

Surmont In Situ Oil Sands Project

Directive 054 Submissions & Annual OSCA Report

Commercial Scheme Approval No. 9426HHH

EPEA Approval No. 48263-01-01, as amended

Class 1b Disposal Approval No. 10044N

Reporting Period: January 1, 2024 to December 31, 2024

Submission Date: June 30, 2025



This submission is intended to provide information in compliance with:

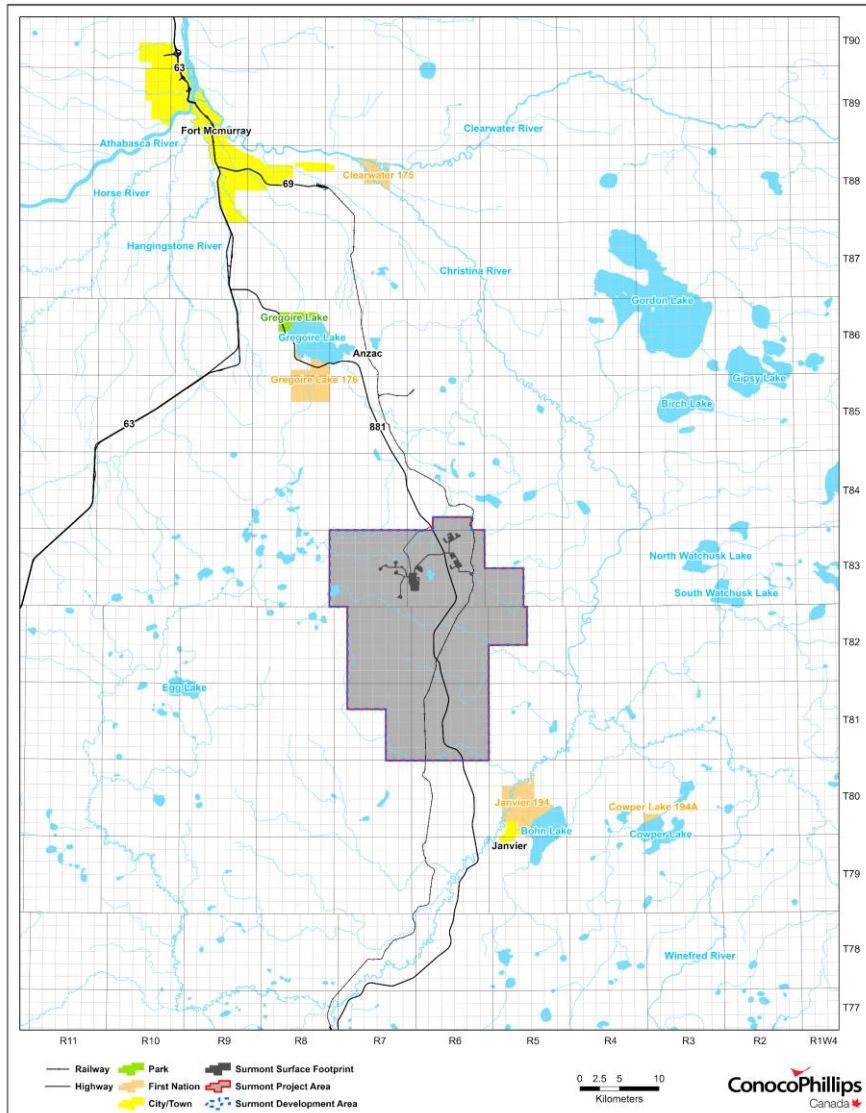
- ▶ *Directive 054: Performance Reporting and Surveillance of In Situ Oil Sands Schemes* (April 2020) for the operating period from January 1, 2024 to December 31, 2024
- ▶ Condition 28 of Commercial Scheme Approval No. 9426HHH for the submission of an annual *Oil Sands Conservation Act* Report (OSCA Report)
- ▶ Condition 4 (d) of Class 1b Disposal Approval No. 10044N for the summary of the Basal McMurray disposal monitoring results



Introduction

Directive 054: Section 4.1

Surmont Overview



OWNERSHIP

Surmont is a steam-assisted gravity drainage (SAGD) bitumen recovery facility in the Athabasca oil sands area that is wholly owned and operated by ConocoPhillips Canada Resources Corp.

LOCATION

The project is approximately 63 km southeast of Fort McMurray, Alberta, encompassing 219 sections of land in Townships 80, 81, 82, 83, and 84, and Ranges 5, 6, and 7, west of the fourth meridian.

PROJECT HISTORY

Surmont currently features two phases:

- 2004 - construction start at Surmont Phase 1 ("S1")
- 2007 - commercial production at S1
- 2010 - construction start at Surmont Phase 2 ("S2")
- 2015 - commercial production at S2

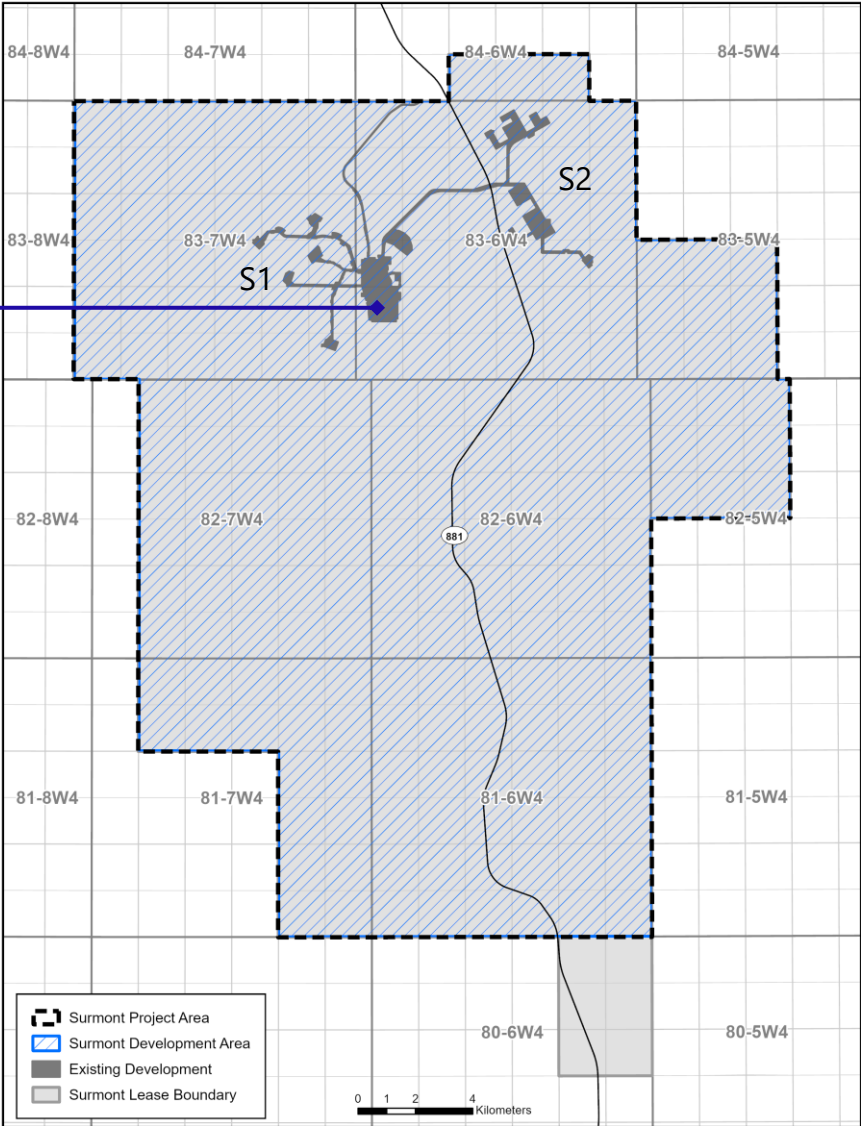
APPROVED BITUMEN PRODUCTION LIMIT

29,964 cubic metres per day (m^3/d) on an annual average basis or 188 thousand barrels of oil equivalent per day (MBOED)

Surmont Overview: Development Area



Approved Surmont Development Area



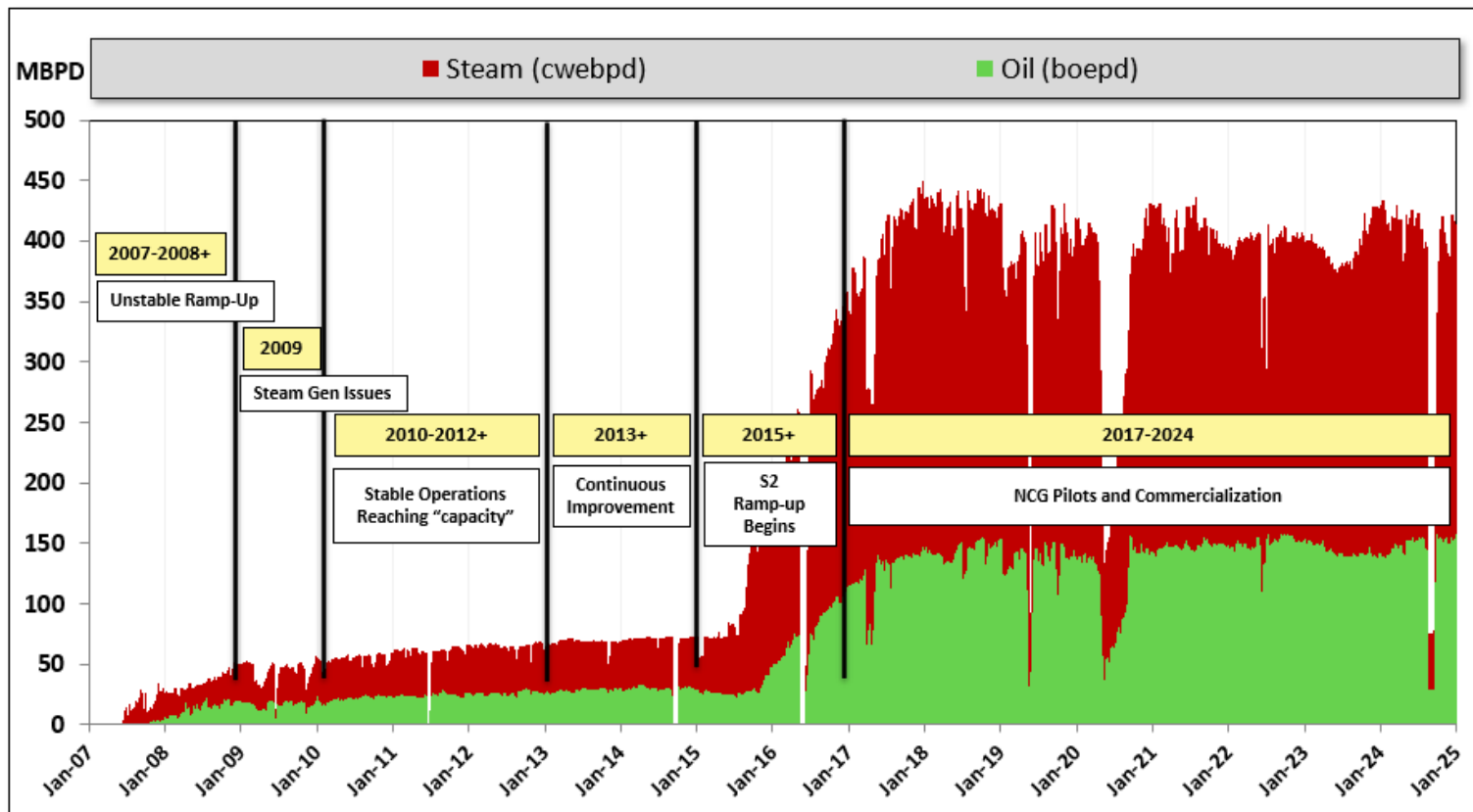
Subsurface

Directive 054: Section 4.2
OSCA Report: Table 1 (1)

Surmont Lifespan Production



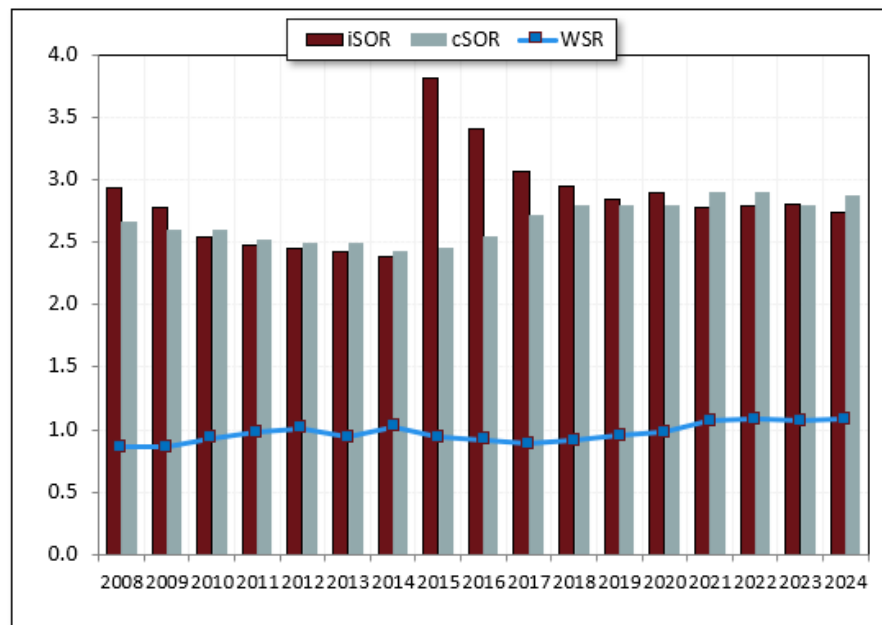
Historical Steam Injection and Bitumen Production



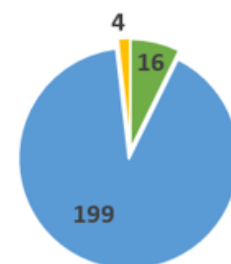
2024 Highlights

- Expanded NCG co-injection capabilities to more wells in Surmont to optimize SOR and redeploy steam
- Executed 2024 redrill campaign to replace failed wells and capture bypassed pay
- Executed a successful chelant stimulation program
- Completed a successful ESP shroud campaign to mitigate gas locking
- Safely completed Surmont 2 plant turnaround

Historical iSOR, cSOR and WSR

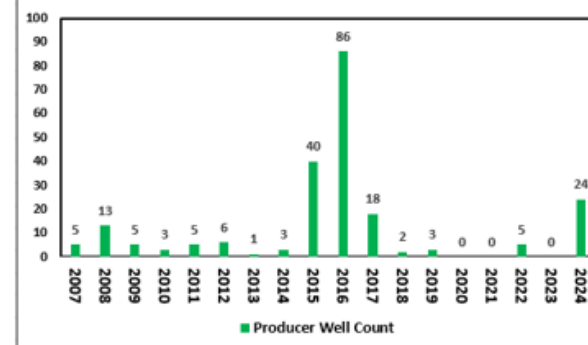


OneSurmont well count As of December 31, 2024



■ Gas Lift ■ ESP ■ PCP

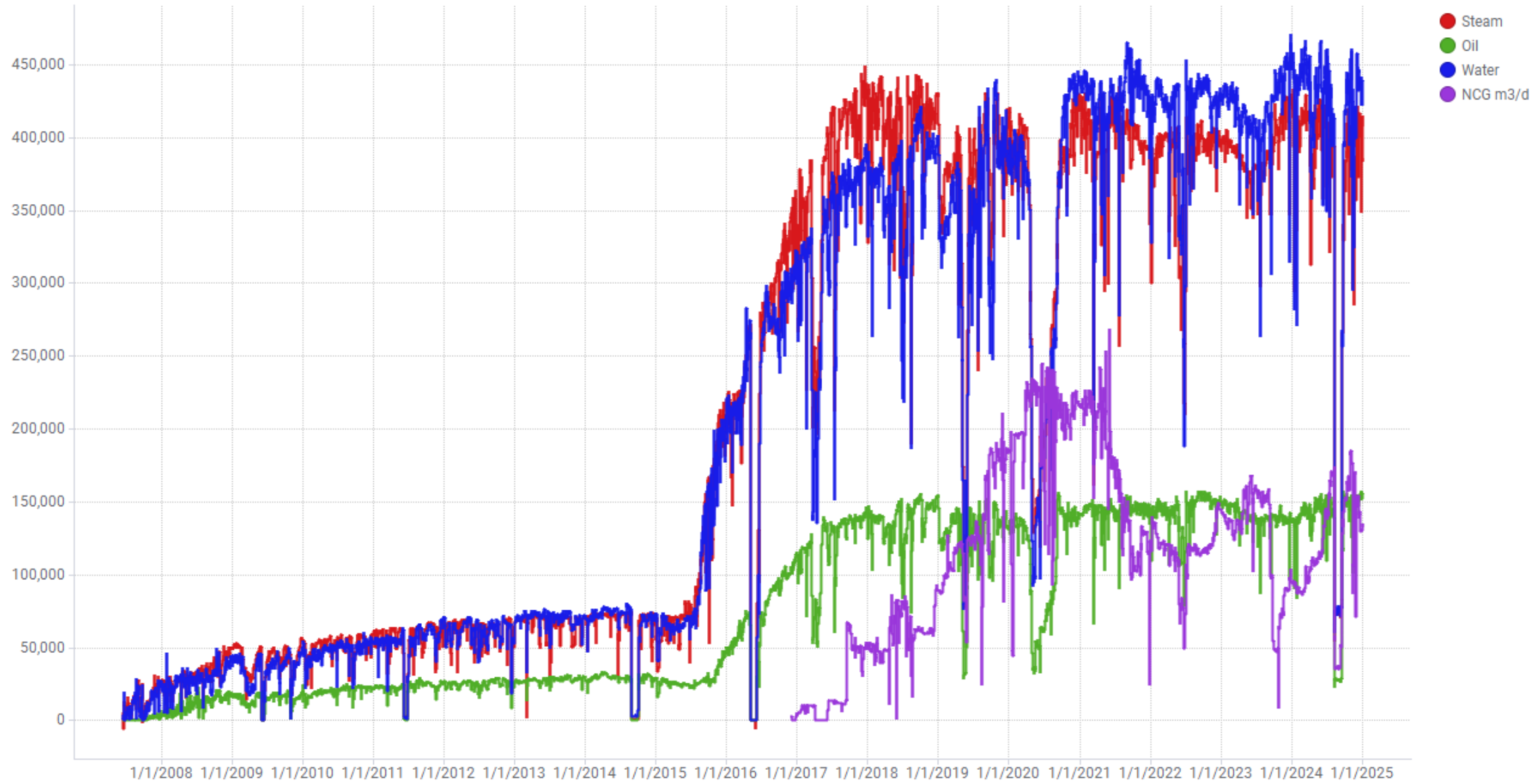
Historical SAGD Starts



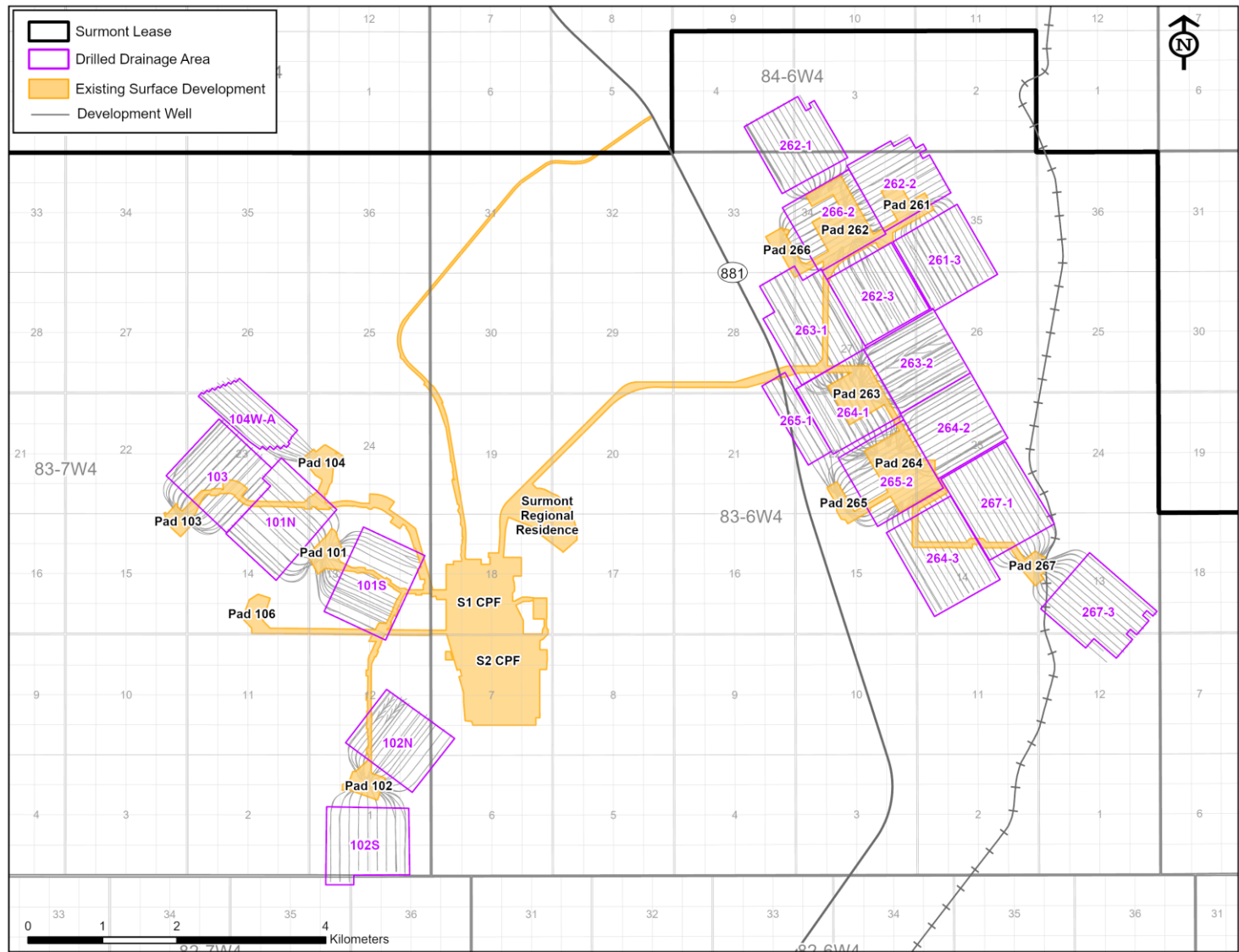
Surmont Lifespan Production



Rates (BPD, NCG in m3/d)



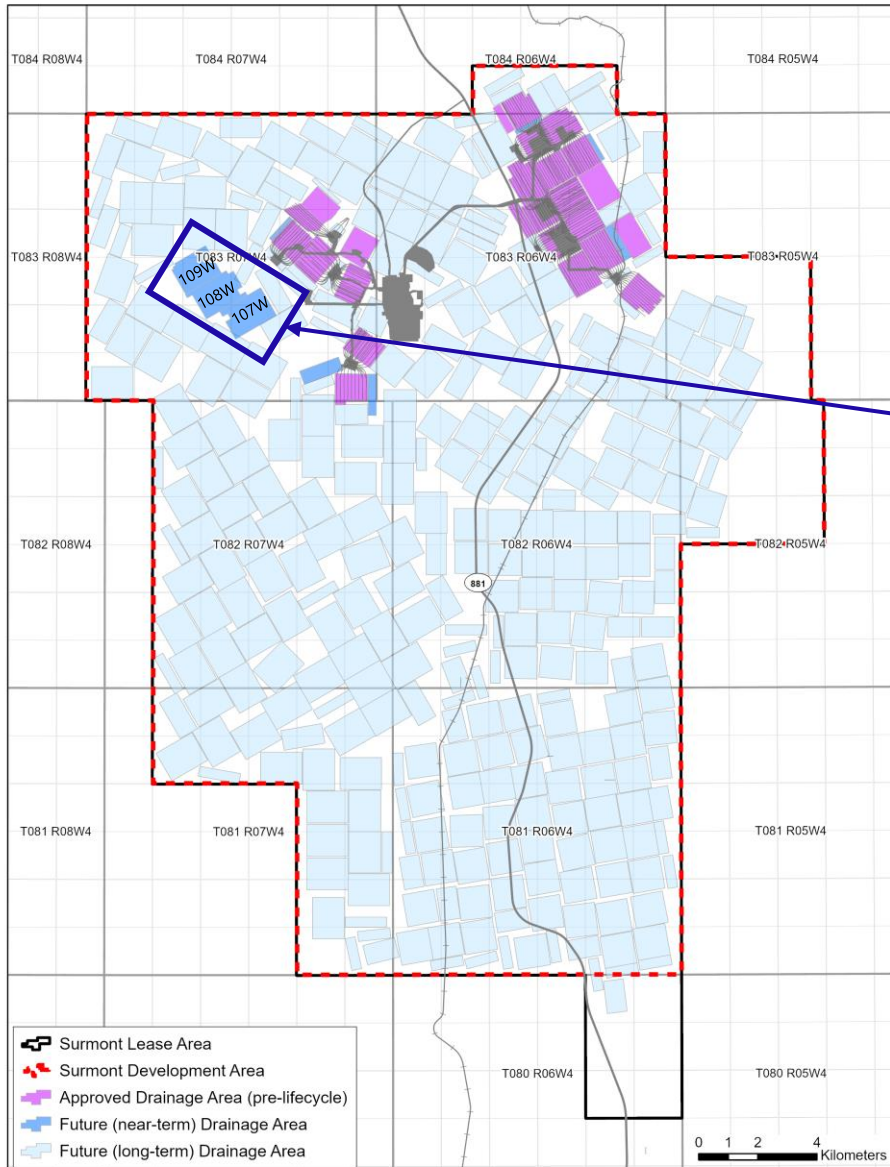
Development Area Maps: Drilled Drainage Areas



DRILLED DRAINAGE AREAS

- | | | |
|----------|---------|---------|
| ■ 101N | ■ 261-3 | ■ 264-2 |
| ■ 101S | ■ 262-1 | ■ 264-3 |
| ■ 102N | ■ 262-2 | ■ 265-1 |
| ■ 102S | ■ 262-3 | ■ 265-2 |
| ■ 103 | ■ 263-1 | ■ 266-2 |
| ■ 104W-A | ■ 263-2 | ■ 267-1 |
| | ■ 264-1 | ■ 267-3 |

Development Area Maps: Drilled and Approved Drainage Areas



► **LIFECYCLE APPROACH (APPLICATION NO. 1942644)**

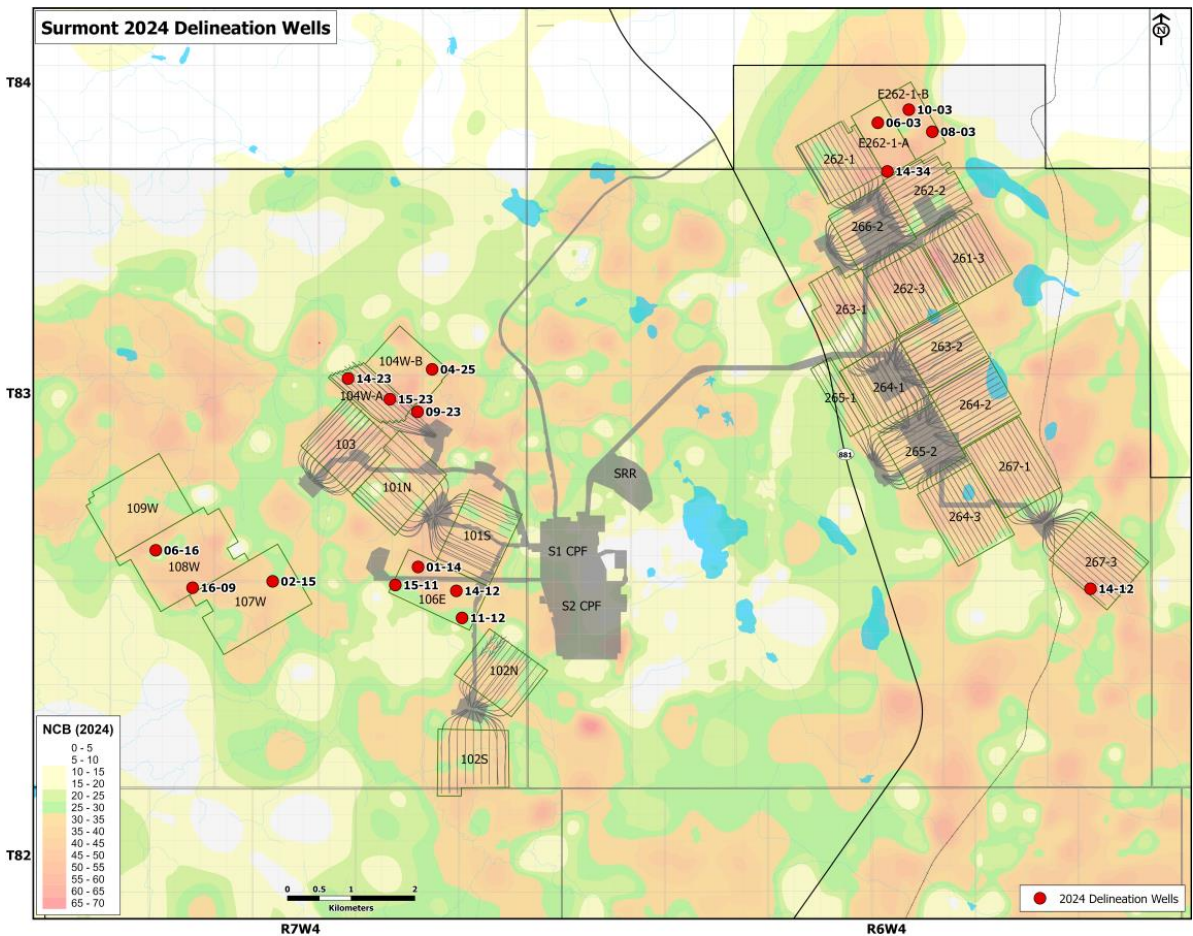
The conceptual locations of future subsurface drainage pattern areas are identified based on current sequencing scenarios as follows:

- Future near-term drainage areas: ≤ 10 years
- Future long-term drainage areas: > 10 years

► **NEW SUBSURFACE INFORMATION**

Attached is ConocoPhillips' OSCA Annual Report for upcoming subsurface drainage areas 107W, 108W, and 109W. These new drainage areas will be the first evaluated, designed, and developed using the lifecycle approach.

New Geological, Geomechanical & Reservoir Data



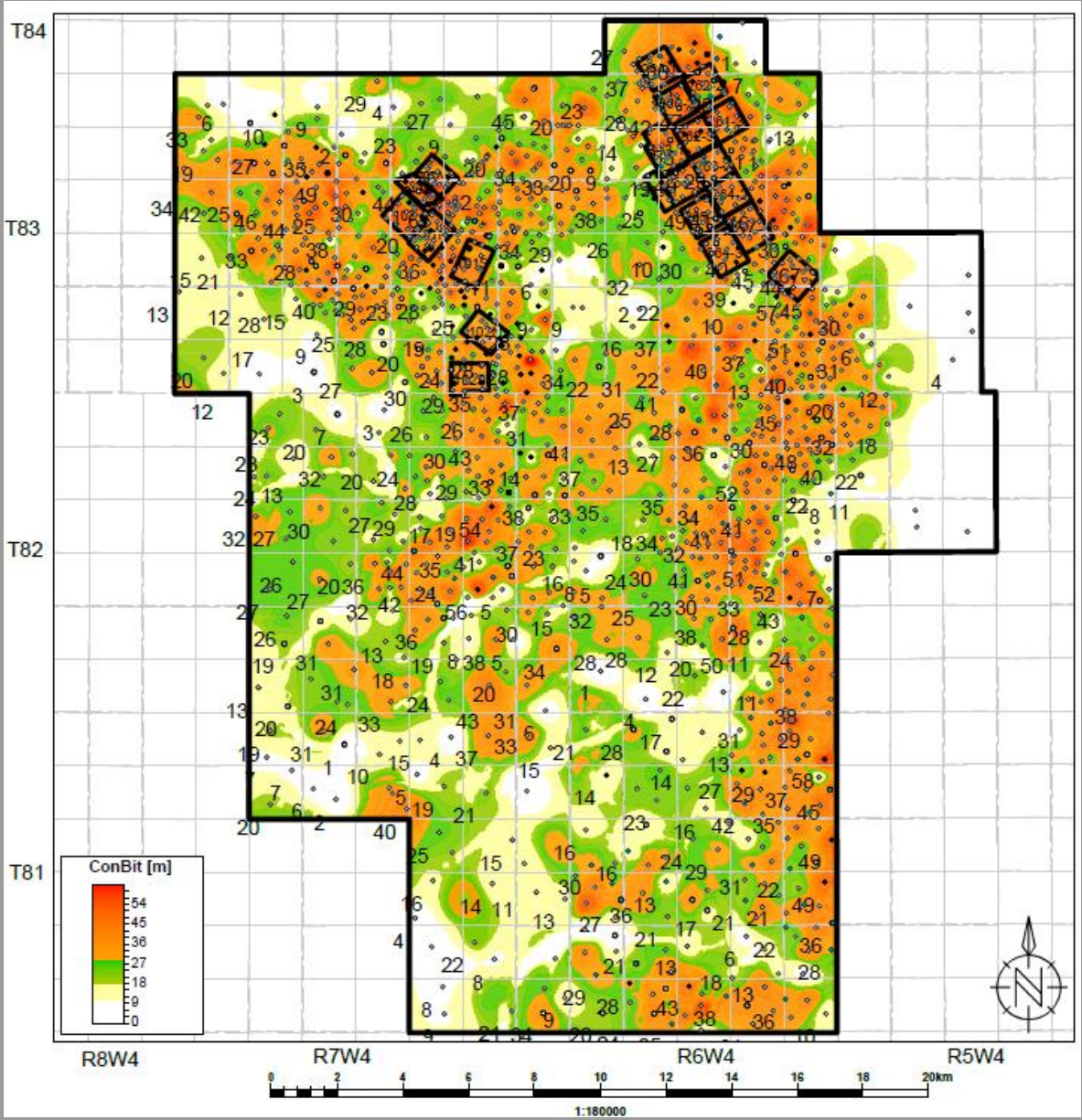
2024 Wells Drilled

Wells Drilled in 2024	Drainage Area	Type
100021508307W400	CBR-3	OBS
100042508307W400	104W-B	OBS
100060308406W400	E262-1A	OBS
100061608307W400	CBR-2	OBS
100100308406W400	E262-1-B	OBS
100111208307W400	106E	OBS
100160908307W400	CBR-2	OBS
102011408307W400	106E	OBS
102092308307W400	N/A	OBS
102141208307W400	106E	OBS
102152308307W400	104W-A	OBS
104141208306W400	267-3	OBS
106142308307W400	104W-A	OBS
106143408306W400	E262-1-A	OBS
1AA080308406W400	E262-1-B	OSE
1AB151108307W400	106E	OSE

2024 Data Acquisition

Data Types Acquired	Quantity
Basic Logs	Each well (Triple Combo, Density –Neutron, Spectral Gamma)
Sonic Logs	16
Micro Image Logs	16
Wireline Pressure	9 samples
Overburden Core	1
Magnetic Resonance	3
Core: Porosity	979 samples
Core: Grain Density	979 samples
Core: Dean Stark	979 samples
Core: XRD	51 samples
Core : MICP	31 samples
Core : PSA	32 samples
Core : GCMS	33 samples
Core: Rock Mechanics (Triaxial Tests)	41 samples
Core: Rock Mechanics (Shear Tests)	13 samples

Development Area Maps: Net Pay Isopach

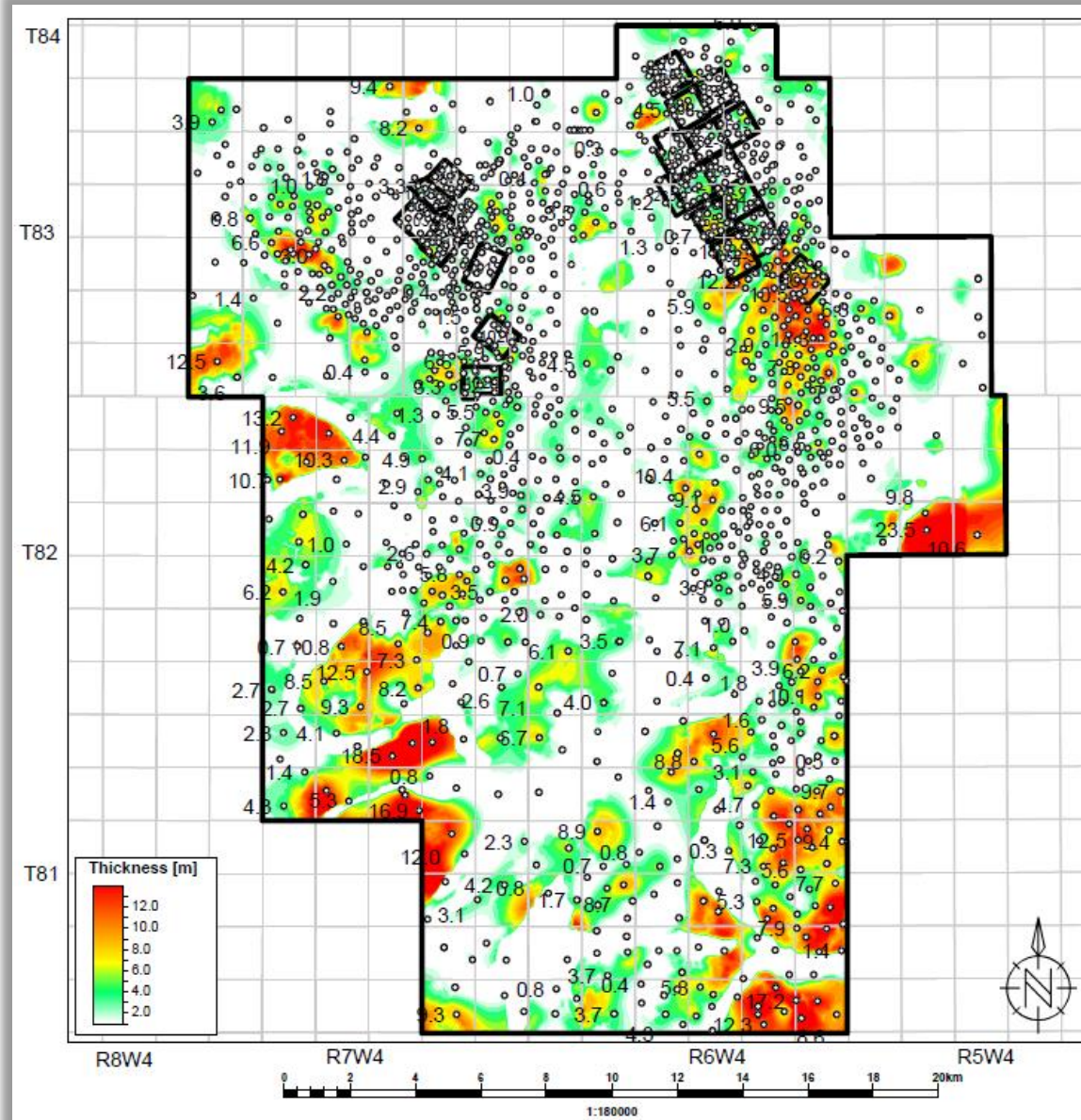


Net Pay Isopach

- ▶ Net Continuous Bitumen Thickness (NCB) = Sands Having:
 - Deep Resistivity ≥ 10
 - Ohm-m and Vsh $< 33\%$
- ▶ OBIP = Thickness x Phie x So x Area

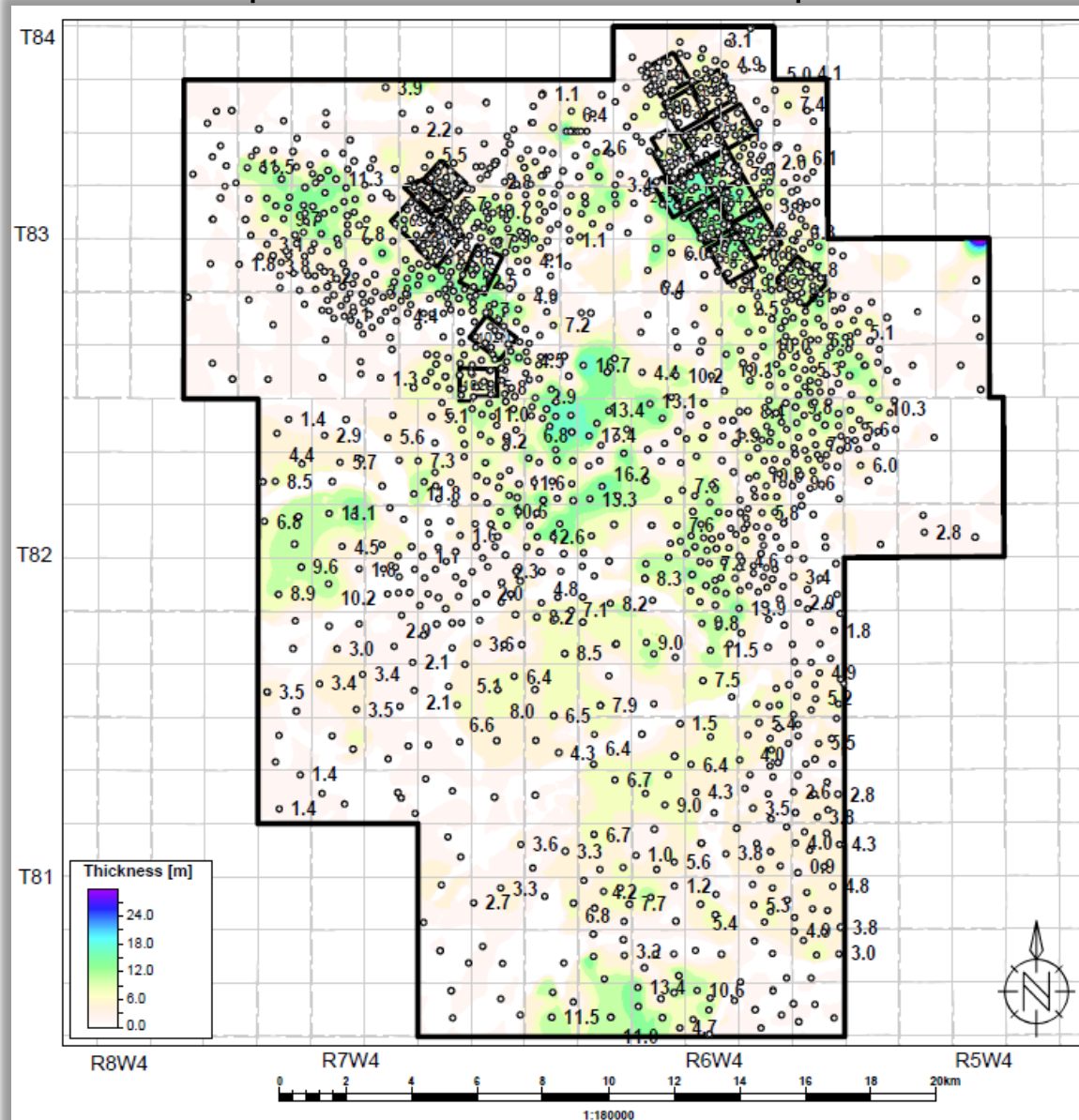
Properties	Project Area
NCB Thickness Range	0 to Greater than 30 m
NCB Thickness	13.68 m
Phie in NCB	31.83%
So in NCB	76.28%
OBIP in NCB > 18m	17,864.24 MMbbls Deterministic

Development Area Maps: Net Top Gas Interval



- ▶ Net Top Gas Thickness = Sands Having:
 - Deep Resistivity ≥ 10
 - Ohm-m and Vsh $< 65\%$

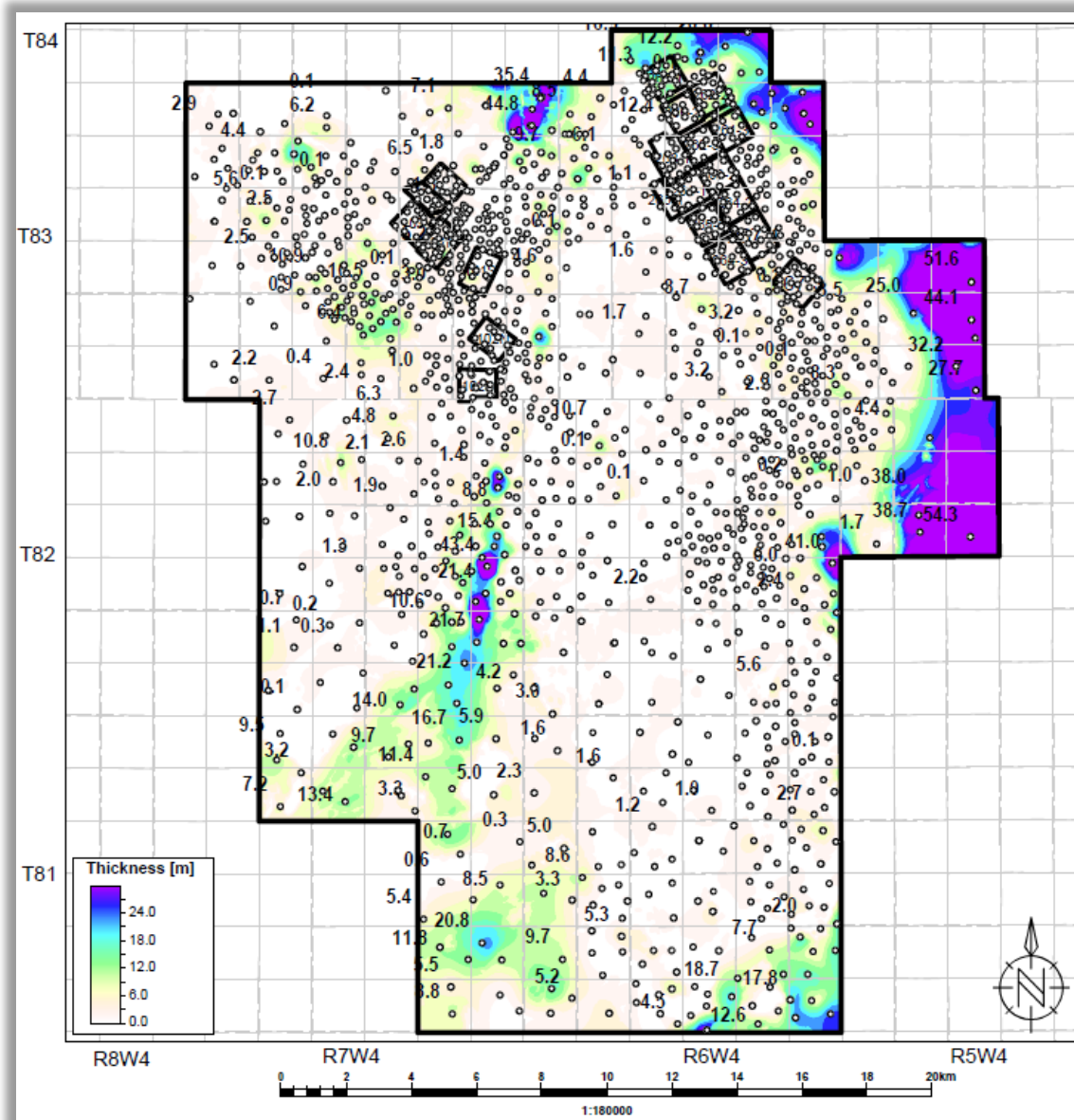
Development Area Maps: Major Water Intervals (Net Top Water)



Net Top Water Isopach

- Net Top Water Thickness = Sands Having:
 - Deep Resistivity < 10 Ω -m
 - Vsh < 45%

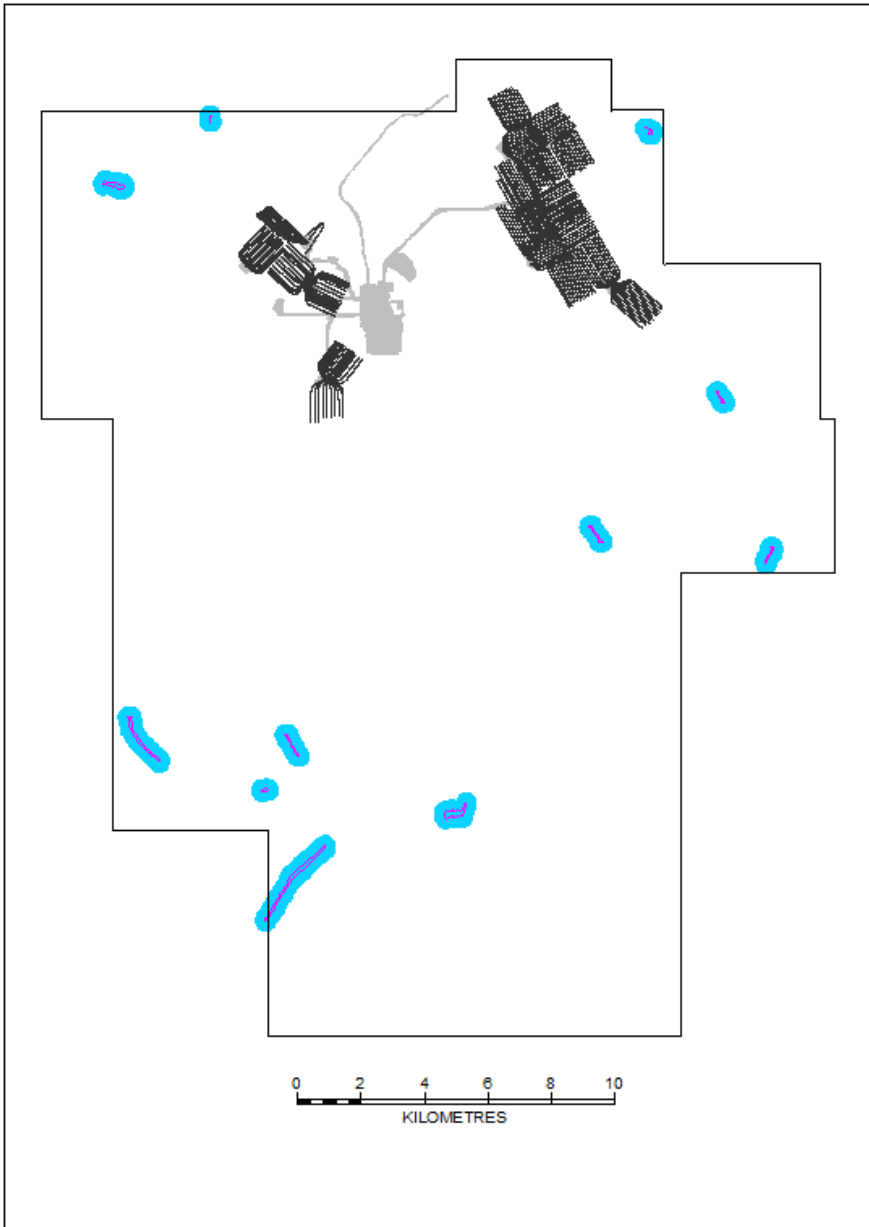
Development Area Maps: Major Water Intervals (Net Bottom Water)



Net Bottom Water Isopach

- ▶ Net Bottom Water Thickness = Sands Having:
 - Deep Resistivity $< 10 \Omega\text{-m}$
 - Vsh $< 45\%$

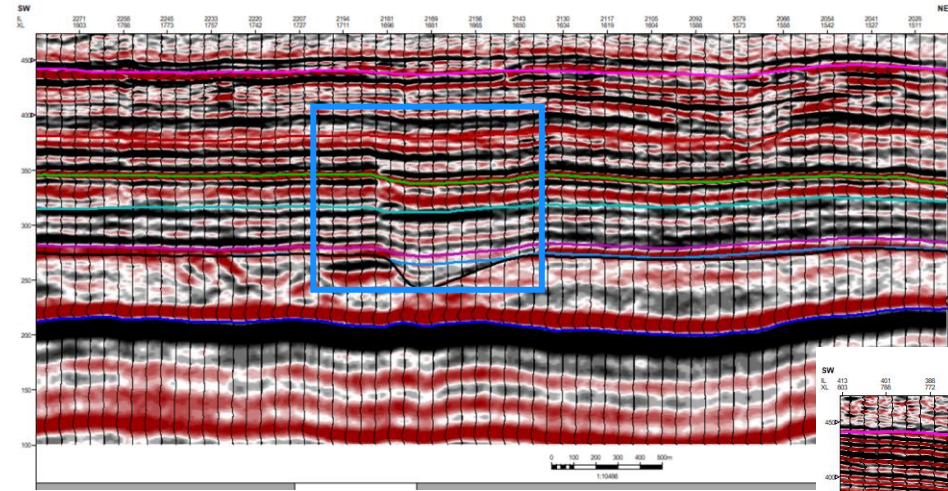
Development Area Maps: Seismic Discontinuities



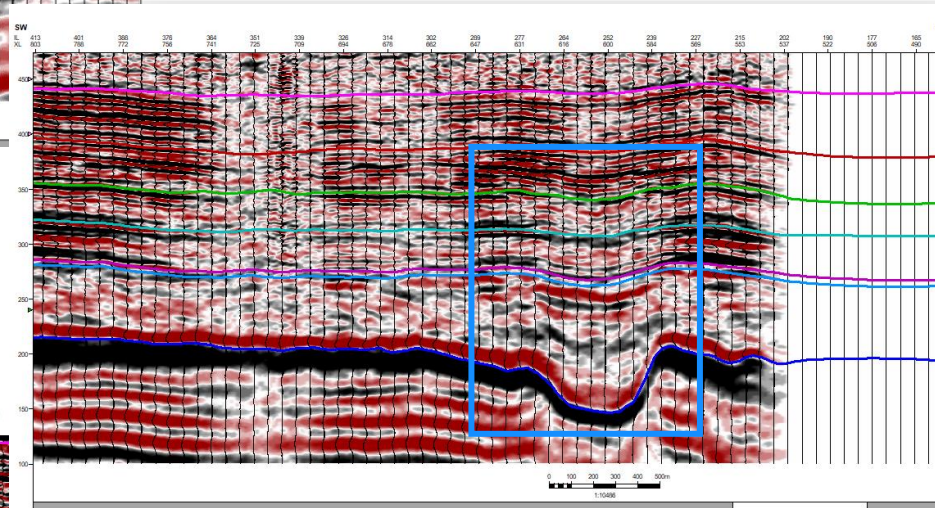
▶ CAPROCK GEOTECHNICAL HAZARD ANALYSIS

- No new seismic discontinuities have been identified within the Surmont development area since the submission of Lifecycle Application No. 1942644.
- The three highest risk structural mechanisms for caprock integrity are:
 - 1) Caprock faulting or fracturing
 - 2) Post-caprock dissolution of the Prairie Evaporite
 - 3) Post-caprock karsting of underlying Devonian carbonates
- None of these features are present within the near-term development area. Discontinuities will be investigated prior to pad development activities in those areas.
- ConocoPhillips considers the risk level of each mapped seismic discontinuity individually.
 - Initially a 300 m operations buffer is generated around the feature (i.e., approx. twice the mapped distance bitumen mobilization occurs from a well pair at Surmont from 4D seismic interpretation).
 - The discontinuities are evaluated, and a workplan is formulated to verify cap rock integrity risk, which may include new delineation or observation wells, offset well studies, and additional seismic processing.
 - Areas with proven compromised cap rock are avoided for development.
 - Monitoring wells and 4D seismic strategies are planned prior to developing areas near possible containment risks.

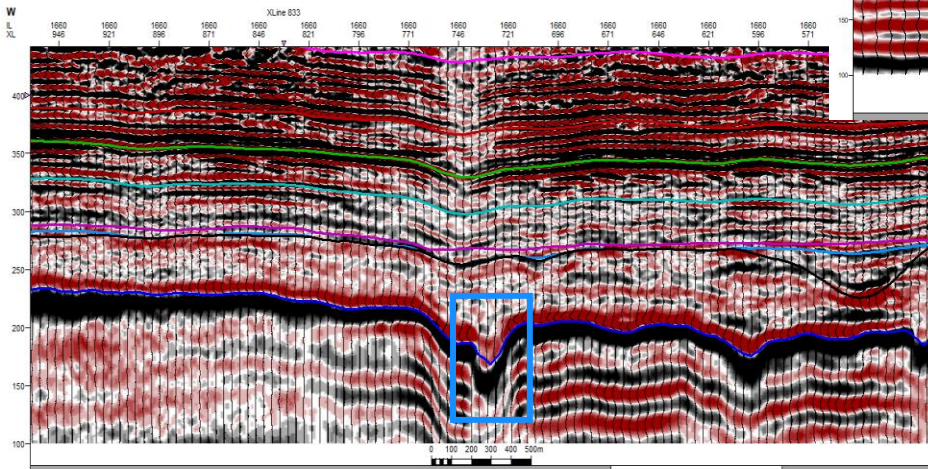
Development Area Maps: Potential Geomechanical Anomalies



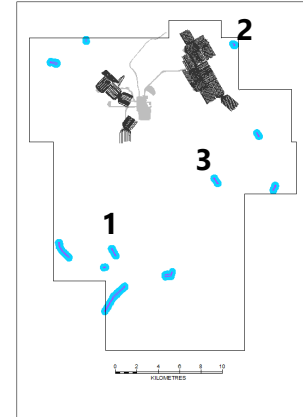
- 1) Caprock seismic discontinuities due to *differential compaction* of McMurray mud abandoned channels



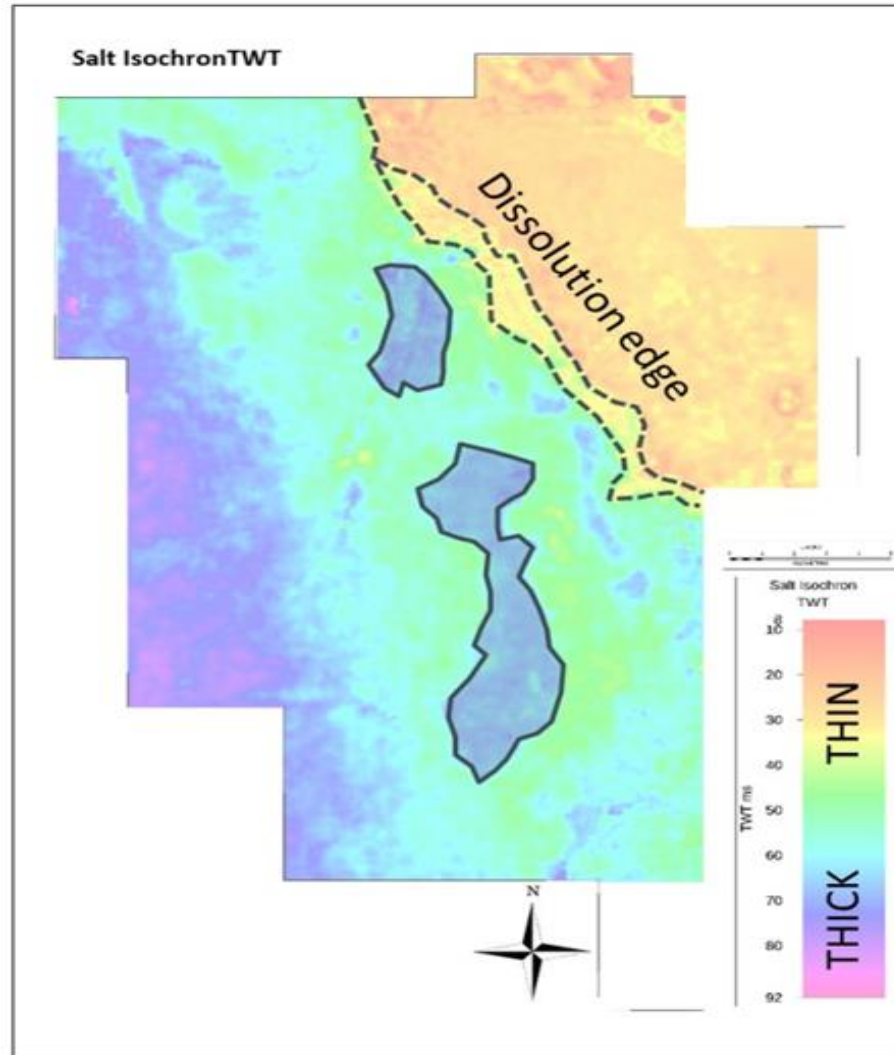
- 2) Post caprock *dissolution* of the Prairie Evaporite, Cold Lake, or Lotsberg Salts



- 3) Post caprock *karsting* of underlying Devonian carbonates (no interpreted caprock impact to date)



Development Area Maps: Geomechanical Anomalies



► MAP OF MAJOR DISSOLUTION

- Seismically interpreted isochron of Prairie Evaporite at Surmont, illustrating areas of major dissolution

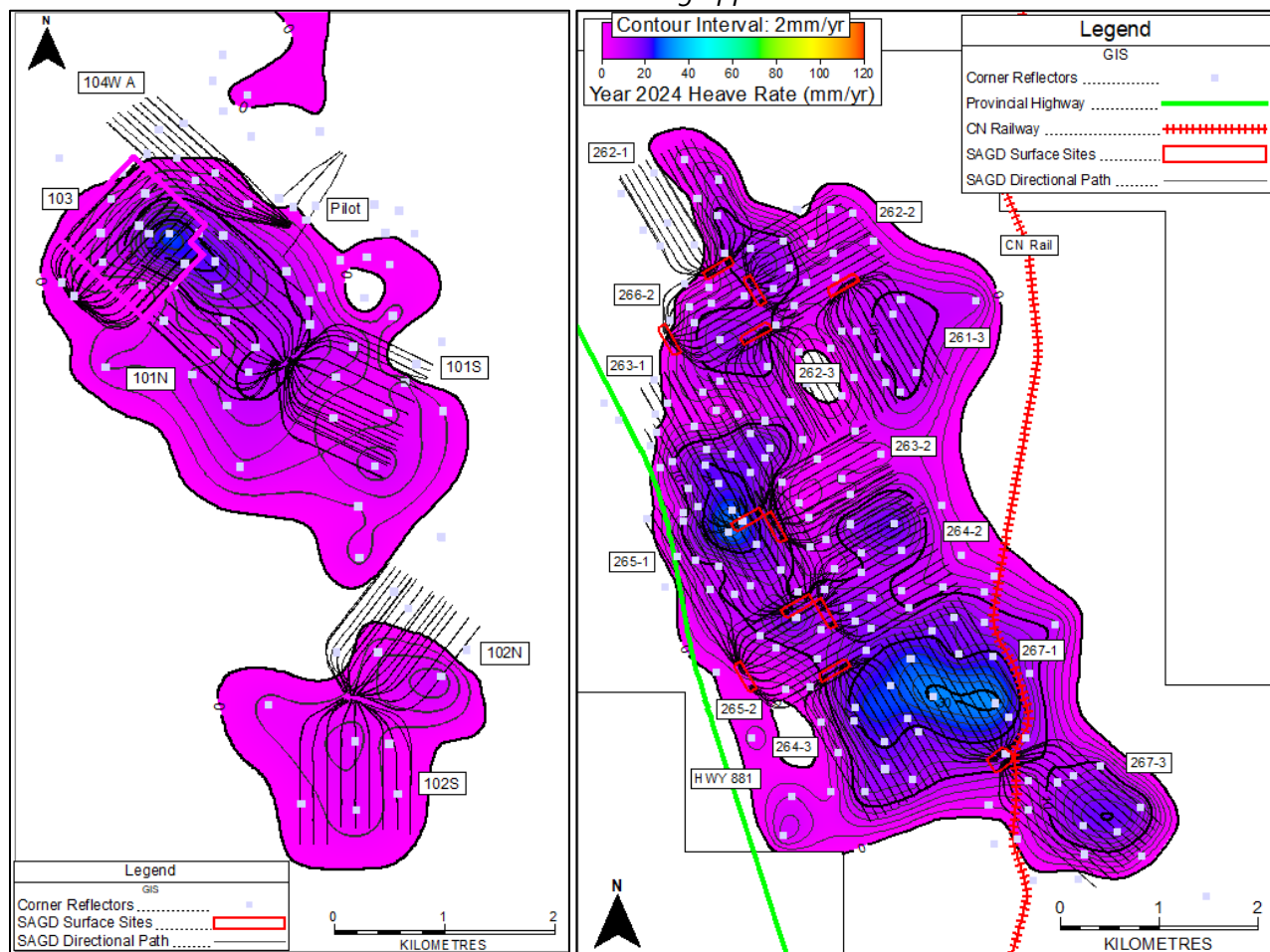
Development Area Maps: Heave Monitoring



Corner Reflector (CR): Permanent monuments installed on the ground for monitoring surface deformation in the field due to the SAGD process in the subsurface

Coherent Target Monitor (CTM): Measurements from reflectors (e.g., pad pipe rack) that can be taken consistently over time and used to monitor surface pad heave

manual contouring applied



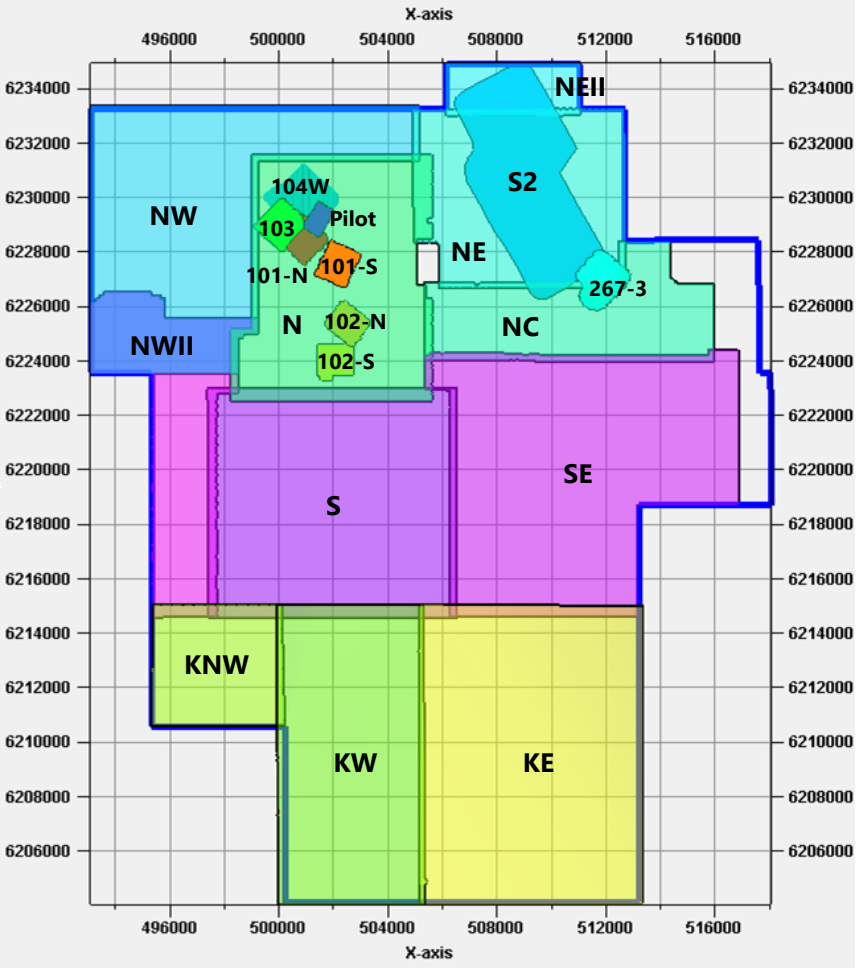
Pad/DA		Average CR DA Heave Rate Since SAGD (mm/year)	Average CTM Pad Heave Rate Since SAGD (mm/year)**
101	101-N	11	42
	101-S	4	
102	102-N	1	42
	102-S	2	
103		9	36
104*	104WA	NA***	NA***
261-3*		15	47
262-1*		12	34
262-2*		13	52
262-3*		16	46
263-1*		15	85
263-2*		14	53
264-1*		14	54
264-2*		16	66
264-3*		15	44
265	265-1	3	73
	265-2	16	
266-2		21	92
267	267-1	15	135
	267-3	6	

*Surface pad is built on top of SAGD well pair from other drainage areas

**Normalized for DA heave rate

***Steam injection not initiated in 2024

Development Area Maps: Existing Seismic Acquisition



3D SEISMIC AT SURMONT Existing Seismic

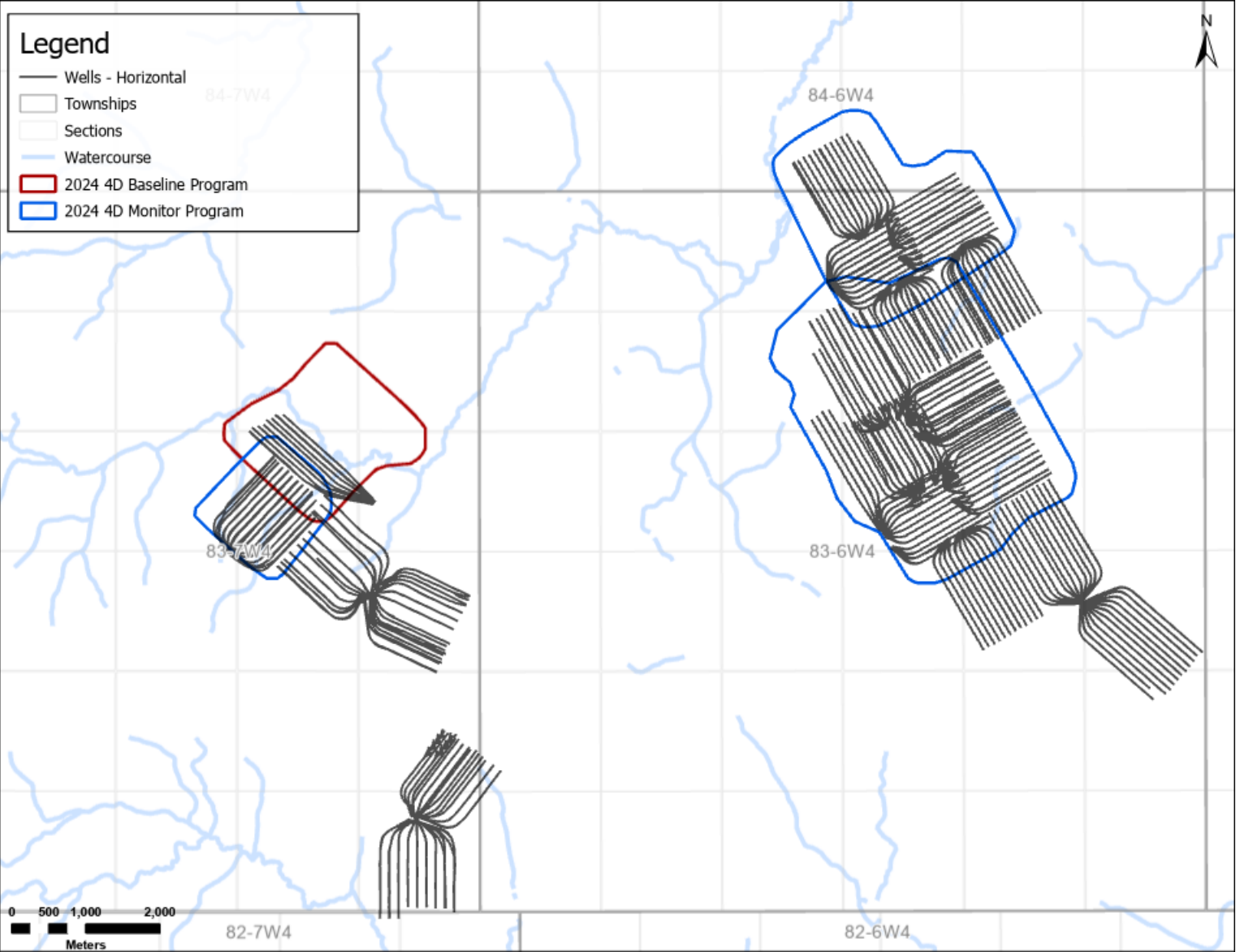
3D	km ²	Shots	S-R line	S-R
N	60	17 004	60	60 x 30
S	75	33 668	80 x 120	24 x 18
NE	50	24 512	120 x 80	24 x 18
NW	65	29 906	80(160) x 120	20 x 20
NC	33	24 009	60(120) x 80	20 x 20
NEII	9	3 598	120 x 80	24 x 18
NWII	14	4 394	160 x 120	20 x 20
SW	23	7 236	160 x 120	20 x 20
SE	86	54 801	80 x 100	20 x 20
KNW	22	9 543	120 x 80	20 x 20
KW	58	24 690	120 x 80	20 x 20
KE	85	55 808	80 x 80	20 x 20
580		289 169		

4D SEISMIC AT SURMONT Existing Seismic

4D	km ²	S-R	# Monitors
101N	1.8	10 x 10	10
101S	1.8	10 x 10	10
102N	1.6	20 x 20	10
102S	1.7	20 x 20	7
103	1.9	20 x 20	6
104W	3.7	20 x 20	0
S2	15.0	20 x 20	4*
267-3	2.0	20 x 20	0
29.5			

*Average # Monitor per DA in S2
267-1, 267-3 have 0 monitors

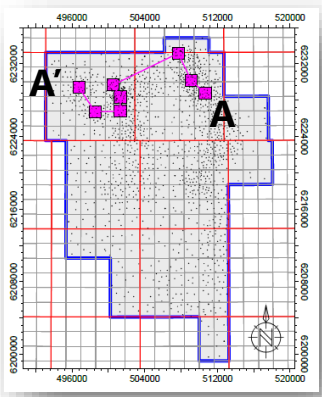
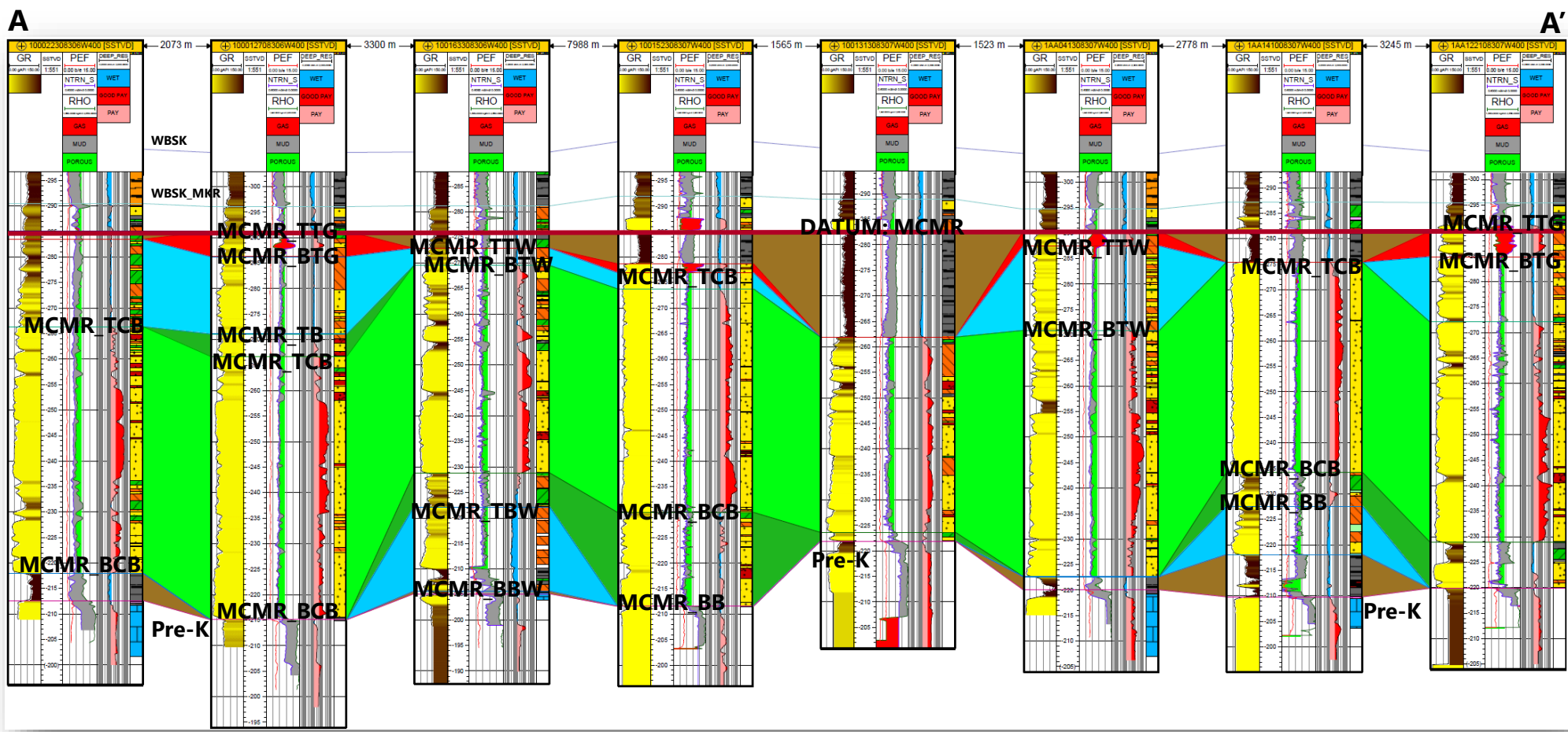
Development Area Maps: Seismic Acquisition (4D)



4D SEISMIC AT SURMONT 4D Monitors 2024

4D	S-R	# Monitors
S1 / 103	20 x 20	6 th
S2 / 262-1	20 x 20	4 th
S2 / 262-2	20 x 20	5 th
S2 / 262-3	20 x 20	4 th
S2 / 263-1	20 x 20	5 th
S2 / 263-2	20 x 20	6 th
S2 / 264-1	20 x 20	5 th
S2 / 265-1	20 x 20	2 nd
S2 / 265-2	20 x 20	5 th
S2 / 266-2	20 x 20	4 th

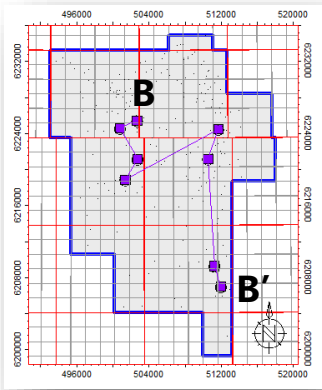
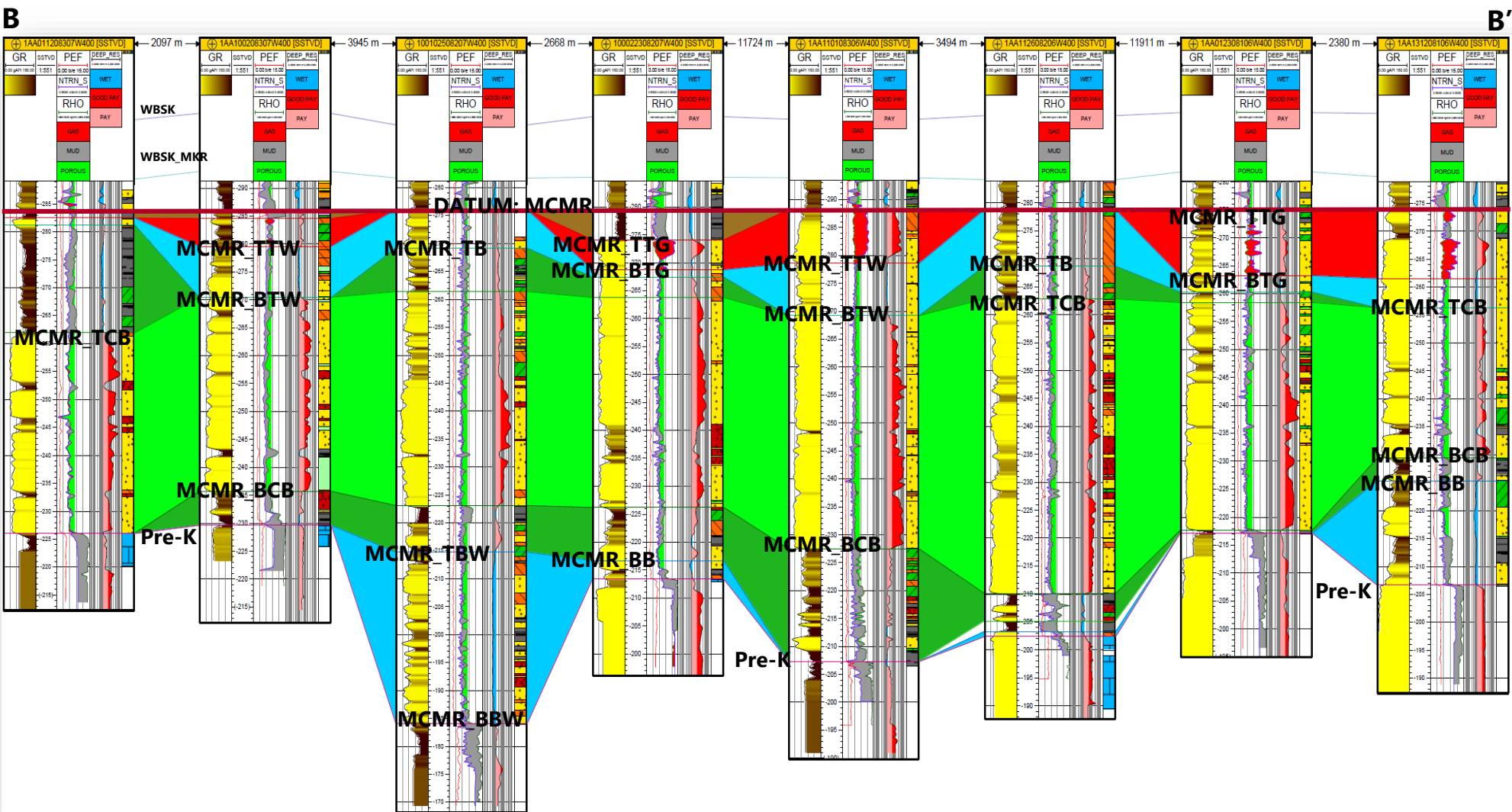
Representative Well Cross-Section A - A'



Well Section A-A' Tops	
WBSK	Wabiskaw Formation
WBSK_MKR	Wabiskaw Marker
MCMR	McMurray Formation
MCMR_TTG	McMurray Top Gas
MCMR_BTG	McMurray Base Top Gas
MCMR_TTW	McMurray Top Water
MCMR_BTW	McMurray Base Top Water
MCMR_TB	McMurray Top Bitumen
MCMR_TCB	McMurray Top Continuous Bitumen
MCMR_BCB	McMurray Base Continuous Bitumen
MCMR_BB	McMurray Base Bitumen
MCMR_TBW	McMurray Top Bottom Water
MCMR_BBW	McMurray Base Bottom Water
Pre_K	Devonian Unconformity

Gross Continuous Bitumen Bitumen Top Gas Muds / Muddy IHS

Representative Well Cross-Section B - B'

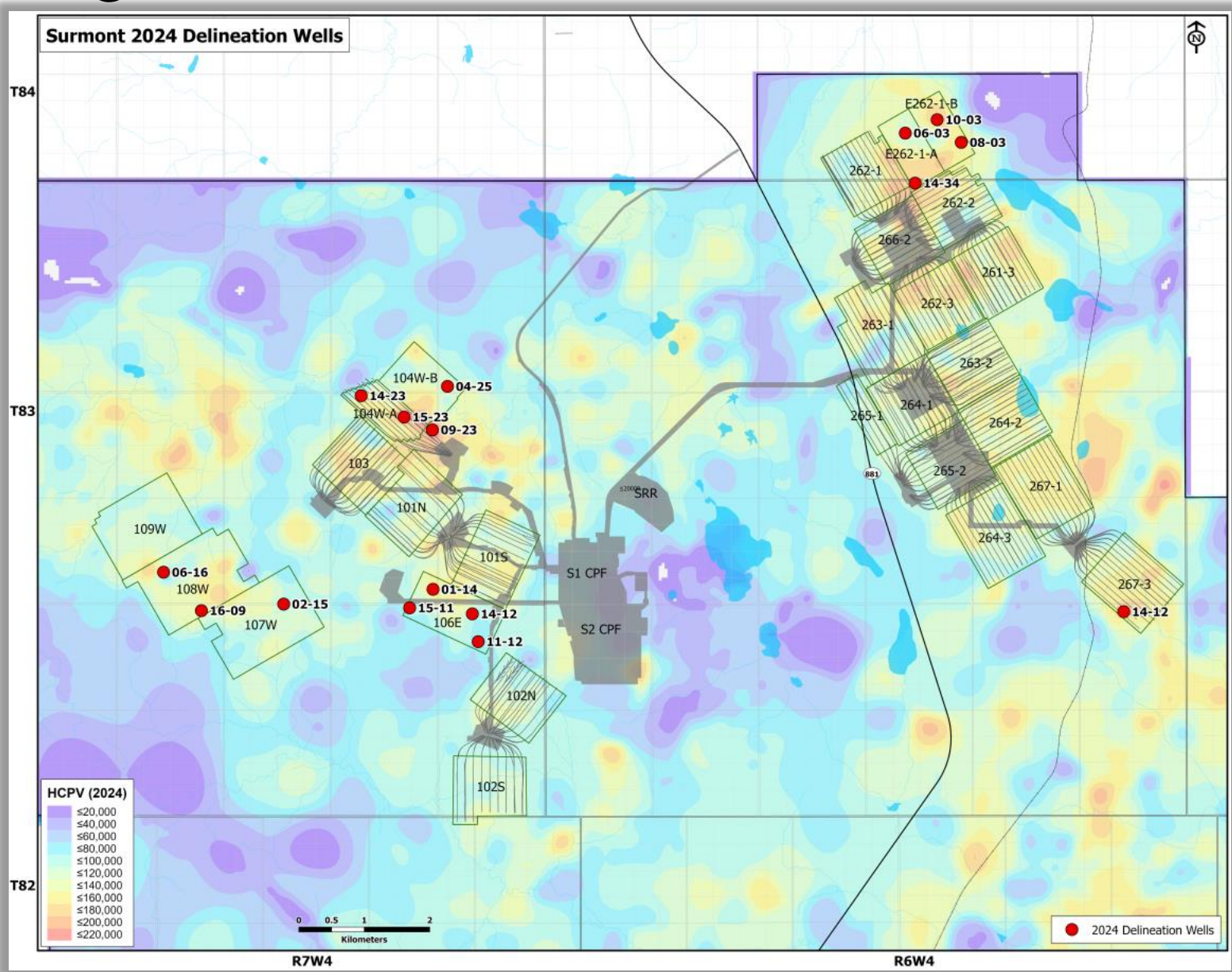


Well Section A-A' Tops

WBSK	Wabiskaw Formation
WBSK_MKR	Wabiskaw Marker
MCMR	McMurray Formation
MCMR_TTG	McMurray Top Gas
MCMR_BTG	McMurray Base Top Gas
MCMR_TTW	McMurray Top Water
MCMR_BTW	McMurray Base Top Water
MCMR_TB	McMurray Top Bitumen
MCMR_TCB	McMurray Top Continuous Bitumen
MCMR_BCB	McMurray Base Continuous Bitumen
MCMR_BB	McMurray Base Bitumen
MCMR_TBW	McMurray Top Bottom Water
MCMR_BBW	McMurray Base Bottom Water
Pre_K	Devonian Unconformity

Gross Continuous Bitumen Bitumen Top Gas Muds / Muddy IHS

Original Bitumen in Place



Region	MMBBLs
Surmont Lease	20923.09
Project Area	20710.68
101N	64.22
101S	66.75
102N	47.81
102S	50.26
103	69.94
261-3	69.59
262-1	61.11
262-2	60.24
262-3	67.08
263-1	75.14
263-2	65.04
264-1	63.74
264-2	68.3
264-3	69.19
265-1	21.65
265-2	56.32
266-2	67.45
267-1	88.57
267-3	85.38

Hydrocarbon Pore Volume (HCPV) Map 2024

Well Patterns, Bitumen Recovery & Reservoir Parameters



Properties	Depth (masl)	Area (m ²)	Thickness NCB (m)	Phie in NCB %	So in NCB %	KH in NCB (mD)	KV in NCB (mD)	Initial Pressure (KPa)	Original Bitumen in Place (MMBBLs)	Producible Oil in Place (MMBBLs)	Expected RF	Current RF
Surmont Lease	276.03 - 215.27	577,445,953	23.2	31.79%	76.97%	4,148	3,451	-	20,654.9	16678.58	50%	2.9%
Project Area	276.32 - 215.86	561,632,105	23.6	31.82%	77.06%	4,148	3,451	-	20,462.1	16519.72	50%	2.9%
101N	282.03 - 212.08	1,090,775	36.4	31.78%	80.49%	4,403	3,658	1,690	63.9	55.85	60%	57%
101S	283.95 - 219.81	1,064,692	37.8	33.18%	79.45%	5,424	4,552	1,684	66.7	58.60	80%	78%
102N	284.6 - 225.93	975,251	31.0	32.25%	79.87%	4,733	3,982	1,735	47.7	42.32	60%	56%
102S	285.41 - 225.34	1,019,252	34.7	31.25%	74.24%	4,078	3,364	1,800	50.0	45.61	90%	84%
103	282.23 - 213.1	1,022,239	42.4	31.65%	81.09%	4,405	3,655	1,691	69.9	63.74	80%	71%
261-3	275.79 - 204.42	1,000,542	44.7	31.96%	78.02%	4,334	3,557	1,328	70.2	56.19	50%	45%
262-1	275.09 - 200.64	996,252	39.5	31.66%	80.12%	4,122	3,413	1,307	60.7	50.99	70%	63%
262-2	276.89 - 212.39	974,291	38.3	33.19%	78.83%	5,231	4,411	1,296	60.4	51.31	60%	52%
262-3	280.09 - 212.46	943,213	44.0	32.86%	78.37%	4,963	4,141	1,368	67.2	60.88	50%	18%
263-1	282.22 - 214.49	1,271,315	36.2	32.98%	79.38%	5,061	4,259	1,404	75.7	59.19	70%	63%
263-2	285.79 - 216.14	998,219	40.8	32.44%	78.12%	4,696	3,910	1,397	65.0	56.60	50%	39%
264-1	289.13 - 215.81	1,033,834	39.2	32.90%	79.94%	5,167	4,355	1,444	64.0	57.80	50%	29%
264-2	288.05 - 217.13	1,011,337	42.2	32.66%	77.96%	4,712	3,925	1,437	68.4	61.25	50%	29%
264-3	288.81 - 215.65	1,209,485	37.6	31.97%	75.54%	4,463	3,702	1,564	69.1	63.54	50%	46%
265-1	287.01 - 218.8	331,352	28.1	33.44%	83.12%	4,645	3,856	1,600	21.8	16.60	50%	18%
265-2	289.73 - 220.38	917,433	39.0	32.52%	76.62%	5,113	4,266	1,496	56.0	44.36	85%	74%
266-2	280.91 - 210.85	949,974	42.7	32.82%	80.06%	4,894	4,091	1,337	67.1	57.30	60%	60%
267-1	286.61 - 212.18	1,276,072	42.0	33.18%	79.29%	5,092	4,229	1,764	88.6	76.05	50%	4%
267-3	287.16 - 210.22	1,114,573	42.6	32.71%	81.38%	4,797	3,966	1,311	79.28	63.02	50%	4%

Wellbore Integrity



► Casing Integrity

- Continued to monitor the evolution of casing deformation in pad wells, which primarily affects Surmont 1 wells
- Performed caliper logging on all redrill wells and where opportunities to log were presented
- Performed fluid suppression testing in areas of elevated risk to ensure casing integrity where logging could not be performed

► Surface Casing Vent Flow/Gas Migration

- Performed regular surface casing vent flow (SCVF) testing as per ConocoPhillips Canada's Well Integrity Program and Directive 087 regulatory requirements
- Where SCVF/gas migration (GM) was identified, source intervals were identified through carbon isotope analysis and comparison with ConocoPhillips' extensive internal database of known samples

► Wellhead Integrity

- Performed regularly scheduled inspection and maintenance as per our Wellhead and Christmas Tree Inspection, Testing, and Maintenance (ITM) Program
- During regular inspections in 2024, not one issue was identified with wellheads in service – a positive indication that our ITM program is effective and working well

Workovers & Recompletions



► Redrills

Well	Date	Scope	Status
101-P25	Sept-2024	Sidetrack	Online 2024
103-P01	Nov-2024	Sidetrack	Online 2024
103-P09	Jul-2024	Stepout	Online 2024
262-2-P07	May-2024	Sidetrack	Online 2024
263-2-P01	Apr-2024	Sidetrack	Online 2024
263-2-P06	May-2024	Sidetrack	Online 2024
264-1-P12	May-2024	Sidetrack	Online 2024
265-2-P10	Dec-2024	Sidetrack (cellar)	Online 2024
262-3-04	Dec-2024	Sidetrack (Uphole Pair)	Online 2025
263-1-10	Nov-2024	Sidetrack (Uphole Pair)	Online 2024
263-1-11	Dec-2024	Sidetrack (Uphole Pair)	Online 2025
264-1-09	May-2024	Sidetrack (Uphole Pair)	Online 2024
264-2-P12	Jun-2024	Stepout (Infill)	Online 2024
264-2-P13	Jun-2024	Stepout (Infill)	Online 2024
263-2-P12	Apr-2024	Stepout (Infill)	Online 2024
263-2-P13	Apr-2024	Stepout (Infill)	Online 2024
264-1-P02	Oct-2024	Sidetrack (Infill)	Online 2024
102-P01	Sept-2024	Stepout (Infill)	Online 2025
102-P02	Oct-2024	Stepout (Infill)	Online 2024
102-P07	Oct-2024	Stepout (Infill)	Online 2024
101-P06(17)	Sept-2024	Stepout (Infill)	Online 2024
101-P07(18)	Sept-2024	Stepout (Infill)	Online 2024
101-P10(03)	Sept-2024	Stepout (Infill)	Online 2024
101-P13(06)	Sept-2024	Stepout (Infill)	Online 2025
101-P15	Sept-2024	Stepout (Infill)	Online 2024

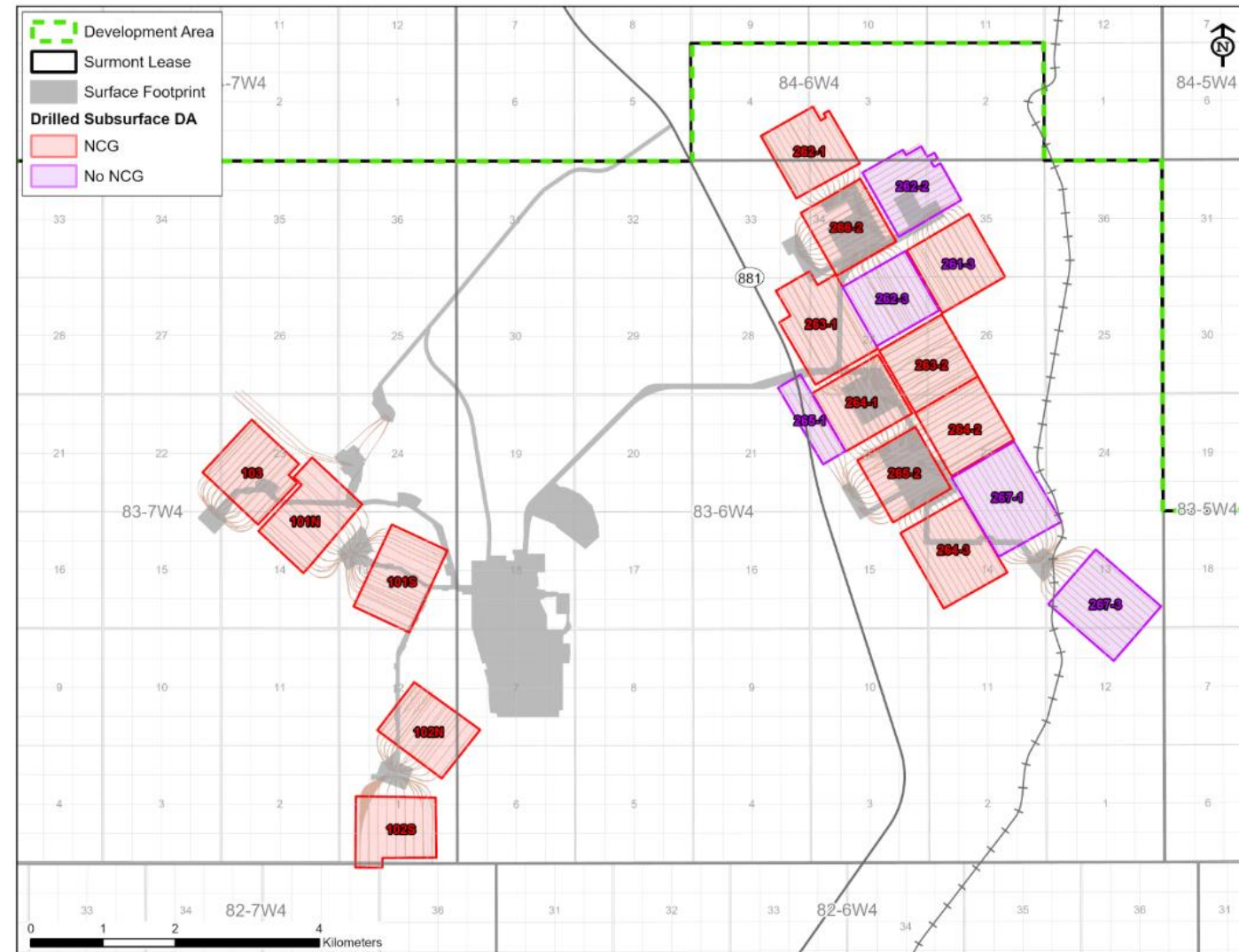
► Workovers

Well	Date	Scope	Status
263-2-P10	Mar-24	Liner Repair	Online 2024
102-P09	May-24	Liner Repair	Online 2024
261-3-P06	Jun-24	Liner Repair	Online 2024
265-2-P04	Feb-24	Liner Repair	Online 2024
265-2-P09	Apr-24	Scab Liner Installation	Online 2024
264-3-P10	Dec-24	Well Repair and Suspend	Suspended for Redrill in 2025
103-P01	Jul-24	Downhole Instrument Repair	Online 2024

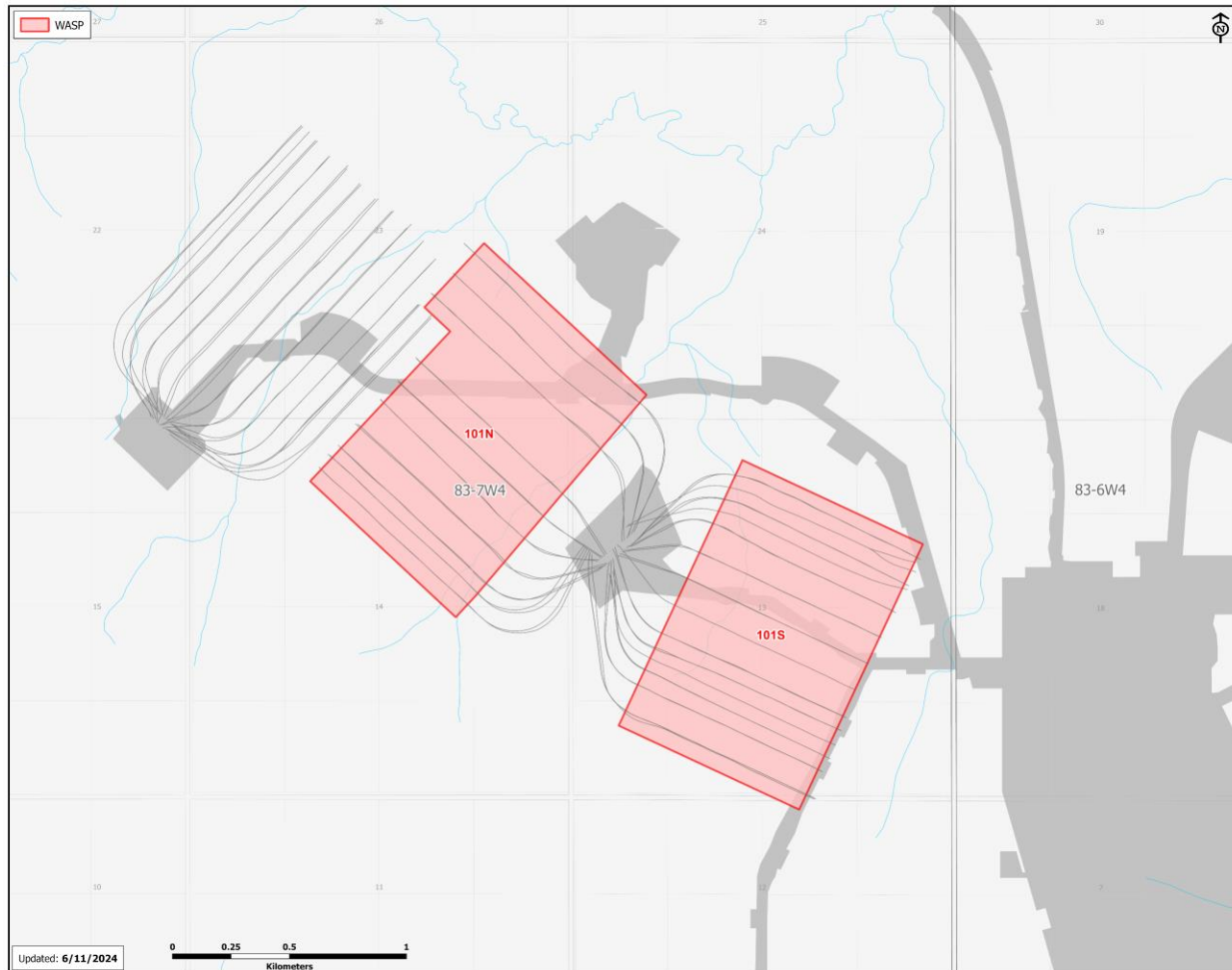
Non-Condensable Gas Co-Injection



- NCG co-injection was deployed on the pads for pressure maintenance and top water thief zone mitigation where pressure imbalance and steam losses can be a challenge.
- NCG helped reduce SOR and accelerated re-pressurizing pads under a top water thief zone.
- NCG injection can cause Electric Submersible Pump (ESP) interference and inefficiency due to excess gas production, requiring NCG rate and pump optimization.
- NCG was injected at an average range of 4,000 to 60,000 Sm³/d per subsurface DA in 2024.
 - NCG rates vary with recovery factor and injectivity; larger steam chambers have greater rates of gas injected.
 - NCG co-injection concentration varies from 0.1 to 5 mol% steam per well to maintain steam chamber pressure and manage ESP interference.
- Fuel gas from TransCanada Pipeline is used for NCG co-injection; surface metering of produced gas is highly uncertain at a pad level because there is no distinction between produced steam and methane gas. Produced gas is allocated at the plant level, and a per-pad NCG recovery percentage cannot be estimated. Plant level gas production has been steady at a gas oil ratio (GOR) of 8, regardless of NCG co-injection, which suggests minimal NCG recycle.



Solvent Co-Injection



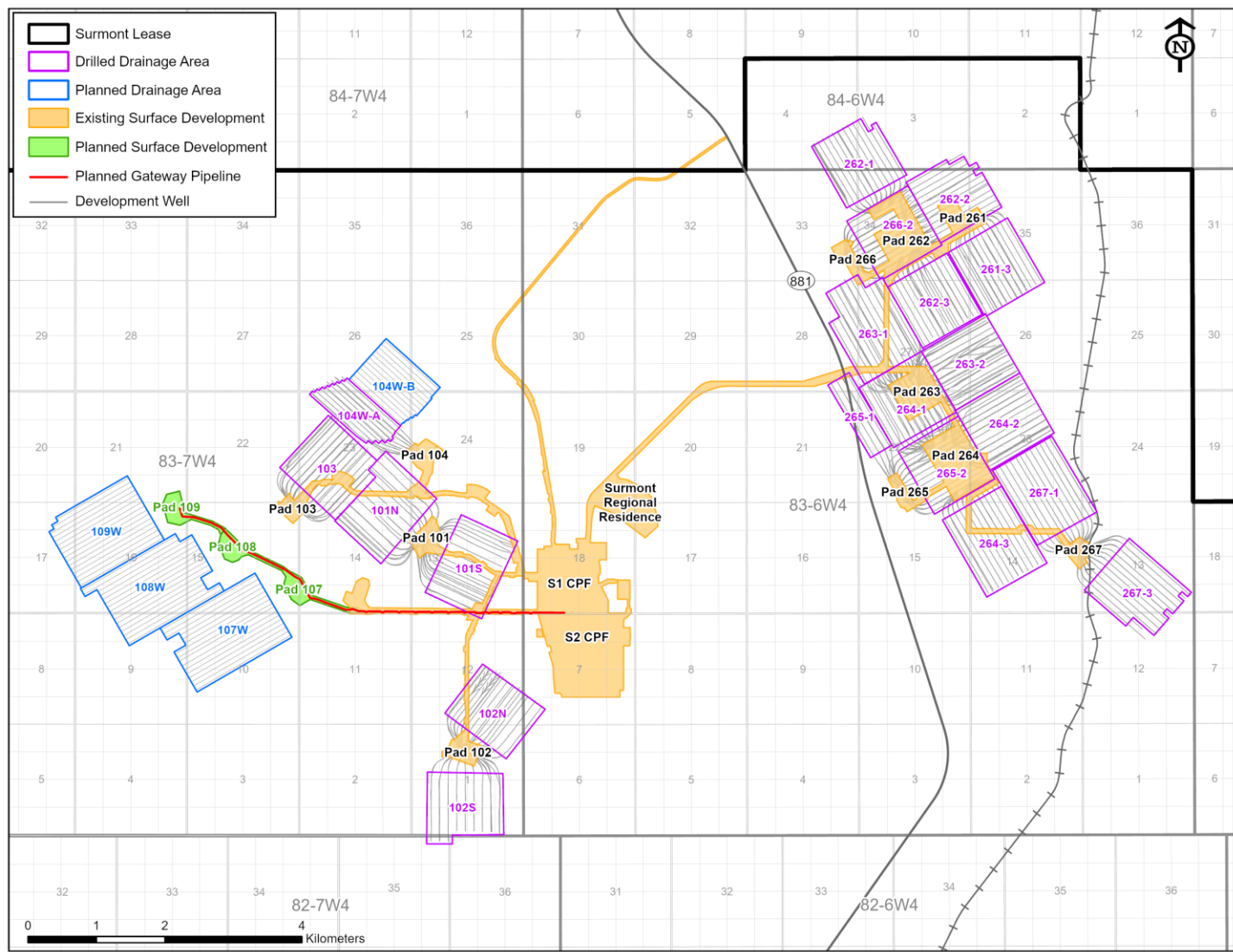
- Warm Applied Solvent Process (WASP) concluded on a less mature portion of pad 101
- This process has assisted to reduce steam oil ratio by maintaining oil rates while cutting steam by half
- Solvent production was measured for a period of 6 months after the last injection date
- Butane was the solvent of choice in this application and has been injected between 12 m³/d and 60 m³/hr as ConocoPhillips works to optimize target KPIs
- Solvent injection rate was modified in response to well performance and pump behaviour as re-production can encourage no-flow events on the ESPs and subsequently needs to be actively managed



Surface

Directive 054: Section 4.3
OSCA Report: Table 1 (2)

Surface Infrastructure: Built, In Progress, & Planned



► S1/S2 CENTRAL PROCESSING FACILITIES (CPFs)

► SURMONT REGIONAL RESIDENCE

► WELL PADS - BUILT

- | | | |
|-------|-------|-------|
| ■ 101 | ■ 261 | ■ 265 |
| ■ 102 | ■ 262 | ■ 266 |
| ■ 103 | ■ 263 | ■ 267 |
| ■ 104 | ■ 264 | |
| ■ 106 | | |

► WELL PADS – PLANNED

- | | | |
|-------|-------|-------|
| ■ 107 | ■ 108 | ■ 109 |
|-------|-------|-------|

► PIPELINES - PLANNED

- | | | |
|------------|------------|------------|
| ■ P55241-4 | ■ P55316-3 | ■ P64053-2 |
| ■ P55294-4 | | |

2024 Surmont Operations



GENERAL

- No new surface technologies were trialed during the reporting period



SURMONT PHASE 1

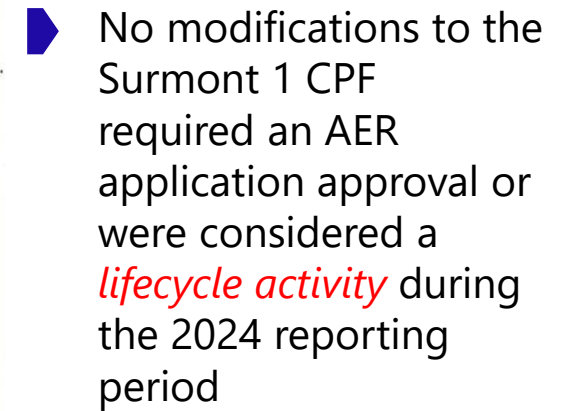
- Steady operation



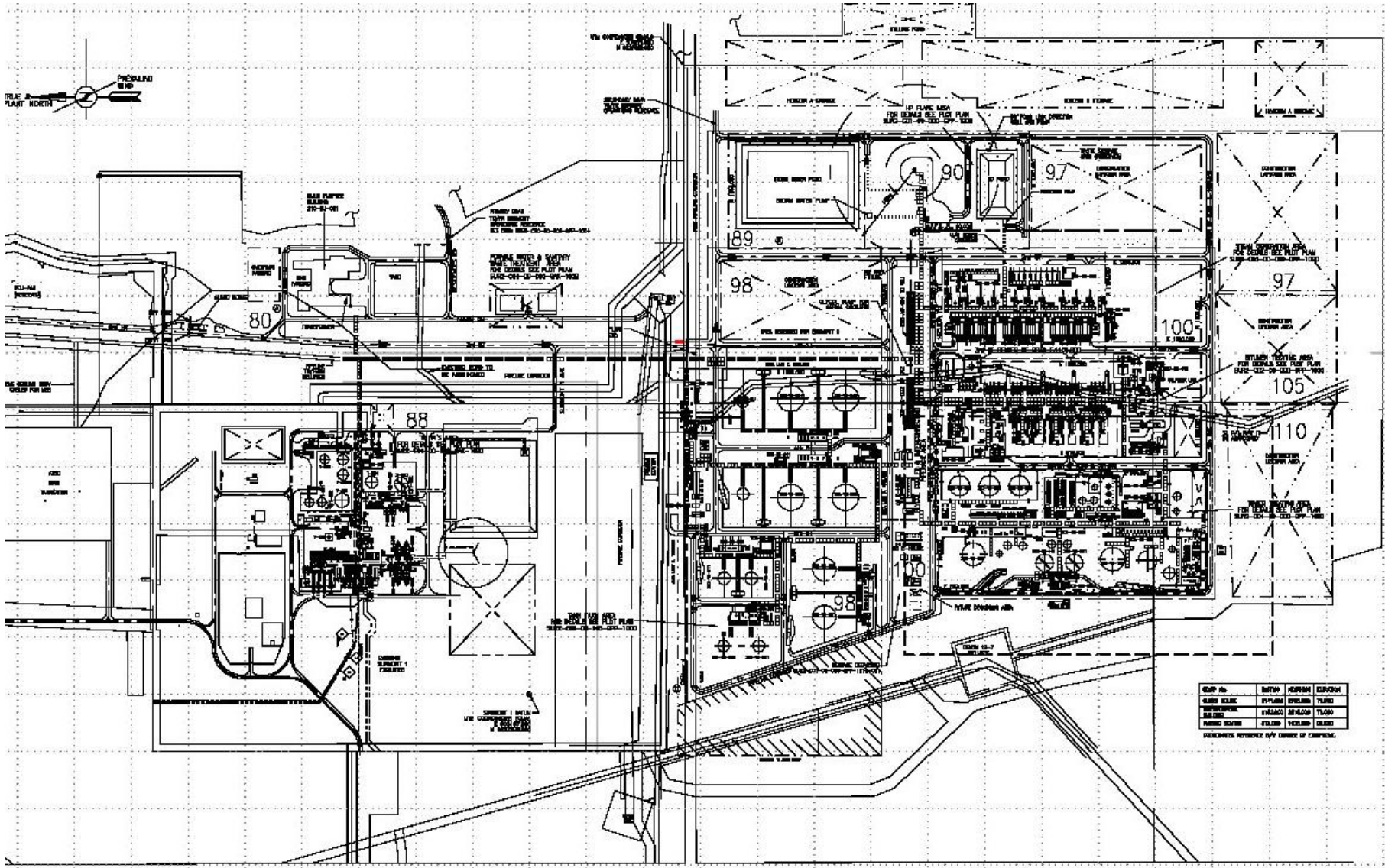
SURMONT PHASE 2

- CPF2 completed a full shutdown/turnaround (TA) August 8 – Sept 9
- Skim tank 1 was cleaned in September
- Train 3 treaters were cleaned in May



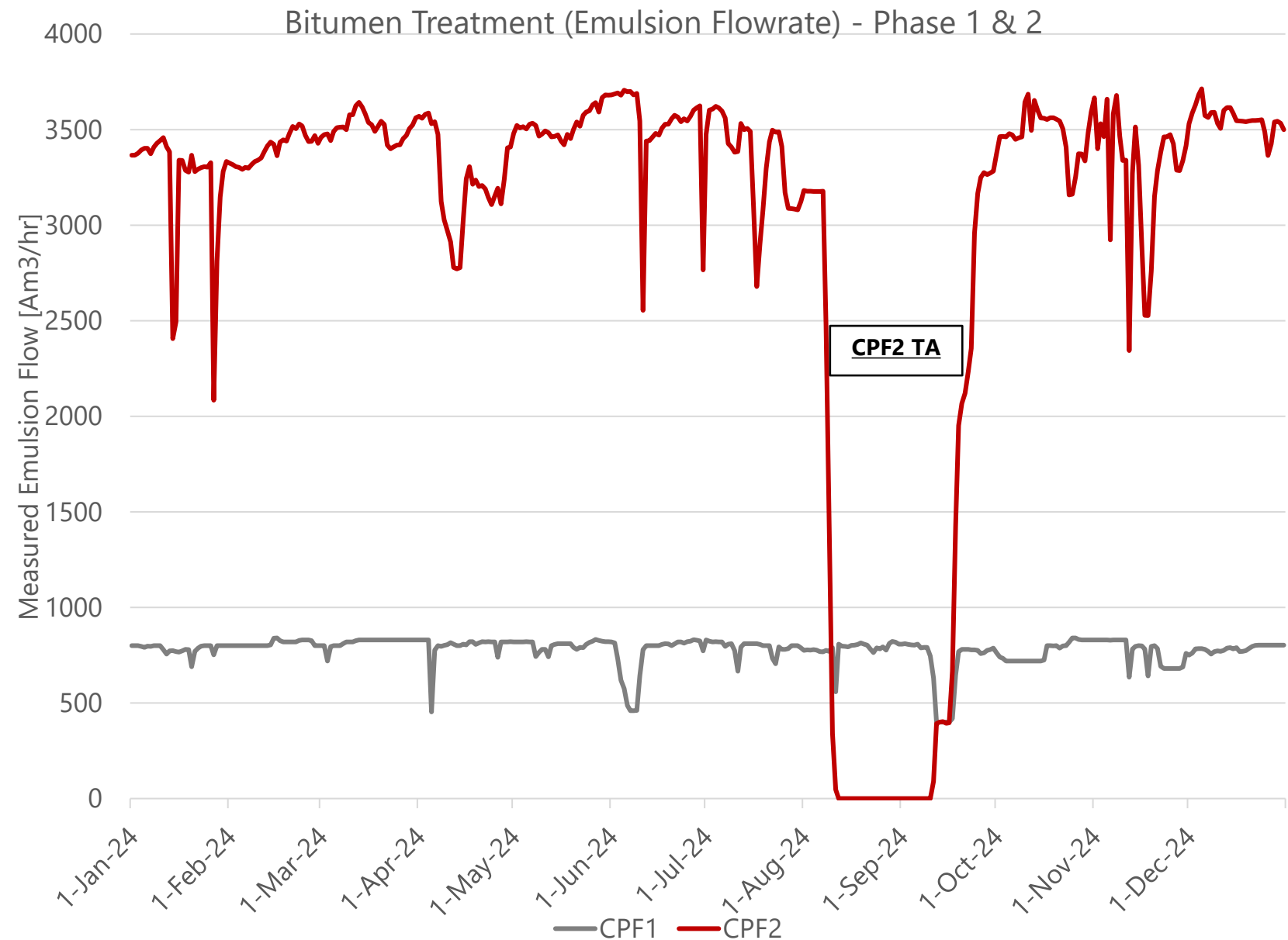


Central Processing Facility Modifications: Surmont Phase 2 Plot Plan

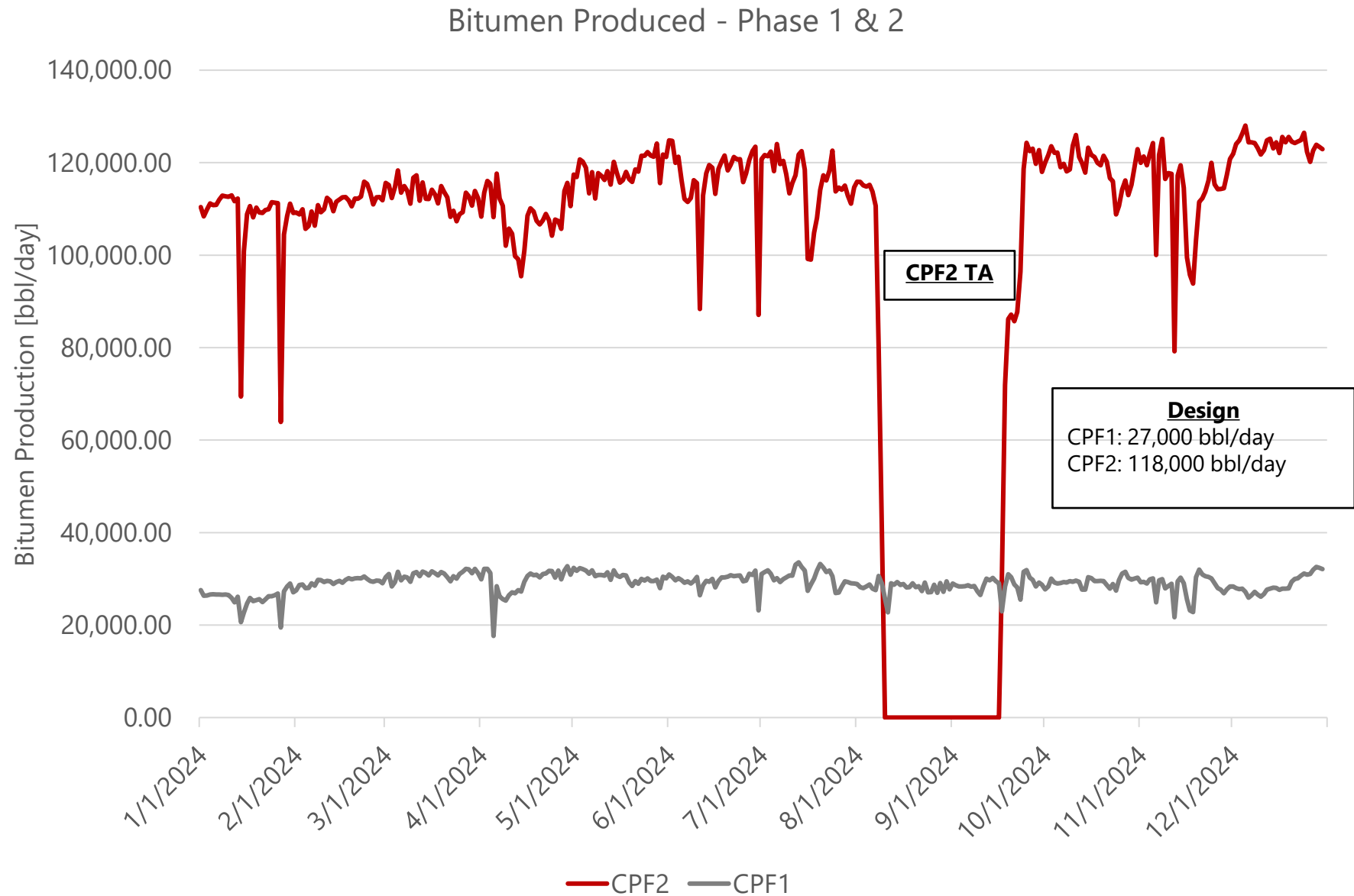


▶ No modifications to the Surmont 2 CPF required an AER application approval or were considered a *lifecycle activity* during the 2024 reporting period

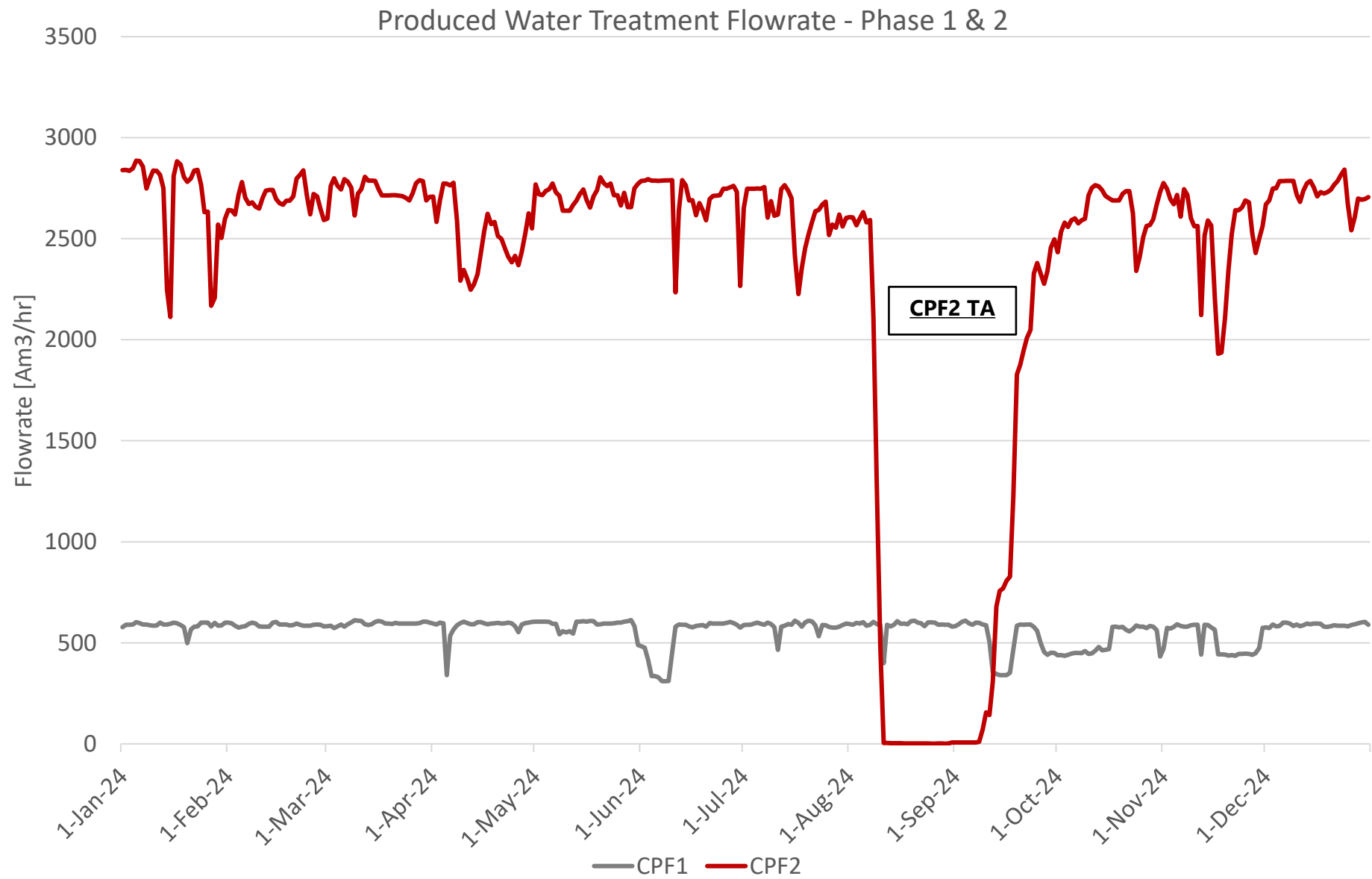
Facility Performance: Bitumen Treatment by CPF



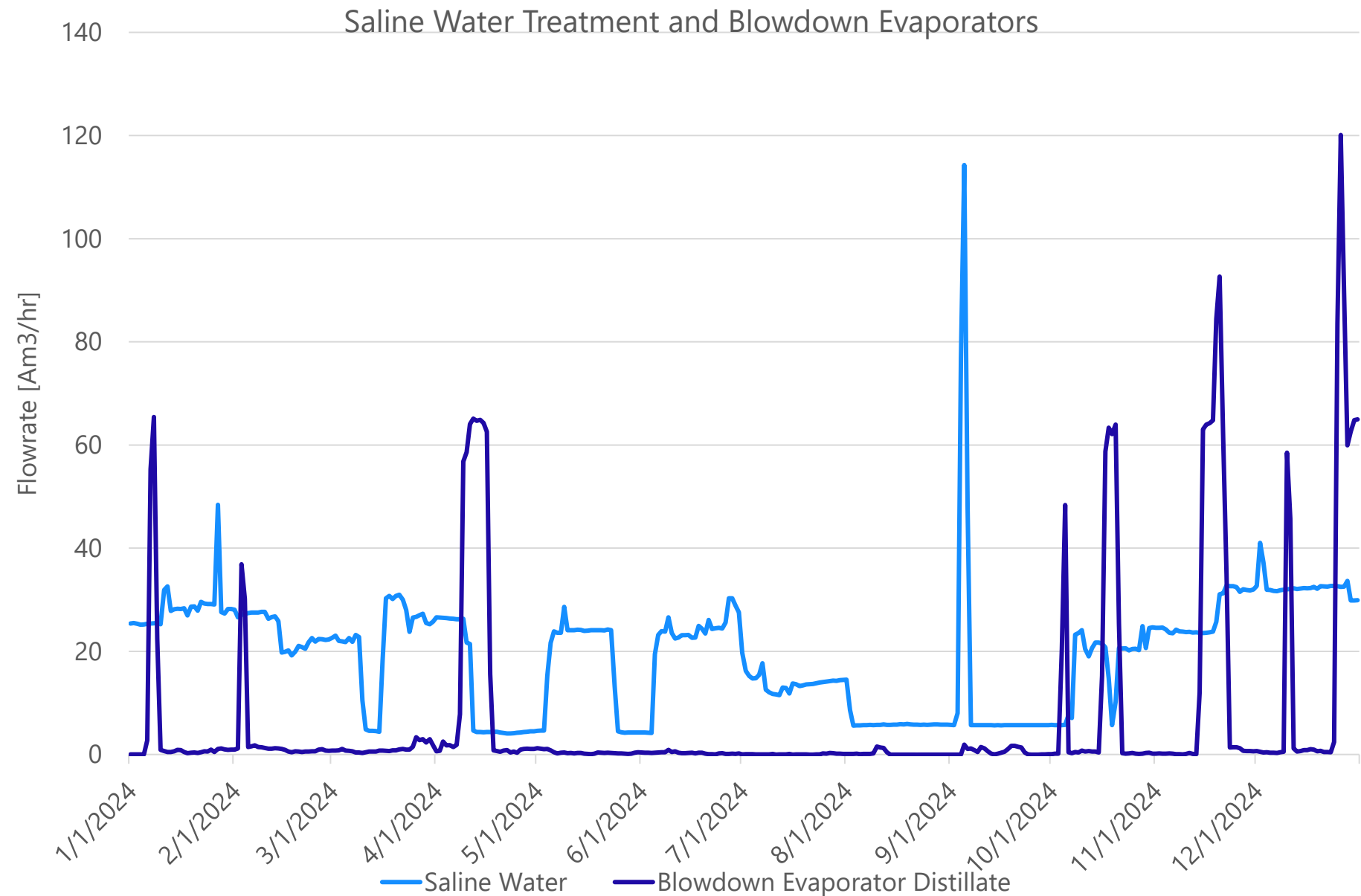
Facility Performance: Bitumen Production by CPF



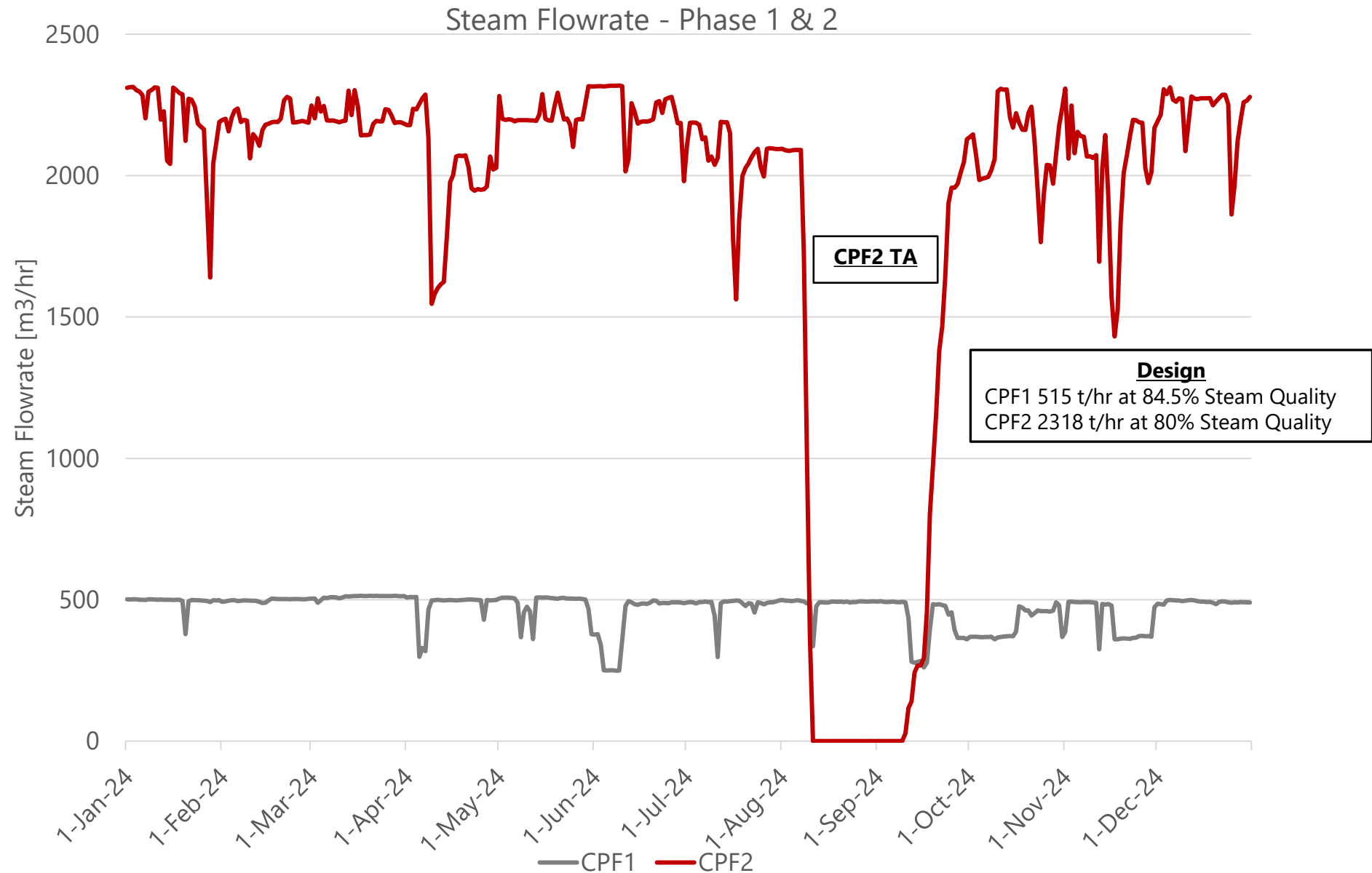
Facility Performance: Water Treatment by CPF



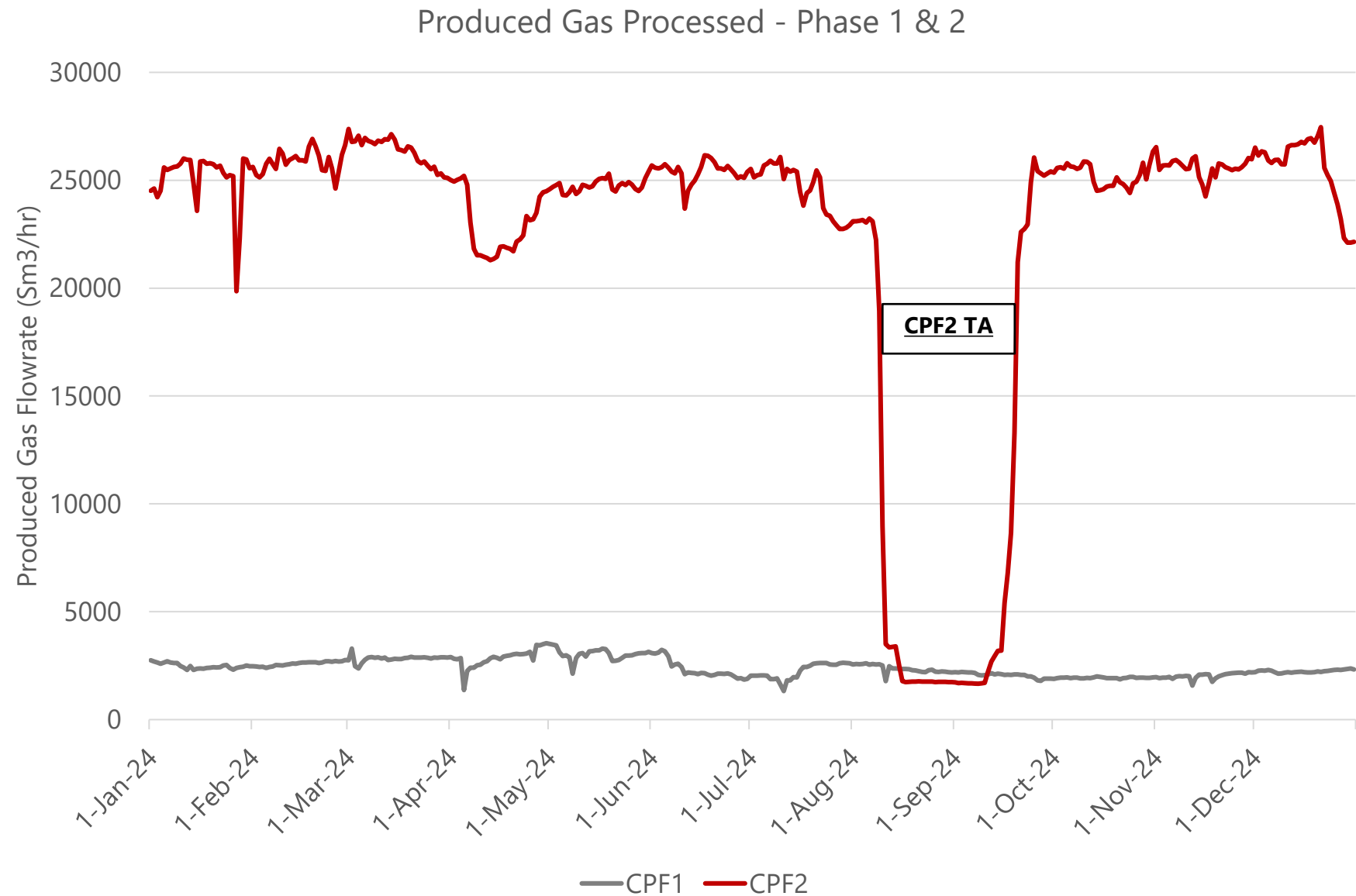
Facility Performance: Saline Water Treatment and Blowdown Evaporators



Facility Performance: Steam Production by CPF



Facility Performance: Produced Gas Production by CPF





Surmont Water Source & Disposal Wells

Directive 054: Section 4.3 (8)(a)
Class 1b Disposal Approval No. 10044N

Surmont Phase 1 and Phase 2 Water Source Wells

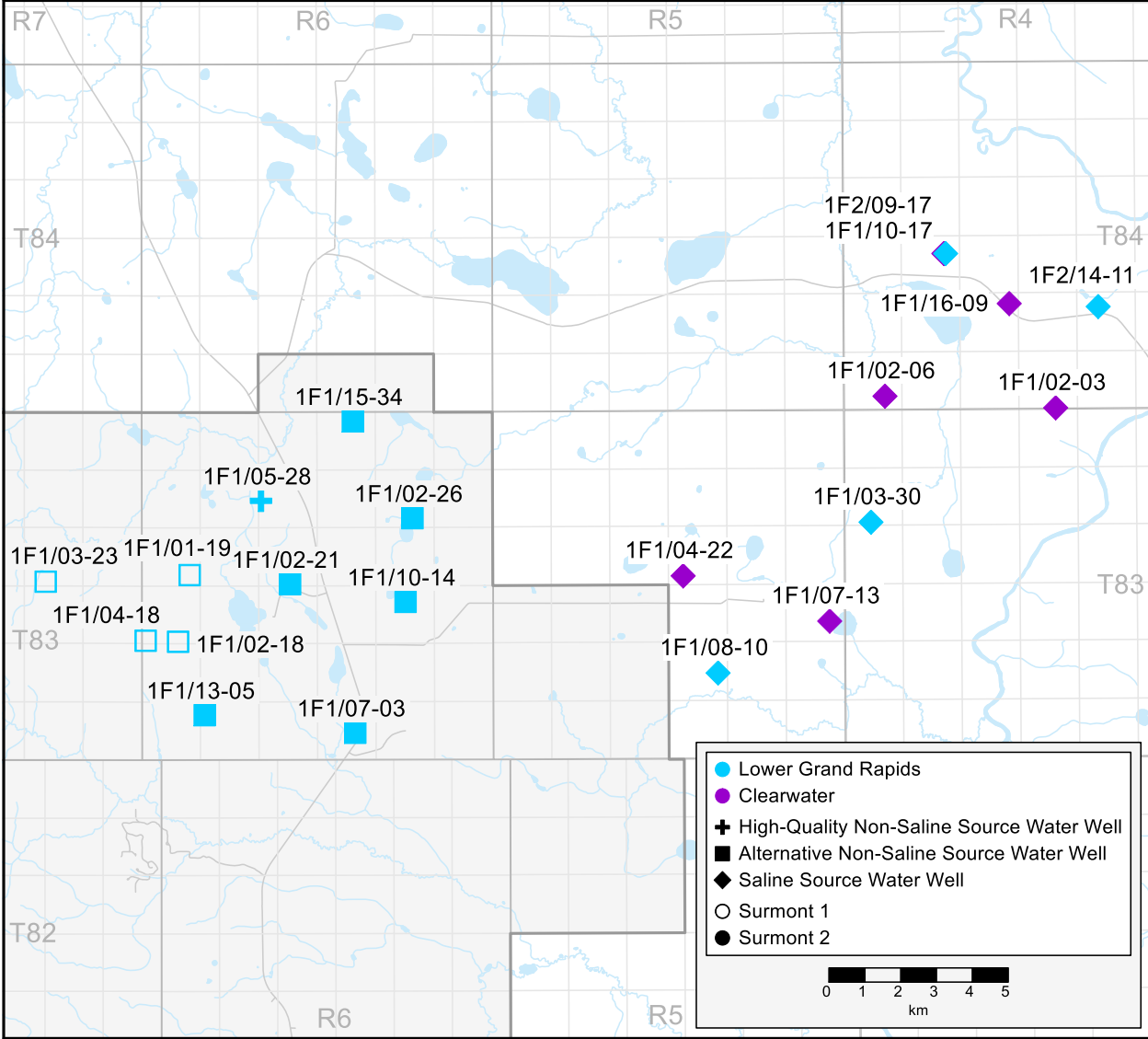


Surmont Phase 1 Non-Saline Water Source Wells (Licence No. 00253532-03-00)			
Source Well	Observation Well	Formation	Directive 081 Water Type
1F1/02-18-083-06W4/00	1F2/02-18-083-06W4/00	Lower Grand Rapids	Alternative Non-Saline
1F1/04-18-083-06W4/00	102/04-18-083-06W4/00	Lower Grand Rapids	Alternative Non-Saline
1F1/01-19-083-06W4/00	100/01-19-083-06W4/00	Lower Grand Rapids	Alternative Non-Saline
1F1/03-23-083-07W4/00	100/03-23-083-07W4/00	Lower Grand Rapids	Alternative Non-Saline

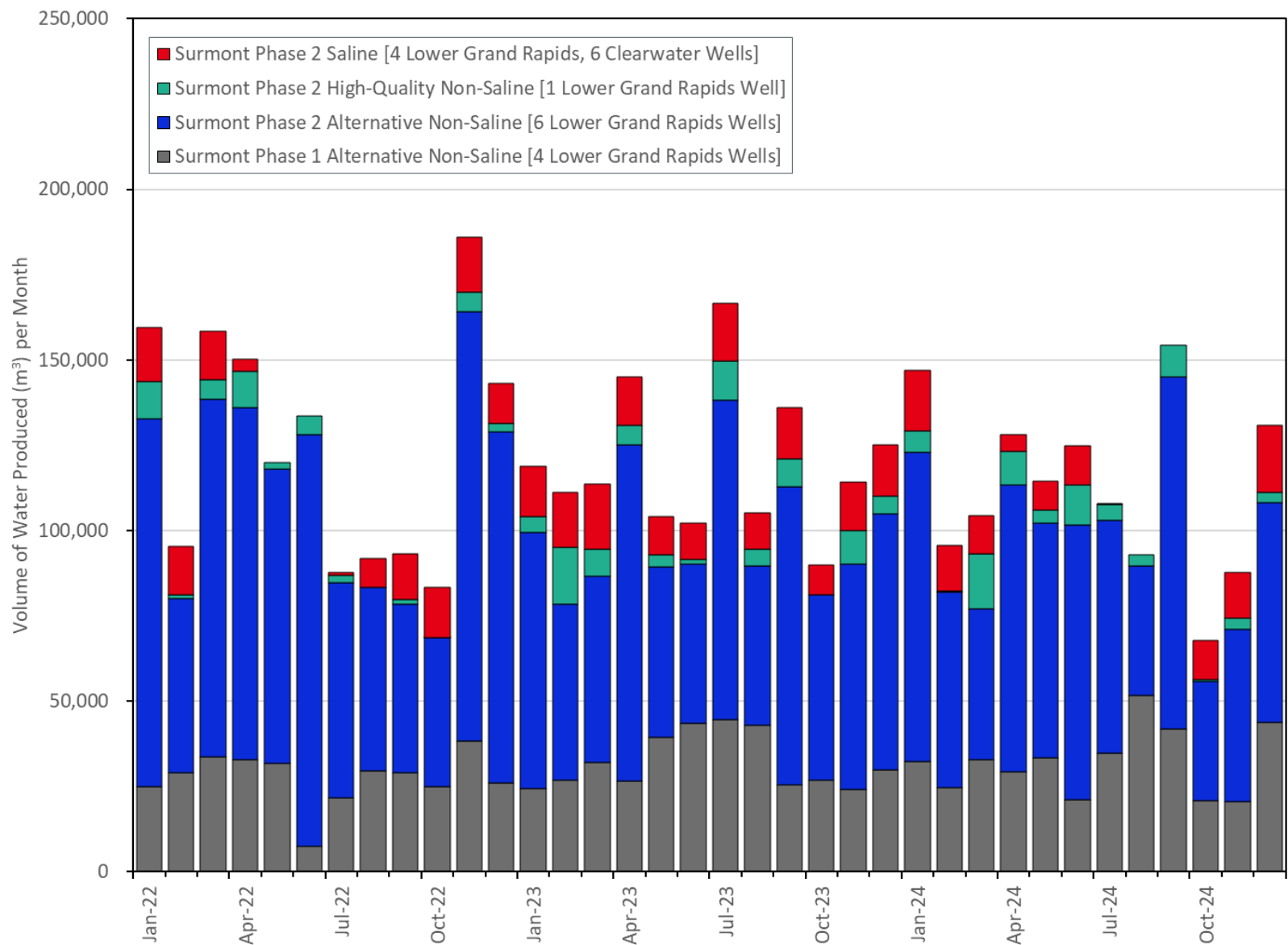
Surmont Phase 2 Non-Saline Water Source Wells (Licence No. 00312463-03-00)			
Source Well	Observation Well	Formation	Directive 081 Water Type
1F1/02-21-083-06W4/00	100/02-21-083-06W4/00	Lower Grand Rapids	Alternative Non-Saline
1F1/02-26-083-06W4/00	100/02-26-083-06W4/00	Lower Grand Rapids	Alternative Non-Saline
1F1/05-28-083-06W4/00	100/05-28-083-06W4/00	Lower Grand Rapids	High-Quality Non-Saline (HQNS)
1F1/07-03-083-06W4/00	1F2/07-03-083-06W4/00	Lower Grand Rapids	Alternative Non-Saline
1F1/10-14-083-06W4/00	1F1/11-14-083-06W4/00	Lower Grand Rapids	Alternative Non-Saline
1F1/13-05-083-06W4/00	100/13-05-083-06W4/00	Lower Grand Rapids	Alternative Non-Saline
1F1/15-34-083-07W4/00	1F2/15-34-083-07W4/00	Lower Grand Rapids	Alternative Non-Saline

Surmont Phase 2 Saline Water Source Wells		
Source Well	Formation	Directive 081 Water Type
1F1/02-03-084-04W4/00	Clearwater	Saline Groundwater
1F1/02-06-084-04W4/00	Clearwater	Saline Groundwater
1F1/03-30-083-04W4/00	Lower Grand Rapids	Saline Groundwater
1F1/04-22-083-05W4/00	Clearwater	Saline Groundwater
1F1/07-13-083-05W4/00	Clearwater	Saline Groundwater
1F1/08-10-083-05W4/00	Lower Grand Rapids	Saline Groundwater
1F1/10-17-084-04W4/00	Clearwater	Saline Groundwater
1F1/16-09-084-04W4/00	Clearwater	Saline Groundwater
1F2/09-17-084-04W4/00	Lower Grand Rapids	Saline Groundwater
1F2/14-11-084-04W4/00	Lower Grand Rapids	Saline Groundwater

NOTE: Source well 1F1/05-28-083-06W4/00 produces water of the same quality from the same interval and elevation as the other Surmont non-saline source wells but is classified as HQNS because at this location the production interval straddles the 150m depth cut-off.



Surmont Water Source Wells: Production Volumes



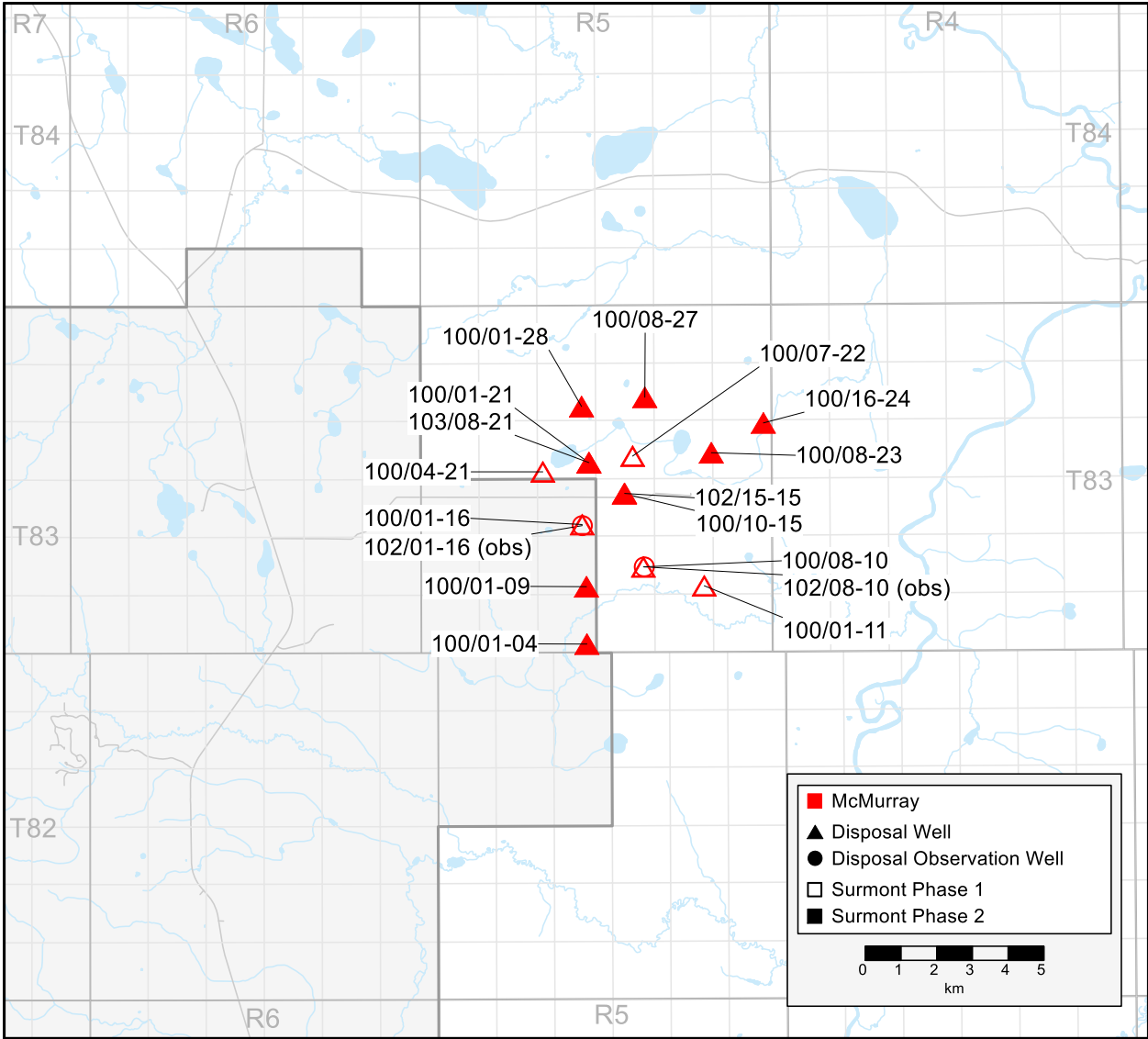
Surmont Phase 1 and Phase 2 Water Disposal Wells



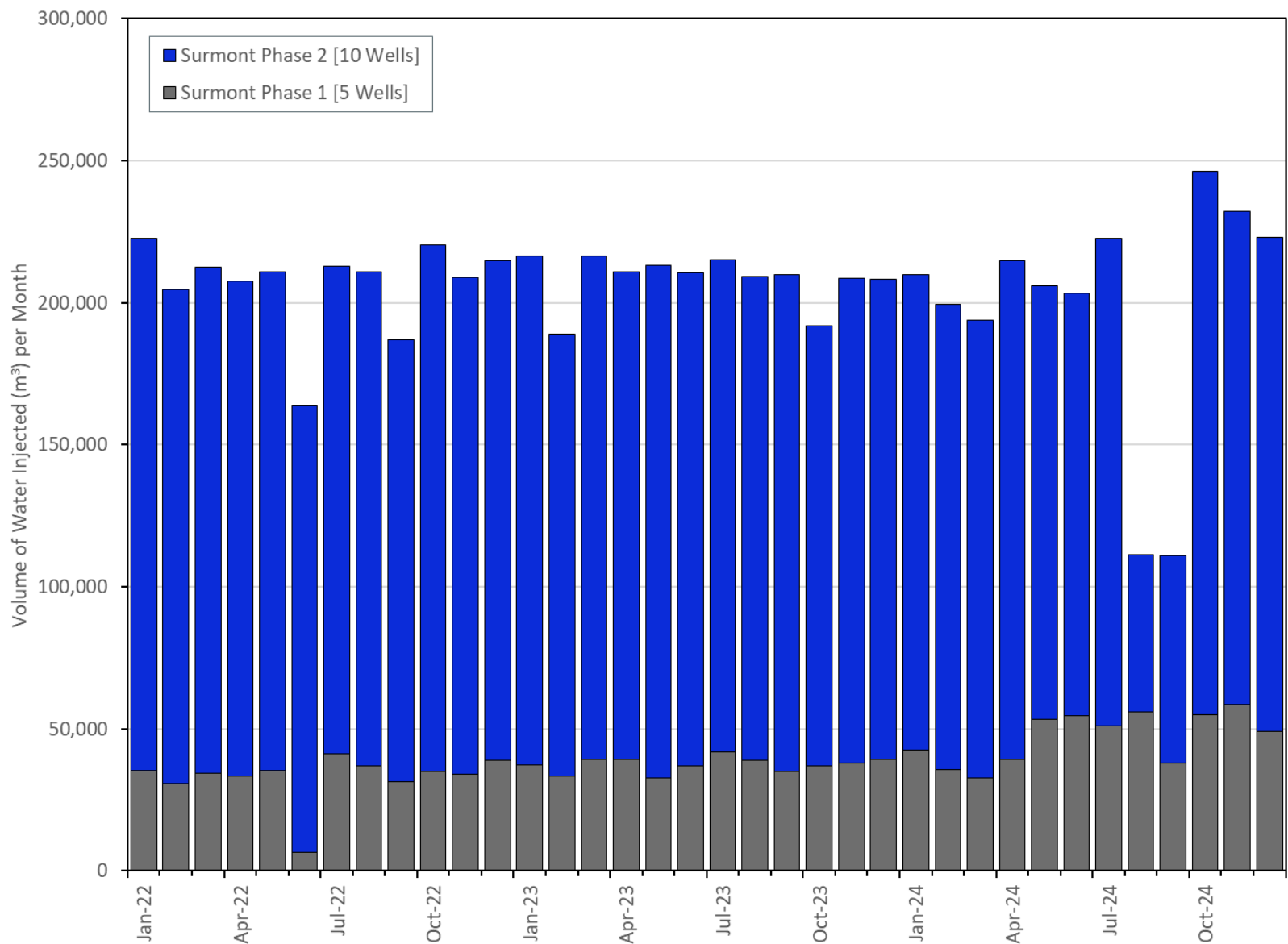
Surmont Phase 1 Water Disposal Wells		
UWI	Formation	Approval No.
100/01-16-083-05W4/00	McMurray	10044N
100/07-22-083-05W4/00	McMurray	10044N
100/08-10-083-05W4/00	McMurray	10044N
100/04-21-083-05W4/00	McMurray	10044N
100/01-11-083-05W4/00	McMurray	10044N

Surmont Phase 2 Water Disposal Wells		
UWI	Formation	Approval No.
100/01-09-083-05W4/00	McMurray	10044N
100/01-04-083-05W4/00	McMurray	10044N
100/01-28-083-05W4/00	McMurray	10044N
100/10-15-083-05W4/00	McMurray	10044N
102/15-15-083-05W4/00	McMurray	10044N
100/08-27-083-05W4/00	McMurray	10044N
100/08-23-083-05W4/00	McMurray	10044N
100/16-24-083-05W4/00	McMurray	10044N
100/01-21-083-05W4/00	McMurray	10044N
103/08-21-083-05W4/00	McMurray	10044N

Surmont Water Disposal Observation Wells	
UWI	Formation
102/01-16-083-05W4/00	McMurray
102/08-10-083-05W4/00	McMurray

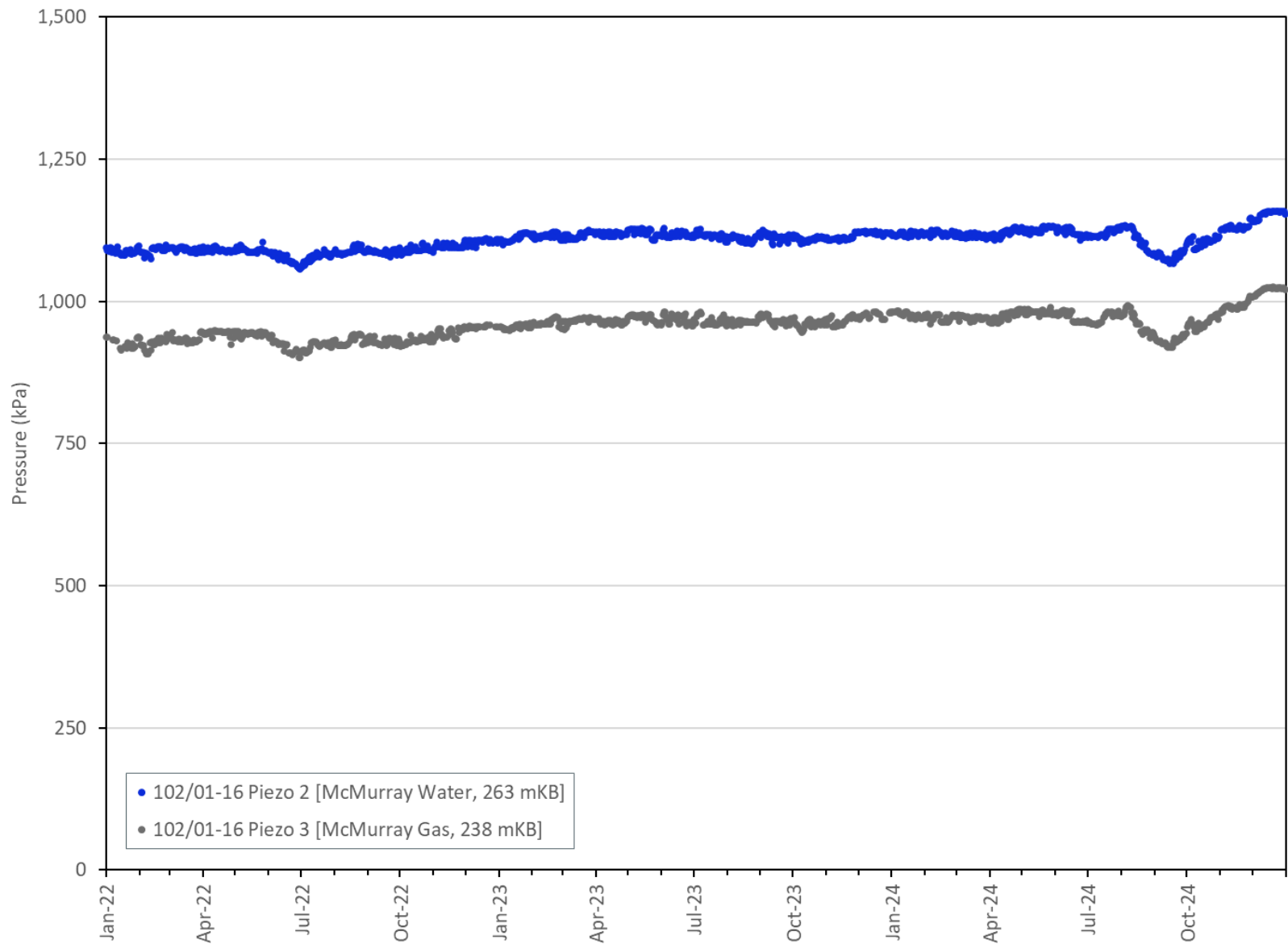


Surmont Water Disposal Wells: Injection Rates (McMurray)

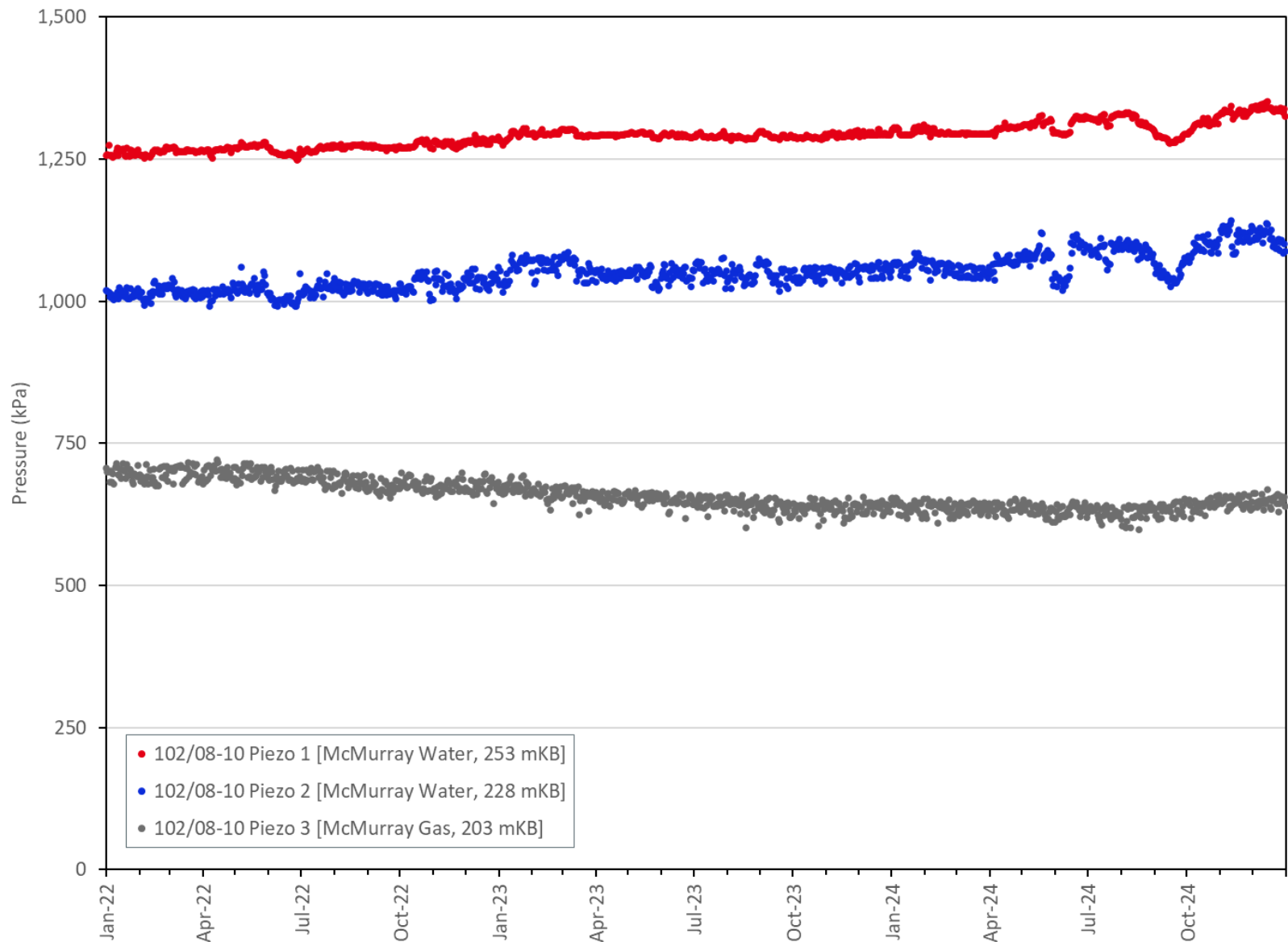


Water Disposal Observation Well 102/01-16-083-05W4M:

Well Pressure (McMurray)



Water Disposal Observation Well 102/08-10-083-05W4M: Well Pressure (McMurray)

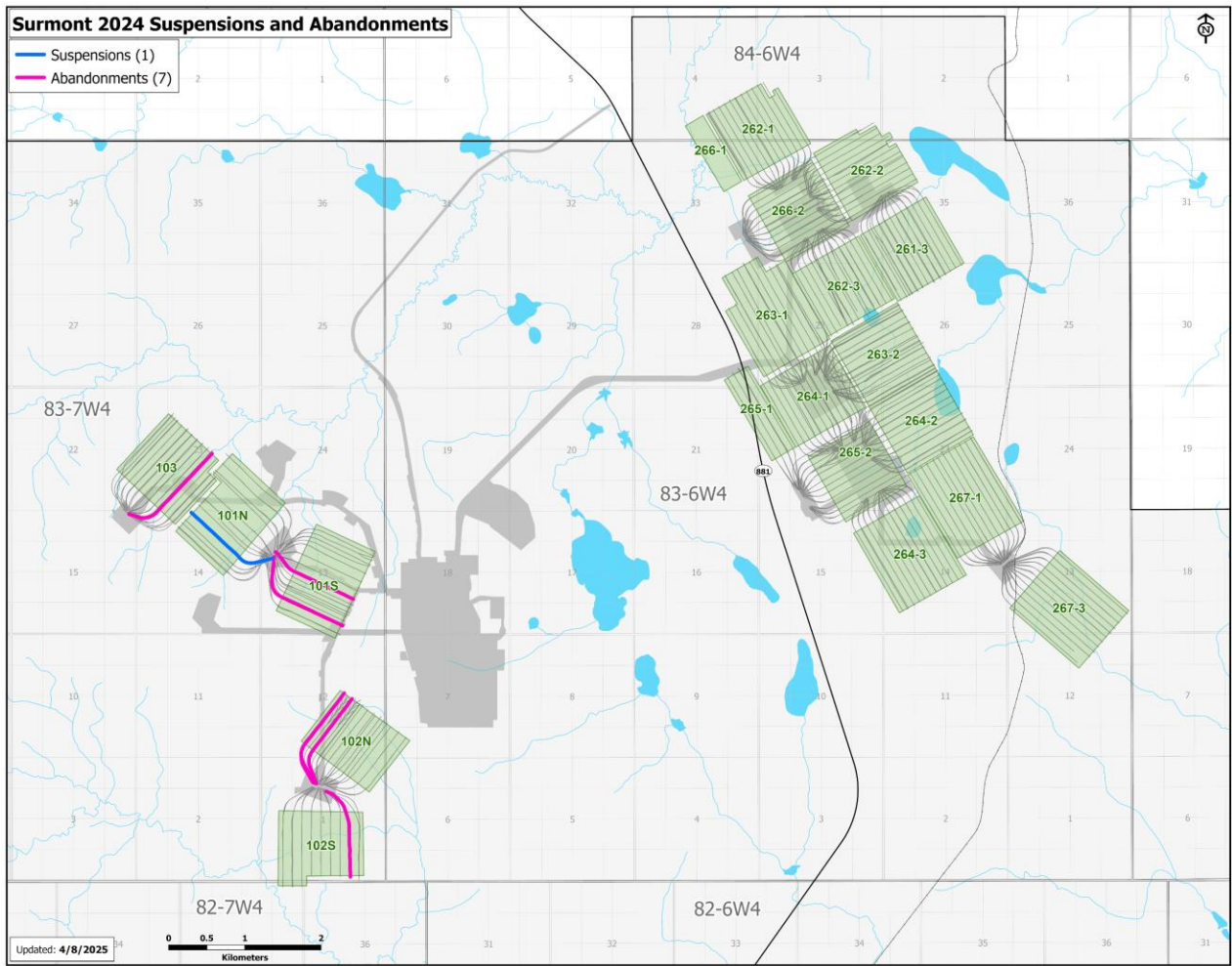




Historical & Upcoming Activity

Directive 054: Section 4.4

Suspension & Abandonment Activity



Surmont: 2024 Suspended Wells

Well	Comments
101-I02	Producer failed and injector taken offline

Surmont: 2024 Abandoned Wells

Well	Comments
101-P15	Abandoned for redrill
101-P18	Abandoned for redrill
102-I01	Abandoned for redrill
102-I11 RD	Abandoned for redrill
102-P01	Abandoned for redrill
102-P02	Abandoned for redrill
103-P09	Abandoned for redrill

- ▶ No pads in place for full scale suspension/abandonment currently
- ▶ No impact to remaining reserves

Regulatory Approvals and Lifecycle Activities: 2024 Reporting



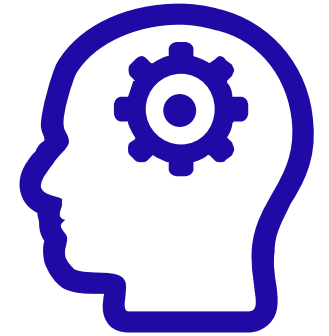
Application No./Date	Description	Approval Date/No.
1951949 May 16, 2024	Category 2 amendment to split approved DA 104W into 104W-A and 104W-B, where: • 104W-A retains the current approved MOP of 4,350 kPaG • 104W-B changes to a new, reduced MOP of 3,849 kPaG As part of ConocoPhillips' reassessment of existing wells in the area, new well data identified a potential caprock integrity issue related to an abandoned cyclic steam stimulation (CSS) well located at 14-24-083-07 W4. To ensure caprock integrity, ConocoPhillips proposed to operate the 104W-B DA at a lower MOP.	9426EEE March 7, 2025
1952086 May 31, 2024	Category 2 amendment application to temporarily increase the MOP in 265-2 P13 for improved well performance. The requested temporary MOP was 95% of fracture pressure for a 14-day period.	9426CCC July 15, 2024
1953722 July 29, 2024	Category 2 amendment application requesting approval to drill and operate new DAs CBR-1 and CBR-2 without repairing or abandoning a non-thermal well in proximity to the DAs.	9426DDD September 5, 2024
Redrills – Lifecycle Activity	Drilled infill, replacement, uphole, and cellar wells.	N/A
Warm Applied Solvent Process (WASP) Pilot – Lifecycle Activity	Continued operation of a solvent co-injection WASP technology pilot in Surmont 1.	N/A
Steam Additives Pilot – Lifecycle Activity	Continued operation of a pilot project for the injection of steam additives into the reservoir.	N/A
NCG Co-injection – Lifecycle Activity	Expanded NCG co-injection capability.	N/A
012-48263 November 12, 2024	EPEA amendment to amend Table 3.1 in our EPEA Approval to add an alternate sulphur dioxide (SO ₂) emissions limit based on actual sulphur inlet levels.	48263-01-01 March 17, 2025

► **No activities occurred that could materially affect scheme performance or energy or material balances**

Lessons Learned

► Surface Heave

- Surmont is seeing ongoing surface heave directly under our surface pad facilities that is unrelated to steam chambers within the reservoir. The working hypothesis, based on the location of the observations, is that the heave is the result of conductive heating of the overburden from the vertical section of SAGD wells.
- ConocoPhillips has observed:
 - Elevated temperature where a SAGD injector is in proximity to an observation well.
 - Pressure measurements are below the fracture gradient in all formations.
- Heave data is used to calibrate geomechanical models and results show agreement with field observations.



Successes



- Drilled and started up four uphole well pairs to capture undrained resource.
- Drilled one cellar well to capture bypassed pay below existing wells.
- Drilled 13 infills to accelerate production and reduce watercut.
- Safely executed Surmont 2 turnaround.
- Solvent pilot demonstrated promising Key Performance Indicators and numerous lessons learned around solvent handling, measurement, and hold-up are carried forward into a future pilot planning exercise.





► **STEAM ADDITIVES PILOT** – *Lifecycle Activity*

- Paused operation of a pilot project for the injection of steam additives into the reservoir. The objective of this pilot is to reduce the viscosity of emulsion at downhole SAGD conditions and accelerate the flow of emulsion drainage in the reservoir.

► **WARM APPLIED SOLVENT PROCESS (WASP) PILOT** – *Lifecycle Activity*

- Completed operation of a solvent co-injection (WASP) technology pilot in Surmont 1.



Compliance History: Incidents, Contraventions & Self-Disclosures



Compliance Item	Reference Number	Date	Detail	Action
PLA Approval Contravention	EDGE 0424259	23 Jan 2024	Trespass outside of approved disposition area during site preparation at a wellsite.	The trespass area was added to the existing disposition and will be fully reclaimed with the site.
EPEA Approval Contravention	EDGE 0426303	31 Jan 2024	CEMS availability less than 90% for NOx equipment at Station ID 26137.	The annubar flow transmitter froze due to the cold ambient temperatures. A temperature wrap was added around the sensing lines with already existing grey wrap insulation to provide more protection from the cold and wind at the top of the stack.
Incomplete Well Logging	VSD 50107	4 Mar 2024	Failed to obtain a waiver for incomplete well logging within 24-hours.	A waiver request was submitted and the VSD was closed by the AER.
Acid Release	EDGE 0426395	29 Mar 2024	Release of 0.02 m ³ of acid from the 204-TK-002 acid tank due to a leaking flange at the base of the tank.	The spilled acid was neutralized with soda ash and the area was cleaned up until the pH of the area was neutral. The gasket was replaced, and the flange was torqued.
Sludge Release	EDGE 0432191	24 Aug 2024	Release of 6.6 m ³ of sludge from the 203-TK-301 deoiled tank while cleaning the tank during turnaround activities. While removing sludge and tank bottom material through a manway door, the solids broke loose and allowed sludge to come out of the slotted hole.	Vac trucks were used to remove the spilled sludge from inside the tank farm berm.
Sludge Release	EDGE 0432206	25 Aug 2024	Release of 8.5 m ³ of sludge from the 204-TK-05 recycle water tank during turnaround activities. While removing the manway door from the tank, the door bolts loosened (the door was cracked open, as per procedure) and sludge leaked out through the gap between the door and tank.	Loose bolts were immediately tightened, and the door was sealed. Vac trucks were used to remove the spilled sludge from inside the tank farm berm.
EPEA Approval Contravention	EDGE 0434807	26 Sep 2024	CEMS availability less than 90% for NOx equipment for steam generator station ID 26138.	The station failed the cylinder gas audit (CGA) on first run due to a flow meter that was blocked and not in service. Another CGA was performed the final week of October 2024 and passed.

Compliance History: Incidents, Contraventions & Self-Disclosures



Compliance Item	Reference Number	Date	Detail	Action
Oil Emulsion Release	EDGE 0433618	28 Sept 2024	Release of 0.01 m ³ of oil emulsion from the 240-X-102 pig receiver due to a leaking line valve.	When the leak was assessed, it was no longer leaking, and the small pool of emulsion was cleaned up.
EPEA Approval Contravention	EDGE 0435638	31 Oct 2024	Station ID 26137 and 28067 failed the CGA on first run.	Calibration coefficient adjustments were completed after the failed CGA. Another CGA was performed and both stations passed.
Condensate Release	EDGE 0436169	15 Dec 2024	Release of 0.01 m ³ of condensate from the 150 condensate station on the produced gas line 2-inch drain valve due to a leaking valve bonnet.	Vac truck was used to clean up the contaminated fluid, snow, and ice.

Future Plans: Next 12 Months



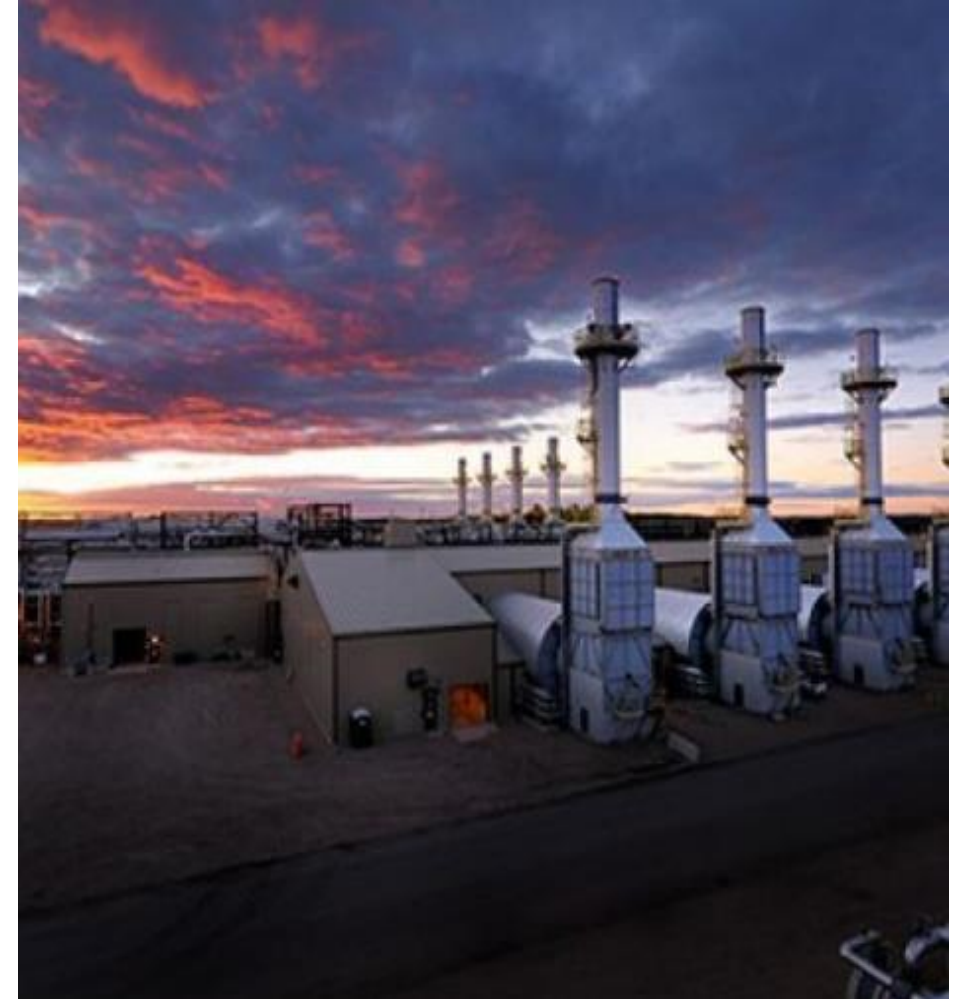
SURMONT PHASE 1

- Start-up Pad104W-A at end of 2025



SURMONT PHASE 2

- Re-drill failed wells – ***Lifecycle Activity***
- Drill uphole well pairs on 264-2 & 262-3 – ***Lifecycle Activity***
- Expand NCG co-injection to more drainage areas – ***Lifecycle Activity***
- Infill and cellar well drilling – ***Lifecycle Activity***

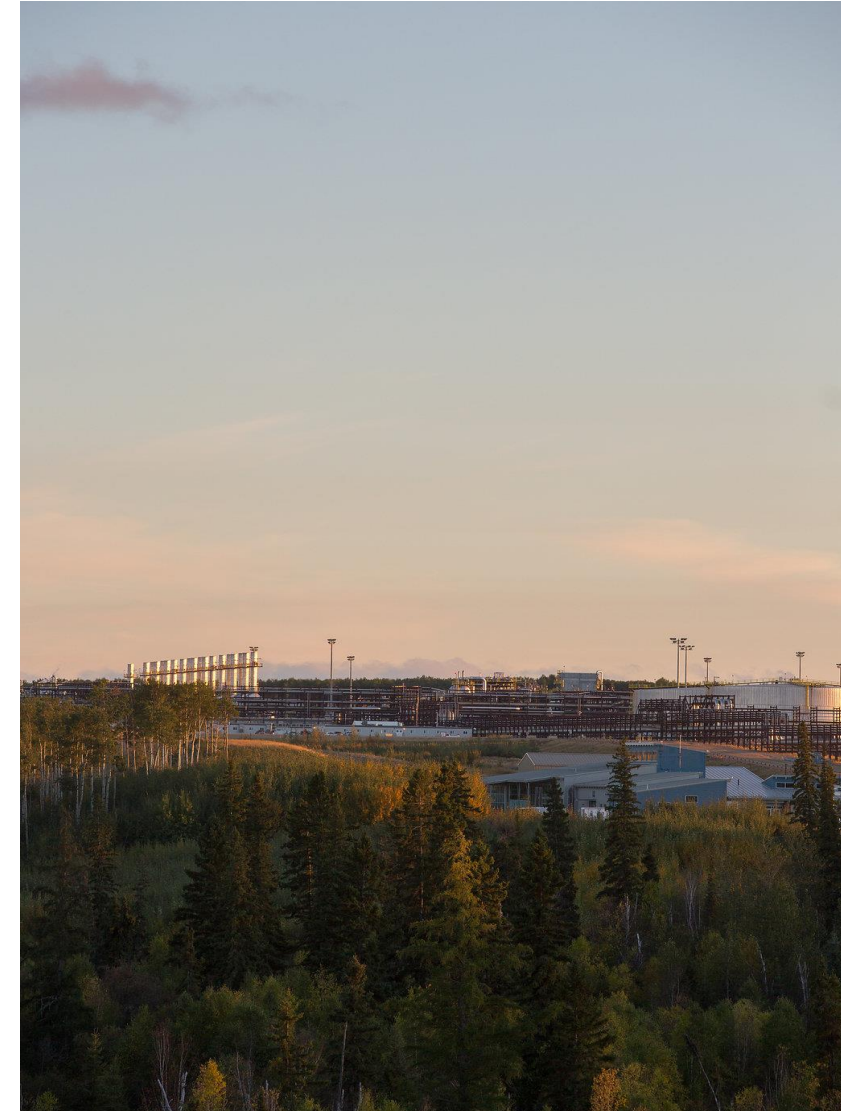


Future Plans: Next 12 Months

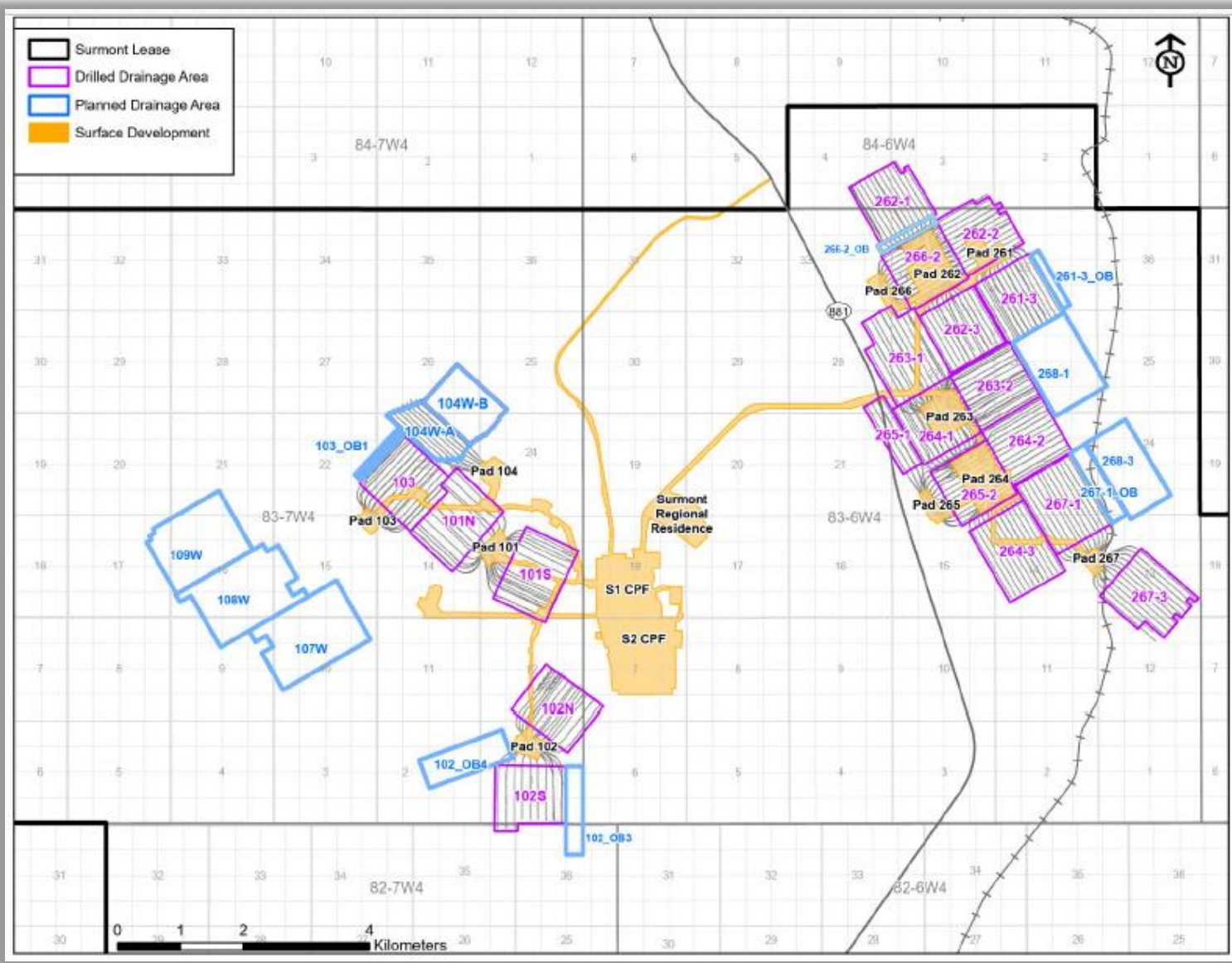


EXPECTED APPLICATIONS

- Request to temporarily use steam injection pressure transmitters to measure bottomhole injection pressures to allow for planning and safe repair of a failed methane transmitter during extreme cold weather – **OSCA Amendment**
- Correct CBR-1 & CBR-2 drainage area names described in Application No. 1953722 and Condition 27 of Approval No. 9426EEE. Where CBR-1 is changed to 109W and CBR-2 is changed to 108W – **OSCA Amendment**
- Correct a UWI typo in Application No. 1951949 (February 2025 Project Update) – **OSCA Amendment**
- Renew EPEA Approval 48263-01-01, as amended for Surmont's continued operation (Application 013-48263, March 2025) – **EPEA Renewal**
- Waiver request for a standalone Surmont Woodland Caribou Mitigation and Monitoring Plan for commercial activities within a designated caribou zone, as the plan is already integrated in Surmont's Wildlife Mitigation and Monitoring Program - **EPEA Letter of Authorization**
- Request approval to pilot a temporary emission source as a venting solution during tank maintenance - **EPEA Letter of Authorization**



Future Plans: Five Year Development & Delineation Outlook



FUTURE PAD DEVELOPMENT OPTIONS

- Drainage areas for development:
 - 104W-A, 104W-B, 107W, 108W, 109W

DELINEATION & OBSERVATION WELLS

Year	Delineation Wells	Target Drainage Areas for Delineation
2025	12	108W, 109W, Future Development Areas
2026	21	TBD
2027	21	TBD
2028	12	TBD
2029	12	TBD

SEISMIC

- 4D seismic monitors as required
- 107W 4D baseline seismic timing Q1 2026 (~1 year pre-steam). Potential baseline in 2027 for pads 108W and 109W

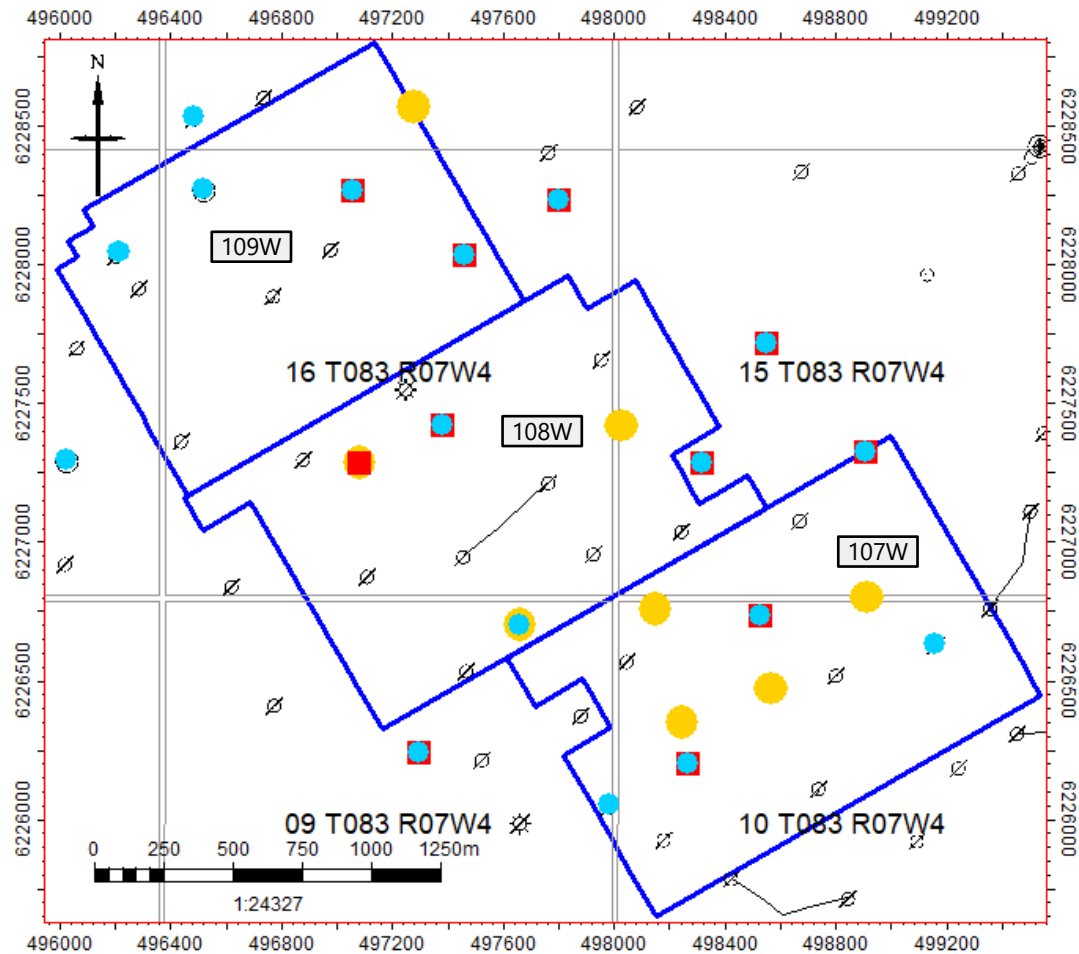


Additional Information

OSCA Report: Table 1 (1)

New Drainage Areas 107W, 108W, & 109W

New Geological, Geomechanical & Reservoir Data

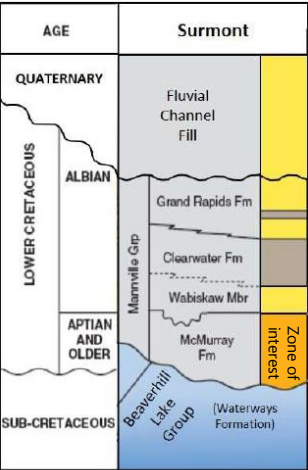


- OV well drilled
- OV well with core
- OV well with caprock core
- OV well with piezometers

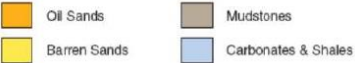
DA	Data Type	Current Data*	New Data Since 2023*	Comments
107W	Oil Sands Evaluation (OV) wells	15	3	Vertical/deviated wells
	OV wells with standard log suite	15	3	GR, Res., Neut/Den, Sonic, PE
	OV wells with FMI	14	3	Formation micro image
	OV wells with core	5	0	McMurray Fm
	OV wells with caprock core	3	0	Clearwater/McMurray Fm
	OV wells with piezometers	4	3	Pressure measurements
	3D seismic	yes	yes	3D Surveys cover most of the Surmont lease
	4D seismic baseline	not yet	not yet	4D baseline planned for Q1 2026
108W	Oil Sands Evaluation (OV) wells	13	2	Vertical/deviated wells
	OV wells with standard log suite	13	2	GR, Res., Neut/Den, Sonic, PE
	OV wells with FMI	11	2	Formation micro image
	OV wells with core	2	1	McMurray Fm
	OV wells with caprock core	2	1	Clearwater/McMurray Fm
	OV wells with piezometers	3	2	Pressure measurements
	3D Seismic	yes	yes	3D surveys cover most of the Surmont lease
	4D seismic baseline	not yet	not yet	4D baseline planned for Q1 2027
109W	Oil Sands Evaluation (OV) wells	8	1	Vertical/deviated wells
	OV wells with standard log suite	8	1	GR, Res., Neut/Den, Sonic, PE
	OV wells with FMI	8	1	Formation micro image
	OV wells with core	4	1	McMurray Fm
	OV wells with caprock core	2	0	Clearwater/McMurray Fm
	OV wells with piezometers	0	0	Pressure measurements
	3D seismic	yes	yes	3D surveys cover most of the Surmont lease
	4D seismic baseline	not yet	not yet	4D baseline planned for Q1 2027

*New data acquired since the 2023 lifecycle Application No. 1942644; current data is cumulative and inclusive of data acquired during the 2025 calendar year to date.

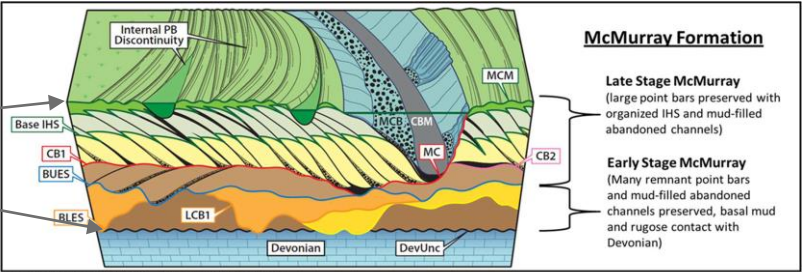
Zone of Interest



Modified from Wightman et al., 1995

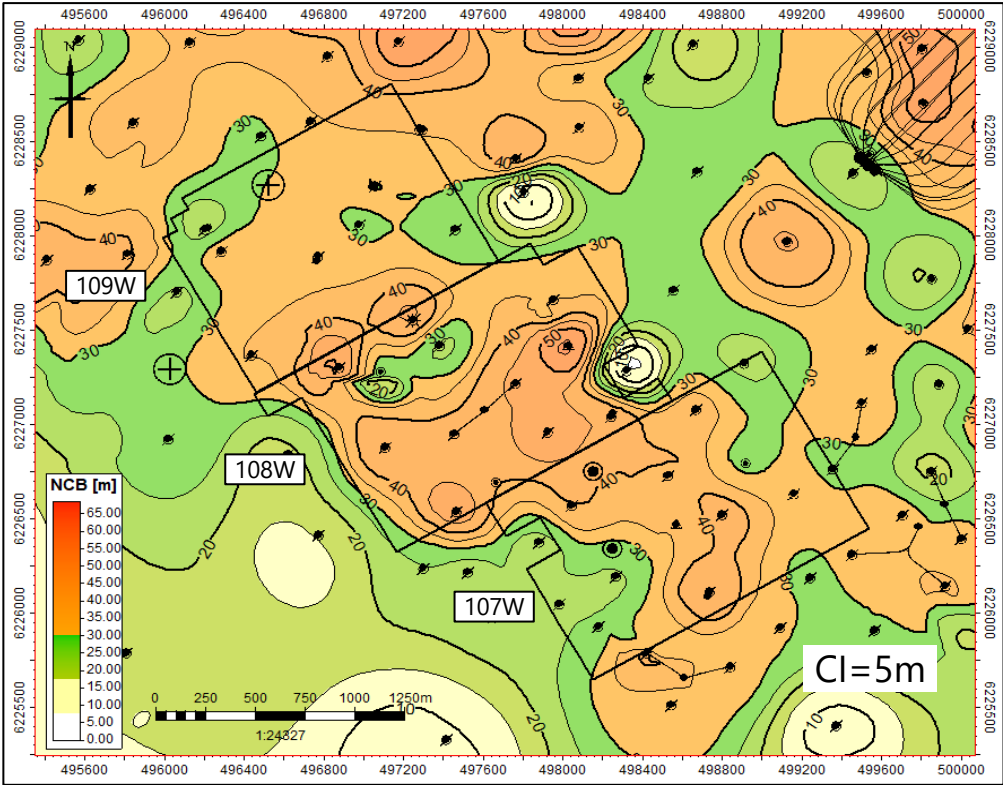


Zone of interest is the McMurray Formation, Cretaceous fluvio-deltaic, and estuarine coarse clastic sediments, overlying carbonate strata of the Devonian Beaverhill Lake Group.



Modified from Boyd et al., 2011 and Suter, 2008

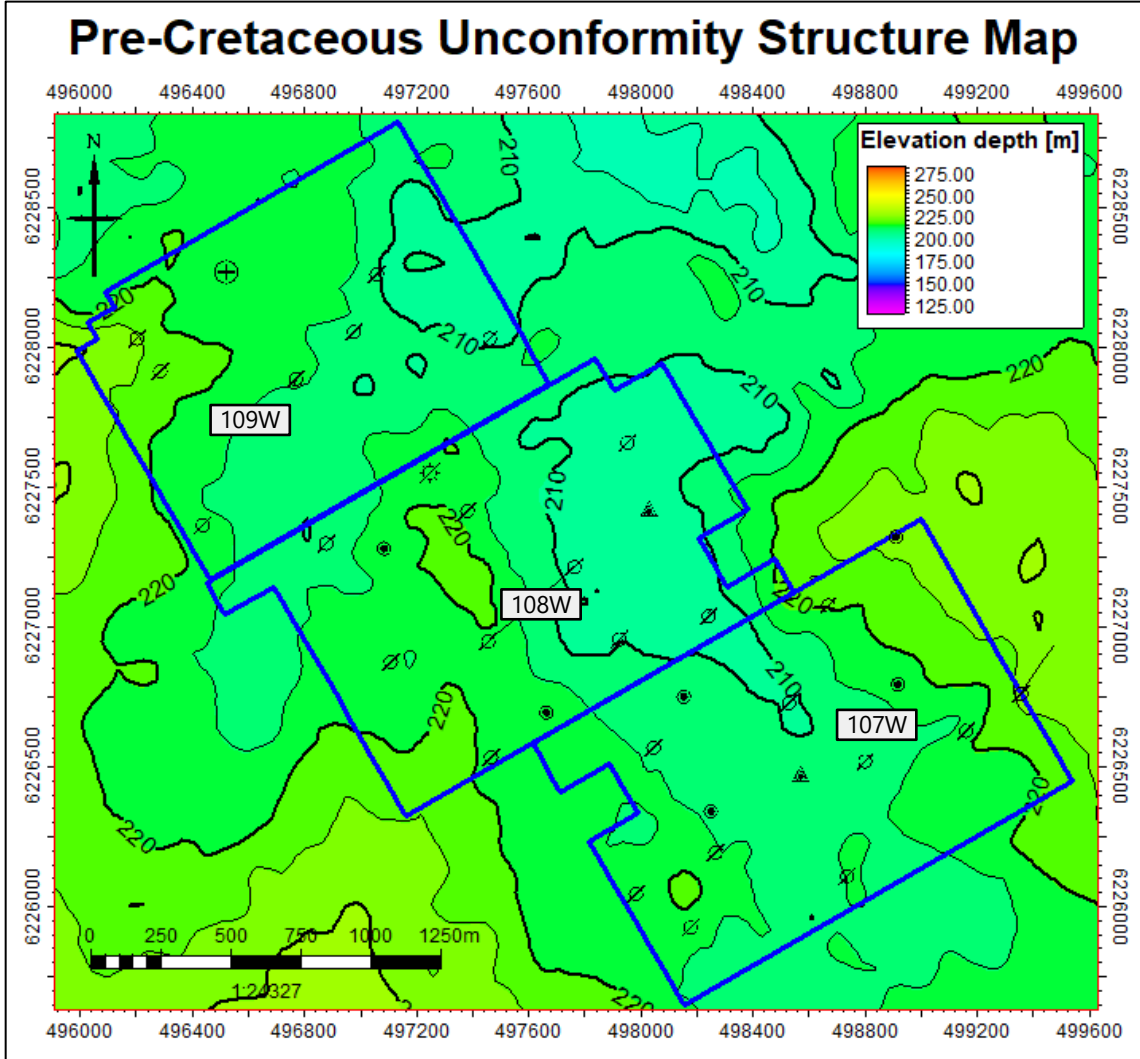
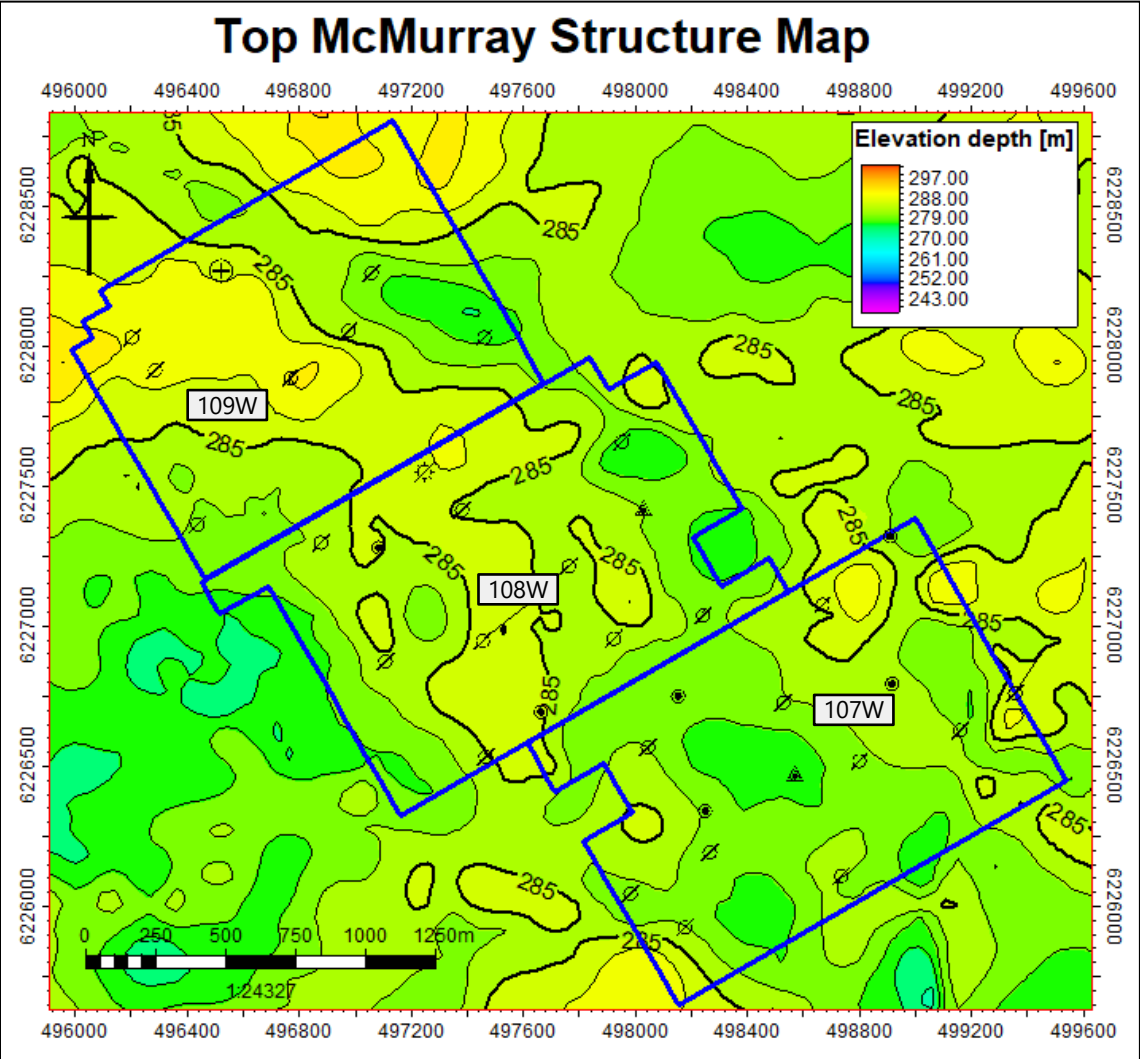
Properties	All three DAs	107W	108W	109W
NCB Thickness Range (m)	7.8 to >30	21.7 to >30	7.8 to >30	22.3 to >30
NCB Thickness (mean)	35.1 m	33.8 m	38.4 m	32.7 m
Phie in NCB	32.1%	32.4%	32.3%	31.7%
So in NCB	78.2%	75.0%	78.4%	81.4%
OBIP in NCB > 18m	269.1 MMbbls Deterministic	87.6 MMbbls Deterministic	102.7 MMbbls Deterministic	78.9 MMbbls Deterministic



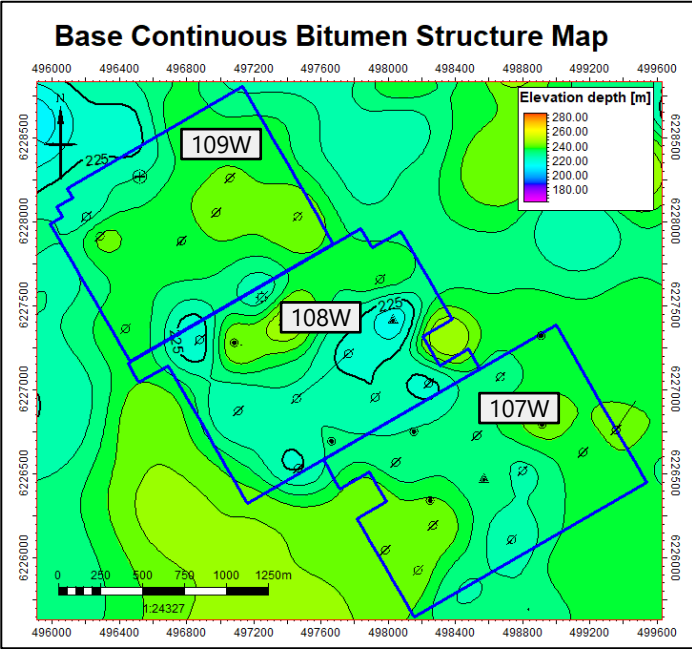
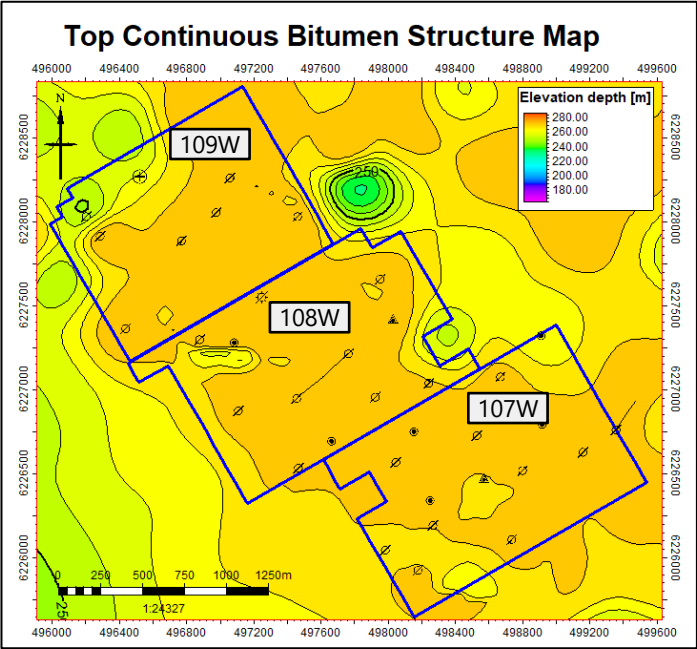
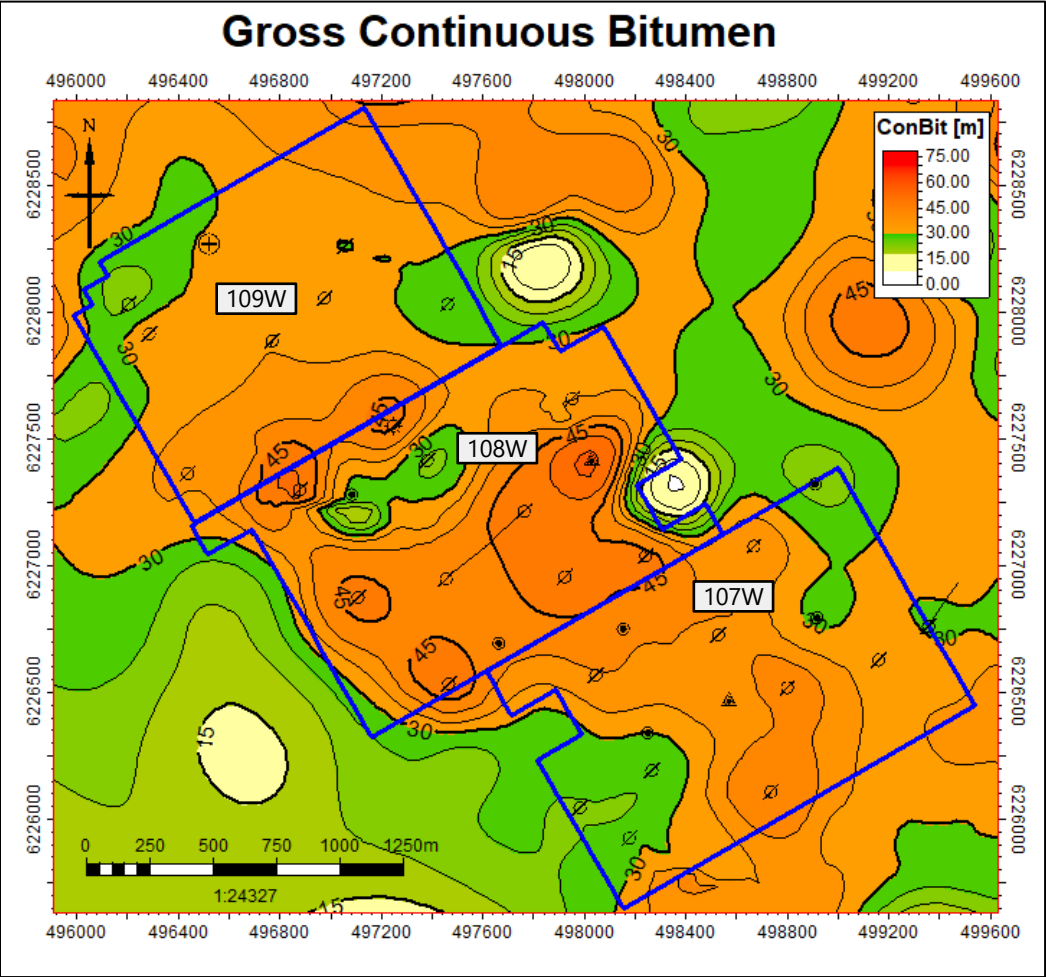
Net Continuous Bitumen Thickness (NCB)

- ▶ Net Continuous Bitumen Thickness (NCB) = Sands Having:
 - Deep Resistivity >= 10
 - Ohm-m and Vsh < 33%
- ▶ OBIP = Thickness x Phie x So x Area

Zone of Interest



Zone of Interest

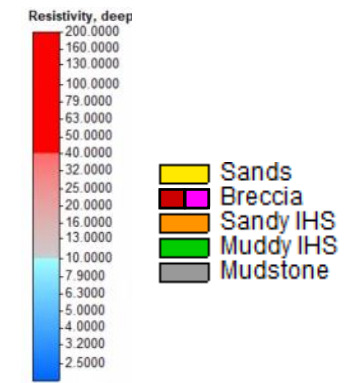


Gross Continuous Bitumen (GCB) is defined as the thickest bitumen-bearing sand (greater than 40 ohm.m), which is uninterrupted by a continuous shale (Vsh greater than 50%) greater than 3 m thick, bounded by the Top Continuous Bitumen (TCB) and the Base Continuous Bitumen (BCB).

Facies Relationships

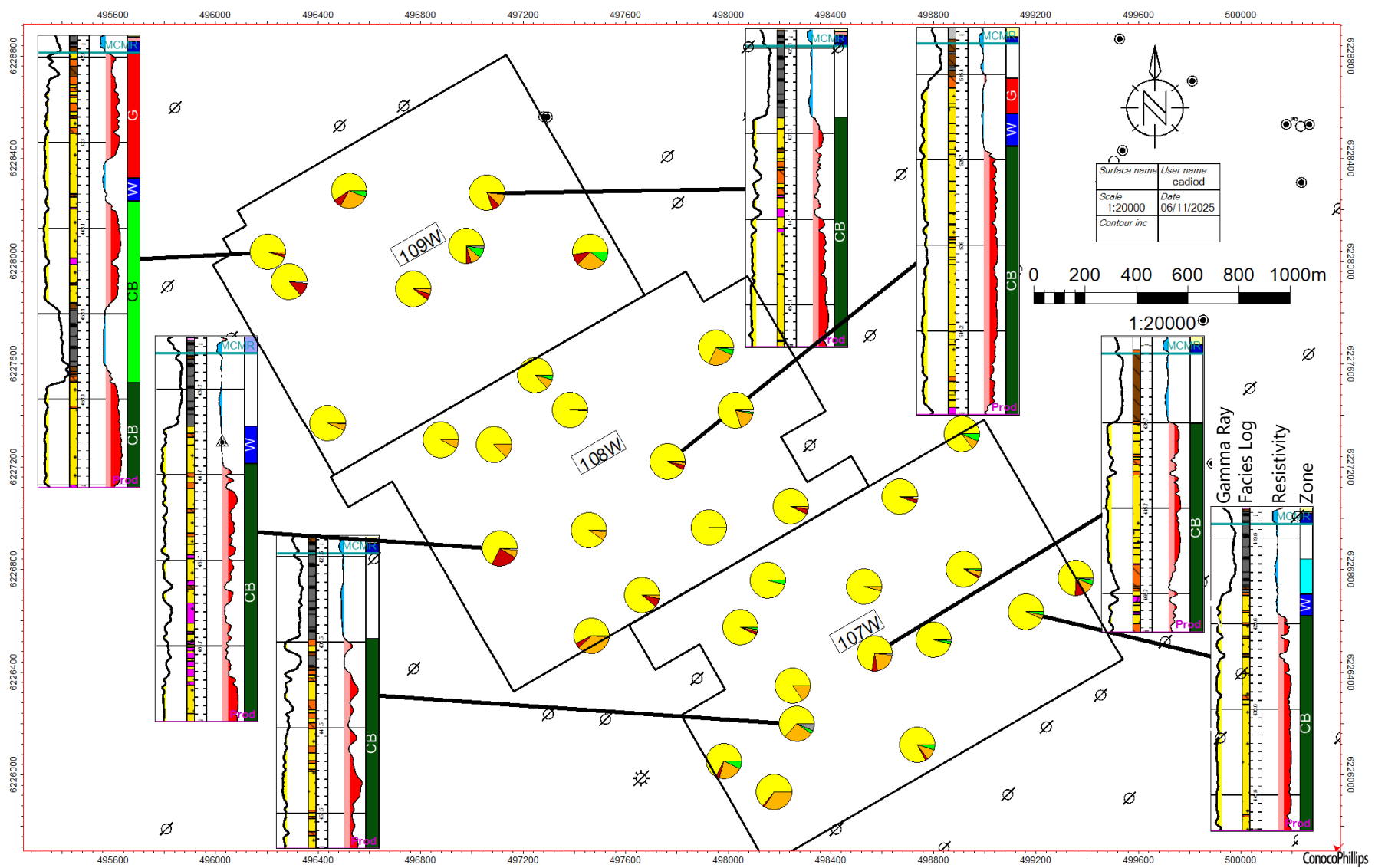
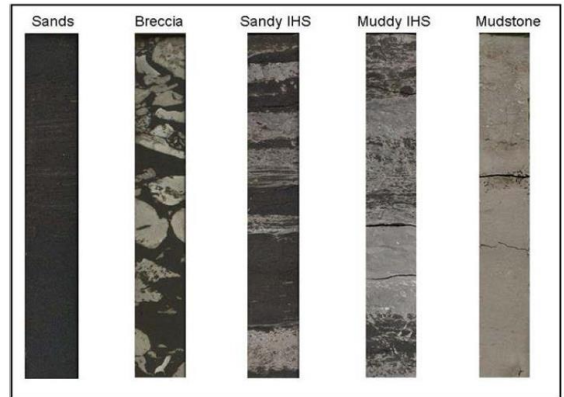


Variable facies proportions over the three DAs, with significantly cleaner facies through the central portions of all three DAs

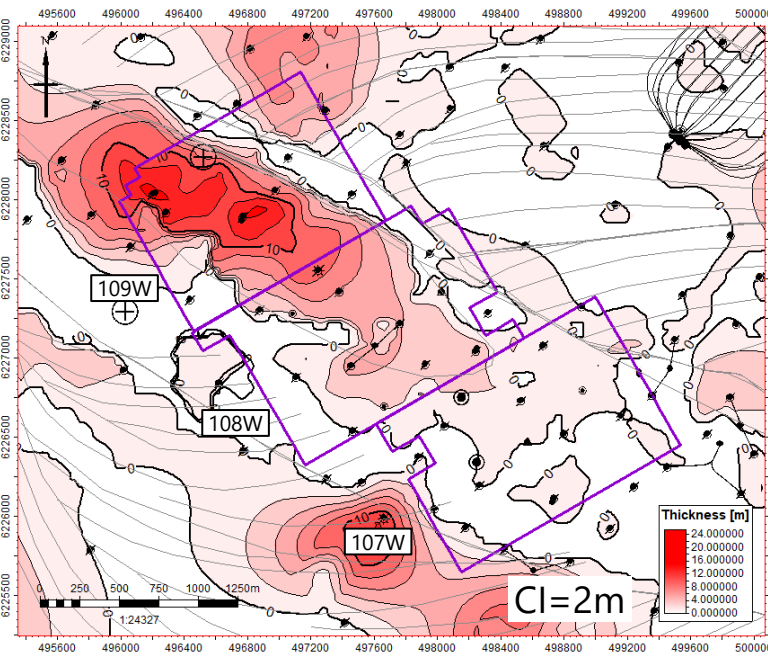


Interval:
Log : Producer level --> MCMR
Pie : Producer --> TCB

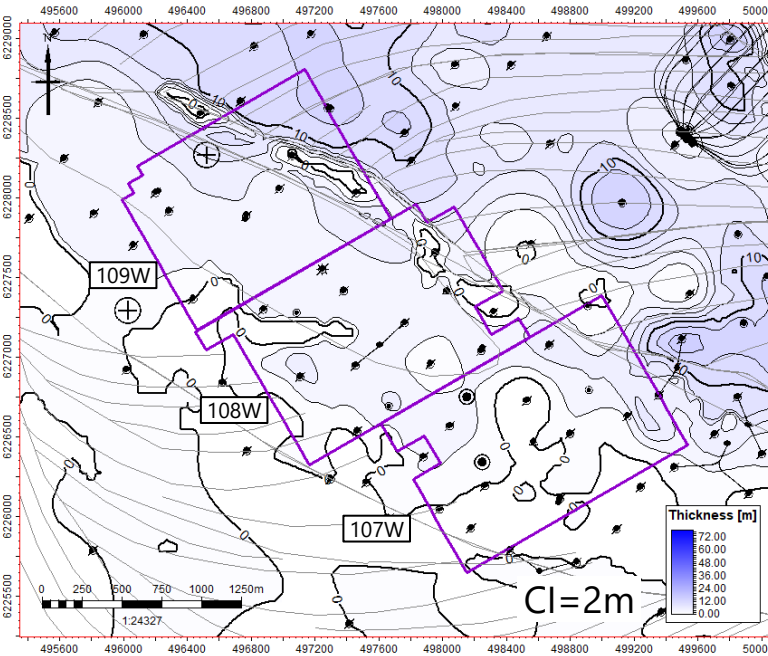
Surmont Facies:



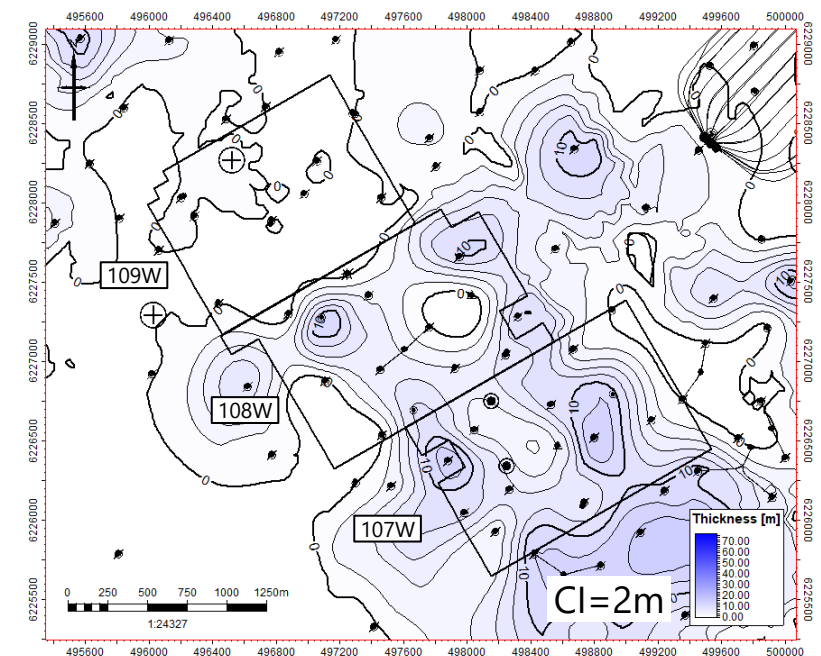
Fluid Interfaces: Thief Zones



Net Top Gas Thickness



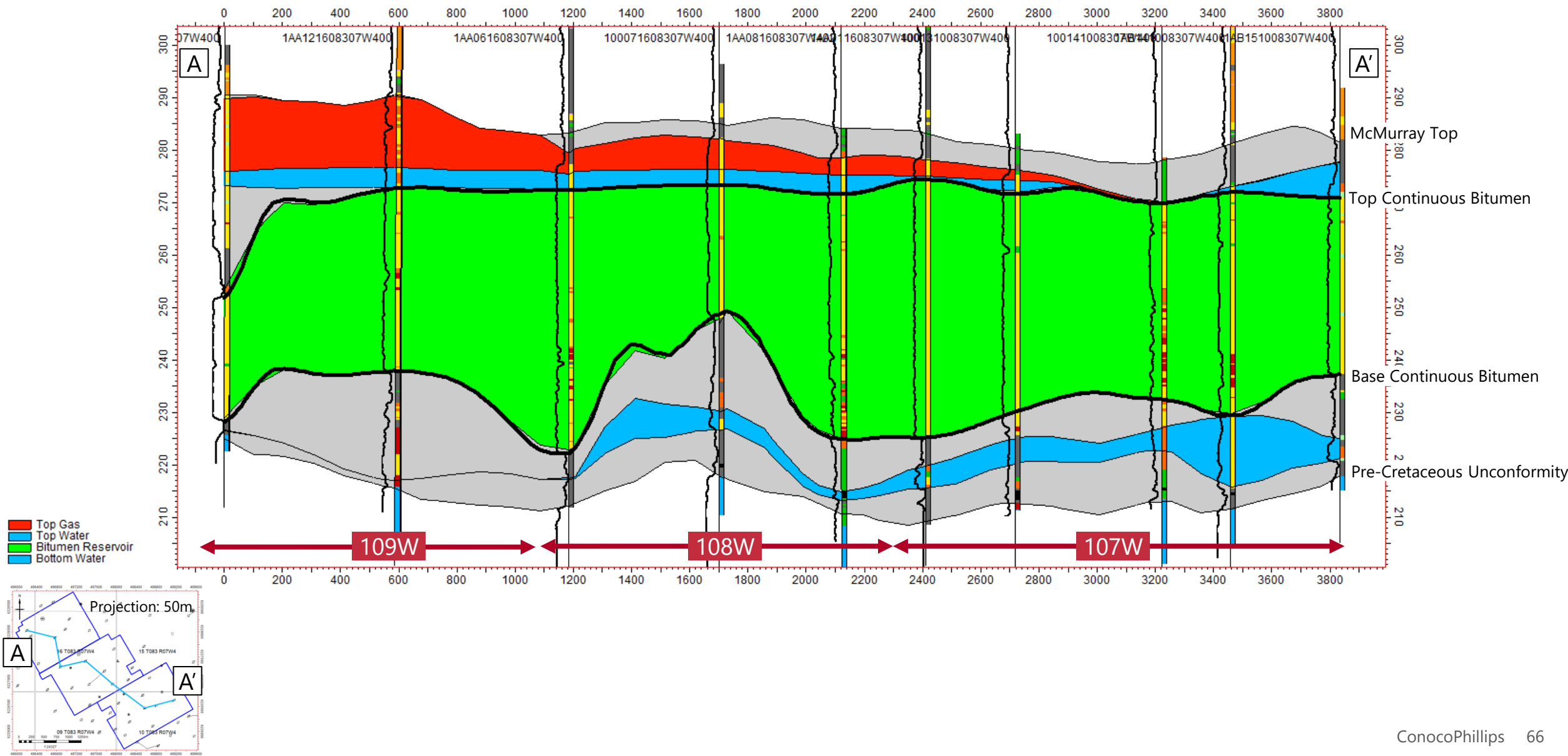
Net Top Water Thickness



Net Bottom Water Thickness

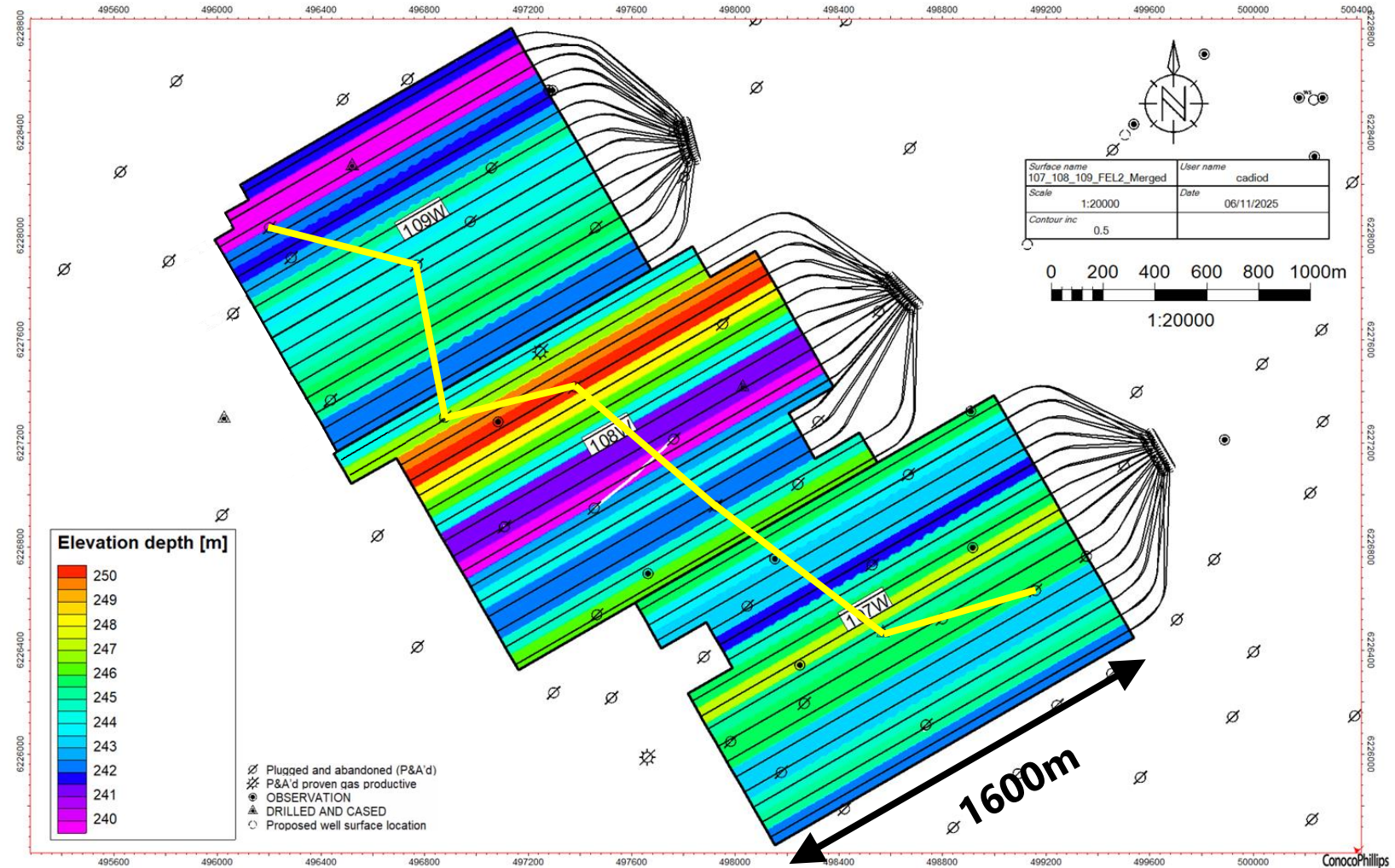
- Thief zone concerns over the three pads are areas where the top water and top gas are in contact (no vsh protection) with the reservoir.
- Top gas is more of a risk over 108W and 109W, as the previous gas over bitumen area and gas pressure is rebounding. It is unlikely to be connected to Surmont 1 based on historic pressures, and it will be monitored using observation wells.
- Top water is present over the three pads; pressure studies show differing pools. However, influence from Surmont 1 is observed in the northern part of 107W.
- Bottom water is not a risk due to placement of horizontal wells placed above the bottom water.

Fluid Interfaces

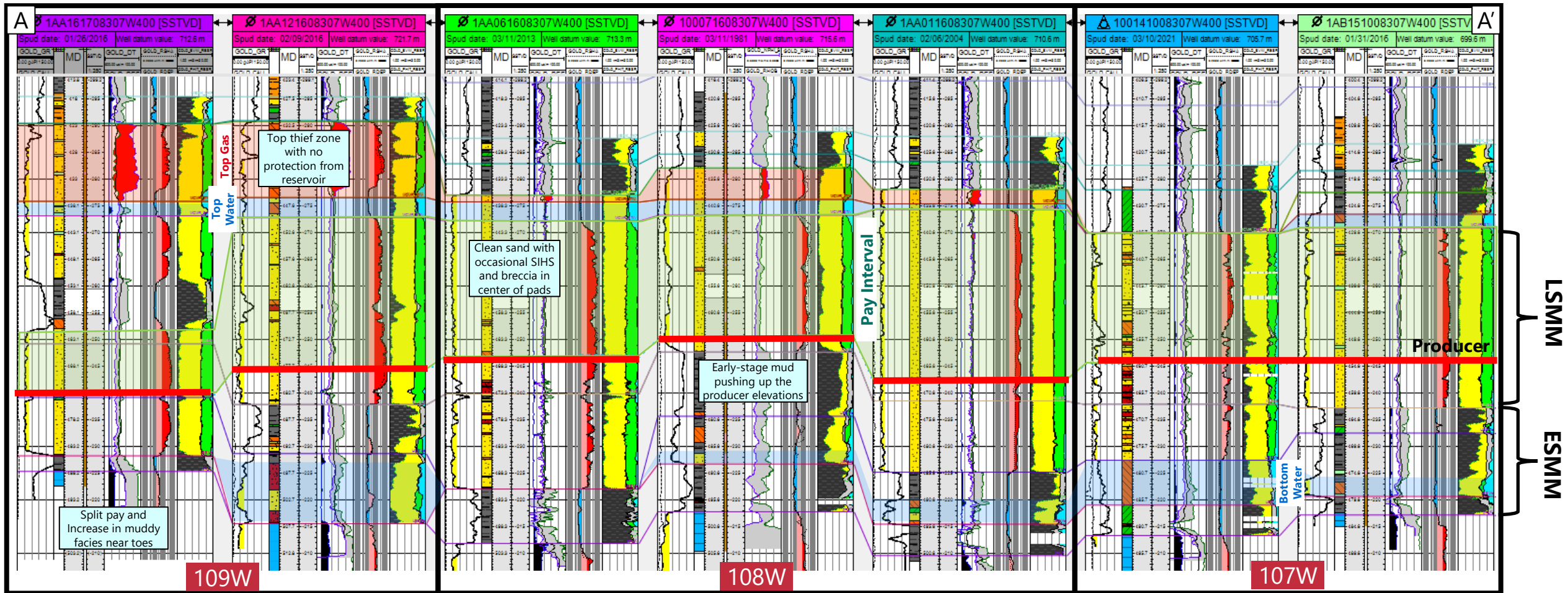


Well Pairs: Number, Lateral Spacing, Length and Trajectory, Elevations, & Drainage Pattern

- 16 well pairs per pad
- 1,400 – 1,600 m length (1,210/1,315 m on northern edge of DA 109W)
- 67.5 m spacing



Representative Cross Section



- Representative section showing the variety of reservoir quality, thief zone, and thicknesses over the development region
- Very good quality reservoir throughout, thick sand and breccia/IHS packages
- Early-Stage McMurray (ESMM) is often muddy at top and controlling the well placements on each drainage area
- Thief zone exists of top gas and top water over the regions with little protection (muddy facies) from the reservoir
- Drainage areas and well lengths placed to optimize reservoir quality and maximize bitumen recovery, avoiding early-stage muds over the region causing undulating BCB surface

