ATHABASCA OIL CORPORATION

FOCUSED | EXECUTING | DELIVERING

LEISMER D54 PERFORMANCE REPORT

APRIL 2020

ATHABASCA OIL CORPORATION

INTRODUCTION

DEVELOPMENT OVERVIEW

SUBSURFACE

- Geoscience
- 4-D Seismic & Monitoring
- Well Design & Instrumentation
- Scheme Performance
- Future Plans

SURFACE OPERATIONS & COMPLIANCE

- Facilities
- Measurement & Reporting
- Facility Performance
- Water Production, Injection & Uses
- Sulphur Production
- Future Plans
- Compliance

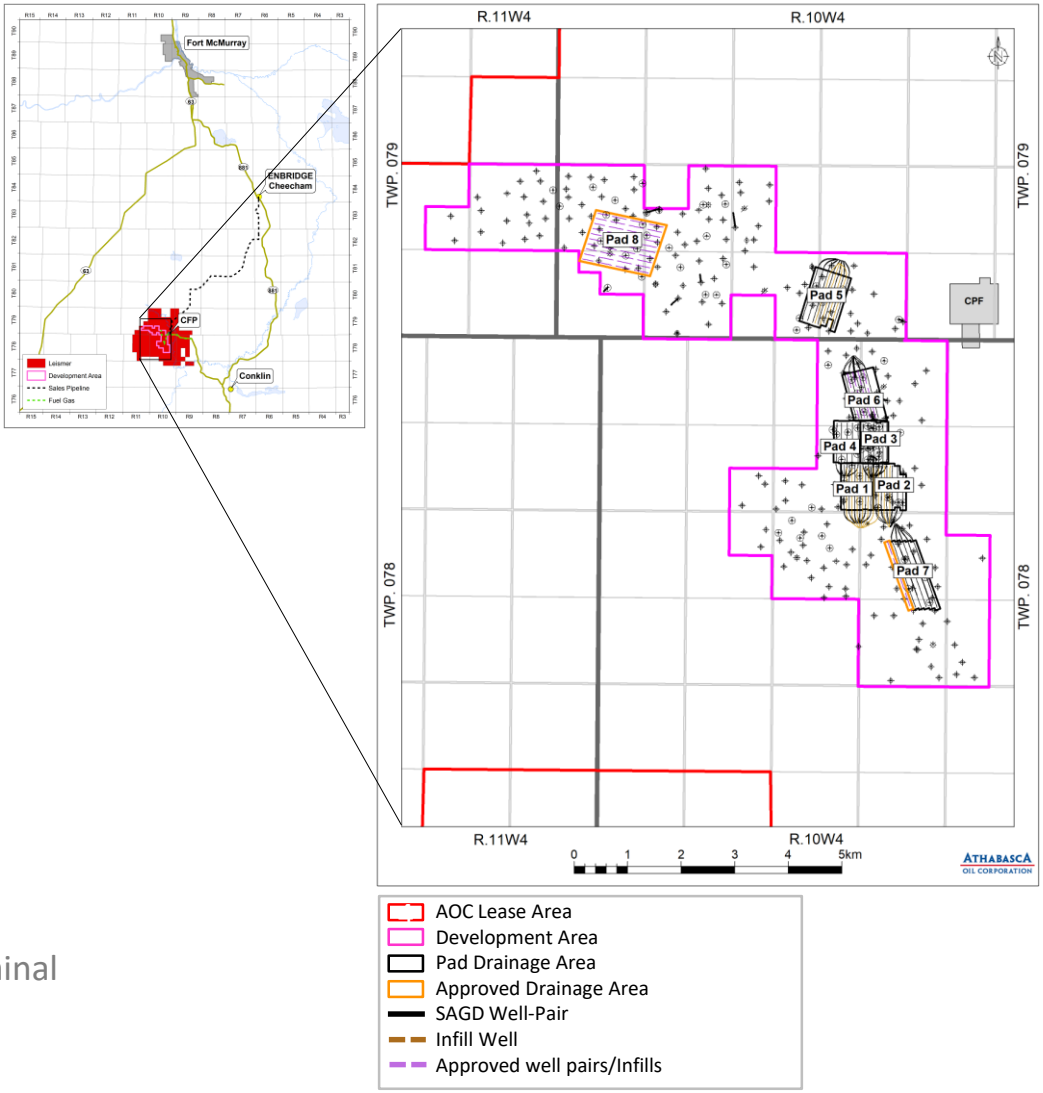
DEVELOPMENT OVERVIEW

PROJECT DETAILS

- First steam September 2010
- Approved processing capacity 40,000 bbl/d
- 7 producing pads
  - *40 horizontal well pairs*
  - *13 infill wells*
- Approved for development
  - *Pad 8 (14 well pairs)*
  - *Pad 6 infills (4 infills)*
  - *L7P6 (1 well pair)*

INFRASTRUCTURE

- Fuel gas from TransCanada Pipeline (TCPL)
- Dilbit export to Enbridge Cheecham Terminal
- Diluent supply from Enbridge Cheecham Terminal



SUBSURFACE

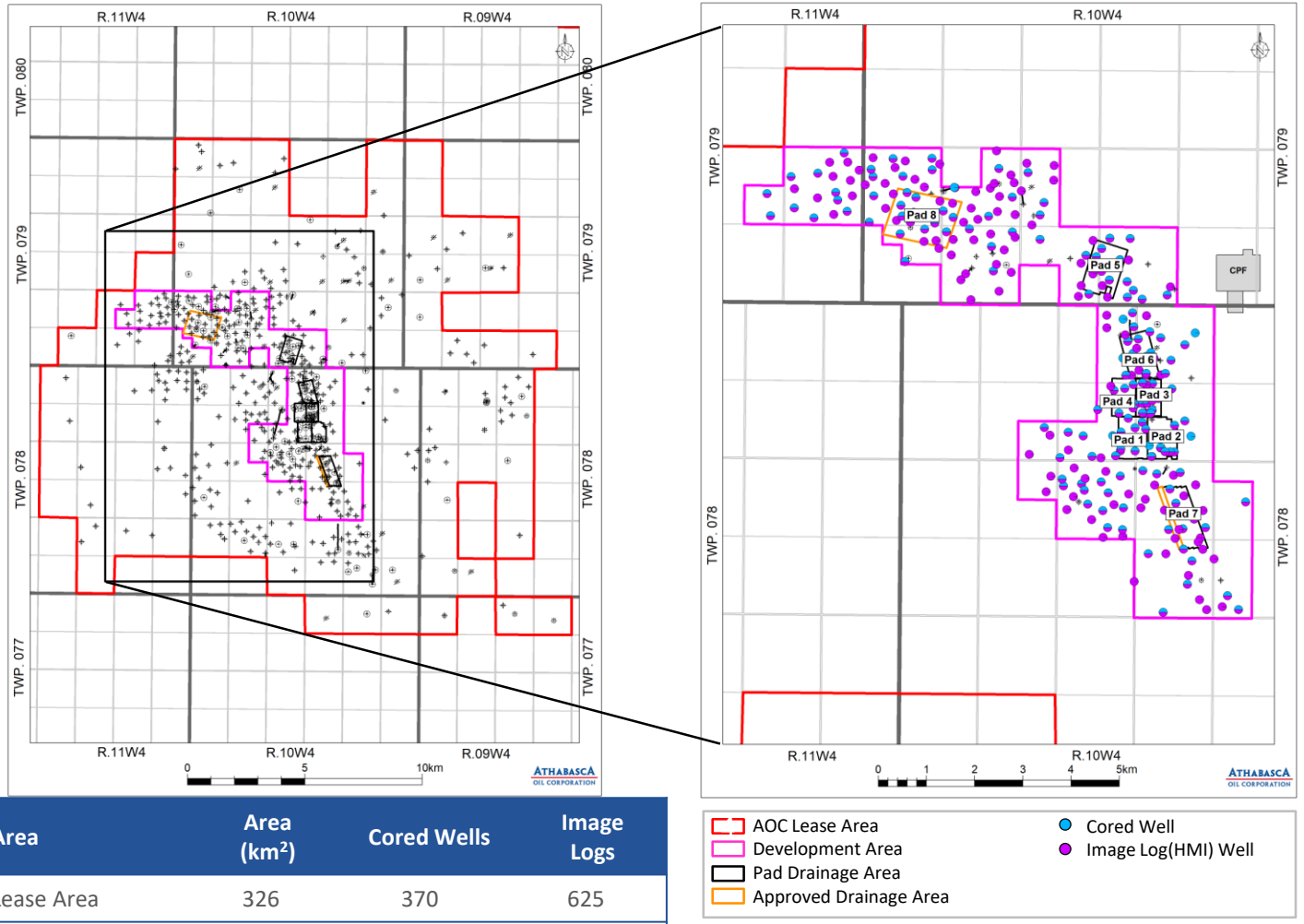
GEOSCIENCE OVERVIEW

ATHABASCA OIL CORPORATION

SURFACE DATA OVERVIEW

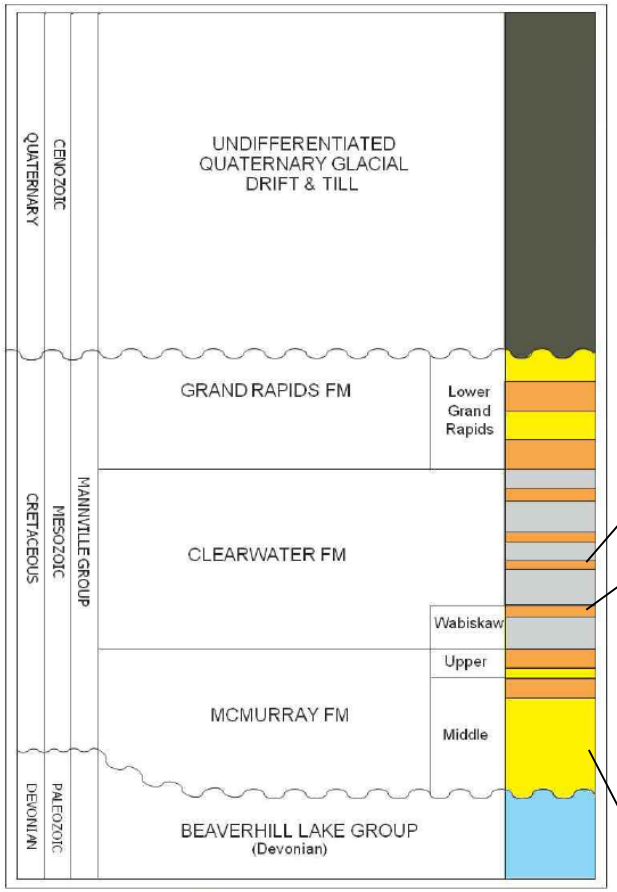
GEOSCIENCE DATA ACQUIRED ON 4 WELLS DURING THE REPORTING PERIOD

- Core and petrophysics completed on 4 wells in Pad 7 drainage area



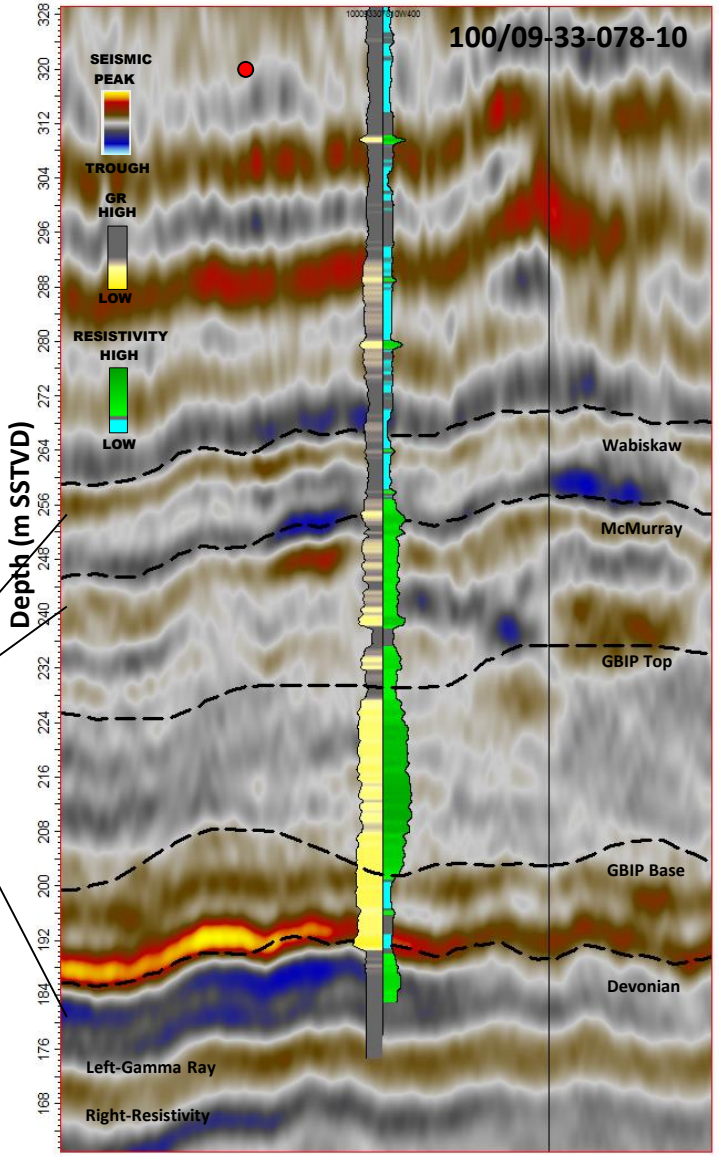
Area	Area (km^2)	Cored Wells	Image Logs
Lease Area	326	370	625
Development Area	37.4	145	244

STRATIGRAPHY AND REFERENCE WELL



FACIES

Sand	
Sandy IHS	
Muddy IHS	
Mudstone	
Limestone	



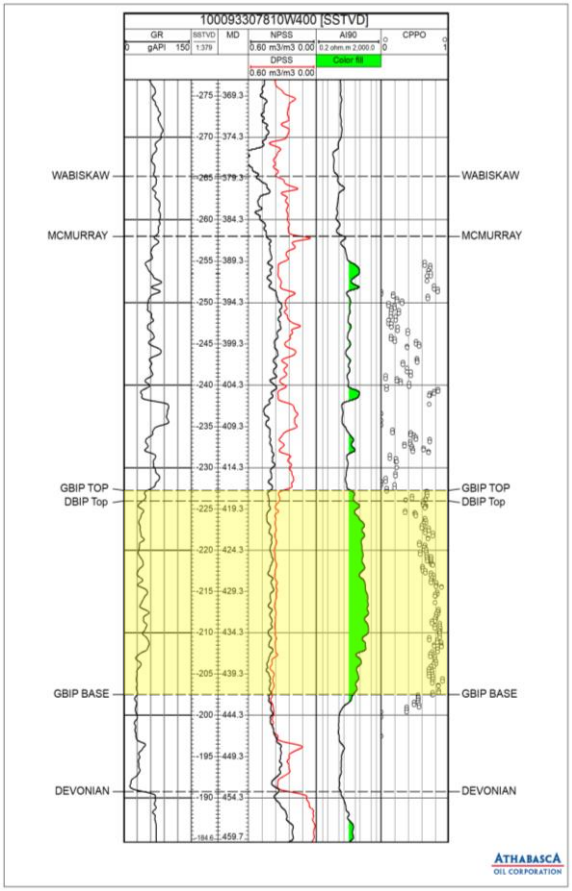
SAGD PRODUCING WELLPAIRS

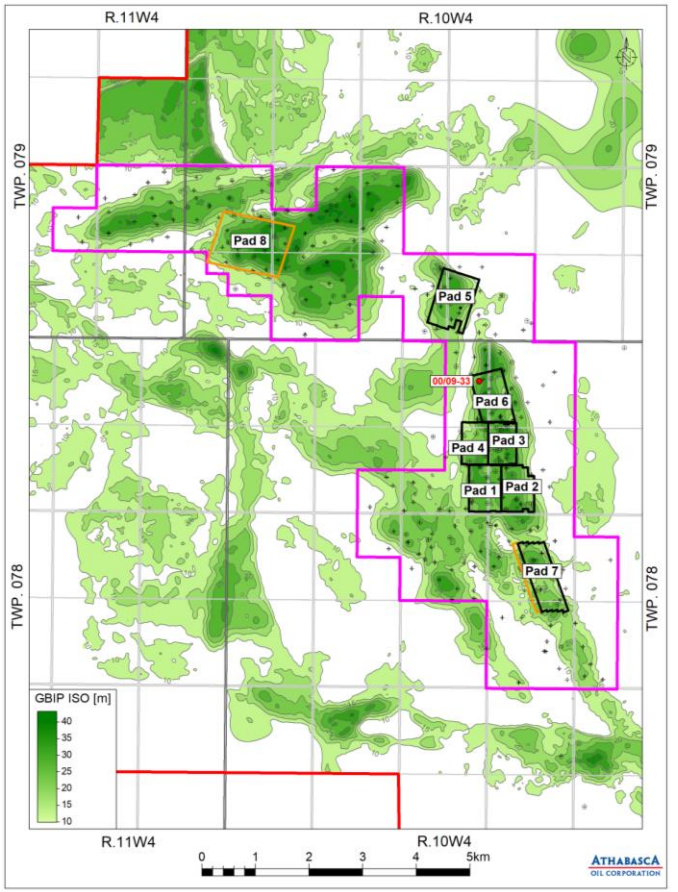
- AOC Lease Area
- Development Area
- Pad Drainage Area
- Type Well (00/09-33-078-10W4)
- SAGD Well-Pair
- Infill Well

BITUMEN PAY CLASSIFICATION: GBIP

GROSS BITUMEN IN PLACE (GBIP)

- GBIP represents the total pay interval accessible via SAGD
- Petrophysical criteria:
  - *Gamma Ray (GR) <= 75 API*
  - *Resistivity (RT) >= 40 ohm-m*
  - *Porosity (DPSS) >= 27%*
- Non-reservoir lithofacies (F6–F7) excluded if greater than 2m





AOC Lease Area
Development Area
Pad Drainage Area
Approved Drainage Area
Type Well (00/09-33-078-10W4)

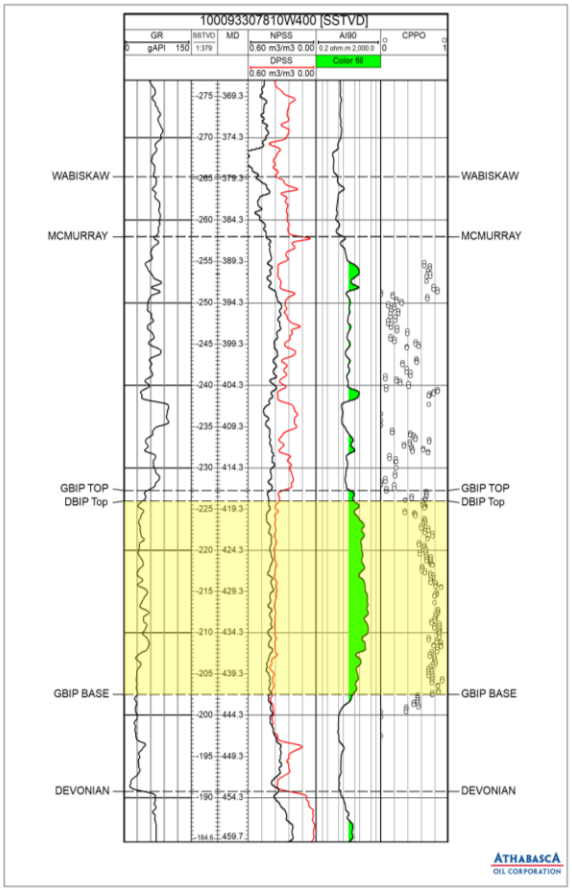
ELEVATION RANGE

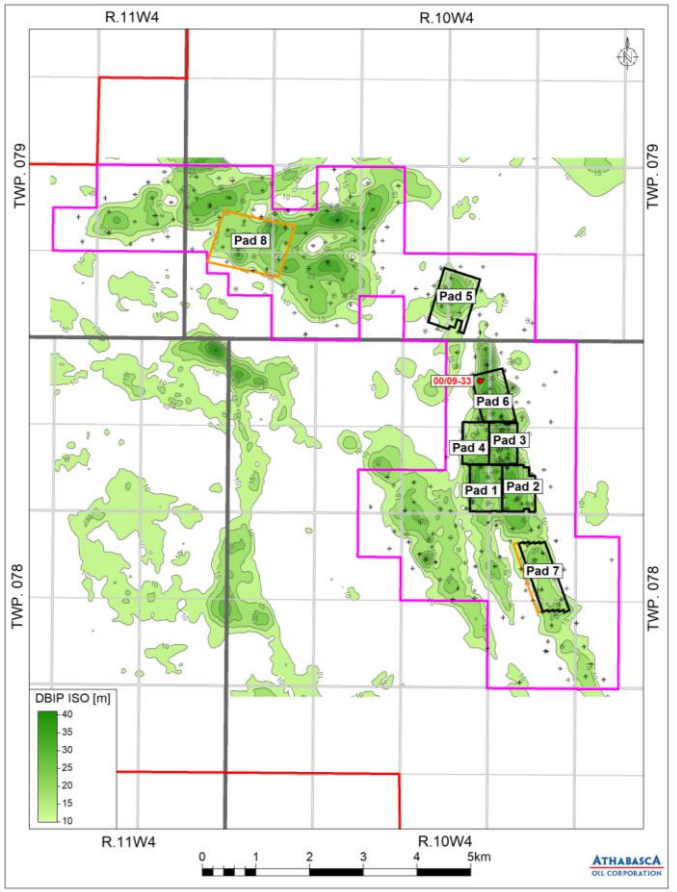
- 202 -241 masl

BITUMEN PAY CLASSIFICATION: DBIP

DEVELOPABLE BITUMEN IN PLACE (DBIP)

- DBIP has the same petrophysical properties as GBIP but is restricted to higher quality lithofacies:
  - *F1: Shale-Clast Breccia (if <5m)*
  - *F2: Trough Cross-Bedded Sand*
  - *F3: Current-Ripple Laminated Sand*
  - *F4A-B: Sand with 5–10% Mud Interbeds*



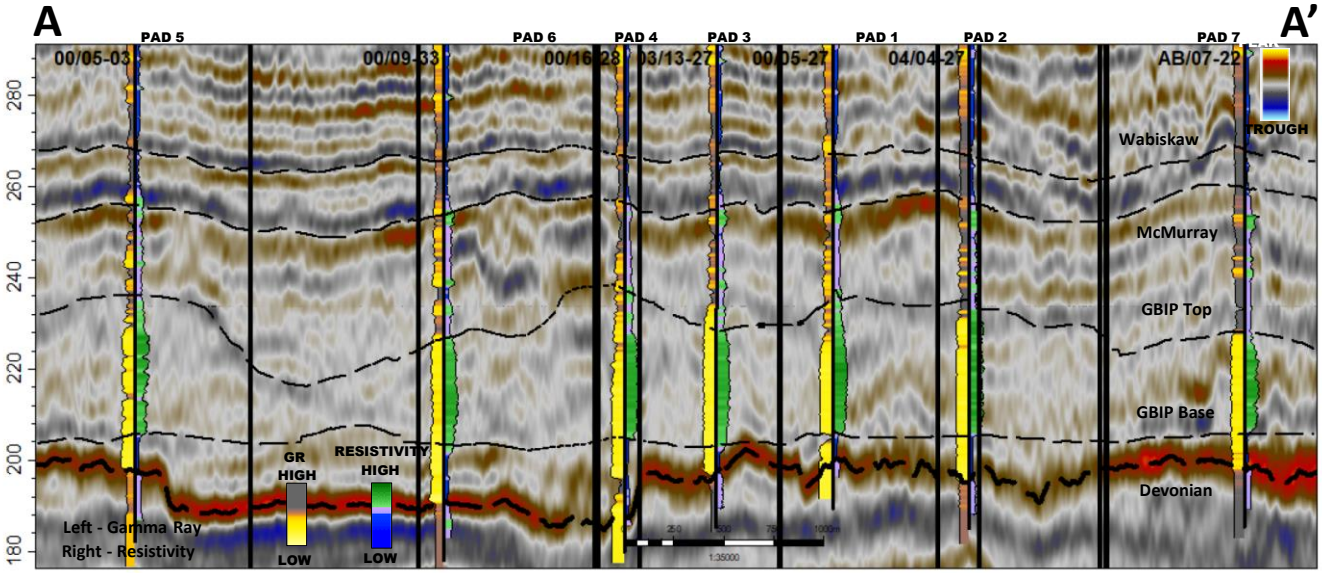


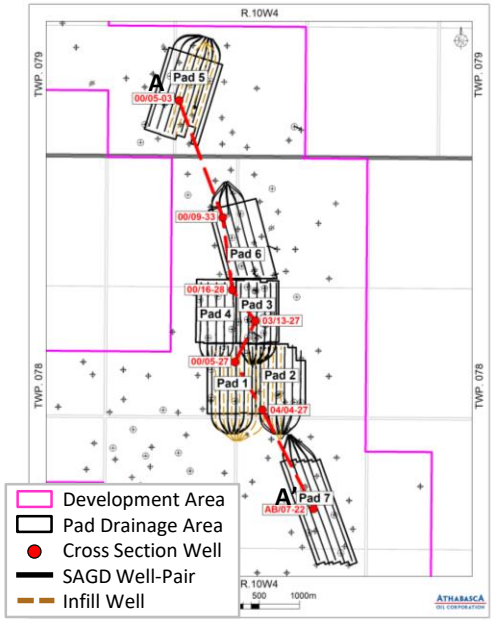
ELEVATION RANGE

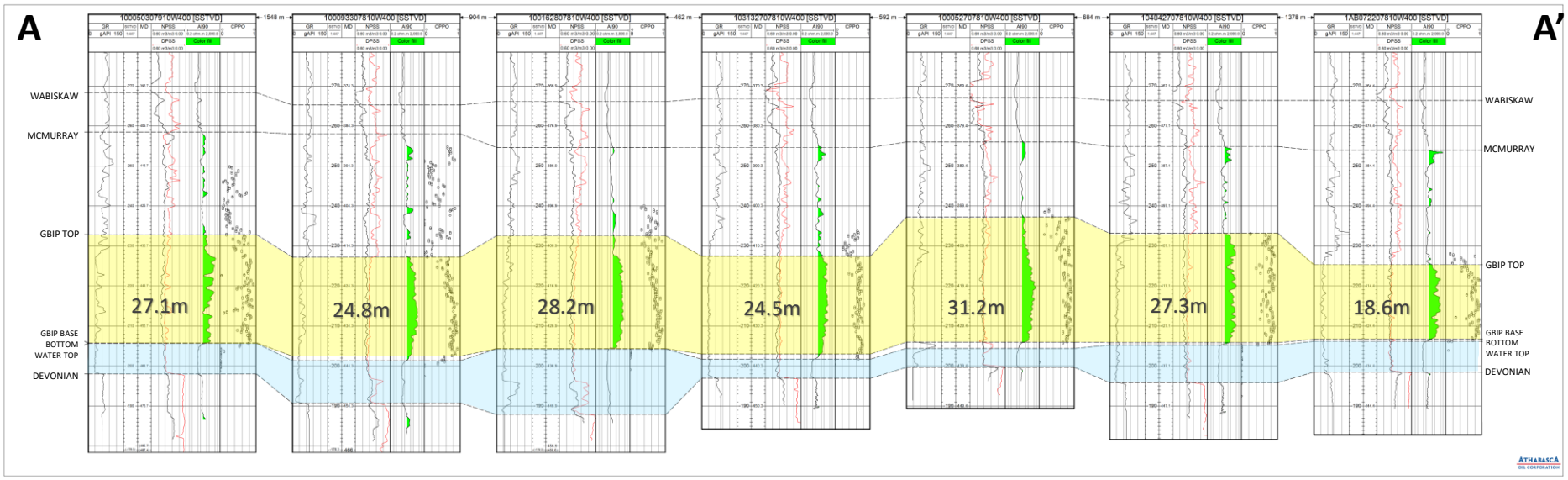
- 202 -237 masl

- AOC Lease Area
- Development Area
- Pad Drainage Area
- Approved Drainage Area
- Type Well (00/09-33-078-10W4)

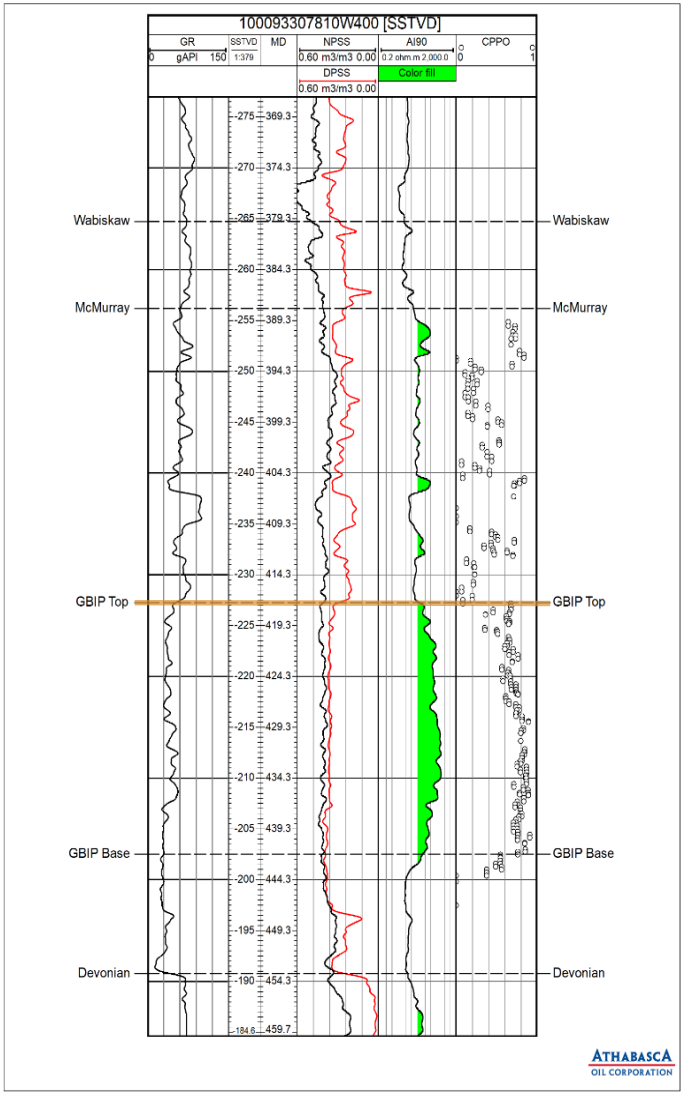
PADS 1-7 STRUCTURAL CROSS SECTION N-S



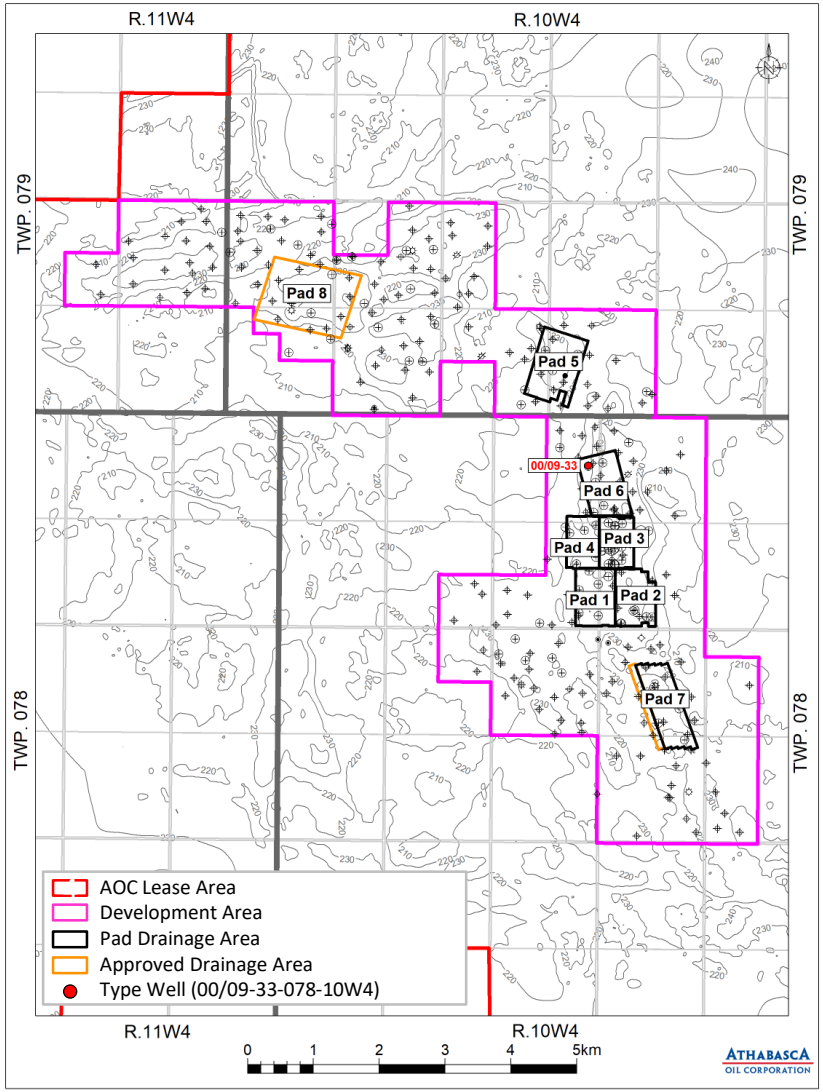




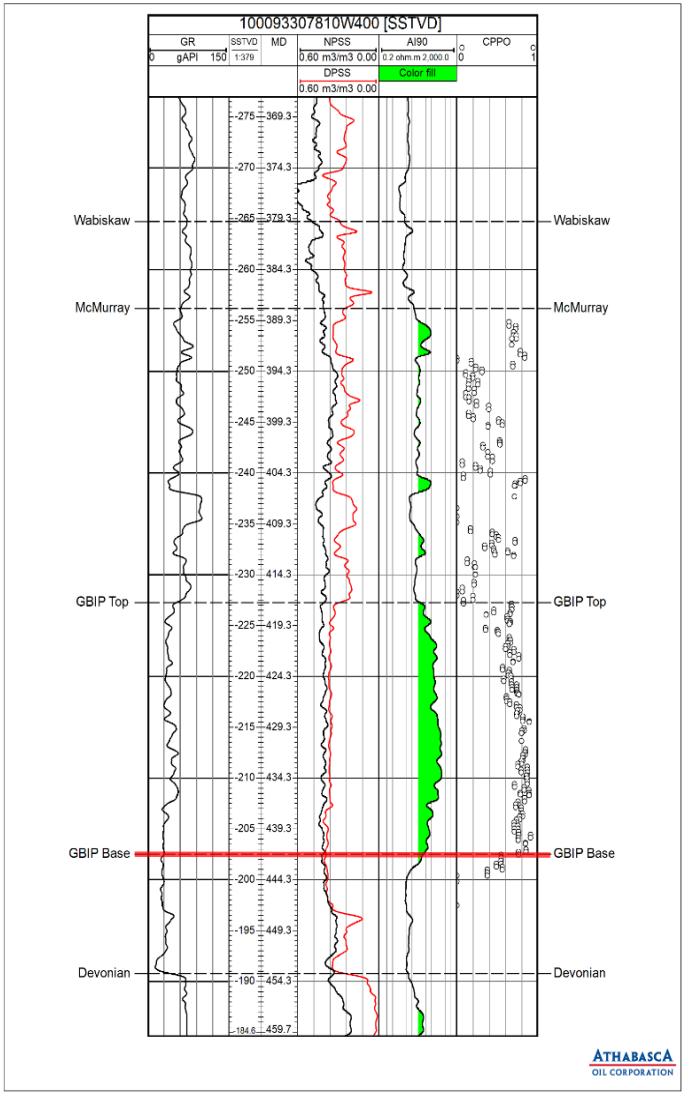
TOP STRUCTURE MAP

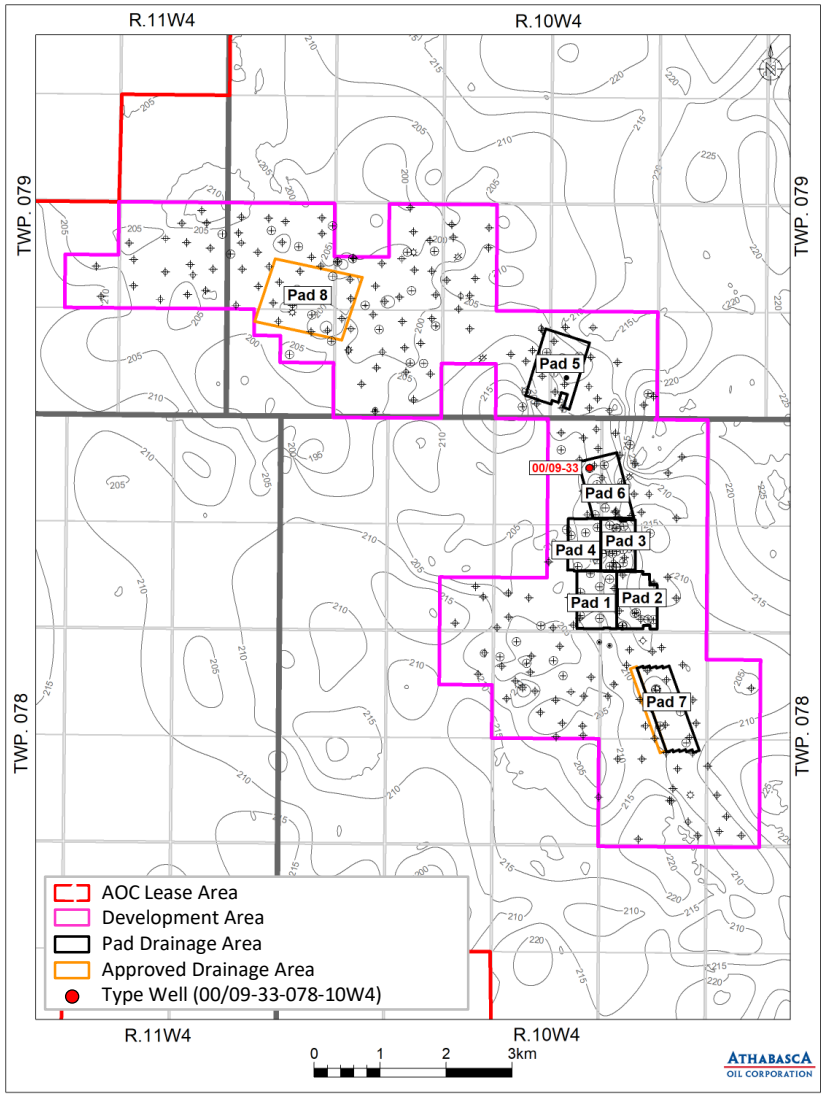


Elevation Range 202 -241 masl



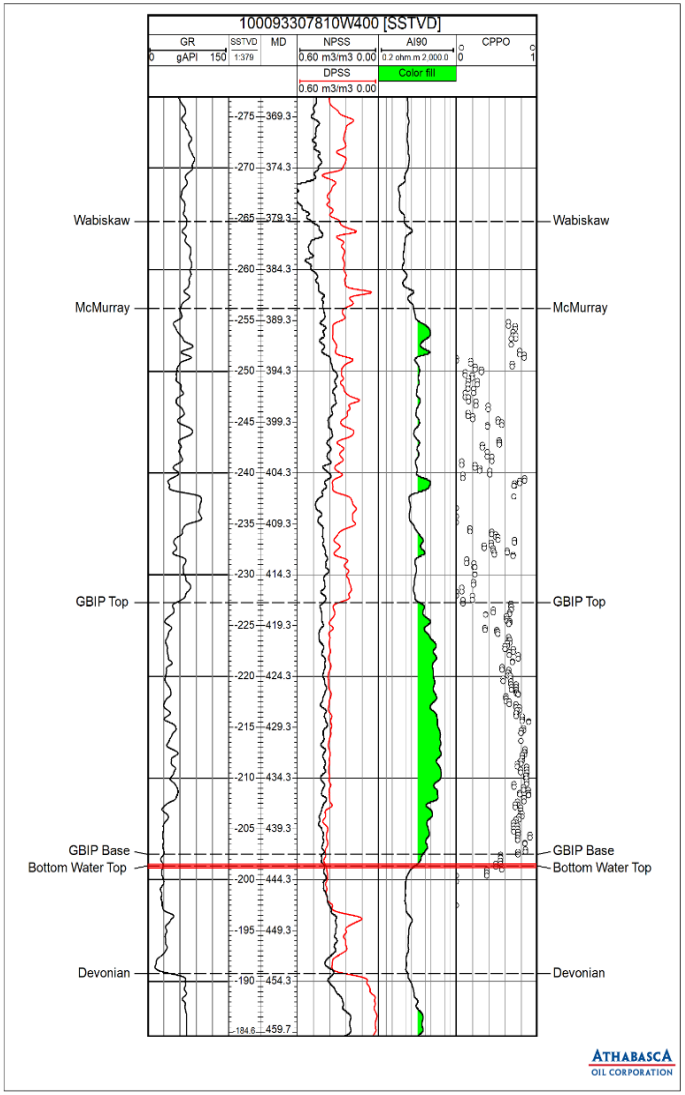
BASE STRUCTURE MAP



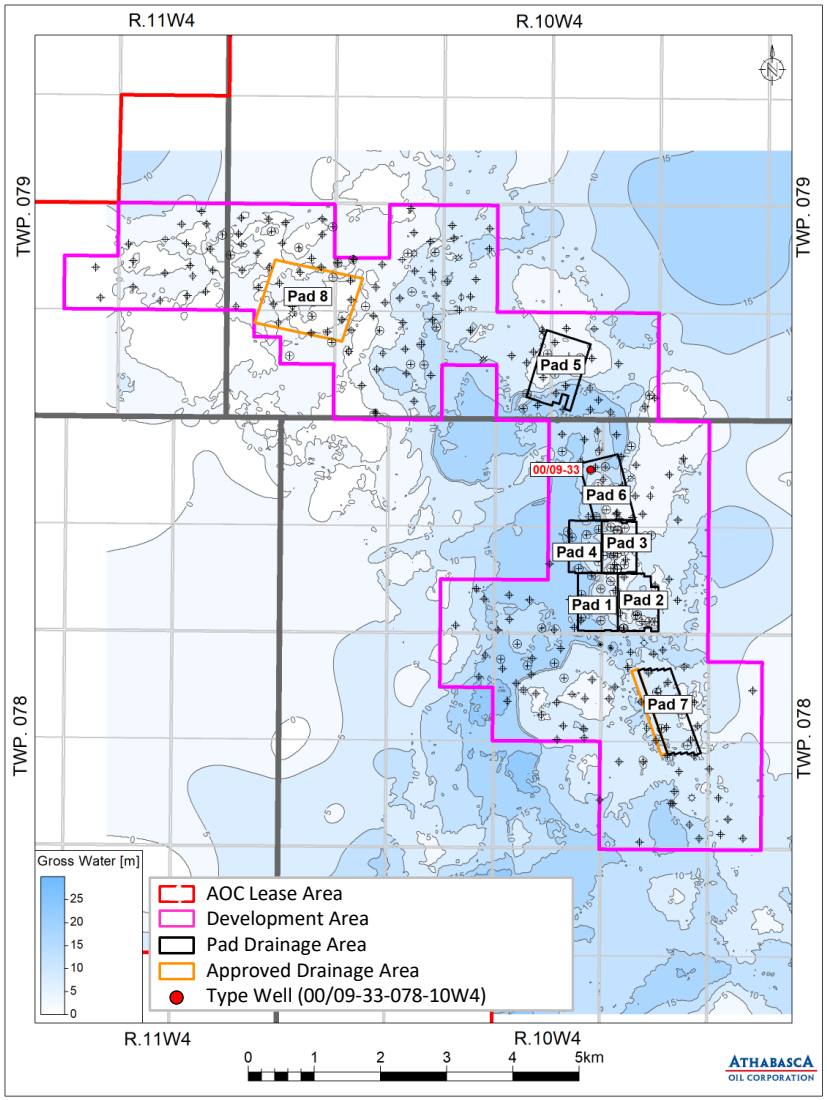


Elevation Range 193 -231 masl

BOTTOM WATER THICKNESS MAP

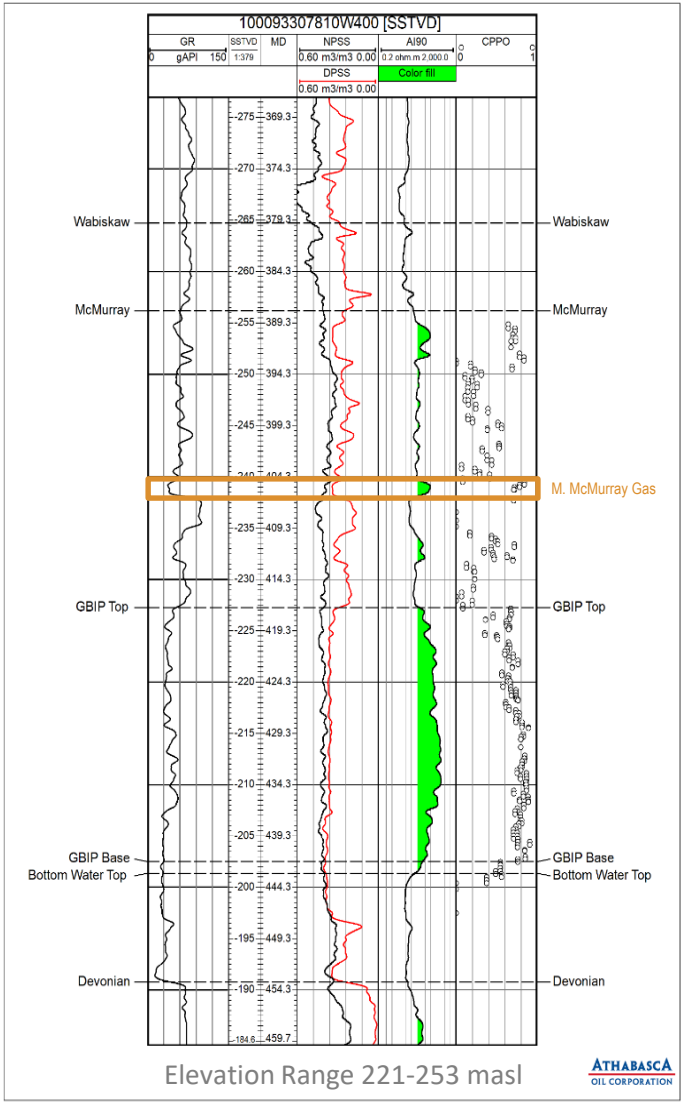


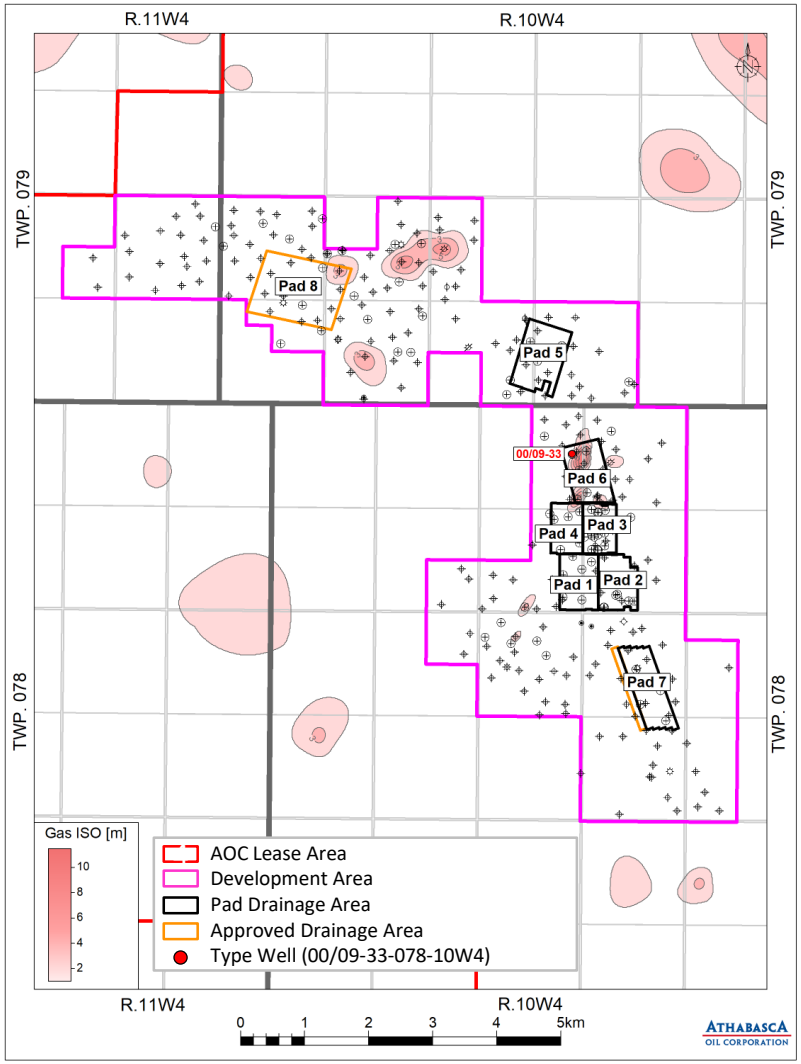
Elevation Range 191 -213 masl



TOP GAS THICKNESS MAP

MINIMAL GAS THICKNESS AND LIMITED DISTRIBUTION WITHIN DEVELOPMENT AREA





GEOMECHANICS

2019

- No new caprock core, mini-frac or tri-axial testing completed during the reporting period

HISTORICAL

- Caprock defined as the Clearwater Formation
  - *Includes regionally continuous shale of the Wabiskaw Member*
  - *Mini-frac tests completed at two locations (01-04-079-10W4, 01-28-078-10W4)*
- Approved maximum operating pressure is 5,500 kPag
- All injectors operating at ~ 3,000 - 3,300 kPag

SURFACE HEAVE MONITORING

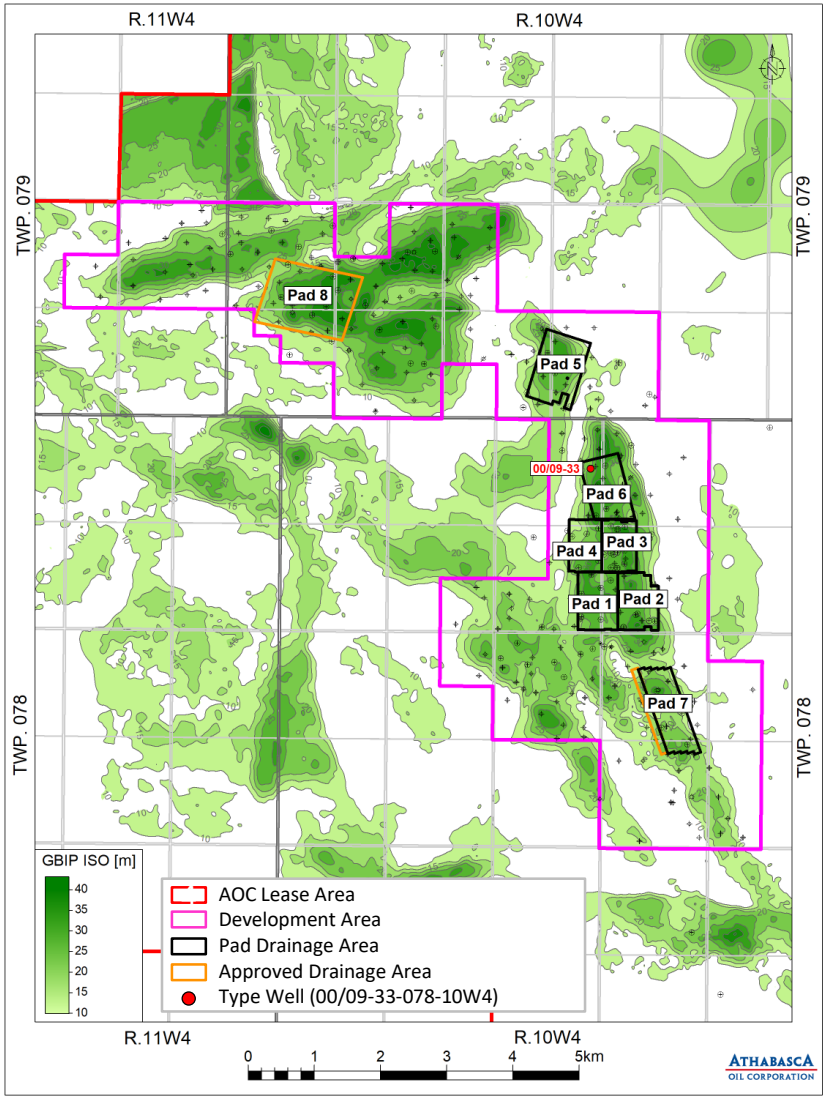
- No new data acquired during reporting period

SAGD PRODUCING WELLPAIRS

GBIP RESERVOIR PROPERTIES

RESERVOIR PROPERTIES

- Original Reservoir Pressure: 2,300 to 2,600 kPa
- Original Reservoir Temperature: 14°C
- Average Horizontal Permeability: 5 to 6 D
- Average Vertical Permeability: 4 to 5 D
- Depth: 410 to 444 m TVD (-230 to -216 m subsea)



SUBSURFACE

4D SEISMIC & MONITORING

ATHABASCA OIL CORPORATION

SEISMIC ACQUISITION HISTORY

2020

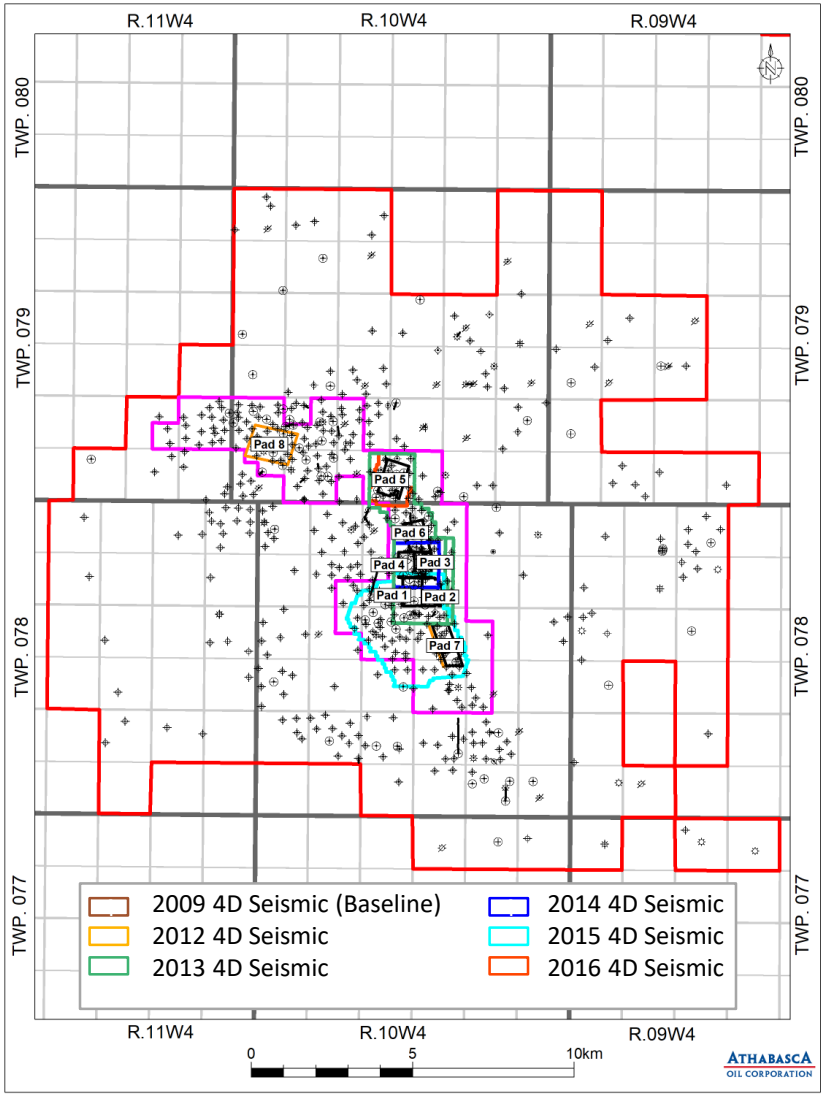
- Pads 1-6 4D seismic acquisition conducted in Q1

2019

- No new data acquired during the reporting period

HISTORICAL

- Q1 2016: 2.0 km^2 first 4D survey for Pad 5
- Q1 2015: 9.0 km^2 3D survey
  - *Third 4D repeat survey (2.2 km^2 active SAGD Pads 1 & 2)*
  - *Repeat 3D seismic for higher resolution data*
- Q1 2014: 2.1 km^2 4D survey (active SAGD Pads 3 & 4)
- Q1 2013: 4.5 km^2 3D survey
  - *Second repeat survey (4.9 km^2 of active SAGD Pads 1– 4)*
- Q1 2012: 8.6 km^2 3D survey
  - *First 4D survey (4.9 km^2 of active SAGD Pads 1–4)*
  - *New baseline survey for Pads 5 and 6 (3.7 km^2)*
- Q1 2009: 4.9 km^2 baseline survey (pre-steam) Pads 1–4



RESERVOIR SATURATION LOGGING

2020

- Repeat saturation logs conducted in Q1
  - *Pads 1-6 (8 total)*
  - *Pad 8 (7 total)*

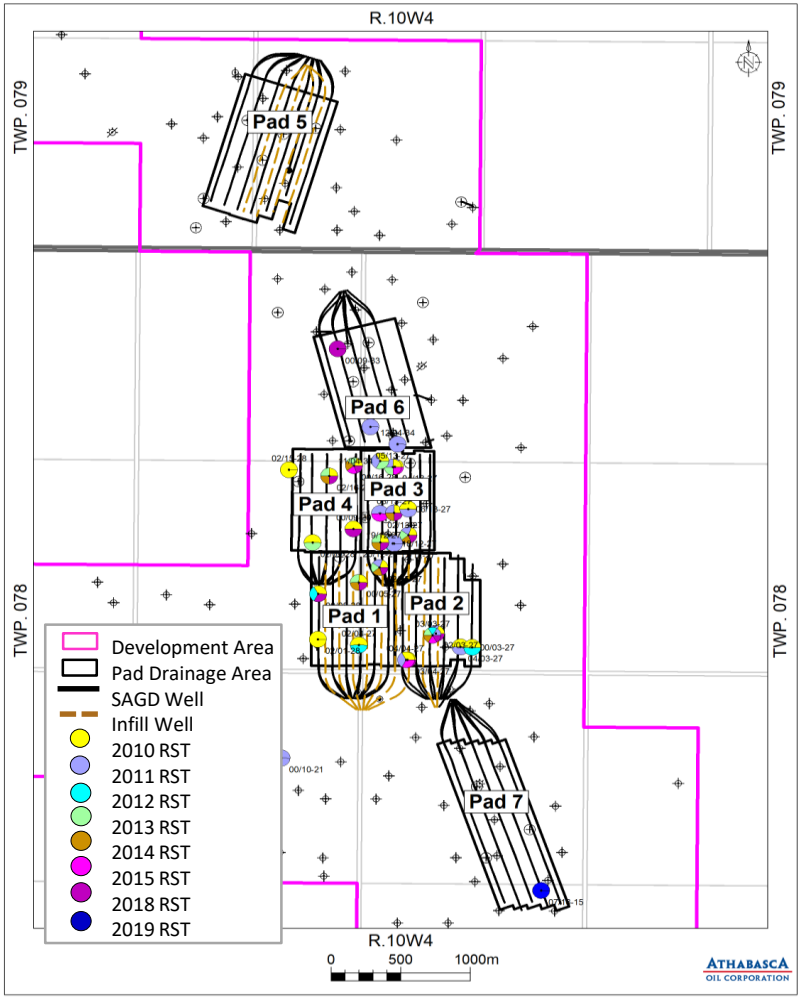
2019

- 1 baseline saturation log acquired (Pad 7) during reporting period

HISTORICAL

- Baseline acquired in 2010 - 23 wells
- 2011 - 18 wells
- 2012 - 7 wells
- 2013 - 12 wells
- 2014 - 11 wells
- 2015 - 6 wells
- 2018 - 13 wells
- Saturation log results show steam chamber thickness correlates with observation well temperature profiles

SAGD PRODUCING WELLPAIRS



SUBSURFACE

WELL DESIGN, INSTRUMENTATION & ARTIFICIAL LIFT

ATHABASCA OIL CORPORATION

SAGD DRILLING SUMMARY

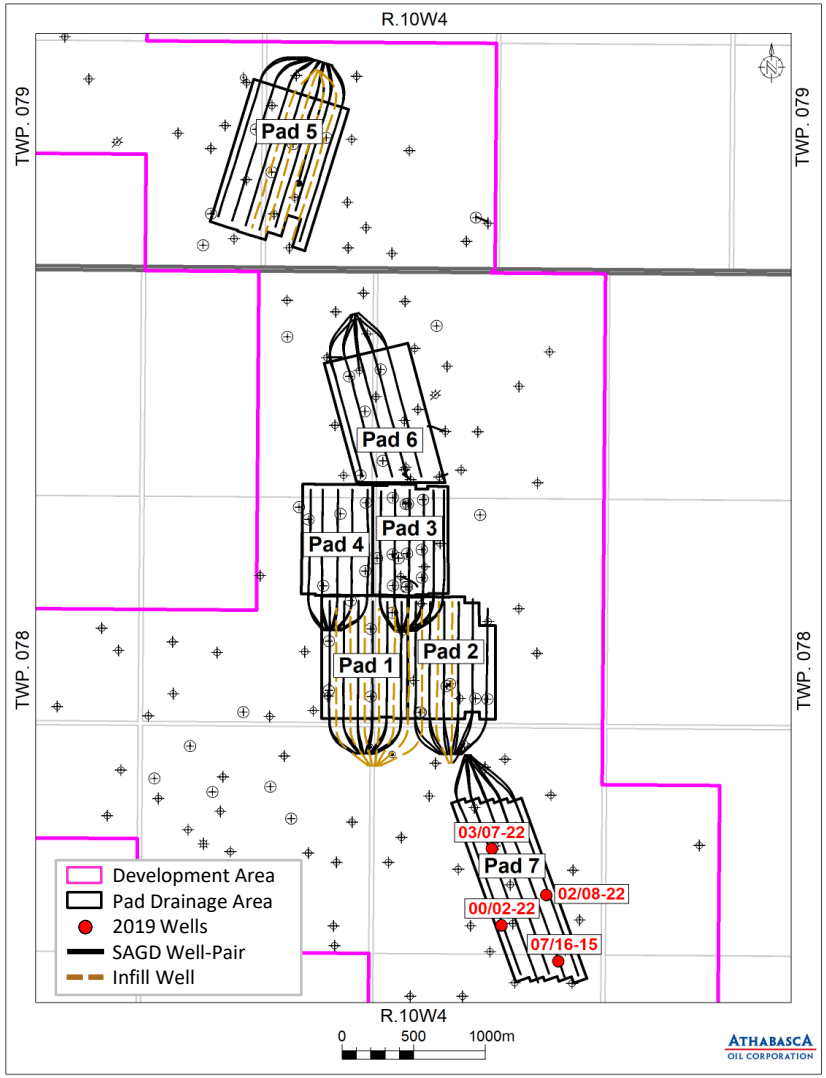
2019

- 5 SAGD well pairs and 4 observation wells drilled on Pad 7 during reporting period

HISTORICAL

- The Leismer project includes a Central Processing Facility (CPF) and seven well pads, with 40 well pairs and 13 infill wells

SAGD PRODUCING WELLPAIRS



ARTIFICIAL LIFT

ARTIFICIAL LIFT

- All wells completed with ESP's with the exception of two infill wells
  - *Rod pumps installed on infills L5N3 and L5N4*

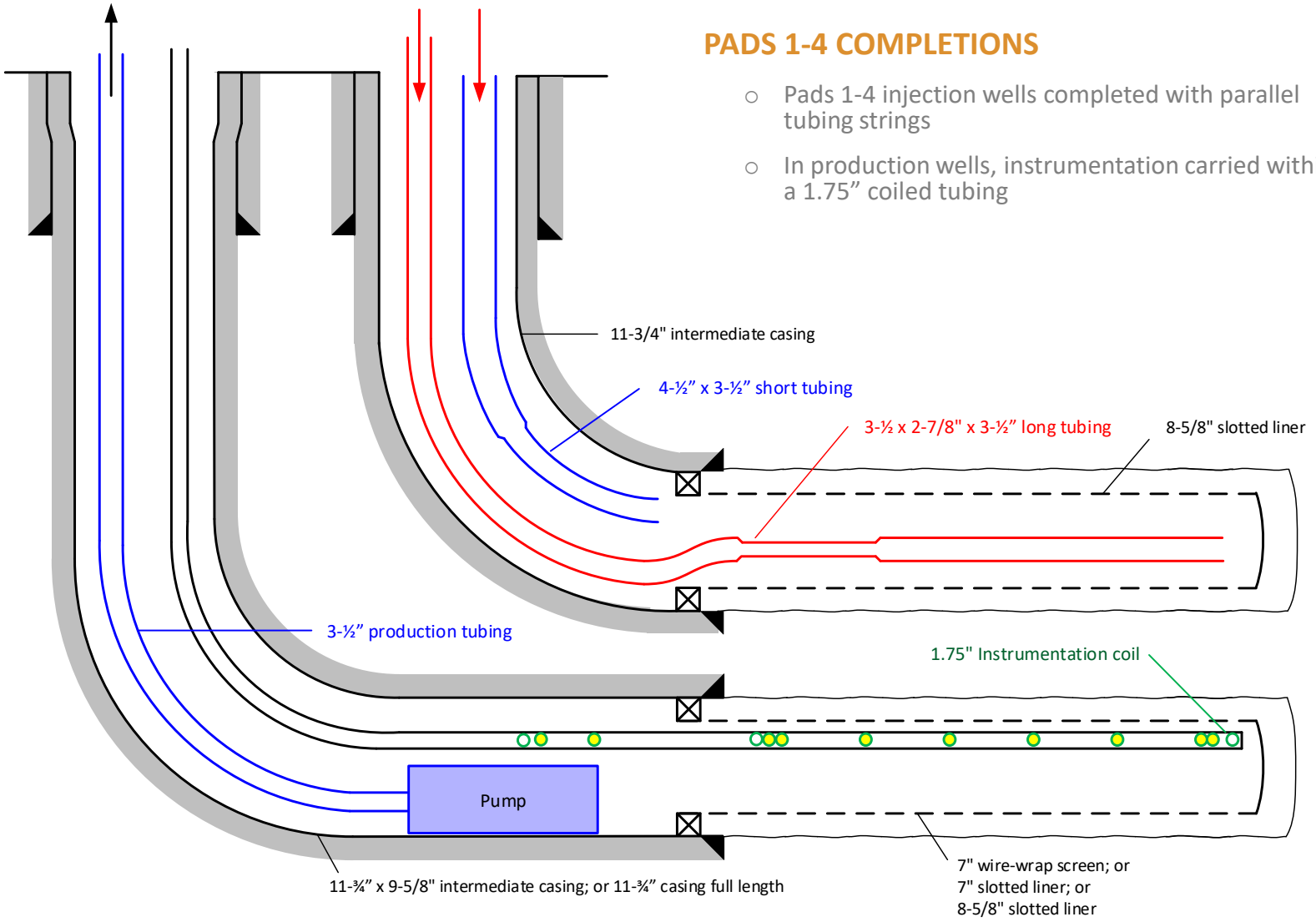
- Typical artificial lift operating conditions:
  - *Bottomhole pressure (BHP) range: 2,500-3,300 kPag*
  - *BHP temperature range: 180-235 °C*

Artificial Lift Performance	ESP	Rod
Typical Minimum Rate (m^3/d)	120	100
Typical Maximum Rate (m^3/d)	1,200	300

TYPICAL COMPLETION: PADS 1–4

PADS 1-4 COMPLETIONS

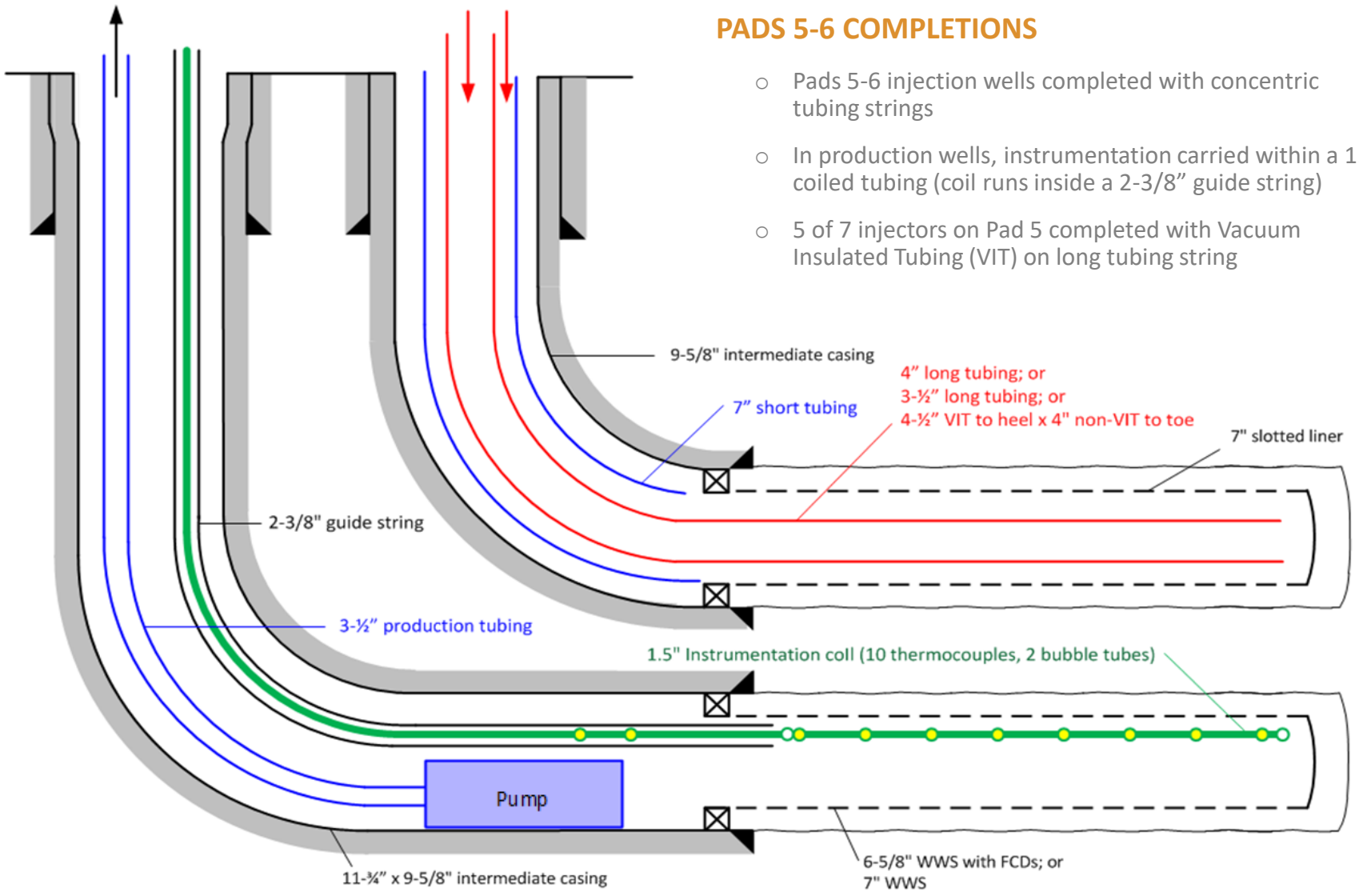
- Pads 1-4 injection wells completed with parallel tubing strings
- In production wells, instrumentation carried within a 1.75” coiled tubing



TYPICAL COMPLETION: PADS 5-6

PADS 5-6 COMPLETIONS

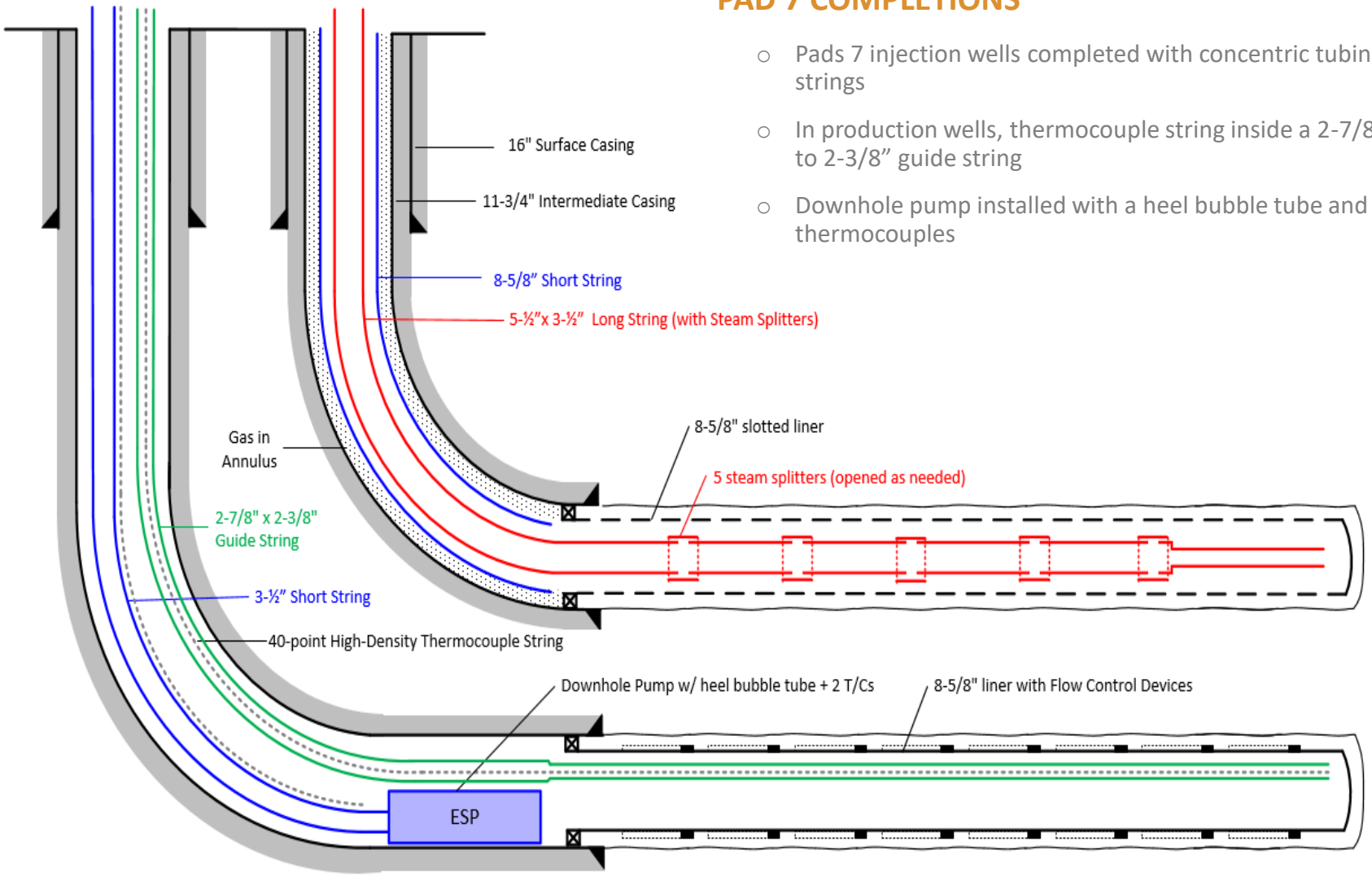
- Pads 5-6 injection wells completed with concentric tubing strings
- In production wells, instrumentation carried within a 1.5" coiled tubing (coil runs inside a 2-3/8" guide string)
- 5 of 7 injectors on Pad 5 completed with Vacuum Insulated Tubing (VIT) on long tubing string



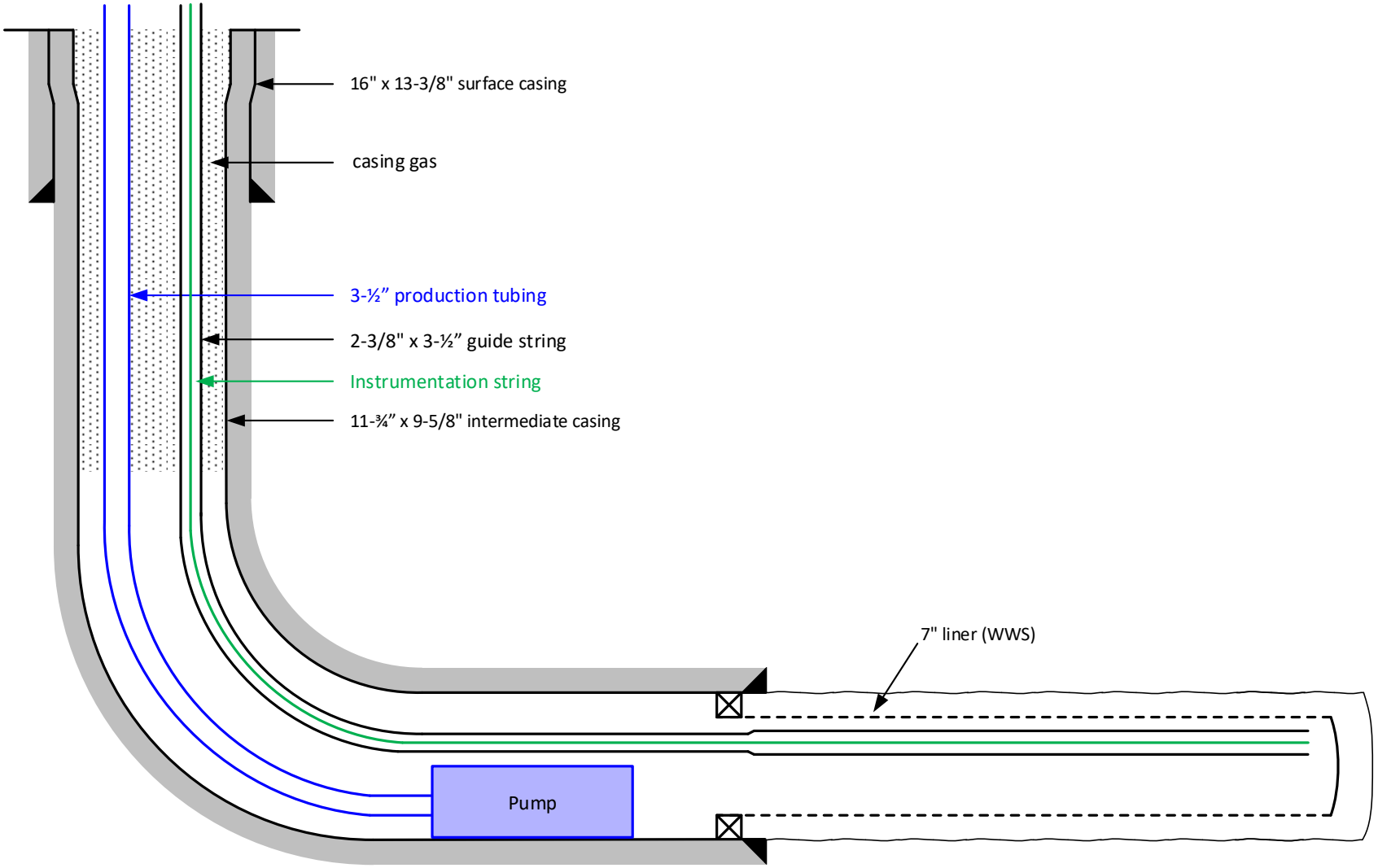
TYPICAL COMPLETION: PADS 7

PAD 7 COMPLETIONS

- Pads 7 injection wells completed with concentric tubing strings
- In production wells, thermocouple string inside a 2-7/8” to 2-3/8” guide string
- Downhole pump installed with a heel bubble tube and 2 thermocouples



TYPICAL COMPLETION: INFILL WELL



INSTRUMENTATION

TEMPERATURE

- Mixture of thermocouples (TC) and fiber measurements
- Both systems adequate for temperature management along the wellbore

PRESSURE

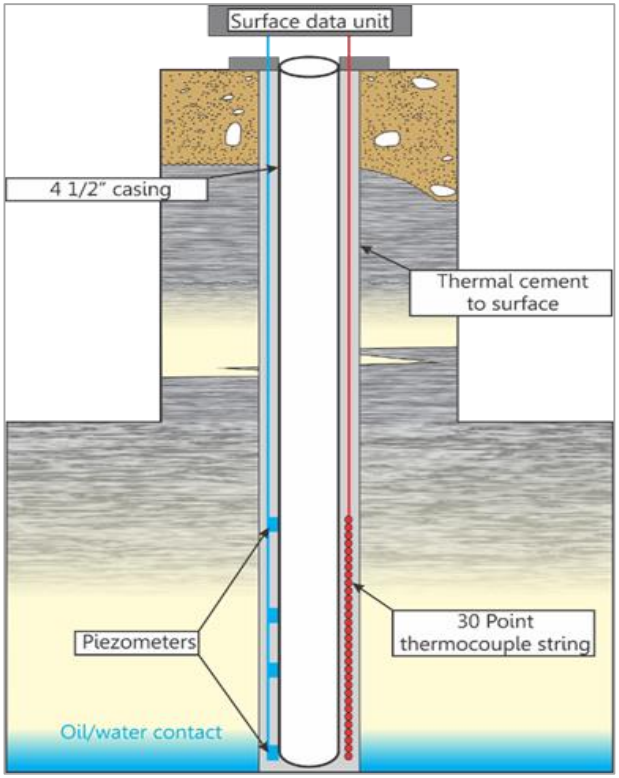
- Injector BHP is measured with blanket gas
- Producer and infill BHP is measured using optical gauges and/or bubble tubes

SAGD PRODUCING WELLPAIRS

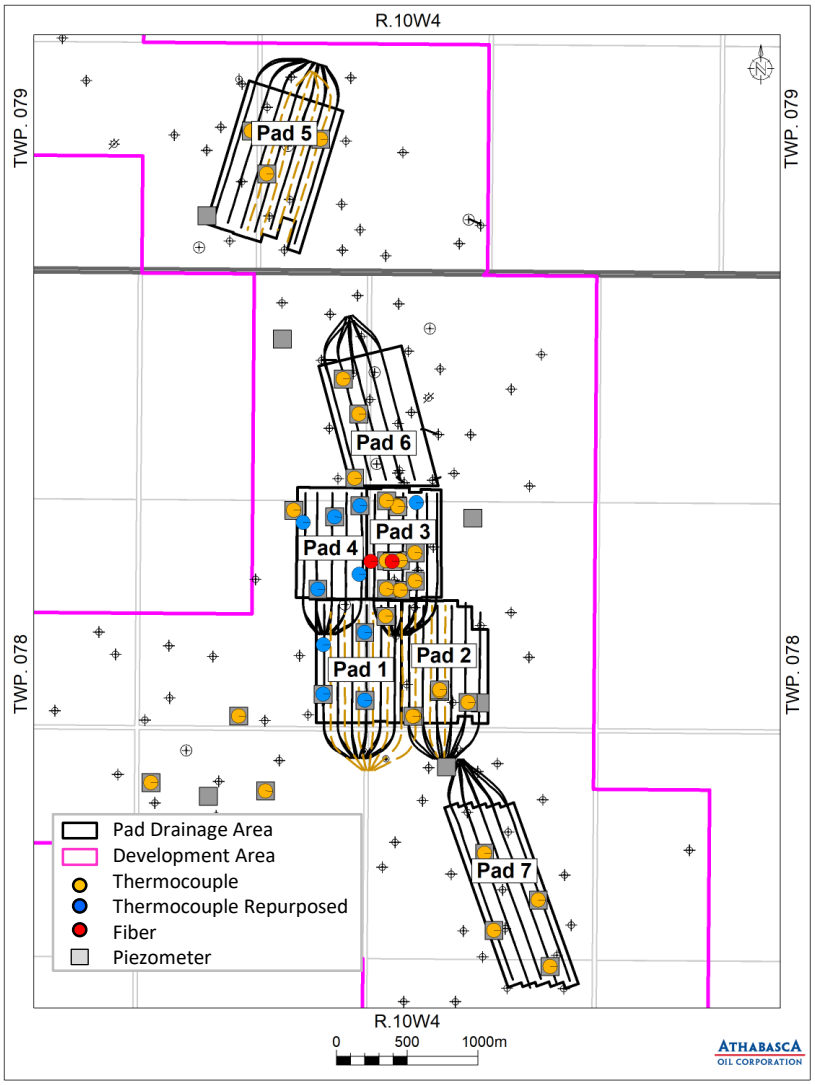
OBSERVATION WELL INSTRUMENTATION

OBSERVATION WELLS

- Instrumentation used to monitor reservoir pressure and temperature
- 30 thermocouples spaced at 1 m above, below, and within SAGD pay
- 4 OBS wells drilled and instrumented with piezometers and thermocouples in Pad 7 in 2019
- Pad 8 observation wells (4) drilled Q1 2020 (to be instrumented with piezometers and thermocouples)



SAGD PRODUCING WELL PAIRS



FLOW CONTROL DEVICES

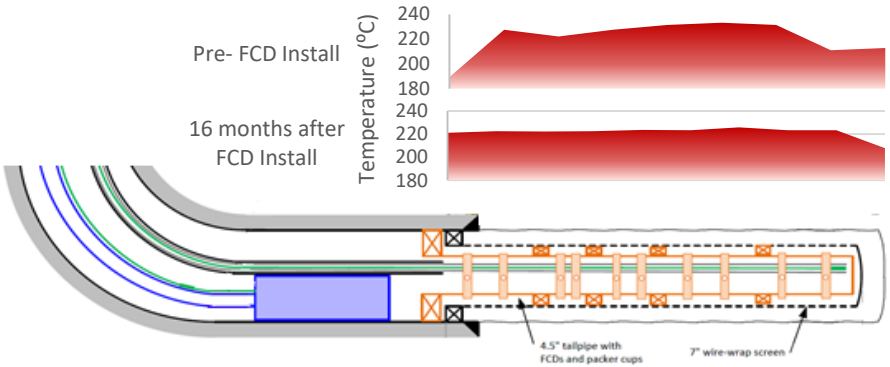
2019

- 5 liner deployed FCDs installed in Pad 7
- 1 tubing deployed FCD installed in L4P4
- Continue to evaluate tubing deployed FCD opportunities

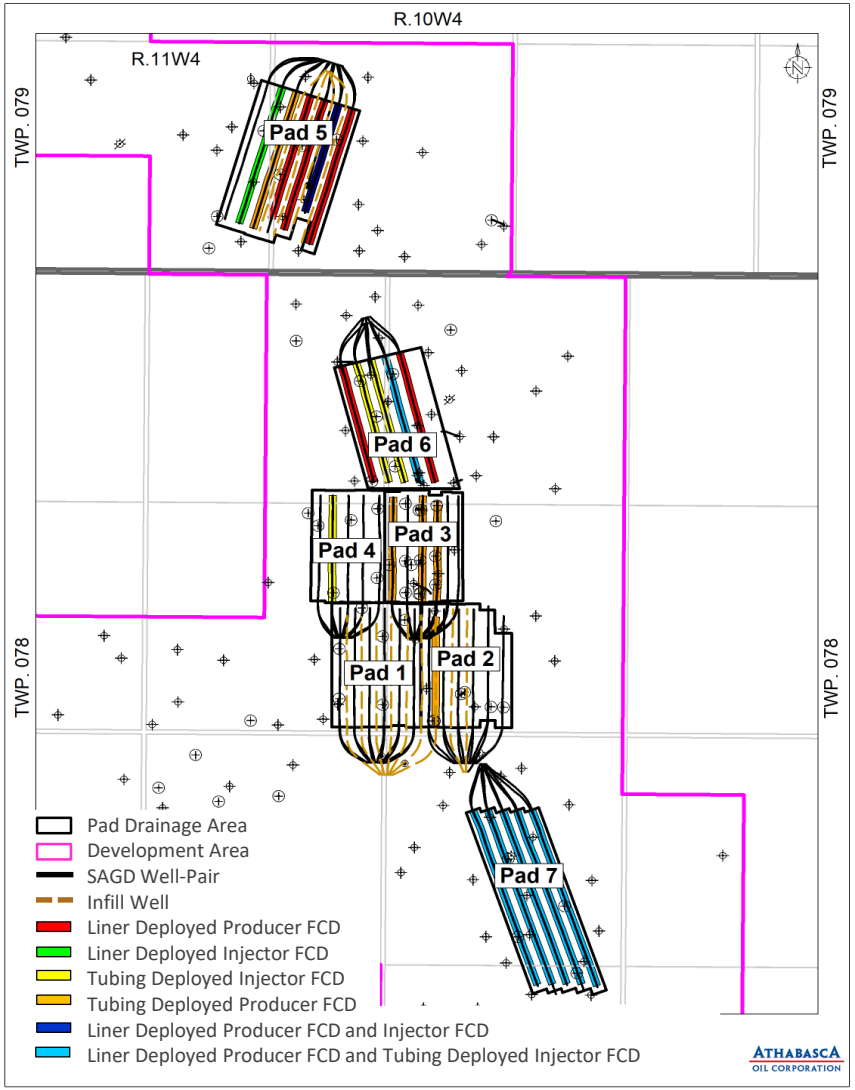
HISTORICAL

- Liner deployed and tubing deployed FCD configurations have been used to optimize asset performance
- Able to operate at lower subcool with positive impact on temperature conformance

L3P4 TEMPERATURE PROFILES



SAGD PRODUCING WELLPAIRS



SUBSURFACE

SCHEME PERFORMANCE

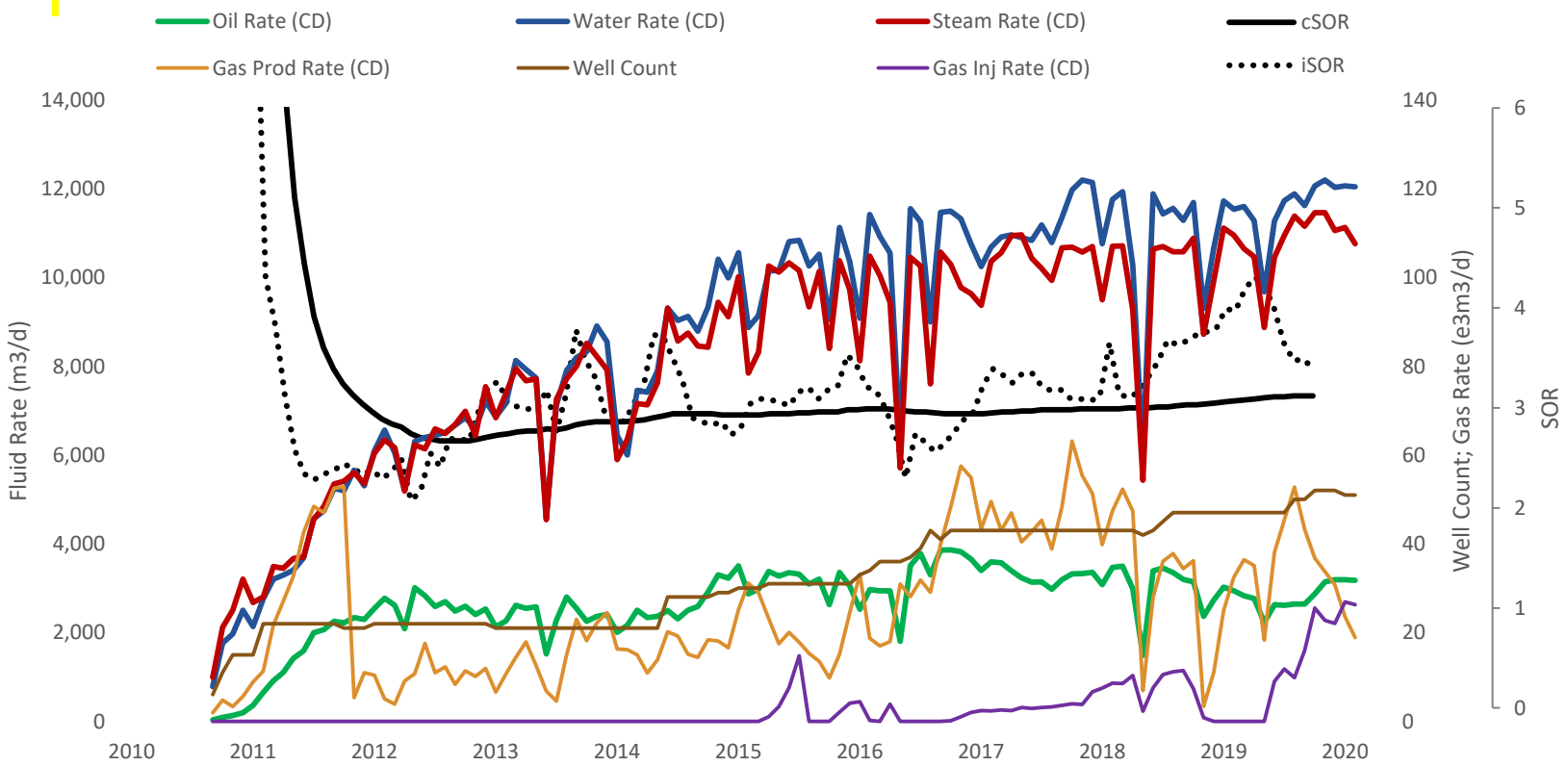
ATHABASCA OIL CORPORATION

FIELD HISTORY

REPORTING YEAR HIGHLIGHTS

- 7 producing pads (40 SAGD well pairs and 13 infill wells)
- Pad 7 began steaming in summer 2019
- Increased NCG co-injection on Pads 1-4 for SOR management
- Increased field steam capacity to 91,000 bbl/d in Q4 2019
- Initiated disposal into the Clearwater B formation in Q4 2019

LEISMER FIELD PRODUCTION



PAD RECOVERY FACTOR

								Developable Bitumen in Place above Producer (DBIP Above Producer)		Gross Bitumen in Place (GBIP)				
Pad	Well Pairs	Infills	Cumulative Production	Lateral Length	Area	Oil Saturation	Porosity	Net Pay	DBIP Above Producer	Net Pay	GBIP	EUR	Recovery Factor	EUR
			(10^3 m^3)	(m)	(10^3 m^2)	(frac)	(frac)	(m)	(10^3 m^3)	(m)	(10^3 m^3)	(10^6 m^3)	(%)	(%)
1	6	6	2,261	775	526	0.89	0.33	22.5	2,590	26.7	3,914	2.54 – 2.94	58%	65–75%
2	5	3	1,752	745	498	0.86	0.32	19.2	2,857	24.5	3,344	2.17 – 2.51	52%	65–75%
3	6	0	1,763	690	411	0.87	0.34	23.6	2,650	29.1	3,443	1.89 – 2.24	51%	55-65%
4	5	0	1,206	695	389	0.86	0.33	19.6	1,747	22.4	2,433	1.34 – 1.58	50%	55-65%
5	7	4	1,194	900	708	0.87	0.33	17.6	2,739	24	4,479	2.46 – 2.91	27%	55-65%
6	5	0	923	860	571	0.86	0.33	25.3	2,914	28.9	3,836	2.11 – 2.49	24%	55-65%
7	5	0	105	1,250	639	0.86	0.33	15.0	2,766	21.2	3,654	2.01 – 2.38	3%	55-65%
Total	39	13	9,204						18,263		25,103		37%	

NOTES:

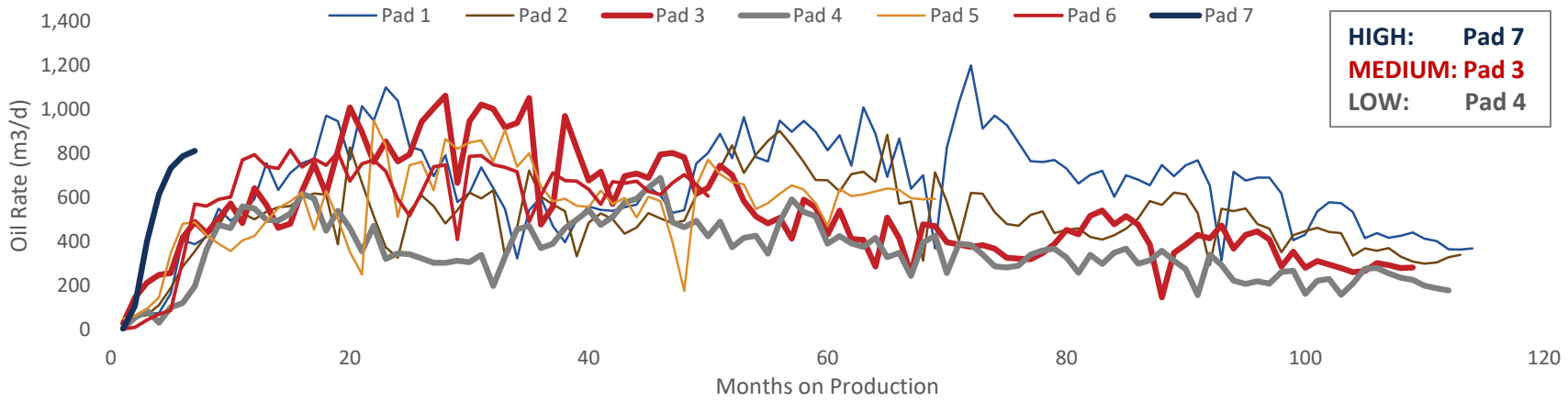
- Cumulative production as of February 29, 2020
- Volumetrics include 50 m at heel and toe of well pair
- EUR = Estimated Ultimate Recovery

PAD PERFORMANCE

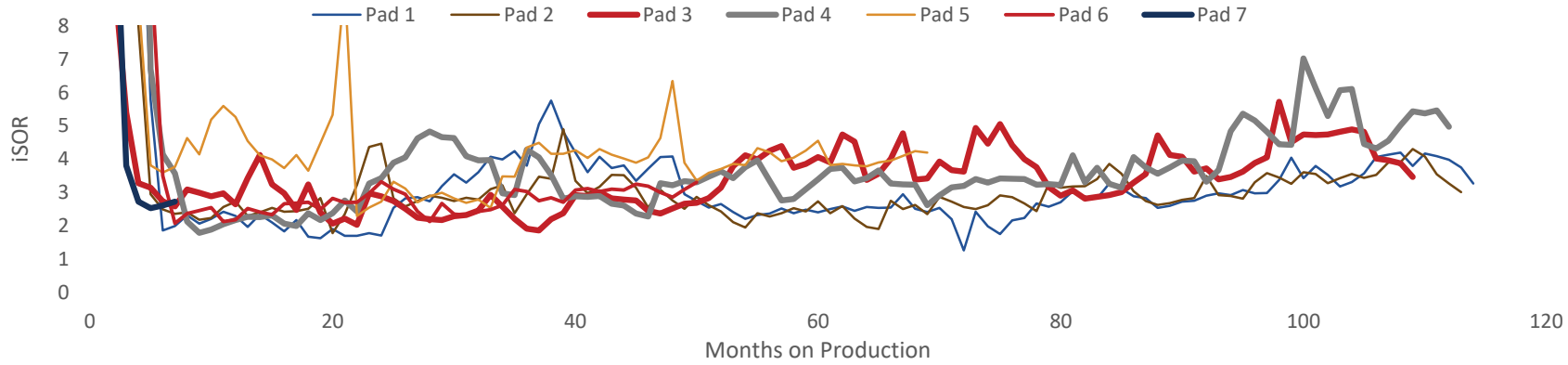
PAD PERFORMANCE DEPENDS ON GEOLOGY AND OPERATING PARAMETERS

- Pads 7, 3 and 4 selected as examples of high, medium and low performing pads, respectively
  - *Selection based on average monthly oil rate and iSOR*
  - *Differences in the productivity of the wells primarily due to geological variability and lateral length*

LEISMER PAD OIL RATES



LEISMER PAD ISOR

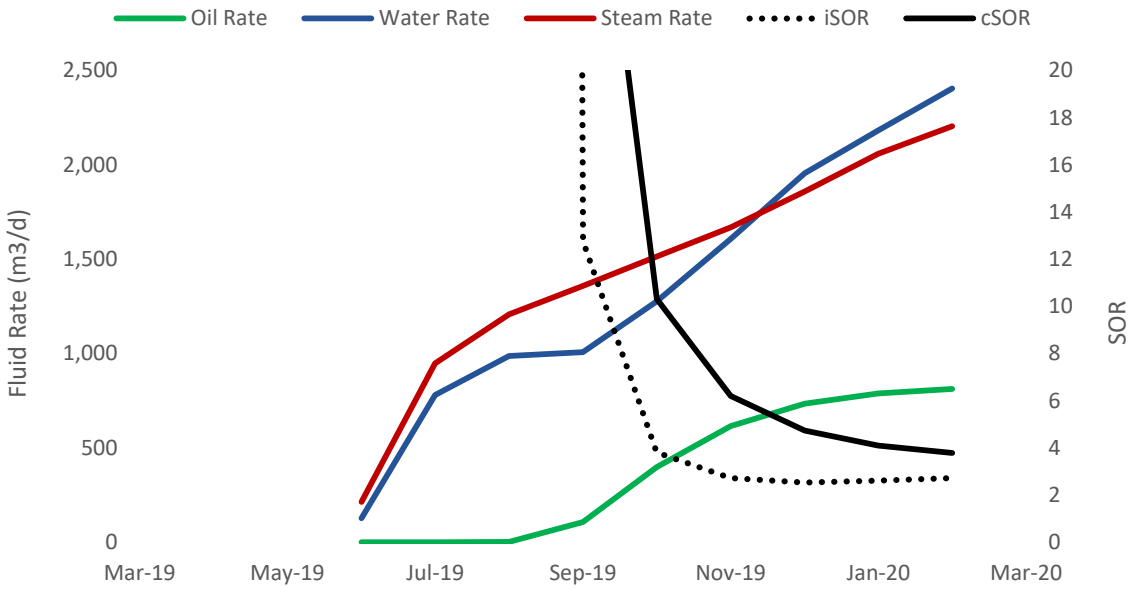


PAD PERFORMANCE: HIGH PAD 7

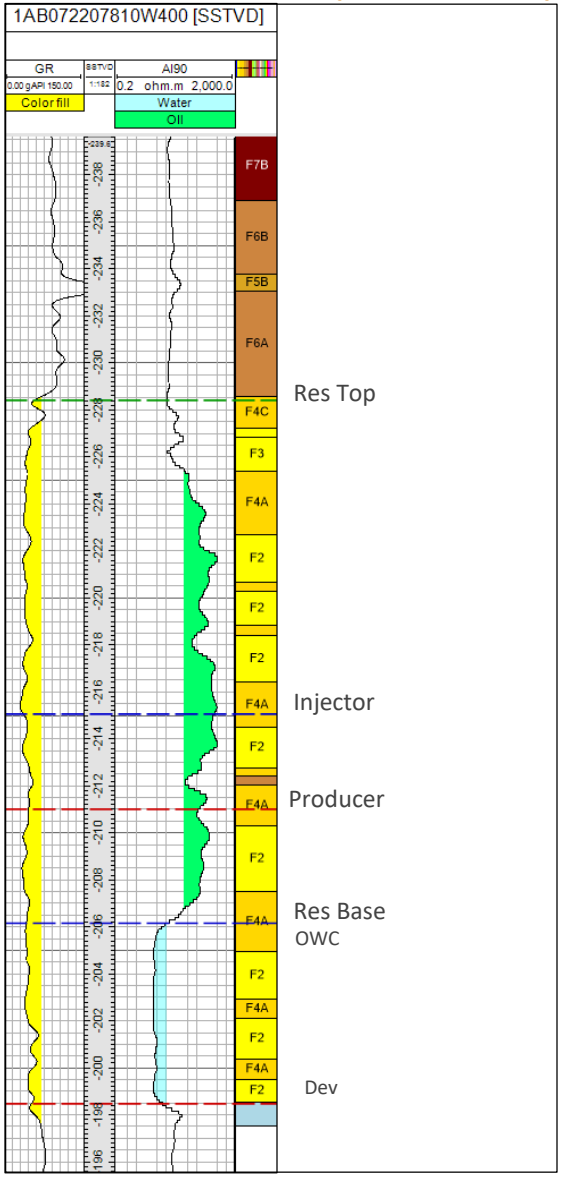
PAD 7 SUMMARY

- First steam June 2019
- Peak oil rate during reporting period:
  ~811 m3/d (625-1,450 bbl/d/wellpair)
- iSOR ~2.7
- High reservoir quality
  - *Mostly sandy reservoir*
  - *High oil saturation*
- 1,250 m wells equipped with FCDs

PAD 7 PRODUCTION



1AB/07-22-078-10W400 (42m from L7P4)

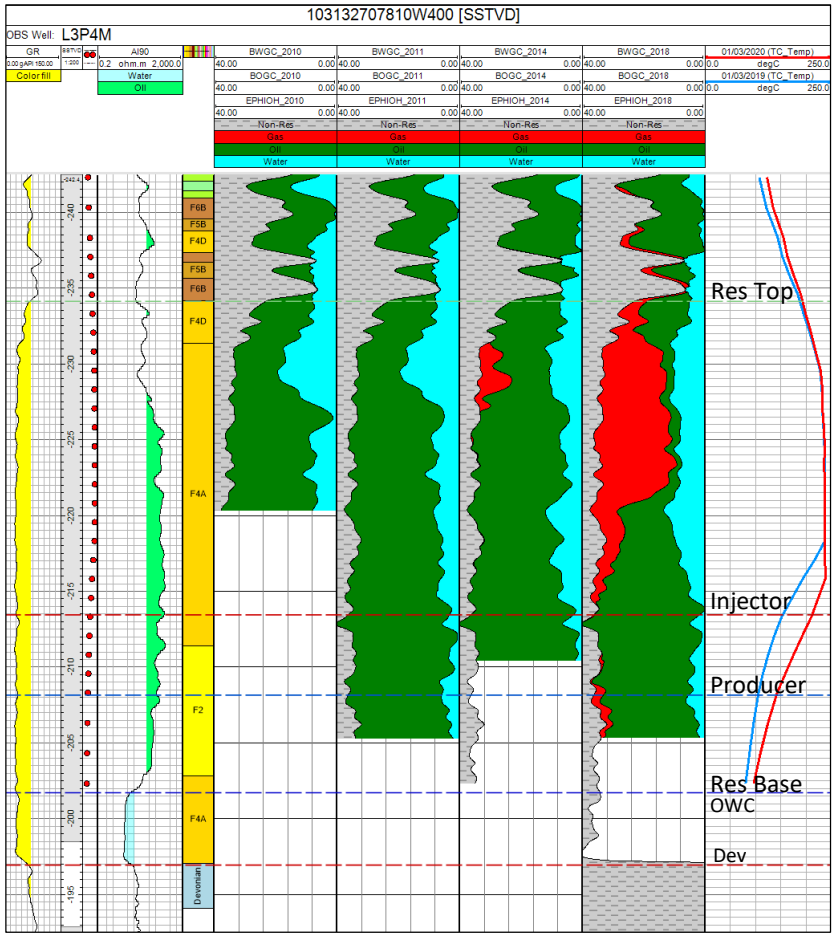


PAD PERFORMANCE: MEDIUM PAD 3

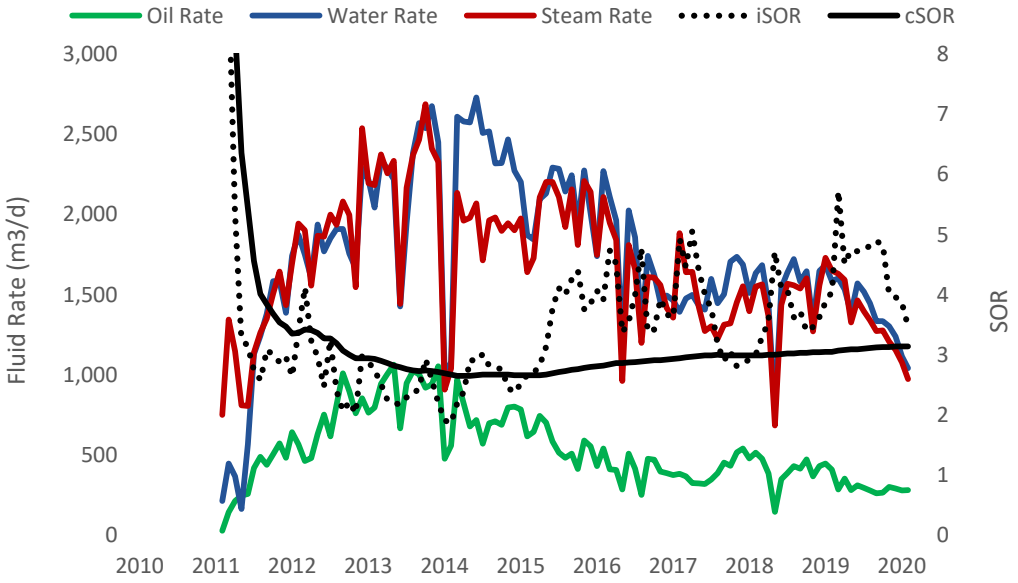
PAD 3 SUMMARY

- First steam 2010
- Peak oil rate during reporting year: ~350 m3/d (100-675 bbl/d/wellpair)
- cSOR ~3.1
- Good reservoir quality
- Steam chamber development since last reporting period
- NCG co-injection started in Jun 2019 for SOR management

L3P4M- 103/13-27-078-10W400 (14m from L3P4)



PAD 3 PRODUCTION

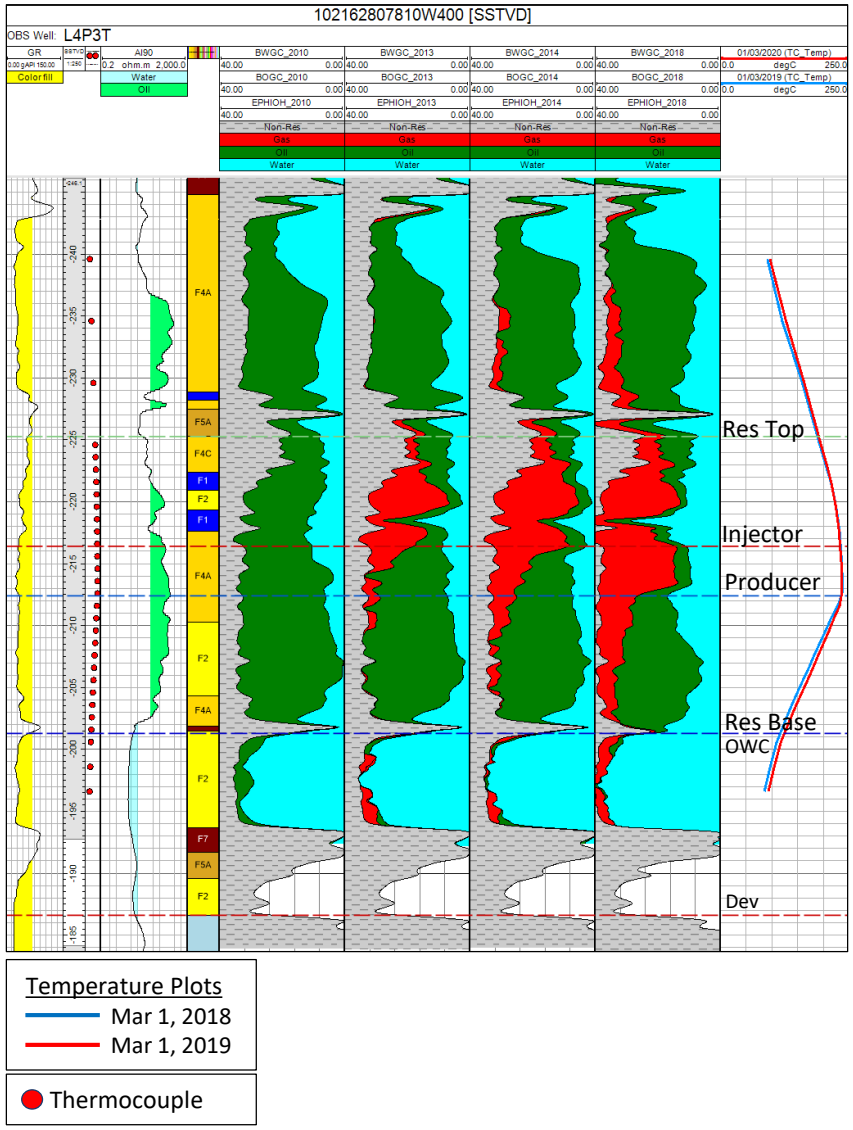


PAD PERFORMANCE: LOW PAD 4

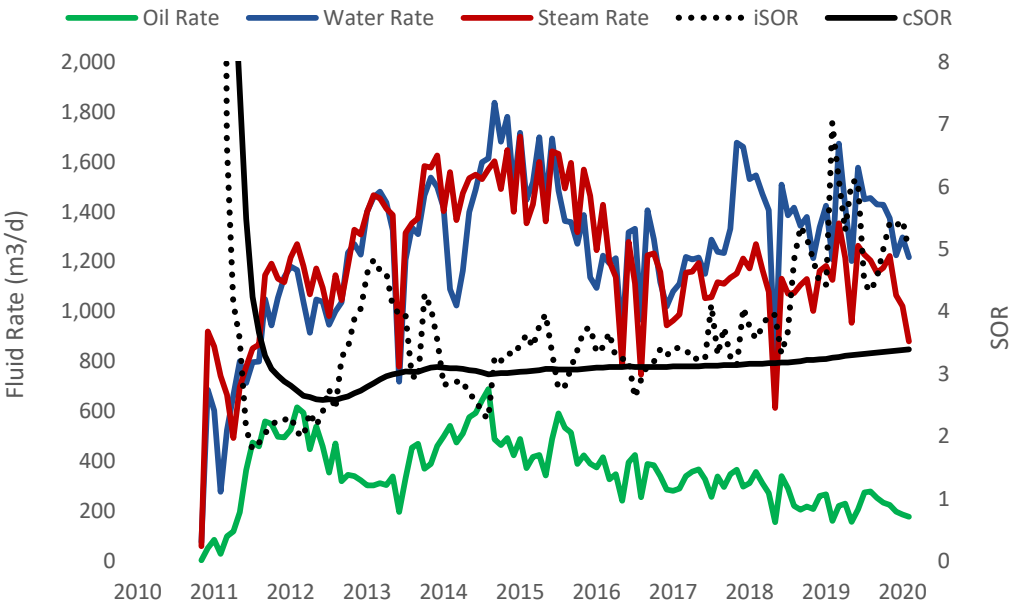
PAD 4 SUMMARY

- First steam 2010
- Peak oil rate during reporting year: ~280 m3/d (300-540 bbl/d/wellpair)
- cSOR ~3.4
- Average reservoir quality
- NCG co-injection re-instated on this pad in June 2019

L4P3T- 102/16-28-078-10W400 (19m from L4P3)



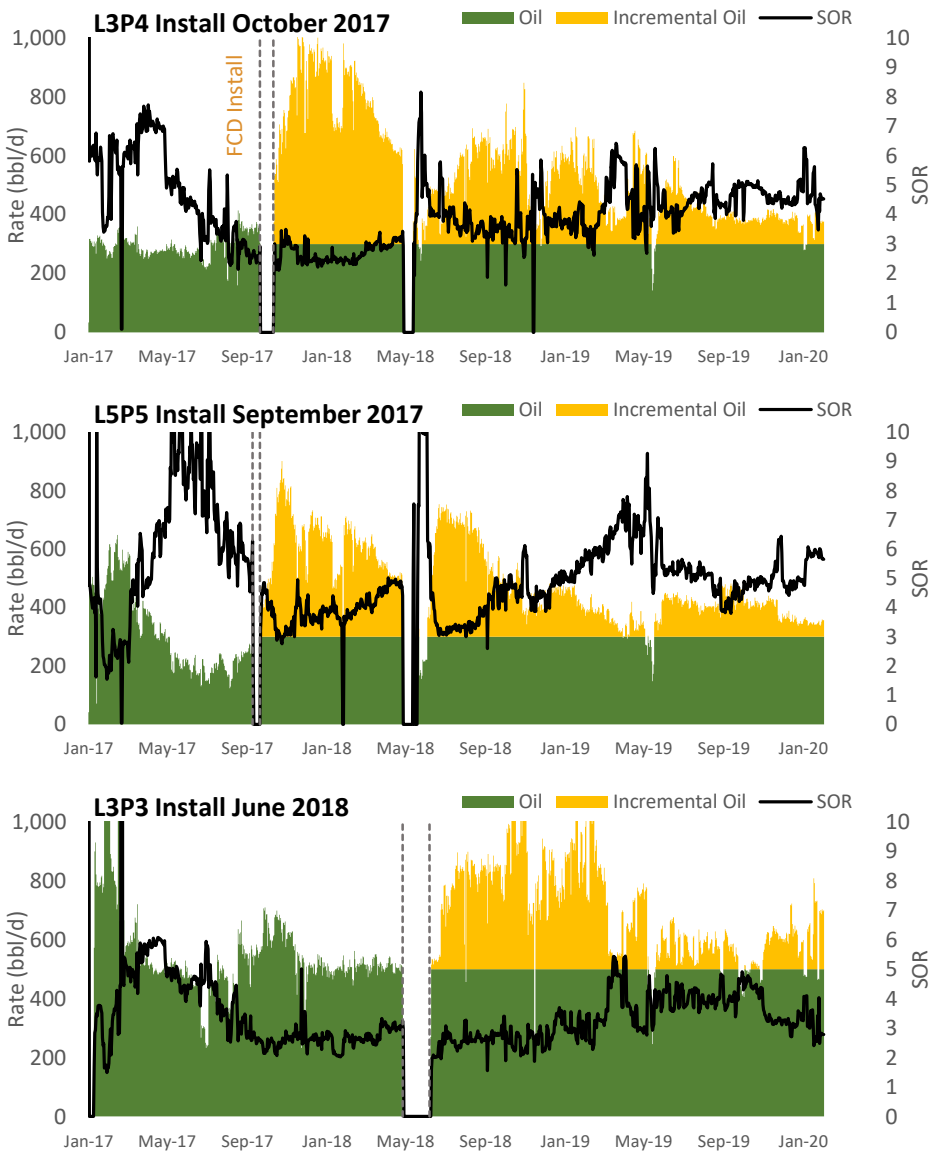
PAD 4 PRODUCTION



FCD PERFORMANCE

TUBING DEPLOYED FCDS

- Oil production initially increased 125-150% per well
- Tubing deployed FCDs continue to perform above expectations
  - *100 – 200 bbl/d uplift still observed after 2 years*
- Continue to evaluate opportunities across the field

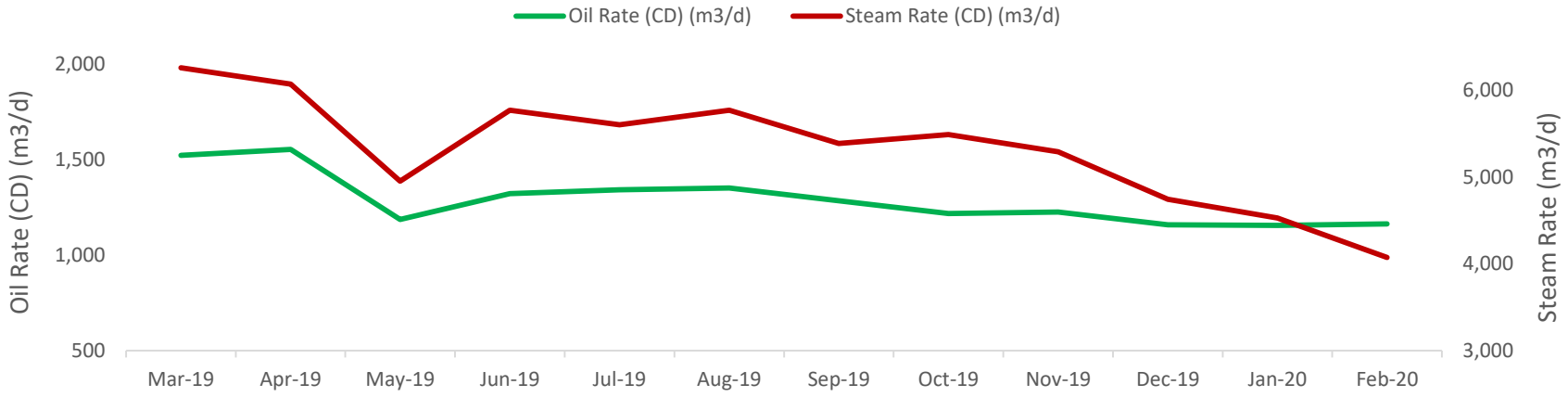


NON-CONDENSABLE GAS CO-INJECTION

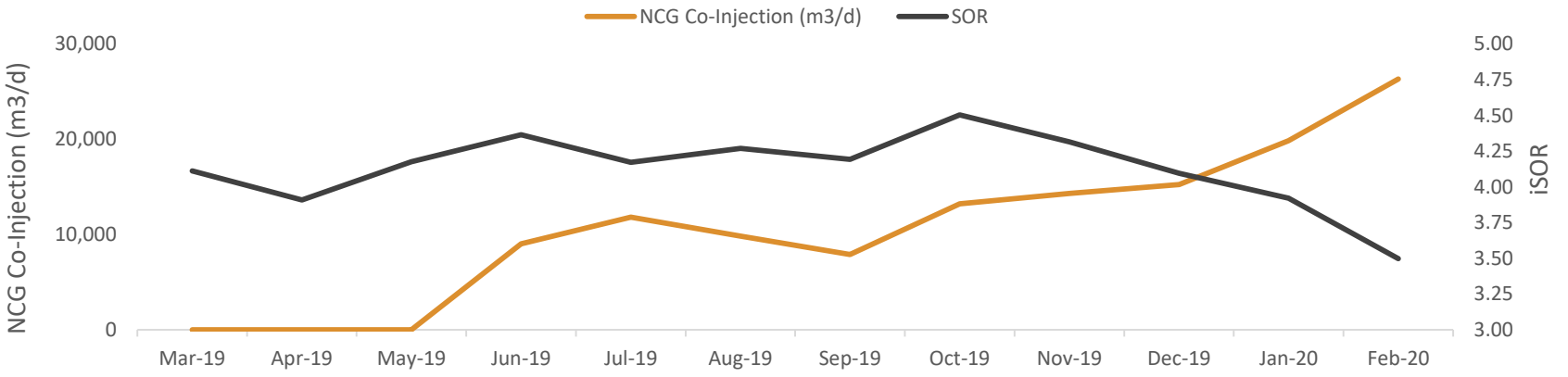
SUMMARY

- Pads 1-4 NCG co-injection re-initiated Q2 2019
  - *Steam reduced by ~1,500 m3/d (-25%) with an SOR improvement of ~1 (-22%)*
  - *NCG co-injection rates continue to increase based on reservoir performance*

PADS 1-4 OIL AND STEAM RATES



PADS 1-4 NCG INJECTION RATES AND SOR



STEAM

STEAM PRESSURE

- Steam upstream of pads 7,000–9,000 kPa
- Steam pressure let-down to 5,000–6,000 kPa at pads

STEAM QUALITY

- Steam quality decreases during transportation to well pads due to heat losses
  - *Estimated at 95% for Pads 1–4, 6 & 7*
  - *Estimated at 90% at Pad 5 due to longer, larger diameter pipe line*

WELL INTEGRITY & ABANDONMENTS

WELL INTEGRITY

- No wellbore integrity failures during the reporting period (liner or casing)

ABANDONMENTS

- 1 producer/injector well pair abandoned February 2020
  - *L2P1 (106/11-27-078-10W4/00)*
  - *L2I1 (100/06-27-078-10W4/00)*
- No near term plans for well pad abandonments

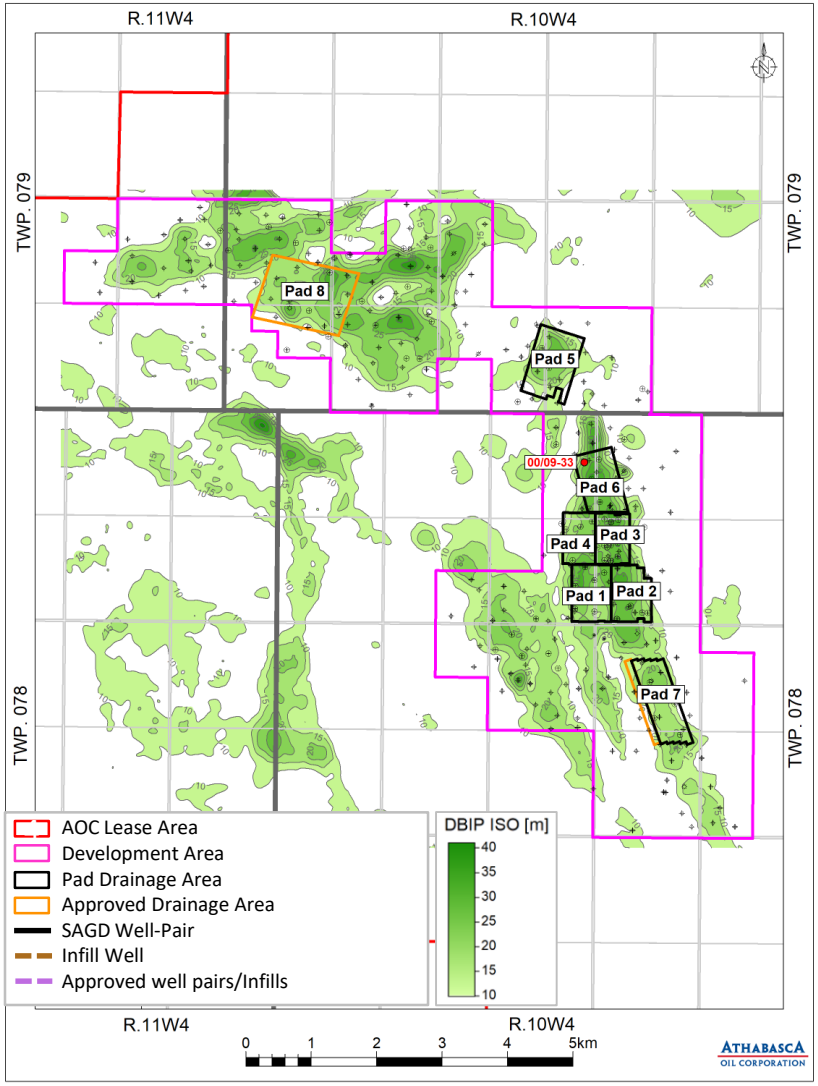
LEISMER FUTURE DEVELOPMENT PLANS

SUBSURFACE DEVELOPMENT PLANS

- Evaluating opportunities for tubing deployed FCDs into producer wells on Pads 1-6
- Pad 8 observation wells (4) drilled Q1 2020
- Pad 6 infills (4) approved September 2018
- Pad 7 additional well pair (1) approved August 2019
- Pad 8 well pairs (14) approved September 2019

PAD ABANDONMENTS

- No pad abandonments anticipated within next five years



SURFACE OPERATIONS

FACILITIES

ATHABASCA OIL CORPORATION

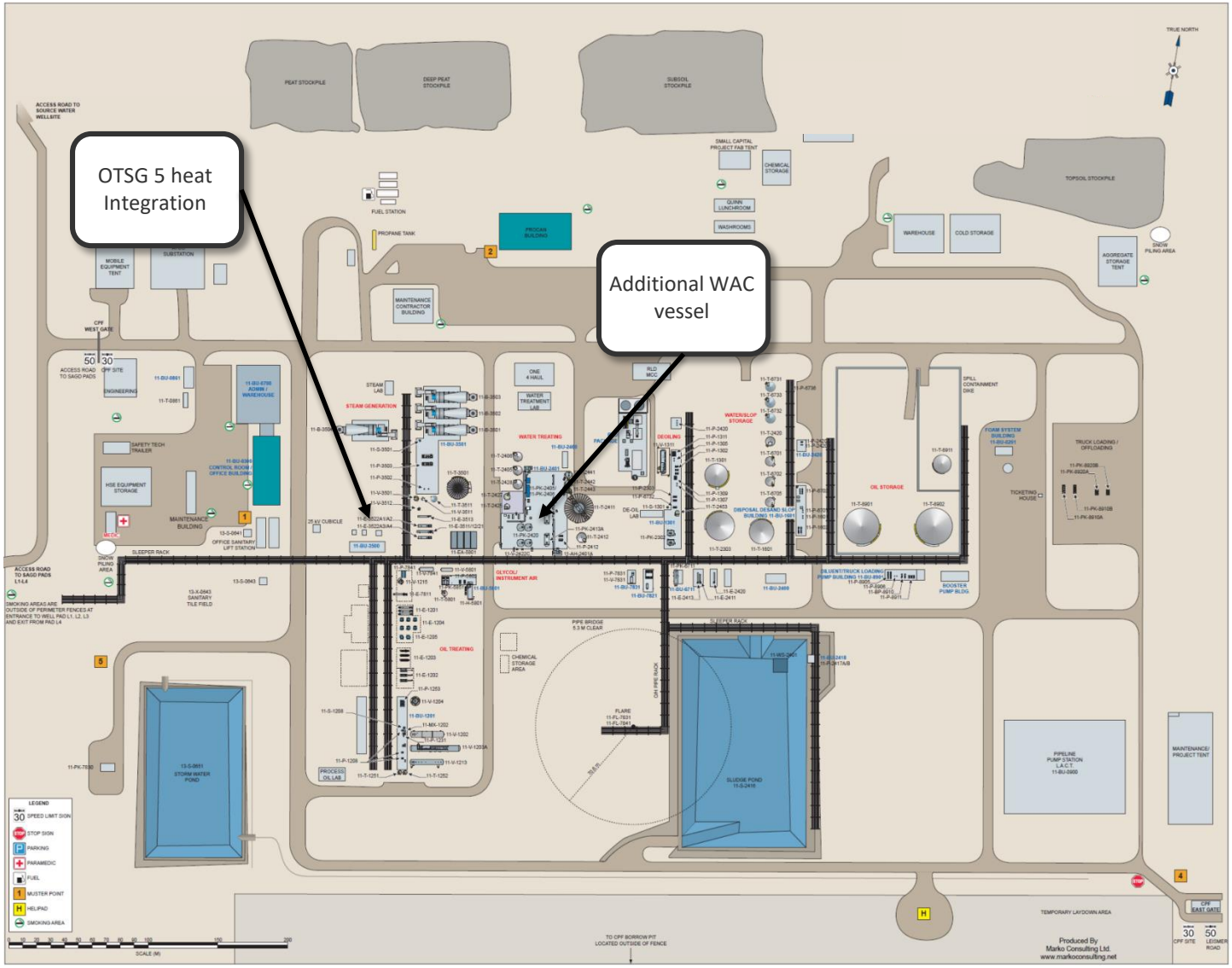
SURFACE ACTIVITIES

MAJOR ACTIVITIES

- Boiler maintenance on three OTSGs (May 2019)
- Well Pad 7 start-up (June 2019)
- Heat Integration and additional water treatment capacity (WAC) installed for OTSG 5 (August 2019)
- Increased field steam capacity to 91,000 bbl/d (Q4 2019)
- 14-28-078-10W4 Injection Facility construction for water disposal (November 2019)
- Pipeline construction to water injection location at 16-10-078-10W4 (winter 2019/2020)

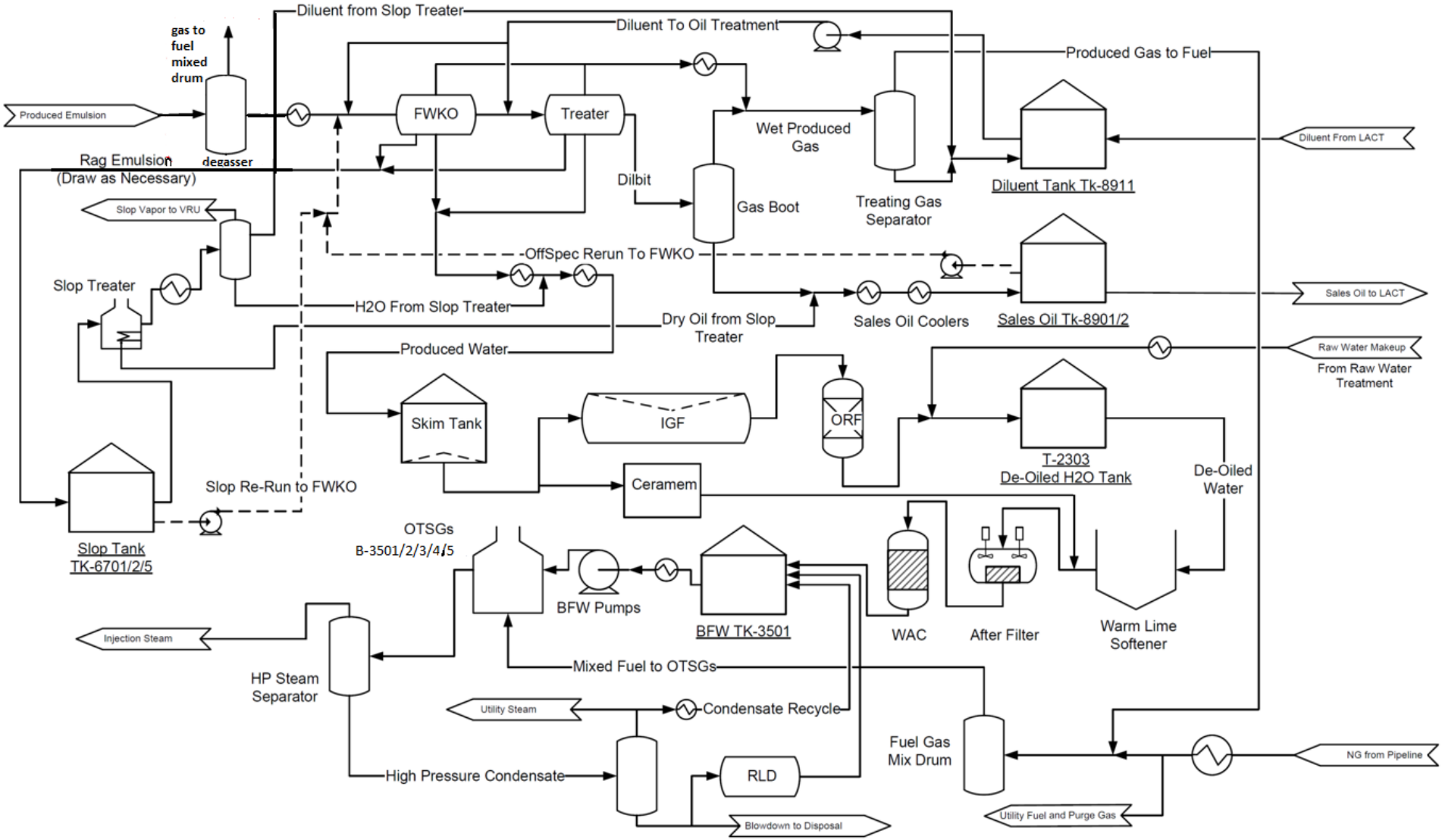
CENTRAL PROCESSING FACILITY

ADDITIONAL HEAT INTEGRATION AND WATER HANDLING ADDED FOR 5TH OTSG



FACILITY SCHEMATIC

NO CHANGES TO FACILITY SCHEMATIC



SURFACE

MEASUREMENT, ACCOUNTING AND REPORTING PLAN (MARP)

ATHABASCA OIL CORPORATION

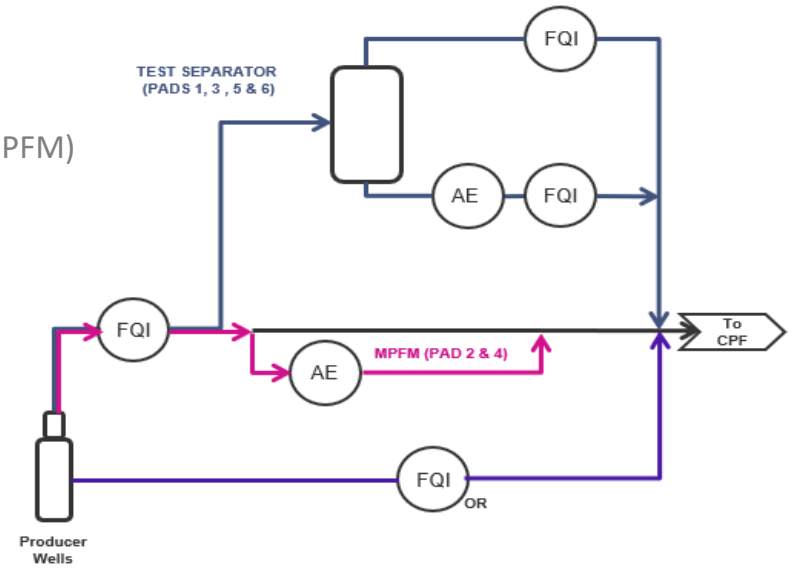
MEASUREMENT AND REPORTING

CPF

- MARP updated to reflect asset sale of downstream Cheecham Terminal

WELL TESTING

- Well tests used to calculate daily bitumen and water production
- Six hour test with 1 hr. purge to improve oil calculation accuracy
- Pads 1, 3, 5 and equipped with full test headers and test separators
- Pad 4 equipped with full test header and Multi-Phase Flow Meters (MPFM)
- Pad 2/7 and 4 equipped with MFPM
- MARP updated to reflect addition of Well Pad 7 and tie into existing infrastructure on Well Pad 2

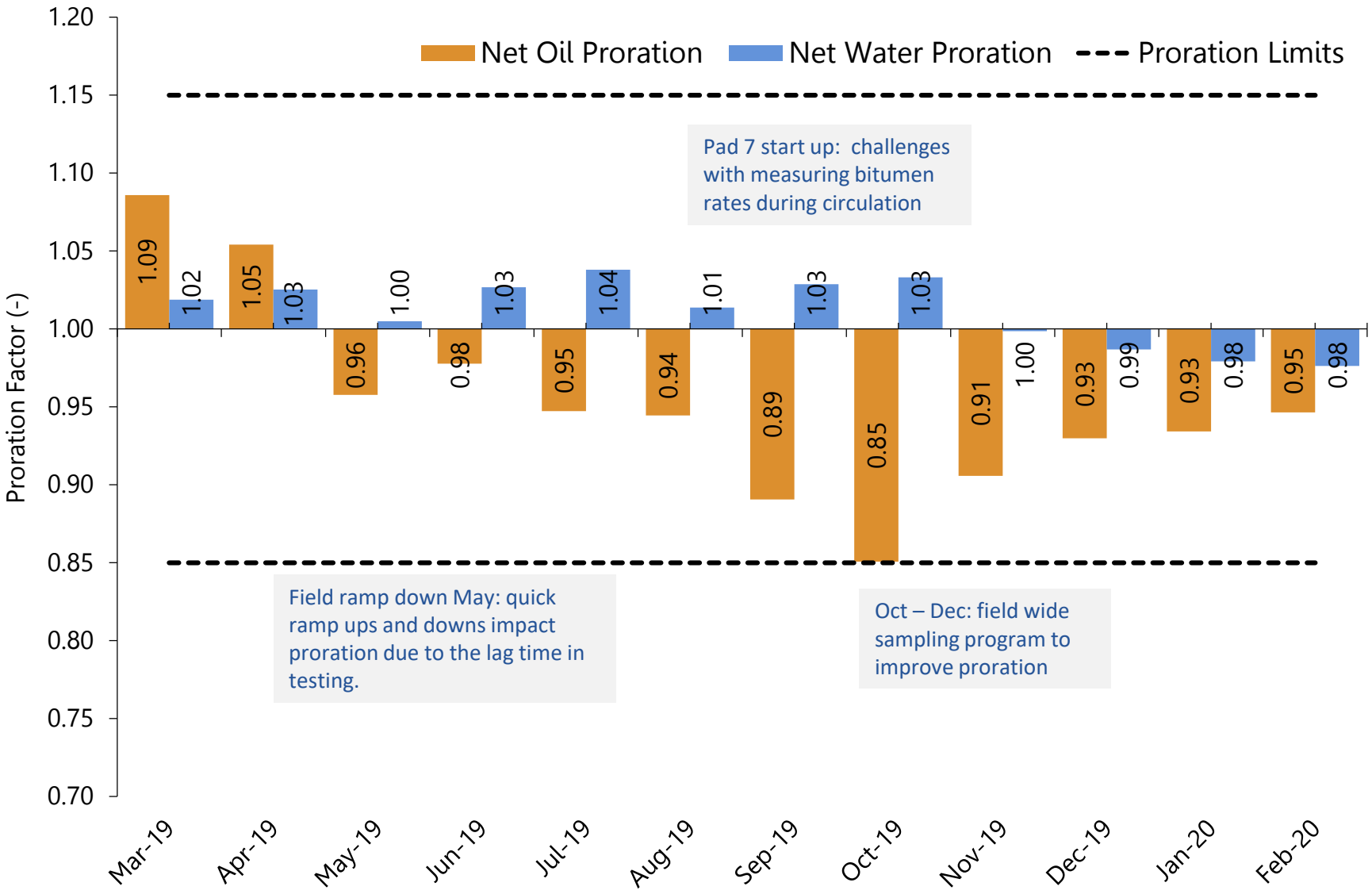


FQI – flow quantity indicator

AE – analyzer element

OR - orifice plate

PRORATION FACTORS



SURFACE

FACILITY PERFORMANCE

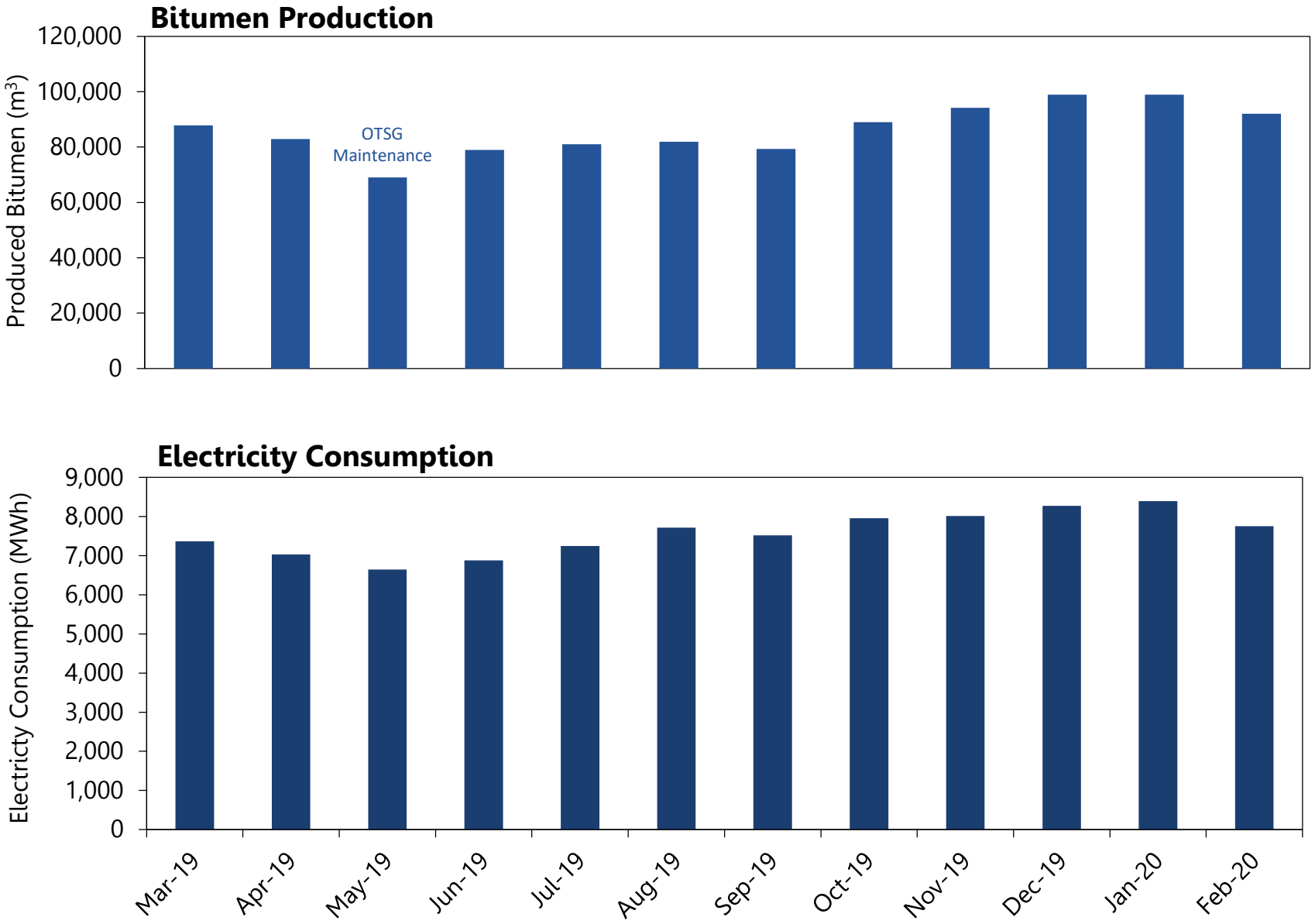
ATHABASCA OIL CORPORATION

FACILITY PERFORMANCE

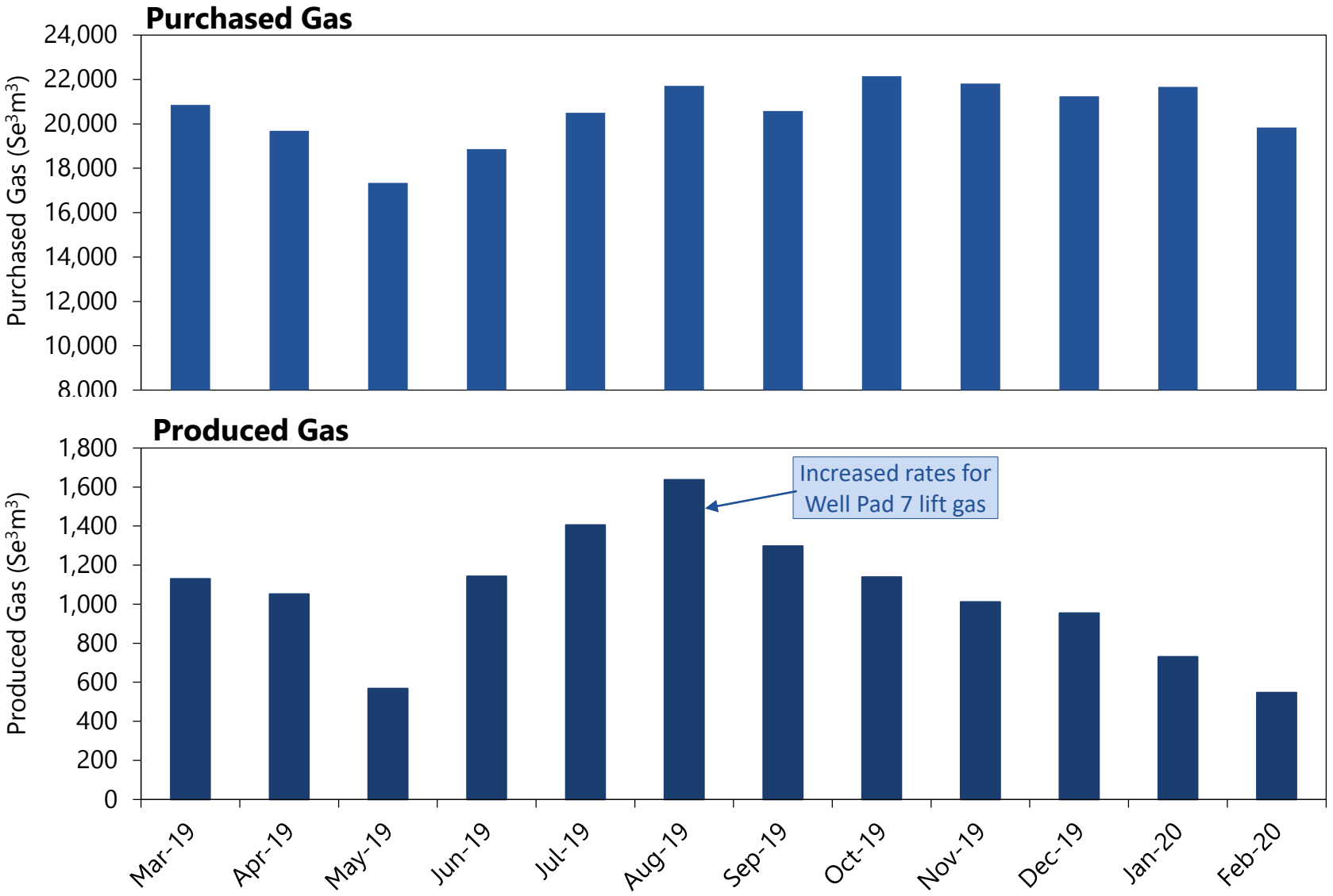
SITE RELIABILITY HAS REMAINED HIGH

- CPF availability was 98% for 2019 (facility design 93%)
- Availability calculated based on steam capacity
- Facility down-time mainly associated with boiler repair work (May 2019)

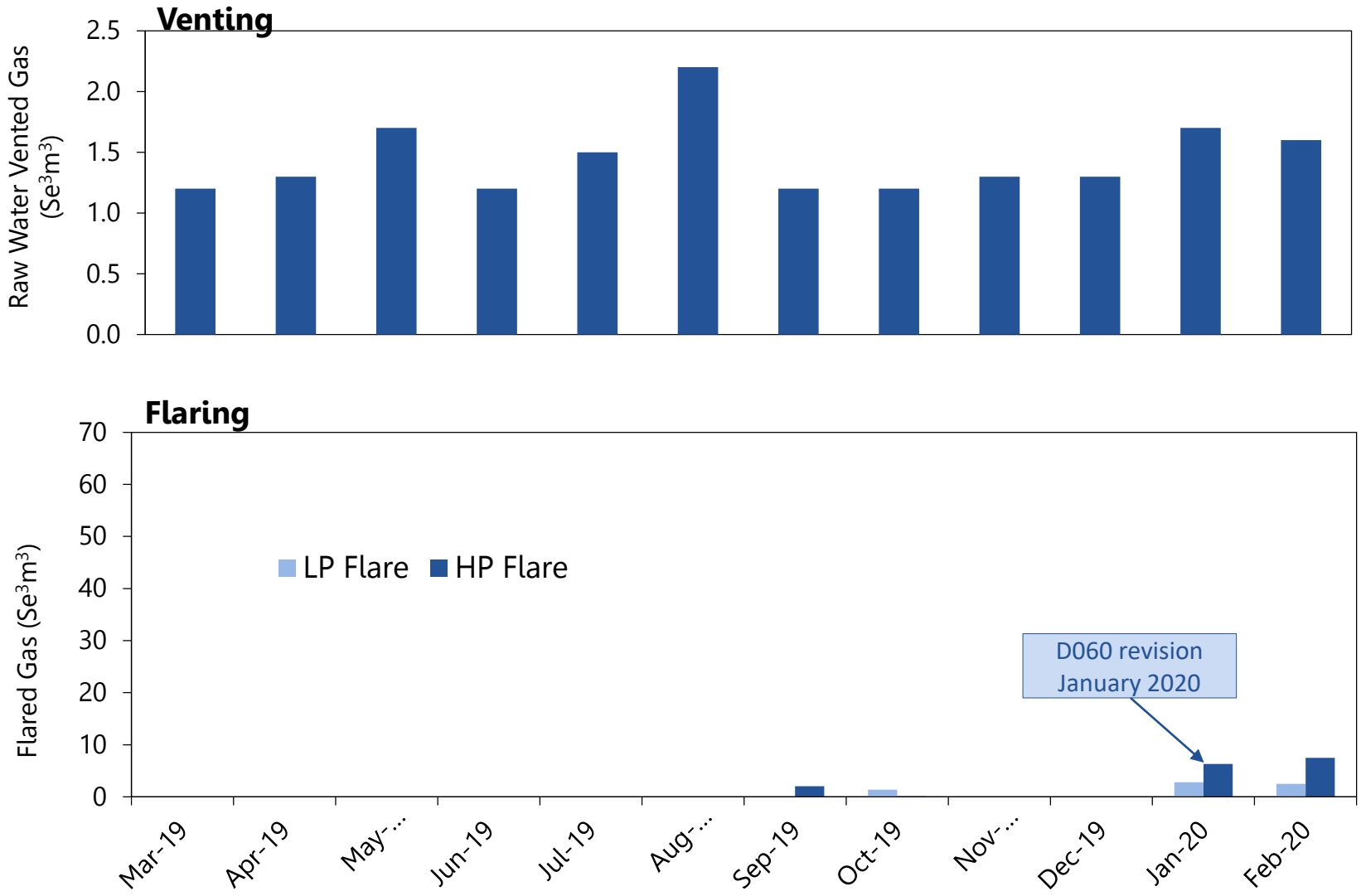
PRODUCTION & ELECTRICITY CONSUMPTION



PURCHASED & PRODUCED GAS VOLUMES

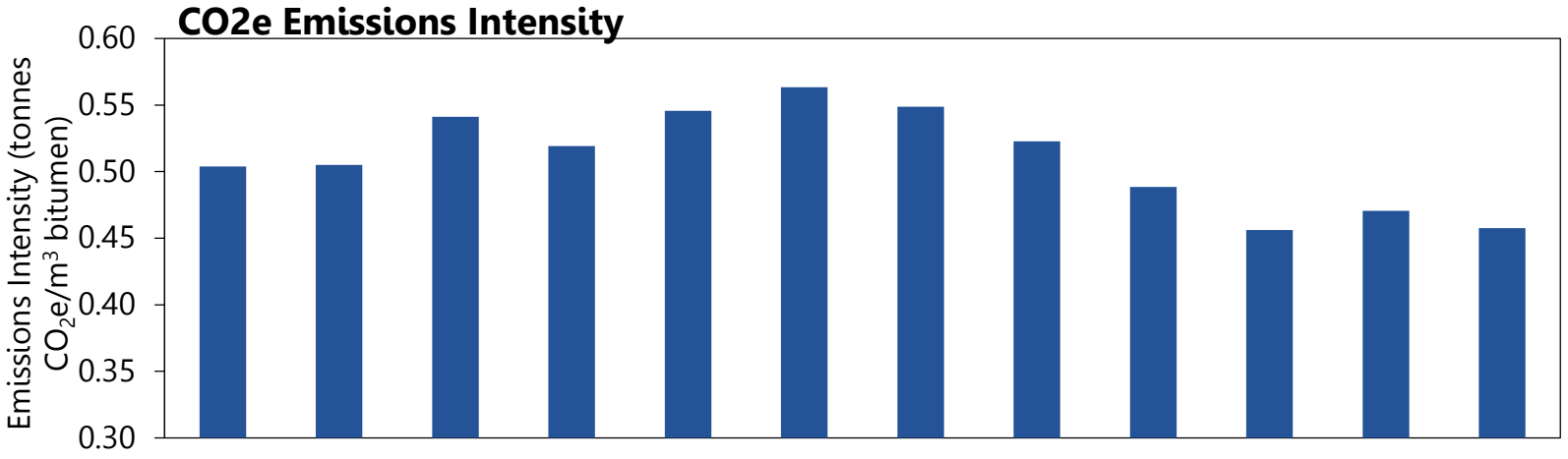


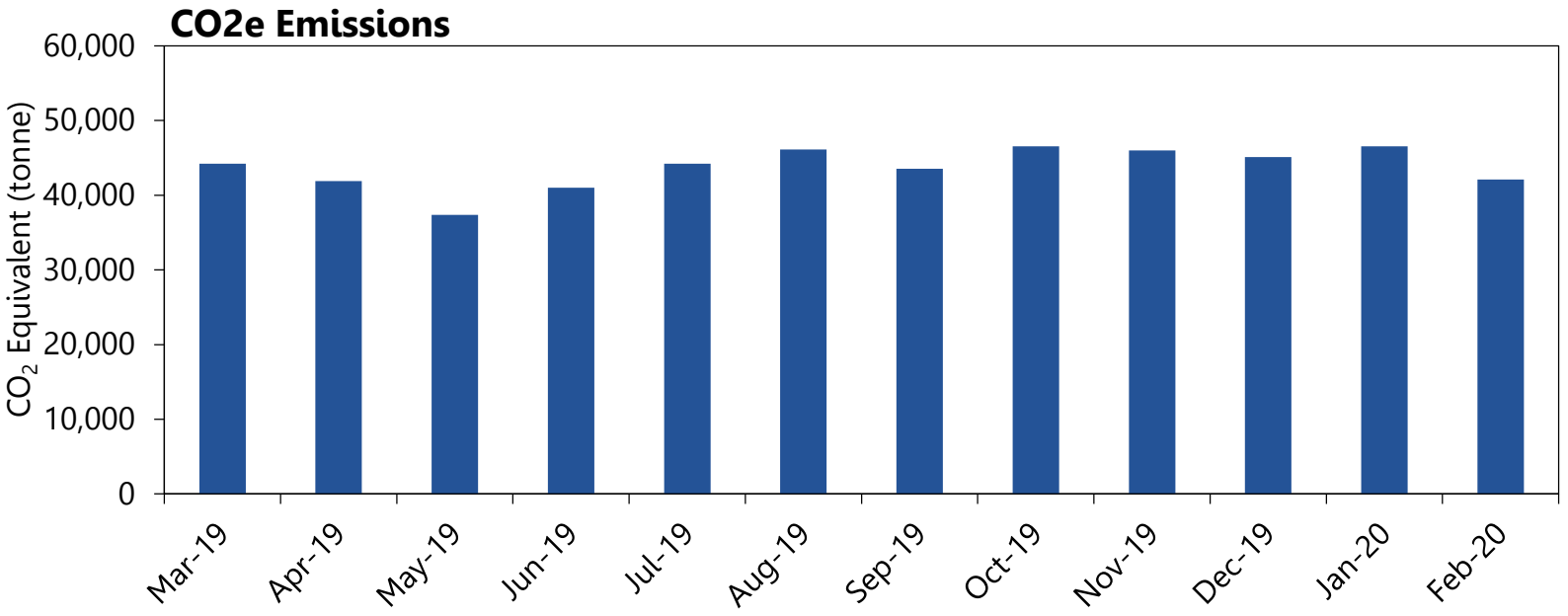
FLARING AND VENTING



Note: D060 revision to flare volume calculation (inclusion of purge gas) effective January 1, 2020

CO2 EMISSIONS





SURFACE

WATER PRODUCTION, INJECTION & USES

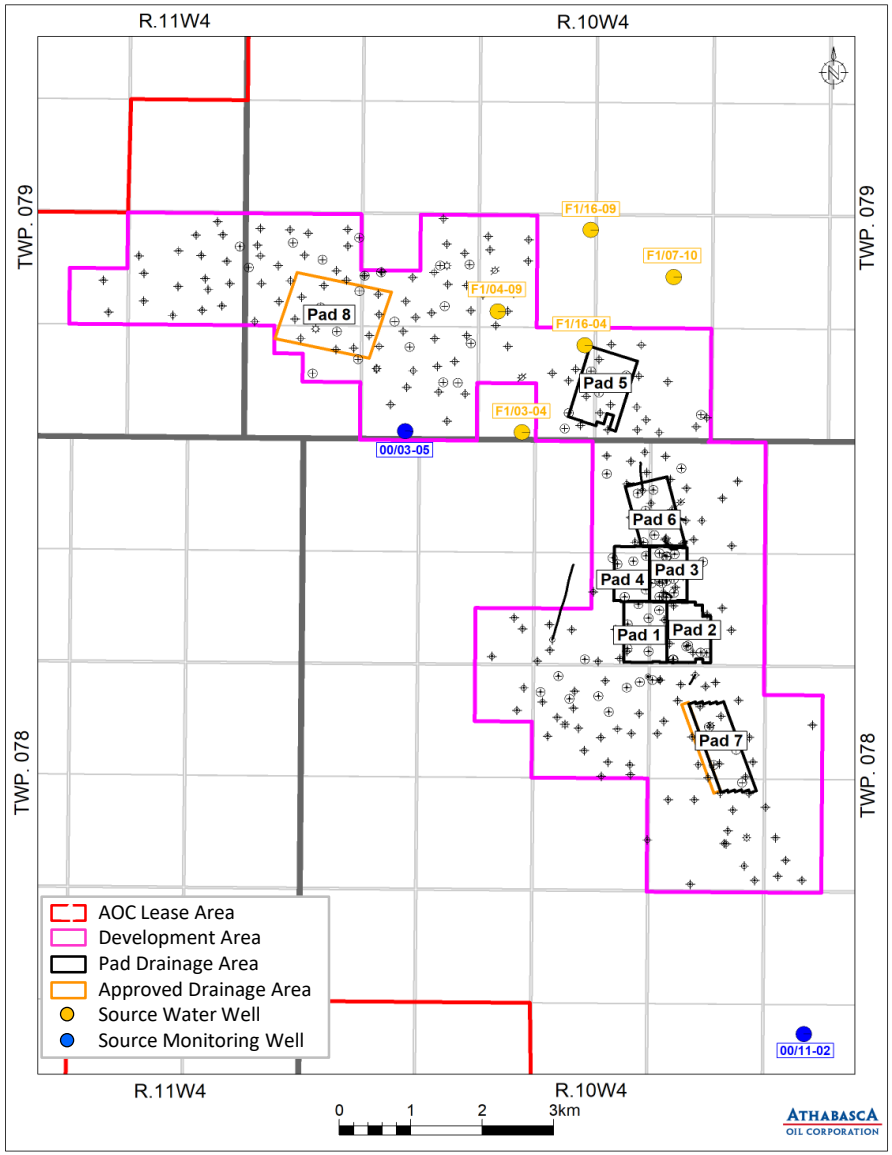
ATHABASCA OIL CORPORATION

SOURCE WATER NETWORK

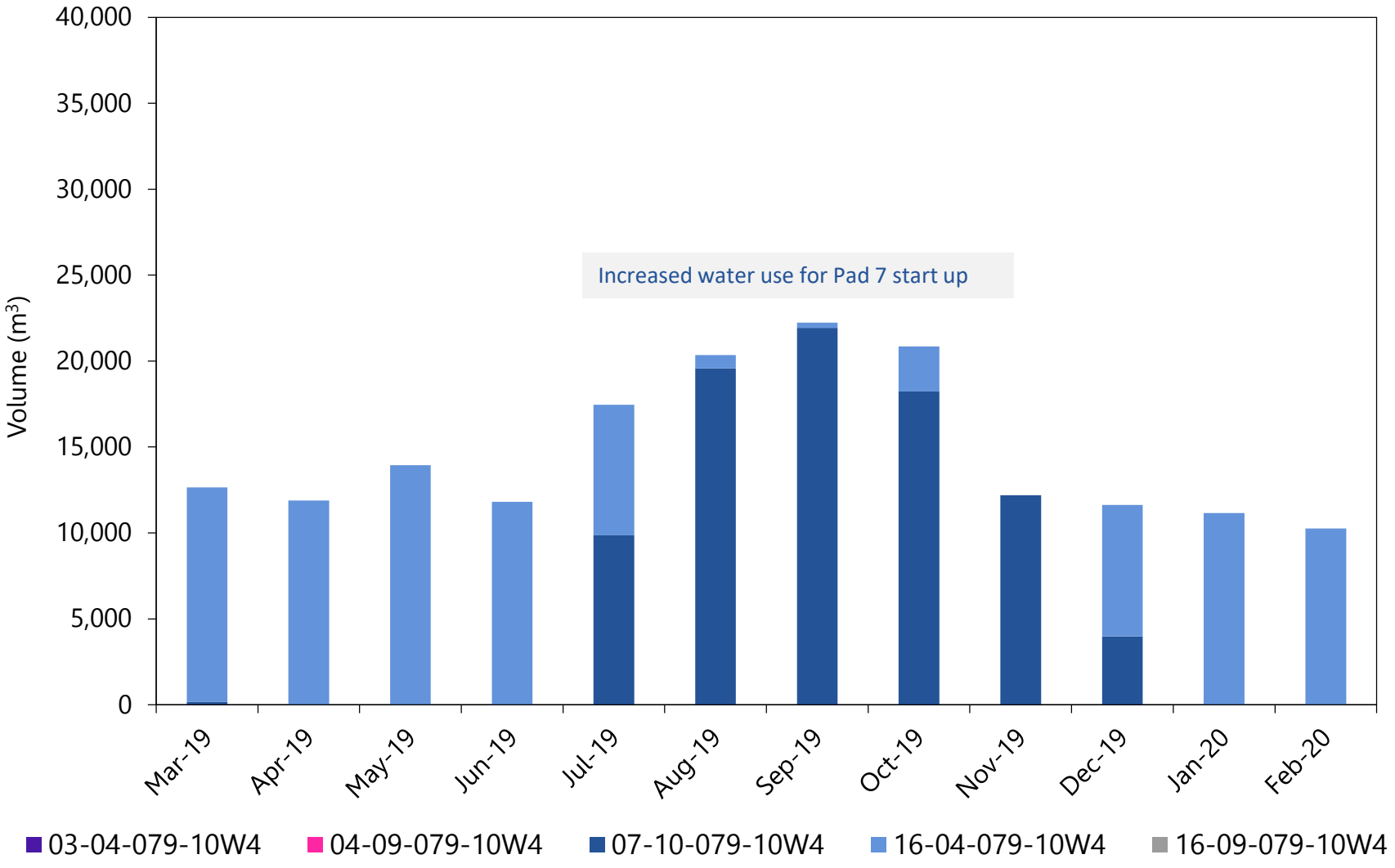
SOURCE WATER WELLS

- 5 Lower Grand Rapids non-saline wells
  - *1F1/16-09-079-10W4/00*
  - *1F1/07-10-079-10W4/00*
  - *F1/04-09-079-10W4/00,*
  - *1F1/16-04-079-10W4/00*
  - *1F1/03-04-079-10W4/00*

- 3 well source water monitoring network
  - *100/03-05-079-10 W4/00*
  - *100/11-02-078-10 W4/00*
  - *100/03-22-081-08 W4/00*
    - *Regional monitoring well located outside of mapped area*



SOURCE WATER USE



WATER USE

SOURCE WATER USE

- Water Act license allocation 317,915 m3/year (871 m3/day)
- Total non-saline water use from source wells during reporting period 199,000 m^3 (545 m^3/d)
  - *55% of license allocation*
  - *~ 98.5% for process use at CPF*
  - *~ 1.5% for domestic use at CPF*
- No saline water use

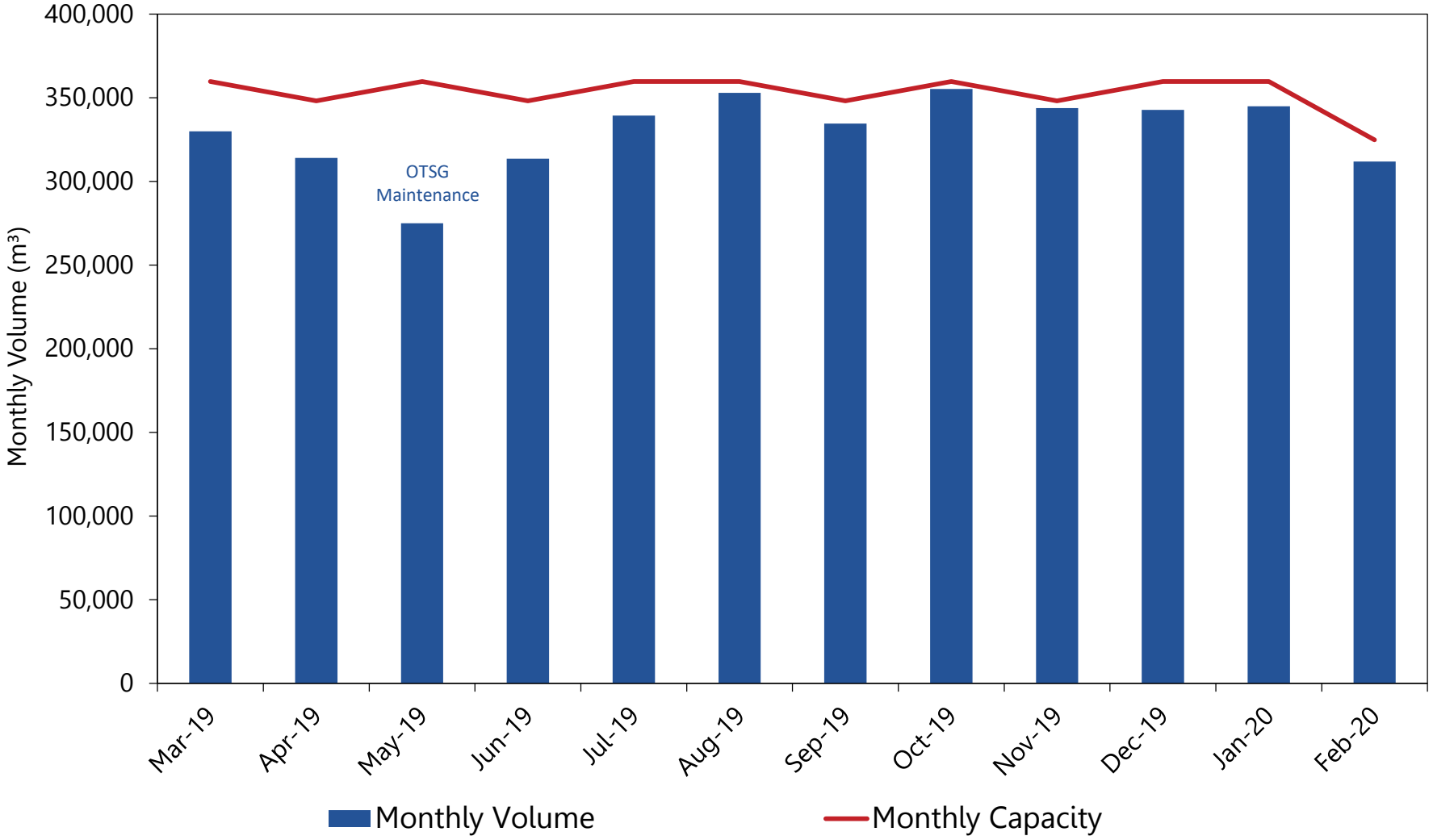
SOURCE WATER MINIMIZATION

- Total source water use reduced by 12% from previous reporting period
- Source water intensity of 0.17 bbl water/bbl bitumen over the reporting period
- Balanced reservoir conditions minimize make-up water volume requirements
- High blowdown recycle rates minimize source water demand

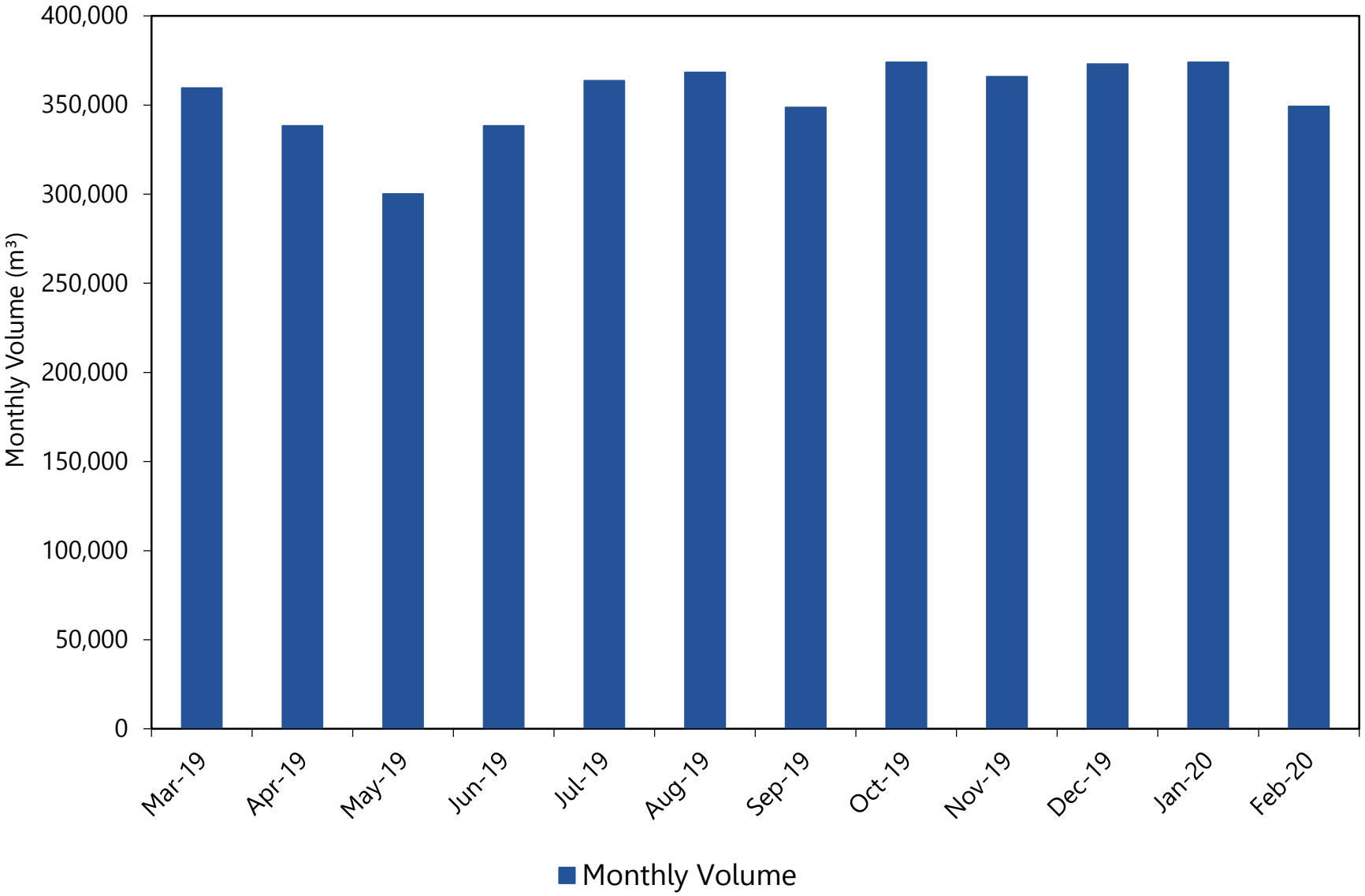
TYPICAL WATER QUALITY

Parameter	Non-Saline Water	Produced Water	Disposal Water
TDS [mg/L]	1,575	1,900	29,200
pH [-]	8.2	6.9	11.9
Hardness [mg/L as $CaCO_3$]	4.3	21	0.9
Total Alkalinity [mg/L as $CaCO_3$]	825	245	4,900
SiO_2 [mg/L]	0	220	210
Cl [mg/L]	225	1100	13,500

STEAM INJECTION



PRODUCED WATER



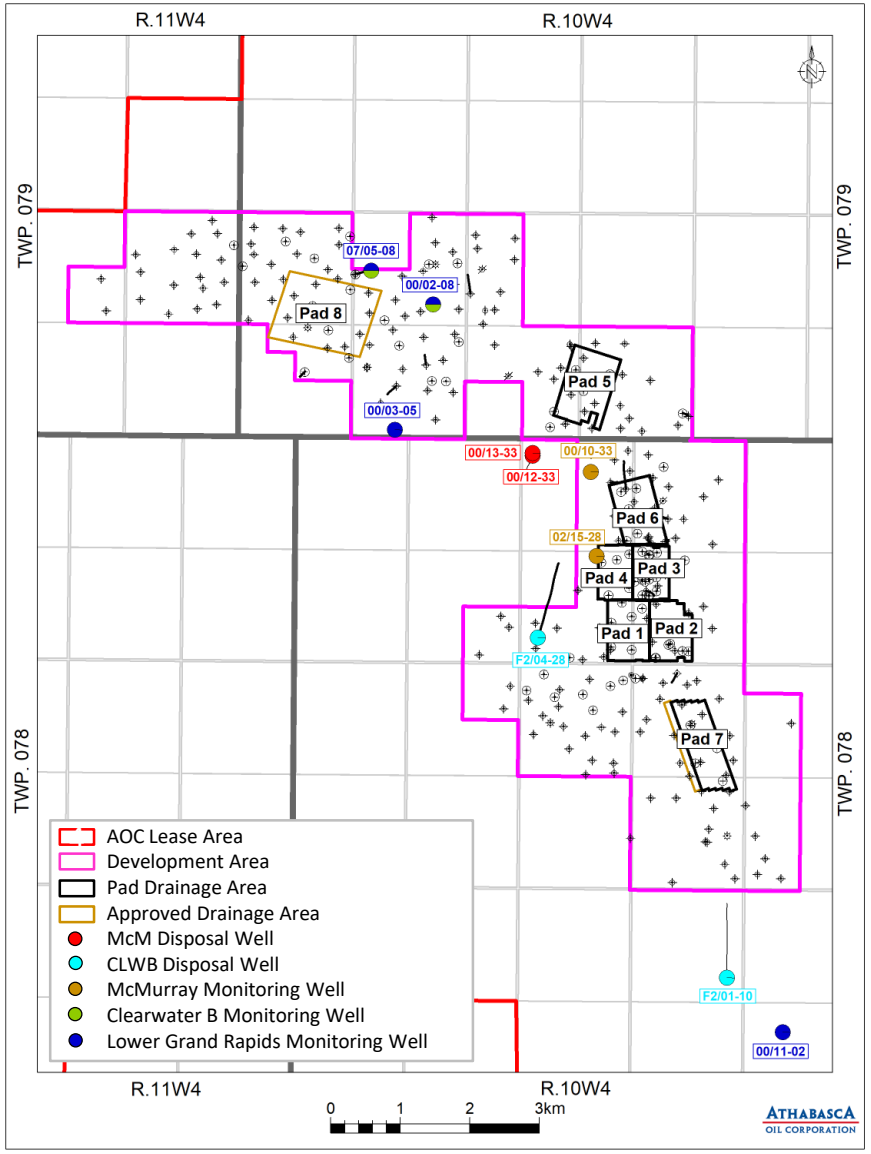
DISPOSAL WATER NETWORK

CLASS 1B DISPOSAL APPROVAL 11479C

- Approval for Clearwater B injection (September 2019)
- 2 Basal McMurray injection wells
  - *00/12-33-078-10W4/00*
  - *00/13-33-078-10W4/00*
- 2 Clearwater B injection wells
  - *F2/01-10-078-10W4/00*
  - *F2/04-28-078-10W4/00*
- Extensive monitoring network
  - *Basal McMurray*
  - *Clearwater B*
  - *Lower Grand Rapids*

CLEARWATER B

- Initiated injection at F2/04-28-078-10W4/00 (November 2019)
- F2/01-10-078-10W4/00 injection well operational after pipeline construction (March 2020)



DISPOSAL MONITORING

BASAL MCMURRAY MONITORING

- Disposal diverted from McMurray (March 2019)
- McMurray bottom water pressure has stabilized

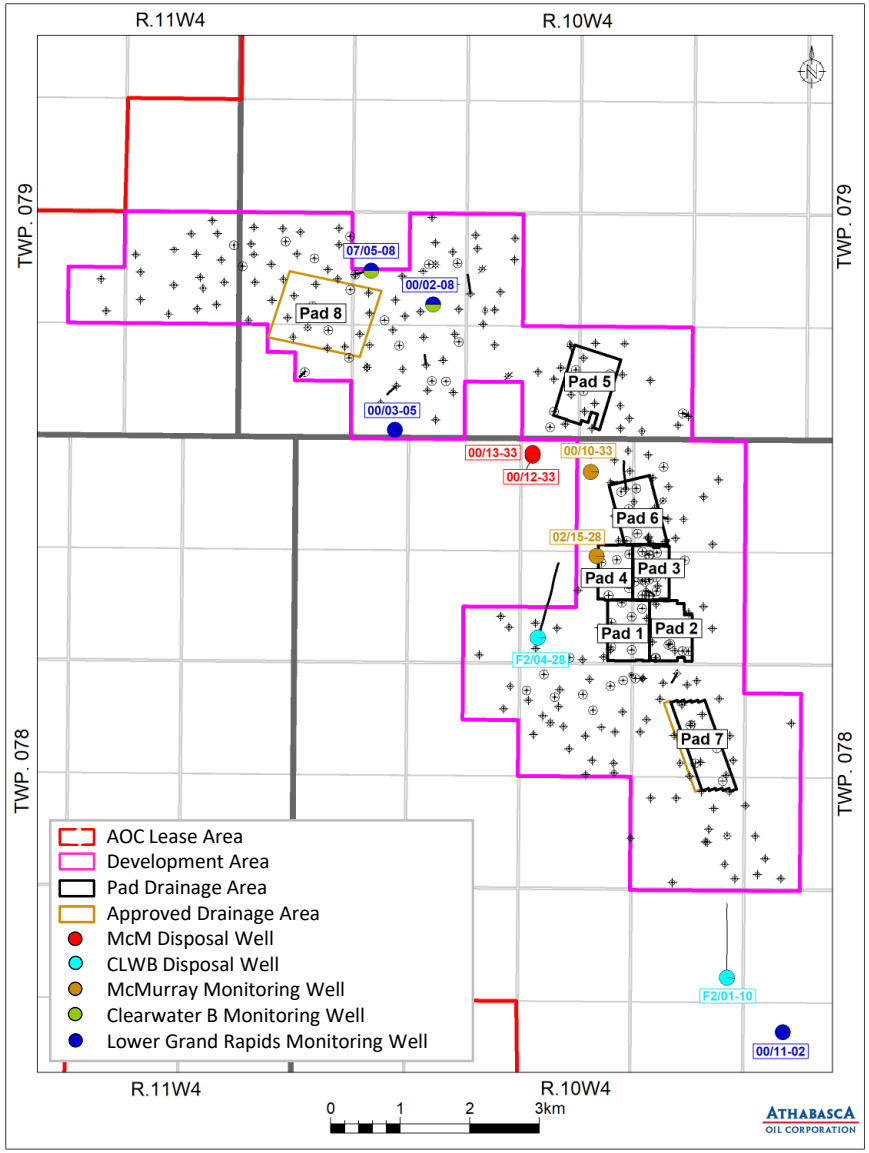
CLEARWATER B MONITORING

- No pressure response observed at Clearwater B monitoring wells (2) since injection initiated

LOWER GRAND RAPIDS MONITORING

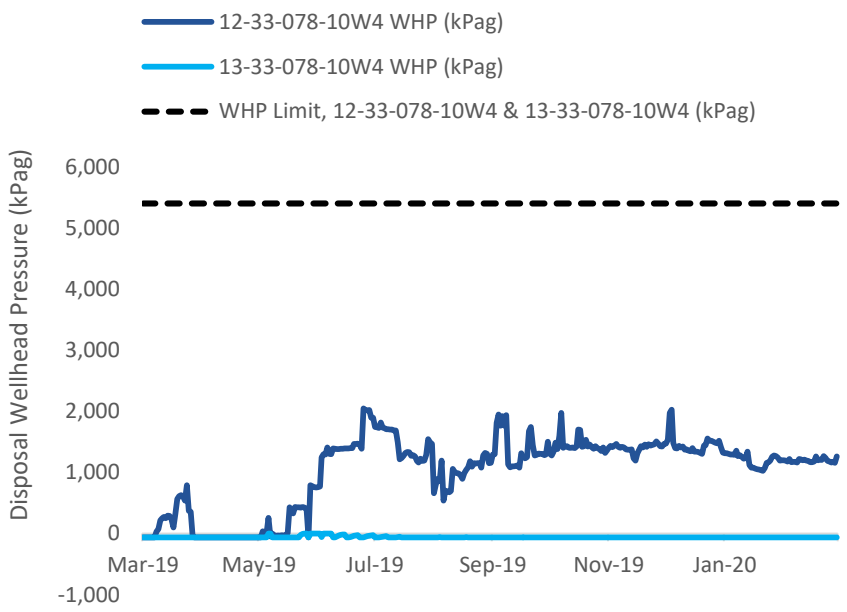
- Pressure response in Lower Grand Rapids monitoring wells (4) remains consistent with pumping rates of the Lower Grand Rapids source water wells

No unexpected responses have been observed at any of the monitoring wells during the reporting year

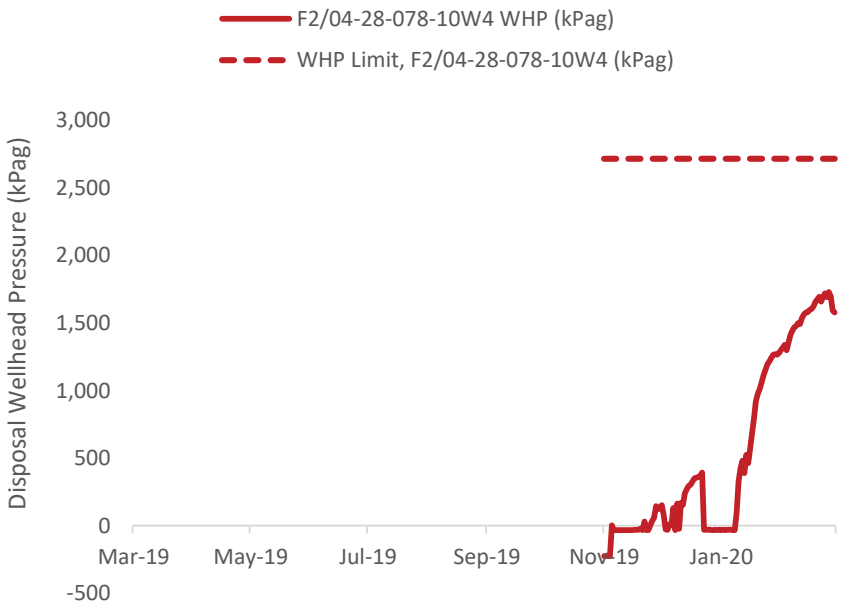


DISPOSAL WATER PRESSURE & TEMPERATURE

MCMURRAY DISPOSAL PRESSURE



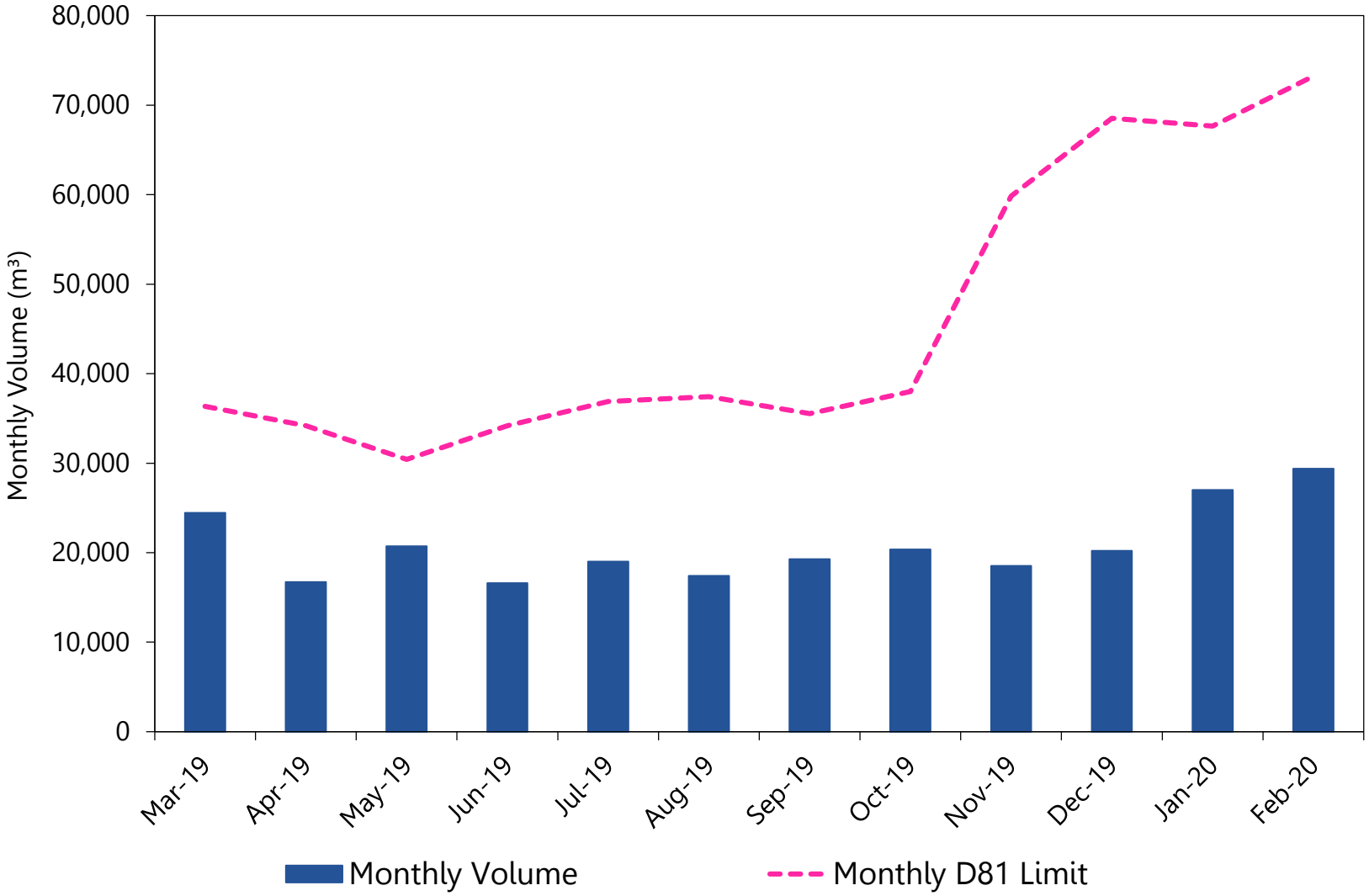
CLEARWATER DISPOSAL PRESSURE



DISPOSAL TEMPERATURE

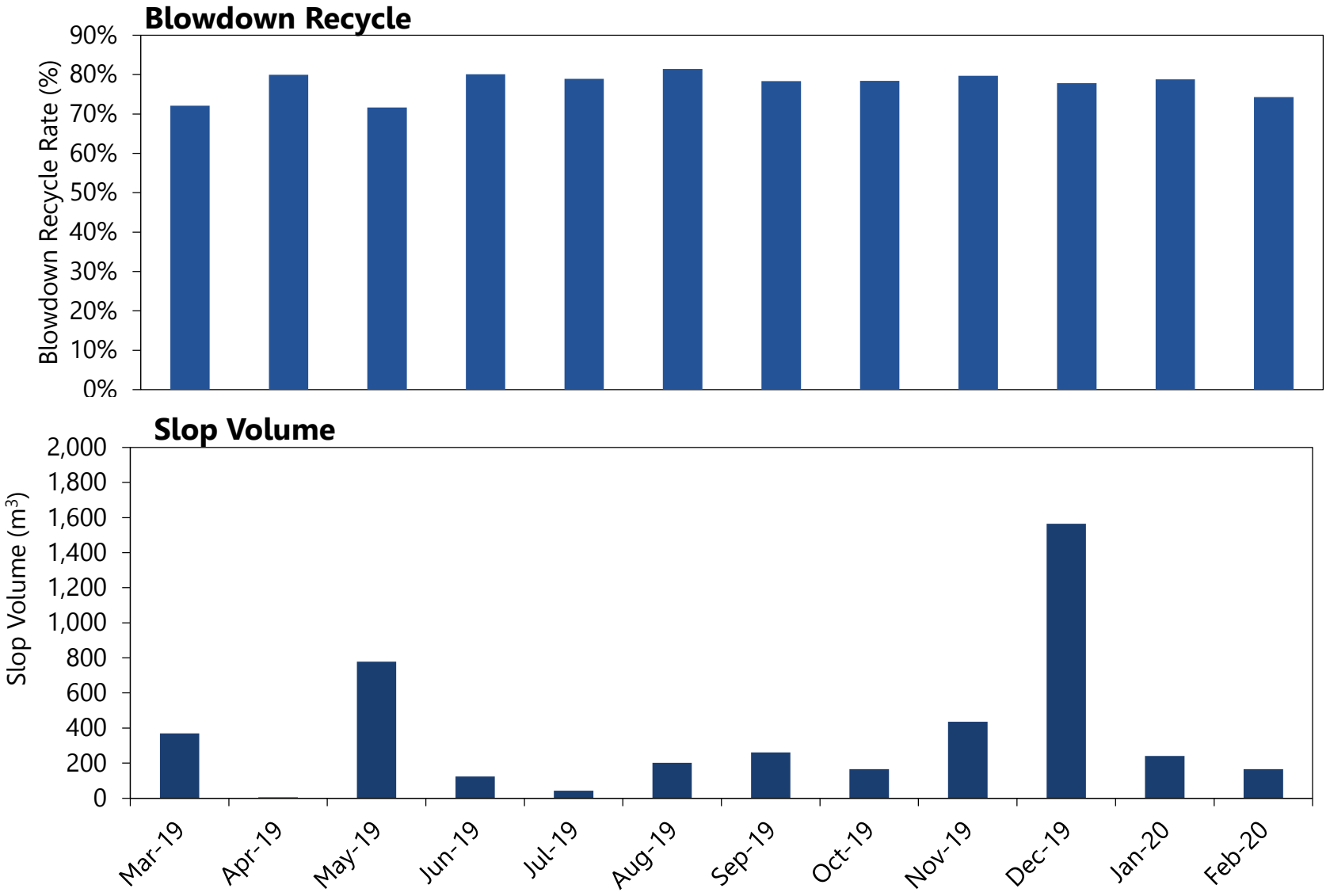
[1] Disposal water temperature measured at CPF disposal tank

DISPOSAL WATER



- Disposal limit calculated in accordance with D081. Calculation revised (Nov. 2019) with release of new D081

BLOWDOWN RECYCLE & SLOP OIL



OTHER WASTE STREAMS

SOLIDS DISPOSAL:

- Water treatment solids (lime softening) are pumped to settling pond
- Sludge pond dredged and 14,102 tonnes of solids disposed at offsite approved facility

SURFACE

SULPHUR PRODUCTION

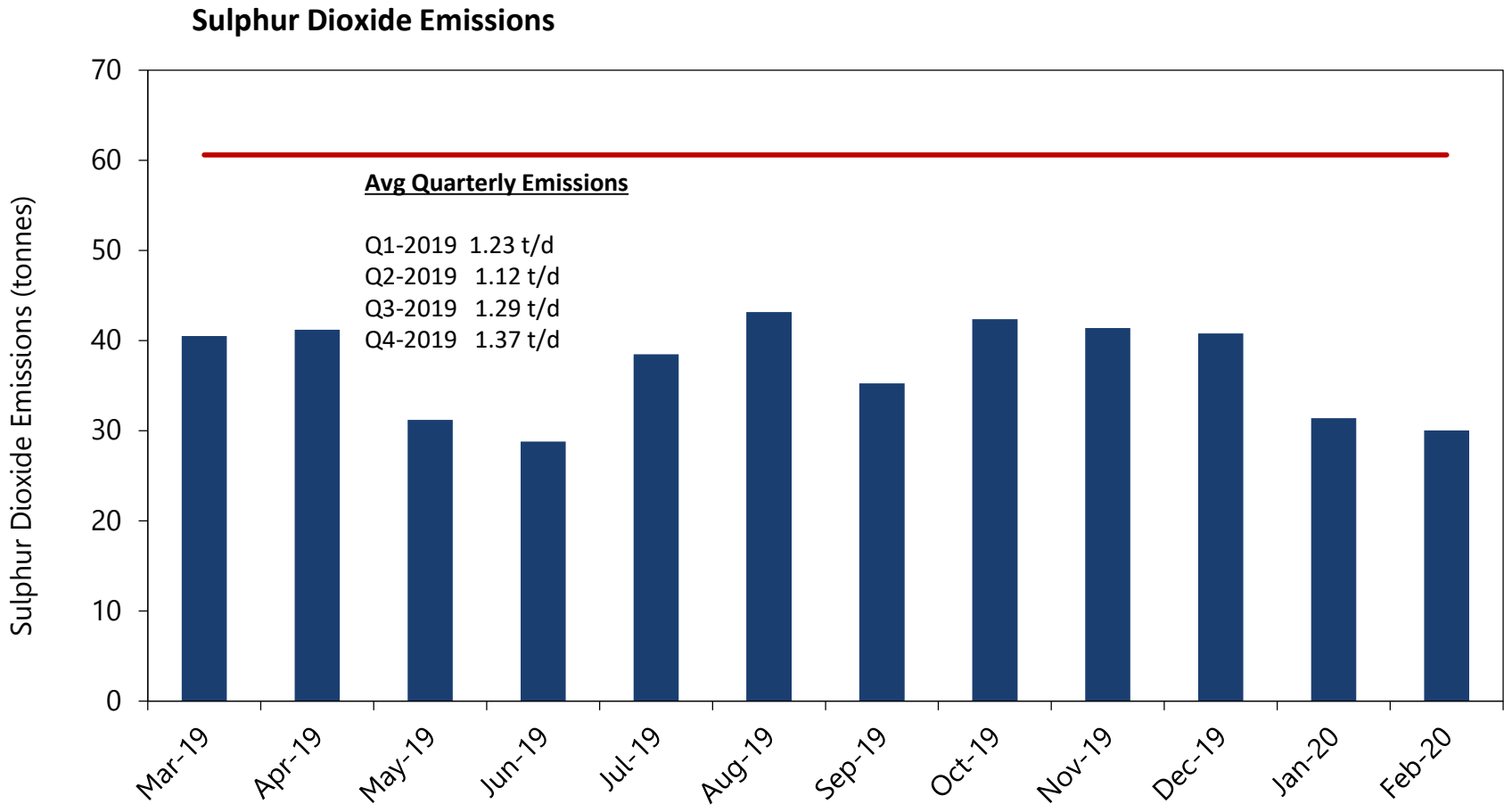
ATHABASCA OIL CORPORATION

SULPHUR & SULPHUR DIOXIDE

SULPHUR & SULPHUR DIOXIDE REPORTING

- EPEA Approval No. 241311 limit is 2.0 t/d of SO_2 emissions
- Average daily SO_2 emissions over period was 1.22 t/d (61% of approval limit)
- SO_2 emissions are calculated based on analytical results of mixed gas samples
- There are no sulphur recovery facilities at Leismer

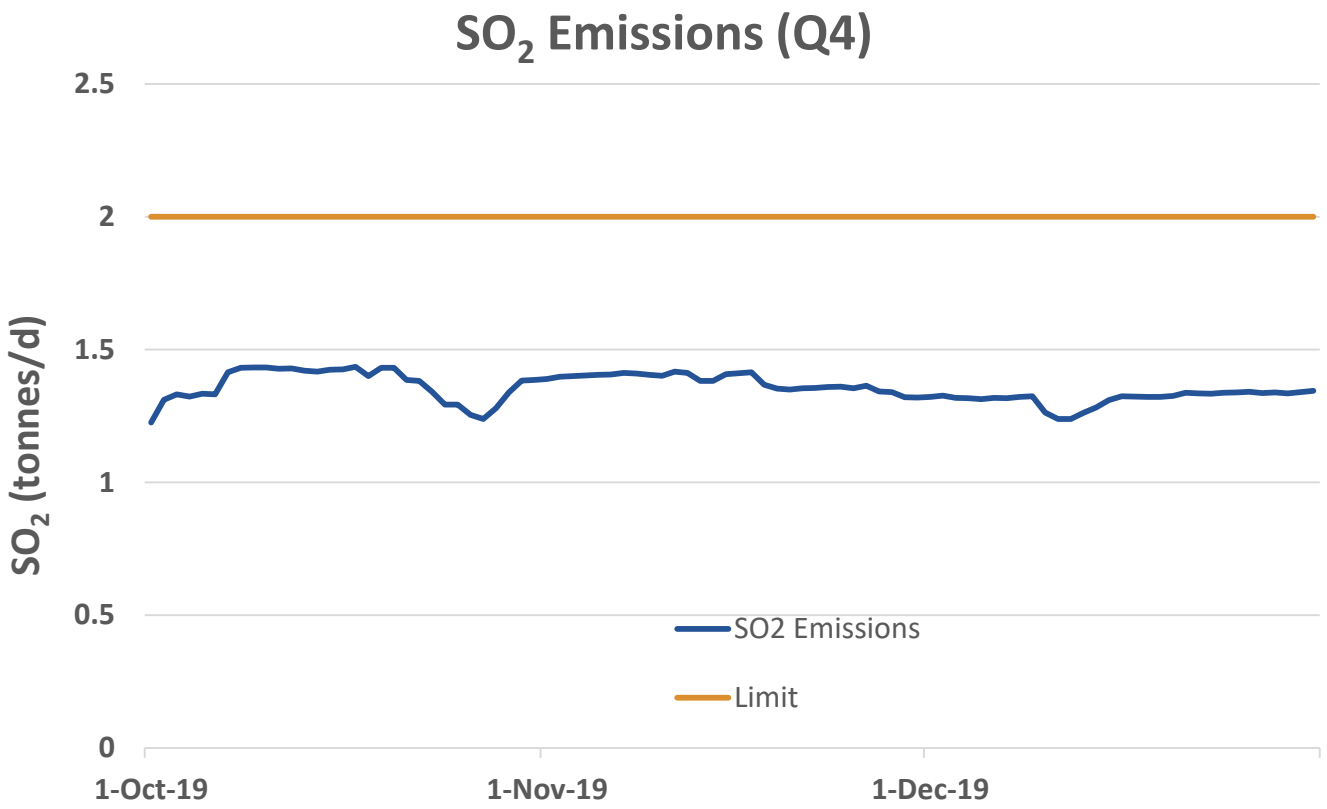
DAILY & QUARTERLY SULPHUR EMISSIONS



DAILY & QUARTERLY SULPHUR EMISSIONS

SO_2 DAILY AVERAGE

- Daily SO2 Emissions for Q4 averaged 1.37 tonnes/day



FUTURE PLANS

LEISMER FUTURE PLAN

- CPF debottlenecking to support additional pads/production as required
- Implementation of NCG for SOR reduction
- Continue to evaluate heat integration opportunities for emissions reduction
- Pad facility design as required to support new development

COMPLIANCE

REGULATORY & ENVIRONMENT

ATHABASCA OIL CORPORATION

COMPLIANCE - REGULATORY

APPROVALS AND AMENDMENTS

Date	Approval/Amendment	Activity
April 2019	WA Licenses 00297242, 00322141, 00368609 & 00370676	Amendment clarifying data reporting requirements for water wells
August 2019	OSCA Approval No. 10935Y	Amendment Pad 7 – expand drainage area for additional well pair
September 2019	OSCA Approval No. 10935Z	Amendment Pad 8 - downhole spacing for 14 well pairs
September 2019	Disposal Approval No. 11479C	Approval for 1b disposal in the Clearwater B and McMurray
October 2019	D056 License F51680	Approval for Injection Facility at 14-28-078-10 W4
October 2019	D056 License P51231	Approval for disposal pipeline from CPF to 16-10-078-10 W4
February 2020	WA License No. 00364442	Renewal – CPF storm water use additional 5 year term
February 2020	EPEA Approval No. 241311	Submission - renewal application for additional 10 year term

Notes
- OSCA – Oil Sands Conservation Act (scheme approval)
- EPEA – Environmental Protection and Enhancement Act Approval
- WA - Water Act

COMPLIANCE - REGULATORY

INSPECTIONS

Inspections			
Event	**Location/License**	**Inspection ID**	**Result**
AER Facility Inspection, April 25, 2019	08-02-079-10W4	486921	Satisfactory
AER Pipeline Inspection, January 23, 2020	P51231	496631	Satisfactory
AER Pipeline Inspection, February 5, 2020	P51231	498051	Satisfactory
AER Wellsite Inspection, February 5, 2020	0496549	498030	Satisfactory

COMPLIANCE – REGULATORY

AUDITS

Audits			
Event	**License**	**Activity ID**	**Result**
Reclamation Certificate, March, 13, 2019	MLL070189	159791	Satisfactory
Annual Conservation & Reclamation Report, May 1, 2019	241311	N/A	Satisfactory
Annual Groundwater Monitoring Report, June 26, 2019	241311	N/A	Satisfactory
Pipeline License Application, November 18, 2019	P51231	1645478	Satisfactory
Well License Application, December 10, 2019	W0496553	1703577	Satisfactory
Public Lands Act Applications, January 9, 2020	1630729	1649406 & 1649407	Satisfactory

COMPLIANCE – NON-COMPLIANCE

NON-COMPLIANCE SUMMARY

- No Notices of Non-Compliance were received during the reporting period
- One approval contravention was reported (Water Act License 00239880-02) for data loss due to failure of a water level transducer. Equipment was repaired and data collection restored.
- There were 6 reportable releases during the reporting period

COMPLIANCE - MONITORING PROGRAMS

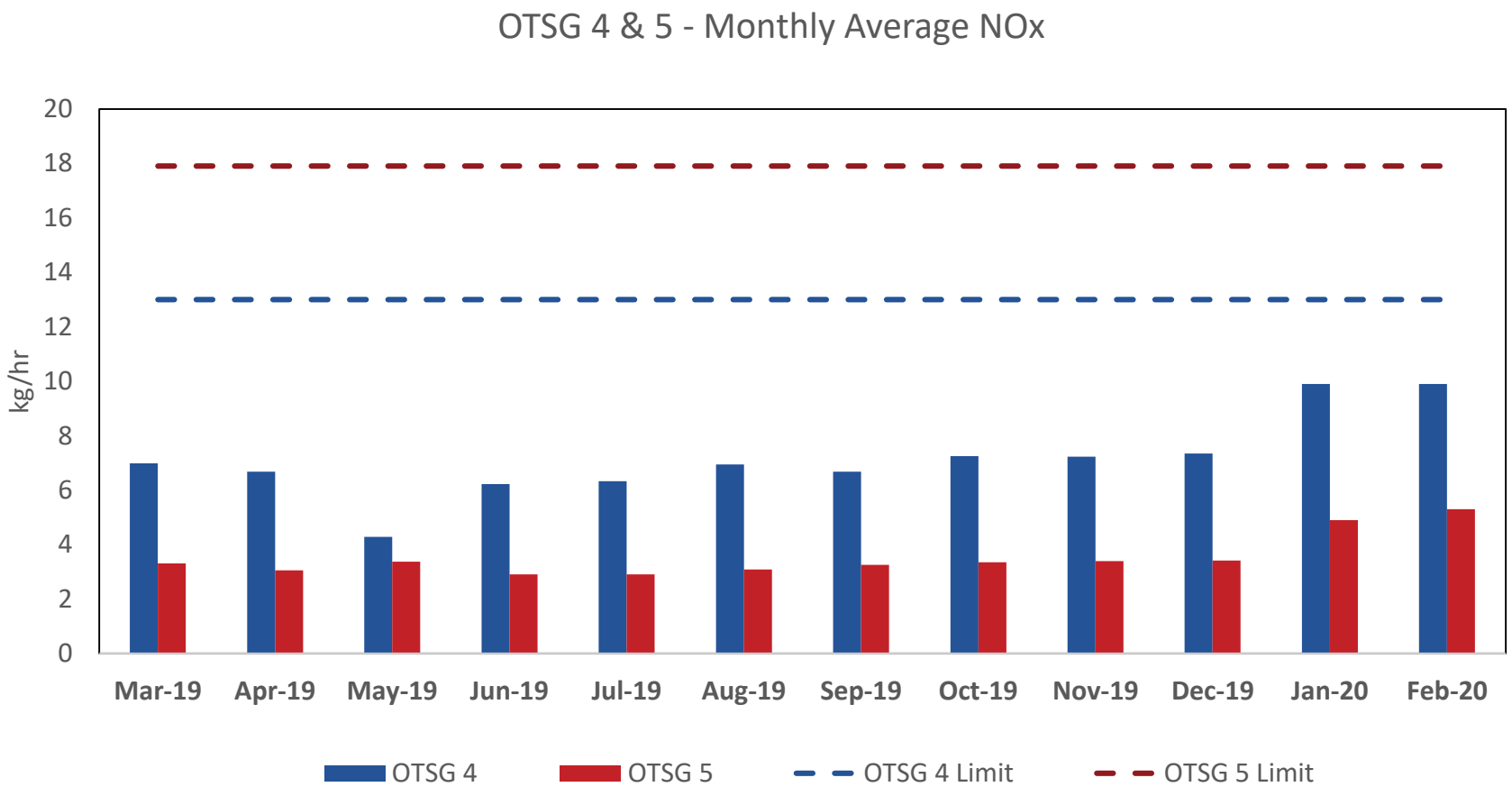
AIR QUALITY MONITORING

- Passive air monitoring – no exceedances (SO_2, NO_2, H_2S) of Ambient Air Quality Objectives
- Continuous ambient air monitoring
  - *WBEA air monitoring station onsite during Q4 2019 and Q1 2020*
  - *No exceedances (SO_2, NO_2, H_2S) of Ambient Air Quality Objectives*
- Leismer has 2 CEMS units (OTSG 4 and OTSG 5) reporting data
  - *No issues during reporting period*

COMPLIANCE - MONITORING PROGRAMS

NO_X MONTHLY AVERAGE

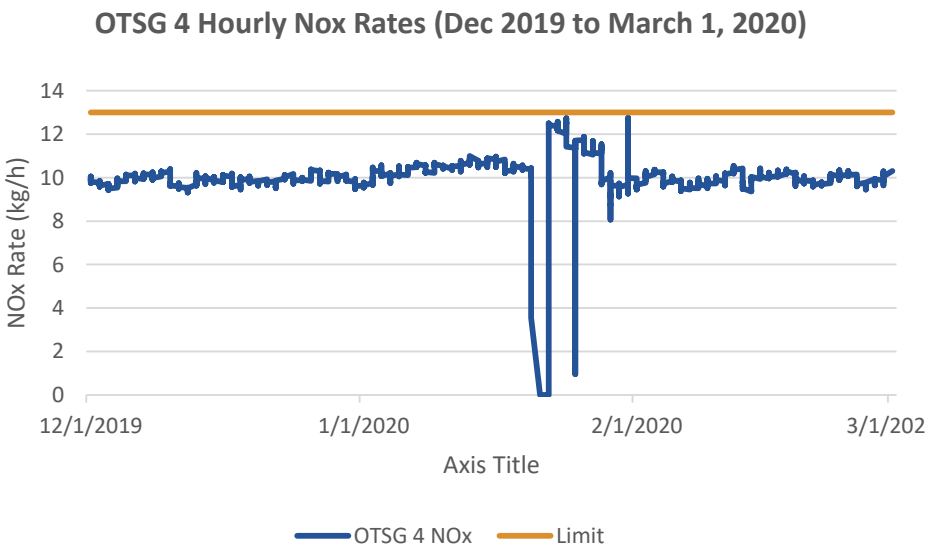
- CEMS units installed on OTSG 4 and OTSG 5

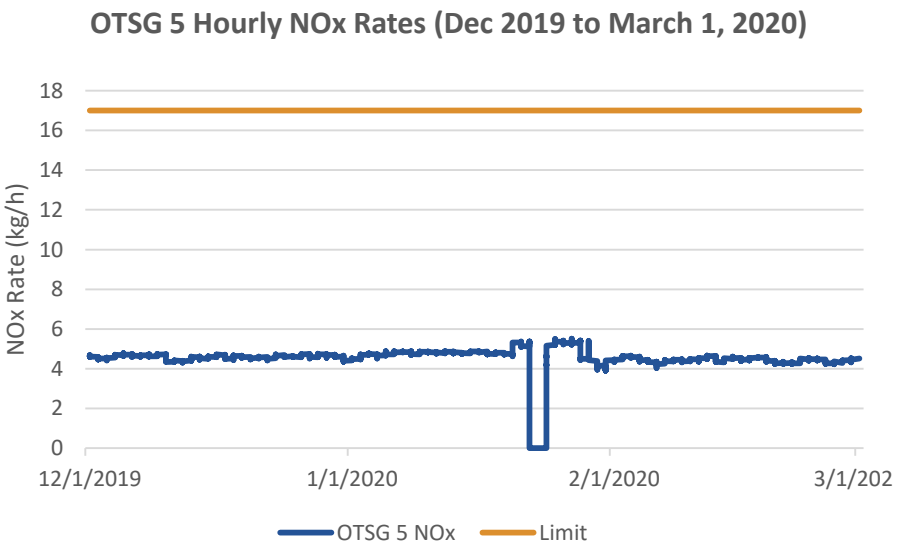


COMPLIANCE - MONITORING PROGRAMS

NO_X HOURLY RATES

- Hourly NOx rates for three months (Dec 2019 to March 1, 2020)





COMPLIANCE – MONITORING PROGRAMS

INDUSTRIAL RUN-OFF MONITORING

- All discharges completed in compliance with EPEA approval conditions

Central Processing Facility (SE-02-079-10 W4M)					
Date **Limits:**	**pH** **6.0 – 9.5**	**Cl (mg/L)** **500**	**Oil & Grease (Y/N)**	**Lab & Sample ID**	**Discharge Volume (m^3)**
03/19/2019	7.99	5.7	N	Maxxam B920260	N/A (initial sample of year)
04/09/2019	8.12	10	N	Maxxam B927574	5,723
04/29/2019	7.84	5	N	Maxxam B933465	47.6
06/28/2019	8.07	13	N	Bureau Veritas B952565	2,510
06/29/2019	8.15	12	N	Bureau Veritas B952565	2,180
08/13/2019	8.28	12	N	Bureau Veritas B967021	2,725
08/17/2019	8.1	12	N	Bureau Veritas B969157	6,350
09/04/2019	8.27	11	N	Bureau Veritas B976168	275
09/05/2019	8.22	9	N	Bureau Veritas B976168	2,180
09/22/2019	8.17	10	N	Bureau Veritas B980441	5,450
09/23/2019	8.06	11	N	Bureau Veritas B983854	2,180

COMPLIANCE – MONITORING PROGRAMS

ENVIRONMENTAL PROTECTION & ENHANCEMENT ACT (EPEA) APPROVAL

- EPEA monitoring programs and reports completed during the reporting period:
  - *Monthly and annual air emissions*
  - *Industrial wastewater and runoff*
  - *Groundwater*
  - *Soil Management Program authorized by the AER and field program completed*
  - *Conservation and Reclamation*
  - *Air Emissions Inventory Report*
  - *Wildlife Monitoring Program – Amendment approved to reduce field cameras*

WATER ACT

- All diversions below license limits, monthly and annual reporting requirements completed
  - *Groundwater licenses (0239880, 0029742, 00368609)*
  - *Surface water licenses (00273542,00364442, 00364731)*

RECLAMATION

- AOC has received reclamation certificates for **all** OSE programs at Leismer

COMPLIANCE – REGIONAL INITIATIVES

AOC IS A FUNDING MEMBER OF

- Oil Sands Environmental Monitoring
- Wood Buffalo Environmental Association (WBEA) – air shed monitoring
- Regional Industry Caribou Collaboration (RICC)
- Industrial Footprint Reduction Options Group (iFROG) – wetland reclamation industry collaboration

AOC PARTICIPATION

- Various CAPP Committees
  - *Oil Sands Environmental Policy and Regulatory Committee*
  - *NE Alberta Caribou Working Group*
  - *Indigenous Affairs Committee*
  - *Air Issues Committee*

COMPLIANCE – STATEMENT OF COMPLIANCE

ATHABASCA OIL CORPORATION LEISMER PROJECT IS IN COMPLIANCE WITH AER APPROVALS AND REGULATORY REQUIREMENTS

- For the period of March 1, 2019 to February 29, 2020 AOC has no unaddressed non-compliant events

ATHABASCA OIL CORPORATION

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