Annual performance review of in-situ oil sands scheme approval 9404W
Disclaimer

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Agenda

• Introductions
• Current approval
• Geological overview
• Scheme performance update
• Water usage update
• Hot water injection update
• Cap rock integrity & monitoring program
• Facilities update
• 2016 development activities
• AER regulatory discussion & key learnings
Current approval and enhanced oil recovery (EOR) scheme area
Approval 9404W – Current EOR scheme area

- 9404W was originally approved in April 2014
- No near term requirements to expand beyond existing boundaries and spacing
- Pads shown in green are performance examples shown later in presentation

Interwell spacing distance is from producer to producer
Geological overview
Geologic review

The development interval at Pelican Lake is the Wabiskaw formation

- Wabiskaw and Clearwater are part of the Mannville Group
- Wabiskaw composed of oil bearing shoreface sands
- Clearwater acts as cap rock and is composed of mudstones and very competent calcified siltstones
- Reservoir properties are very consistent and of a high quality across the field
During the early Cretaceous, a relative rise in sea level caused a major southward transgression of the Boreal Sea, which in turn created a marine environment for the deposition of the Wabiskaw Member:

- approximately 133 million years ago a shallow sea filled the basin from the north, with the Red Earth & Granor Highlands protruding as barriers
  - large extent Tabular sands a result of Shallow sea environment
  - these barriers are the primary source of sediment supply for the formation of the Wabiskaw

- The Pelican Lake field is interpreted as a lower to middle shoreface sand which progrades towards the northwest into an offshore environment
Pelican Lake type log & example core: 10-03-83-18W4

Core supports the interpretation of the Prograding Shoreface environment:

- Cleans up from approximately 25% mud near the base of the Wabiskaw (interpreted as Lower Shoreface), to under 10% mud at the top of the Wabiskaw (interpreted as Middle Shoreface).
- Coarsens up from Very Fine Upper Sand in the Lower Shoreface to Fine Lower Sand in the Middle Shoreface.
- Trace Fossil Assemblages are less marine, and less diverse toward top of the Wabiskaw. This is a further indicator of a prograding shoreface environment.
- Permeability gets better towards top of core as sand coarsens up.

<table>
<thead>
<tr>
<th>Core Placement</th>
<th>micrometers</th>
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<tr>
<td>Low Core Average</td>
<td>120.53</td>
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<td>Middle Core Average</td>
<td>104.87</td>
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<tr>
<td>High Core Average</td>
<td>153.14</td>
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</table>

D = Darcy
Prograding shoreface environment makes the reservoir very uniform, continuous and predictable.

- **Net pay bounded by onlap edge to the north and shoreface edge to the south, thinning uniformly from the center of the pool to the edges**

Viscosity is low enough for mobile oil over the majority of the pool. However as we approach the edges of the pool the viscosity gradient is very steep.

- **Full development inventory lies in the mobile oil area**

Structure is driven by Paleozoic unconformity and rises dramatically to the NE.

- **A number of gas caps exist on associated highs, mostly in the NE part of the reservoir and are avoided when planning our future development wells**

Reservoir properties of the step out areas in both the mobile and hot water development plans compare very favorably to the rest of the field.
Wabiskaw Pay zone is uniform throughout the pool, along strike (SW to NE).

Clearwater Cap rock is approximately 80 m thick across the whole pool. It is a very competent formation comprised of shale and calcified siltstone, which makes it a very robust cap rock.

Structure rises as you move north due to the rising of the Paleozoic Unconformity.

We start to lose accommodation space for the Wabiskaw toward the NE as we approach the Paleozoic high.
Regional caprock geology: Clearwater and Wabiskaw formation

- Top Clearwater to top Wabiskaw porosity includes Clearwater formation, Wabiskaw tight streak and Wabiskaw shale
- 75 to 95 m thick over the oil development area, very gentle dip to the SW
- Clearwater formation can be correlated across entire region
- Clearwater subdivided into four units: three cycles (Clearwater C, B, and A) and a shale unit at the top. The siltstone at the top of the three packages has been cemented into a tight streak or a package of calcareous streaks.
- The Clearwater units and associated packages of tight streaks can be correlated regionally
- The Wabiskaw tight streak is present in every well across the area and can be correlated regionally Clearwater formation deposition is unaffected by karsting or carbonate dissolution. Therefore, Clearwater deposition occurs after these events.
Scheme performance update
Milestones

1) Primary production (400m inter-well spacing)
2) Waterflood pilot (400m inter-well; injector infilled)
3) Commercial Waterflood
4) Polymer pilot
5) Commercial polymer
6) Injection rates lowered to arrest watercut increases. Injection shut-in on pads for infill drilling program
7) Infill drilling to 100m and 133m inter-well spacing (2011-2014)
8) Hot Water pilot (pad E29)
9) Field-wide optimization of injection rates and polymer consumption
Milestones

9a) Forest fire near battery caused field to be shut in
9b) Seven day facility turn around
9c) Field wide optimization to bring injection rates in line
Current and expected ultimate recovery factors

**West:**
Cumulative pad RF to date = 5.2–22.9%, avg.=15.7%
Ultimate PDP pad RF = 7.0–35.5%, avg.=23.0%

**Central:**
Cumulative pad RF to date = 3.6–22.8%, avg. 9.9%
Ultimate PDP pad RF = 8.3–35.0%, avg.=14.6%

**East:**
Cumulative pad RF to date = 1.4-18.3%, avg.=7.7%
Ultimate PDP pad RF = 4.6–25.5%, avg. =12.2%

- Recovery factors (RF) are dependent on reservoir quality, heterogeneity, pad maturity, well density/spacing, and if gas caps are present
- Cumulative pad recovery factors include primary recovery
2016 highlights

Injection rate/polymer consumption optimization

• Continued flood management focus in 2016
  • injection rates were reduced to optimize flood performance

• Polymer consumption optimized as supported by technical work
SE20 – Good performance

- Dead Oil visc (N-S): 1488-3908 cp
- Waterflood started in 2003
- Polymer started in 2007
- Oil cut started to increase
- Oil rate increased as a result and remains at peak
- Remedial actions in 2015 & 2016 undertaken to heal breakthroughs were met with success
NE02 – Average performance

- Dead Oil visc (N-S): 841-636 cp
- Polymer started in late 2010
- Oil decline rate arrested due to improvement in oil cut
- Oil rate stable for the last five years
SW11 – Below average performance

- Dead Oil visc (N-S): 1950-1478 cp
- Polymer started in 2009
- Insignificant increase in oil cut offset by declining liquid
- No observable upside to polymer
Water usage update
Regional hydrogeology

Non-saline water source (polymer make-up)

Saline water source and disposal (Nisku and Grosmont Fm.)

Targeted Formation

- Oil Sands
- Barren Sands
- Mudstones
- Carbonates & Shales

DATE HERE
Grand Rapids formation: hosts non-saline water; source wells usually located at polymer make-up sites
  - Grand Rapids ‘A’ aquifer: 5 source wells, Grand Rapids ‘B’ aquifer: 21 source wells
Observations wells: Grand Rapids ‘A’ aquifer: 1, Grand Rapids ‘B’ aquifer: 10 (7 required by licence)
Nisku & Grosmont formations: hosts saline water
  - 5 source wells supplement injection volumes to meet well target injection rates; 4 disposal wells
**Water quality- Major ions and TDS**

- **Durov Plot – Grand Rapids ‘A’** (from 2015 Water Use report)

- **Durov Plot – Grand Rapids ‘B’** (from 2015 Water Use report)

- Grand Rapids ‘A’ and ‘B’ aquifers host Na-HCO$_3$ type water with TDS in the range of 900 to 2,000 mg/L (good for polymer make-up)
2016 non-saline water use summary

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<th>Grand Rapids ‘A’</th>
<th>Grand Rapids ‘B’</th>
<th>Total</th>
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<tr>
<td>Annual Licensed Diversion (m$^3$)</td>
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<td>3,124,525</td>
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<td>Actual Diversion (m$^3$)</td>
<td>20,816</td>
<td>573,800</td>
<td>594,616</td>
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<td>Actual % Licence Used</td>
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<td>20.6</td>
<td>19.0</td>
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</table>

- Cenovus had 26 licenses that allowed for 3,124,525 m$^3$ of non-saline water usage for polymer injection; two licenses were cancelled in February 2016
- Cenovus used 19% of the total licensed volume; operations scaled back due to the lower price of oil
- Optimization projects are continually executed and evaluated to ensure non-saline water is used to its full benefit for polymer hydration
• 2017 to 2018 - forecast a modest increase in annual diversion for polymer make-up
• 2019 to 2021 - forecast annual diversion for polymer make-up ~72% of Licensed Diversion
• Additional diversion license requirements dependent on future development
• Produced water recycle over 98% in 2016
• Reduced Grosmont saline water use in 2015 & 2016 through optimized VRR and reservoir management
• Non-saline Grand Rapids use is effectively managed and mostly used for polymer makeup; non-saline water use was about 11% in 2016
Key water disposal well: 102/11-07-082-22W4

- Required water disposal rates have remained steady
- 102/11-07 well at Main Battery handled approximately 86% of disposal needs in 2016

2016 annual disposal volume at well 102/11-07: 111,889 m3
### Regional groundwater flow model

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<td>Viking</td>
<td>Aquifer/Aquitard</td>
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<td>Joli Fou</td>
<td>Aquitard</td>
<td>6</td>
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<tr>
<td>Lower Cretaceous</td>
<td>Mannville</td>
<td>Upper (‘A’)</td>
<td>Aquifer/Aquitard</td>
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<tr>
<td></td>
<td></td>
<td>Lower (‘B’ &amp; “C”)</td>
<td>Aquifer/Aquitard</td>
<td>11-13</td>
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<tr>
<td></td>
<td></td>
<td>Clearwater</td>
<td>Aquitard</td>
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</table>

- Regional groundwater flow model (MODFLOW-2000) supports Wabiskaw EOR scheme 9404W (model developed in 2011)
Model simulations – Drawdown (m) in Grand Rapids ‘A’ and ‘B’

- **Purpose:** Simulate source water production from the Grand Rapids ‘A’ and ‘B’ aquifers to estimate drawdown in both aquifers and to optimize present and future production rates.

From: Figure 13, “Pelican Lake Wabiskaw Enhanced Oil Recovery Project 2015 Annual Water Use Report”

From: Figure 14, “Pelican Lake Wabiskaw Enhanced Oil Recovery Project 2015 Annual Water Use Report”
Annual water use reports

- Previously (<2016) prepared by consultant
- Since 2016, prepared by Cenovus staff
  - utilizes in-house expertise
  - incorporates internal knowledge, experience, and good working relationships with other operators and lease holders
  - integrates Pelican Lake, Wabiskaw and Grand Rapids Pilot learnings
  - reflects commitment to responsible water resource management
Hot water injection update
Pelican Lake hot water injection pilots

**SE29 (edge and circulation):**
- 3 horizontal wells
  - 1 producer
  - 2 injectors
- 3 vertical observation wells
- Oil viscosity ~ 4000 - 10000 cp

**SE28 (edge injection only):**
- 4 horizontal injectors
- Oil viscosity ~ 4000 - 10000 cp

- Both pilots target higher oil viscosity areas within Pelican Lake
- Expansion opportunities being evaluated offsetting current SE29 pilot
Pelican Lake hot water injection status

**SE29 pilot status update (edge and circulation GR source)**

- **Phase 1 complete**
  - primary production: November 28, 2010 - May 31, 2011

- **Phase 2 complete**
  - warm waterflood: June 1, 2011 – March 13, 2012

- **Phase 3 ongoing**
  - boiler facilities shut-in February 2015, pilot underwent cold waterflood and cold water circulation during remainder of 2015
  - warm water circulation recommenced in July 2016 (high efficiency line heater)

**SE28 pilot status update (edge only produced water)**

- Four injectors at SE28 initially targeted a surface injection temperature of 80°C using energy efficient line heaters (max temp 90°C)
  - actual injection temperatures remained much lower than target in 2014-2015 due to technical issues with line heaters and fouling, design optimization was completed on one heater with limited success
  - pilot was shut-in
Phase 3: Warm water circulation

Warm water injection in edge wells

Circulate warm water (from toe) in center well and produce (from heel)
SE29 Hot Water pilot performance

- Circulation temperature entered 2015 at ~160°C prior to being ramped down in February 2015
- Injection rate is representative of total injection from circulation & offsetting injectors
- Oil rates returned to approximately 5m³/d in 2015 after resuming cold waterflood operation, limited impact from cold circulation in Q4-2015
- High efficiency lineheater installed and returned to warm circulation in July 2016
SE29 Hot Water Pilot Water Injection Temperatures

Water injection Temperature (°C)

Jan-12  Jan-13  Jan-14  Jan-15  Jan-16  Jan-17

02/11-33 Circ Winj Temp (C)
00/10-33 South Edge Winj Temp (C)
03/11-33 North Edge Winj Temp (C)
Cap rock monitoring program
Regional Caprock Geology: Clearwater and Wabiskaw Formation

- Top Clearwater to top Wabiskaw porosity includes Clearwater formation, Wabiskaw tight streak and Wabiskaw shale
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Cap rock monitoring summary

No indication of caprock breach based on ongoing flood surveillance

- Previous third-party studies indicate the Clearwater shale caprock is safe against the failure mechanisms studied at injection pressures up to 14 Mpa (bottomhole)
  - allowable maximum wellhead injection pressure 7MPa
- Real-time monitoring of Wabiskaw injection pressures and regular review of pattern voidage replacement ratio (VRR)
  - injection pressures and VRR’s support containment within the Wabiskaw. Currently, overall VRR=1.1 (instantaneous) with average wellhead injection pressure 4.7 MPa
  - using an automated field-wide alarm system in SCADA-ProcessNet to monitor and notify engineers of any changes in injectivity
  - long-term monitoring: hall plots
- Real-time monitoring of the bottom hole pressures and rates in Grand Rapids water source wells and bottom hole pressures in Grand Rapids observation wells. No increase in pressures in the Grand Rapids observation wells to suggest any communication with Wabiskaw formation.

Annual water analysis on all Grand Rapids water source wells

- No increases in total dissolved solids (TDS) observed that can be attributed to a loss of caprock integrity
Pressure data from observation wells (Wabiskaw & Grand Rapids) indicate no caprock breach occurred in 2016.
2014 - 2016 Pelican daily injection volumes

- Injection pressures reduced due to lower water injection volumes
Injection pressure: Maximum & average

- Total 525 injection wells
- Allowable maximum wellhead injection pressure = 7,000 kPa
  - SCADA system logic has alarm and shut-downs set below 7,000 KPa
- Average injection pressure fairly constant ~4700 kPa
Continued annual surveillance of Grand Rapids TDS at the source wells

No deviation from TDS baseline through time (calculated TDS)

Exceeding annual monitoring requirements
Casing Integrity
Casing Failure Prevention Program Update

- Initial program identified 55 High Risk wells identified based on casing rated collapse pressure, offsetting downhole injection pressure, dogleg severity, offsetting PV polymer injected and proximity to breakthrough
- Program consisted of installation of a liner extension or “stacked liner” to cover area of expected failure within zone
- Only 10 wells remaining from initial program
- Injection pressures have been trending down as injected volumes have been reduced. This has lowered the risk rating on the remaining wells in the original program to a level where we do not plan on proactively installing stacked liners
- Casing failures on wells outside of program have also been trending down with injection rate and pressure
- Sufficient capital in place to react and repair casing failures as they are identified
Casing Failure Prevention Program Update

- Casing failures on wells outside of program have also been trending down with lowering injection rates and pressures.
Facilities update
Pelican Lake major facilities description

**13-11 Satellite**
- Utilizes two inclined free water knock out vessels (cold) to remove as much free water as possible from emulsion before sending to South Battery for processing
- Free water is pumped into high pressure injection line

**SE10.5 Satellite**
- Utilizes one inclined free water knock out vessel (cold) to remove as much free water as possible from emulsion before sending to South Battery for processing (suspended in 2016)
- Free water is pumped into high pressure injection line (suspended in 2016)

**11-07 South Battery**
- Utilizes inclined free water knock out (cold), heated knock out vessels, plate and frame heat exchangers, and five treaters to dewater emulsion to sales oil spec.
- De-oiled water is pumped into high pressure injection line
2016 Facility modifications

- South Battery plate and frame heat exchangers were upgraded (material upgrade from titanium to SMO254 super austenitic stainless steel) to improve reliability

- SE10.5 satellite was suspended as a result of the lower total fluid rates. Equipment suspended includes: inclined free water knockout, water tanks, skim pumps, and water injection pumps. The emulsion transfer pumps remain active. All suspended equipment and associated piping were preserved for future reactivation.

- No major facility modifications are planned for 2017
13-11 satellite plot plan

No modifications in 2016
13-11 satellite process flow

No modifications in 2016
2016 facility performance

With our optimization of water injection and polymer consumption from 2015 to 2016, all three major facilities had experienced better emulsion separation and water treatment performance:

• Achieved better emulsion separation efficiency at the vessels and also increased the run time of the plate & frame heat exchangers

• Achieved better water treatment performance at the cascading water tanks (through gravity separation and skim system). The oil & grease content in our produced water has dropped from 2015 to 2016.
2016 pipeline upgrades

- NE69 to NE63 bare steel emulsion pipeline replacement
- Pipeline cathodic protection upgrade (new anode beds) for the SE28, NE23 and NE69 legs
- Water injection riser replacement
  - NE63 to NE69 & South Battery to SW35.5
- Emulsion riser replacement
  - SW45 to SW16.5 & South Battery to SW35.5
- Miscellaneous emulsion pig barrel replacement
- Continued with proactive emulsion pipeline improvement program (e.g. conduct linalog inspections and verification digs)
The 2016 Corrosion Mitigation budget was never cut nor trimmed even during the economic downturn.
## Power consumption

<table>
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<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
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<th>2016 Total</th>
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<td>605,294</td>
<td>521,875</td>
<td>388,690</td>
<td>355,904</td>
<td>392,507</td>
<td>407,981</td>
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<td>328,711</td>
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<td><strong>Pelican Lake Total</strong></td>
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<td>10,442,002</td>
<td>8,981,418</td>
<td>6,373,561</td>
<td>4,831,727</td>
<td>5,207,998</td>
<td>5,597,036</td>
<td>5,917,194</td>
<td>8,678,415</td>
<td>9,426,250</td>
<td>10,538,333</td>
<td>98,574,197</td>
</tr>
</tbody>
</table>
# Gas volumes summary

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
<td>Feb</td>
</tr>
<tr>
<td>Fuel Consumed (e3m³)</td>
<td>1,681</td>
<td>1,422</td>
</tr>
<tr>
<td>Produced Gas (e3m³)</td>
<td>1,098</td>
<td>942</td>
</tr>
<tr>
<td>Buyback Gas (e3m³)</td>
<td>876</td>
<td>765</td>
</tr>
<tr>
<td>Vented Gas (e3m³)</td>
<td>227</td>
<td>226</td>
</tr>
<tr>
<td>Flare (e3m³)</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>Solution Gas Recovery Percentage</td>
<td>77%</td>
<td>73%</td>
</tr>
</tbody>
</table>
Green house gas emissions summary

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
<td>Feb</td>
</tr>
<tr>
<td>Green House Gas Emissions (Tonnes CO2 Equivalent)</td>
<td>7,190.93</td>
<td>6,590.06</td>
</tr>
</tbody>
</table>

- Vapor recovery units (VRUs) installed on production tanks (no routine gas venting off tanks)
- Air compressors (‘instrument air’) installed for operating pneumatic equipment (no gas venting)
- The still column vent of the 11-07 South Battery Glycol dehydrator was tied in to low pressure flare (vent gas is combusted, not vented to atmosphere)
- Gas conserved on pads where economically feasible
- 2016 total greenhouse gas emissions: 88,995 tonnes CO₂ equivalent (20% decrease compared to 2015)
Measuring & reporting protocol

**Methods of measurement**

- Oil and water: inline meters installed on every producer and injector
- Solution gas:
  - conserved wells use a facility level gas oil ratio (GOR)
  - non-conserved wells use individual GOR as per Dir. 017 requirements

**Proration factors**

- Within acceptable range (Oil: 0.91, Water: 0.91)

**Typical well testing:**

- Frequency and duration; all producers have inline metering and are considered on “Test” for full monthly hours
- No test tanks on any wells

**Measurement technology:**

- Producer: mixture of coriolis and positive displacement meters
- Injector: coriolis meters
Environmental compliance issues summary

• Late submission of Water Use Report under Temporary Diversion License (TDL) 00366686. This was self-disclosed in February 2016 and corrective actions have since been implemented.

• Groundwater was diverted from a well between the expiry of TDL No. 00340416 on November 14, 2014 and the effective date of TDL No. 00360875 on December 3, 2014. This was self-disclosed in February 2016 and corrective actions have since been implemented.

• Exceeded permitted diversion volume for Water Act license 00385580. This was self-disclosed in November 2016 and corrective actions have since been implemented.
Regional environmental initiatives

Member - Regional Industry Caribou Collaboration (RICC)

- Coordination of caribou research and mitigation at the landscape (caribou range) scale
- Coordination of habitat restoration and population research
- Covers the East Side Athabasca and Cold Lake ranges

Cenovus Caribou Habitat Restoration Project

- Habitat restoration within the Cold Lake range
- Covers approximately 3900 km$^2$ of area during 2016-2026
Reclamation program update

- Reclamation is currently under way on approximately 70 locations.
- Activities include the following stages: Phase I & II environmental site assessment (ESA), minor soils work or re-contouring, vegetation monitoring and weed control and detail site assessment (DSA).
- Remediation & risk assessment on two sites.
- Submitted four reclamation certificate applications in 2016 and received 38 approvals (which were submitted in 2015).
- Target to apply for 20 reclamation certificates in 2017.
- Four new abandonments took place in January 2017.
Pelican Lake is currently compliant with all conditions of the approval and regulatory requirements.

Besides the self-disclosures as mentioned under the environmental section, an AER pipeline permit amendment self-disclosure was submitted and approved in March 2016 to update the status of the water injection pipeline Lic#38717 Line#15 from “operating” to “discontinued”. This license discrepancy was identified in our internal annual pipeline risk assessment.

The Pelican Lake measurement & volumetric reporting was audited in 2016 as part of Cenovus’s Enhanced Production Audit Program (EPAP) as mandated under AER directive 076.
Future facilities plan

• Continue conducting NDE inspections and risk assessment, and upgrade bare steel piping as part of the corrosion mitigation program. AER pipeline permit will be required in the event of a liner pull and/or pipeline replacement.
2016 development activities
2016 development initiatives

• No drilling in 2016
• 2016 priorities:
  • operating cost reductions
  • optimizing injection rates, non-saline water usage and polymer consumption
  • reservoir flood management
  • optimize polymer effectiveness
  • workover frequency reductions
  • Continued reservoir characterization to enhance long term field development strategy
AER regulatory discussion & key learnings
AER regulatory discussion & compliance

- Current approval and downspacing is flexible for Cenovus to continue its infill program
- Cenovus is in compliance with all conditions of the approval and regulatory requirements
Key learnings

• Reservoir flood optimization is key to maximizing oil recovery
  • optimal VRR assists in maximizing recovery by reducing premature breakthroughs
  • maximizing polymer efficiency assists in providing optimal oil recovery
End
Supplemental slides
Typical well schematic: example
2016 suspended equipment includes inclined free water knockout, water tanks, skim pumps, and water injection pumps. The emulsion transfer pumps remain active.
Facility: SE10.5 satellite process flow

2016 suspended equipment includes inclined free water knockout, water tanks, skim pumps, and water injection pumps. The emulsion transfer pumps remain active.
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11-07 South Battery plot plan

Upgraded the E-561 plate & frame heat exchangers in 2016
No modifications in 2016
Upgraded the E-561 plate & frame heat exchangers in 2016.
No modifications in 2016
No modifications in 2016

11-07 South Battery process flow
Off-site disposal

Off-site disposal locations:
- Tervita Mitsue
- Tervita Wabasca Landfill
- R.B.W. Edmonton

<table>
<thead>
<tr>
<th>Off-site Waste Disposal Volumes (m³)</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>2016 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>50.0</td>
<td>49.3</td>
<td>32.8</td>
<td>40.0</td>
<td>62.5</td>
<td>121.6</td>
<td>63.4</td>
<td>25.8</td>
<td>91.1</td>
<td>123.5</td>
<td>88.0</td>
<td>43.5</td>
<td>791.5</td>
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