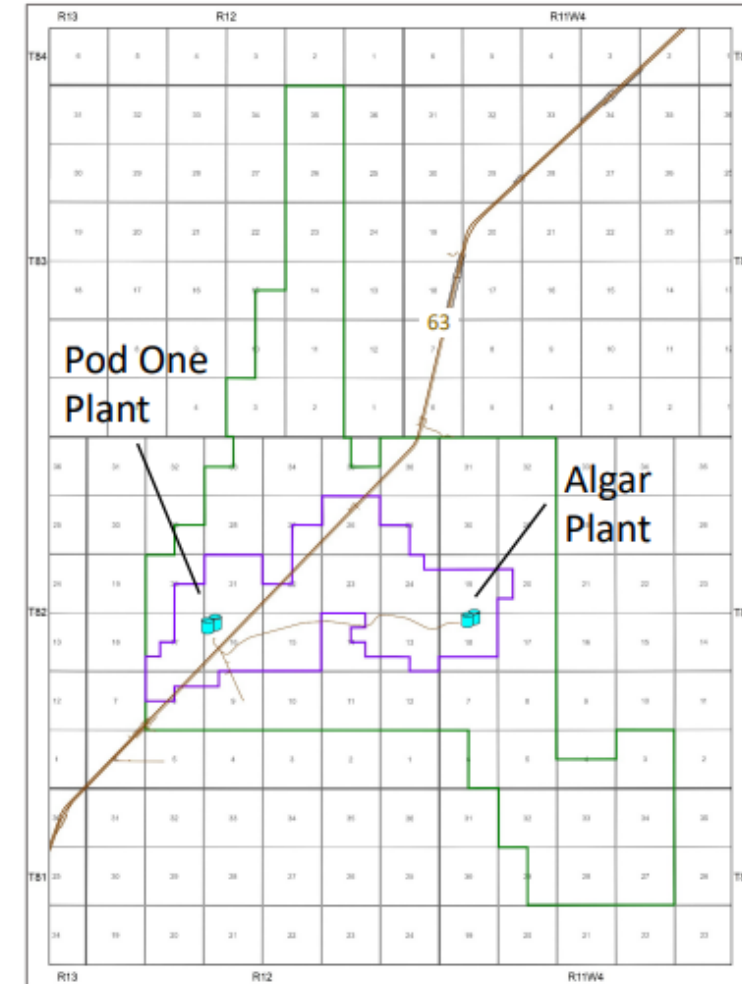
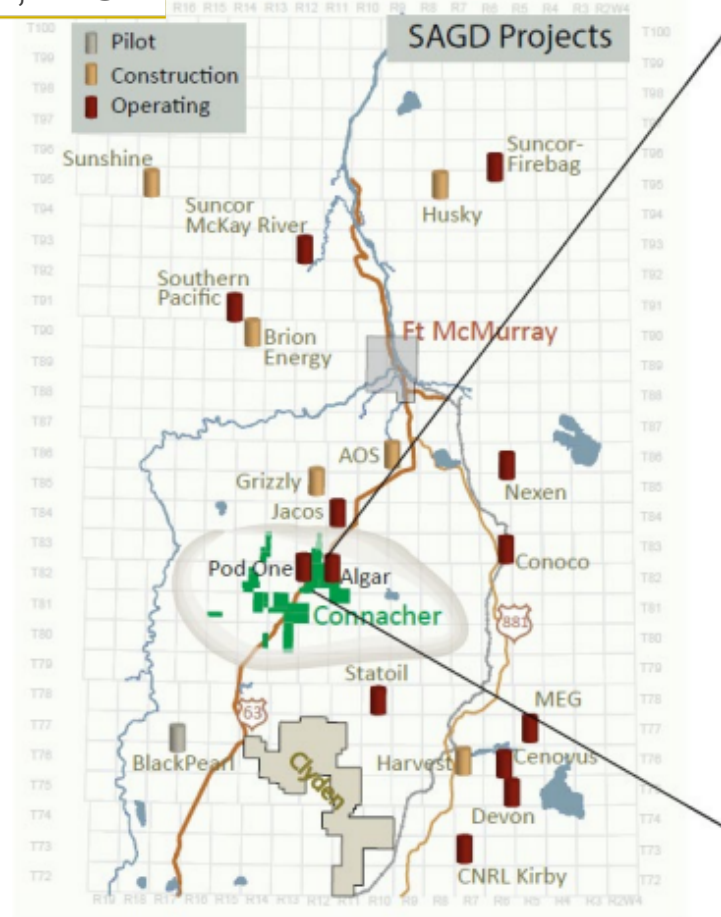
- Introduction
- Subsurface
- Surface
- Historical and Upcoming Activity
- Future Plans




# SCHEME SETTING AND BACKGROUND

## GREAT DIVIDE PROJECT LOCATION, POD ONE, ALGAR

- Great Divide SAGD Project
  - Approx. 80 km south of Ft. McMurray
  - OSCA Scheme Approval No. 10587CC
  - EPEA Approval No. 240008-01-01
- Pod One
  - CPF: NW ¼ 16-082-12W4M (west of Hwy 63)
  - 27 active SAGD well pairs, 13 active infills on Pads 101, 102, 104, 105
- Algar
  - CPF: N ½ 18-082-11 W4M (East of Hwy 63)
  - 24 SAGD well pairs, 14 infills on Pads 201, 202, 203



-  Great Divide Approved Project Area
-  Great Divide Approved Development Area

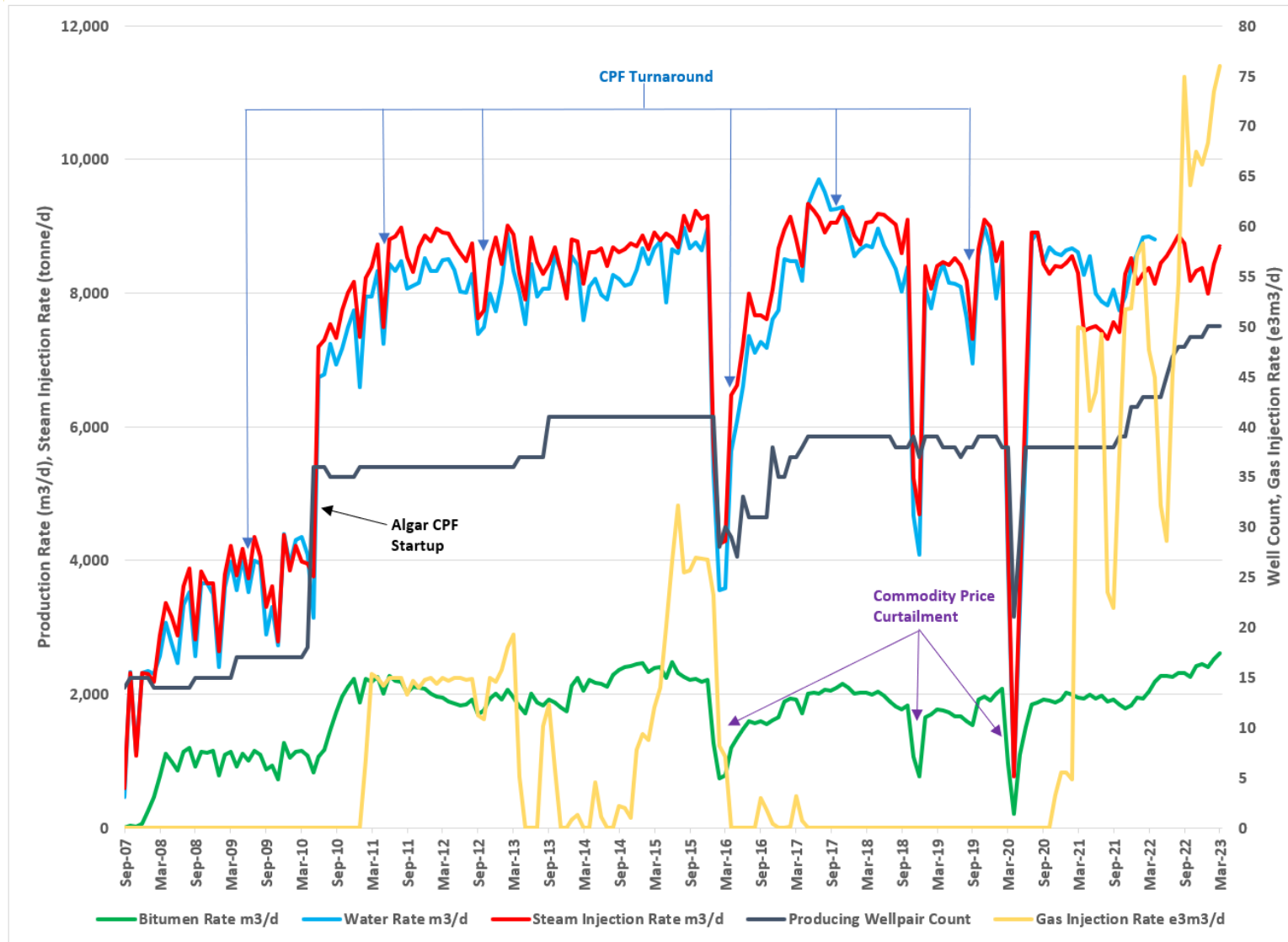


# SUBSURFACE

- Production Plots
- Development Area Maps
- Cross-Sections
- Resources
- Well Patterns
- Co-Injection Update

# PRODUCTION PLOTS

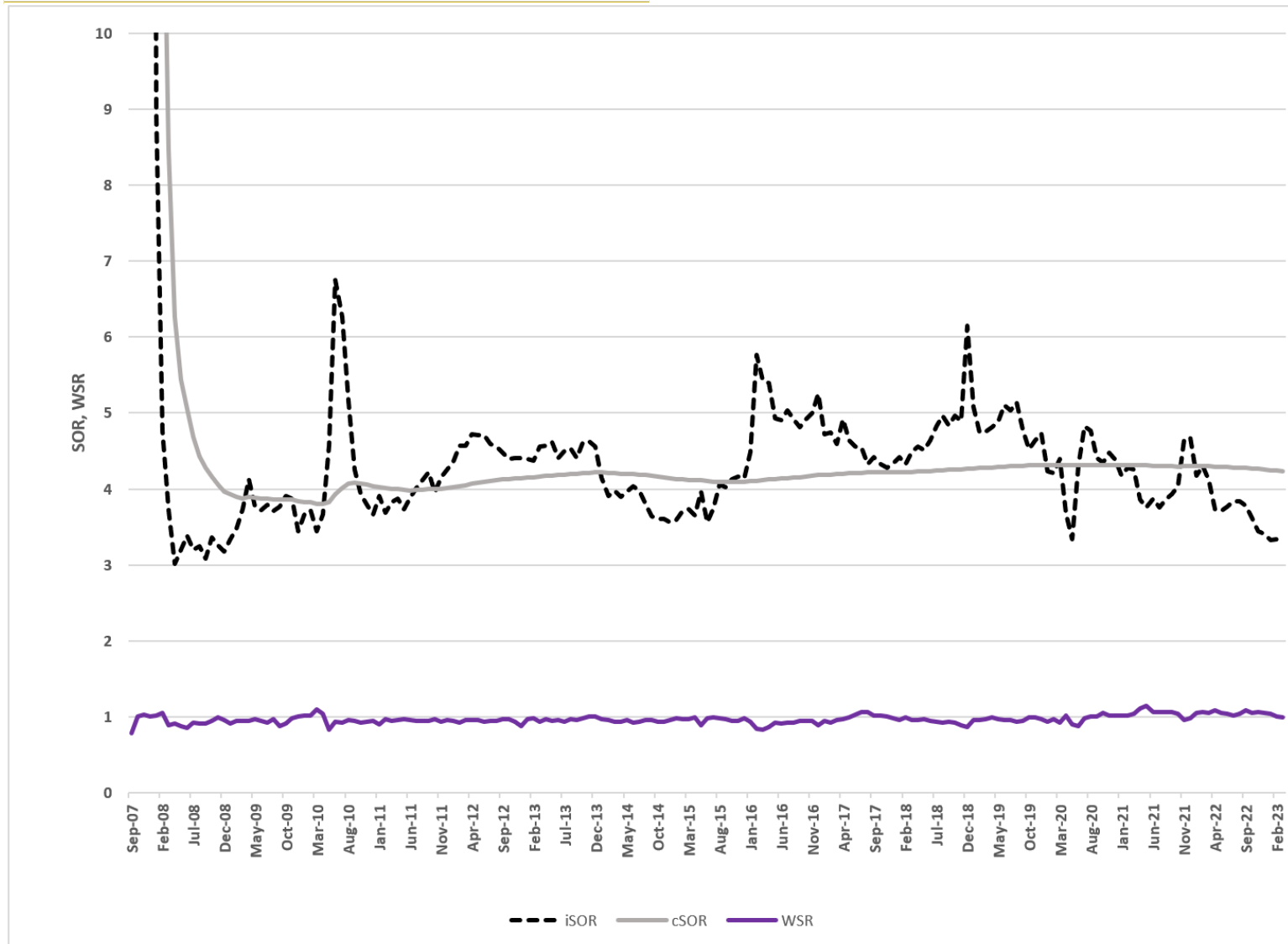
## ANNOTATED SCHEME-LEVEL LIFESPAN PRODUCTION PLOT



- Significant production growth and SOR decline in 2022
- Started pads 104E, 104W, 203W, and 202N (total 12 well pairs)
- YOY production increase ~ 30%
- YOY SOR decline of ~25%
- NCG co-inj continued into 2022 with rates increasing as steam redeployed to new pads
- Initiated **SAGD+**® process solvent injection late 2022

# PRODUCTION PLOTS

## SCHEME-LEVEL ISOR, CSOR, WSR PLOT

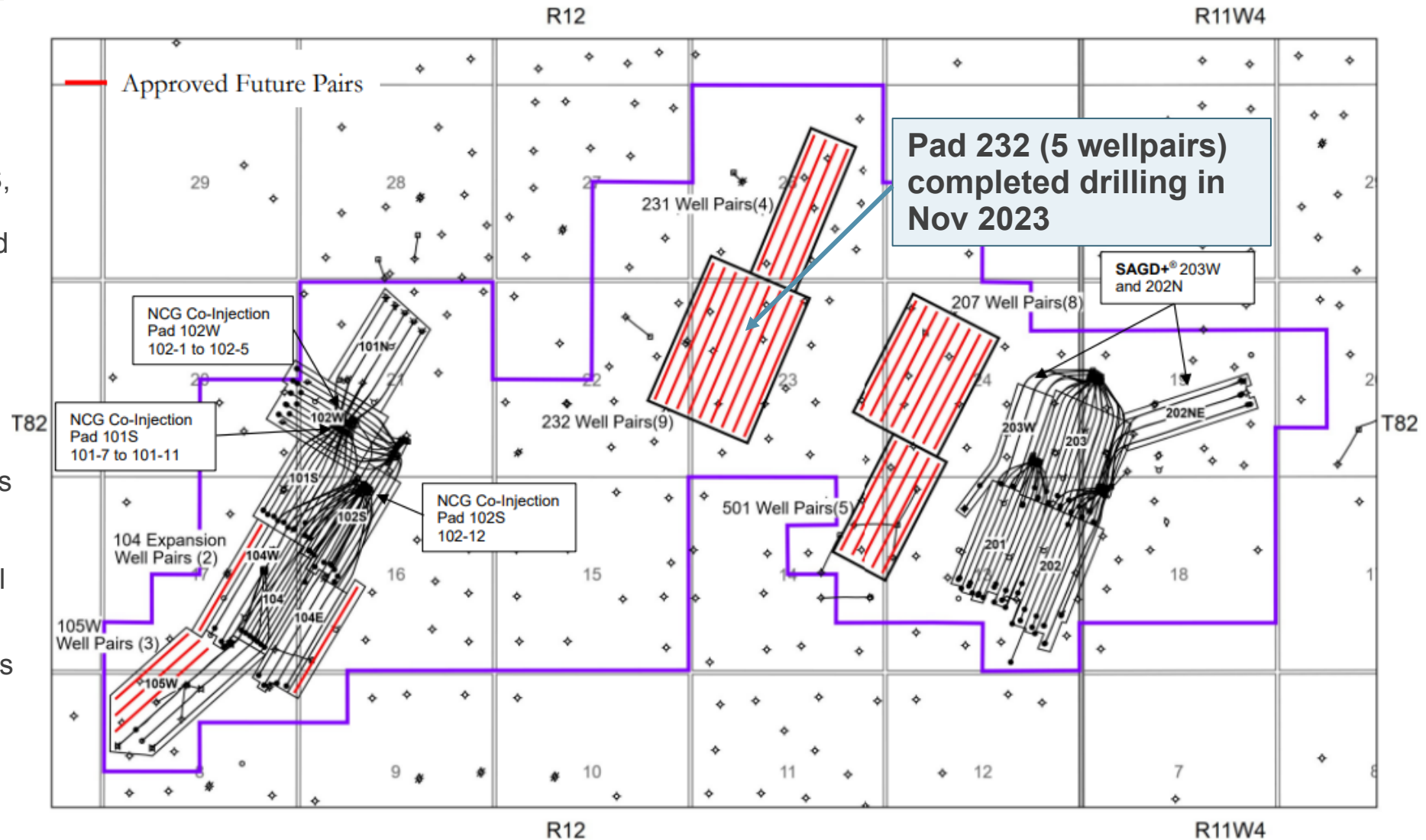


- Steady SOR decline in 2022
- Historical balanced WSR
- In 2022 WSR trended  $> 1$  due to late life operations
  - Disposal solution is necessary for late stage operations

# DEVELOPMENT AREA MAPS

## DRILLED AND APPROVED DRAINAGE PATTERNS

- Shown are the proposed future drainage patterns for the Pad 104 step out wells
- SAGD well pairs on 101N, 101S, 102S and 102W drilled at 100m spacing; well pairs on 104 drilled at 80m spacing
- All existing infills drilled at 50m spacing between the SAGD producers except 102 INF06, drilled at 35m spacing
- Pad 104 has 8 existing well pairs at 80m spacing (was approved for 10); approval received in 2022 to drill the remaining 2 well pairs at 100m spacing
- Pad 104 includes drainage areas 104, 104W and 104E

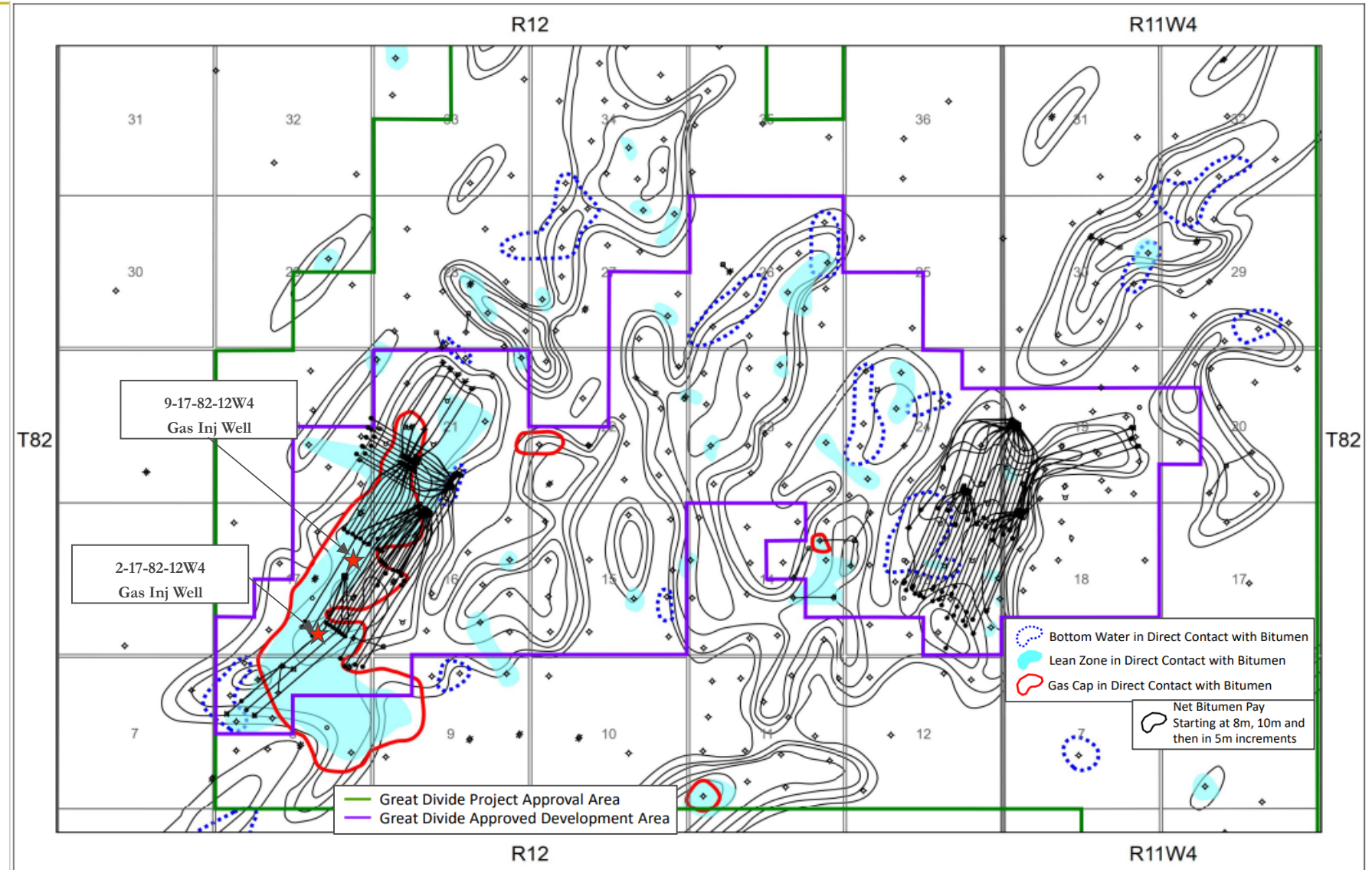




# DEVELOPMENT AREA MAPS

## COMBINED GAS CAP & LEAN ZONE & BOTTOM WATER MAP IN DIRECT CONTACT WITH BITUMEN

- Original gas cap pressure was 2,027 kPa (1988)
- Lowest recorded pressure after depletion was 746 kPa (2003)
- Estimated Algar original bottom water pressure was 2,500 kPa (based on lowest gauge in Well 100/15-13-082-12W4, at 520 mKB, prior to steam injection in May 2010)
- Top gas managed through top gas injection / pressure management



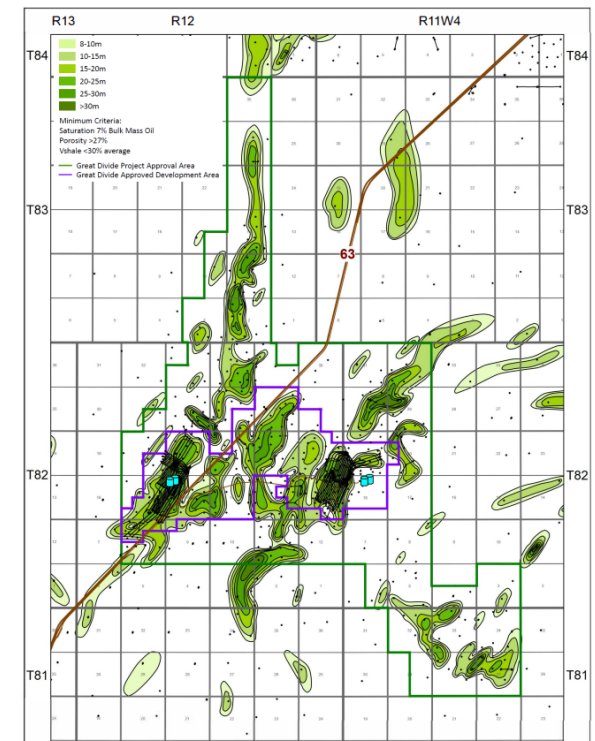
# RESOURCES

## OBIP & CUMULATIVE BITUMEN PRODUCTION; RESERVOIR PARAMETERS

Area	OBIP (m <sup>3</sup> ) <sup>1</sup>	Cumulative Oil Production (Up to Dec 31, 2022) (m <sup>3</sup> )	Cumulative Oil Recovery (Up to Dec 31, 2022) (%)
Project Area	195,811,606	9,647,730	5
Development Area	61,977,424		16
Active Pads	24,346,741		40

- In table above and in table in appendix, OBIP and reserves volumes are based on December 31, 2022, 2P independent reserves assessment
- No change in project area
- YOY change in active pads due to new development

1. Resource cut-off criteria consist of continuous net pay >8m, bitumen saturation of 7% bulk mass oil, porosity >27% and an average Vshale <30%.



Parameter	Pod One		Algar	
	Range	Average	Range	Average
Reservoir Thickness (m)	10 - 30	22	10 - 30	25
Depth to Top of Reservoir (m)	450 - 490	475	465 - 500	485
Reservoir Net Pay (m)	10 - 25	21	10 - 30	22
Oil Saturation (%)	75 - 85	80	72 - 80	76
Bitumen Density (kg/m3)		1018		1018
Bitumen Viscosity (cPs)		> 1 million		> 1 million
Porosity (%)	32 - 34	33	32 - 34	33
Vertical Permeability (mD)	1,500 – 4,000	-	1,500 – 3,500	-
Horizontal Permeability (mD)	2,000 – 5,000	-	2,000 – 4,000	-
Initial Reservoir Temperature (°C)		13		13
Initial Reservoir Pressure (kPa)		2,850		2,500
Initial Bottom Water Pressure (kPa)		2,850		2,500

# SAGD+®

## SOLVENT INJECTION COMMISSIONED AND COMMERCIALIZED IN 2022

- Co-injection of Light Hydrocarbons (**SAGD+®** process)
  - Light hydrocarbon injection to Pad 203W commenced December 2022 at initial rate of 6 vol% of steam, w/ injection adjusted on sampling results and reservoir performance
  - Too early to report on observable oil rate increase but decrease in SOR has been observed
  - **SAGD+®** process implementation offers economic and environmental benefits incl:
    - HIGHER bitumen production & recovery
    - LOWER SOR, diluent blend ratio, GHG emissions, water consumption

# RESERVOIR MANAGEMENT

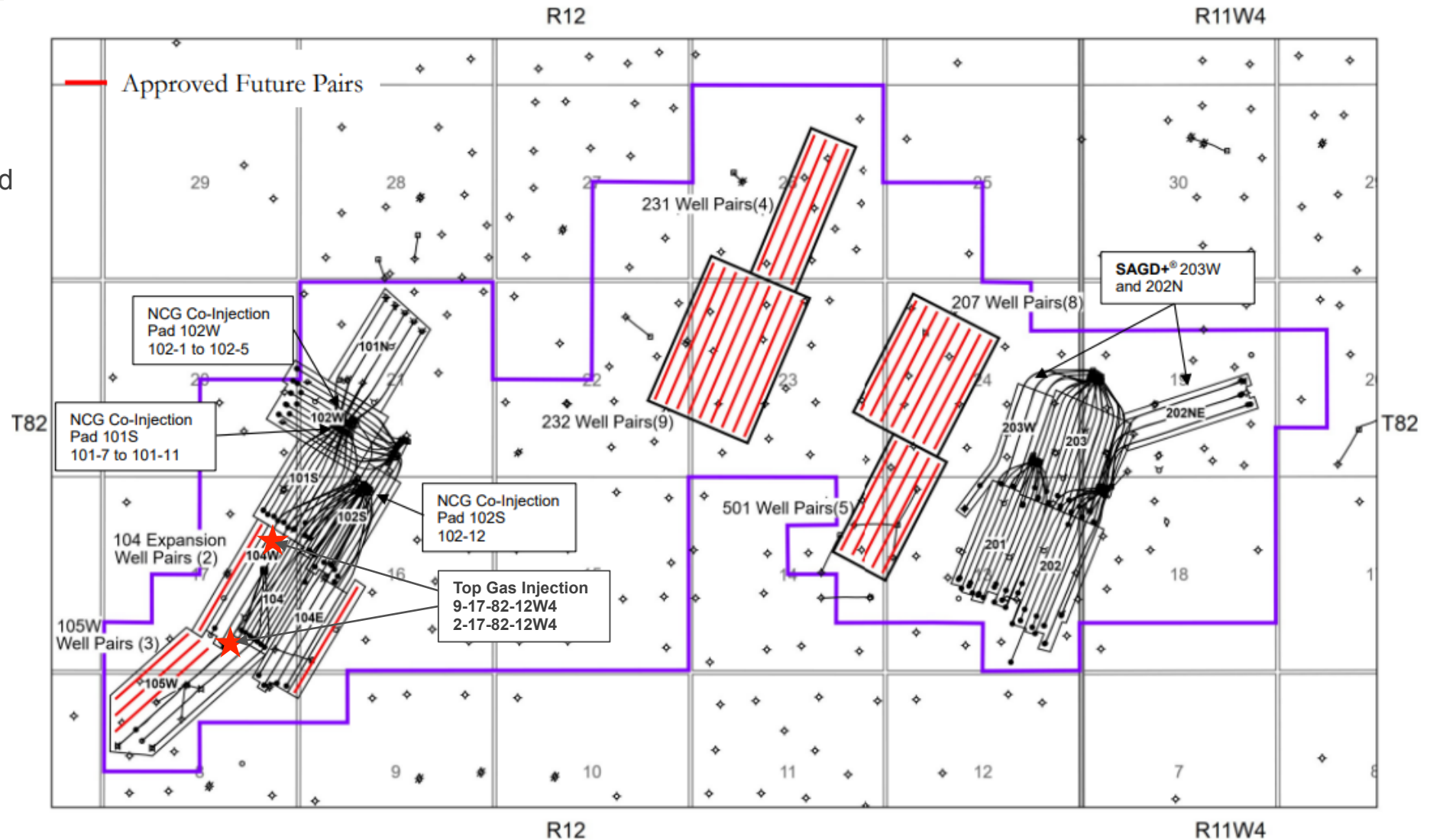
## CO-INJECTION AND TOP GAS PRESSURE MANAGEMENT CORE OPERATING STRATEGY; DEMONSTRATED IMPROVED SO

- NCG Co-Injection Strategy
  - Field-wide approval received March 2022 for all current & future well pairs, no limit on co-injection rates or mol%, min steam injection - rate 50 m<sup>3</sup>/d
  - Steam and NCG injection rates monitored bottomhole and balanced to connected well patterns, ranging from 50 – 600 T/d steam and 0 e<sup>3</sup> sm<sup>3</sup> to 20 e<sup>3</sup> sm<sup>3</sup> NCG
  - Co-injection rates optimized on well performance and maturity to maximize production and resources recovery (about 90% of NCG is recovered)
- Top Gas Re-Pressurization (Pod One)
  - Purpose is to increase and maintain pressure in gas cap and lean zone above Pads 104, 104W, 104E, 105W, 105E, promoting pressure balancing
  - Simulations show benefits to production and SOR by repressuring to just below SAGD pressure (2,800 – 3,200 kPa)
  - NCG being injected into 100/9-17-82-12W4, up to 40 e<sup>3</sup> sm<sup>3</sup>/d, to maintain top gas pressure; Approval to inject into 115/2-17-82-12W4 received June 2023, with injection commencing September 2023
- Impacts of NCG Co-Injection
  - More consistent NCG co-injection into Pads 101S, 102S & 102W implemented in 2021, w/ current rate at 90 e<sup>3</sup>m<sup>3</sup>/d (at YE-2022) and ISOR down to 1.6
  - NCG injection was implemented on Pads 201, 202, 203 but rates lowered in preparation for **SAGD+**® process
  - Connacher's brief history w/ NCG injection has shown it is able to improve SORs w/ minimal impact on production
- NCG Blowdown Strategy
  - Steam to be discontinued and full NCG injection implemented when patterns reach 50% OBIP, with injection determined by BHP to balance w/ neighbouring patterns
  - Pads 101S and 102W in active blowdown phase, with steam injection decreasing and NCG injection increasing over time, and steam reallocated to Pads 104, 104W and 105W

# RESERVOIR MANAGEMENT

## NCG CO-INJECTION, TOP GAS, AND SAGD+® LOCATIONS

- NCG co-injection active at Pod One in 2022. Deployed on 101S, 102W, and 102S.
- Top gas pressurization continued at 9-17 location in 2022, deployed at 2-17 location in 2023.
- **SAGD+®** deployed on 203W in 2022, and 202N in 2023.



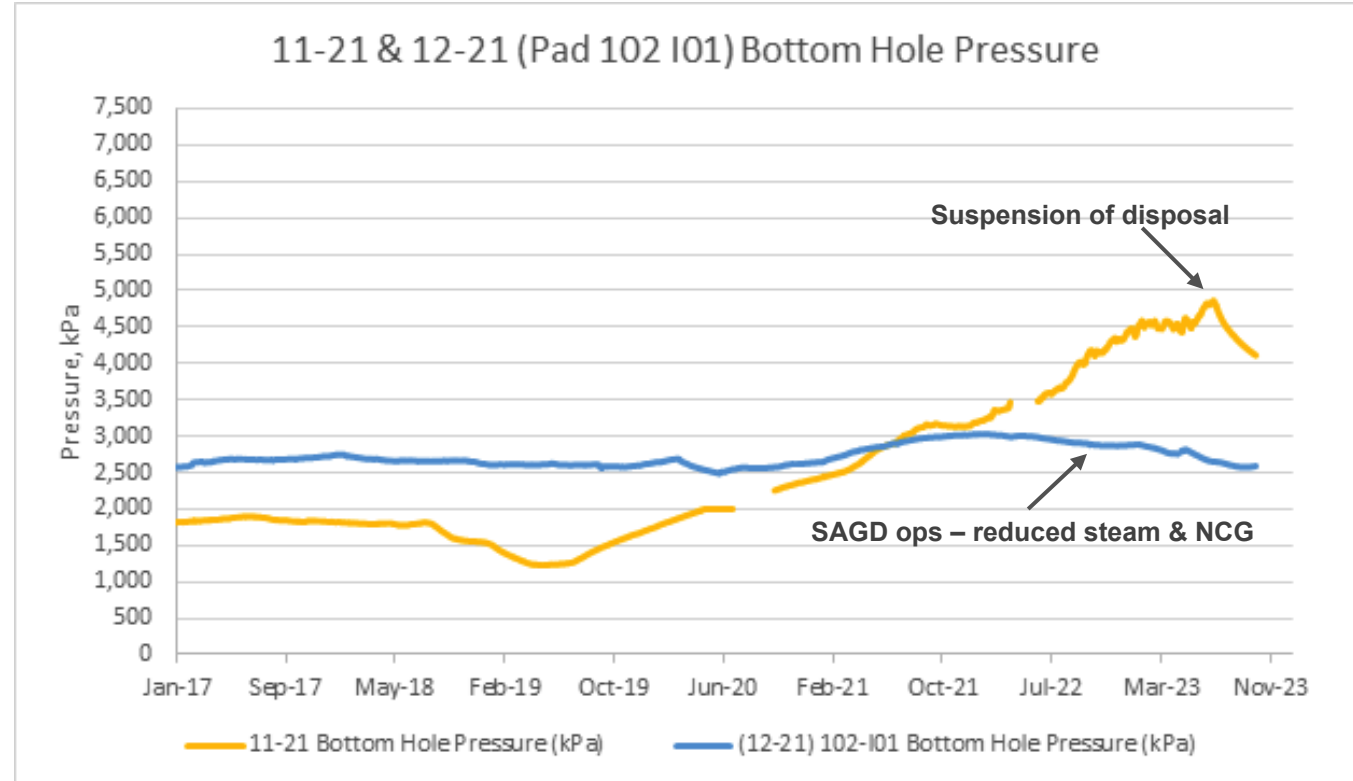


# PAD 101N DISPOSAL UPDATE

## VSD SUBMISSION & CORRECTIVE ACTIONS

- VSD Update:
  - VSD 11684 - June 29, 2023, for non-compliances with Approv. #10587CC, Cl. (20); 1b Approv. #12723, Cl. (4,6)
  - Pad 101N BHP > Pad 102W BHP starting July 19, 2021
  - Corrective actions:
    - Ceased disposal at Pad 101N on July 21, 2023
    - Field samples tested – disposal water from Pad 101N to 102W, inconclusive
    - Lab sample analysis also show no evidence of (fresher) disposal water at Pad 102W
    - Alarms implemented for  $\Delta P$  between Pads 102W and 101N <0 and shutdown when Pad 101N BHIP = 5,050 kPa (200 kPa below MBHIP)
    - Communication with operations & engineering personnel to ensure all approval conditions are known and understood
    - SOP for future alarm change management was implemented
  - VSD closure received September 19, 2023, from Field Ops East

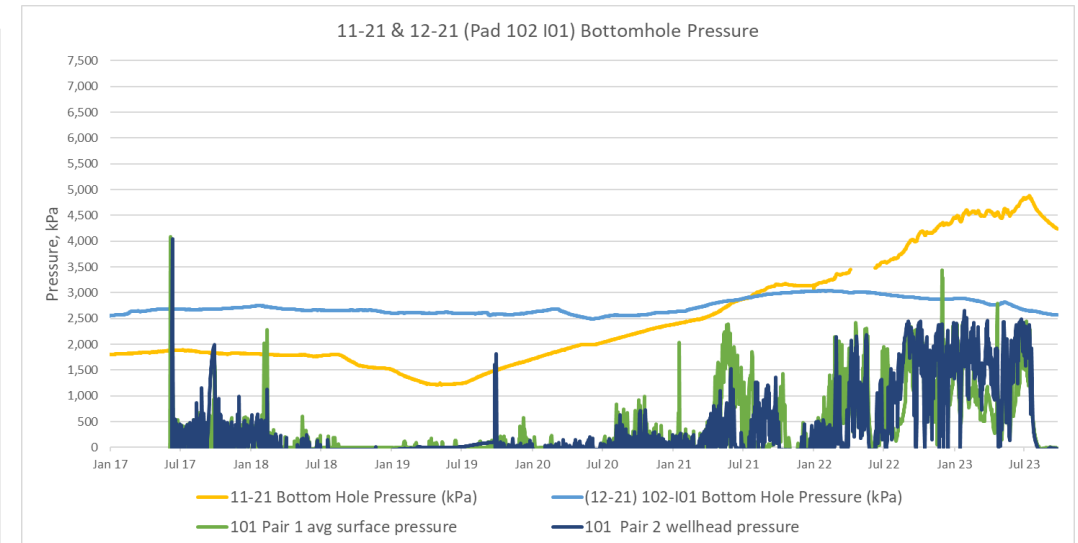
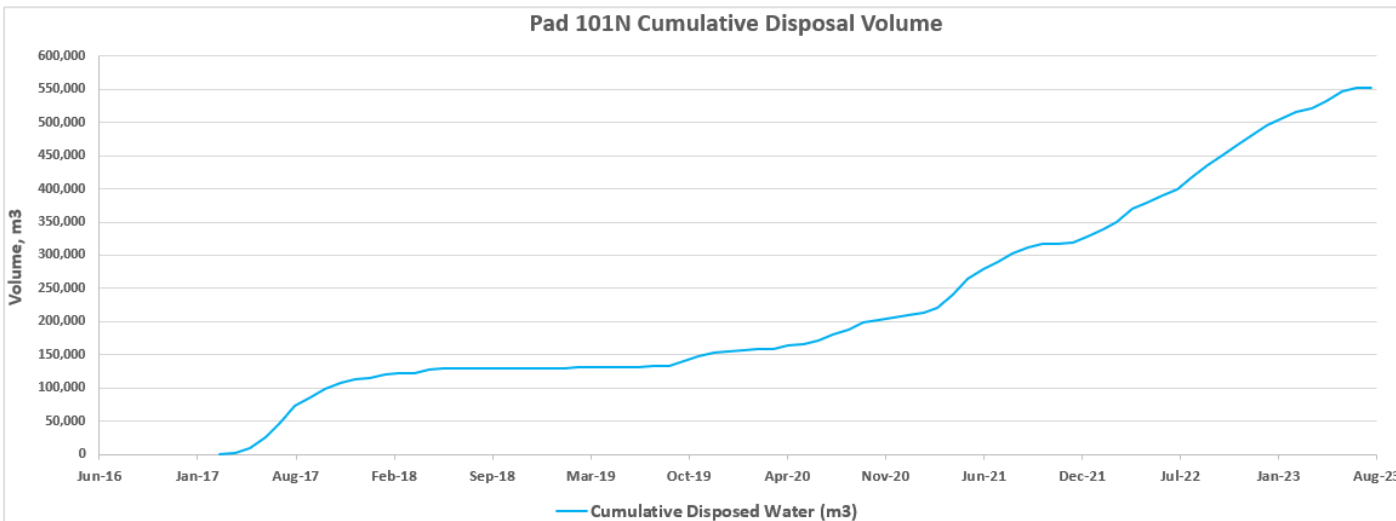
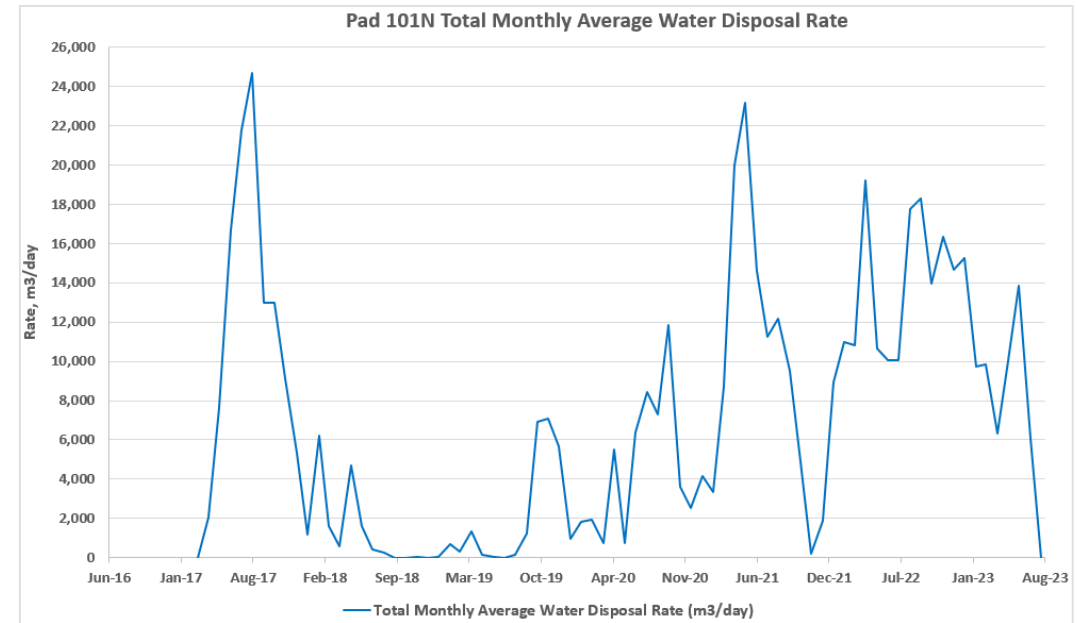
- Limited evidence of pressure communication between Pads 101N and 102W based on water analyses and pressure response
- 12-21 BHP decline resulting from reduced steam being delivered to the pad & NCG
- Pad 101N BHP exceeding Pad 102W BHP will not negatively impact resource recovery, and should be allowed



# PAD 101N DISPOSAL FUTURE PLANS

## PAD 101N AMENDMENT APPLICATIONS

- Applications submitted to:
  - Allow the BHIP on Pad 101N to exceed the BHIP on Pad 102W (up to the Pod One MOP of 5,250 kPag)
  - Remove requirement for water analysis if there is a water cut increase at neighboring pads during production
- Limited evidence of communication between 101N and 102W. The area of influence has been limited to the available pore space in 101N following SAGD operations
- MBHIP of 5,250 kPag will limit MWHIP at Pad 101N to ~ 700 kPag or ~ 200-300 m<sup>3</sup>/day of disposal
- Connacher seeks to restart disposal operations within pressure limitations noted above. **Technical review concluded + 33,000 to 48,000 m<sup>3</sup> of water can be injected into 101N. This would avoid 1,200 additional offsite disposal trucks if approved**
- **Produced water disposal into the McMurray formation has proven to be an excellent alternative for Connacher operations. Cumulative disposal to date is ~552,000 m<sup>3</sup>, resulting in ~ 14,000 fewer trucks on the road thereby improving safety and reducing GHGs**





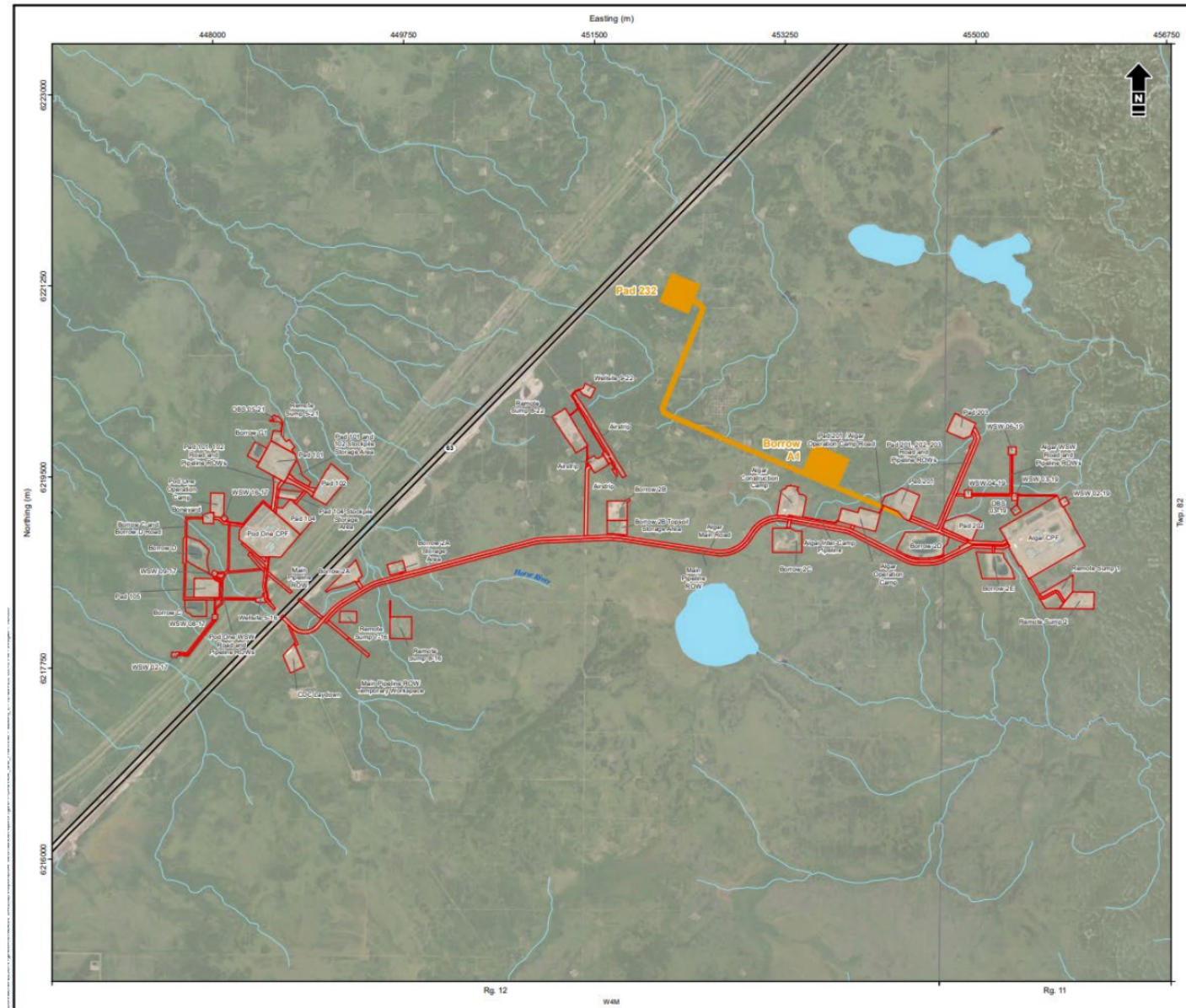
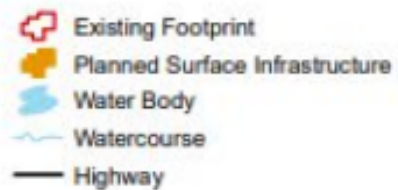
# SURFACE

- Infrastructure and Operations
- Surface Heave

# INFRASTRUCTURE AND OPERATIONS

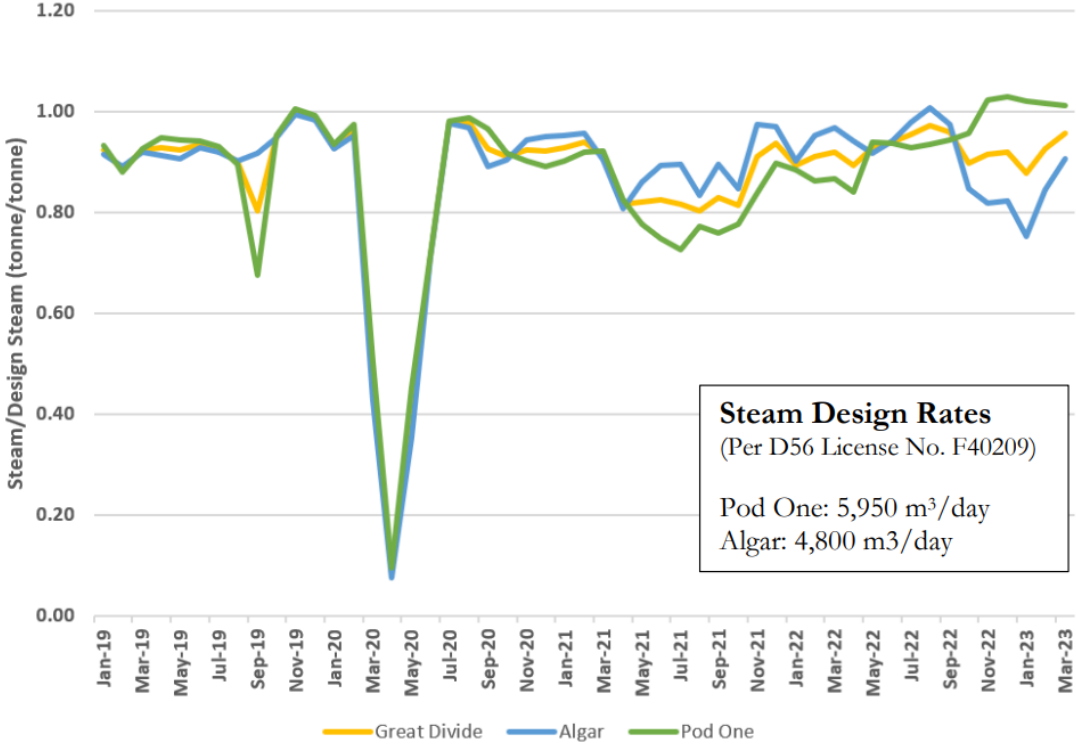
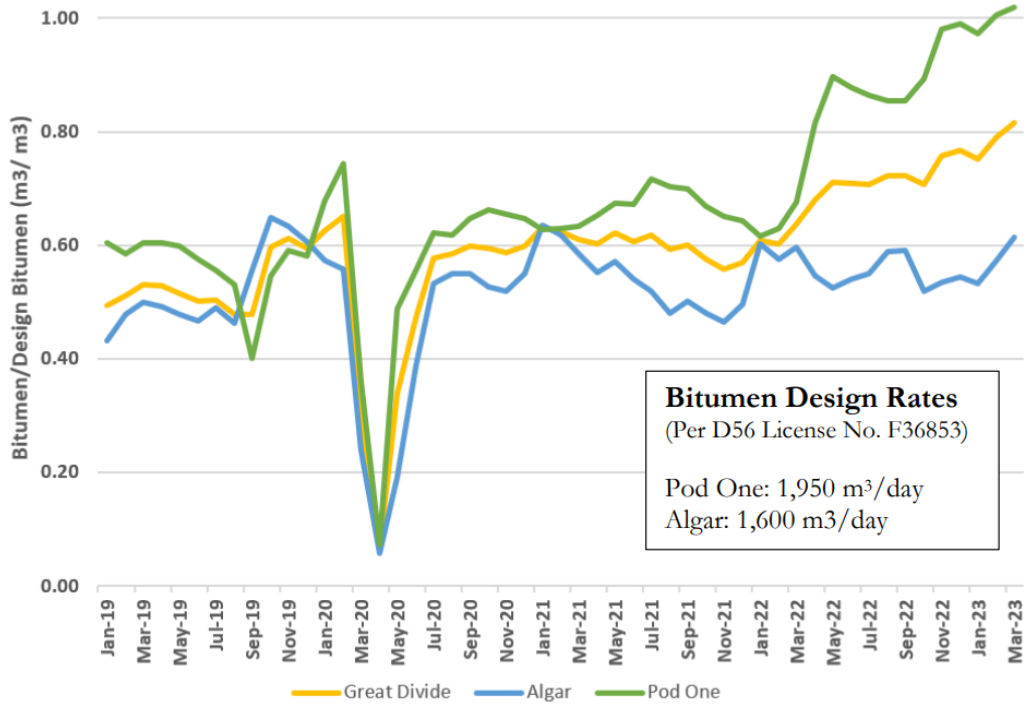
## BUILT AND PLANNED INFRASTRUCTURE WITH THE DEVELOPMENT AREA

- There were no modifications in 2022 to the Pod One or Algar CPFs that required approvals



# INFRASTRUCTURE AND OPERATIONS

## OPERATIONAL VS. DESIGN RATES FOR BITUMEN AND STEAM

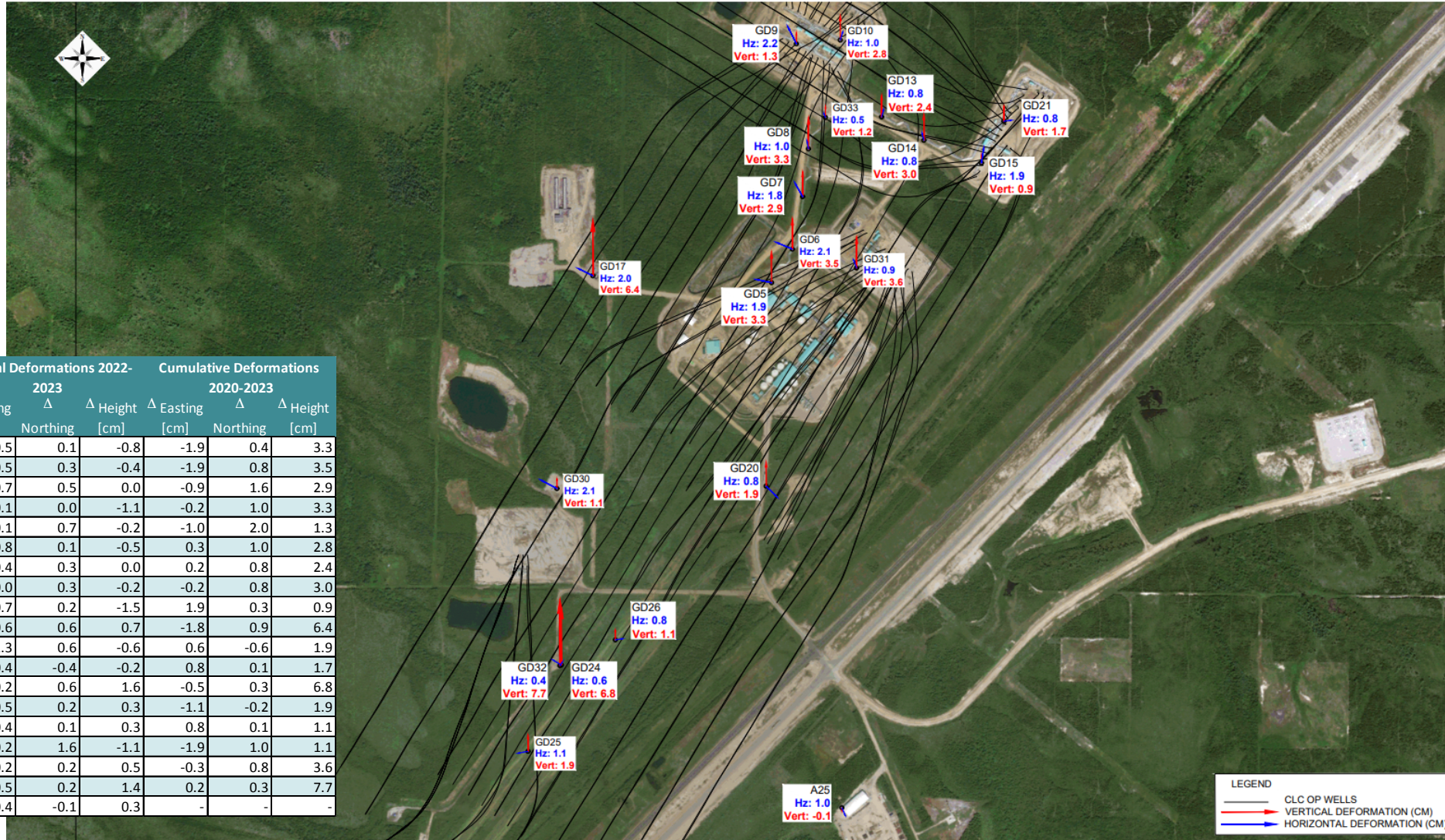




# SURFACE HEAVE

## POD ONE NET MOVEMENT: 2020 - 2023

- Displacements (for this monitoring period) are within the range predicted in the Great Divide Surface Heave study completed for the Expansion Application
- Movements are within design tolerances for civil structures
- No concerns observed



Point	Annual Deformations 2020-2021			Annual Deformations 2021-2022			Annual Deformations 2022-2023			Cumulative Deformations 2020-2023		
	Δ Easting [cm]	Δ Northing [cm]	Δ Height [cm]	Δ Easting [cm]	Δ Northing [cm]	Δ Height [cm]	Δ Easting [cm]	Δ Northing [cm]	Δ Height [cm]	Δ Easting [cm]	Δ Northing [cm]	Δ Height [cm]
GD5	-0.4	-0.2	2.1	-1.0	0.5	2.0	-0.5	0.1	-0.8	-1.9	0.4	3.3
GD6	-0.5	0.0	2.6	-0.9	0.5	1.3	-0.5	0.3	-0.4	-1.9	0.8	3.5
GD7	0.1	0.0	2.2	-0.3	1.1	0.7	-0.7	0.5	0.0	-0.9	1.6	2.9
GD8	0.0	0.3	3.3	-0.1	0.7	1.1	-0.1	0.0	-1.1	-0.2	1.0	3.3
GD9	-0.5	0.2	1.6	-0.4	1.1	-0.1	-0.1	0.7	-0.2	-1.0	2.0	1.3
GD10	0.6	-0.1	1.8	0.5	1.0	1.5	-0.8	0.1	-0.5	0.3	1.0	2.8
GD13	0.1	0.1	2.0	0.5	0.4	0.4	-0.4	0.3	0.0	0.2	0.8	2.4
GD14	0.5	0.0	2.9	-0.7	0.5	0.3	0.0	0.3	-0.2	-0.2	0.8	3.0
GD15	0.4	-0.6	2.5	0.8	0.7	-0.1	0.7	0.2	-1.5	1.9	0.3	0.9
GD17	-0.6	0.3	4.1	-0.6	0.0	1.6	-0.6	0.6	0.7	-1.8	0.9	6.4
GD20	0.0	-0.7	2.1	-0.7	-0.5	0.4	1.3	0.6	-0.6	0.6	-0.6	1.9
GD21	0.0	0.0	1.4	0.4	0.5	0.5	0.4	-0.4	-0.2	0.8	0.1	1.7
GD24	-0.5	-0.8	4.3	0.2	0.5	0.9	-0.2	0.6	1.6	-0.5	0.3	6.8
GD25	-1.0	-0.5	0.9	0.4	0.1	0.7	-0.5	0.2	0.3	-1.1	-0.2	1.9
GD26	1.8	-0.7	0.3	-0.6	0.7	0.5	-0.4	0.1	0.3	0.8	0.1	1.1
GD30	-0.6	-0.2	2.0	-1.1	-0.4	0.2	-0.2	1.6	-1.1	-1.9	1.0	1.1
GD31	0.2	0.2	1.4	-0.3	0.4	1.7	-0.2	0.2	0.5	-0.3	0.8	3.6
GD32	-0.2	-0.2	4.8	-0.1	0.3	1.5	0.5	0.2	1.4	0.2	0.3	7.7
GD33	-	-	-	0.2	0.6	0.9	-0.4	-0.1	0.3	-	-	-

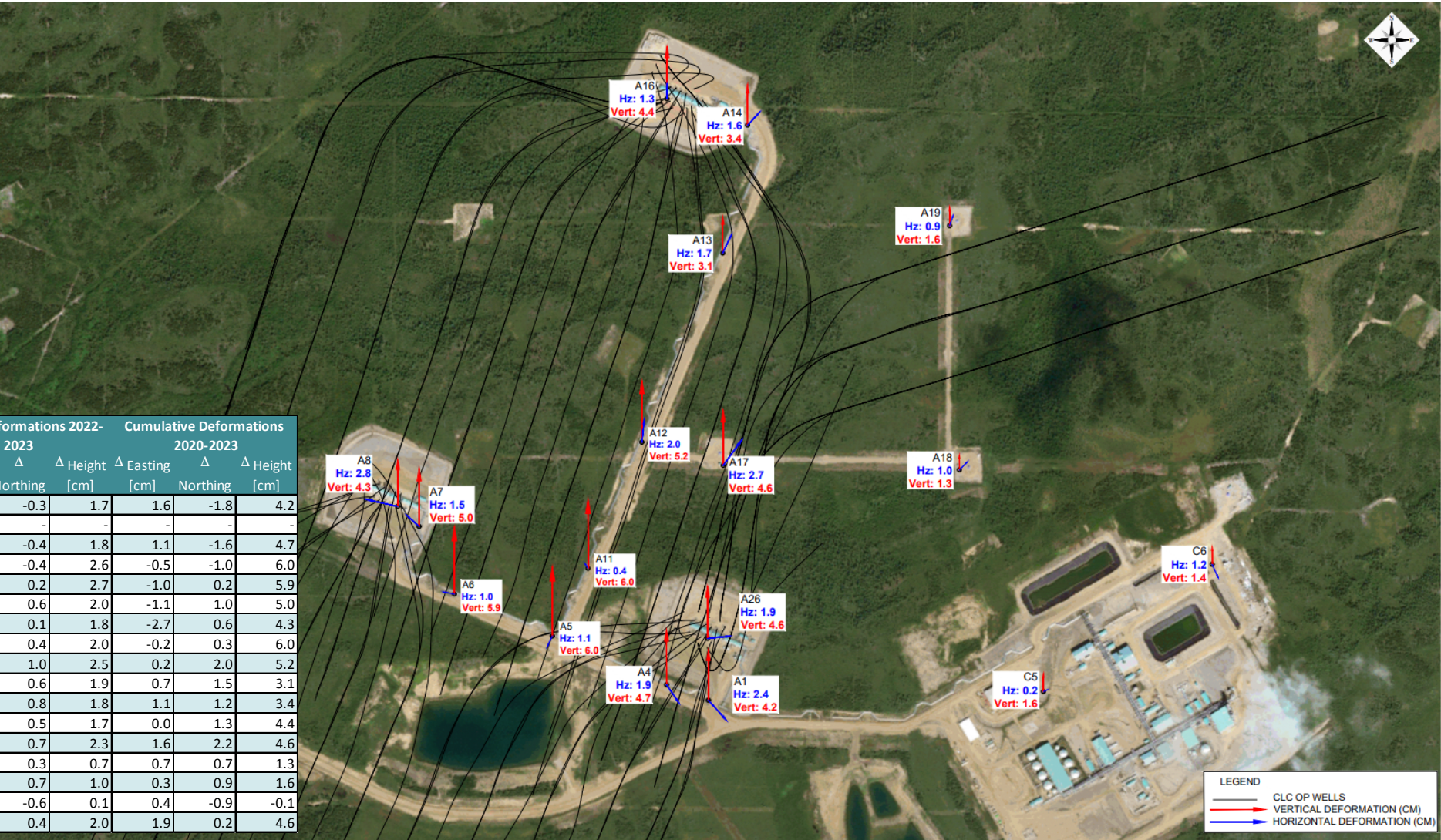


# SURFACE HEAVE

ALGAR NET MOVEMENT: 2020 - 2023

- Displacements (for this monitoring period) are within the range predicted in the Great Divide Surface Heave study completed for the Expansion Application
- Movements are within design tolerances for civil structures
- No concerns observed

Point	Annual Deformations 2020-2021			Annual Deformations 2021-2022			Annual Deformations 2022-2023			Cumulative Deformations 2020-2023		
	Δ Easting	Δ Northing	Δ Height	Δ Easting	Δ Northing	Δ Height	Δ Easting	Δ Northing	Δ Height	Δ Easting	Δ Northing	Δ Height
	[cm]	[cm]	[cm]	[cm]	[cm]	[cm]	[cm]	[cm]	[cm]	[cm]	[cm]	[cm]
A1	0.4	-1.0	2.0	0.8	-0.5	0.5	0.4	-0.3	1.7	1.6	-1.8	4.2
A2	0.6	-0.3	2.4	-	-	-	-	-	-	-	-	-
A4	0.0	-0.8	2.6	0.7	-0.4	0.3	0.4	-0.4	1.8	1.1	-1.6	4.7
A5	-0.5	-0.8	2.8	0.2	0.2	0.6	-0.2	-0.4	2.6	-0.5	-1.0	6.0
A6	-0.1	-0.6	2.8	-0.4	0.6	0.4	-0.5	0.2	2.7	-1.0	0.2	5.9
A7	-0.6	-0.2	2.4	-0.2	0.6	0.6	-0.3	0.6	2.0	-1.1	1.0	5.0
A8	-1.3	-0.2	2.1	-0.4	0.7	0.4	-1.0	0.1	1.8	-2.7	0.6	4.3
A11	-0.1	-0.3	3.1	0.4	0.2	0.9	-0.5	0.4	2.0	-0.2	0.3	6.0
A12	0.0	-0.1	2.7	0.4	1.1	0.0	-0.2	1.0	2.5	0.2	2.0	5.2
A13	0.1	-0.1	1.4	0.6	1.0	-0.2	0.0	0.6	1.9	0.7	1.5	3.1
A14	0.2	-0.4	1.7	1.0	0.8	-0.1	-0.1	0.8	1.8	1.1	1.2	3.4
A16	0.1	0.1	2.0	0.2	0.7	0.7	-0.3	0.5	1.7	0.0	1.3	4.4
A17	0.3	0.8	1.5	0.5	0.7	0.8	0.8	0.7	2.3	1.6	2.2	4.6
A18	0.1	0.5	0.8	0.2	-0.1	-0.2	0.4	0.3	0.7	0.7	0.7	1.3
A19	0.3	0.1	1.2	0.0	0.1	-0.6	0.0	0.7	1.0	0.3	0.9	1.6
A25	0.0	-0.8	0.0	-0.1	0.5	-0.2	0.5	-0.6	0.1	0.4	-0.9	-0.1
A26	0.6	-0.7	2.3	0.8	0.5	0.3	0.5	0.4	2.0	1.9	0.2	4.6



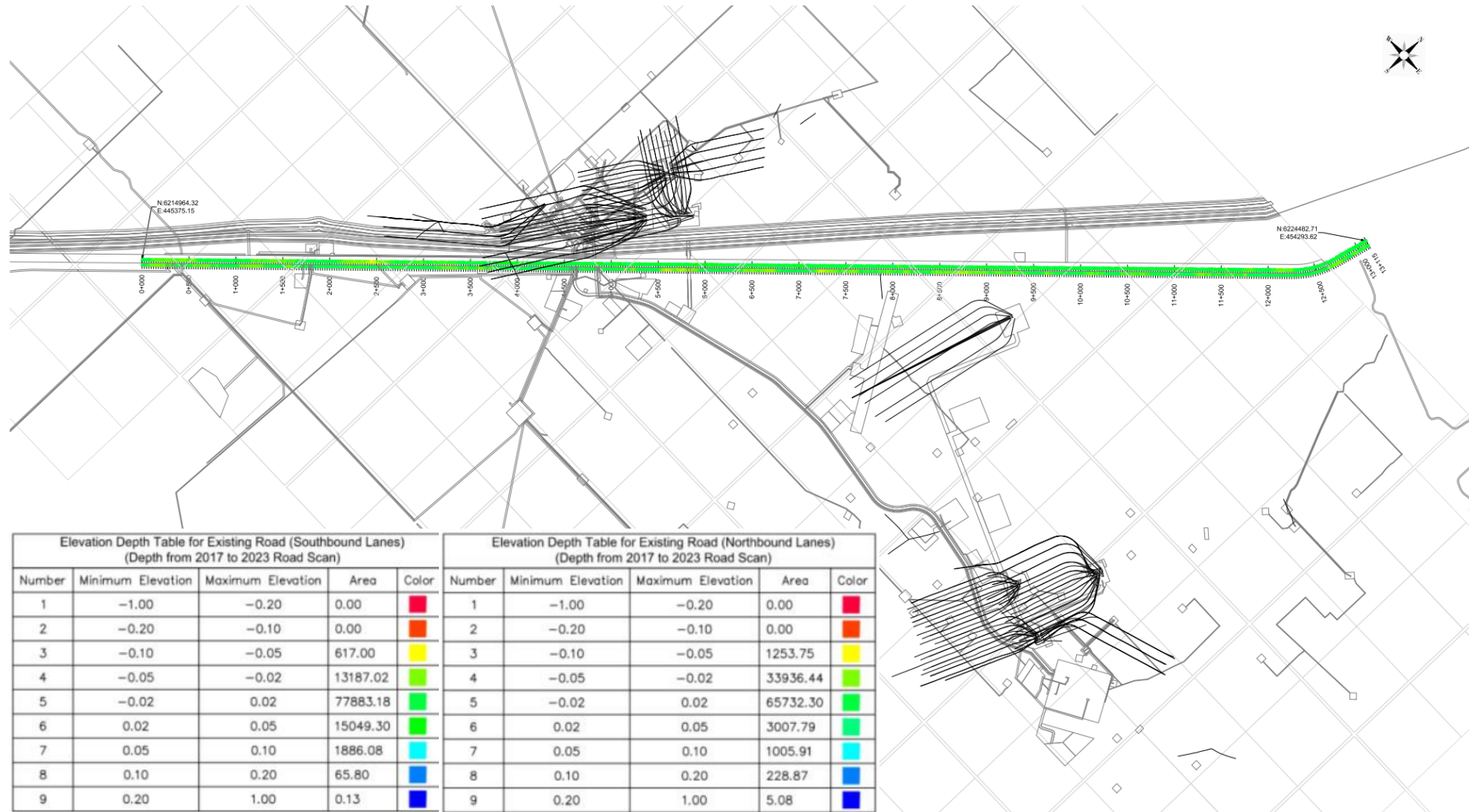
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# SURFACE HEAVE

## HIGHWAY 63 NET MOVEMENT: 2017-2023

- ~12 km Hwy 63 near Great Divide Project surveyed for terrain deformations
- Net deviation 2017-2023
  - North/Southbound lanes
  - Avg: -0.012m - 0.001m movement
  - 98 % of road surface deviations falling within -0.05 to +0.05m
- Movements not significant and are within limit of measurement accuracy
- Deviations not localized and no apparent trend to differentiate between seasonal and systematic factors
- Deviations likely due to seasonal temperature variations and normal highway traffic





# HISTORICAL AND UPCOMING ACTIVITY

- Suspensions and Abandonments
- Applications and Approvals
- Compliance History

# SUSPENSION AND ABANDONMENTS

## WELL SUSPENSIONS AND ABANDONMENTS

Pattern	Well Name	Well License Number	License Status	Status Change date
101	CLL 101 I03 DIVIDE 15-21-82-12	374122	Suspended with permanent bridge plug	2/5/2022
101	CLL 101 I04 DIVIDE 15-21-82-12	374123	Suspended with permanent bridge plug	2/24/2022
101	CLL 101 I05 DIVIDE 10-21-82-12	374124	Suspended with bridge plug and cement to surface	6/3/2022

- No well patterns were abandoned or suspended in the reporting period



# APPLICATIONS AND APPROVALS

## REGULATORY APPLICATIONS AND LESSONS/ SUCCESSES IN 2022

Application No.	Description	Submission Date	Approval Date	Approval No.
007-240008	EPEA – GWMP Amendment	10/18/2021	02/11/2022	240008-01-01
1935580	Revise NCG/ BD Strategy	01/24/2022	03/28/2022	10587X
1936000	Pad 104 Well Pair Spacing Increase	03/04/2022	18/04/2022	10587Y
1936181	Sustaining Wells Pads	03/22/2022	08/22/2022	10587Z
1939367	Pod One Dilbit Tank Addition	09/20/2022	10/07/2022	OSCA 1939367
1939734	Pad 104 Step Out Wells	10/19/2022	02/15/2023	10587AA

- There were no events that materially affected scheme performance or energy/material balance
- Lessons and successes
  - Connacher continues to develop **SAGD+®** process, which has shown to increase the bitumen rate, decrease the steam-oil-ratio (SOR), reduce water usage, and lower greenhouse gas (GHG) emissions at Algar
  - **SAGD+®** process implemented on 3 new well pairs on Pad 203 and approval received in 2022 for field-wide implementation on all existing and future wells associated with the Great Divide Project.
  - NCG co-injection at Pod One has proven to be a successful steam management strategy

# COMPLIANCE HISTORY

## REPORTABLE RELEASE & FLARING/VENTING

2022 Reportable Releases								
Date (m/d/y)	Substance Released	Volume Released (L)	On-site/Off-site	Location & Source	DDS Notification ID	AER FIS #	CIC Reference #	
▼	▼	▼	▼	▼	▼	▼	▼	
4/16/2022	Drilling Mud	20,000	both	Pad 202	N/A	20220873	389637	
Event Type	Source Location	Start Date (m/d/y)	H <sub>2</sub> S Conc. (mol/kmol)	Volume (e <sup>m</sup> m <sup>3</sup> )	Duration (mins)	Summary	DDS Notification ID	AER CIC Reference #
▼	▼	▼	▼	▼	▼	▼	▼	▼
Venting (Planned Maint.)	POD ONE	2022-01-03	54.1	0.08	41	Connacher commenced its intermittent venting from its Pod One CPF on January 3, 2022 @ 10:14 HRS. This venting event occurred due to planned maintenance and inspection on K-613 (Evaporator Vent Condenser Compressor) oil change and belt inspection. This resulted in a release of air effluent stream to the atmosphere. K-613(EVC) was restarted on January 3, 2022 @ 10:55 HRS. Intermittent venting ceased on January 3, 2022 @ 10:55 HRS. Venting was reported to the EDGE Call Center on Monday, January 3, 2022 @ 12:41 HRS.	31520417	386781
Venting (Emergency)	POD ONE	2022-01-04	54.1	0.24	130	Connacher commenced its intermittent venting from its Pod One CPF on January 4, 2022 @ 05:36 HRS. This venting event occurred due to motor fault on evap 1 causing K-613 (Evaporator Vent Condenser Compressor) to vent. This resulted in a release of air effluent stream to the atmosphere. K-613(EVC) was restarted on January 4, 2022 @ 10:05 HRS. Intermittent venting ceased on January 4, 2022 @ 10:05 HRS. Venting was reported to the EDGE Call Center on Tuesday, January 4, 2022 @ 12:19 HRS.	31521701	386807
Flaring (Planned Maint.)	ALGAR	2022-01-05	0.0	2.26	510	Connacher commenced its intermittent flaring from its Algar CPF on January 5, 2022 @ 22:57 HRS. This flaring event occurred to planned maintenance on boiler H-801 to perform required refractory work. The work was completed and the intermittent flaring ceased on January 7, 2022 @ 04:44 HRS. the flaring event was entered into ONE STOP on January 8, 2022. Email Notification was sent to the AER on January 3, 2022.	31527001	N/A
Flaring (Planned Maint.)	ALGAR	2022-01-24	0.0	10.81	525	Connacher commenced its intermittent flaring from its Algar CPF on January 24, 2022 @ 03:44 HRS. This flaring event occurred to planned maintenance on H-802. When the boiler was taken offline the CPF was unable to keep up with burning off the excess gas. The maintenance was completed and the intermittent flaring ceased on January 24, 2022 @ 21:54 HRS.	31553616	N/A
Flaring (Planned Maint.)	ALGAR	2022-04-05	0.0	13.29	805	Connacher commenced its intermittent flaring from its Algar CPF on April 5, 2022 @ 05:25 HRS. This flaring event occurred to planned maintenance on H-801. When the boiler was taken offline the CPF was unable to keep up with burning off the excess gas. The maintenance was completed and the intermittent flaring ceased on April 5, 2022 @ 18:50 HRS.	31714999	N/A
Venting (Planned Maint.)	POD ONE	2022-04-18	48.9	0.58	369	Connacher commenced its intermittent venting from its Pod One CPF on April 18, 2022 @ 10:32 HRS. This venting event occurred due to planned maintenance on E-439 to complete the maintenance K-613 had to be taken offline. This resulted in a release of air effluent stream to the atmosphere. K-613(EVC) was restarted once the planned maintenance was completed E-439, K-613 (EVC) was restarted on April 18, 2022 @ 16:41 HRS. Intermittent venting ceased on April 18, 2022 @ 16:41 HRS. Venting was reported to the EDGE Call Center on Wednesday April 19, 2022 @ 10:26 HRS. REF #389686 by Connie Reichle. Written Notification was submitted to the AER on April 13, 2022.	31735067	389686
Flaring (Planned Maint.)	ALGAR	2022-04-19	0.0	0.98	333	Connacher commenced its intermittent flaring from its Algar CPF on April 19, 2022 @ 22:39 HRS. This flaring event occurred to planned maintenance on V-102 FWKO. The flaring ceased on April 20, 2022 2 03:59 HRS, once V-102 was depressured for cleaning(Planned Maintenance). Written Notification was sent to the AER on March 30, 2022.	31735283	N/A
Flaring (Planned Maint.)	ALGAR	2022-04-23	0.0	2.96	692	Connacher commenced its intermittent flaring from its Algar CPF on April 23, 2022 @ 03:54 HRS. This flaring event occurred to planned maintenance on V-102 FWKO. The flaring ceased on April 24, 2022 2 01:37 HRS, once V-102 was repressured and V-108 was depressured for cleaning(Planned Maintenance). Written Notification was sent to the AER on March 30, 2022.	31738481	N/A

Event Type	Source Location	Start Date (m/d/y)	H <sub>2</sub> S Conc. (mol/kmol)	Volume (e <sup>3</sup> m <sup>3</sup> )	Duration (mins)	Summary	DDS Notification ID	AER CIC Reference #
Flaring (Planned Maint.)	ALGAR	2022-04-26	0.0	1.28	349	Connacher commenced its intermittent flaring from its Algar CPF on April 26, 2022 @ 21:48 HRS. This flaring event occurred to planned maintenance on V-108 FWKO. The flaring ceased on April 27, 2022 @ 03:37 HRS, once V-108 was repressured and back in service. Written Notification was sent to the AER on March 30, 2022.	31743012	N/A
Venting (Emergency)	ALGAR	2022-06-25	150.4	0.05	26	Connacher commenced its intermittent venting from its Algar CPF on June 25, 2022 @ 23:06 HRS. This venting event occurred due to a boiler tripping creating a large swing in downstream pressure at the outlet of the ejectors. Resulted in a loss of gas flow. This resulted in a release of air effluent stream to the atmosphere. The boiler was restarted on June 25, 2022 @ 23:32 HRS. pressure to the Evap Vent collection system was reestablished Intermittent venting ceased on June 25, 2022 @ 23:32 HRS. Venting was reported to the EDGE Call Center on Sunday June 26, 2022 @ 08:33 HRS.	31809692	400669
Venting (Emergency)	ALGAR	2022-06-28	150.4	0.05	170	Connacher commenced its intermittent venting from its Algar CPF on June 28, 2022 @ 04:00 HRS. This venting event occurred due to a power bump from the horsenver ATCO substation causing the Algar CPF to trip offline. This resulted in a release of air effluent stream to the atmosphere. The Algar CPF was restarted on June 28, 2022 @ 06:50 HRS. Intermittent venting ceased on June 28, 2022 @ 06:50 HRS. Venting was reported to the EDGE Call Center on Sunday June 28, 2022 @ 10:11 HRS.	One Stop not required as venting was under the 4 hour/30,000m3 requirement	400749
Venting (Emergency)	POD ONE	2022-07-01	56.2	0.21	111	Connacher commenced its intermittent venting from its Pod One CPF on July 1, 2022 @ 06:44 HRS. This venting event occurred due to failed level transmitter(LT-72801) on the waste tank, causing the Evap vent collection system to trip off line. This resulted in a release of air effluent stream to the atmosphere. The Evap vent collection system was restated at Pod One on July 1, 2022 @ 08:35 Venting was reported to the EDGE Call Center on Friday July, 1 2022 @ 11:42 HRS.	One Stop not required as venting was under the 4 hour/30,000m3 requirement	400905
Venting (Planned Maint.)	POD ONE	2022-07-10	56.2	0.20	105	Connacher commenced its intermittent venting from its Pod One CPF on July 10, 2022 @ 14:05 HRS. This venting event occurred due to planned maintenance and inspection on K-613 (Evaporator Vent Condenser Compressor) oil change and belt inspection. This resulted in a release of air effluent stream to the atmosphere. K-613(EVC) was restarted on July 10, 2022 @ 14:05 HRS. Intermittent venting ceased on July 10, 2022 @ 15:50 HRS. Venting was reported to the EDGE Call Center on Monday, July 11, 2022 @ 10:19 HRS.		401194
Venting (Emergency)	ALGAR	2022-07-24	138.7	0.18	93	Connacher commenced its intermittent venting from its Algar CPF on July 24, 2022 @ 16:05 HRS. This venting event occurred due to an Evap tripping creating a large swing in suction pressure at the inlet of the ejectors. Resulted in a loss of Vapour supply to the Evap vent collection system. This resulted in a release of air effluent stream to the atmosphere. The Evap Vent Collection System was restarted on July 24, 2022 @ 17:38 HRS. Vapour supply to the Evap Vent collection system was reestablished. Intermittent venting ceased on July 24, 2022 @ 17:38 HRS. Venting was reported to the EDGE Call Center on Monday July 25, 2022 @ 07:55 HRS.	One Stop not required as venting was under the 4 hour/30,000m3 requirement	401811
Venting (Emergency)	ALGAR	2022-08-25	152.7	0.36	189	Connacher commenced its intermittent venting from its Algar CPF on August 25, 2022 @ 08:23 HRS. This venting event occurred due to shutting in boiler for inspection due to abnormal vibration. Equipment was restarted on August 25, 2022 @ 11:32 HRS. Intermittent venting ceased on August 25, 2022 @ 11:32 HRS. Venting was reported to the EDGE Call Center on Thursday August 25, 2022 @ 13:27 HRS.	One Stop not required as venting was under the 4 hour/30,000m3 requirement	403238
Venting (Planned Maint.)	POD ONE	2022-09-08	75.2	1.06	565	Connacher commenced its intermittent venting from its Pod One CPF on Sept 8, 2022 @ 08:05 HRS. This venting event occurred due to planned maintenance and Internal inspection, PSV replacement in H-807 boiler. This resulted in a release of air effluent stream to the atmosphere. K-613(EVC) was restarted on Sept 8, 2022 @ 17:30 HRS. Intermittent venting ceased on Sept 8, 2022 @ 17:30 HRS. Venting was reported to the EDGE Call Center on Friday, Sept 9, 2022 @ 14:01 HRS.	31899367	404135



# COMPLIANCE HISTORY

Event Type	Source Location	Start Date (m/d/y)	H <sub>2</sub> S Conc. (mol/kmol)	Volume (e <sup>3</sup> m <sup>3</sup> )	Duration (mins)	Summary	DDS Notification ID	AER CIC Reference #
Flaring (Planned Maint.)	ALGAR	2022-09-24	149.5	0.87	462	Connacher commenced its intermittent flaring from its Algar CPF on September 24, 2022 @ 08:00 HRS. This flaring event occurred to planned maintenance to tie in SAGD+. The flaring ceased on September, 24, 2022 @ 15:42 HRS, once SAGD+ tie in was completed (Planned Maintenance). Written Notification was sent to the AER on September 18, 2022.	31925913	404787
Venting (Planned Maint.)	ALGAR	2022-10-03	149.5	1.05	560	Connacher commenced its continuous venting from its Algar CPF on October 03, 2022 @ 08:26 HRS. This venting event occurred due to a complete power loss to the Algar CPF. ATCO was completing maintenance on its Horse River Substation and caused a blackout. This resulted in a release of air effluent stream to the atmosphere. The Algar CPF was restarted on October 03 @ 14:30 HRS. The continuous venting ceased on October 03, 2022 @ 17:46 HRS. Venting was reported to the EDGE Call Center on Tuesday October 04, 2022 @ 13:38 HRS. REF #405165 by Connie Reichle. A written Notification was sent to the AER on October 01, 2022.	31938947	405165
Venting (Planned Maint.)	ALGAR	2022-10-05	149.5	0.23	120	Connacher commenced its continuous venting from its Algar CPF on October 05, 2022 @ 08:07 HRS. This venting event occurred due to ATCO was completing maintenance on its Horse River Substation. Once job was completed on the Horse River Substation, Connacher switched over from "island mode " using the cogen power and converting back to highline power. This resulted in a release of air effluent stream to the atmosphere. The Algar CPF was restarted on October 05 @ 10:07 HRS. The continuous venting ceased on October 05, 2022 @ 10:07 HRS. Venting was reported to the EDGE Call Center on Tuesday October 05, 2022 @ 14:49 HRS. A written Notification was sent to the AER on October 01, 2022.	One Stop not required as venting was under the 4 hour/30,000m3 requirement	405235
Venting (Emergency)	POD ONE	2022-10-13	35.5	0.11	60	Connacher commenced its intermittent venting from its Pod One CPF on October 13, 2022 @ 22:12 HRS. This venting event occurred due to the drive belt on K-613 Evap Vent Condenser compressor(EVC) shredding. This resulted in a release of air effluent stream to the atmosphere. The Belt was changed and K-613 was restarted. The intermittent venting ceased on October 13, 2022 @ 23:12 HRS. Venting was reported to the EDGE call center on Friday October 14, 2022 @ 09:52 HRS.	One Stop not required as venting was under the 4 hour/30,000m3 requirement	405588
Flaring (Planned Maint.)	ALGAR	2022-10-12	0.0	46.47	1,669	Connacher commenced its intermittent flaring from its Algar CPF on October 12, 2022 @ 12:10 HRS. The Flaring event occurred due to bring the Algar CPF back online after the SAGD + tie in outage. The Algar CPF was restarted on October 13, 2022 and continued with operational issues getting back on line. Intermittent Flaring ceased on October 15, 2022 @ 17:00 HRS. Flaring was reported to the EDGE call center on October 15, 2022 @ 14:58 HRS. an Updated on October 16, 2022 @ 09:00 HRS.	31954294	405648
Venting (Planned Maint.)	ALGAR	2022-10-13	144.2	0.24	128	Connacher commenced its intermittent venting from its Algar CPF on October 13, 2022 @ 01:23 HRS. This venting event occurred due to a plant outage to tie in SAGD+. This resulted in a release of air effluent stream to the atmosphere. The tie ins were complete and the CPF was restarted. The intermittent venting ceased on October 14, 2022 @ 12:47 HRS. Venting was reported to the EDGE call center on October 15, 2022 @ 14:58 HRS. REF # 405649. Total time: 128 mins. Total Vol. 0.24e3m3. H2S Con 144.2 mol/kmol	31954232	405649
Flaring (Unplanned Maint.)	ALGAR	2023-12-11	134.8	39.74		Connacher commenced its intermittent flaring from its Algar CPF on December 11, 2022 @ 16:20 HRS. The Flaring event occurred due to bringing the SAGD+ online. The Algar CPF was started on December 11, 2022 @ 16:20, and continued with start up issues to get online. Intermittent Flaring ceased on December 15, 2022 @ 15:37 HRS. Flaring was reported to the edge call center on Dec. 12, 2022 at 11:38 and updated on Dec. 16, 2022 @ 11:41	32049726	407675
Flaring (Unplanned Maint.)	ALGAR	2022-12-22	134.8	8.41	347	Connacher commenced its intermittent flaring from its Algar CPF on December 22, 2022 @ 14:34 HRS. The Flaring event occurred due to bringing the SAGD+ online. The Algar CPF was started on December 22, 2022 @ 14:34 HRS, and continued with start up issues to get online. Intermittent Flaring ceased on December 23, 2022 @ 06:49 HRS. Flaring was reported to the edge call center on Dec. 23, 2022 at 11:16	31011293	408000



# FUTURE PLANS

- Disposal Strategy
  - Clearwater Formation
  - Pad 101N
  - Future McMurray Targets
- Current and Future Development Plans

# DISPOSAL FUTURE PLANS

LOCAL SUBSURFACE DISPOSAL SOLUTION CONTINUES TO BE CRITICALLY IMPORTANT FOR OPERATIONS

- Clearwater Formation:
  - Commence disposal into the Clearwater Formation at the 100/14-18-082-11W4/00 well (*once applicable conditions have been met...*)
  - Limited term approval: 3-year duration, maximum injection rate of 300 m<sup>3</sup>/day
- Pad 101N:
  - Applied to rescind Clause (20) of Scheme Approval No. 10587CC and Clauses (4) and (6) of Class Ib Approval No. 12723
  - Continuation of disposal into the 00/14-21-082-12W4/0 and 02/14-21-082-12W4/0 wells at Pad 101N
- Future McMurray Disposal Prospects:
  - Disposal at Pad 102W and/or Algar Pad 202
  - Application being drafted



# CURRENT & FUTURE DEVELOPMENT PLANS

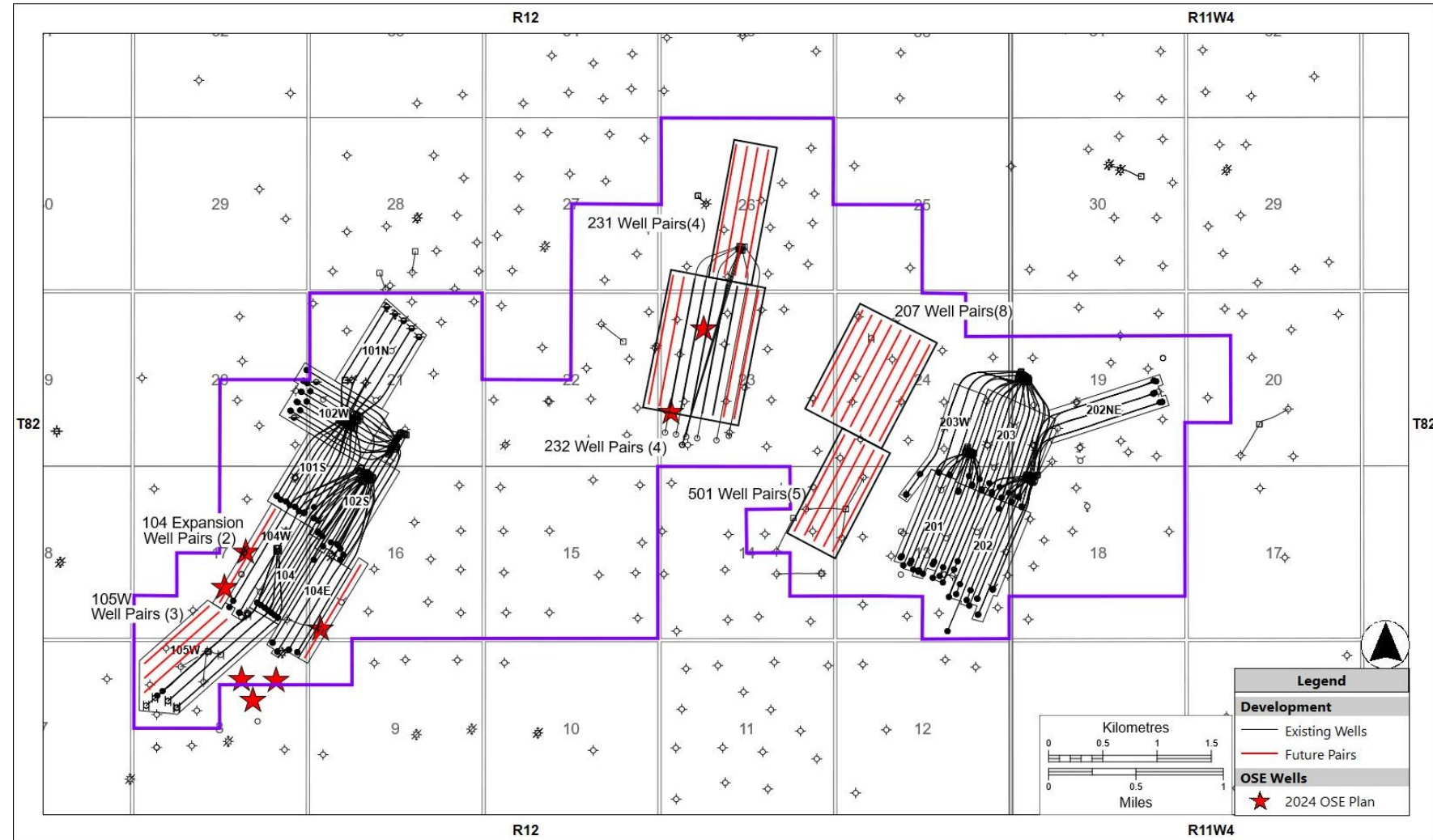
## CONNACHER CONTINUES TO PROGRESS MULTI YEAR DEVELOPMENT PLAN

- Progress disposal options as per previous slide
- Pad 232 currently being drilled, expected tie-in Q3 2024; additional wells to be drilled in 2024
- Pad 105W first-oil in Q4-2023; additional wells to be drilled in 2024
- Deployed **SAGD+**® process on remaining well pairs on 203W, 202N
- Initiated additional top gas injection at new 2-17 location
- Diluent pipeline tie-in Q2-2023
- LACT & dilbit blend sales line in service Q4-2024
- Potential pipeline crossing of Highway 63 for future Well Pad 105E development

# PLANNED DEVELOPMENT (JAN 2024 UPDATE)

## DRILLED AND APPROVED DRAINAGE PATTERNS, OSE LOCATIONS

- Pad 232:
  - 1<sup>st</sup> 5 pairs drilling completed in Nov 2023
  - Note: As-drilled trajectories for first 5 well pairs are preliminary. Map will be updated with final survey data in 2024.
  - Drill remaining 4 pairs in 2024
- Pad 105W
  - To drill remaining 3 pairs in 2024
- 104exp
  - Potential to drill in 2025
- Delineation
  - Approved OSE program for 2024 shown.
  - Future programs subject to budget approval
- Seismic
  - No immediate planned seismic programs
- Future pad development
  - Future approved pad locations shown, subject to budget approvals and development plans



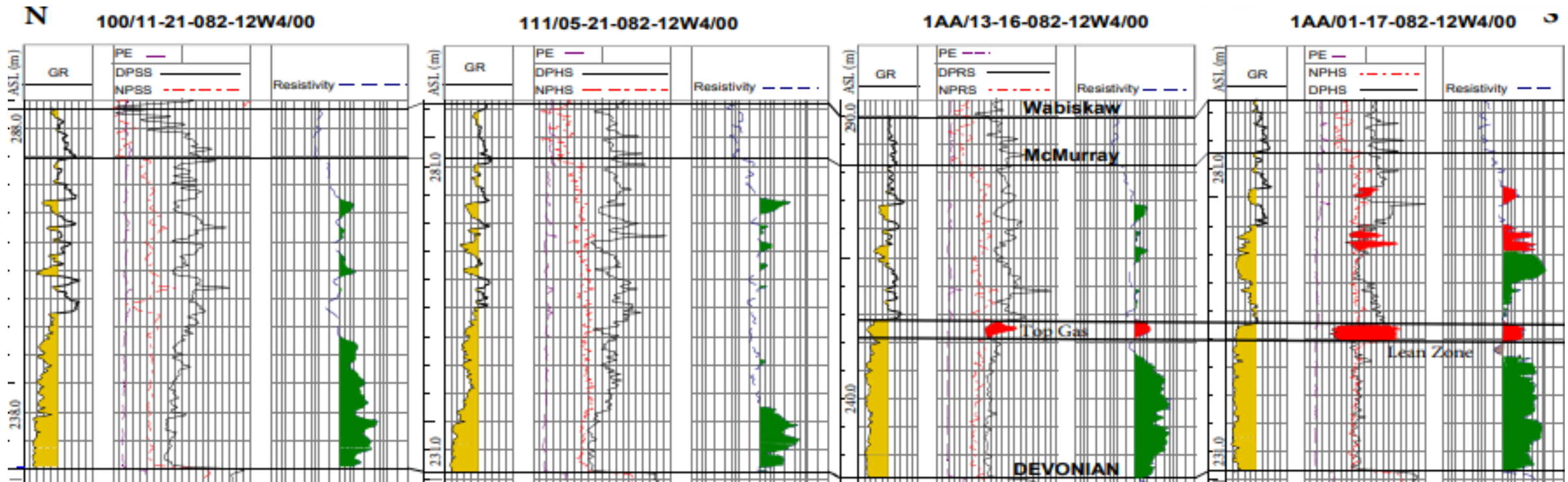
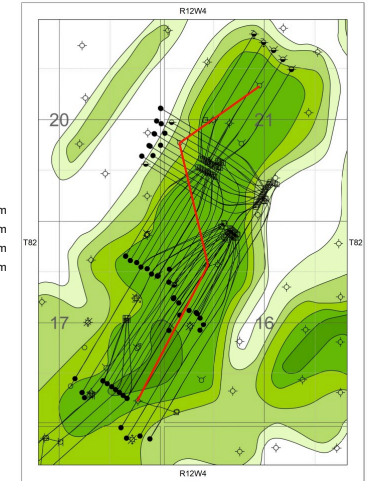


# APPENDIX

# CROSS-SECTIONS

## TYPICAL CROSS SECTION – POD ONE

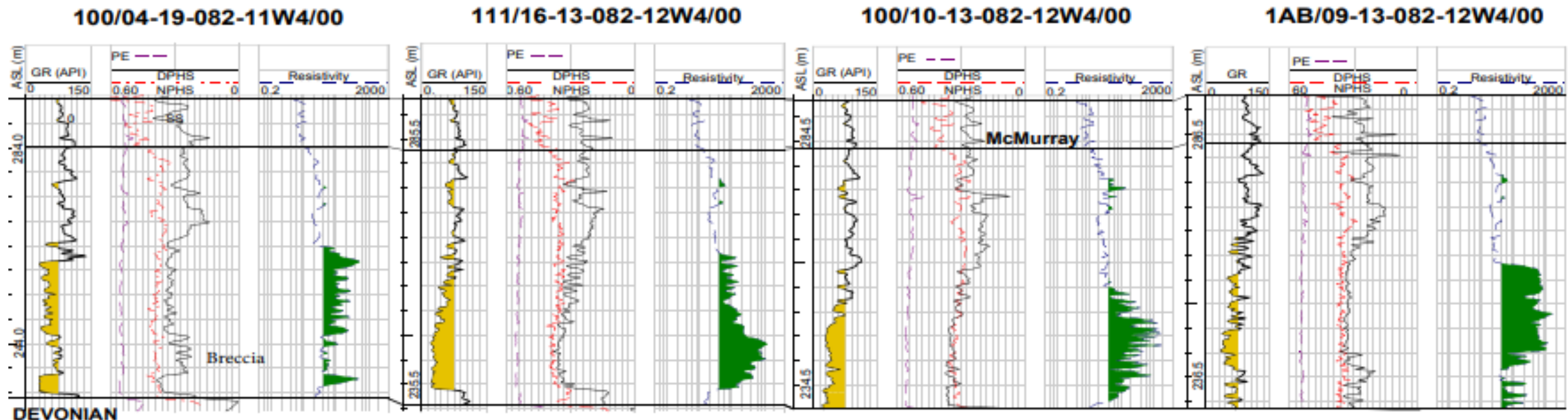
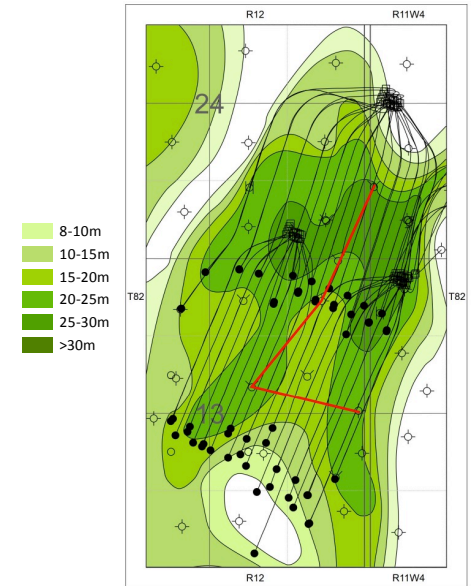
- Pod One (Pad 101N): characterized by higher IHS in upper part of reservoir (Well 111/05-21-082-12W4); sand body gradually thins to the west
- Reservoir to the south is dominated by clean Z1 sand facies (containing 0-10% fines); develops gas cap with lean zone above bitumen pay column



# CROSS-SECTIONS

## TYPICAL CROSS SECTION – ALGAR

- Algar reservoir: some IHS along with breccia deposit to the north (Well 100/04-19-082-11W4)
- Well (1AB/09-13-082-12W4) confirms high quality reservoir to east (seen on resistivity curve and verified by core); poor gamma ray caused by inaccurate log calibration

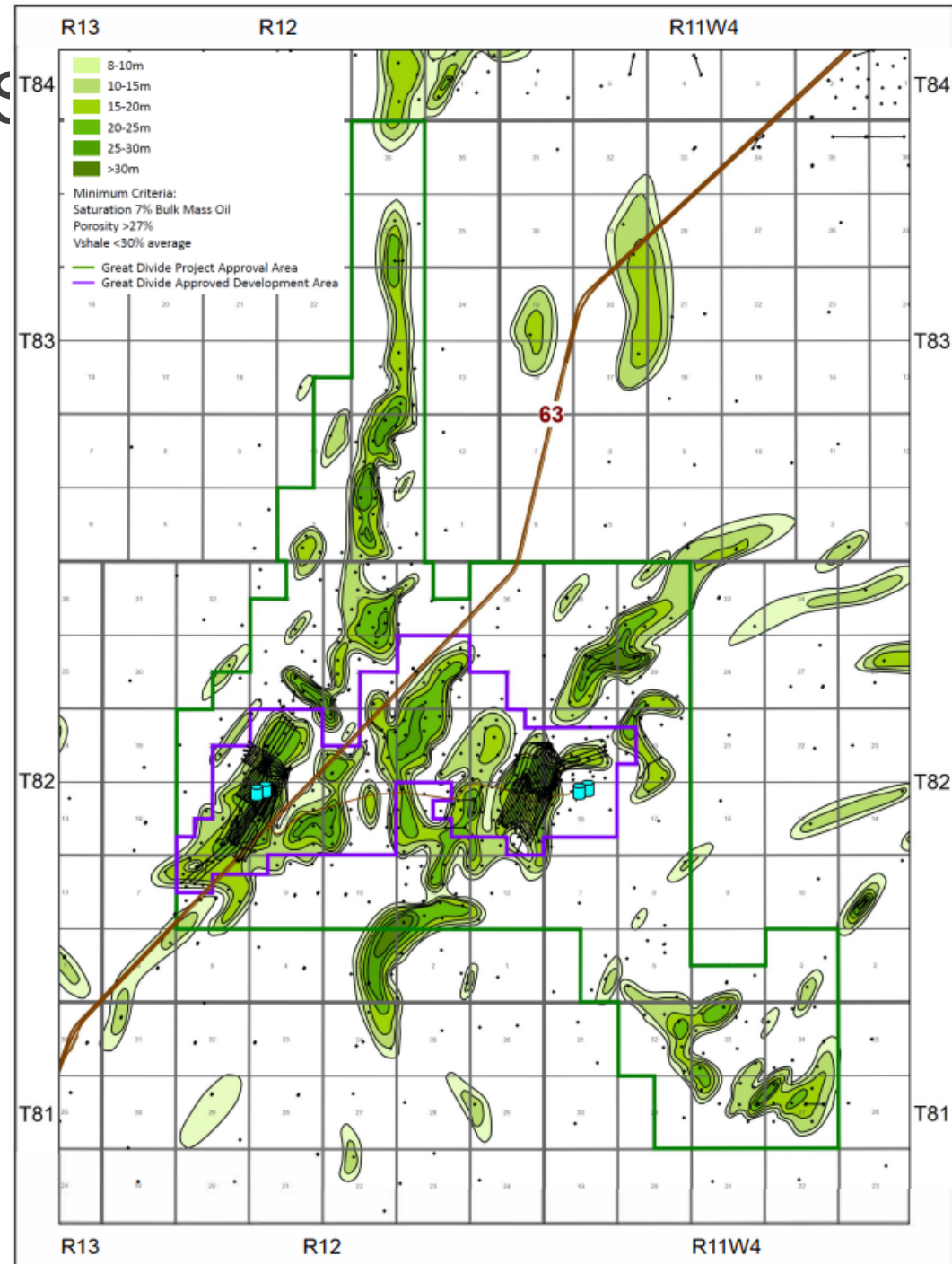




# DEVELOPMENT AREA MAPS

## NET PAY MAP

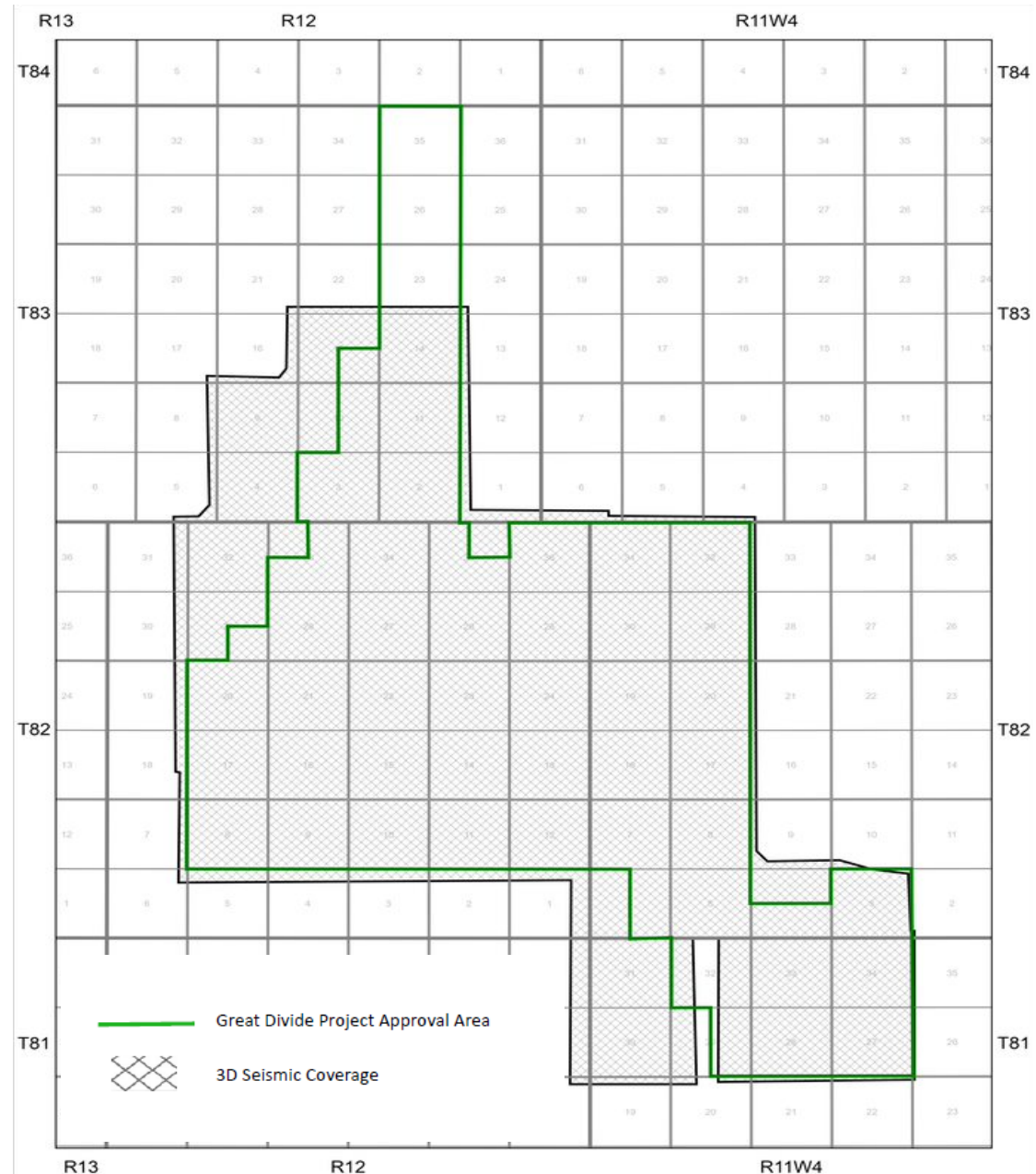
- Resource cut-off criteria consist of continuous net pay >8m, bitumen saturation of 7% bulk mass oil, porosity >27% and an average Vshale <30%.



# DEVELOPMENT AREA MAPS

## SEISMIC MAP

- There are no known geomechanical anomalies in the area



# WELL PATTERNS

## RESERVOIR CHARACTERISTICS

Patterns	Area	Net Pay	Porosity	Initial Oil	Permeability (D)	OBIP (m <sup>3</sup> )	Recovery	Estimated Ultimate Recovery	Producible Bitumen In Place
	(ha)	(m)	(%)	Saturation (%)			(Up to Dec 31, 2022)	(% OBIP)	(m <sup>3</sup> )
							(% OBIP)		
101N	44	21	33	85	2-5	2,544,833	18%	18%	457,902
101S	45	22	33	85	2-5	2,756,598	65%	70%	1,940,369
102S	31	21	33	85	2-5	1,792,528	53%	69%	1,236,486
102W	44	17	33	85	2-5	2,064,070	60%	67%	1,381,482
104	27	24	33	85	2-5	1,785,374	62%	78%	1,392,591
104E	33	20	33	85	2-5	1,878,219	8%	66%	1,236,807
104W	22	18	32	75	2-5	1,128,776	2%	65%	733,704
201	45	19	32	75	2-4	2,070,111	48%	68%	1,417,405
202	49	18	32	75	2-4	2,067,250	53%	77%	1,591,782
203	64	23	32	75	2-4	3,536,248	53%	75%	2,652,186
203W	31	20	32	75	2-4	1,504,134	2%	62%	932,563
202N	32	16	32	75	2-4	1,218,601	0%	59%	718,975