# Connacher Performance Presentation - 2021







# Background

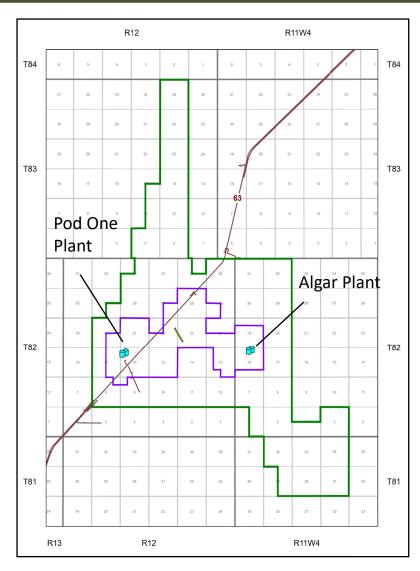
#### **Assets**



- Connacher is a focused developer, producer, and bitumen marketer from its in-situ oil sands projects in Alberta's Athabasca oil sands.
- The primary driver of value is the continued development of bitumen production at the Great Divide oil sands operations using in-situ recovery methods
- Oil sands reserves and resources include 414,050 Mbbl of reserves (as of December 31, 2021 per GLJ Petroleum Consultants)

Great Divide Project Approval Area

Great Divide Approved Development Area



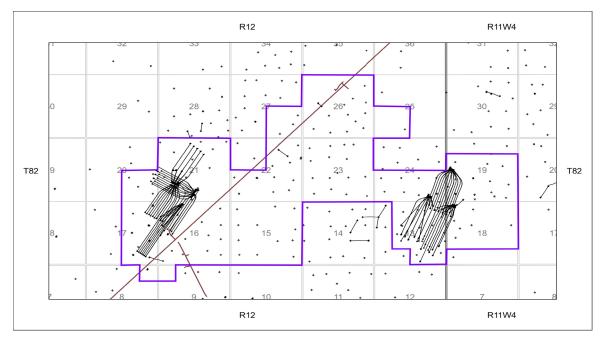
#### **Great Divide Assets**





#### **Pod One**

- First Steam September 2007
- First Bitumen October 2007



#### **Algar**

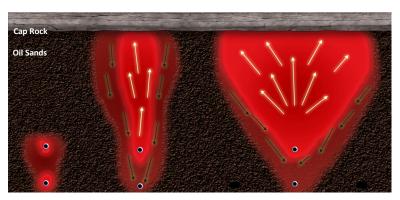
- First Steam May 2010
- First Bitumen July 2010



### **Great Divide SAGD Recovery Process**



#### **Basic Process**



Circulation
High Pressure
~90 days
Steam Lift

Peak SAGD Production
High Pressure
~12 to 18 months
Gas Lift

Low Pressure SAGD Production Low Pressure ~4 to 6 years

Pumps

#### **Additional Process**

#### **Pod One**

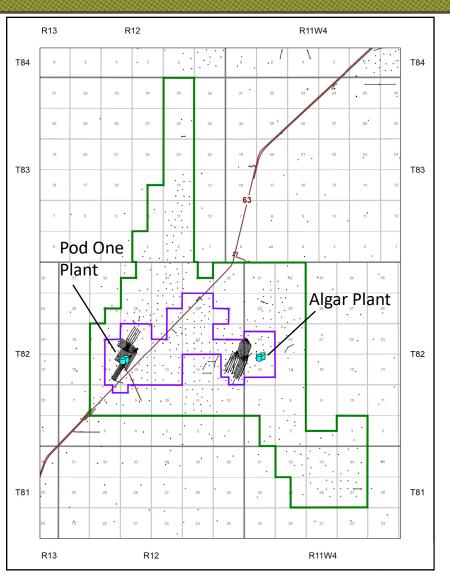
- Pressure Balancing under a gas cap and lean zone
- Infill Wells
- Gas Cap Repressurization
- Natural Gas Co-injection (intermittent pressure maintenance)

#### Algar

- Pressure Balancing over a water zone
- Infill Wells
- Natural Gas Co-injection (intermittent pressure maintenance)

# Great Divide (Approval 10587) Development





#### **Pod One Current Development**

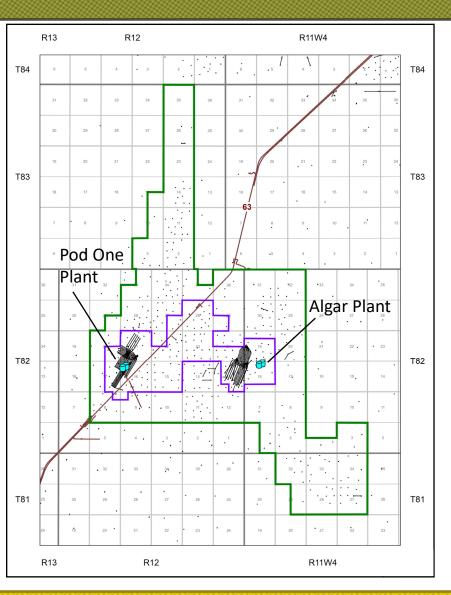
- 23 Well Pairs and 16 Infills
  - Pad 101N 5 Well Pairs
  - Pad 101S 6 Well Pairs, 6 Infills
  - Pad 102W 5 Well Pairs, 5 Infills
  - Pad 102S 3 Well Pairs, 2 Infills
  - Pad 104 4 Well Pairs 80m interwell spacing, 3 Infills

#### **Pod One Development History**

- Original 15 Well Pairs Drilled in 2007
- All well pair interwell spacing 100m except Pad 104
- 2 Well Pairs Drilled in 2009 (101S and 102S)
- 2 Well Pairs Drilled in 2010 (102S)
- 4 Infills Drilled in 2013 (102W)
- 4 Well Pairs Drilled in 2013 (104)
- 9 Infills Drilled in 2014 (102W(1), 102S(2), 101S(6))
- 3 Infills Drilled in 2019 (104)

# Great Divide (Approval 10587) Development





#### **Algar Current Development**

- 18 Well Pairs Producing, 9 Infills
  - Pad 201S 5 Well Pairs 100m interwell spacing
  - Pad 202S 6 Well Pairs (1 re-drill) 100m interwell spacing, 3 Infills
  - Pad 203S 7 Well Pairs 100m interwell spacing,
     6 Infills

#### **Algar Development History**

- Original 17 Well Pairs Drilled in 2009
- Replacement Well Pair (202-01) drilled in 2013
- 5 Infills Drilled in 2019 (203S)
- 4 Infills Drilled in 2020 (202S(3), 203S(1))

# **Great Divide Summary**



	Pod One @ May 31, 2021	Algar @ May 31, 2021		
First Steam	September 2007	May 2010		
First Sales Oil	October 2007	June 2010		
Cumulative Bitumen Produced e <sup>3</sup> m <sup>3</sup>	4,954	3,488		
Cumulative Steam Injected e <sup>3</sup> m <sup>3</sup>	19,182	17,127		
Cumulative SOR	3.87	4.91		
Number of Producing Well Pairs	18	18		
Number of Circulating Well Pairs	0	0		
Infill Wells Producing	13	9		
Wells Using Gas Lift	0	18		
Wells Using Downhole Pumps	31	9		
Operating Pressure Gas Lift	N/A	3850 - 4000 kPa		
Operating Pressure Pump	1300 - 3000 kPa	N/A		
Directive 51 Operating MOP	6205 kPa Maximum Operating Pressure	6205 kPa Maximum Operating Pressure		



# Subsurface

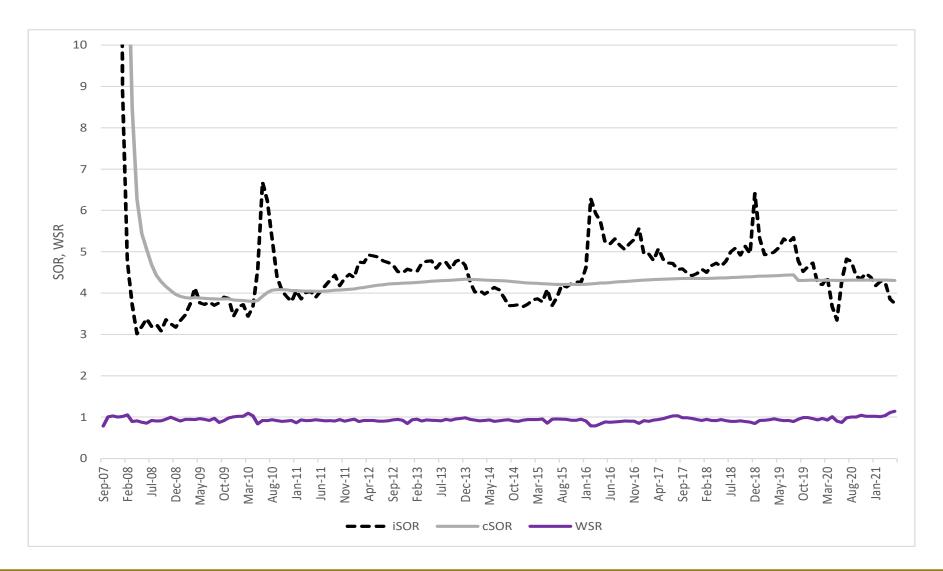
### **Great Divide Production Plot**





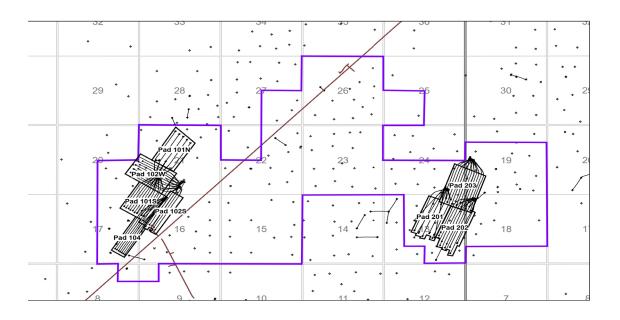
### **Great Divide Production Plot**





### Great Divide Well Layout





#### **Pod One**

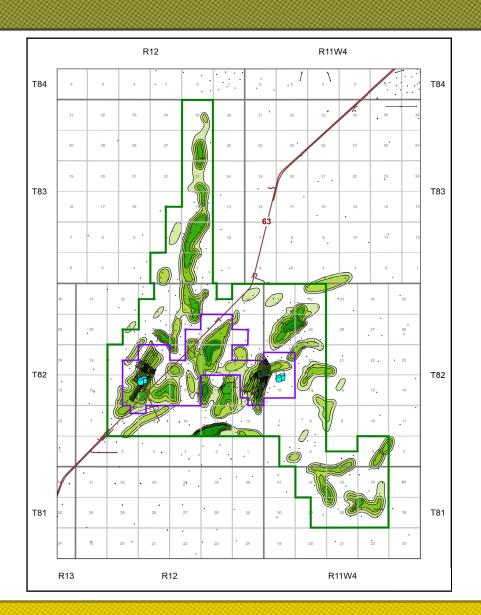
- 23 Well Pairs (101N, 101S, 102S, 102W and 104)
- 16 Infills
- SAGD well pairs in 101N, 101S, 102S and 102W were drilled at 100m spacing
- SAGD well pairs in 104 were drilled at 80m spacing
- All infills (except 102 INF06 @35m) were drilled at 50m spacing between the SAGD producers

#### Algar

- 18 Well Pairs (201, 202 and 203)
- 9 Infills
- All SAGD well pairs except 202 R01 were drilled at 100m spacing
- 202 R01 was drilled 35m from 201-01 and 65m from 202-02 well pair
- All infills drilled at 50m spacing between SAGD producers.

### Net Pay Map Great Divide Area







Minimum Criteria:

Continuous Net Pay >10m

Saturation 7% Bitumen by Weight

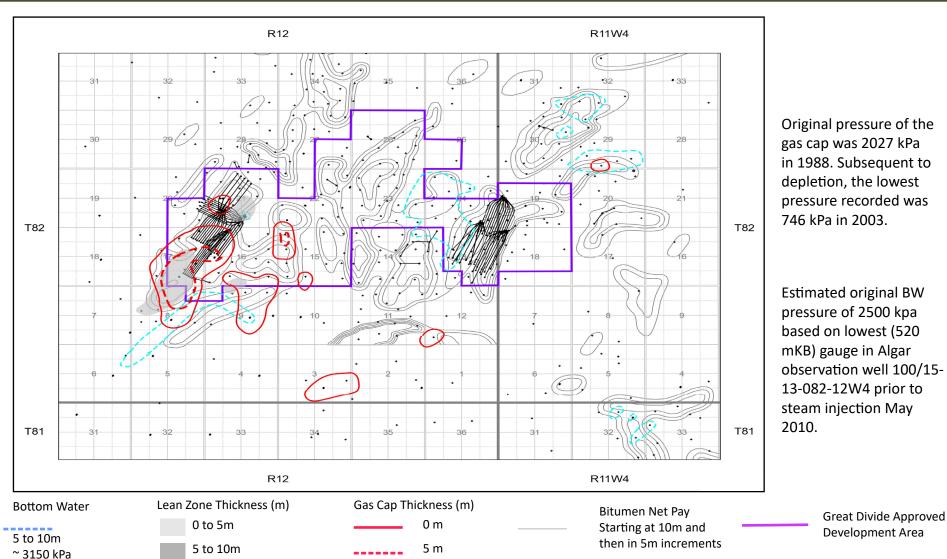
Porosity >25%

Great Divide Project Approval Area

Great Divide Approved Development Area

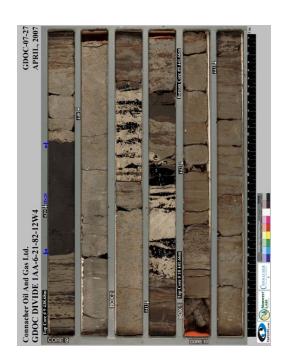
# Combined Gas Cap & Lean Zone & Bottom Water Map

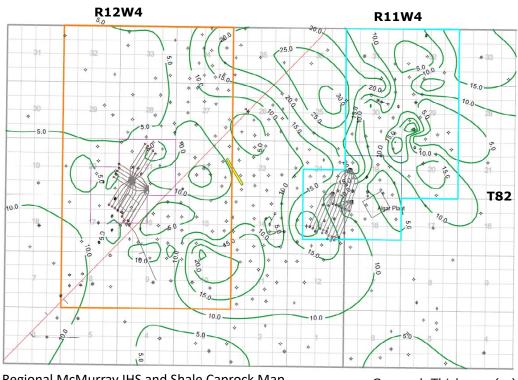




### Cap Rock Integrity







Regional McMurray IHS and Shale Caprock Map Cap-rock Thickness (m)

The cap-rock in the Great Divide Area consists of a mixture of muddy inclined heterolithic strata (IHS) and a mudstone that average over 10 meters in thickness. The muddy IHS consists of 80% volume of shale that is bio-turbated with mud-lined and sand-filled burrows. Muddy IHS is interpreted to be deposited in a muddy point bar. The light grey mudstone is thinly bedded with the top containing siderite nodules and rootlets. It is interpreted to be deposited in a mud flat to swamp environment. Above are core photos of the cap rock from well 1AA/06-21-82-12W4.

This regionally extensive McMurray caprock is considered the caprock for the project. The McMurray caprock is overlain by the Wabiskaw and Clearwater shales described on the following slide.

### Cap Rock Integrity - Mini Frac Tests



#### Results of the 1st Mini Frac at 1AB/14-27-082-12W4

Zone Tested	Test Interval (mKb)	BH Fracture Pressure (kPa)	Gradient (kPA/m)	Closure Pressure (kPa)
Clearwater Shale	390 - 395	8,463	21.7	5,805
Wabiskaw Shale	417 - 425	10,991	26.3	9,500
McMurray Shale	449 - 452	8,583	19.1	6,106
Mcmurray Oilsand	461 - 466	8,463	17.7	5,805

Wabiskaw

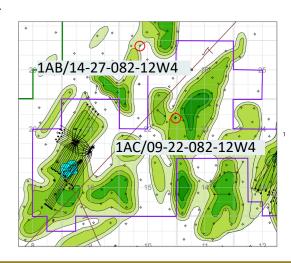
A Mini Frac test was conducted in well 1AB/14-27-082-12W4 in February 2010. Certain concerns were raised about one test being representative for the whole project area and also the closure pressure determined for the Wabiskaw which could have been influenced by local changes in rock mechanical properties.

Consequently a second test was conducted at 1AC/09-22-082-12W4 in April 2013, and this is reported in the table below.

Results for the second test are similar to the first. Although the Wabiskaw measured the highest stress gradient it was reduced from the first test.

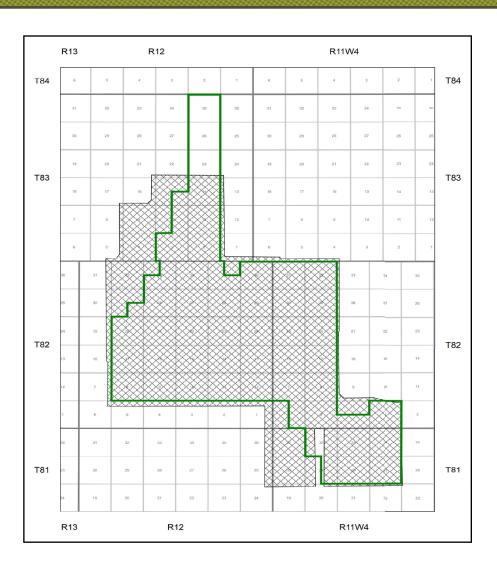
#### Results of the 2<sup>nd</sup> Mini Frac at 1AC/09-22-082-12W4

Zone Tested	Test Interval (mKb)	BH Fracture Pressure (kPa)	Gradient (kPA/m)	Closure Pressure (kPa)
Clearwater Shale	463 - 464	8,635	18.6	6,421
Wabiskaw Shale	474 - 475	10,534	22.2	7,917
McMurray Shale	481 - 482	8,057	16.7	6,155
Mcmurray Oilsand	517 - 518	6,503	12.6	5,397



# 3D Seismic Acquisition





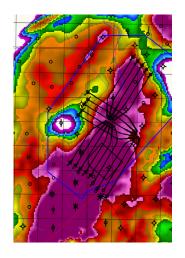
• No new seismic was shot during the last twelve months.

Great Divide Project Approval Area

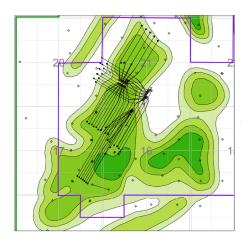
3D Seismic Coverage

#### Great Divide Area - 3D Seismic



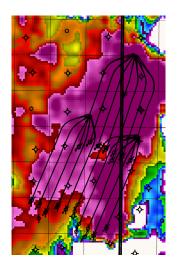


Pod One

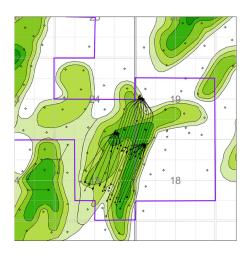




3D Seismic - Interpreted McMurray Sand Isochron



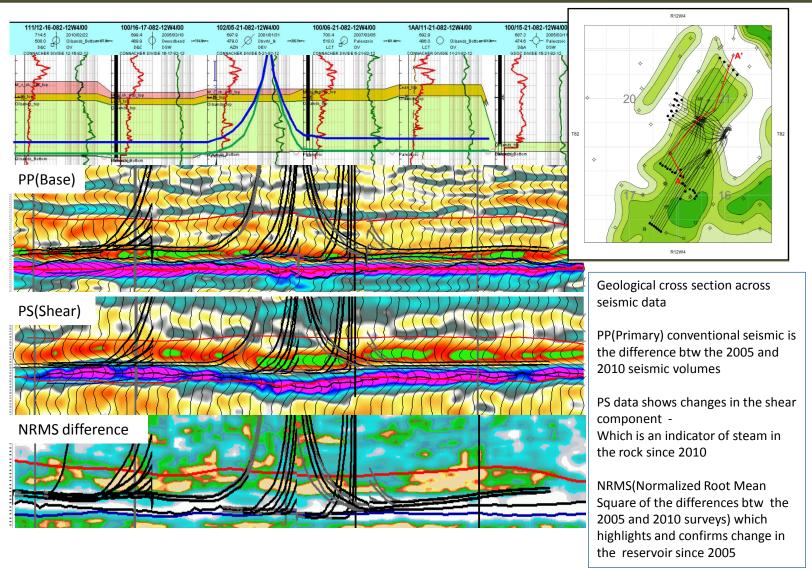
Algar



• 3D Seismic has been successfully used by Connacher to define edges, sand thickness and paleo structure, and ultimately reduces the drilling costs.

#### Pod One 4D Seismic



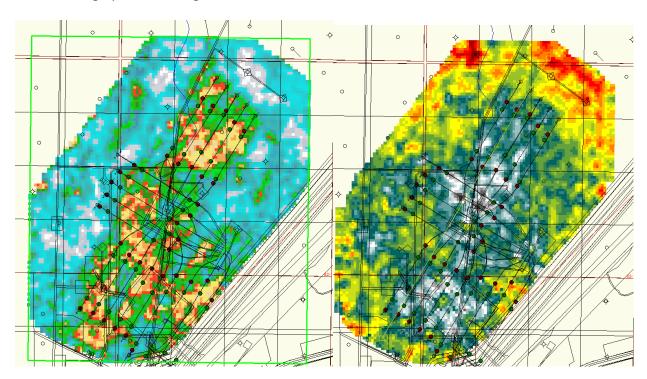


### Pod One 4D Seismic (2)



NRMS - normalized root mean square represents the % change in the seismic signal since steaming operations began

Shear Data - should represent the extent of the steam chamber



The NRMS represents the percent change in the reservoir since steaming operations commenced in 2007. This roughly corresponds to produced bitumen and should represent the various steam chambers. The shear data is not affected by steam, gas or bitumen heated above 80 C, as this acts like a liquid. The resulting map should show the current extend of the steam chambers. The two maps should be similar and are not, therefore the results of the 4D seismic are inconclusive. Possible reasons for this include plant and highway noise, and errors resulting from using different geophones at different locations in the two surveys.



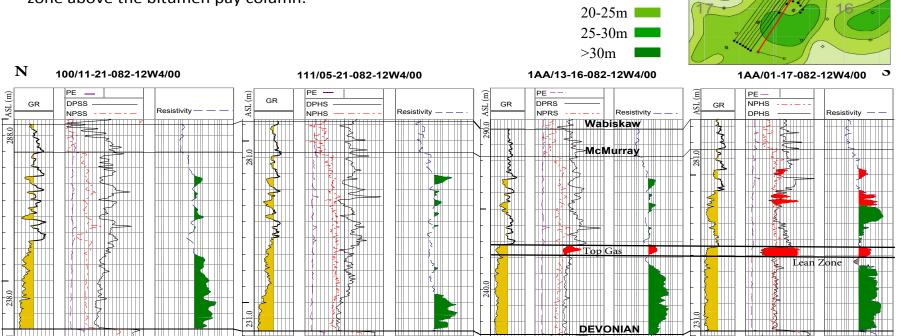
Net Pay

10-15m

15-20m

#### Typical Section - Pod One

Pad 101N is characterized by a higher abundance of IHS in the upper part of the reservoir. As seen in well 05 - 21, the sand body gradually thins to the west. In contrast, the reservoir to the south is dominated by clean Z1 sand facies but develops a gas cap with a lean zone above the bitumen pay column.

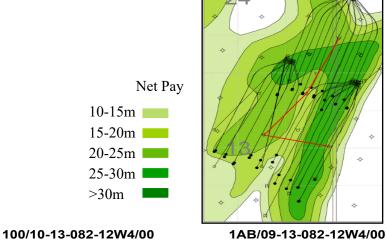


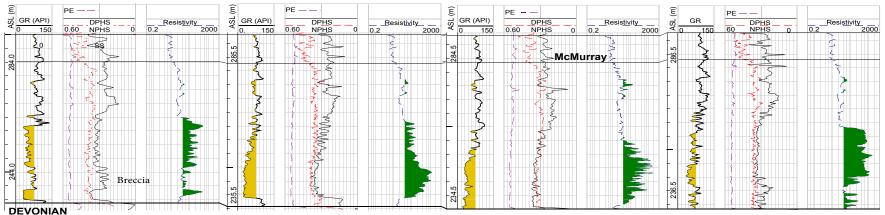


#### Typical Section - Algar

111/16-13-082-12W4/00

The Algar reservoir has a some IHS along with a breccia deposit to the north seen in well 100/04-19. Despite poor gamma ray, well 1AB/09-13 confirms high quality reservoir to the east which can be seen on the resistivity curve and veryfied by core. The poor gamma ray is caused by inaccurate log calibration.





100/04-19-082-11W4/00

### Great Divide Area Oil Sands Facies and Pay



#### **Zones**

Defined by Vshale

#### **Connacher Cut-Offs**

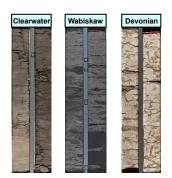
**Z1** (Sand): 0-10% fines **Z2** (Sandy IHS): 10-20% fines

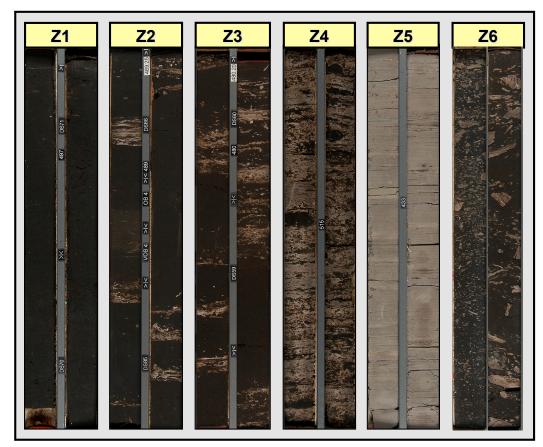
**Z3** (IHS): 20-50% fines **Z4** (Muddy IHS): 50-80% fines

**Z5** (Mud): 80-100% fines **Z6** (Breccia): >10% clasts

#### Pay Base Criteria

Minimum bitumen grade: 7wt% Minimum Net/Gross ratio: 80 % Maximum included shale interval: 2m Minimum zone thickness: 10 m



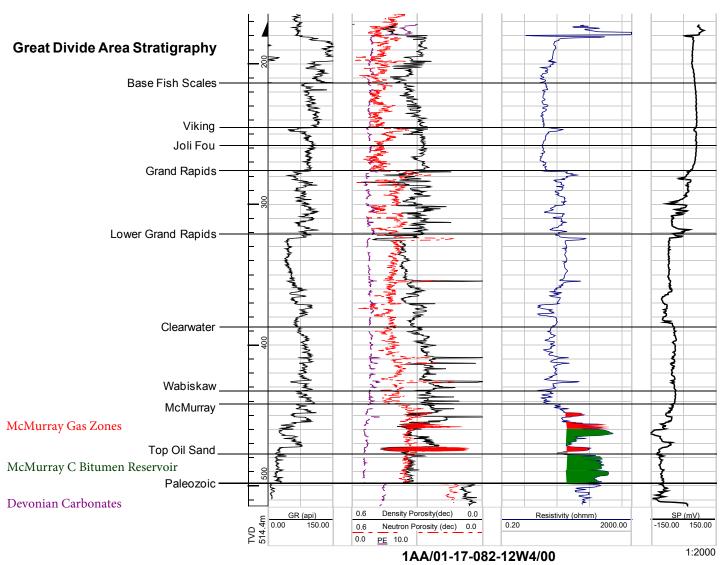


Core displayed is from a number of separate wells

Facies Z1,Z2, and Z3 are included in net pay

### Great Divide Area Type Well

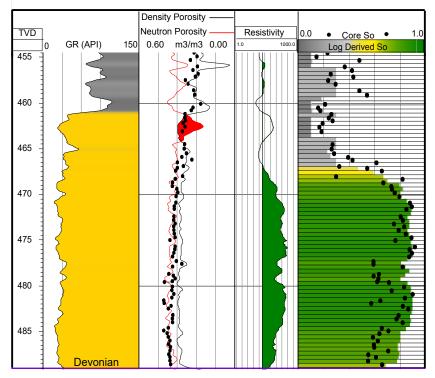




### Great Divide Area Core & Log Data



Typical Composite Log with Interpretation and core data comparison.



1AA/13-16-082-12W4/00

- •Log vs Core Comparison
- •Analytical interpretation of geophysical logs to determine bitumen saturations (wt%) gives good correlation with core derived bitumen saturations (wt%). Examples shown below.

			Log	Core	
	Log	Core Net	Bitumen	Bitumen	
Well	NetPay	Pay	Wt %	Wt %	
100/08-17-082-12W400	21.3	23.3	13.6%	14.0%	
1AA/03-17-082-12W400	13.2	12.0	11.6%	12.7%	
1AA/03-21-082-12W400	14.9	13.3	10.2%	10.4%	
1AA/07-16-082-12W400	25.9	27.7	11.5%	12.7%	
1AA/10-21-082-12W400	20.8	17.2	13.2%	14.8%	



### OBIP and Cum. Production



Area	OBIP (m3)	Cum. Oil Production (m3)	Cum. Recovery (%)
Project Area	141,173,609		6
Development Area	52,492,365	8,433,191	16
Active Pads	18,906,200		45

- OBIP updated to reflect December 31, 2020 GLJ Petroleum Consultants 2P reserve report
- Production as of May 31, 2021

### **Great Divide Reservoir Parameters**



	Pod	One	Algar		
	Range	Average	Range	Average	
Reservoir Thickness (m)	10 - 30	22	10 - 30	25	
Depth to Top of Reservoir (m)	450 - 490	475	465 - 500	485	
Reservoir Net Pay (m)	10 - 25	21	10 - 30	22	
Oil Saturation (%)	75 - 85	80	72-80	76	
Bitumen Density (kg/m3)		1018		1018	
Bitumen Viscosity (cPs)		> 1 million		> 1 million	
Porosity (%)	32 - 34	33	32 - 34	33	
Vertical Permeability (mD)	1500 - 4000	-	1500 - 3500	-	
Horizontal Permeability (mD)	2000 - 5000	-	2000 - 4000	-	
Initial Reservoir Temperature (°C)		13		13	
Initial Reservoir Pressure (kPa)		3500		4500	
Initial Bottom Water Pressure (kPa)				2500	

#### **Pad Parameters**



Pad	Area (acre)	Net Pay (m)	Porosity (%)	Initial Oil Saturation (%)	Kh (mD)	Kv (mD)	OBIP (m3)	Producible Bitumen In Place (m3)	Remaining Producible Reserves (m3)	Recovery to date (% OBIP)	Estimated Ultimate Recovery (%OBIP)
Pad 101N	109	21	33	85	2000-5000	1500-4000	2,544,833	458,070	168	18	18
Pad 101S	115	22	33	85	2000-5000	1500-4000	2,899,046	2,042,378	388,303	57	70
Pad 102S	74	20	33	85	2000-5000	1500-4000	1,700,795	1,167,426	323,726	50	69
Pad 102W	116	17	33	85	2000-5000	1500-4000	2,215,580	1,320,707	152,273	53	60
Pad 104	75	22	33	85	2000-5000	1500-4000	1,867,091	1,375,486	554,744	44	74
Pad 201	111	19	32	75	2000-4000	1500-3500	2,075,517	1,396,823	575,448	40	67
Pad 202	121	18	32	75	2000-4000	1500-3500	2,067,091	1,545,977	598,647	46	75
Pad 203	157	23	32	75	2000-4000	1500-3500	3,536,248	2,690,024	970,391	49	76

- Parameters consistent with December 31, 2020 GLJ Petroleum Consultants 2P reserve report
- Production as of May 31, 2021

### NCG Co-injection

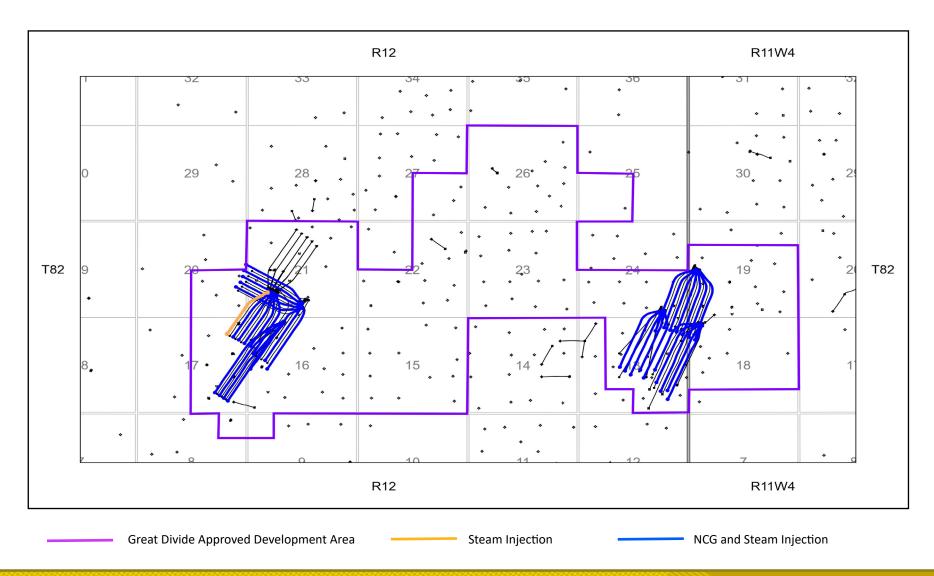


Commercial Scheme Approval issued for Full Field NCG Co-injection at all wells at Pod One and Algar:

- maximum of 10 e<sup>3</sup> m<sup>3</sup> per day
- limited to a maximum of 4 mole per cent with steam (monthly basis)
- limited to a maximum 20 per cent NCG replacement with steam (6 month average basis)

# NCG Co-injection





### NCG Co-injection



- Connacher implemented NCG Co-injection field wide across all well patterns in Q4 2020.
- Intent to reduce SOR required to extract the remaining bitumen, and free up steam for utilization on new pairs.
- Early results look promising, more time and data is needed to evaluate the performance of NCG Co-injection at Great Divide.
- 2022 Performance Report will provide an update on the performance of NCG Injection at Great divide.



# Surface

#### Pod One Facilities



#### **Key Points**

Design Capacity ~ 1,600 m³/day bitumen

Steam Generation: Drum boilers

Operating pressure 6,300 kPa

Deliver 4,300 m³/day steam @ 98% + Quality

Treating: Diluent addition

Water Recycle: IGF, WS Filter, Two vertical tube falling film evaporator towers

Waste Water: Waste water shipped to Algar 2<sup>nd</sup> Stage Evaporators

Source water: 3 operating source water wells in the Lower Grand Rapids formation, 1 other source water well approved

No modifications completed which required an AER approval (since 2019 performance report)

### Algar Facilities



#### **Key Points**

Design Capacity ~ 1,600 m³/day bitumen

Steam Generation: Drum boilers

Operating pressure 6,700 kPa

Deliver 4,800 m³/day steam @ 98% + Quality

Treating: Diluent addition

Water Recycle: IGF, WS Filter, Two vertical tube falling film evaporator towers

Waste Water: All water shipped from facility to approved disposal sites

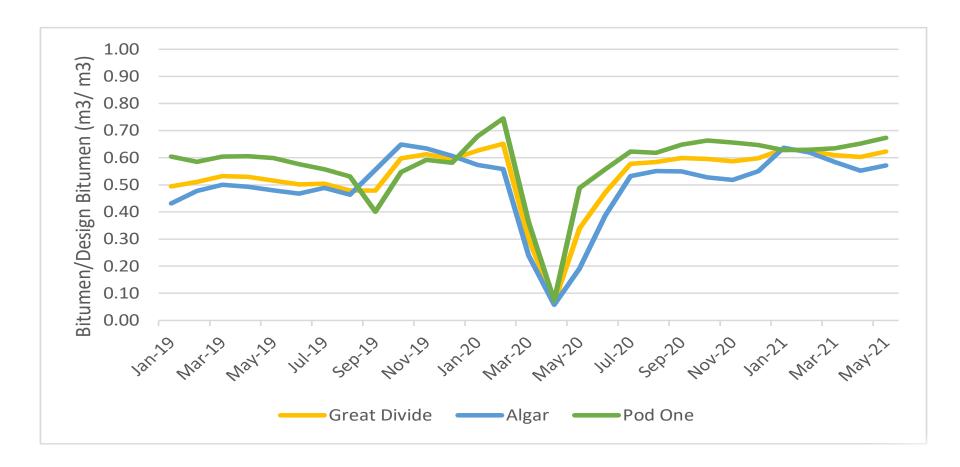
Source water: 3 operating source water wells in the Lower Grand Rapids formation, 1 other source water well approved

No modifications completed which required an AER approval (since 2019 performance report)

#### Great Divide Bitumen Performance



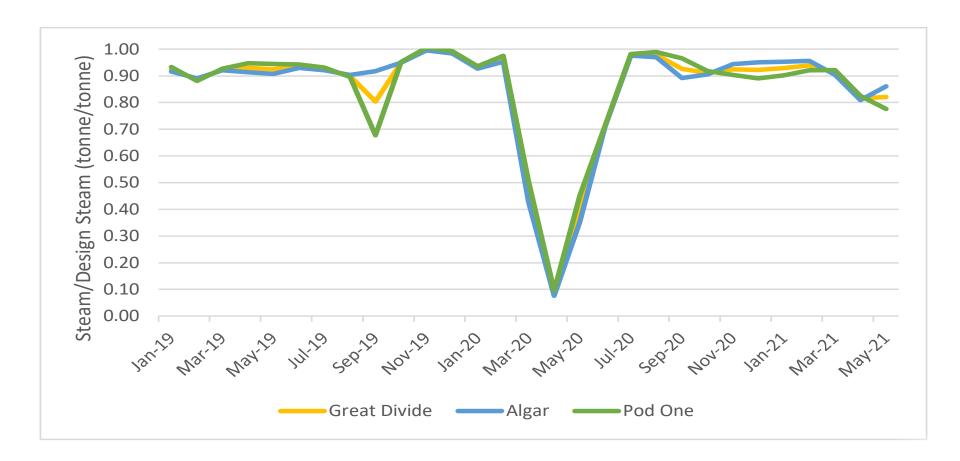
Operational bitumen rates relative to design rates



#### **Great Divide Steam Performance**

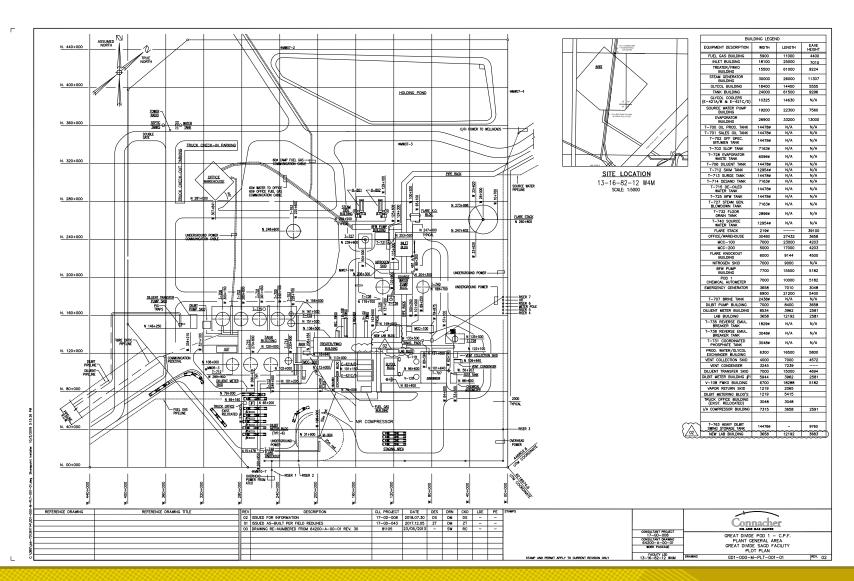


Operational steam rates relative to design rates



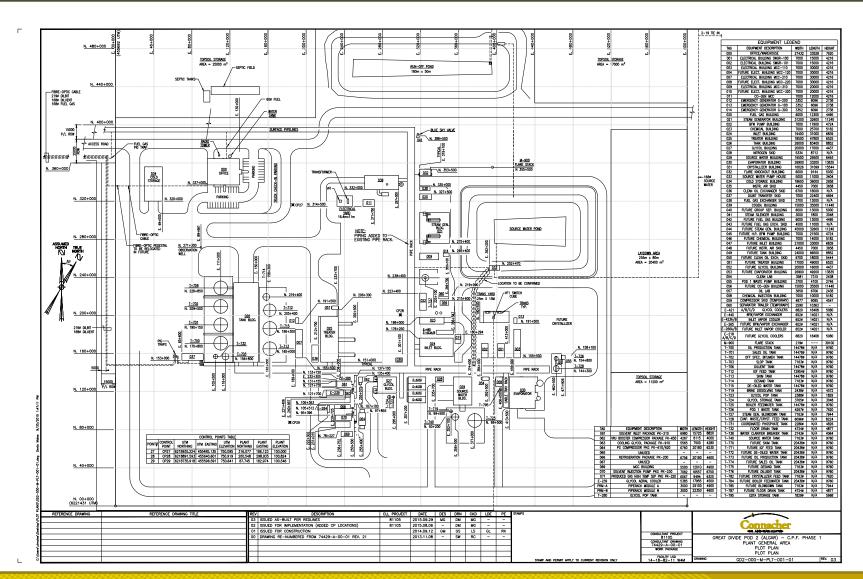
# Pod One Plant Layout





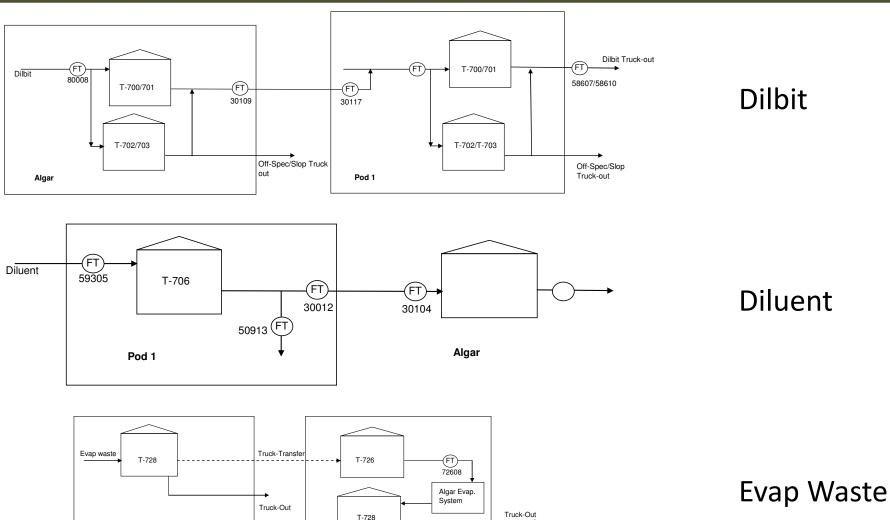
# Algar Plant Layout





# Pod One and Algar Integration



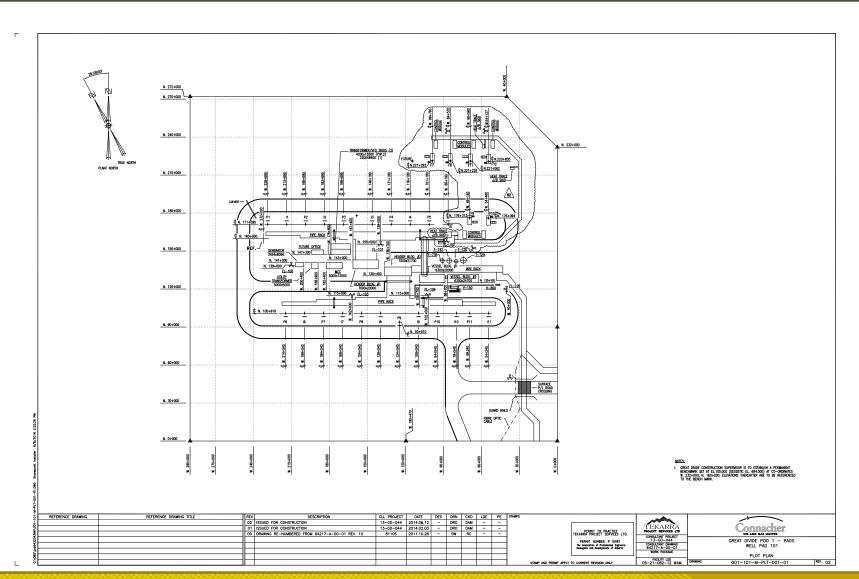


Algar

Pod 1

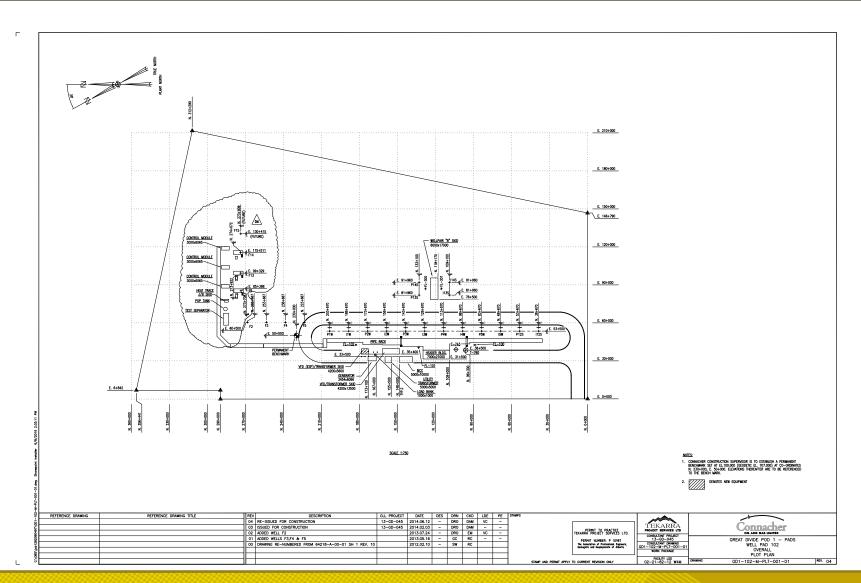
### Pad 101



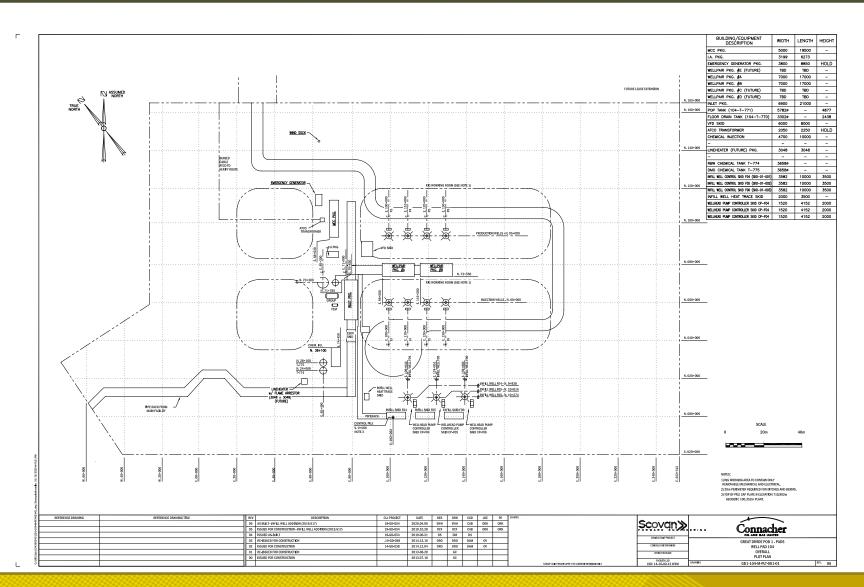


### Pad 102



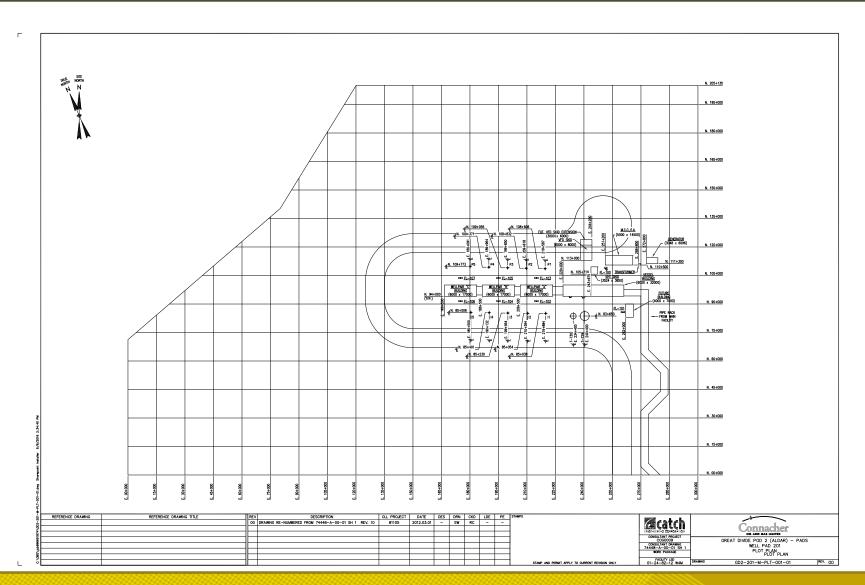




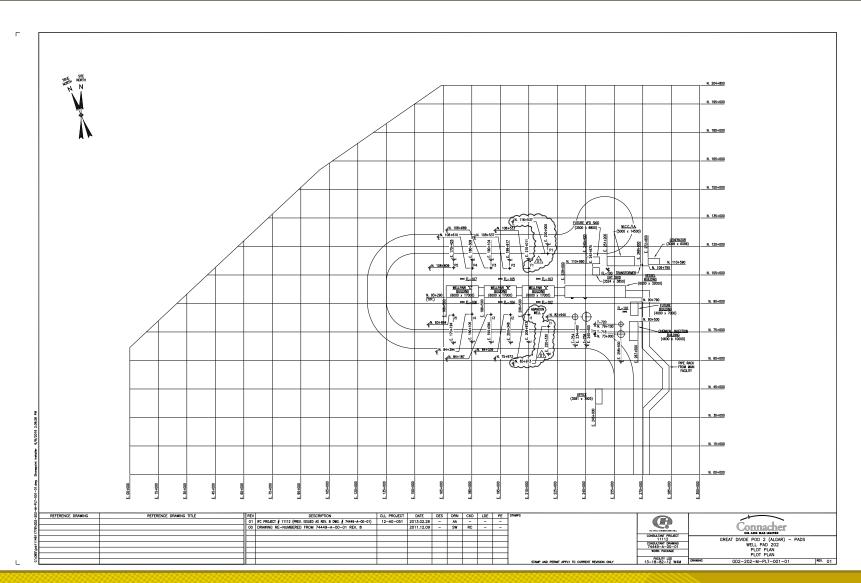


### Pad 201

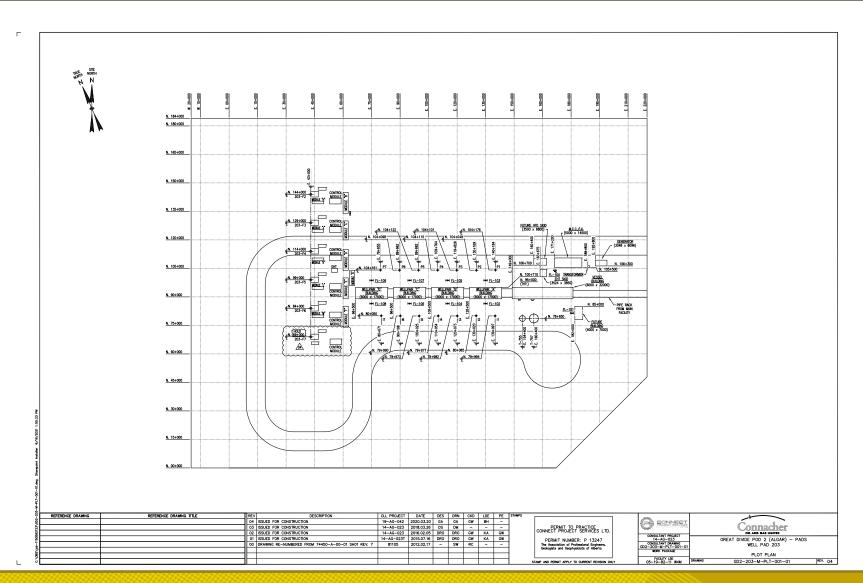












### Suspension and Abandonment



- In the reporting period, 1 well was suspended, 0 wells abandoned and 0 wellpads were suspended/abandoned.
- There are no active pads under blowdown in the development area.
- Pod One currently has 3 wells which are classfied as Inactive and will be suspended in 2021.
- Pad 101N was approved for produced water disposal on February 8th, 2016. Approval No. 10587S
- Produced water disposal into 101-I01 and 101-I02 began on April 15, 2017 and is ongoing

Pad	Well	UWI	Last Prod Date	Status	Suspension Date
101S	101-F11	114121608212W40	2019/07/01	Suspended	2020/12/01
101N	101-P04	105152108212W40	2020/01/01	Inactive	TBD 2021
102W	102-F02	112052108212W40	2020/01/01	Inactive	TBD 2021
102W	102-F06	112082008212W40	2020/12/01	Inactive	TBD 2021

### 101-F11 Suspension



 Reduction of 200 bbl/d bitumen production from 101-F11 suspension, has minimal impact to the recoverable reserves as production will be recovered by neighboring well pairs.

#### 101-F11 Suspension Justification:

- 05/23/2019: Pump failure
- 05/29/2019: Pump replaced, and wellbore attempted to pump with no flow. Identified as a liner failure.
- 06/28/2019: Full well cleanout was completed.
- 07/05/2019: Secondary liner was attempted but was unsuccessful as an obstruction encountered at 625 mKB. Secondary liner installation was cancelled, pulled out of hole.
- 07/07/2019: Oversize tubing pump with sand screen landed at 400 mKB, pump was started up with no flow. 101-F11 suspended.

# Great Divide Applications / Authorizations



Approval Date	Authorization No.	Description
December 4, 2013	10587M	Pod One Full Field NCG Co-injection Scheme Approval
December 12, 2013	10587N	Pod One - Pad 101 and Pad 102 Infills (9) Scheme Approval
January 8, 2014	105870	SAGD+® Trail Pad 104 Scheme Approval
March 21, 2014	10587P	Mini-Expansion at Pod One Scheme Approval
Pending	Pending	EPEA Approval Amendment for Mini-Expansion at Pod One
June 10, 2014	F36853	Pod One Facility Licence Amendment
August 1, 2014	F40209	SAGD+® Commercial Project Facility Licence Amendment
August 13, 2014	56423	SAGD+® Commercial Project Solvent Pipeline Licence
September 10, 2014	10587Q	Algar - Pad 203 Infills (5) Scheme Approval
October 1, 2014	10587R	Algar Full Field NCG Co-injection Scheme Approval
Pending	Pending	Algar Water Act Licence 240527-00-00 Renewal
Pending	Pending	Pod One Water Act Licence 240458-01-00 Renewal
February 8, 2016	10587S	Produced Water Disposal Operations at Pad 101N Approval
September 24, 2018	240008-01-00	EPEA Approval
January 18, 2020	00240527-02-01	Algar Water Act Licence
January 18, 2020	00240458-03-00	Pod One Water Act Licence
April 26, 2021	10587T	Category 2 Amendment Request for Scheme Map 10587S
July 14, 2021	10587U	Category 2 Amendment Request for Scheme Map 10587T

### Operational Changes



- Implementation of NCG injection in Q4 2020. Early results are promising and will continue to be monitored. There were no further operations changes which could materially affect scheme performance or energy/material balances.
- Connacher facilities are physically separated by only 7 kilometers but have always been operated as separate entities. Under the One Connacher project, duplication has been eliminated. In November 2020 the Pod One and Algar control rooms were combined into one.
- Connacher has not implemented or trialed any pilots or technical innovations over the reporting period.

# Flaring and Venting



AER ID	Date	Event Type	"H2S Conc. (mol/ kmol)"	"Volume (e3m3)"	"Duration (mins)"	Details
361196	11/18/2019	Venting (Emergency)	115.7	0.56	300	Failed pressure controller positioner on the Evap Vent Collection System
361675	12/3/2019	Venting (Planned Maint.)	154.9	0.16	85	Repair maintenance on Pressure Relief/Vacuum Relief(PVRV) on the feed tank for the Algar Evaporators
362365	12/29/2019	Venting (Emergency)	40.7	0.28	150	A control net card for the Evap building equipment failed.
363190	1/27/2020	Venting (Emergency)	174.1	0.08	38	PLC Card Failure on the Evap Vent Collection
363495	2/9/2020	Venting (Planned Maint.)	45.5	0.23	120	K-613 Vent Condenser was down for maintenance (oil change)
363728	2/14/2020	Venting (Planned Maint.)	153.5	0.14	73	Regulator replacement on the Evap Feed Tank T-709
364648	3/17/2020	Flaring (Emergency)	0	3.9	448	Ramping down production
364978	3/31/2020	Venting (Emergency)	44.4	0.18	97	K-613 Vent Condenser Compressor seized
364997	4/1/2020	Venting (Emergency)	44.4	1.11	590	Frozen Seal water tubing leading to K-613 Vent Condenser Compressor
365113	4/7/2020	Venting (Emergency)	44.4	0.13	69	Belt broke on K-613
365166	4/9/2020	Venting (Emergency)	7.4	0.06	30	Cycling the Evaporators to use excess boiler feed water
365427	4/19/2020	Flaring (Emergency)	0	3.4	690	Need to increase temperature in boiler stacks to prevent corrosion due to minimal production
366141	5/5/2020	Venting (Emergency)	7.4	0.04	22	K-613 tripped while ramping up because the inlet emulsion ESD closed on high pressure.
367637	6/12/2020	Venting (Emergency)	121.3	0.13	69	H-801 steam generator tripped on a failed high furnace pressure switch

# Flaring and Venting



AER ID	Date	Event Type	"H2S Conc. (mol/ kmol)"	"Volume (e3m3)"	"Duration (mins)"	Details
368202	6/25/2020	Flaring (Emergency)	0	1.48	384	Due to a high header pressure but also to trouble shoot the VRU header to flare valve.
368438	7/1/2020	Venting (Emergency)	21.2	0.11	60	Plant Trip on low instrument air
368949	7/12/2020	Venting (Planned Maint.)	21.2	0.07	36	Belt Inspection on K-613 Evaporator Vent Condenser(EVC) compressor and oil change
369533	7/27/2020	Venting (Unplanned Maint.)	34.9	0.5	266	Replace K-613 Compressor
369582	7/28/2020	Venting (Emergency)	34.9	0.14	74	K-613 Compressor tripped on high pressure from the Evap feed tank
370091	8/9/2020	Flaring (Emergency)	0	5.745	444	H-802 Boiler tripped offline due to a nitrogen purge from the offspec tank
370150	8/11/2020	Venting (Emergency)	34.9	0.12	63	K-613 tripped on low suction pressure
373670	11/13/2020	Venting (Emergency)	51.7	0.28	152	Fault in Control net card 1756-CNRB/E causing plant trip
374159	12/1/2020	Flaring (Emergency)	0	32.94	1095	Low boiler firing rate unable to burn off excess gas
375583	1/28/2021	Venting (Planned Maint.)	50.5	0.84	444	Replace spool on V-109
375663	2/1/2021	Venting (Emergency)	50.5	0.11	57	K-613 tripped on low volume
375704	2/1/2021	Venting (Emergency)	50.5	0.69	366	Bring Evap 1 back online and the pressure swings kept tripping K-613 off line
377555	4/1/2021	Venting (Planned Maint.)	47.6	2.54	1352	Planned Maintenance on V-109
378278	4/26/2021	Venting (Planned Maint.)	52.6	0.08	45	Preventative maintenance on vent compressor K-613.

# Reportable Spills



AER ID	Date	Substance Released	"Volume Released (L)"	Cause	Corrective Action
363415	2/4/2020	Crude oil	500	Packing Failure	Replaced and upgraded the packing.
363898	2/21/2021	Crude oil	700		Replaced and upgraded the packing and stuffing box.

#### Contraventions



AER ID	Date	Event Type	Details	Corrective Action
364220	3/2/2020	Water Act Contravention	Unable to report values to WURS before deadline, January monthly level and usage report submitted through WURS contained measurements that were rejected	The licence was renewed on January 18, 2020 and the condition ID's and measurement frequency were changed from the previous licence.
364221	3/2/2020	Water Act Contravention	Unable to report values to WURS before deadline, the downhole equipment at 02-19 is not in an operable state due to problems encountered during the initial completions	A request to amend the licence to remove the well was submitted on February 17, 2020
368622	7/6/2020	Water Act Contravention	More water was extracted from source water well than was allowed, 9 exceedances of the daily limit of 550m3 on WSW 06-19 between May 21 and June 24.	Installed alarms for each respective control panel (Pod 1 and Algar) when we reach 50m3 less of our allowable totalized volume for each water well.

# **Great Divide Voluntary Self Disclosures**



No voluntary self disclosures to report during the reporting period.

### **Great Divide Monitoring Programs**



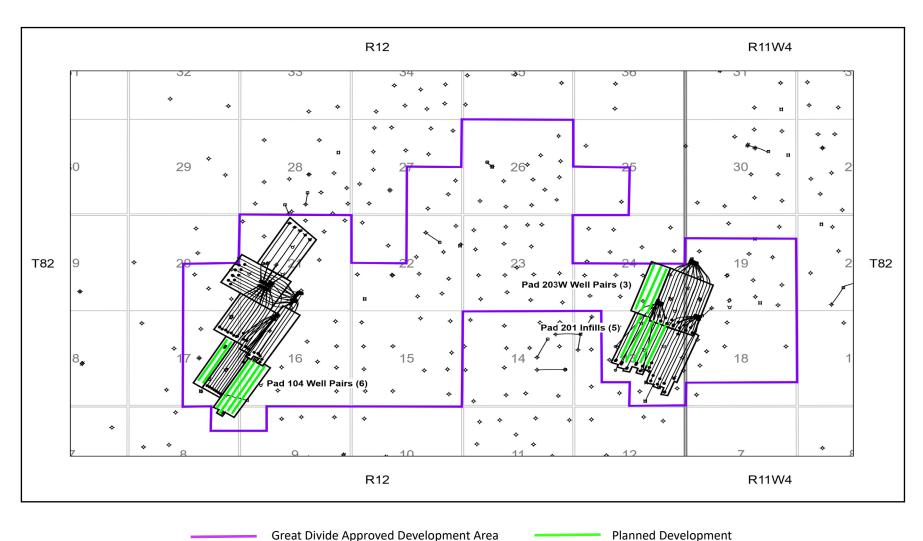
Connacher currently implements the following monitoring programs at the Great Divide Project:

- Groundwater monitoring program;
- Ambient air monitoring program;
- Industrial wastewater & Industrial runoff monitoring program;
- Soil monitoring program; &
- Wildlife monitoring program.

No material developments or changes to EPEA compliance monitoring programs

# Planned Development





**Great Divide SAGD Facilities - 10587** 

### Summary of Future Plans



• Connacher is currently drilling four well pairs on Pad 104, and plans to drill 5 infill wells at Pad 201 and 3 well pairs at 203W in the next 12 months.

Applications expected to be submitted to the AER in the next year:

- Category 2, D023 License Application New Well Pairs (3) and Infill Wells (2) at Pad 202, Approved Development Area Land Expansion for Pad 202 Wells – Dec 16, 2021
- Category 2, D023 License Application to Amend NCG Co-Inj Plan & Implement Blowdown Strategy on Pads 102W & 1015 – Jan 21, 2022
- New wells will be tied into existing production and steam headers.
  - Connacher has approval for major projects, summarized in the next slides:
    - Pod One Sustaining Production
    - Algar Expansion and Sustaining Production
    - Pod One Mini Steam Expansion
    - Algar SAGD+ Commercialization

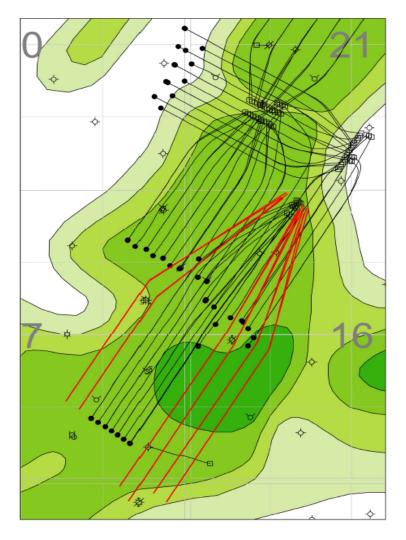
# Pod One Sustaining Production



- 10 Well Pair Approved for Pad 104 (Approval 10587H)
- Currently there are 4 existing Well Pairs at Pad 104

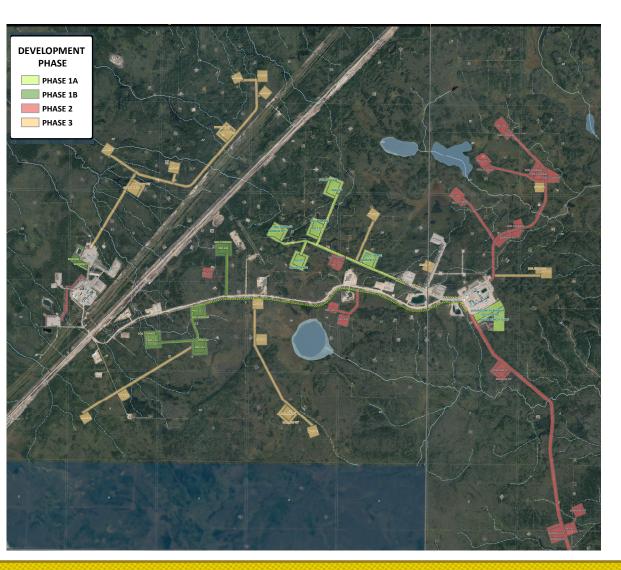
\_\_\_\_\_ Approved \_\_\_\_\_ Existing





## **Great Divide SAGD Expansion Project**





- EIA Deemed Complete
- Commercial Scheme Approval Received September, 2012
- EPEA Approval Amendment Received December, 2013
- Approved for expansion to 44,000 bbl/day

# **Algar Sustaining Production**





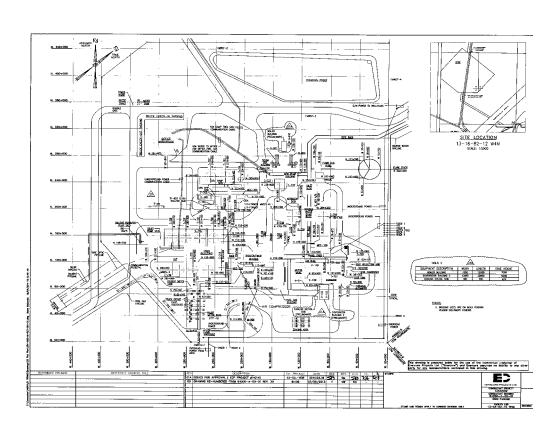
Near Future Development to include:

- Pad 232 (Phase 1A)
- Borrow Pit
- Utility Corridor

## Pod One Mini Steam Expansion



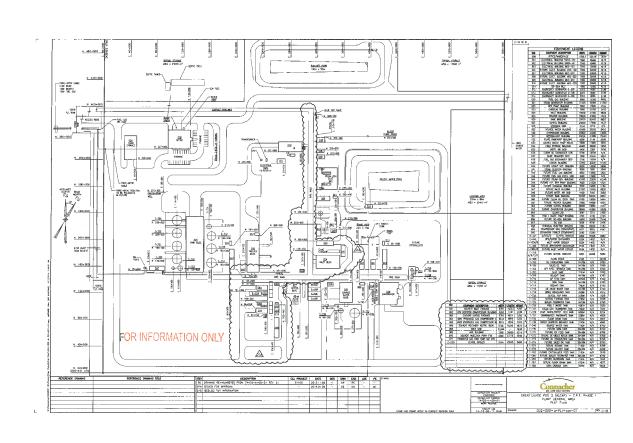
- Commercial Scheme Approval 10587P
- 500 t/d of steam
- Allows for 2 Well Pair at Pad 104
- Steam Generator (17.26 MW)
- 2 Evaporator Units
- No additional water allocation required



# Algar SAGD+® Commercialization



- Commercial Scheme Approval 10587K.
- Light hydrocarbon (solvent) and steam co-injection at all well pairs at Algar.
- Solvent to be recovered at facility for re-injection.
- EPEA 67(3) No objection received May, 2014.
- Construction began August,
   2014 but not yet completed.



# Algar SAGD+® Commercialization



- Commercial Scheme Approval 10587K.
- 3 inch light hydrocarbon pipeline to all well pads.
- Installed on existing pipe rack.
- Construction completed but not yet commissioned.

