Connacher Performance Presentation - 2018

Great Divide SAGD Facilities - 10587

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Forward Looking Information and Advisories

This Presentation contains forward looking information including, expectations for future production and total bitumen recovery, estimates of reserves, future development of the **SAGD+®** process commercial project at Algar and mini-steam expansion at Pod One and the anticipated impact thereof, growth potential associated with certain additional capital investment options and development projects to be undertaken at Algar, sustainability of production, well and plant performance, the steam to oil ratio (“SOR”), and plant reliability.

Forward looking information is based on management’s expectations regarding the Company's future growth and financial position; results of operations and production, future commodity prices and foreign exchange rates; future capital and other expenditures (including the amount, nature, and sources of funding thereof), plans for and results of drilling activity; environmental matters; business prospects and opportunities; and future economic conditions. Forward looking information involves significant known and unknown risks and uncertainties, which could cause actual results to differ materially from those anticipated. These risks include, but are not limited to: the risks associated with the oil and gas industry (e.g., operational risks in development, exploration and production; delays or changes in plans with respect to exploration or development projects or capital expenditures; the uncertainty of reserve and resource estimates; the uncertainty of geological interpretations; the uncertainty of estimates and projections relating to production, costs and expenses; and health, safety and environmental risks), risk of commodity price and foreign exchange rate fluctuations, risks associated with the impact of general economic conditions, risks and uncertainties associated with maintaining the necessary regulatory approvals and securing the financing to proceed with the operation and continued expansion of the Great Divide oil sands project.

This presentation includes information pertaining to the reserves as at December 31, 2016, as evaluated by GLJ Petroleum Consultants Ltd., in their report for the year ended December 31, 2016 (the “GLJ Report”). Statements relating to reserves are deemed to be forward looking statements, as they involve the implied assessment, based on certain estimates and assumptions, that the reserves described exist in the quantities predicted or estimated, and can be profitably produced in the future. Certain information and assumptions relating to the reserves reported herein are set out in the Corporation's Statement of Reserves Data and Other Oil and Gas Information for the year ended December 31, 2016, which is available on the System for Electronic Document Analysis and Retrieval (SEDAR) at www.sedar.com. There is no assurance that the forecast price and cost assumptions contained in the GLJ Report will be attained and variances could be material. The reserves estimates of Connacher's properties described herein are estimates only. The actual reserves on Connacher's properties may be greater or less than those calculated.

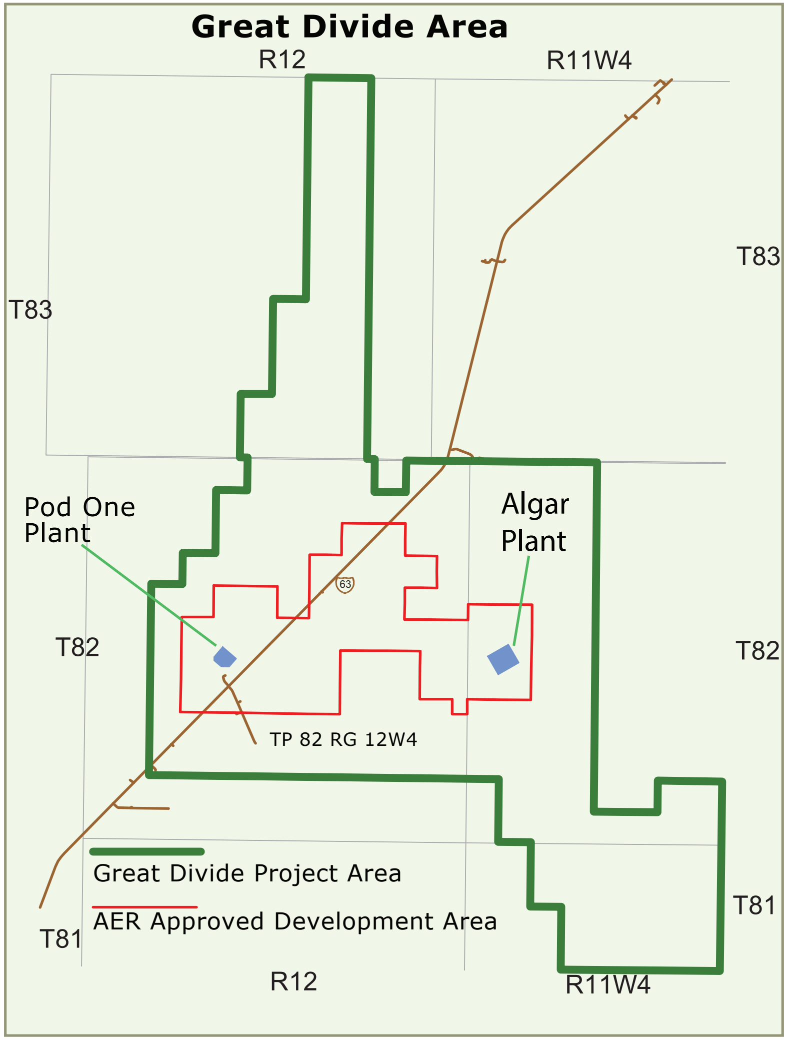
Design capacity is not necessarily indicative of the stabilized production levels or steam generation capacity that may ultimately be achieved at Connacher’s SAGD project sites. Reported average production levels may not be reflective of sustainable production rates and future production rates may differ materially from the production rates reflected in this presentation due to, among other factors, difficulties or interruptions encountered during the production of bitumen.

Although Connacher believes that the expectations in such forward looking information are reasonable, there can be no assurance that such expectations shall prove to be correct. The forward looking information included in this presentation is expressly qualified in its entirety by this cautionary statement. The forward looking information included herein is made as of the date of this presentation and Connacher assumes no obligation to update or revise any forward looking information to reflect new events or circumstances, except as required by law.

Subsurface - Background

Assets

- Connacher is a focused developer, producer, and bitumen marketer from its in-situ oil sands projects in Alberta's Athabasca oil sands.
- Primary driver of value is the continued development of its bitumen production at its Great Divide oil sands operations using in-situ recovery methods
- Oil sands reserves and resources include 444,973 Mbbl of 2P reserves (as of 31 December 2017 per GLJ Petroleum Consultants) [1]



[1] See Slide *AppendixB* for Reserve Definitions

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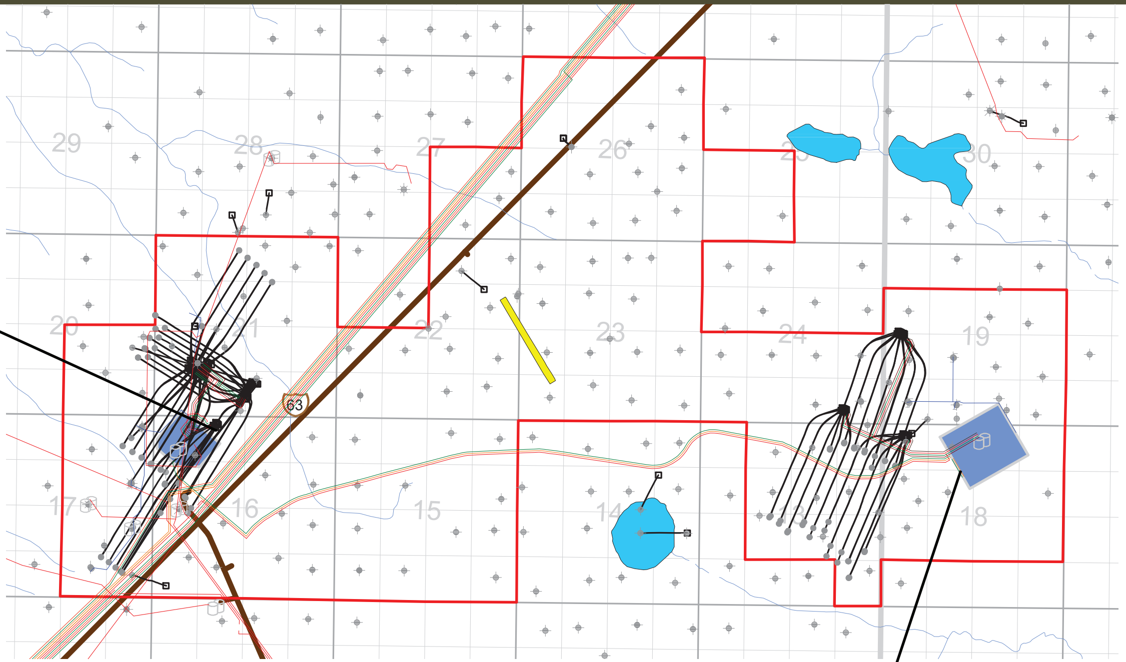

Pod One

- First Steam September 2007
- First Bitumen October 2007

Algar

- First Steam May 2010
- First Bitumen July 2010

Highlights - 2018 Connacher Presentation

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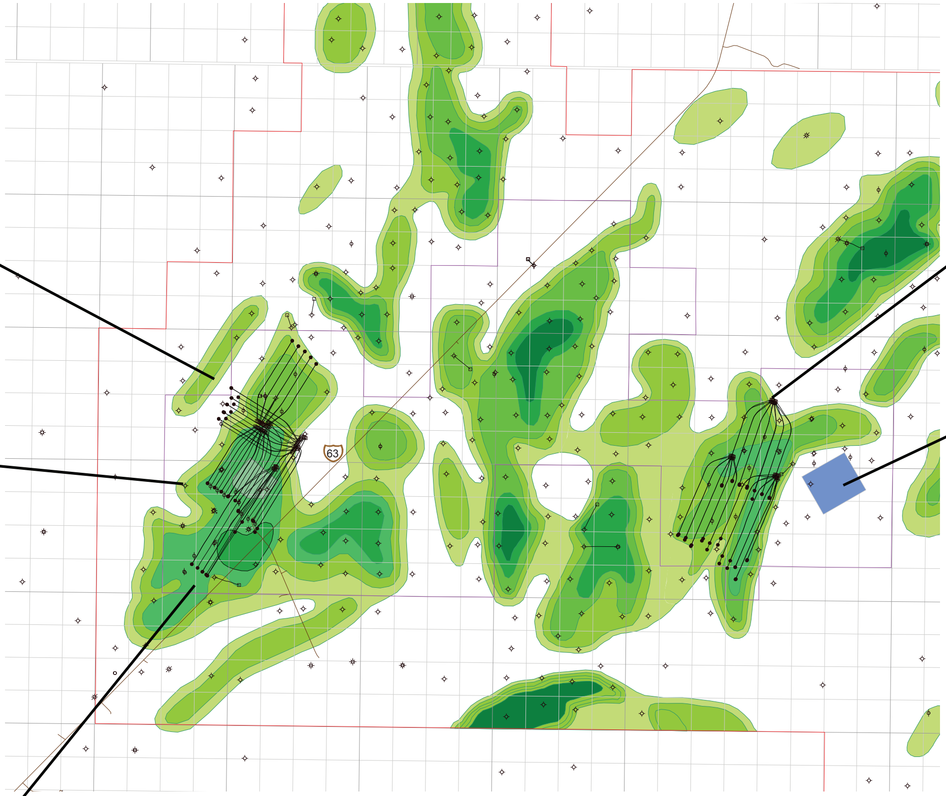
No Changes to Net Pay
and other Geology Maps

Pod One production stable following ramp-up

Mini Expansion at Pod One Approved



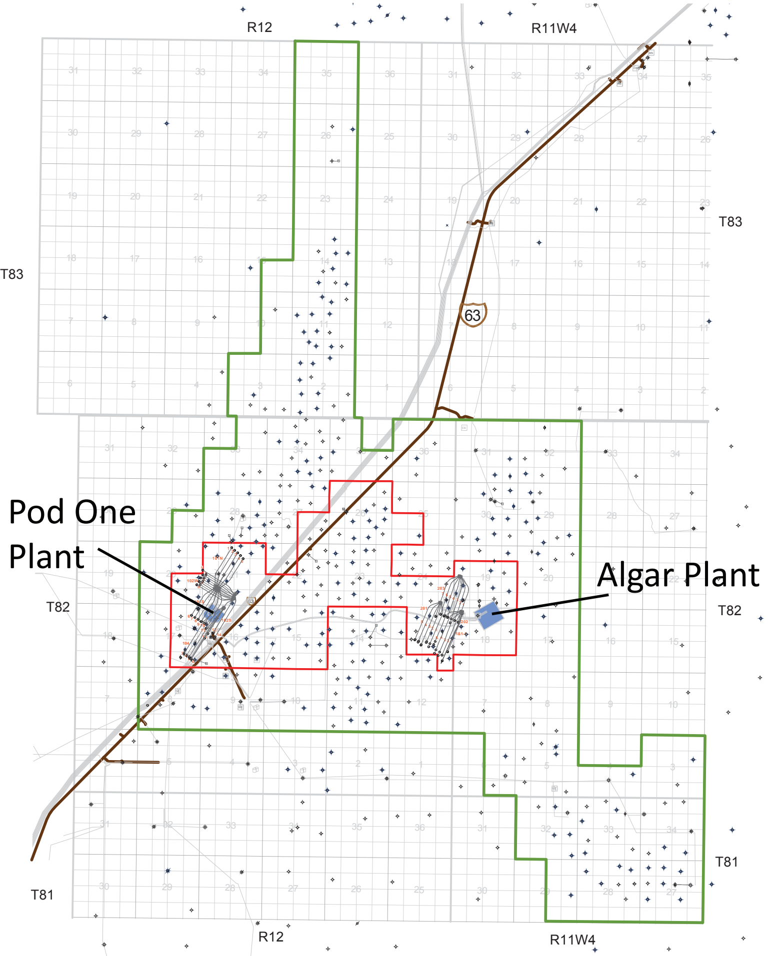
Algar production steady following ramp up

SAGD+® Process Commercial Project Approved at Algar

Pad 104
- 10 Well Pairs Approved
- 4 Wells Drilled and Producing

Other
- Pump Performance Update
- Water Recycle Update
- Facilities and MARP updates
- HSE Updates

Great Divide (Approval 10587) Development



Project Development Area

Approved Development Area

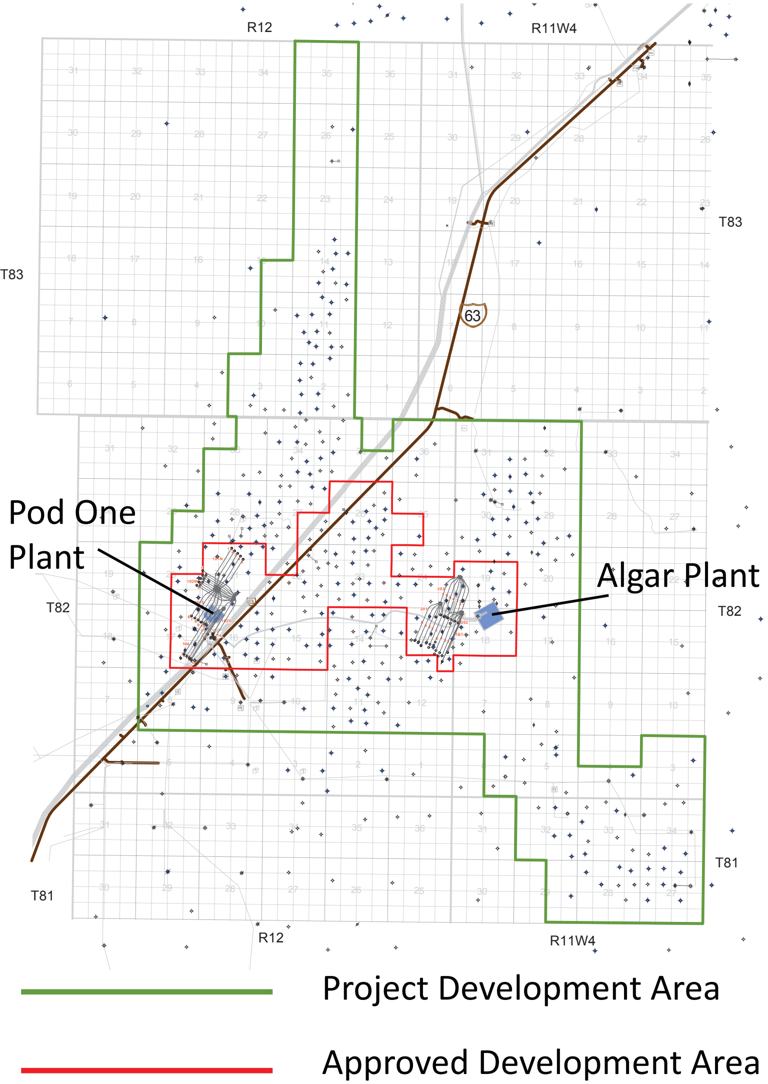
Pod One Current Development

- 23 Well Pairs and 13 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

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))

Great Divide (Approval 10587) Development



Algar Current Development

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

Algar Development History

- Original 17 Well Pairs Drilled in 2009
- Replacement Well Pair (202-01) drilled in 2013
- Approved for 5 Infills on Pad 203 in 2014

Great Divide Summary

	Pod One @ Sept 30, 2018	Algar @ Sept 30, 2018
First Steam	September 2007	May 2010
First Sales Oil	October 2007	June 2010
Cumulative Bitumen Produced e^3m^3	4,053	2,718
Cumulative Steam Injected e^3m^3	15,237	12,701
Cumulative SOR	3.76	4.67
Number of Producing Well Pairs	22	18
Number of Circulating Well Pairs	0	0
Infill Wells Producing	9	0
Wells Using Gas Lift	0	18
Wells Using Downhole Pumps	31	0
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 - Geology

Great Divide Area Type Well

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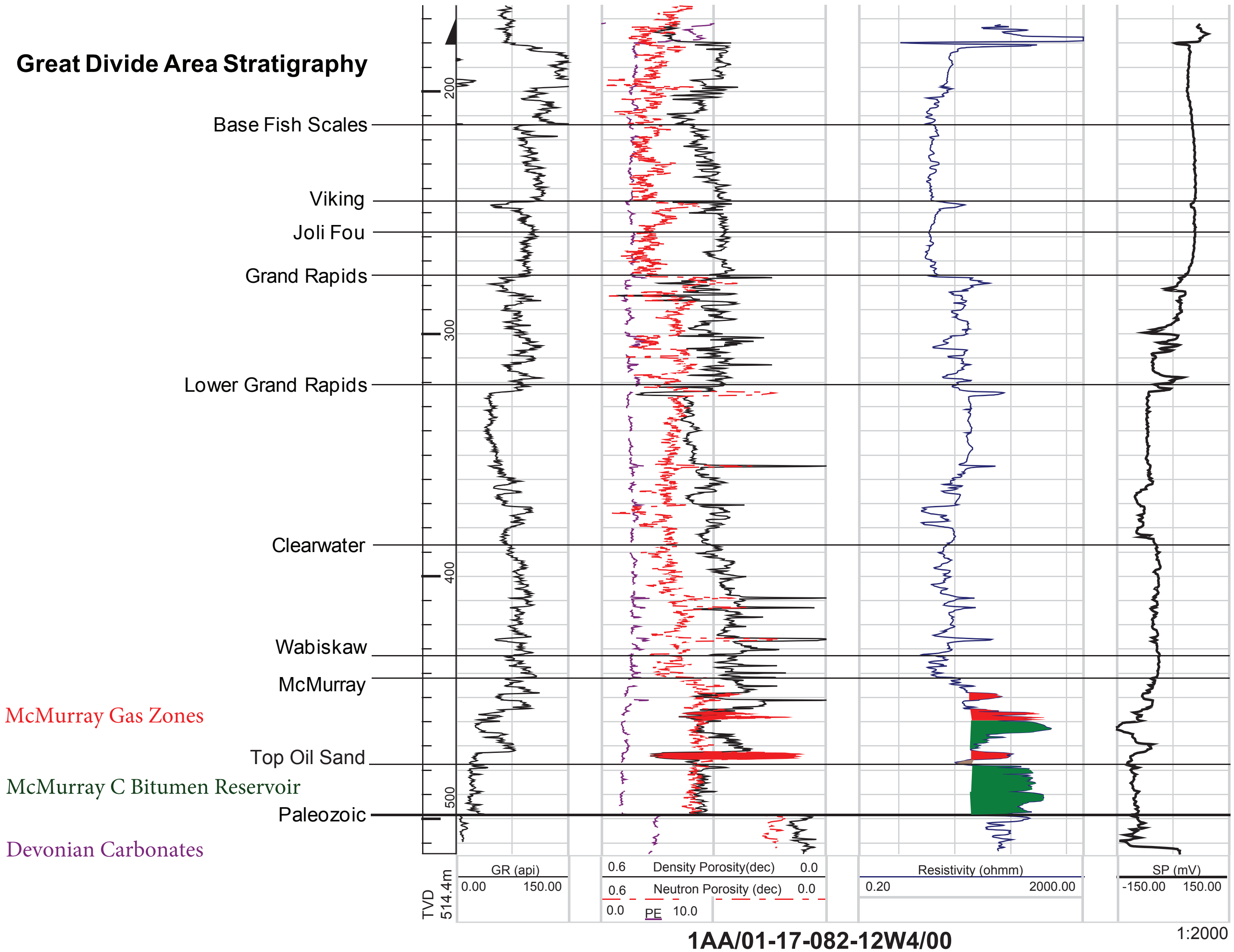
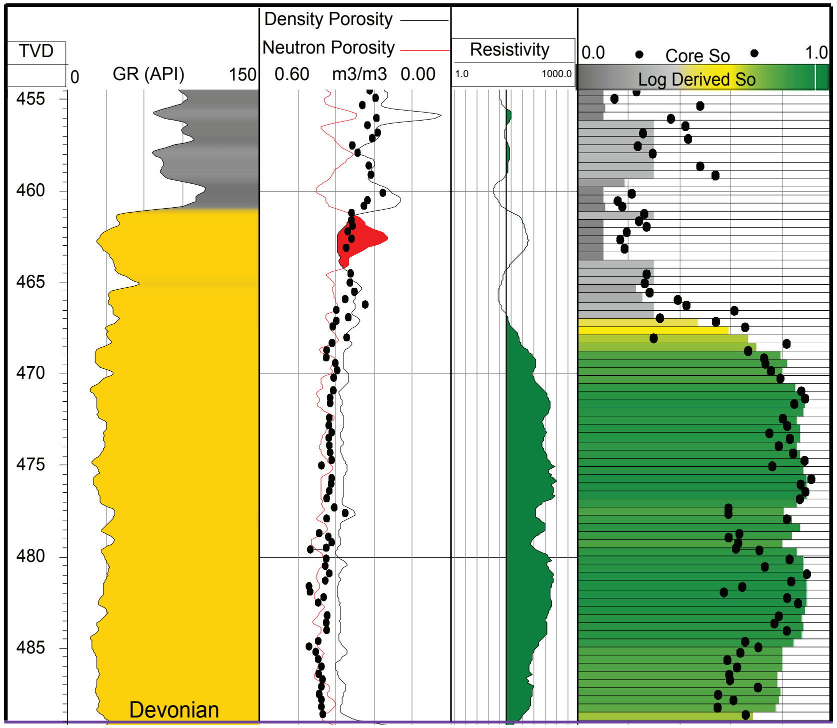


Great Divide Area Core & Log Data

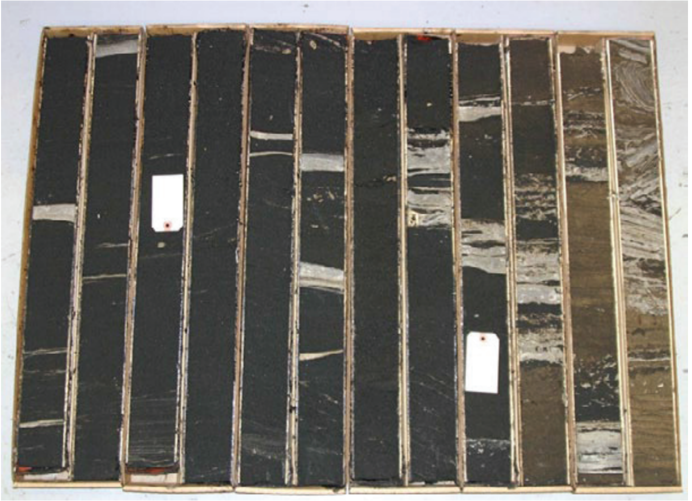
- Log vs Core Comparison
- Analytical interpretation of geophysical logs to determine bitumen saturations (wt%) gives good correlation with core derived bitumen saturations (wt%). Examples shown below.

Typical Composite Log with Interpretation and core data comparison.



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

Well	Log NetPay	Core Net Pay	Log Bitumen Wt %	Core Bitumen 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%



Great Divide Reservoir Parameters

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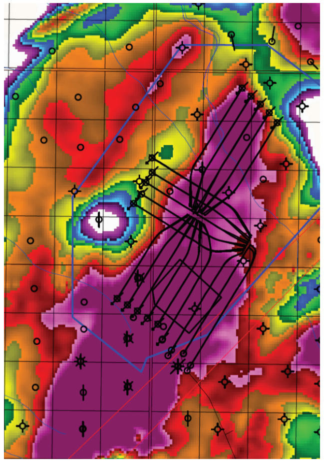
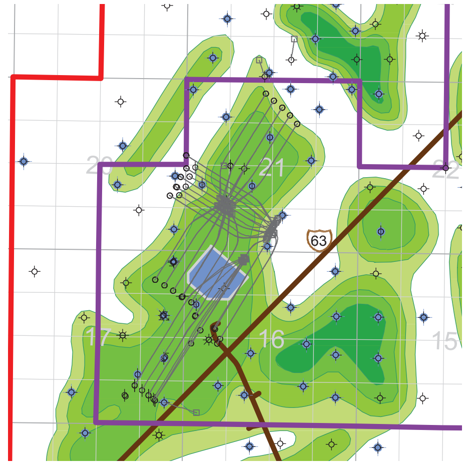
	Pod One		Algar	
	Range	Average	Range	Average
Reservoir Thickness (m)	10 - 30	22	10 - 30	25
Depth to Top of Reservoir (m)	450 - 490	475	465 - 500	485
Reservoir Net Pay (m)	10 - 25	21	10 - 30	22
Oil Saturation (%)	75 - 85	80	72-80	76
Bitumen Density (kg/m3)		1018		1018
Bitumen Viscosity (cPs)		> 1 million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



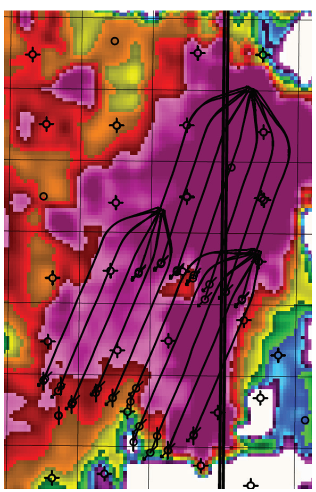


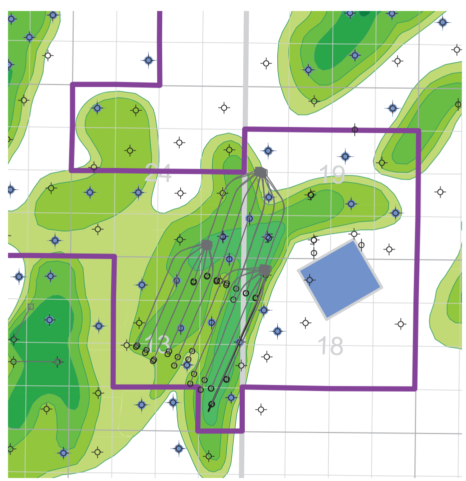
Pod One

Net Pay
(m)

10-15m
15-20m
20-25m
25-30m
>30m

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.

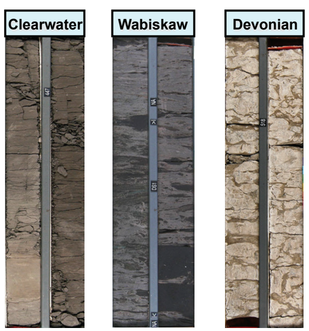
No new Seismic was shot during the 2015-16 exploratory season.

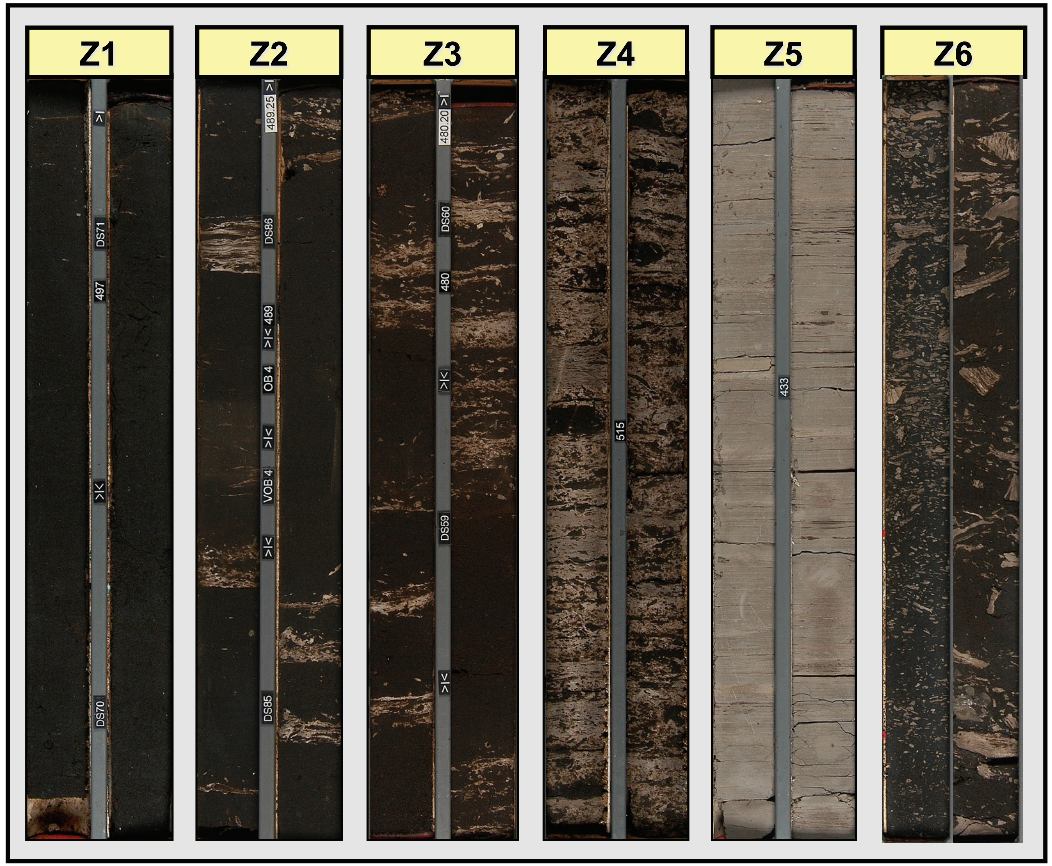
Great Divide Area Oil Sands Facies and Pay

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

Net Pay Map Great Divide Area

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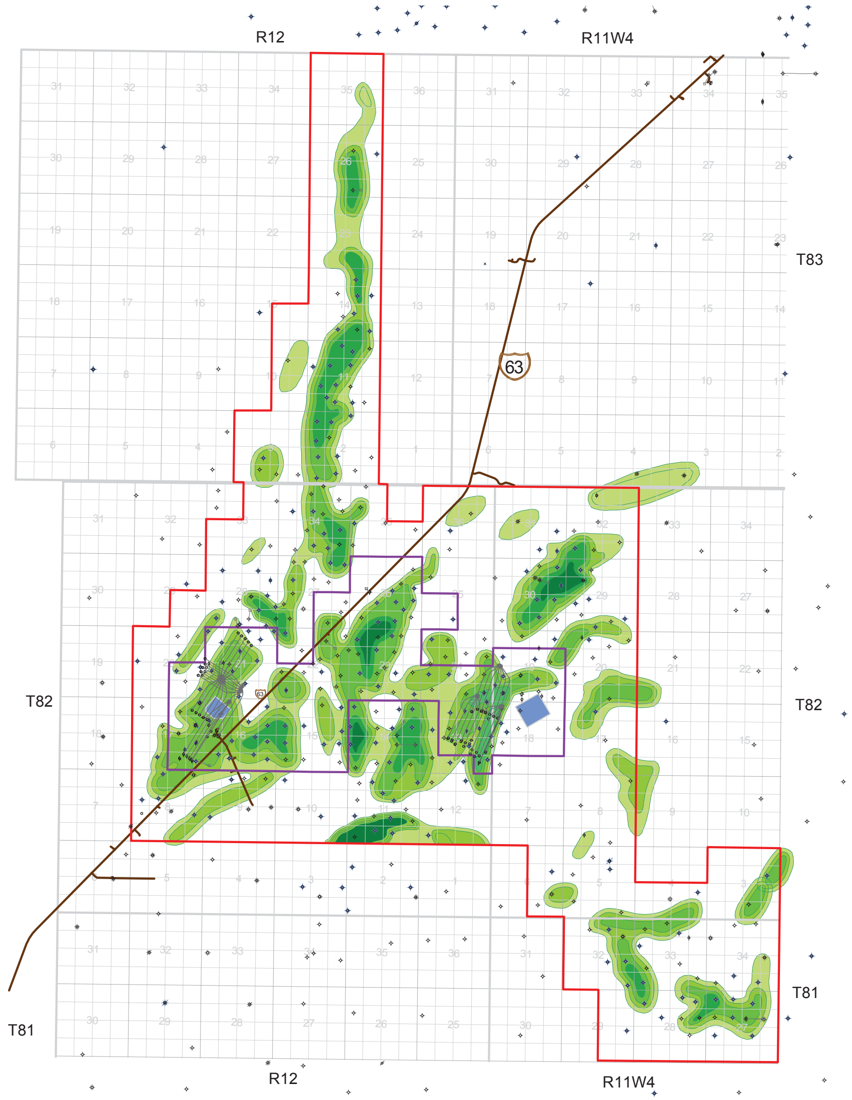


Net Pay (m)

- 10-15m
- 15-20m
- 20-25m
- 25-30m
- >30m

Minimum Criteria:

Continuous Net Pay >10m

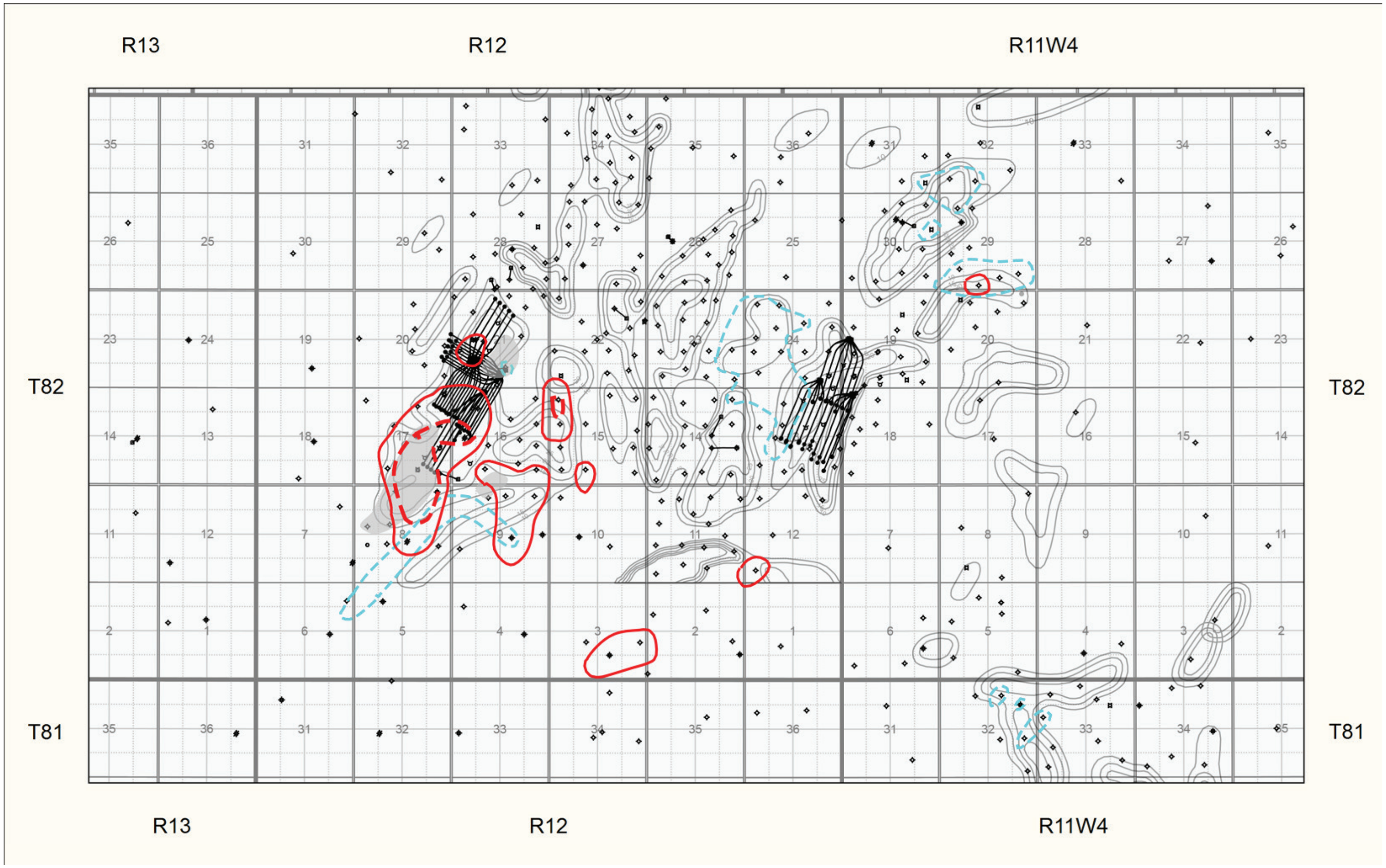
Saturation 7% Bitumen by Weight

Porosity >25%

Great Divide Project Approval Area

Great Divide Approved Development Area

Combined Gas Cap & Lean Zone & Bottom Water Map



Original pressure of the gas cap was 2027 kPa in 1988. Subsequent to depletion, the lowest pressure recorded was 746 kPa in 2003.

Estimated original BW pressure of 2500 kpa based on lowest (520 mKB) gauge in Algar observation well 100/15-13-082-12W4 prior to steam injection May 2010.

Bottom Water
5 to 10m
~ 3150 kPa

Lean Zone Thickness (m)
0 to 5m
5 to 10m

Gas Cap Thickness (m)
0 m
5 m

Bitumen Net Pay
Starting at 10m and
then in 5m increments

Top of Oil Sands Elevation

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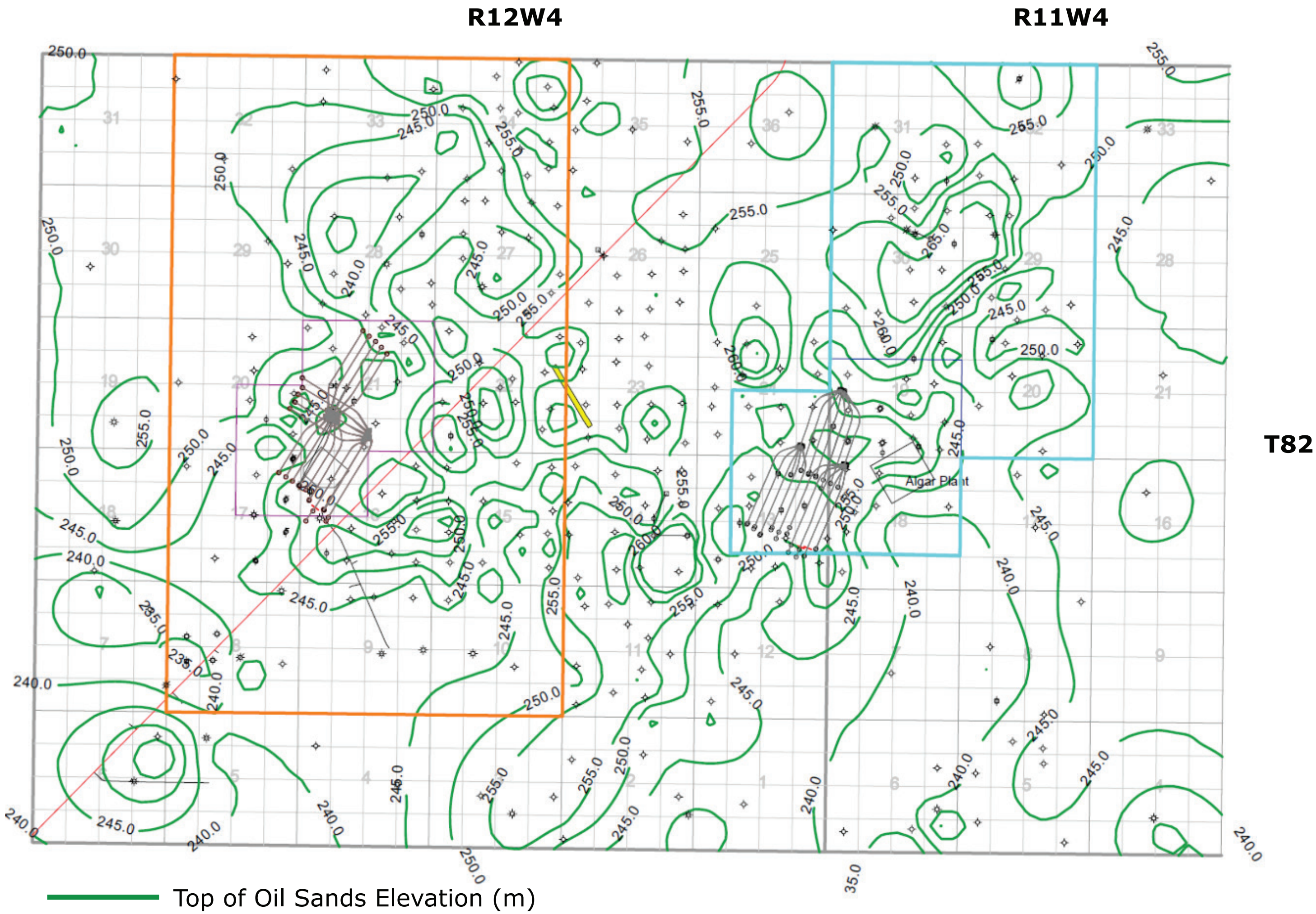

Base of Oil Sands

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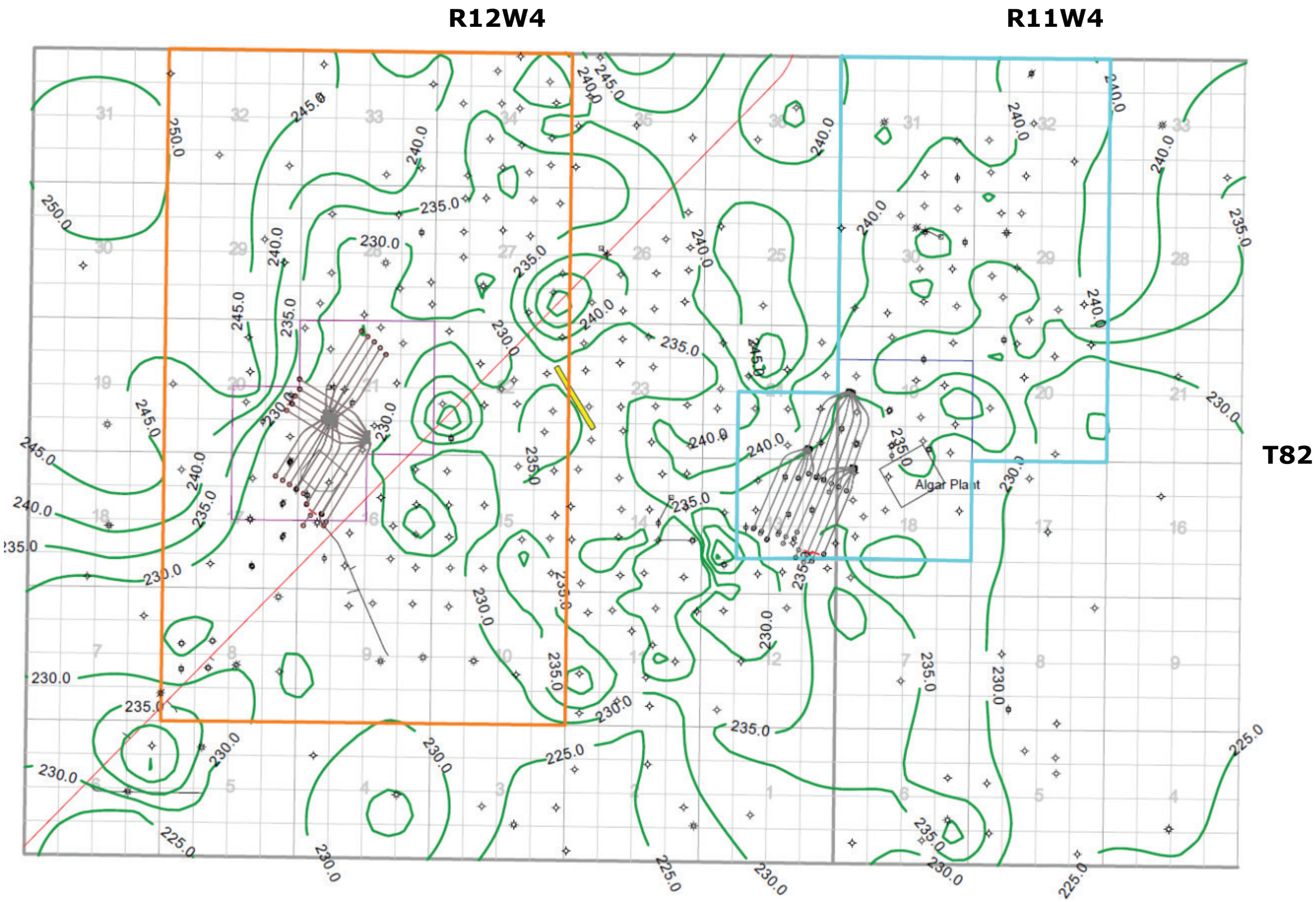

Base of Oil Sands Elevation (m)

Paleo Structure Elevation

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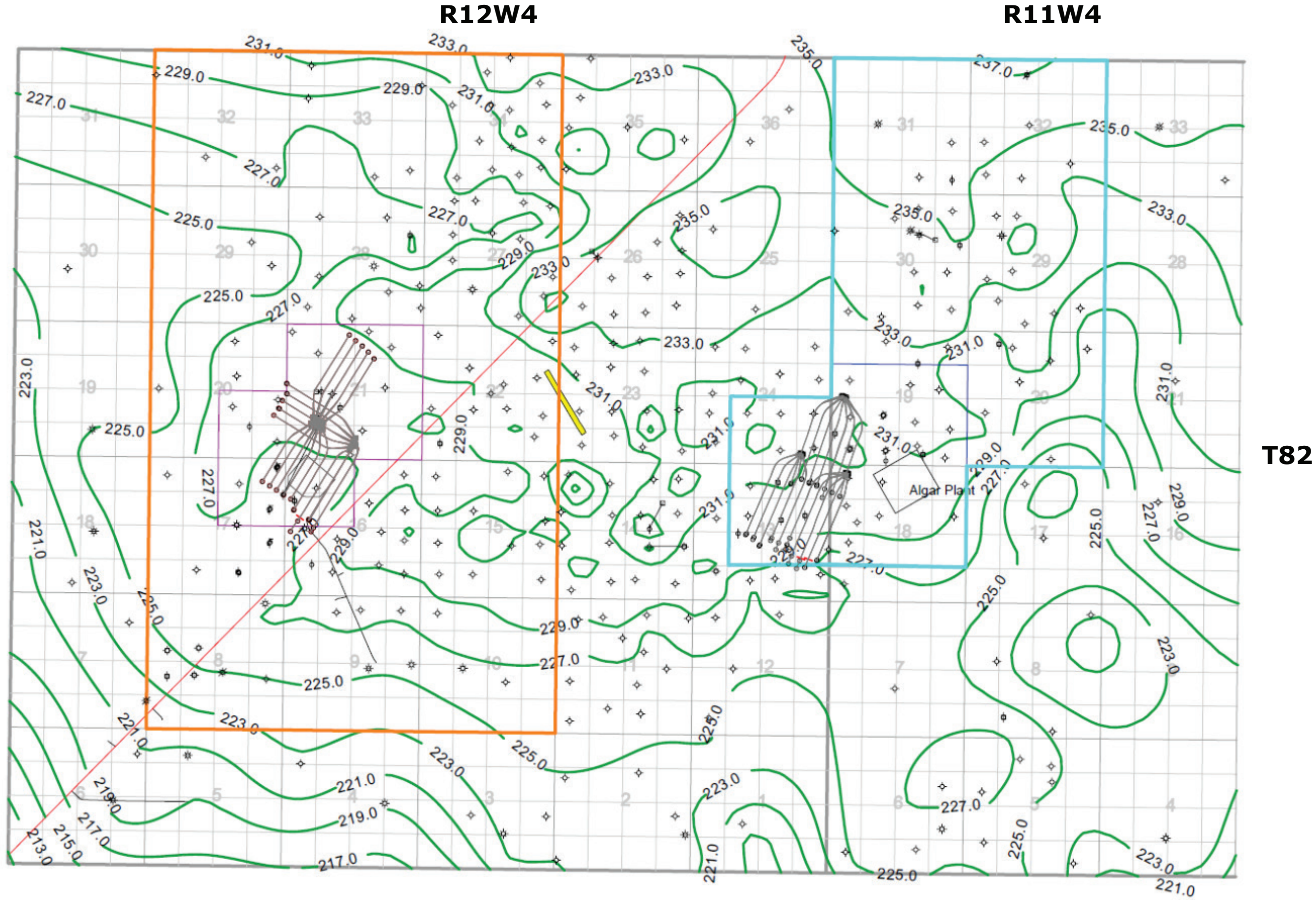
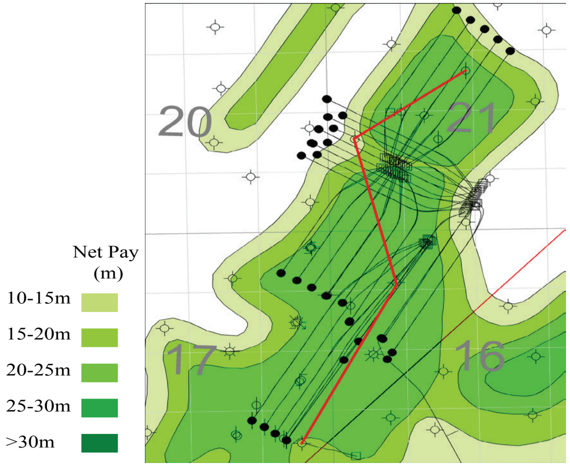
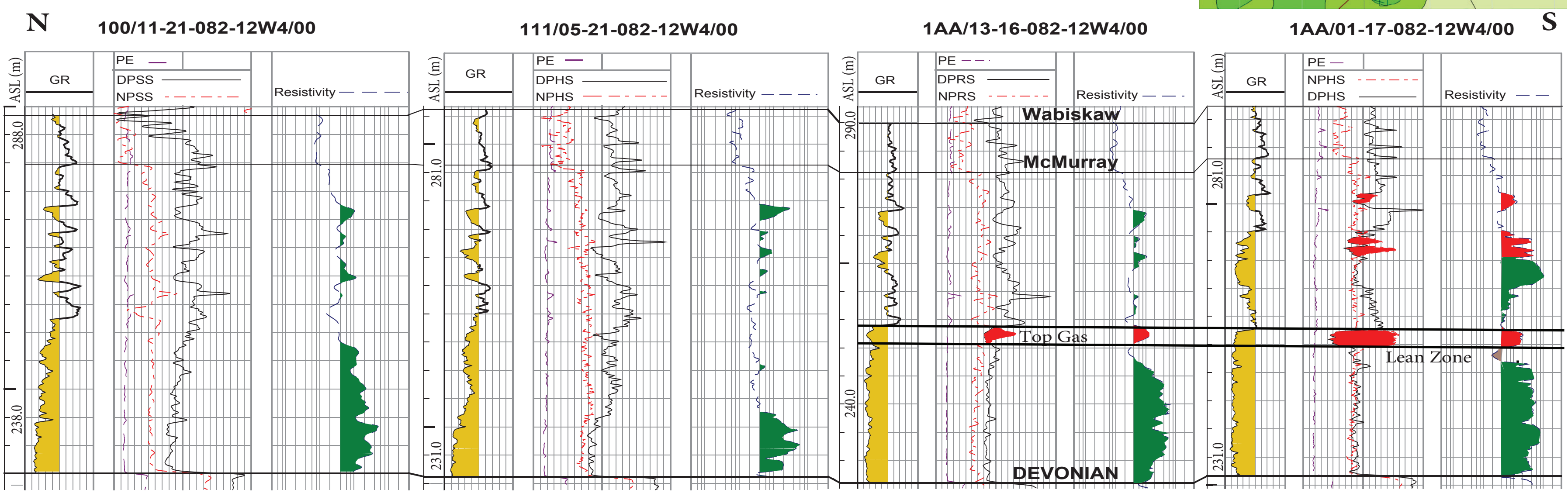


Paleo Structure Elevation (m)

Typical Section - Pod One

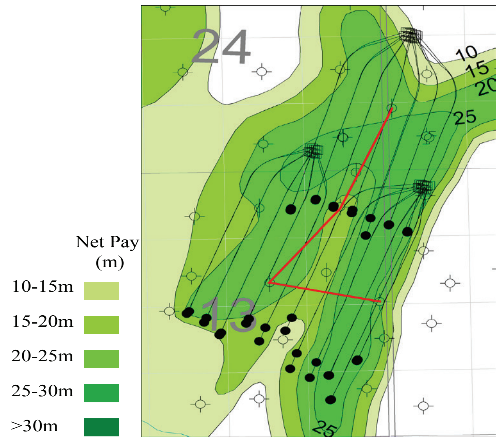
Pad 101N is characterized by a higher abundance of IHS in the upper part of the reservoir. As seen in well 05 - 21, the sand body gradually thins to the west. In contrast, the reservoir to the south is dominated by clean Z1 sand facies but develops a gas cap with a lean zone above the bitumen pay column.

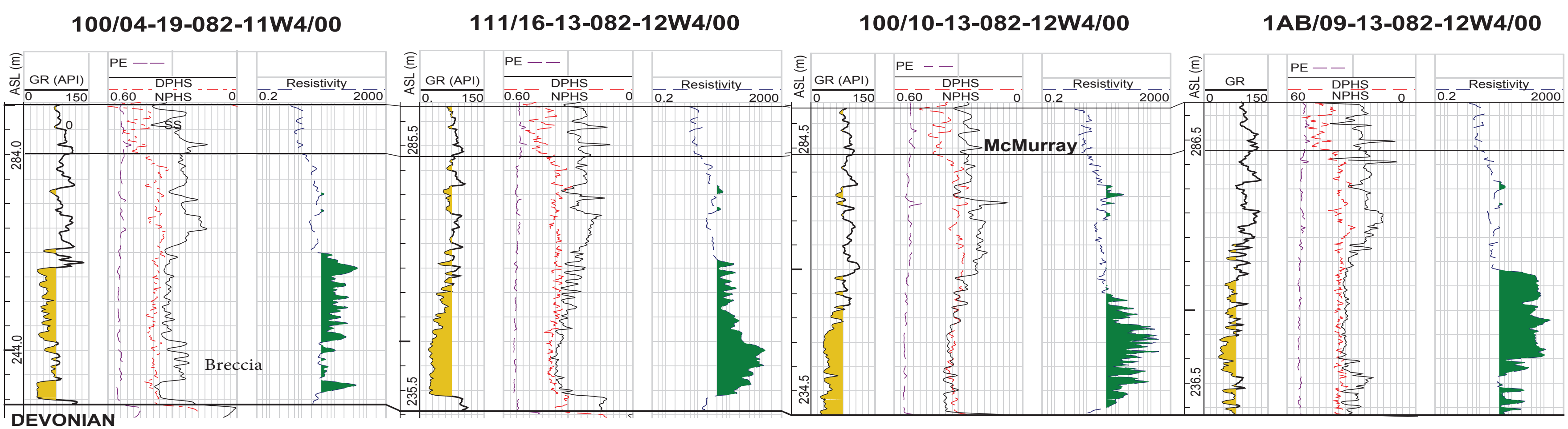




Typical Section - Algar

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.





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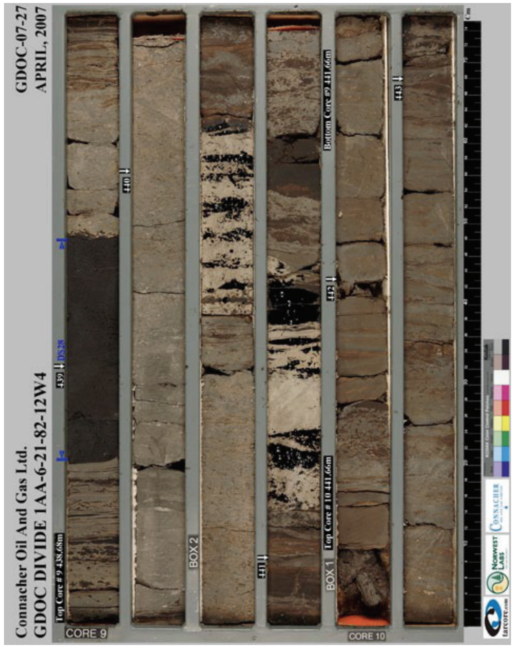

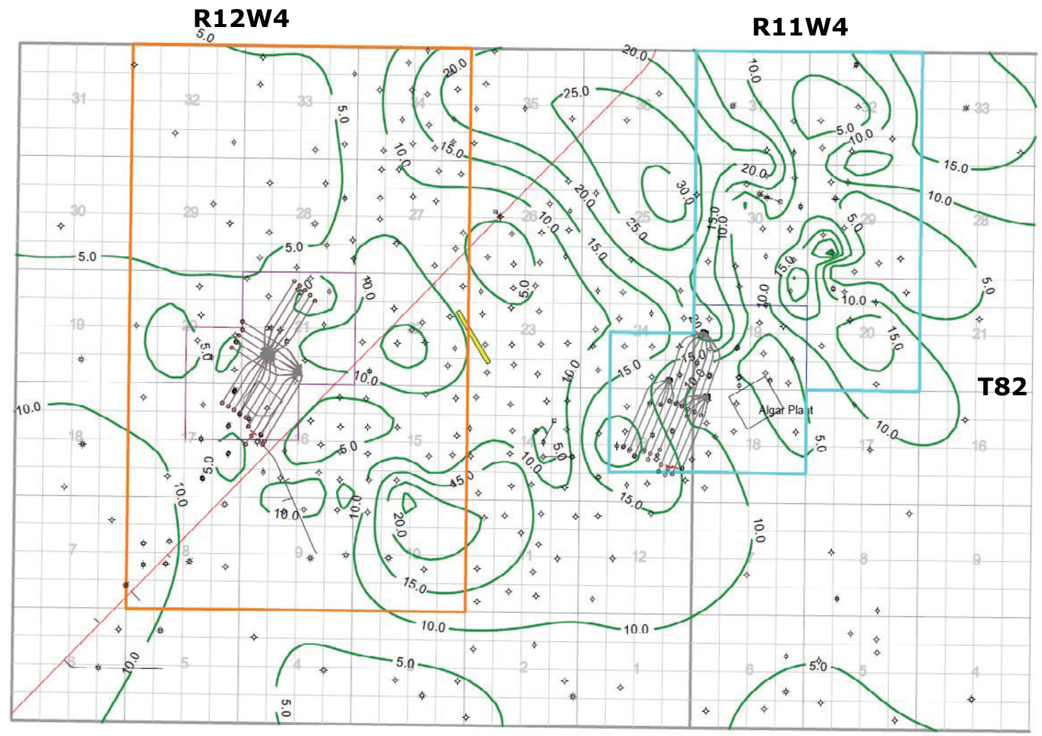

Regional McMurray IHS and Shale Caprock Map

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

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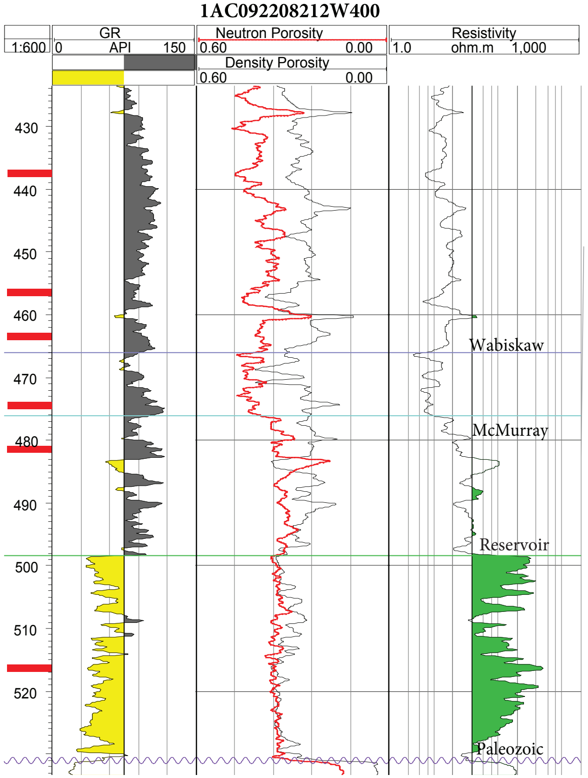
Results of the 1st Mini Frac at 1AB/14-27-082-12W4

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



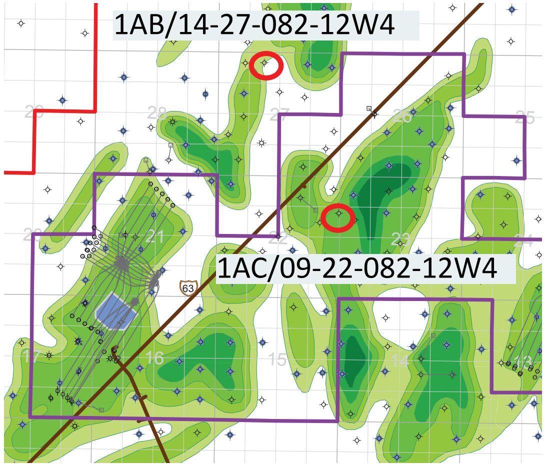
A Mini Frac test was conducted in well 1AB/14-27-082-12W4 in February 2010. Certain concerns were raised about one test being representative for the whole project area and also the closure pressure determined for the Wabiskaw which could have been influenced by local changes in rock mechanical properties.

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 2nd 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



Cap Rock Integrity - Pod One Monthly Average BH Injection Pressure

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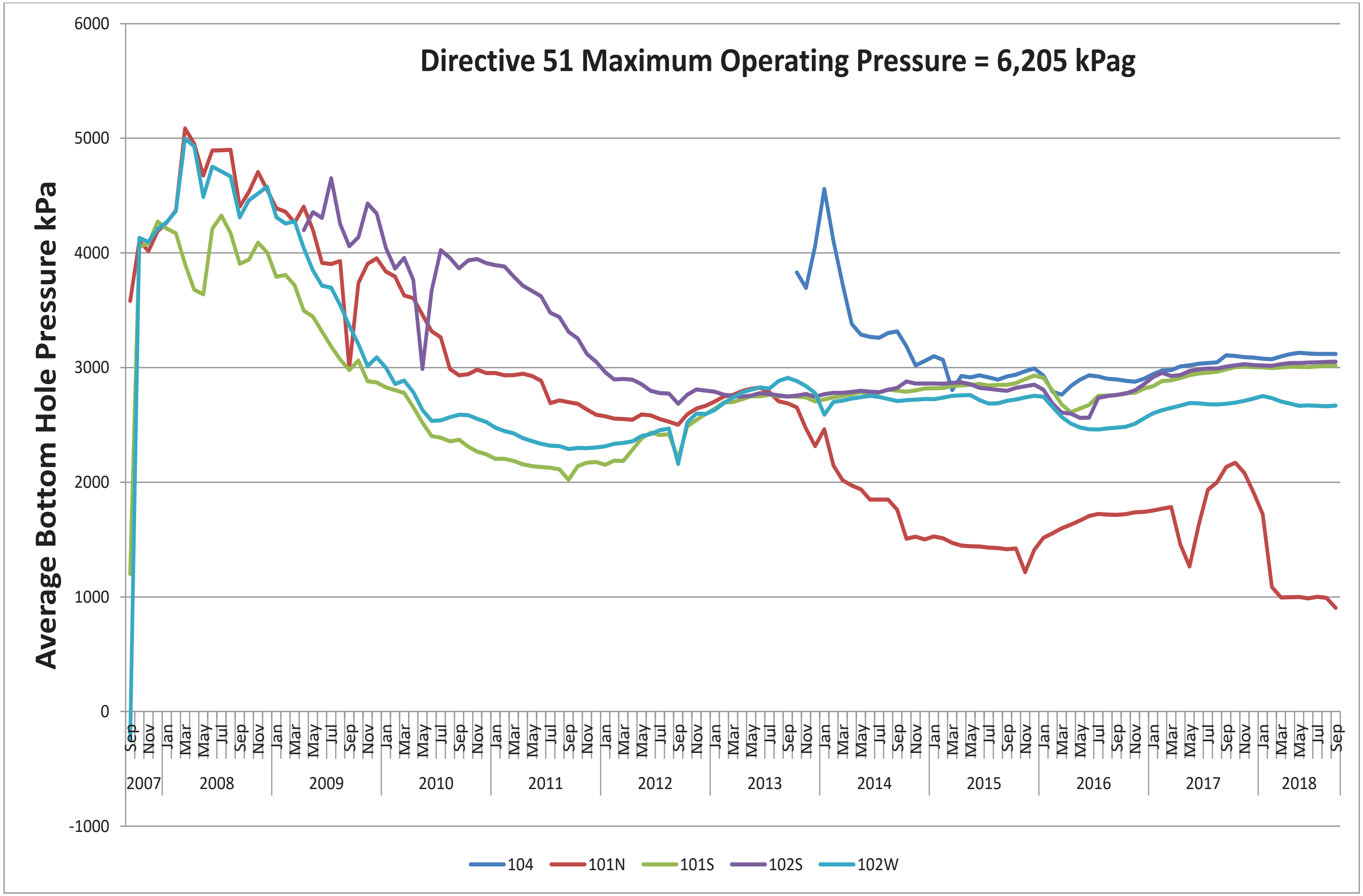

Cap Rock Integrity - Algar Monthly Average BH Injection Pressure

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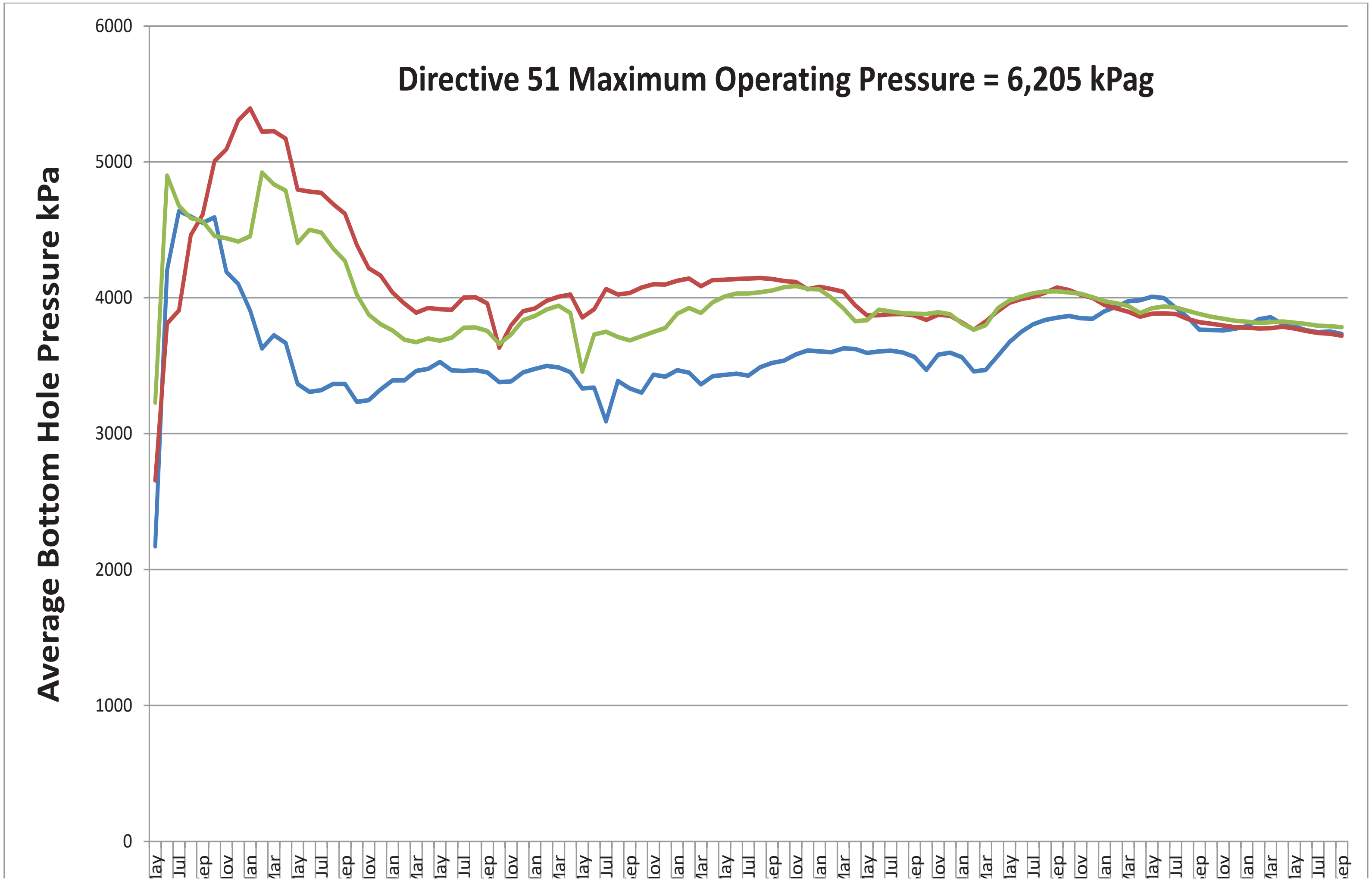
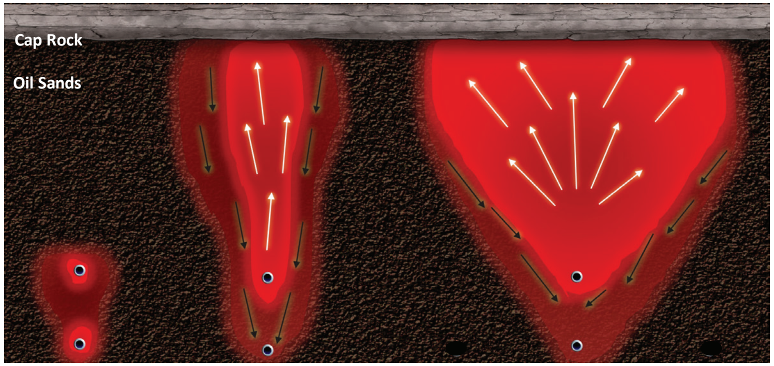
Directive 51 Maximum Operating Pressure = 6,205 kPag



Subsurface - Recovery Process

Basic Process



Circulation	Peak SAGD Production	Low Pressure SAGD Production
High Pressure	High Pressure	Low Pressure
~90 days	~12 to 18 months	~4 to 6 years
Steam Lift	Gas Lift	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
- SAGD+® Commercial Project
- Natural Gas Co-injection (intermittent pressure maintenance)

Technologies Developed/Developing

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Description	Stage	Reason	Approvals
Pressure Balancing Under a Top Gas & Lean Zone & Bottom Water	Developed	• Eliminate steam losses into a gas and lean zone, lower SORs and improve productivity. • Required the parallel development of reliability on high temperature downhole pumps.	Operating within existing approvals
Gas Co-injection	Implemented	• Natural gas can replace steam to maintain pressure	Approved for full field at Pod One Approved for full field at Algar
Gas Cap Repressurization	Implemented	• Reduces steam losses into gas cap and lean zone	Approved
SAGD+® Process Trial / Commercial	Trial Completed	• Reduces bitumen viscosity lower than steam alone to improve production rates, SOR, and recovery.	Commercial **SAGD+®** Commercial Project approved at Algar
Infill Wells	Implemented	• Additional production and reserves at low capital and SORs	Approved for 5 Infill Wells at Algar Pad 203

Pressure Balancing (Top Gas & Lean Zone)

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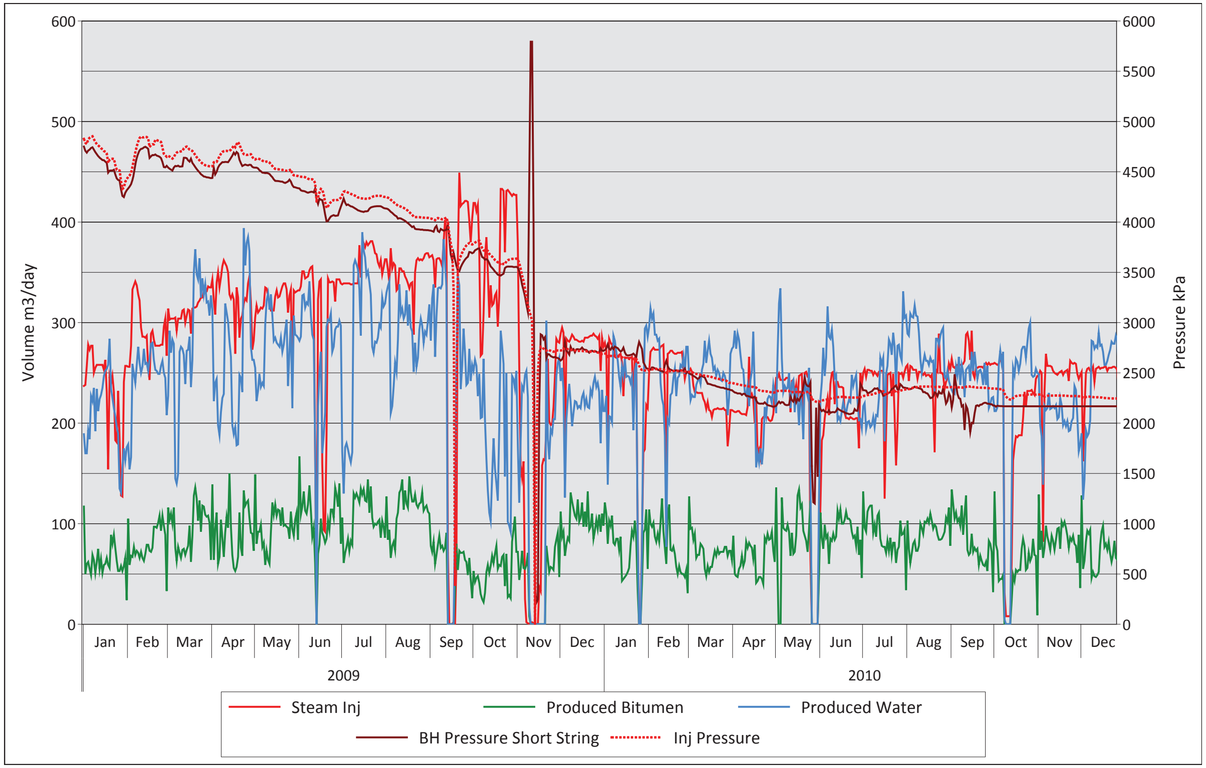
Well Pair 101S-09



- Temporary production impact during pressure balance
- Improved SOR with low pressure operation
- Pad 104 is being operated in a similar manner except that the re-pressurization is expected to reduce the quantity of steam losses when the steam reaches the lean zone and pumps are being installed earlier

Pressure Balancing (Bottom Water)

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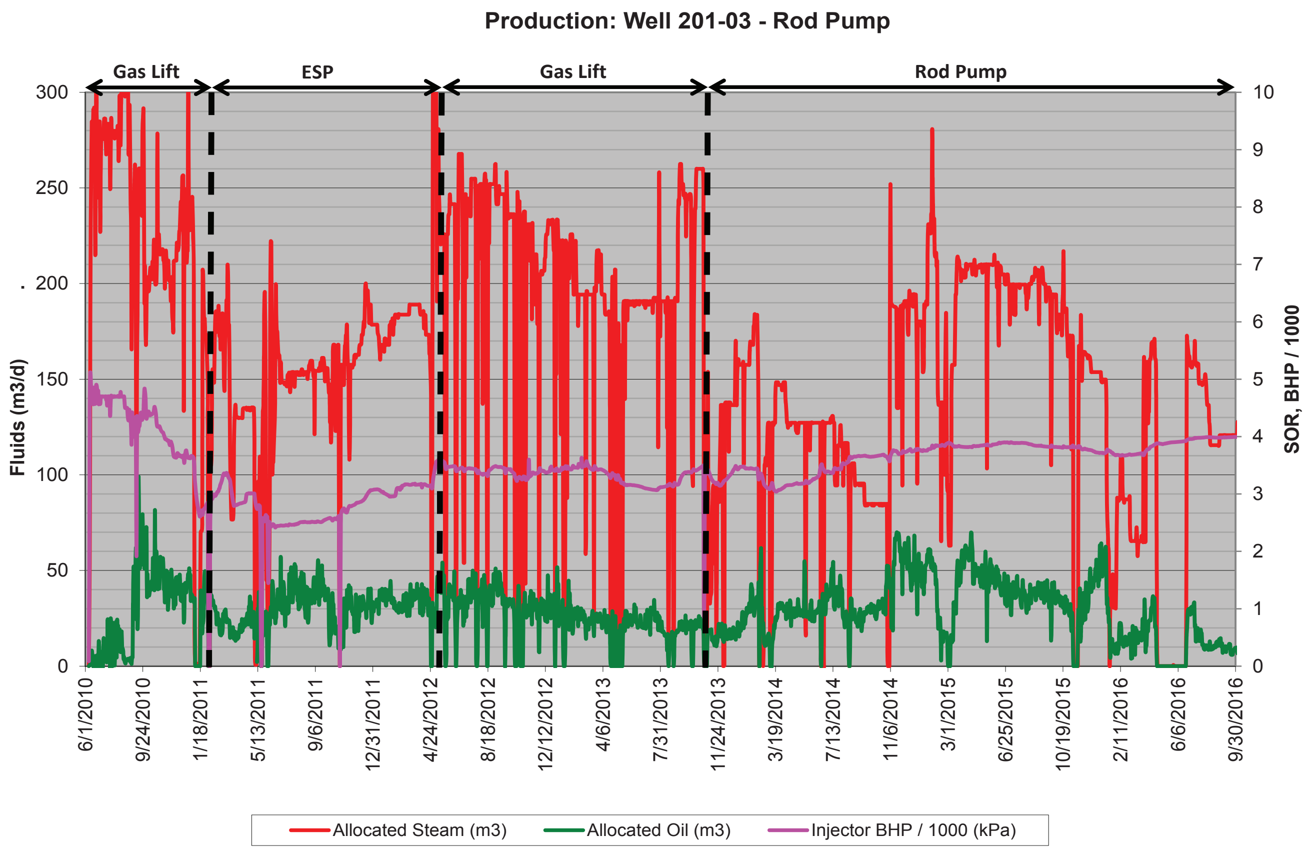
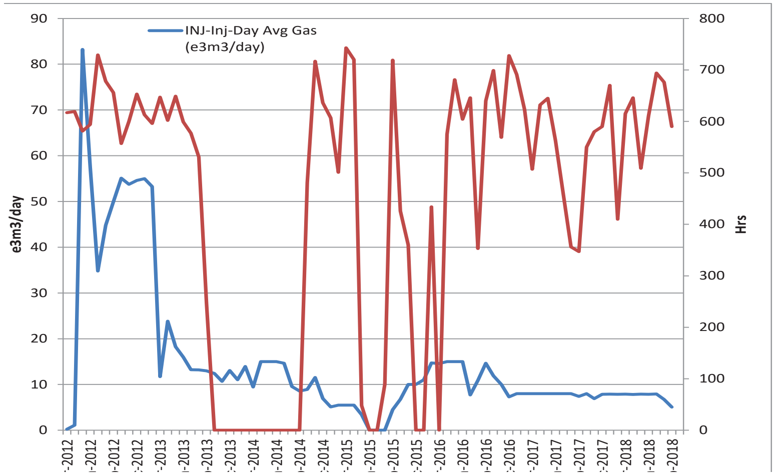


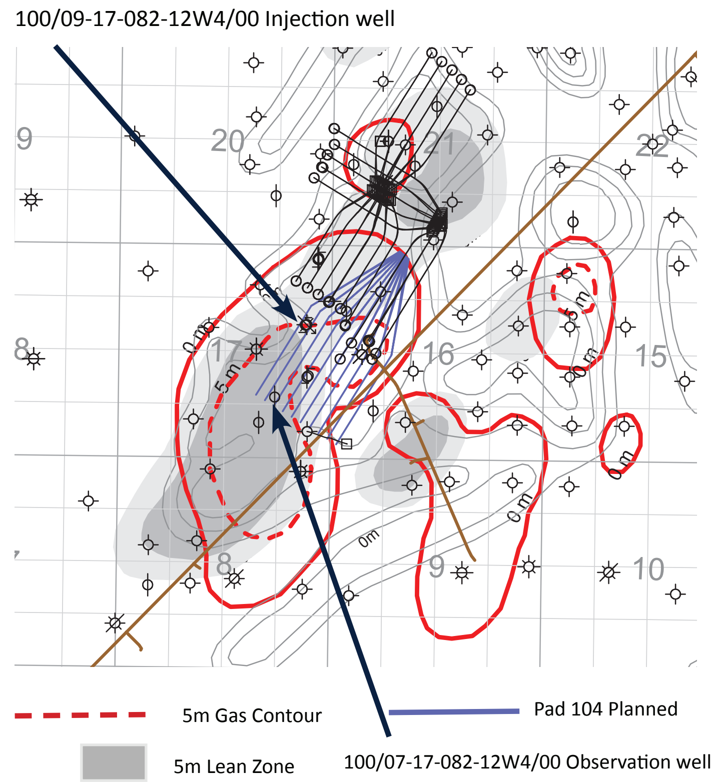
- No update in strategy for pairs operating above bottom water
- Monitoring injection pressure, SOR, and produced water chlorides for signs of steam loss and bottom water production
- Continued operation with mechanical lift (pump) and injection via steam diverter in 201-I03

Re-Pressure Pod One Gas Cap

The purpose of gas cap repressurization is to increase the pressure in the gas cap and bitumen lean zone immediately above Pad 104 and institute a more effective pressure balancing process. Simulations have shown long term benefits to production and SOR by repressurizing to just below the SAGD operating pressures, 2000 - 3000 kPa with mechanical lift. Details are discussed in Connacher's Pressure Balancing paper, available upon request.

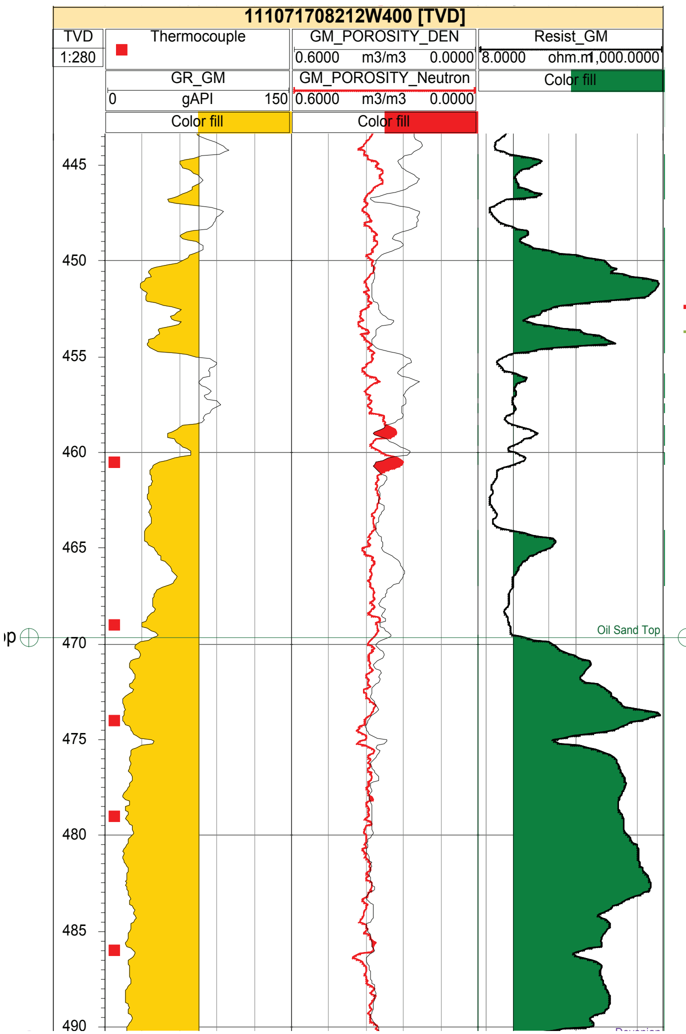
- The repressurizing process was underway prior to the start up of Pad 104 in 2013. Methane was injected into the 9-17 well at the injection rates shown in the graph below.
- The gas cap pressure at the 7-17 observation well was approximately 1600 kPa prior to gas injection, and the average pressure for September 2017 was 2833 kPa in the gas cap and 2901 kPa in the lean zone.
- Currently the well is injecting methane to maintain the pressure.
- The response to gas injection at the 7-17 observation well is shown in the following slide.

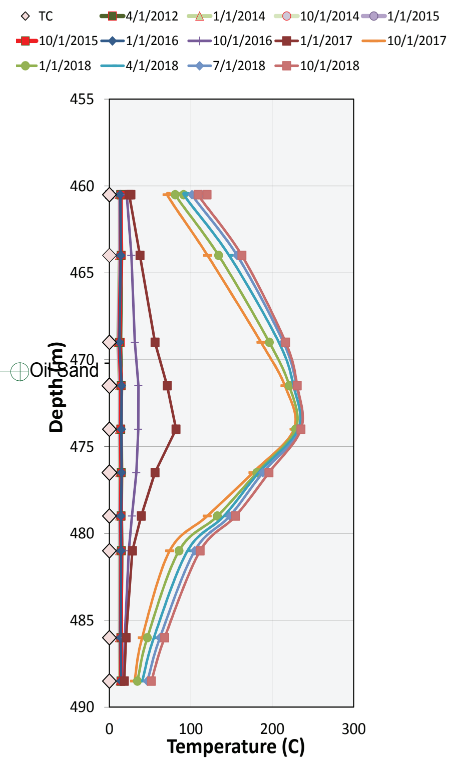


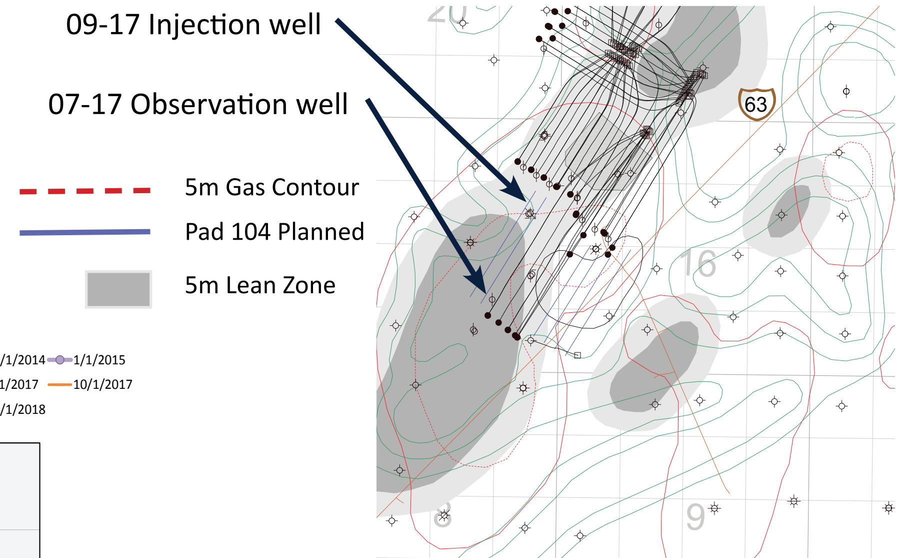


Re-Pressure Pod One Gas Cap

Connacher
OIL AND GAS LIMITED
2018





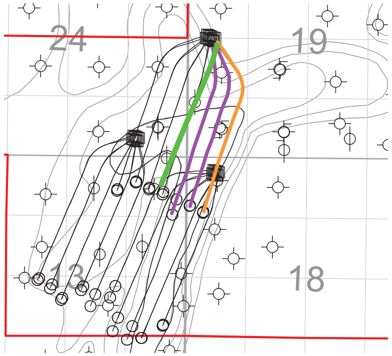


The chart shows the response at various pressure transducers in observation well 7-17 (approximately 600m south of the gas injection at 9-17). The transducers are set at the KB elevations shown on the adjacent log. Connacher is able to pressure the lean zone and gas cap to the target pressure from the 9-17 gas injector.

SAGD+® Commercial Project

Phase 1

- In January 2011, ERCB granted approval for a trial of light hydrocarbon - steam co-injection in the seven well pairs of Pad 203.
- Connacher selected two well pairs 203-2 and 203-3 for an initial test (Phase 1) of the process.
- In Phase 1, a commercially available solvent was co-injected with the steam starting in July 2011 at initial rates of approximately 10% by volume and increased to 15% by volume in October 2011. Compared to an April 2011 baseline, daily average per well bitumen production volumes during the months of August 2011 through October 2011 increased approximately 28% percent with a SOR decrease of 16%. The SOR decrease was limited by the necessity to increase steam injection rates to maintain normal operating pressure.
- Phase 1 injection ended November 2011. Solvent was recovered from the Phase 1 wells until April 2012 just prior to the start of Phase 1.5, 89% of the solvent had been recovered to surface.

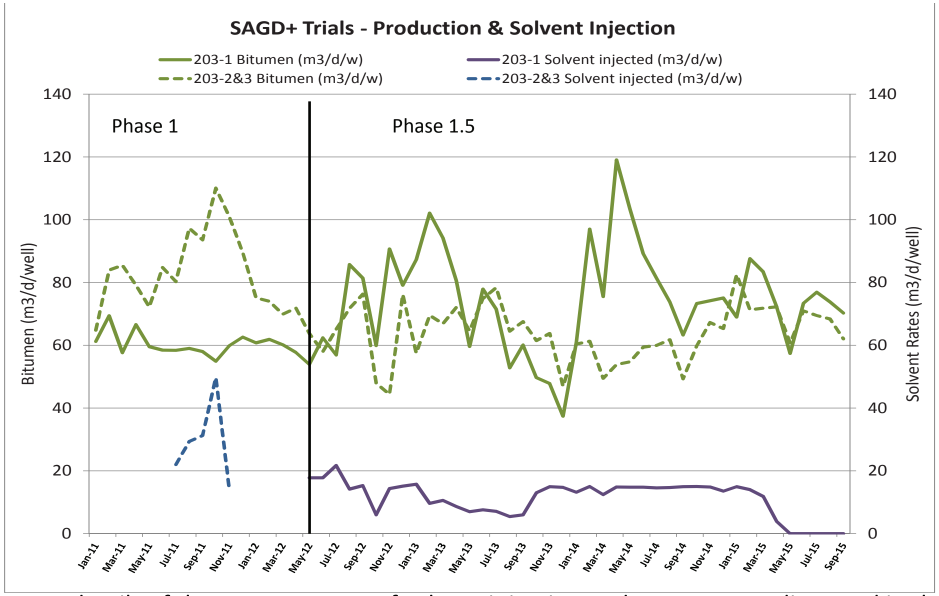


Wells 203-02 & 03 Phase 1

Well 203-01 and 203-04 Phase 1.5

Phase 1.5

- Phase 1.5 commenced in May 2012 with solvent injection of approximately 10% until August when injection rates were reduced to approximately 6%, and further reduced in March 2013 to approximately 4%. In 2014 solvent injection rates averaged 5.9%.
- In the 12 months May 2012 through April 2013 *bitumen rates increased by approximately 30%* compared to the four months prior to the test. The *SOR decreased 32%* over the same period.
- In July 2013 an ESP was installed in 203-01. Following operational issues the pump was removed in December 2013. The bank of solvent built up during the ESP issues resulted in impoved results following the return to gas-lift.
- The SOR for Well 203-01 during the life of the test is 3.0 significantly lower than other wells in the project.
- Solvent injection was stopped in Well 203-1 on April 21, 2015.

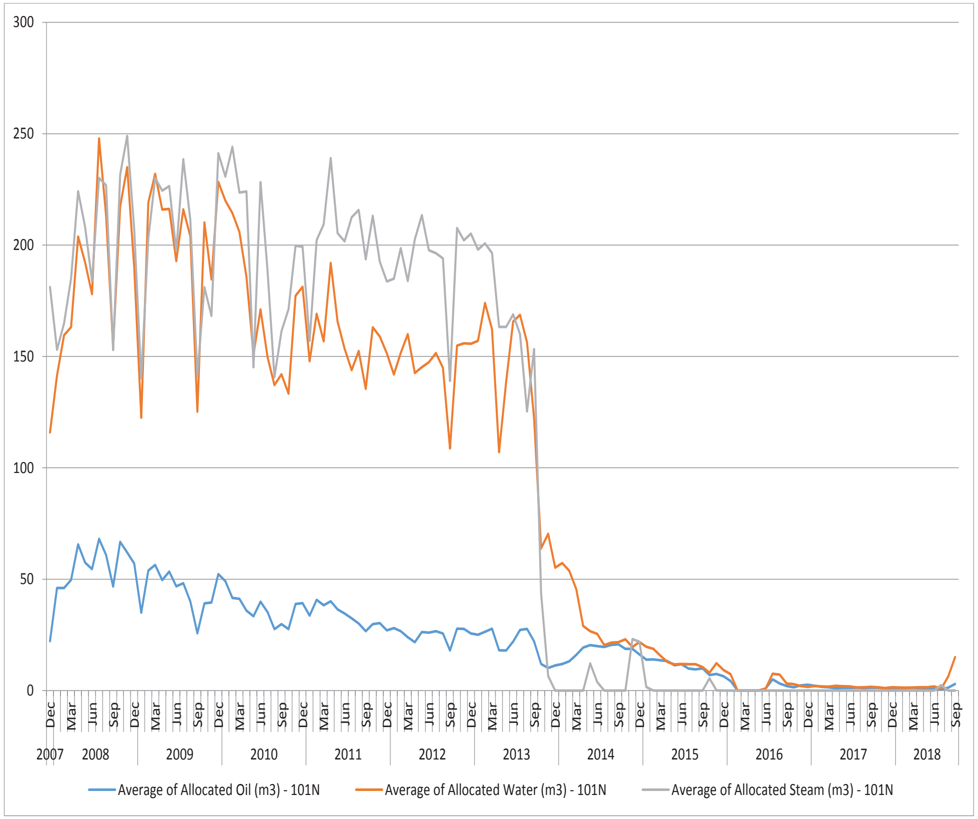


Note: details of the measurement of solvent injection and recovery are discussed in the attached *Steam Solvent SAGD Paper* and the Algar MARP

Pad 101N

- Strategy for Pad 101N has not changed, going forward the plan is to continue to produce 101-P04 using rod pump
- No futher steam injeciton is planned
- Pad 101N was approved for produced water disposal on February 8th, 2016. Approval No. 10587S
- Produced water disposal into 101-I01 and -I02 began on April 15, 2017 and is ongoing

- Charts show the production history from 101N



Pad 101N Produced Water Disposal

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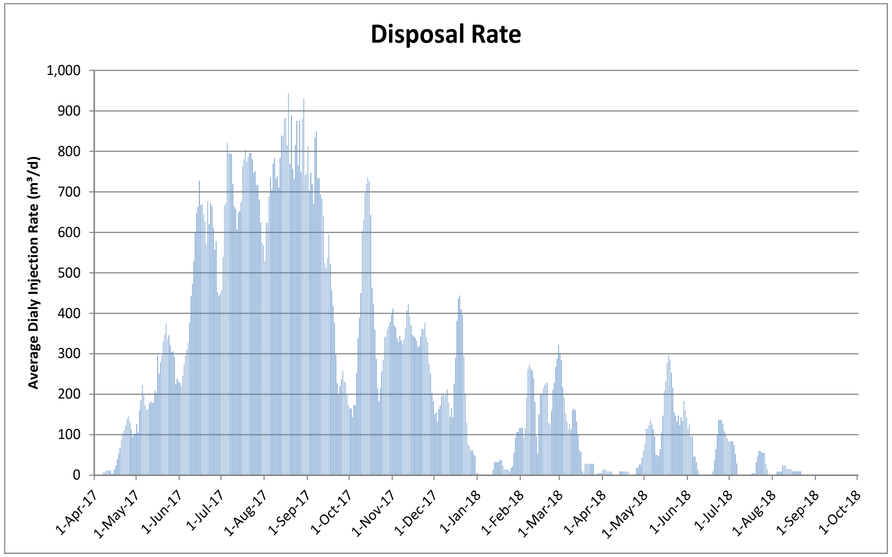
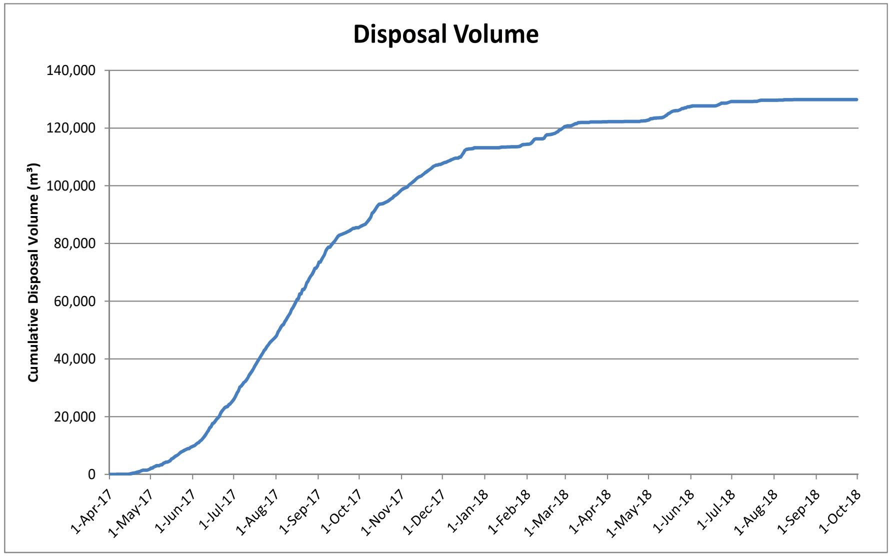
2018

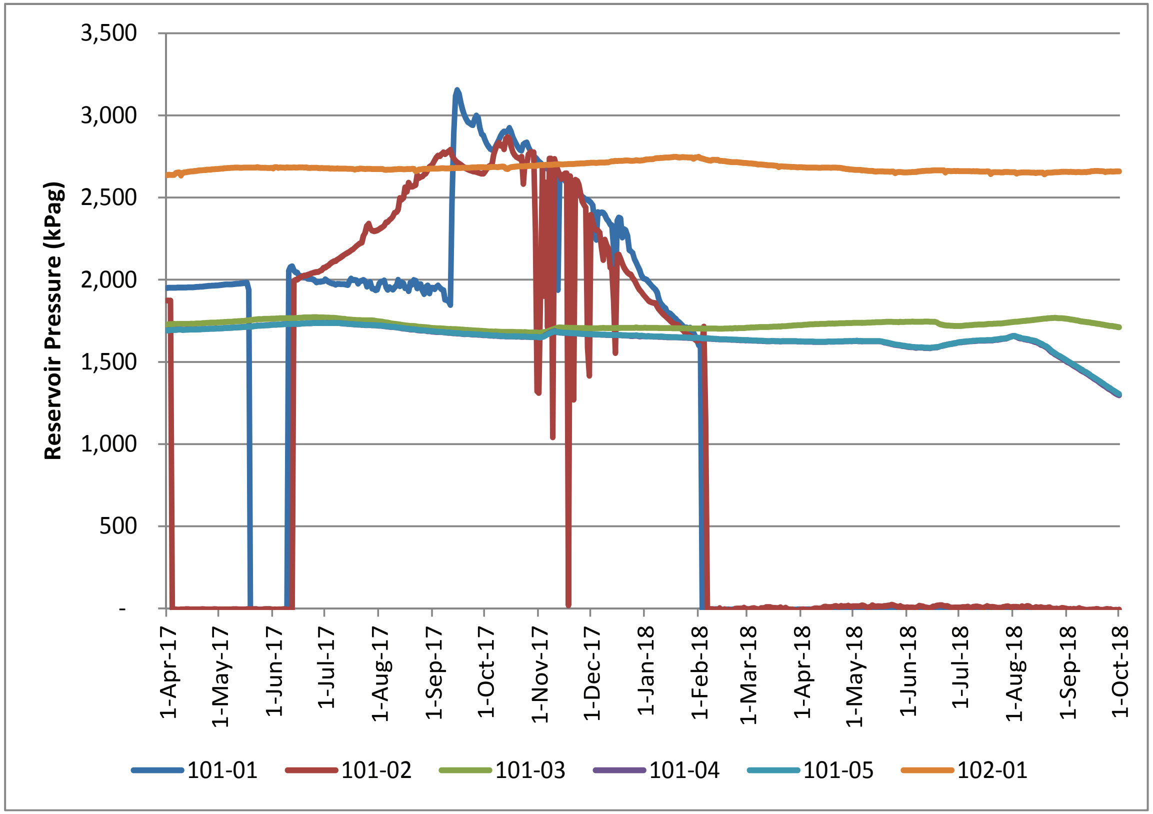
- Produced water disposal into 101-I01 and -I02 has declined from the peak in August 2017 as oil cut on SAGD production has recovered following the 2016 production curtailment
- Prior to August 2017, Connacher required a disposal strategy for produced water that was in excess of steam generation capacity
- Disposal of approximately 750 m^3/d of produced water into 101N allowed Connacher to maximize production and accelerate time required for BS&W of SAGD pairs to "recover" following the production curtailment period
- Charts show the disposal history as well as the cumulative produced water disposal into 101N since April 2017





Pad 101N Produced Water Disposal

- Produced water disposal is conditional on not interfering with SAGD production operations
- Disposal into 101-I01 and 101-I02 only, 101-03 not operational, production from 101-04, 101-05, and 102-01
- Active monitoring of reservoir pressure in 102-I01 and 101-I04 for signs of communication with 101-I01 and -I02
- Bubble tubes on 101-I01 and I02 were mistakenly shut in until from April through mid-June 2017
- Bubble tube on 101-I01 (blue) was plugged and not reading accurate bottomhole pressure until mid-September 2017
- Downhole packers were installed on 101-I01 and-I02 in February 2018, making bottomhole pressure measurement, via annulus gas pressure inference, impossible
- There has been no indication of communication between 101-I01 and -I02, and 101-03 nor 102-01
- There has been no indication of loss of injectivity in either well; Connacher has no preventative maintenance planned for either well



NCG Co-injection

Non-condensible gas (NCG) co-injection is intended for use in pressure maintenance and ability to replace steam with NCG during times of steam shortage.

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

- maximum of 10 e^3 m^3 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)

Infill Wells at Pod One - Pad 102W

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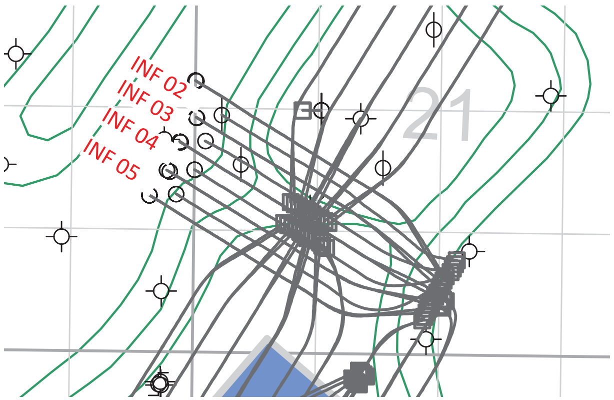
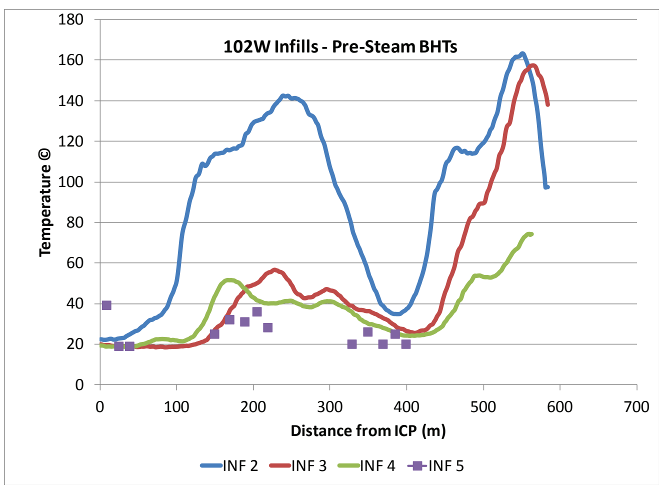
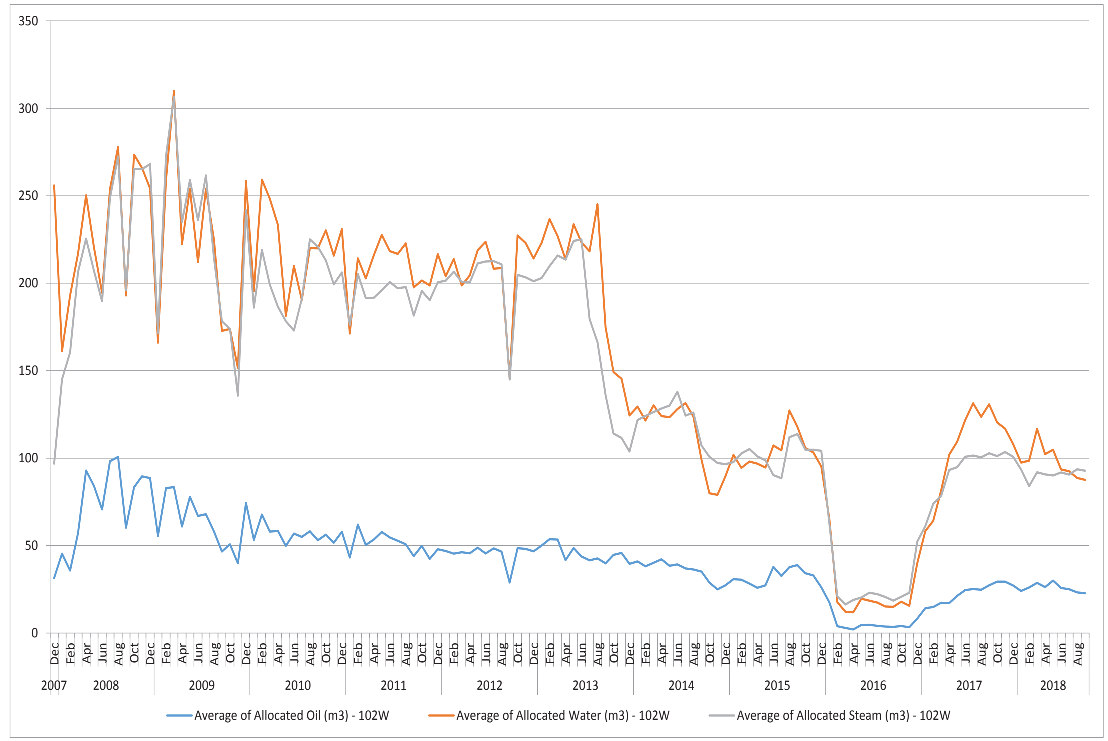
2018





Bottom Hole temperature surveys were carried out prior to steaming the infill wells.

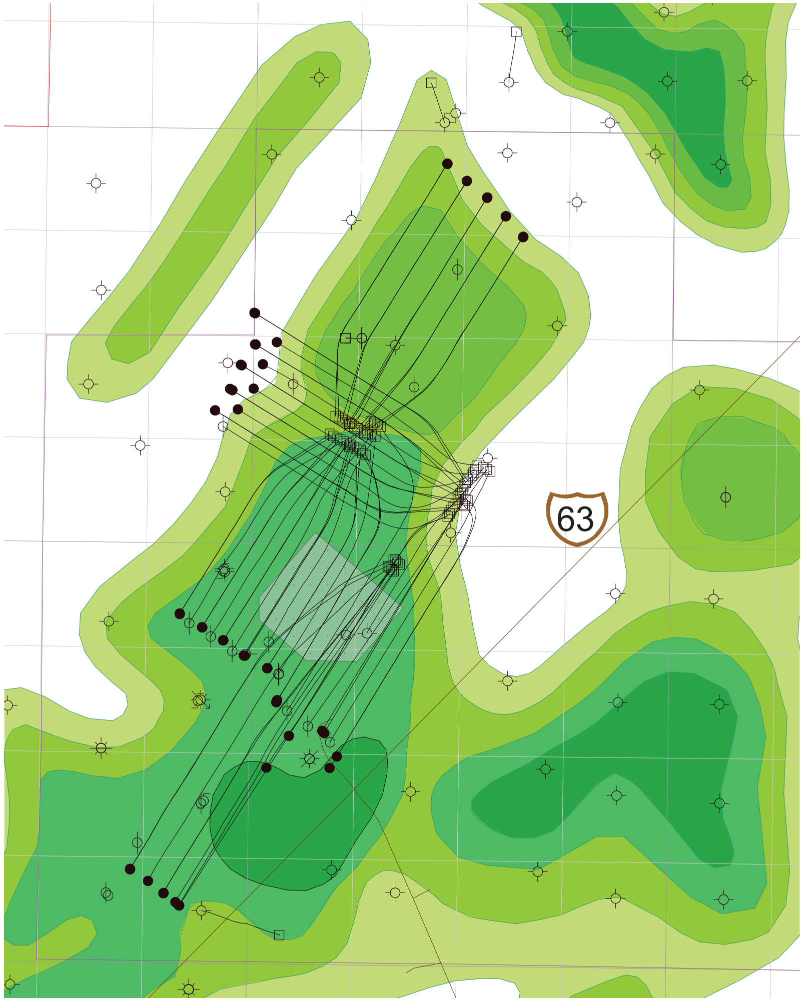


- Infills were drilled shorter than the adjacent well pairs to avoid penetrating the thin channel edge
- Temperature logs prior to the steam injection indicated wide variations in temperatures along horizontal sections of the infill wells
- In order to increase temperature in the wells steam cycles were initiated as shown in the graph to the right
- Infill well 02 received the smallest volume of steam and responded the fastest and also had the highest temperature measured in the pre-steam survey.

New Infill Wells at Pod One - Pad 101 & 102

Connacher
OIL AND GAS LIMITED
2018

Well Pad	Infill Well	UWI	Production Start Date	Cum Oil (m^3)
101S	101-INF07	109/16-17-082-12W4/00	18-Sep-15	31,009
101S	101-INF08	108/16-17-082-12W4/00	13-Sep-14	71,553
101S	101-INF09	105/09-17-082-12W4/00	17-Jul-14	58,052
101S	101-INF10	112/12-16-082-12W4/00	24-Jul-14	47,275
101S	101-INF11	114/12-16-082-12W4/00	18-Aug-14	51,499
101S	101-INF12	113/12-16-082-12W4/00	4-Oct-14	84,648
102W	102-INF06	112/08-20-082-12W4/00	3-May-15	51,396
102W	102-INF13	115/12-16-082-12W4/00	19-Oct-15	39,655
102W	102-INF14	116/12-16-082-12W4/00	17-Jan-17	49,167



Subsurface - Completions

Injector well BHP measurement:

- Blanket gas on annular side of the wellhead which is isolated from steam injection points for short and long strings

Producer well BHP measurement:

- Algar (gas lift), read by the short string lift gas pressure at surface. This is landed at the heel of the well. The annulus of the well, function as a bubble tube.
- Pod One, read by instrumentation coils which function as a bubble tube. This is landed at the toe of the well. The coil has a check valve at the end to prevent fluid from backing up inside.

Injector well BHT measurement

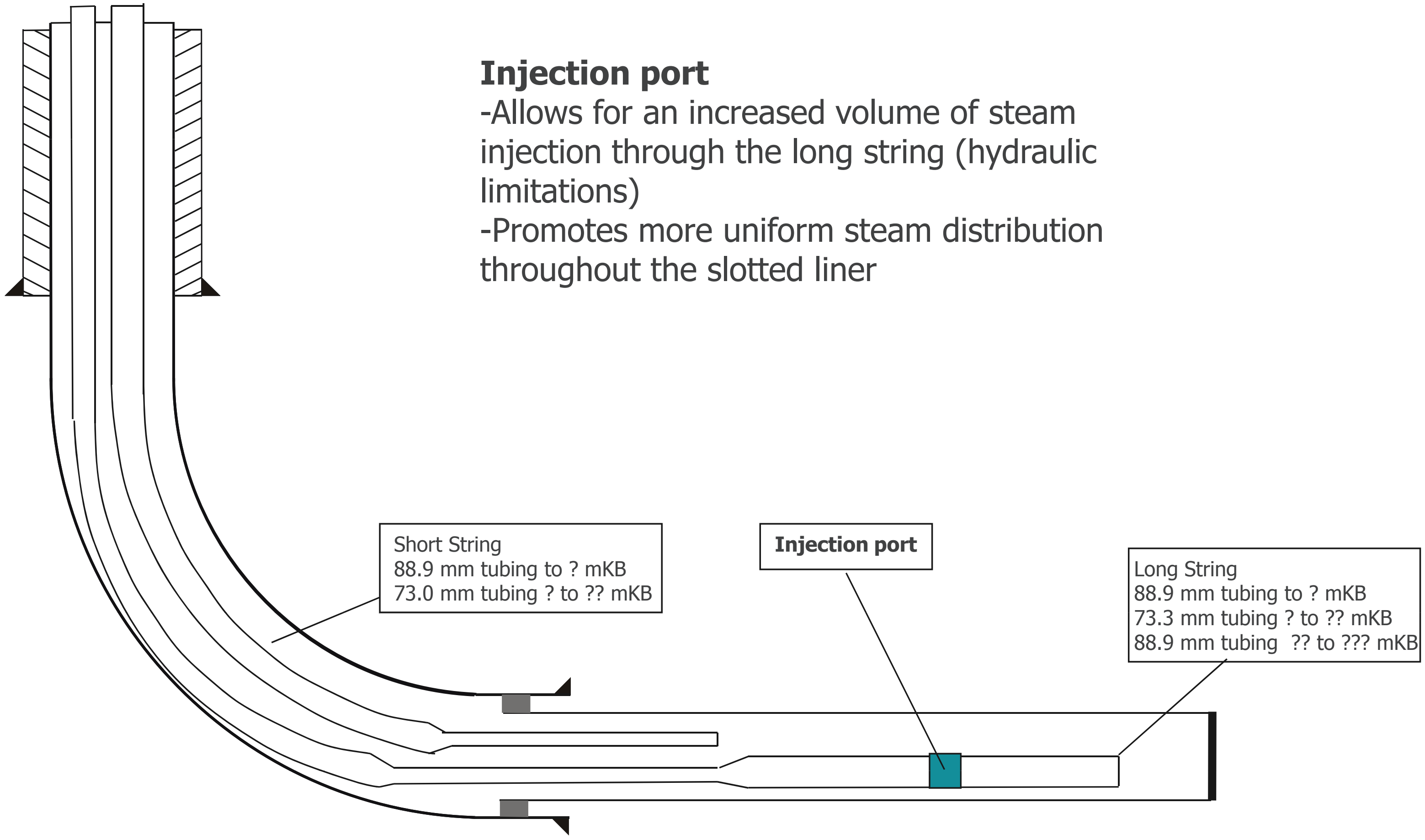
- Connacher does not measure injector well BHT. This is intrepeted from injector reservoir pressure using saturated steam temperature tables.

Producer well BHT Measurement

- Connacher uses instrumentation coil strings with fiber or thermocouples to measure producer well BHT at both Algar and Pod One.

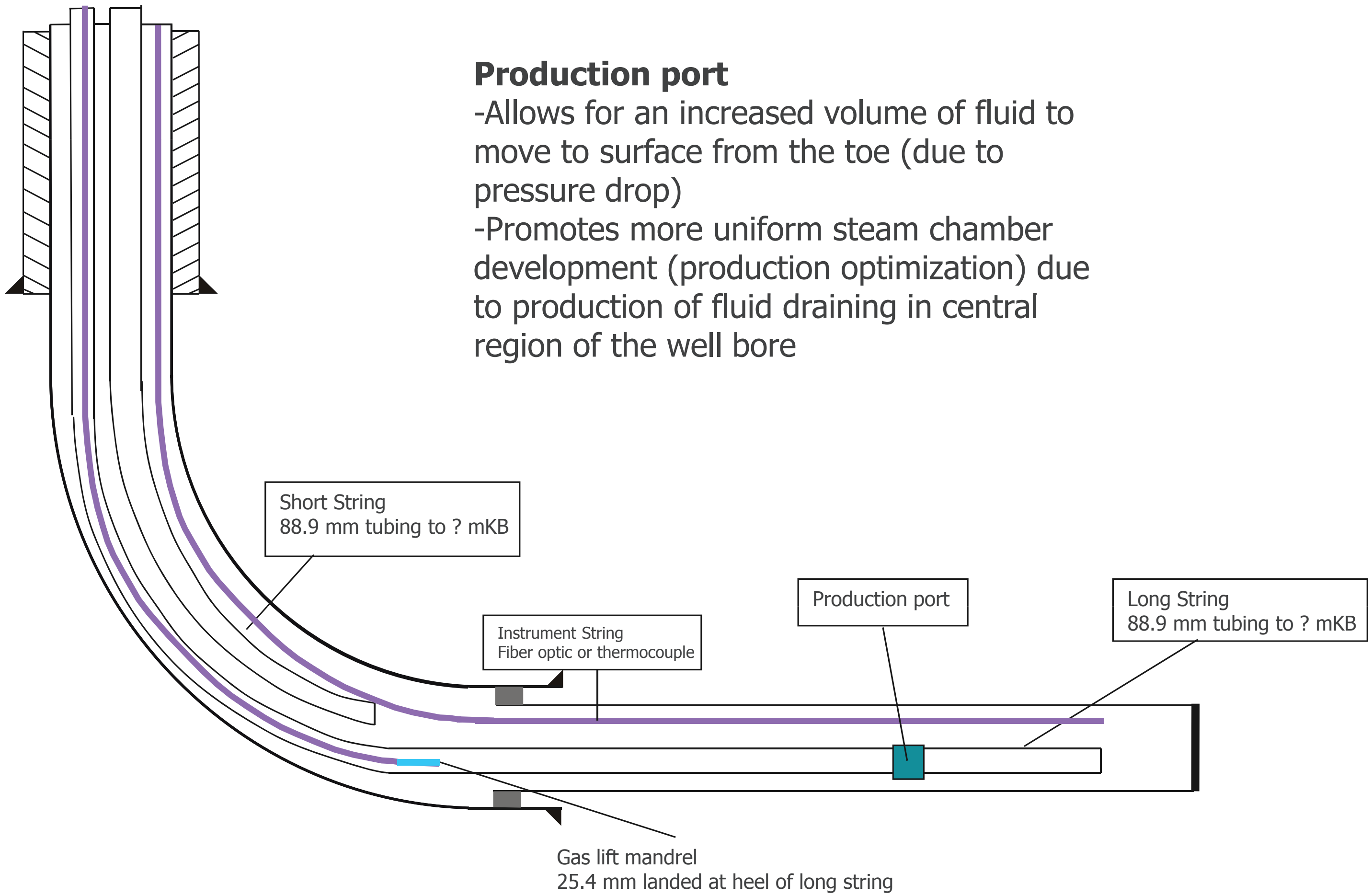
Typical Injector Completion

Injection port
-Allows for an increased volume of steam injection through the long string (hydraulic limitations)
-Promotes more uniform steam distribution throughout the slotted liner



Typical Producer Gas Lift Completion

Production port
-Allows for an increased volume of fluid to move to surface from the toe (due to pressure drop)
-Promotes more uniform steam chamber development (production optimization) due to production of fluid draining in central region of the well bore



Typical Producer Mechanical Lift

Electronic Submersible Pump
Metal on metal Progressive cavity pump
Tubing pump (hydraulic pump jack)

ESP development

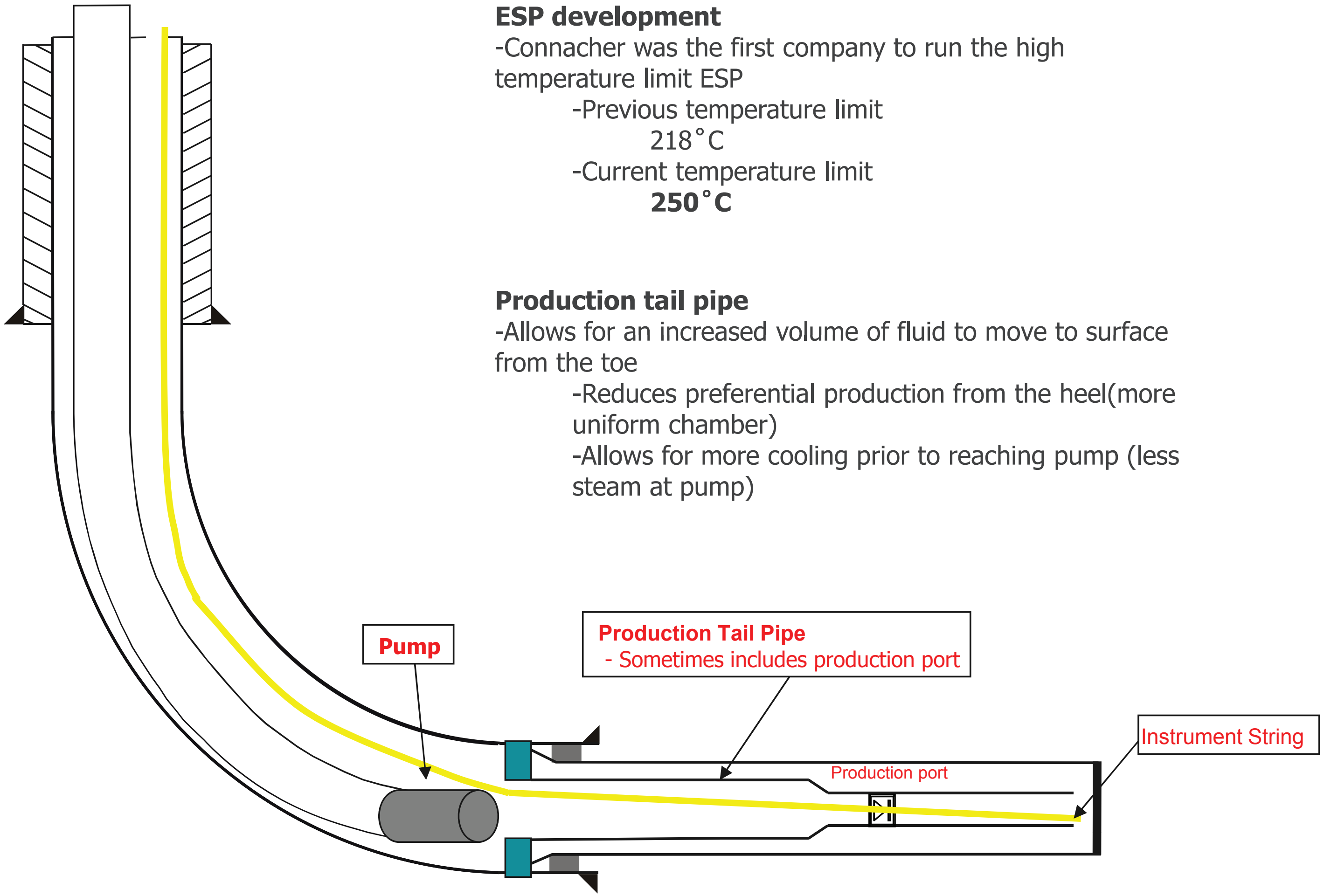
-Connacher was the first company to run the high temperature limit ESP

- -Previous temperature limit
  - 218˚C
- -Current temperature limit
  - **250˚C**

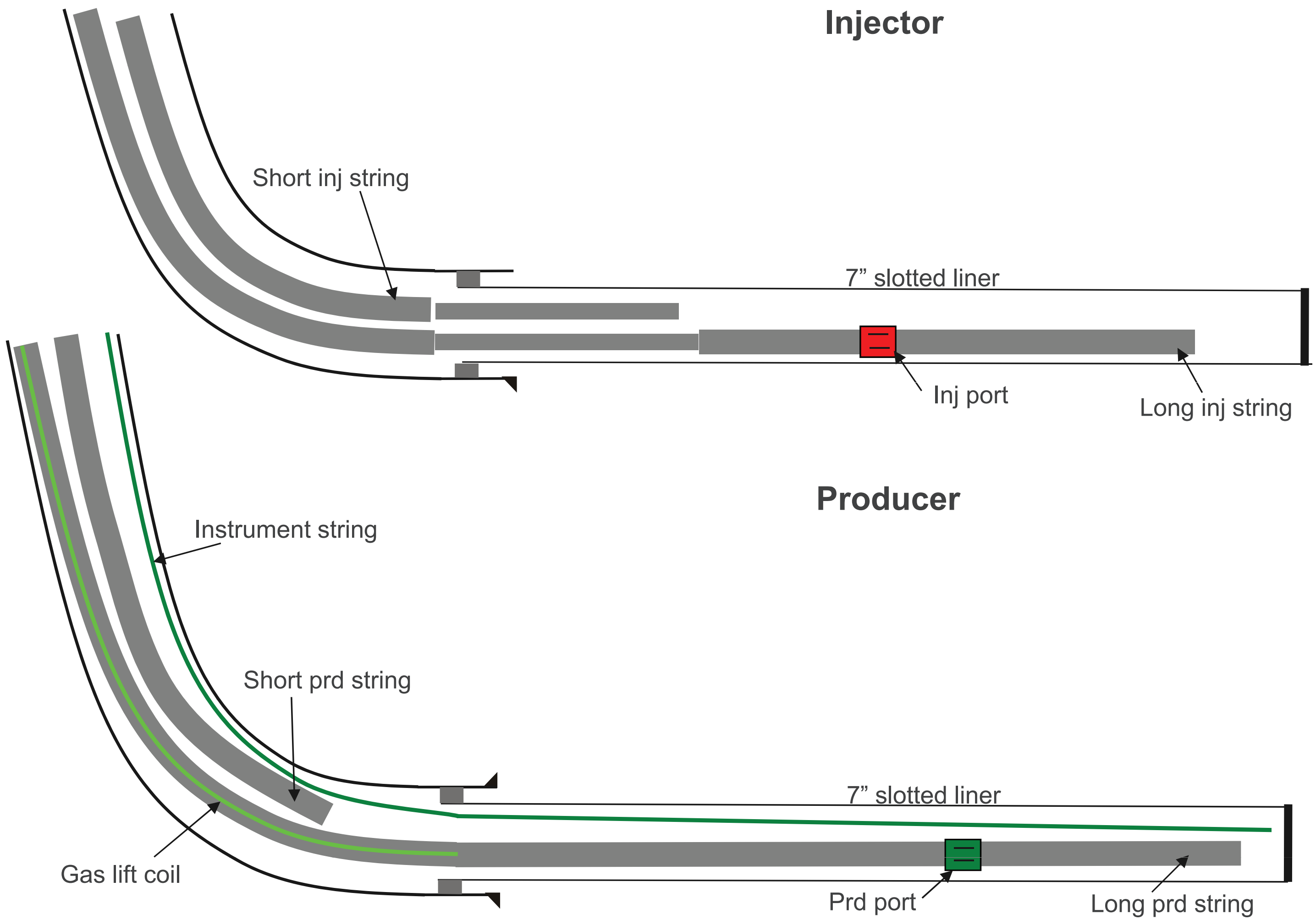
Production tail pipe

-Allows for an increased volume of fluid to move to surface from the toe

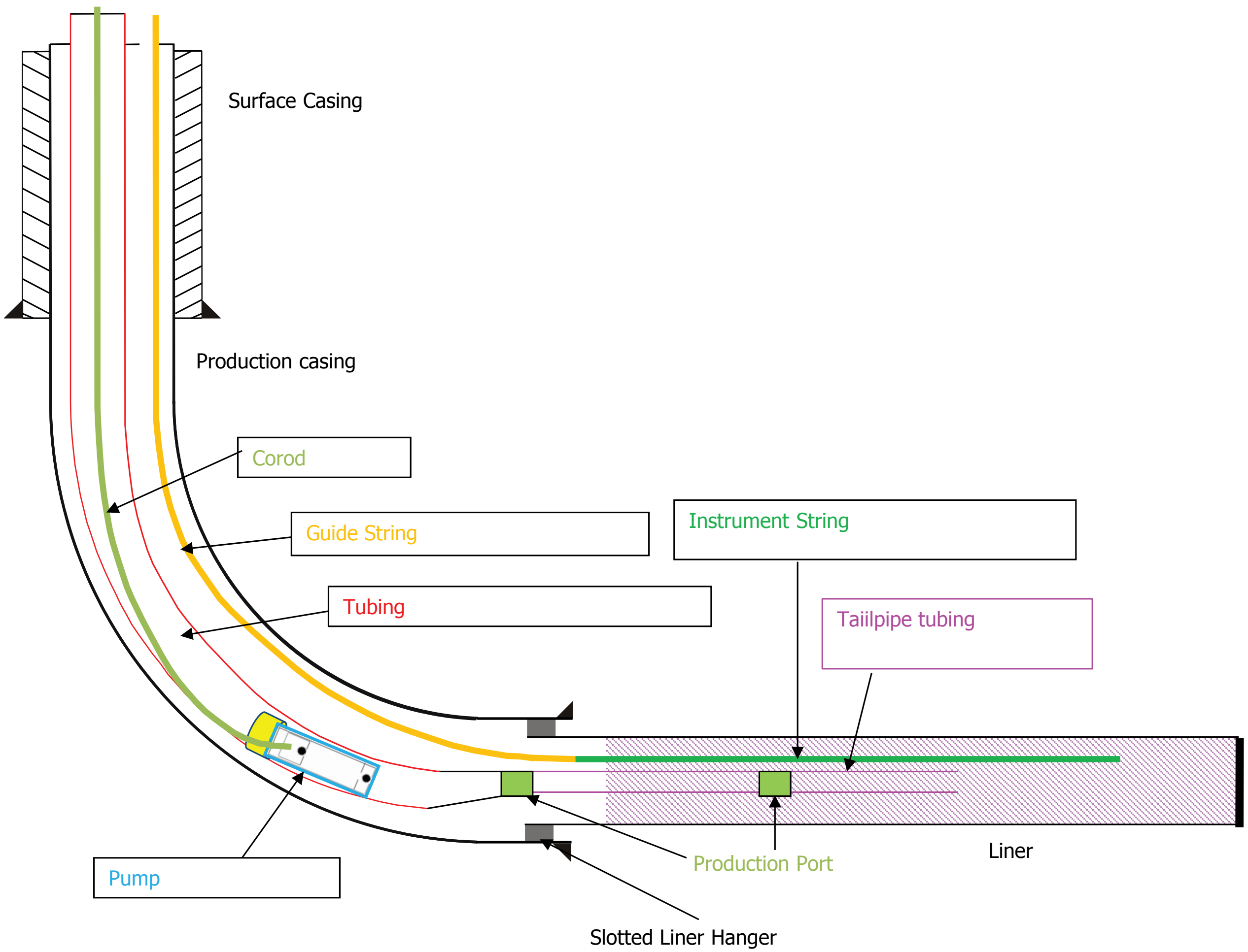
- -Reduces preferential production from the heel(more uniform chamber)
- -Allows for more cooling prior to reaching pump (less steam at pump)



Improved Well Bore Design (Algar)



Typical Infill Well Completion



Subsurface - Artificial Lift

Artificial Lift Performance - Pod One

Connacher OIL AND GAS LIMITED 2018

Pad	Well	Pump Type	Pump	Install date	failure date	Run Time (days)	Current
101N	101-01	PCP	1	5/5/2010	12/25/2010	234	
101N	101-01	Rod Pump	2	4/24/2013	5/29/2013	35	
101N	101-01	Rod Pump	3	10/26/2013	1/22/2016	818	Shut In
101N	101-02	PCP	1	05/05/10	05/07/10	2	
101N	101-02	PCP	2	5/10/2010	11/5/2010	179	
101N	101-02	Rod Pump	3	4/14/2013	9/9/2013	148	
101N	101-02	Rod Pump	4	9/11/2013	2/12/2014	154	
101N	101-02	Rod Pump	5	2/17/2014	1/22/2016	704	Shut In
101N	101-03	PCP	1	08/19/10	09/13/10	25	
101N	101-03	PCP	2	9/18/2010	10/16/2010	28	
101N	101-03	Rod Pump	3	9/26/2011	6/2/2012	250	
101N	101-03	Rod Pump	4	6/7/2012	1/9/2013	216	
101N	101-03	Rod Pump	5	1/15/2013	7/19/2013	185	
101N	101-03	Rod Pump	6	7/25/2013	1/22/2016	911	Shut In
101N	101-04	PCP	1	08/11/10	11/05/10	86	
101N	101-04	Rod Pump	2	4/16/2013	5/31/2013	45	
101N	101-04	Rod Pump	3	10/27/2013	2/17/2014	113	
101N	101-04	Rod Pump	4	2/20/2014	7/28/2018	1619	
101N	101-04	Rod Pump	5	8/1/2018	10/17/2018	77	Running on Rod Pump
101N	101-05	PCP	1	08/06/10	09/08/12	764	
101N	101-05	PCP	2	9/16/2012	7/25/2014	677	
101N	101-05	PCP	3	7/27/2014	8/28/2014	32	
101N	101-05	PCP	4	9/9/2014	10/14/2015	400	
101N	101-05	PCP	5	10/27/2015	10/13/2016	352	
101N	101-05	PCP	6	8/10/2018	10/17/2018	68	Running on PC Pump

Pad	Well	Pump Type	Pump	Install date	Failure Date	Run Time (days)	Current
104	104-03	ESP	1	11/22/2014	4/24/2017	884	
104	104-03	ESP	2	4/30/2017	10/17/2018	535	Running on ESP
104	104-04	ESP	1	5/11/2014	10/25/2016	898	
104	104-04	ESP	2	11/4/2016	9/15/2017	315	
104	104-04	ESP	3	9/23/2017	8/16/2018	327	
104	104-04	ESP	4	8/26/2018	10/17/2018	52	Running on ESP
104	104-05	ESP	1	3/12/2015	3/8/2017	727	
104	104-05	ESP	2	3/27/2017	7/16/2018	476	
104	104-05	ESP	3	7/23/2018	10/17/2018	86	Running on ESP

Pads 101S, 102W, 102S & 104

These Pads produce from good quality oil sands reservoir and are a good application of ESP's. The pump history for 101N and 104 pads is shown here as an example.

The higher rate wells can accommodate ESP's whereas lower rate wells and infills operate more efficiently with rod pumps.

Pads 101S, 102W and 102S are similar and a detailed history of all the pumps at Great Divide is provide in the additional files accompanying this

Artificial Lift Performance - Algar

Connacher
OIL AND GAS LIMITED
2018

Pad	Well	Pump Type	Pump	Install date	Failure date	Run Time (days)
201	201-03	ESP	1	1/19/2011	5/19/2011	120
201	201-03	ESP	2	5/23/2011	10/22/2011	152
201	201-03	ESP	3	10/28/2011	4/26/2012	181
201	201-03	Rod pump	4	11/3/2013	6/19/2014	228
201	201-03	Rod pump	5	6/22/2014	8/14/2014	53
201	201-03	Rod pump	6	8/17/2014	3/1/2015	196
201	201-03	Rod pump	7	3/7/2015	11/8/2015	246
201	201-03	Rod pump	8	11/12/2015	4/24/2016	164
201	201-03	Rod pump	9	6/23/2016	12/30/2016	190
201	201-03	Rod pump	10	1/11/2017	2/19/2017	39
201	201-03	Rod pump	11	2/27/2017	6/28/2017	121
201	201-03	Rod pump	12	7/12/2017	9/30/2017	80
201	201-03	Rod pump	13	10/22/2017	3/24/2018	153
201	201-04	ESP	1	2/14/2011	6/14/2012	486
201	201-04	ESP	2	6/21/2012	9/25/2013	461
201	201-04	Rod pump	3	10/8/2013	10/21/2014	378
201	201-04	Rod pump	4	10/24/2014	5/15/2015	203
201	201-04	Rod pump	5	5/16/2015	10/15/2015	152
201	201-04	Rod pump	6	10/22/2015	11/25/2016	400
201	201-04	Rod pump	7	12/14/2016	6/29/2017	197
201	201-04	Rod pump	8	7/13/2017	9/23/2017	72
201	201-04	Rod pump	9	9/28/2017	12/14/2017	77
201	201-05	ESP	1	1/27/2011	5/8/2011	101
201	201-05	ESP	2	5/18/2011	5/2/2012	350
201	201-05	ESP	3	5/5/2012	6/29/2013	420
201	201-05	Rod pump	4	7/30/2013	5/19/2014	293
201	201-05	Rod pump	5	5/22/2014	9/27/2014	128
201	201-05	Rod pump	6	9/30/2014	2/2/2015	125
201	201-05	Rod pump	7	2/5/2015	12/4/2016	668
201	201-05	Rod pump	8	12/18/2017	8/27/2017	252
201	201-05	Rod pump	9	9/26/2017	10/15/2017	19
201	201-05	Rod pump	10	10/20/2017	3/7/2018	138
203	203-01	ESP	1	5/3/2013	12/24/2013	235

Algar

In late-2017 and 2018 the remaining three rod pumping wells, 201-03, -04, and -05, were converted to gas lift.

Going forward, artificial lift at Algar will solely gas lift until a conversion back to mechanical lift is warranted by reservoir pressure and operating strategy.

Historically, both ESPs and rod pumps have been on Pad 201 due to the proximity of the wells to a limited bottom water zone.

As part of the SAGD+™ pilot, ESPs were in-stalled in three wells in Pad 203. Due to res-ervoir characteristics and economics, these wells were converted back to gas lift.

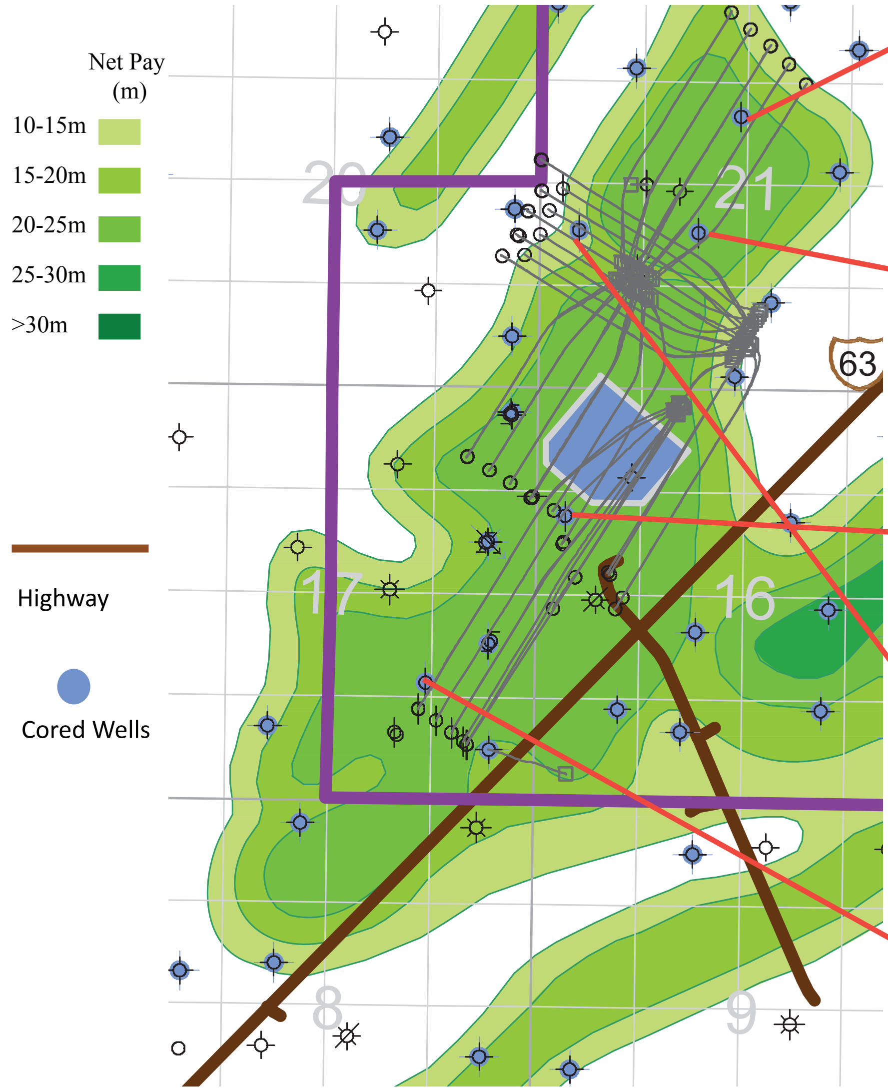
Gas Migration & Surface Casing Vent Flows

- SCVF tests were conducted on all injectors and producers at Pod One and Algar in September, 2017. No issues were identified and the results have been reported to the AER through DDS.
- SCVF tests will be completed in late-2018, the results of which will be reported to the AER through DDS.

Subsurface - Monitoring

Pod One Observation Wells

Connacher OIL AND GAS LIMITED 2018



100/11-21-82-12W4, Operational Apr 2011

- Monitor North Pad Performance (47 m from Well Pair 101-04)
- Five temperature and five pressure measurements all operational
- Temperature readings suspect - all at original reservoir temperature ~14 °C
- Pressure gauges operational
- Continue collecting data

100/06-21-082-12W4, Operational Dec 2007

- Purpose was to measure rise of steam and to determine if steam moved into any overlying gas caps (39 m from Well Pair 101-05)
- Operational but readings suspect
- Maximum temperature 20 °C
- Pressure gauges not operational
- Continue collecting data

111/12-16-82-12W4, Operational Mar 2010

- Provided observations on effects of low pressure operations (40 m from Well Pair 101-10)
- Five temperature measurements all operational. 3 of 5 Pressure gauges not operational
- Continue collecting data

111/05-21-82-12W4,Operational Mar 2012

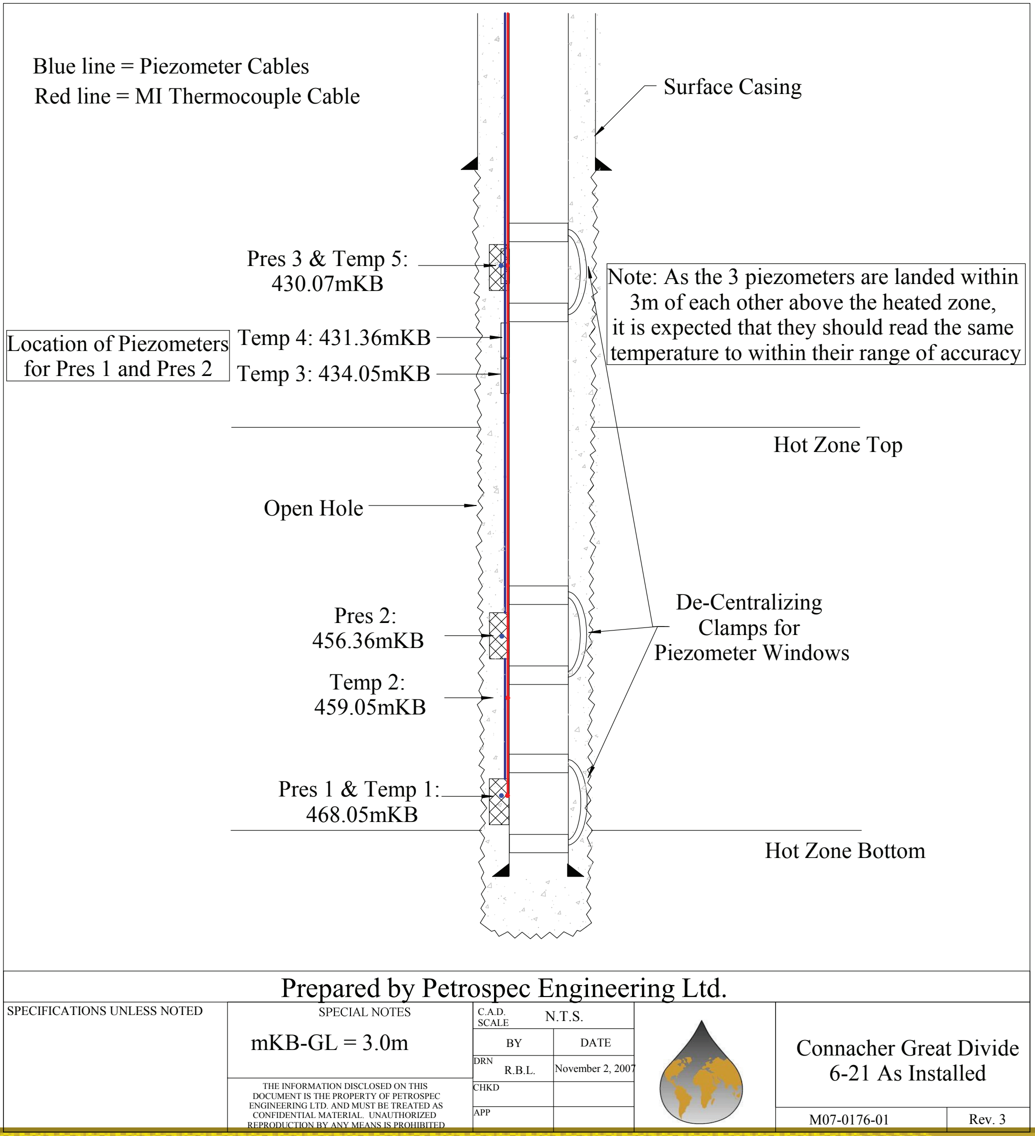
- Drilled to acquire information on temperature between well pairs for future infill wells (40m from Well Pair 102-03)
- Five temperature measurements operational. Lower pressure gauge not operational
- Continue collecting data

100/07-17-82-12W4,Operational Mar 2012

- Drilled to acquire information on gas cap repressurizing (33m from Well Pair 104-P03)
- Five temperature and five pressure measurements operational
- Continue collecting data

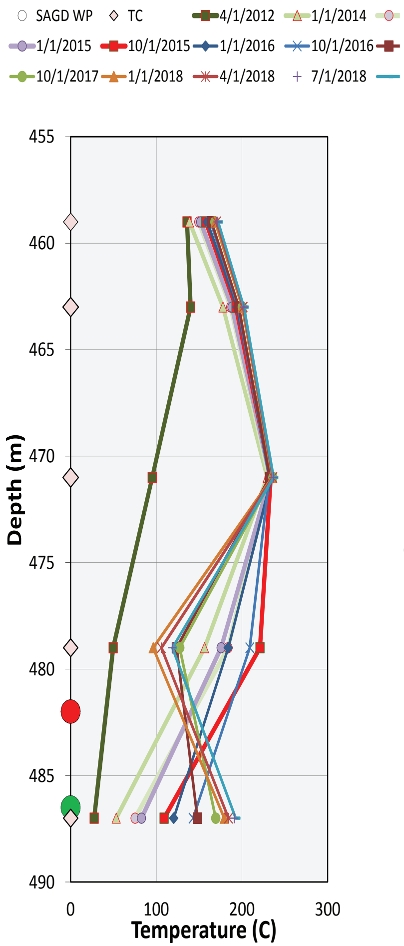
Pod One - Typical Observations Well

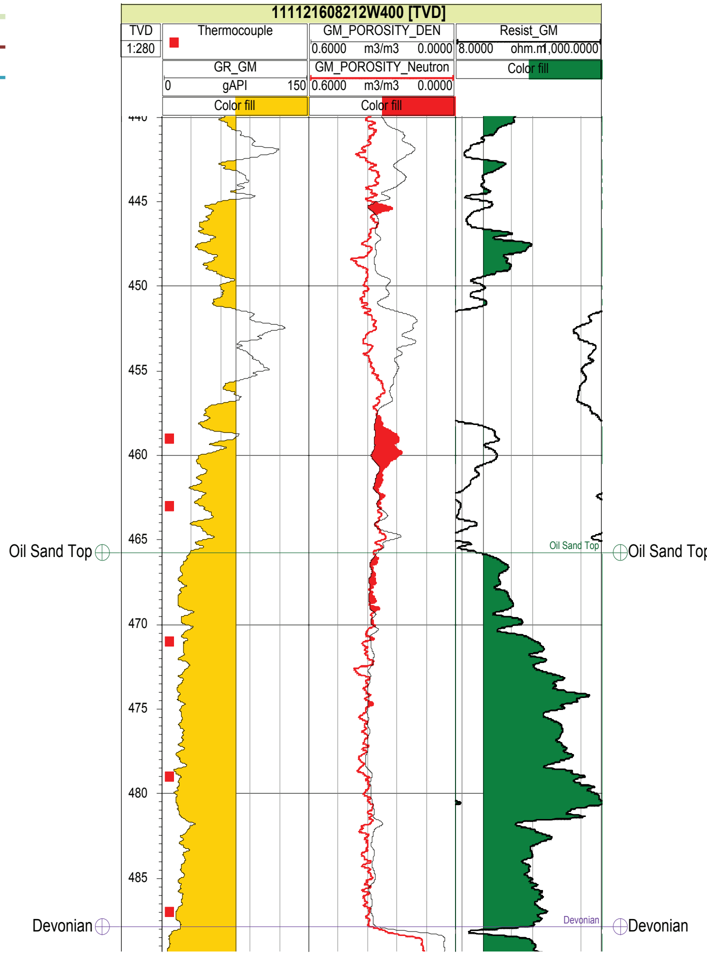
Connacher OIL AND GAS LIMITED 2018

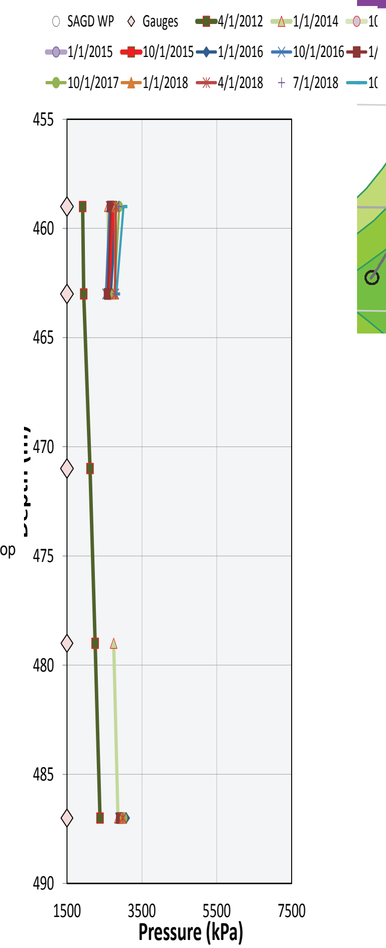


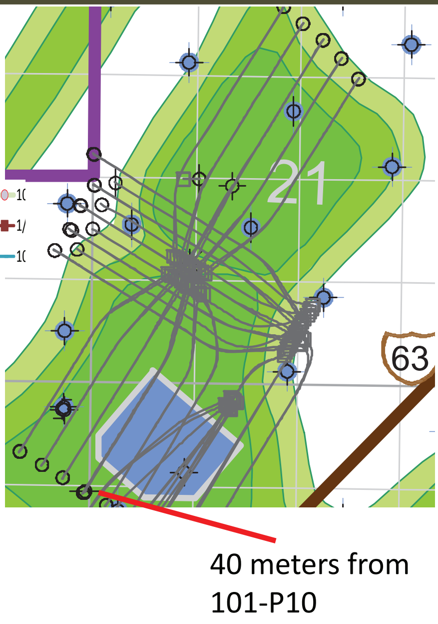
Pod One Obs Well - 111/12-16-82-12 W4

Chamber appears to be fully developed. Steam is suspected to be leaking to gas cap and lean zone. Temperature readings provide support for gas cap repressurization. No valid pressure readings for 3 of 5 gauges.





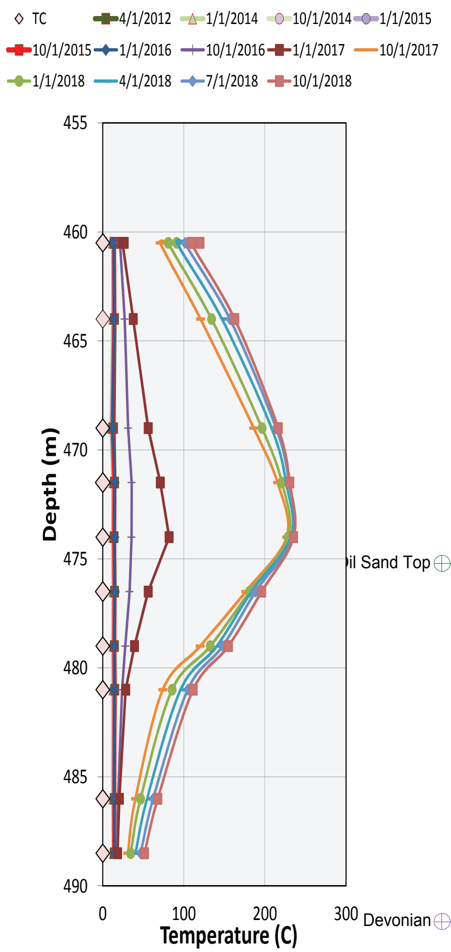


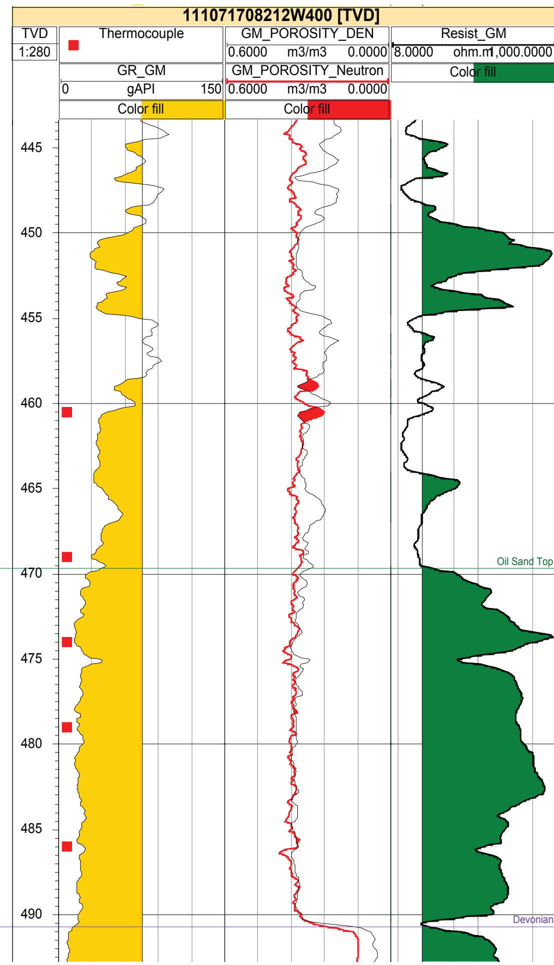


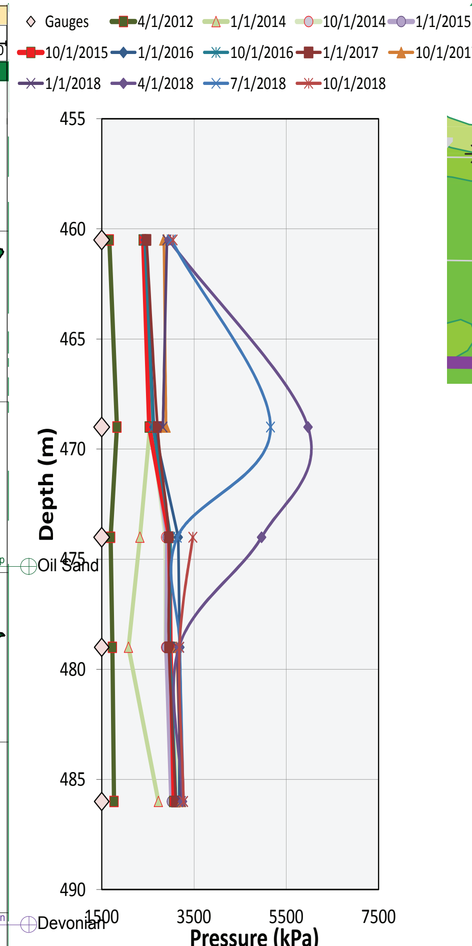
Pod One Obs Well - 111/07-17-82-12 W4

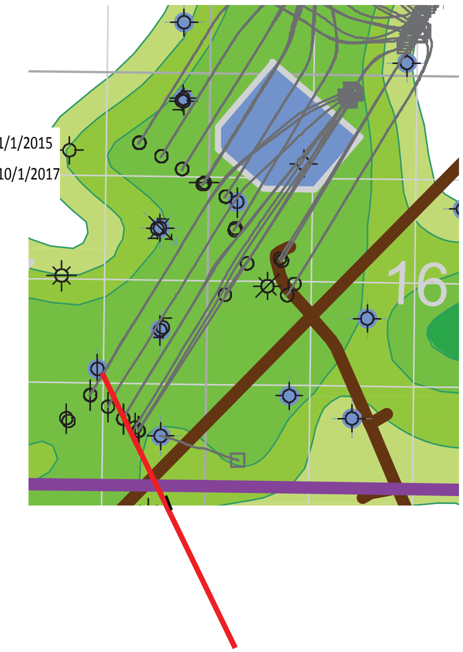
Connacher OIL AND GAS LIMITED 2018

Temperature response observed by April 2016. Pressure response to steam injection observed. Note that steam injection to Pad 104 commenced in September 1, 2013.







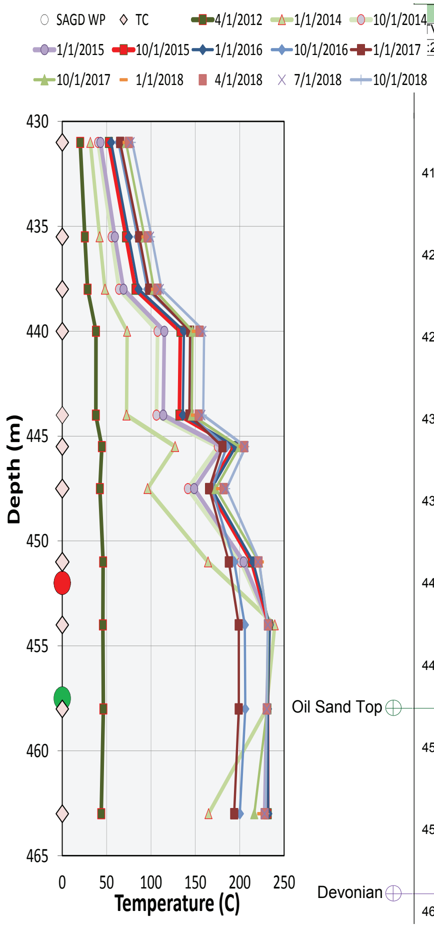


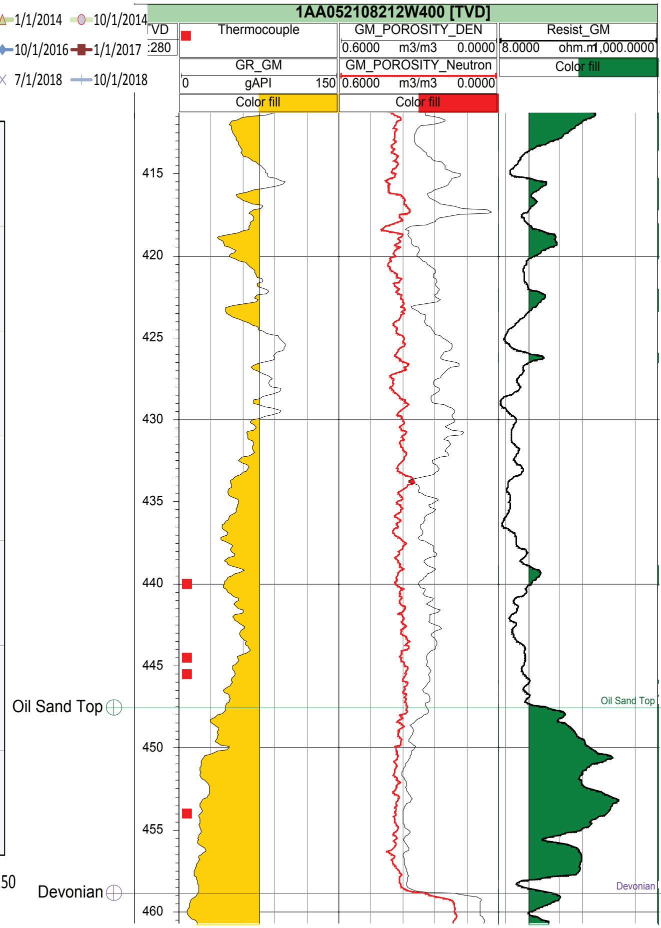
33 meters from 104-03

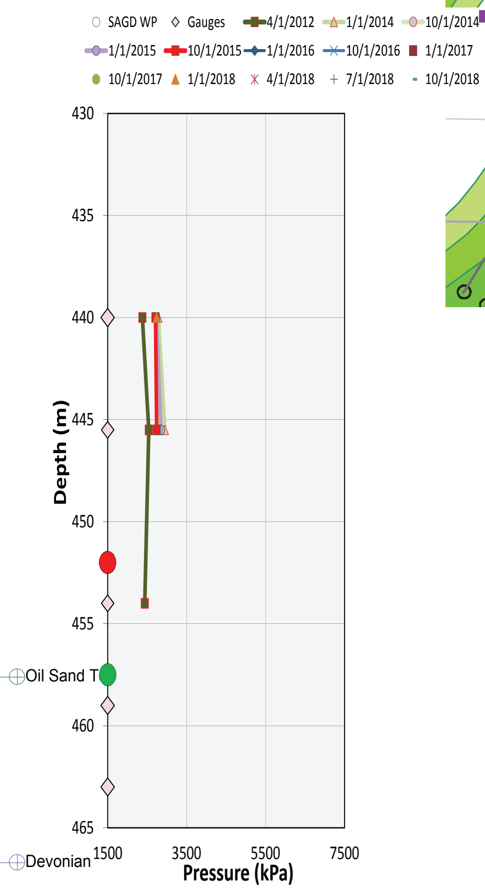
Pod One Obs Well - 111/05-21-82-12 W4

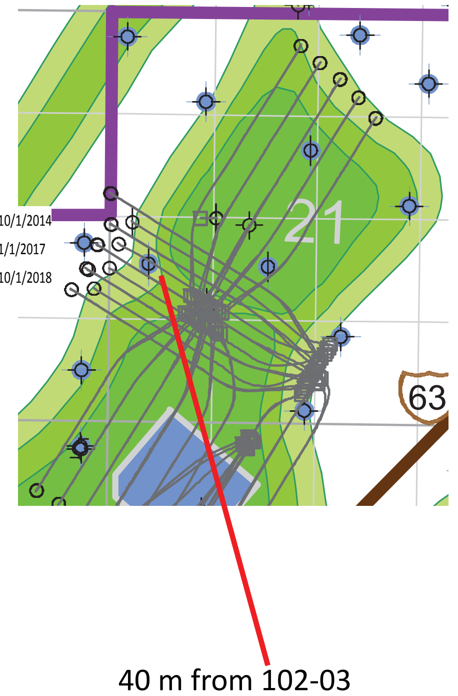
Connacher OIL AND GAS LIMITED 2018

No valid pressure readings at the lowest gauge after January 1, 2013. The piezometer at 445.5 m has failed and is no longer reporting accurate reservoir pressure.



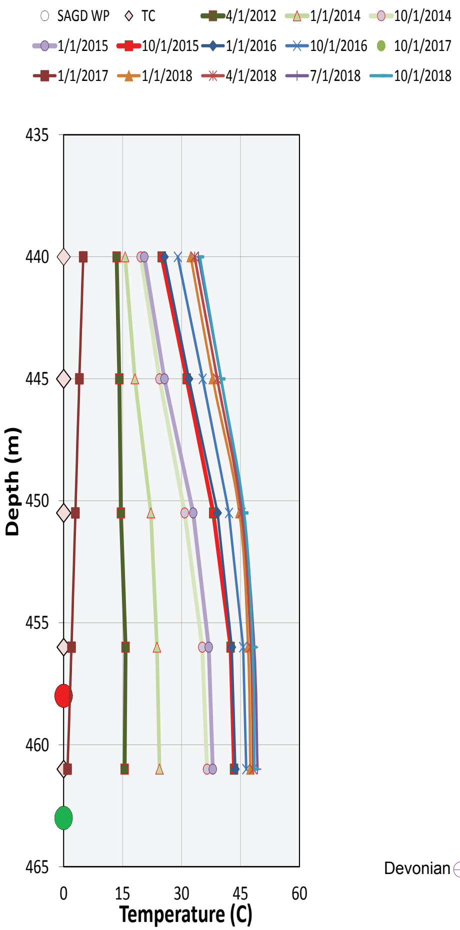


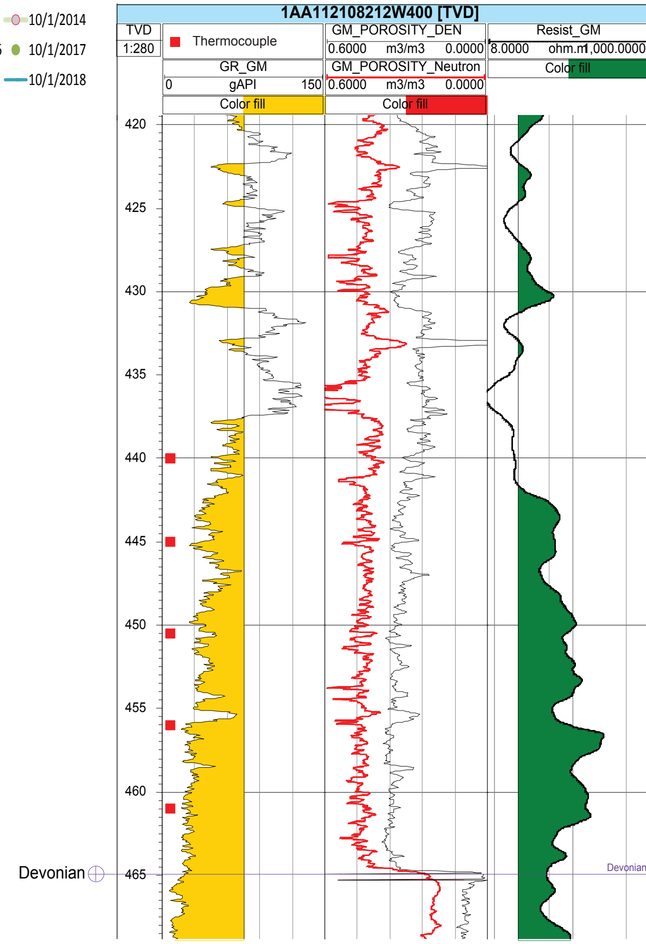


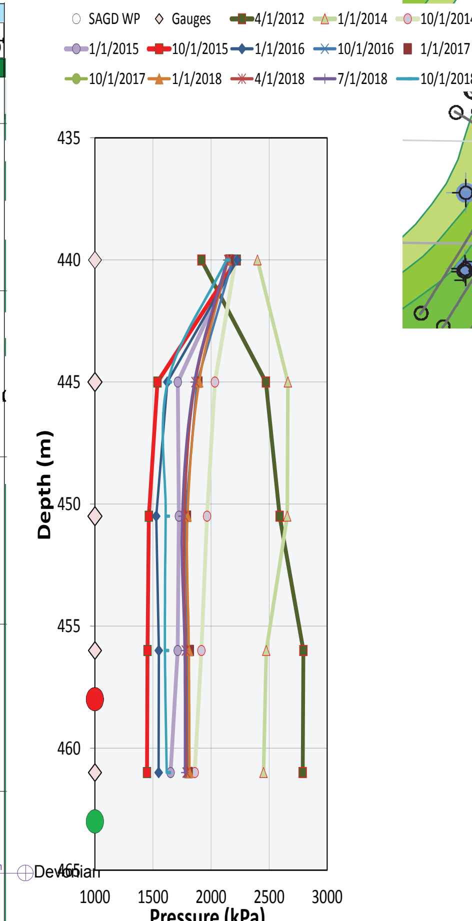


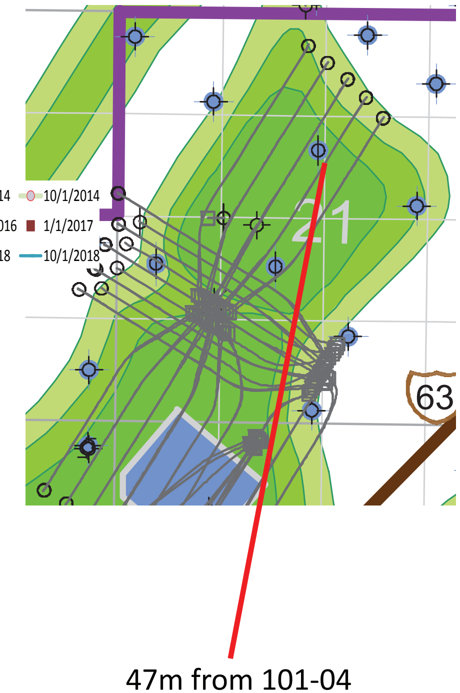
Pod One Obs Well - 100/11-21-82-12 W4

Temperature readings confirm that steam distribution in Pad 101N was a challenge. Note that Pad 101N is on blowdown. Temperature and pressure readings portray a relatively fast response to blowdown.









Pod One Obs Well - 100/06-21-82-12 W4

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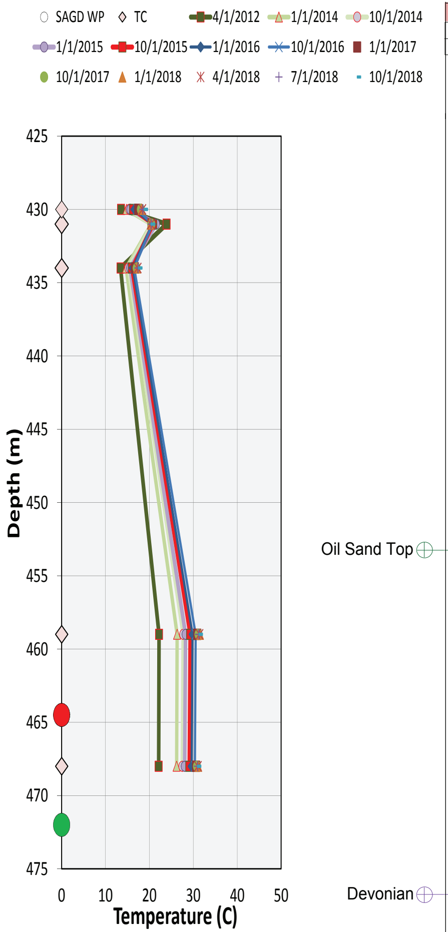
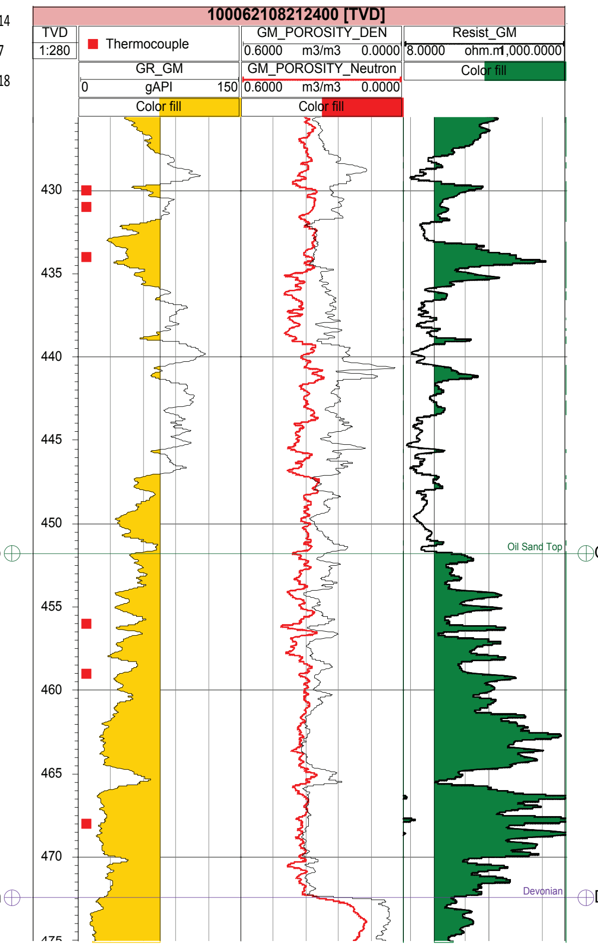
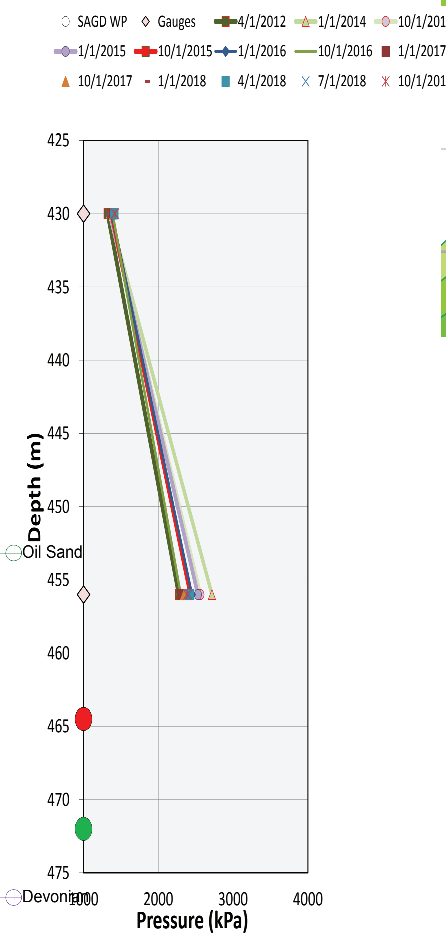
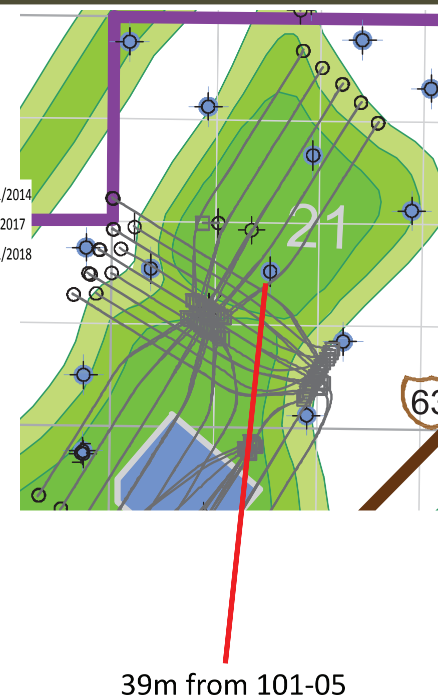
2018

Pressure and Temperature readings are suspect.









Algar Observations Wells

Net Pay (m)

- 10-15m
- 15-20m
- 20-25m
- 25-30m
- >30m

Cored Wells

100/04-19-082-11W4M Operational February 2011

- 6m from Well Pair 203-04
- Monitors Pad 202 performance
- Five temperature measurements operational
- Pressure measurement at 503.5 mKB failed Aug 2013

100/01-24-082-12W4M Operational February 2011

- 20m from Well Pair 203-06
- Five thermocouples operational
- Four pressure gauges operational

100/15-13-082-12W4M Operational February 2011

- 8m from Well Pair 201-04
- Five thermocouples operational
- One pressure gauge operational

100/09-13-082-12W4M Operational February 2011

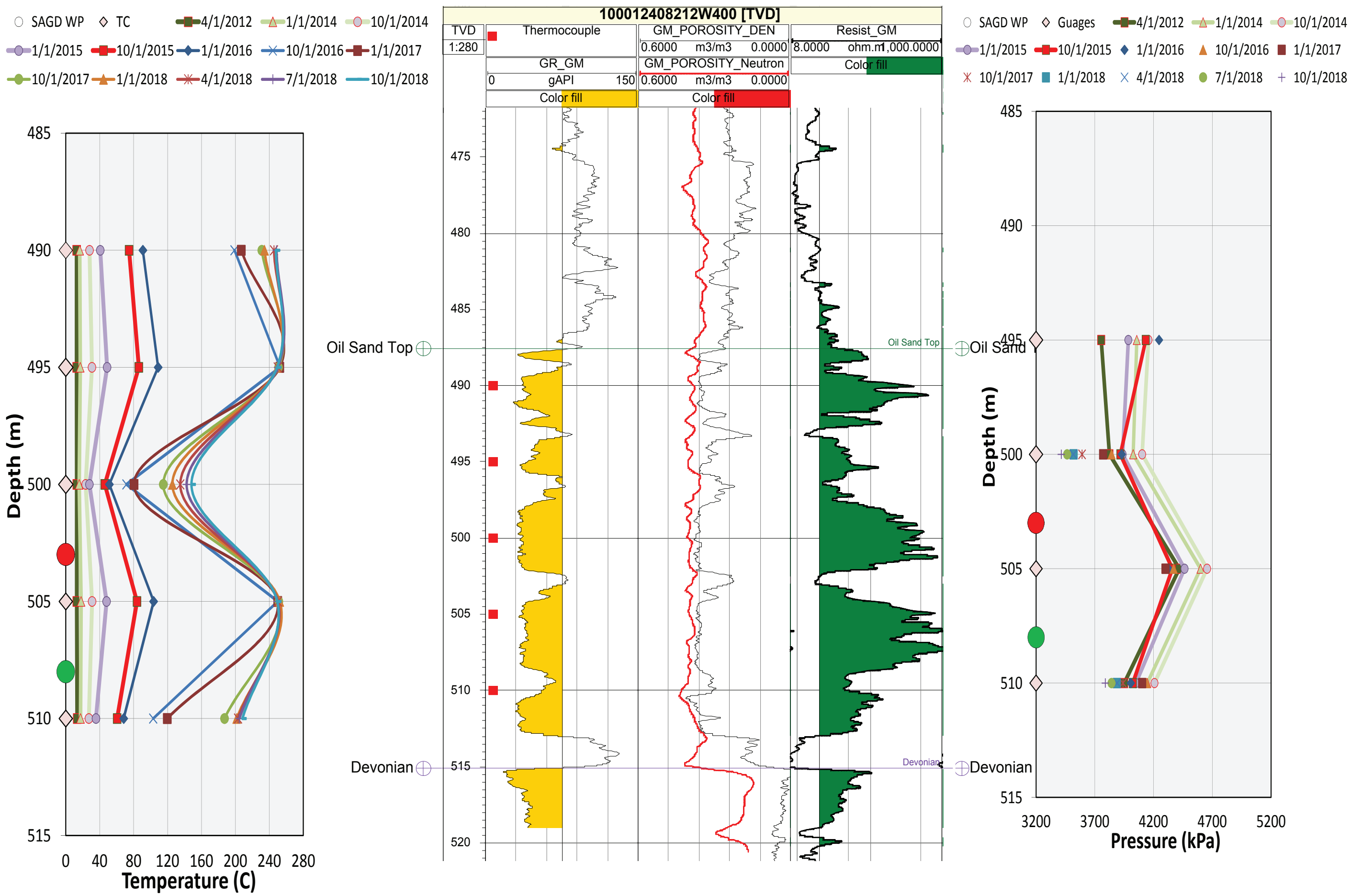
- 37m from Well Pair 202-04
- Five thermocouples operational

111/16-13-82-12W4W4 Operational March 2012

- 48m from Well Pair 203-05
- Five thermocouples operational
- Five pressure gauges operational

Algar Obs Well - 100/01-24-82-12 W4

Temperature readings at 490 m depth suggest that steam is moving to higher IHS zones. This suggests that the IHS zone are discontinuous at this location.



Algar Obs Well - 100/04-19-82-11 W4

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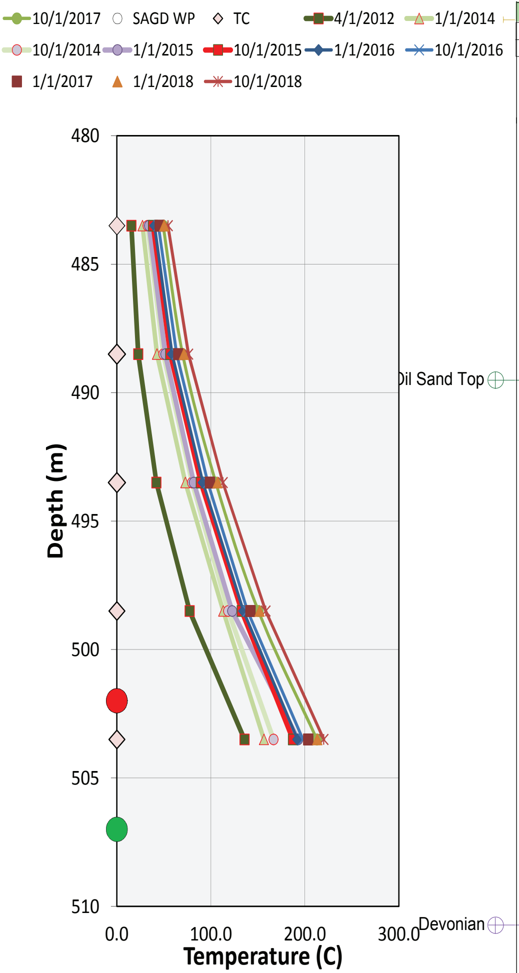
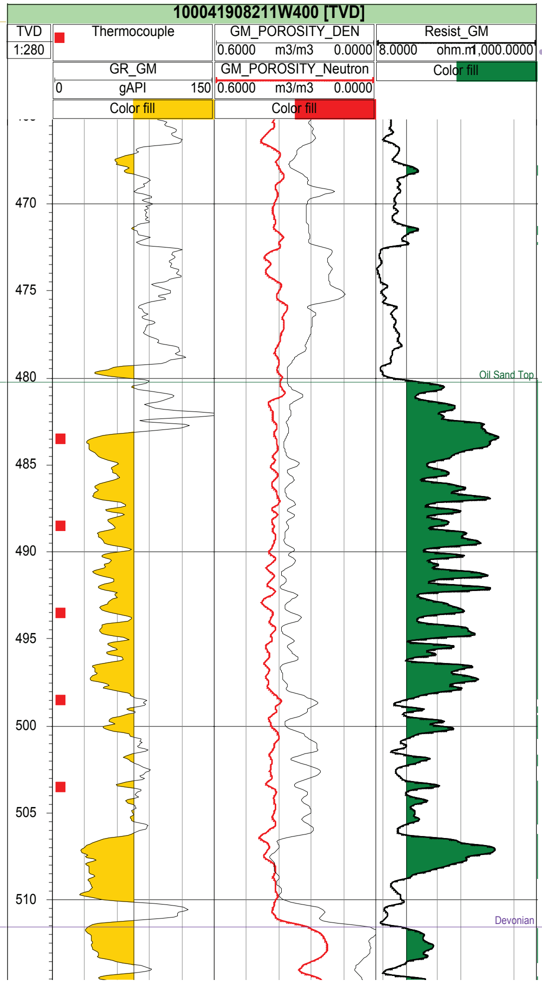
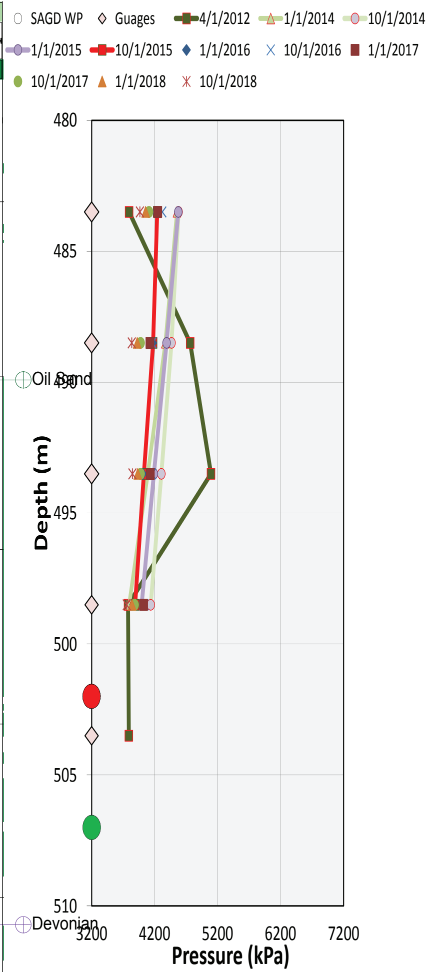
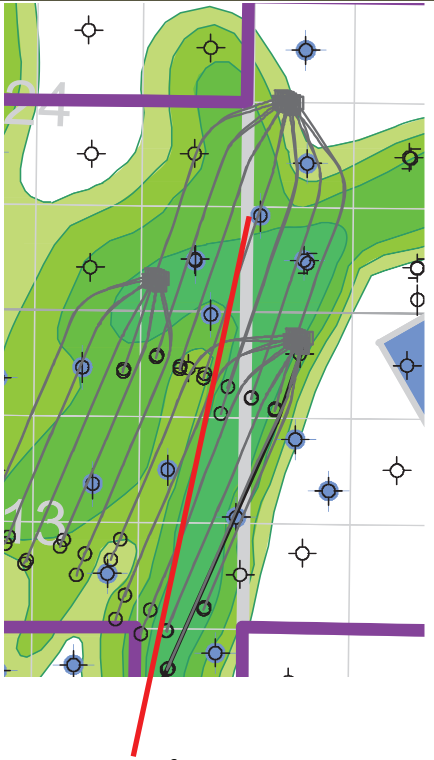
Temperature readings show temperature development in intense IHS zones. Pressure readings at this location are suspect.









10 m from 203-04

Algar Obs Well - 100/09-13-82-12 W4

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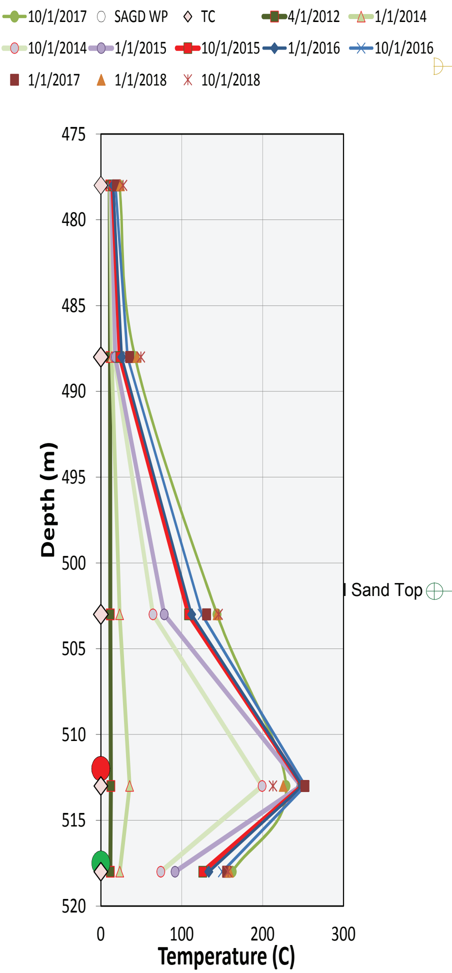
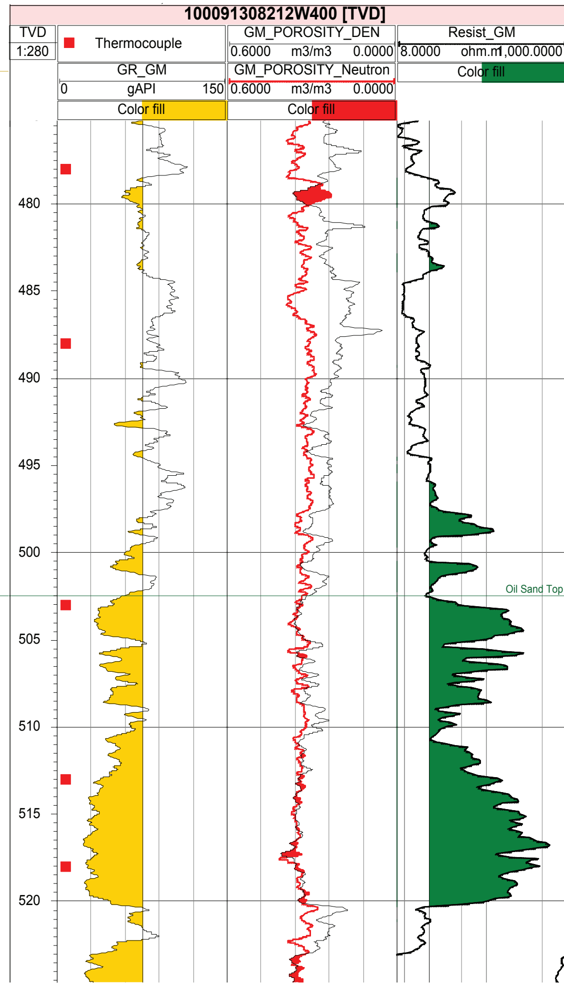
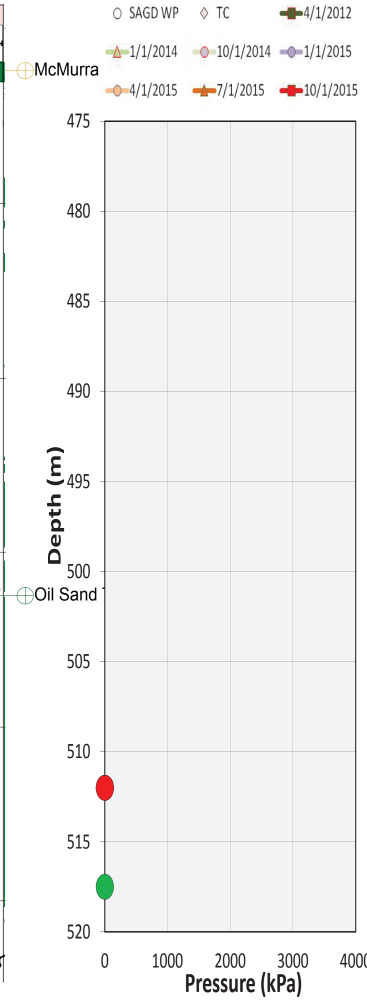
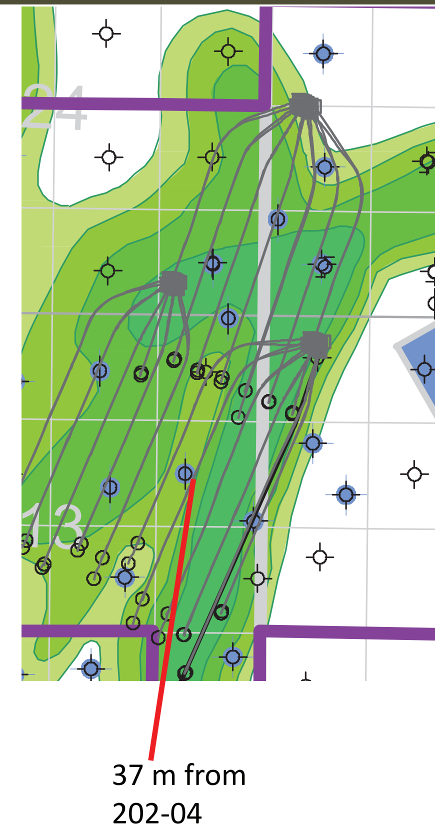
Temperature readings supports the development of infill wells at this location. No pressure readings available.



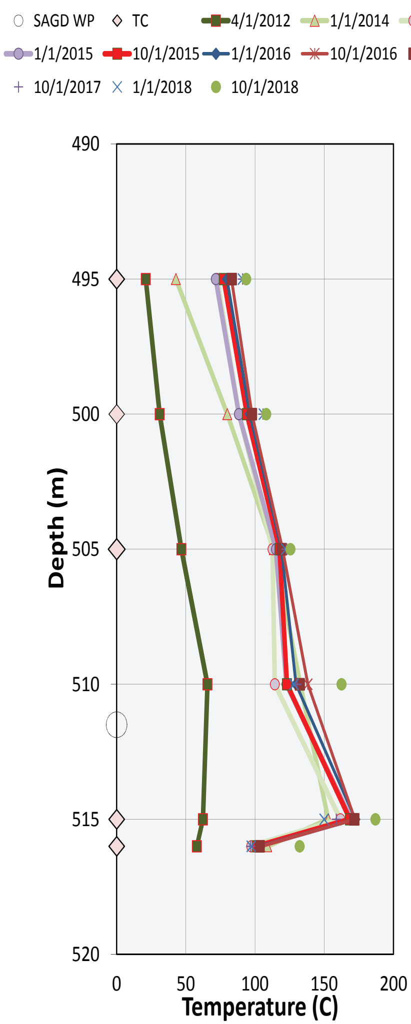


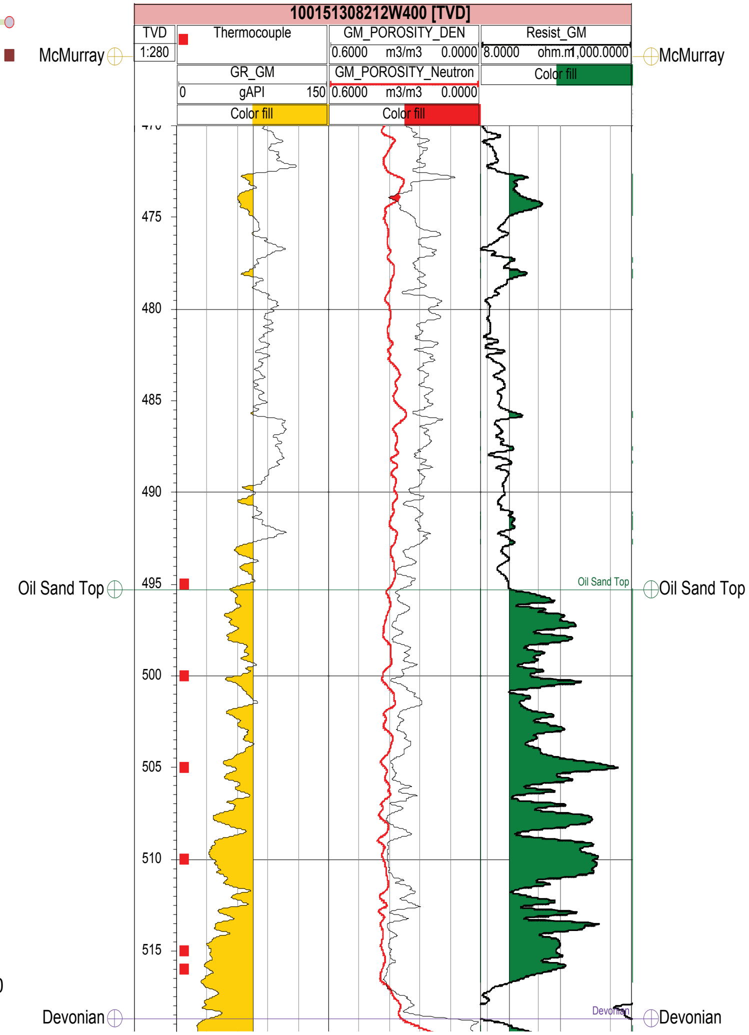


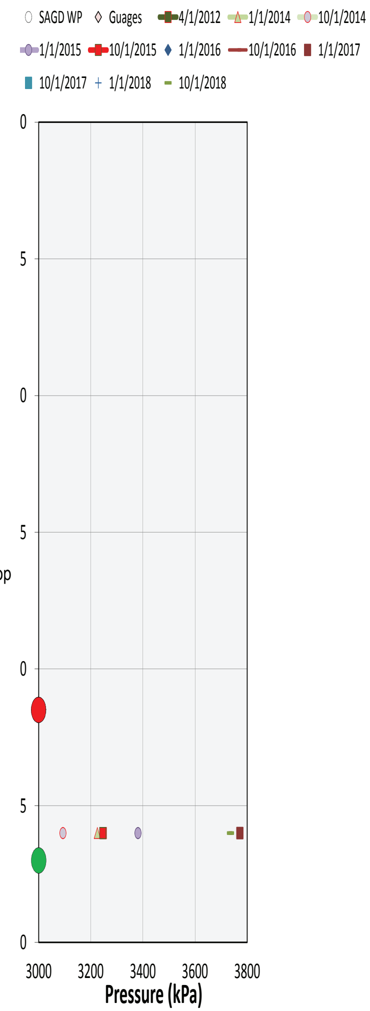


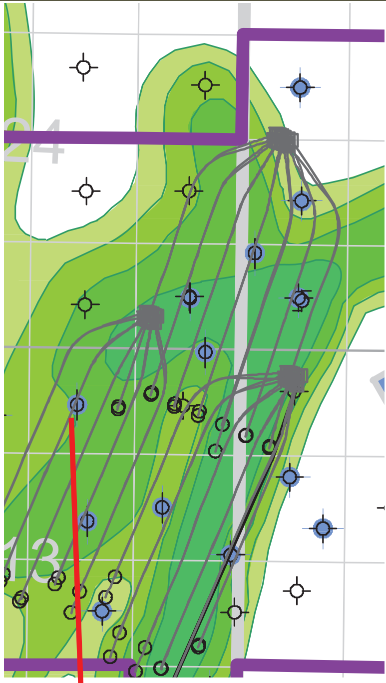
Algar Obs Well - 100/15-13-82-12 W4

Temperature readings show temperature response in IHS zone.





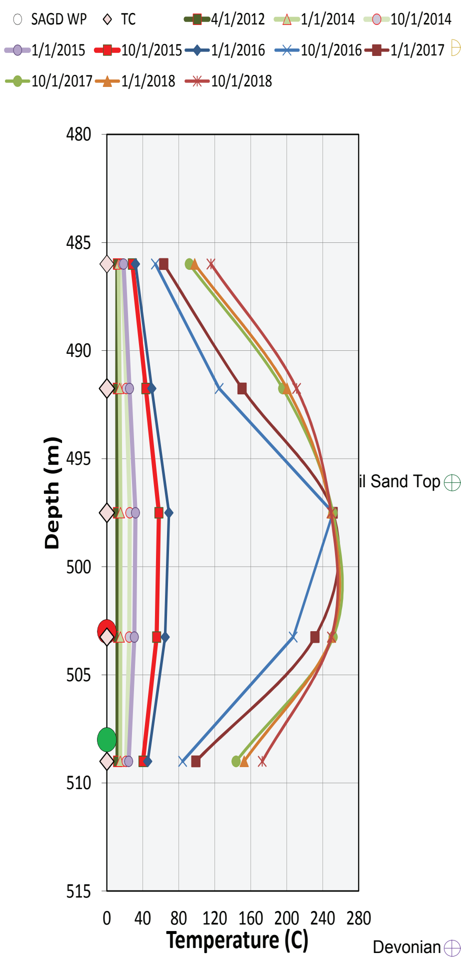


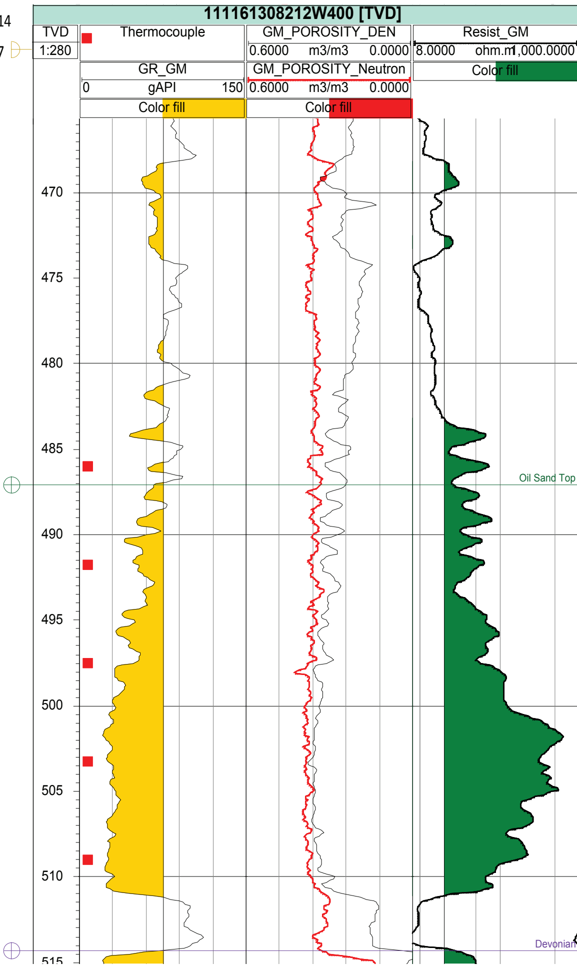


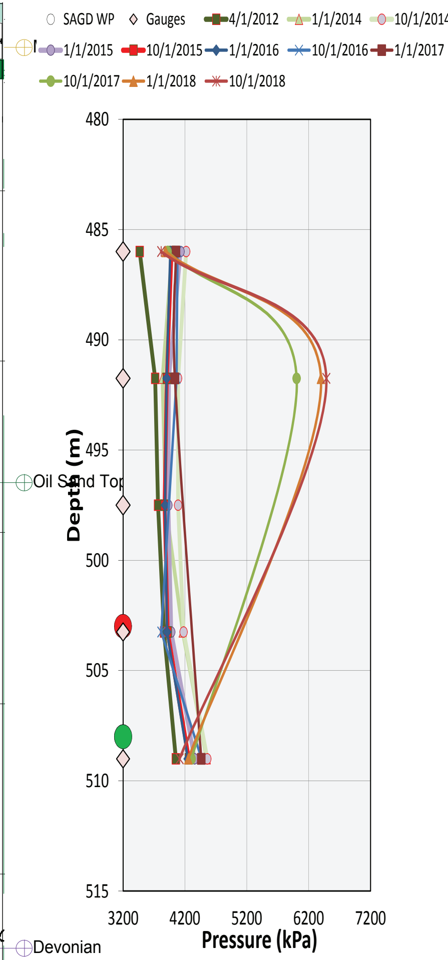
8 m from 201-04

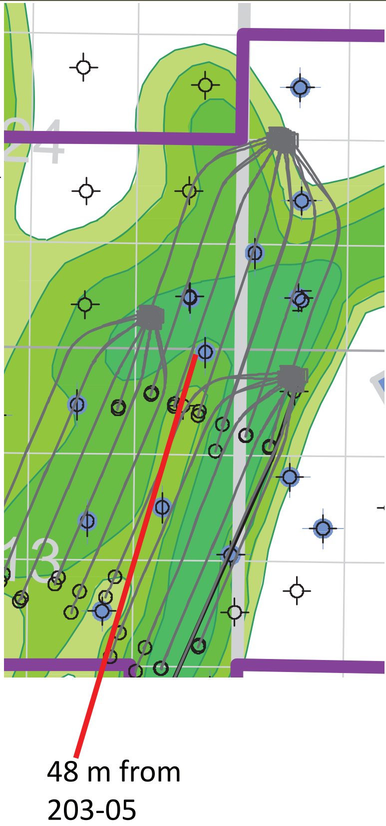
Algar Obs Well - 111/16-13-82-12 W4

Temperature readings shows temperature development in the IHS zone. It is expected that there will be more temperature response at lower depths in the future. Pressure response is observed in the entire column.









Notes on Obs Well equipment failure

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Pod One

12-16-082-12W4 - Thermocouples at all measurement depths are operating properly. Piezometers at depths of 471, 478, and 487 m are not operating due to gauge failure. There are no plans to replace the equipment.

5-21-082-12W4 - Thermocouples at all depths are operating properly. Piezometer located at 445.5 m and 454 m are not operating due to gauge failure. There are no plans to replace the equipment.

6-21-082-12W4 - Thermocouples at all depths are operating properly. All piezometers in this well are not operational. There are no plans to replace the equipment.

Algar

04-19-082-12W4 - Thermocouples at all depths are operating properly. Piezometer at 503.5 mKB is not operational. There are no plans to replace the equipment.

09-13-082-12W4 - Thermocouples at all depths are operating properly. All piezometers in this well are not operational. There are no plans to replace the equipment.

15-13-082-12W4 - Thermocouples at all depths are operating properly. Piezometer at 516 m is the only pressure gauge operating properly. There are no plans to replace the equipment.

16-13-082-12W4 - Thermocouples at all depths are operating properly. Piezometers at 503.3 and 497.5 mKB are not operational. There are no plans to replace the equipment.

Pod One & Algar Ground Movement

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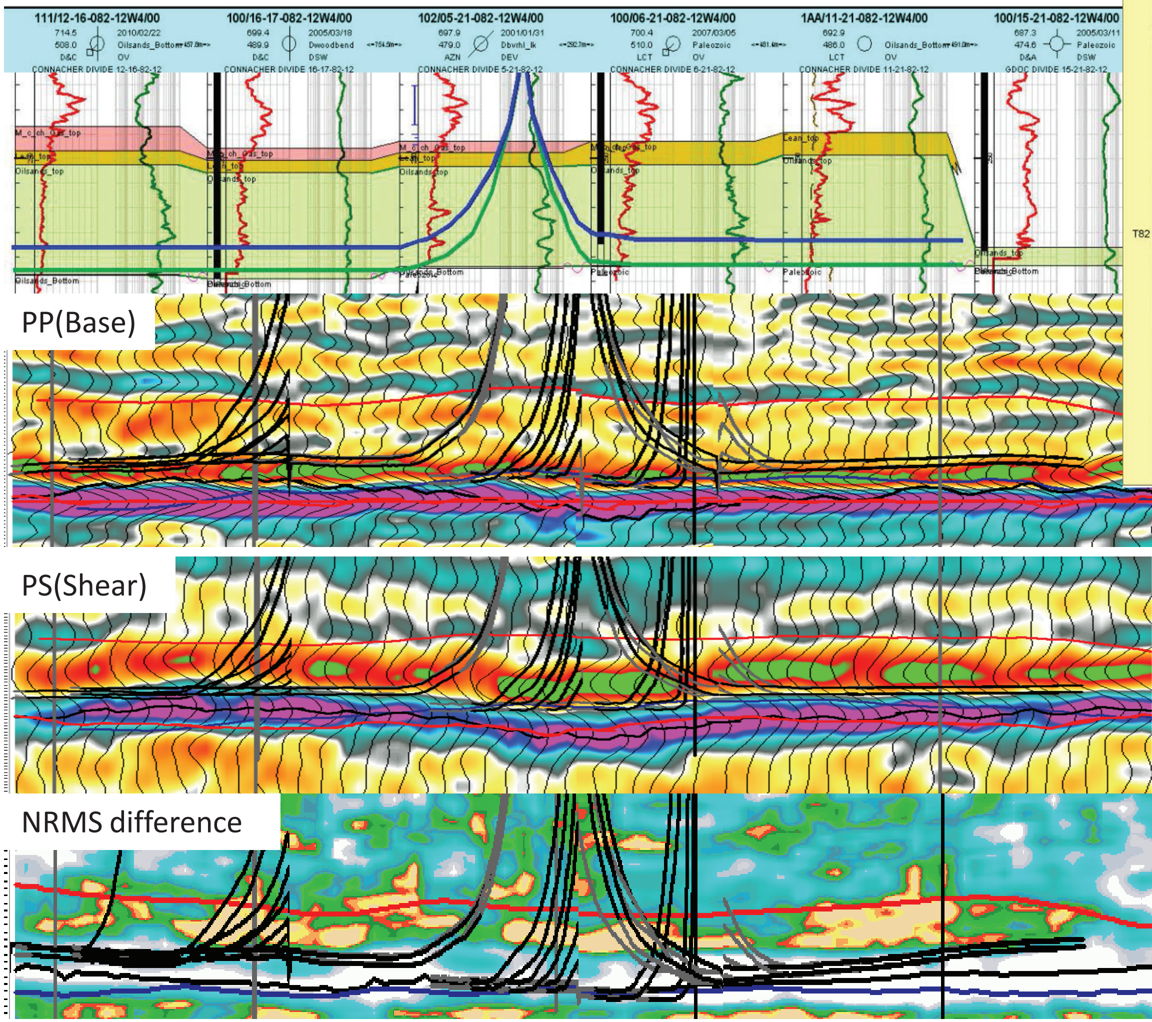
Highway 63 Profile Survey

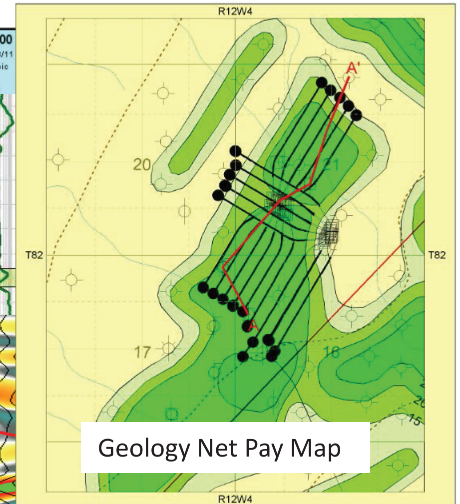
16 km of Highway 63's road profile adjacent to the Great Divide Project Area was resurveyed in 2018. Southbound lanes (original highway) continues to have agreement between the 2016 - 2017 data with no deviations of concern. Northbound lanes (recently constructed) observed post-construction subsidence and surface elevation changes continue to occur. Deviation, if present, cannot be differentiated from post-construction subsidence at this time.

Static Monument Survey

39 monuments resurveyed in 2018 (16 at Algar, 18 at Pod One, & 5 controls). At Algar, slight subsidence in the area north of the Algar CPF was observed. At Pod One, slight uplift in the area southwest of the Pod One CPF was observed. Highway 63 road profiles and all static monuments will be resurveyed in summer of 2019.

Pod One 4D Seismic





Geological cross section across seismic data

PP(Primary) conventional seismic is the difference btw the 2005 and 2010 seismic volumes

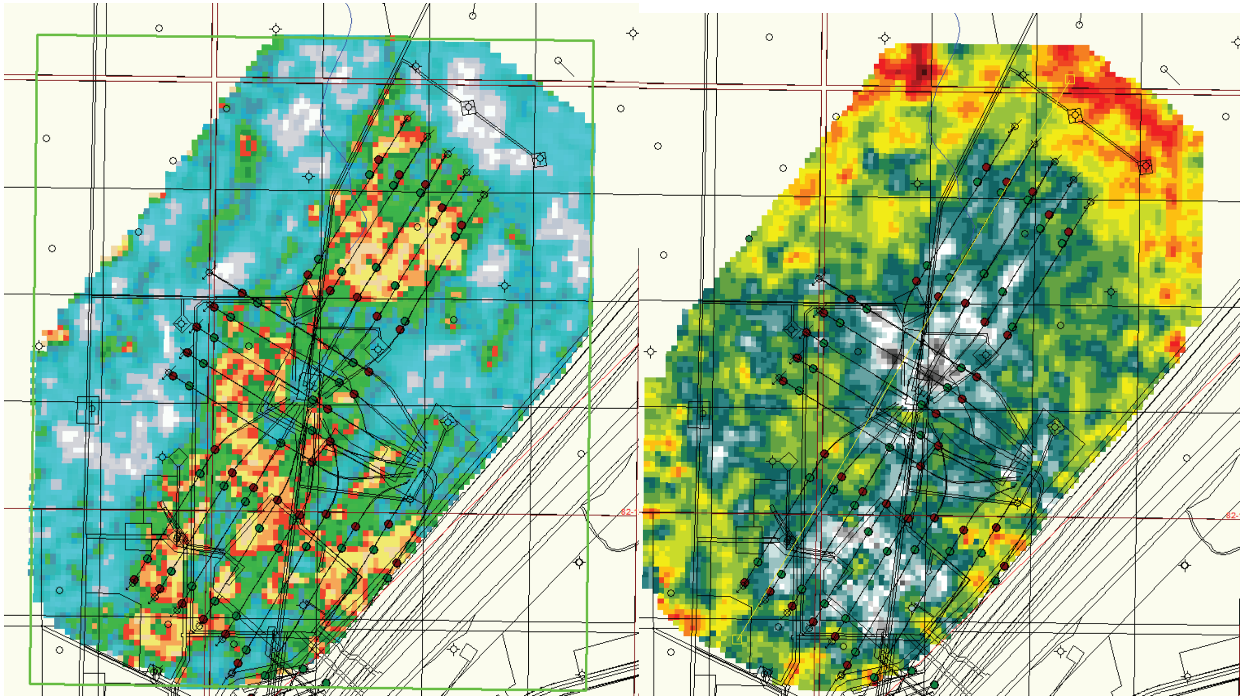
PS data shows changes in the shear component -
Which is an indicator of steam in the rock since 2010

NRMS(Normalized Root Mean Square of the differences btw the 2005 and 2010 surveys) which highlights and confirms change in the reservoir since 2005

Pod One 4D Seismic (2)

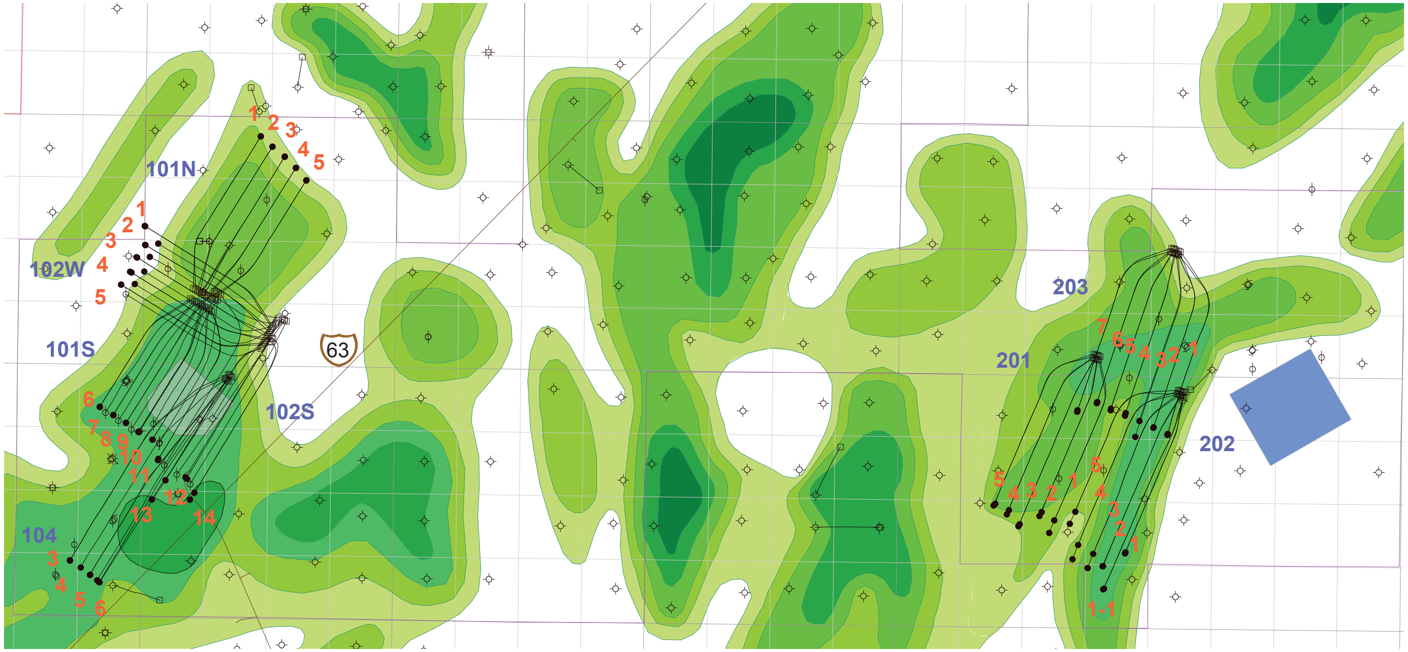
NRMS - normalized root mean square represents the % change in the seismic signal since steaming operations began

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.

Subsurface - Scheme Performance



Pod One

- 23 Well Pairs (101N, 101S, 102S, 102W and 104)
- 13 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)
- 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

Pod One Performance

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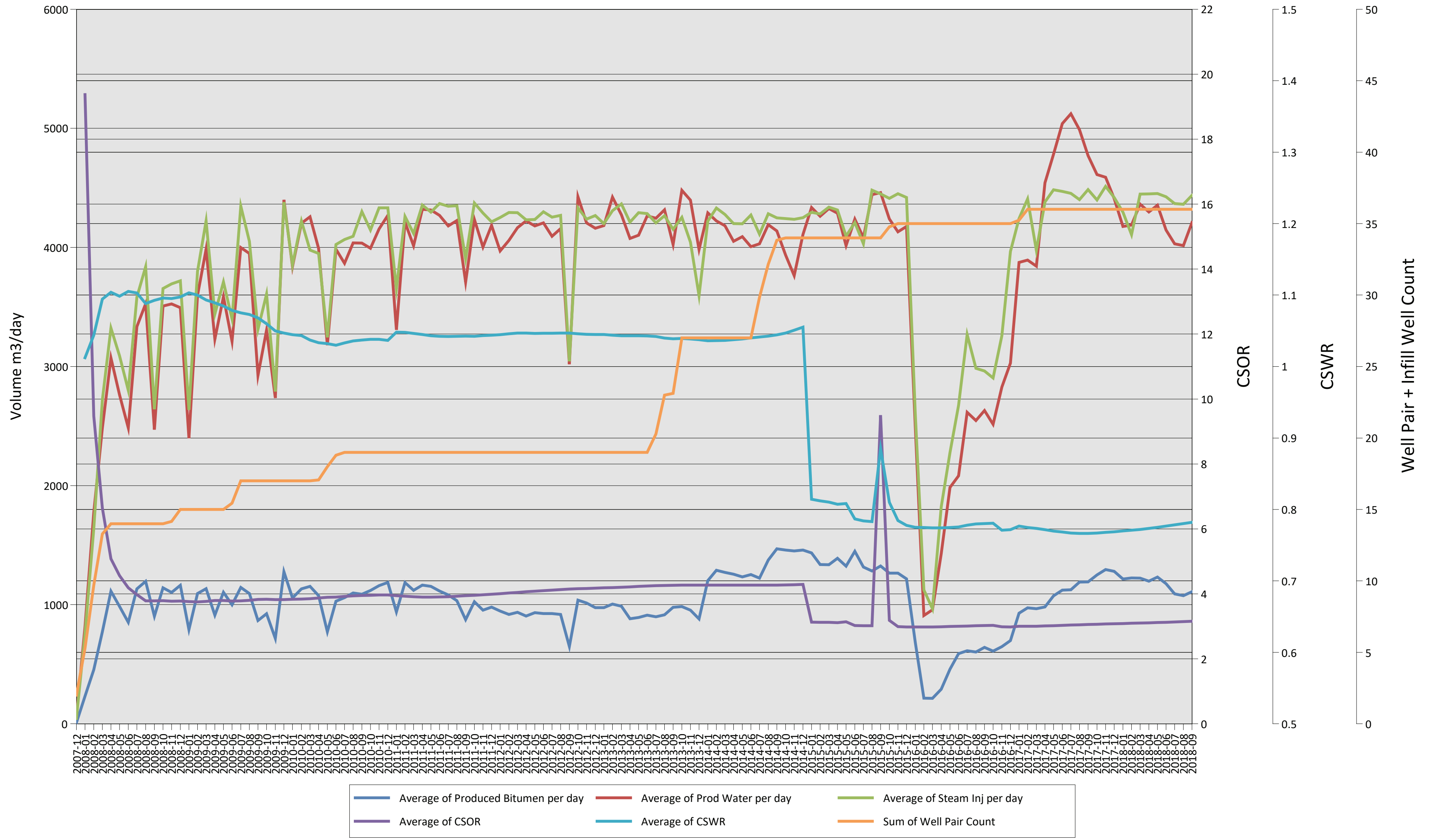
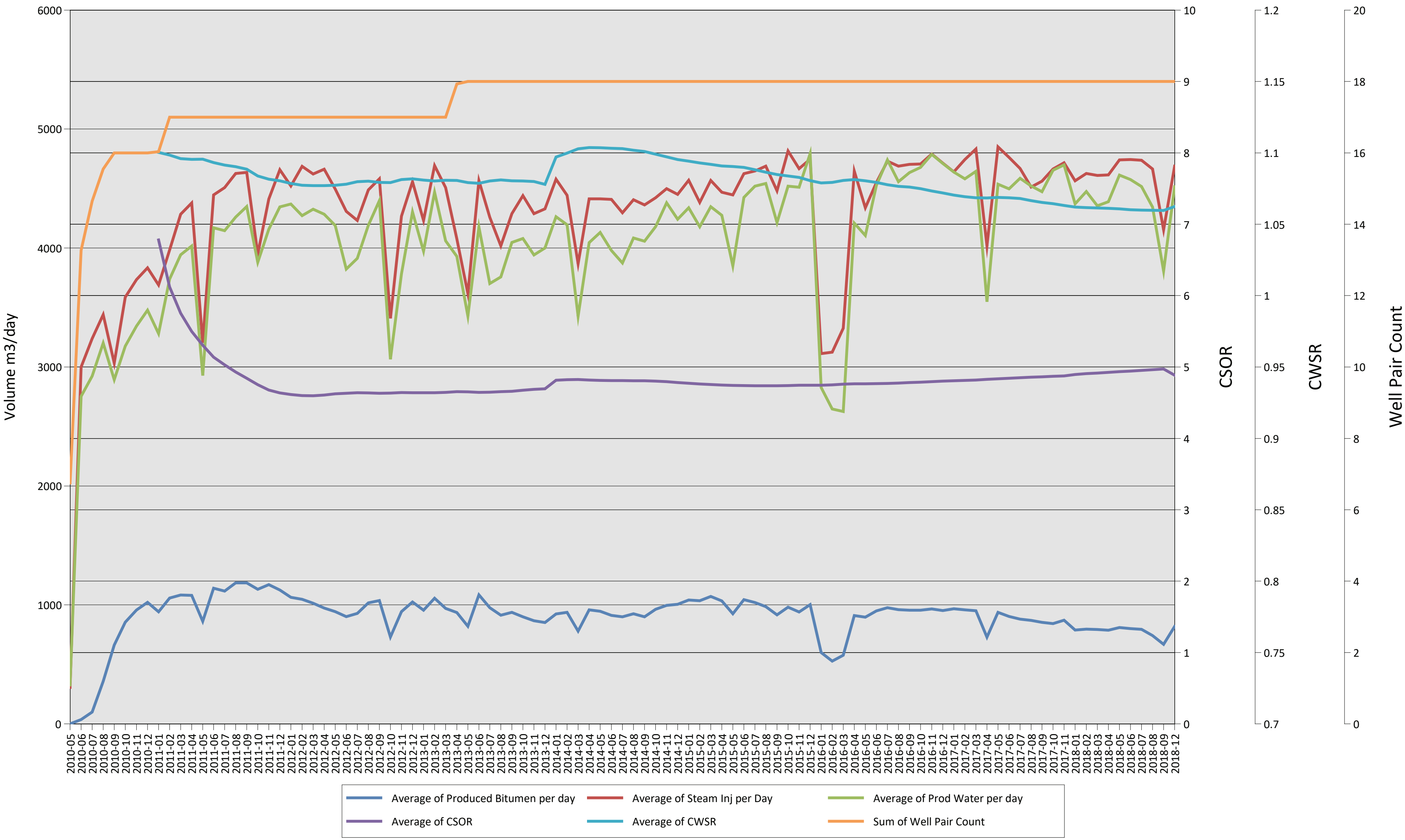
2018



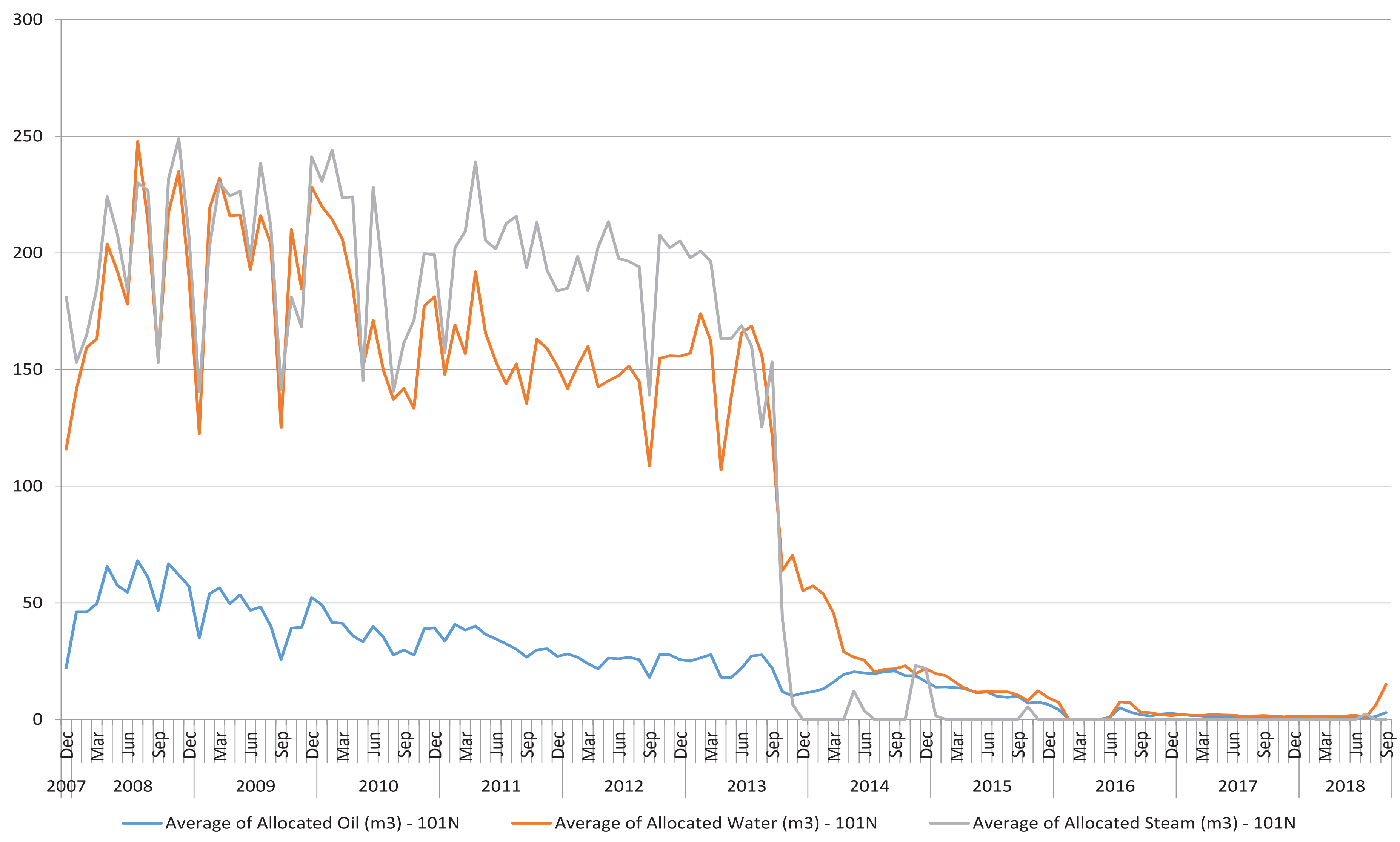
Algar Performance

Connacher
OIL AND GAS LIMITED
2018



Pod One - Pad 101N Production

Connacher OIL AND GAS LIMITED 2018



Pod One Pad 101S Production

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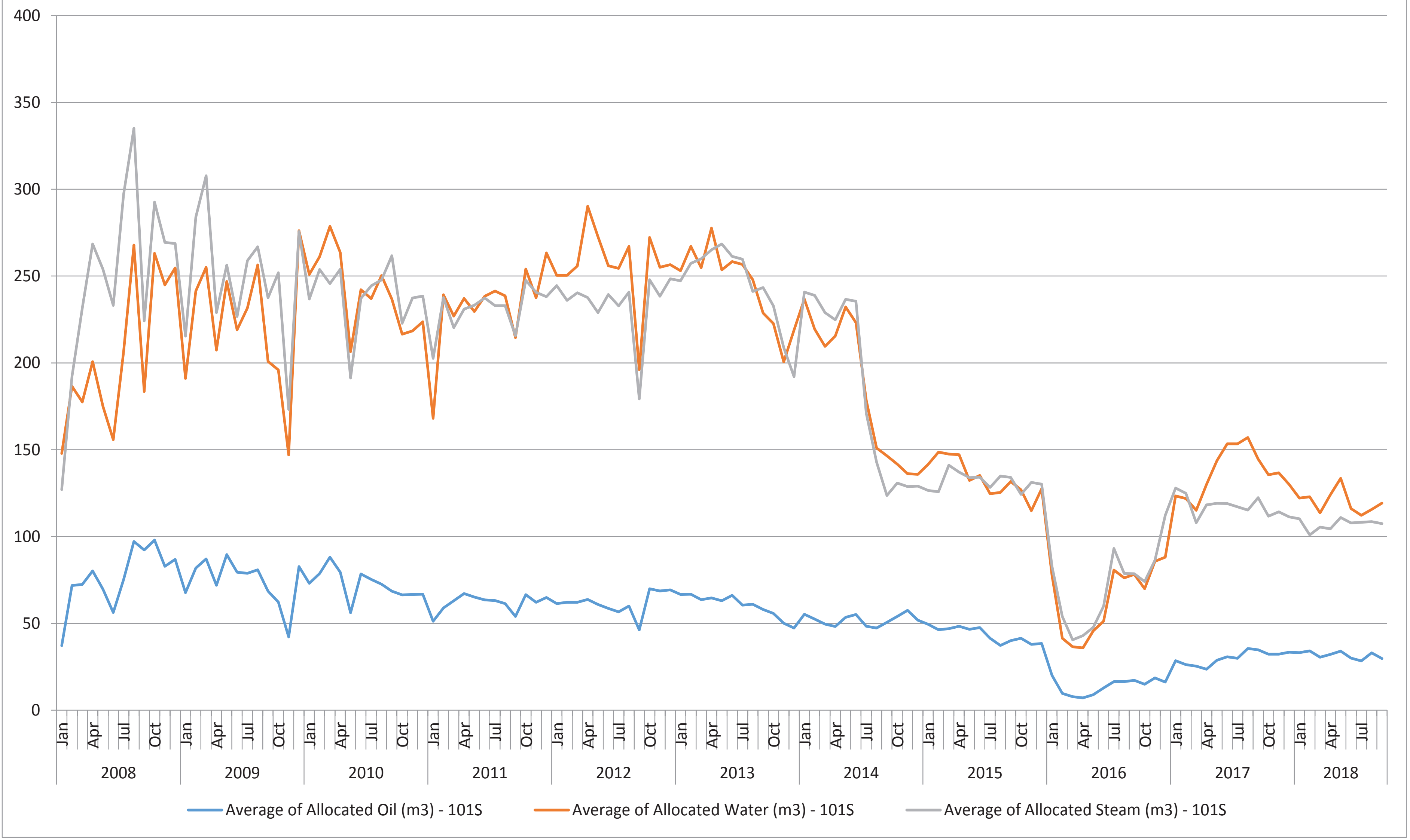
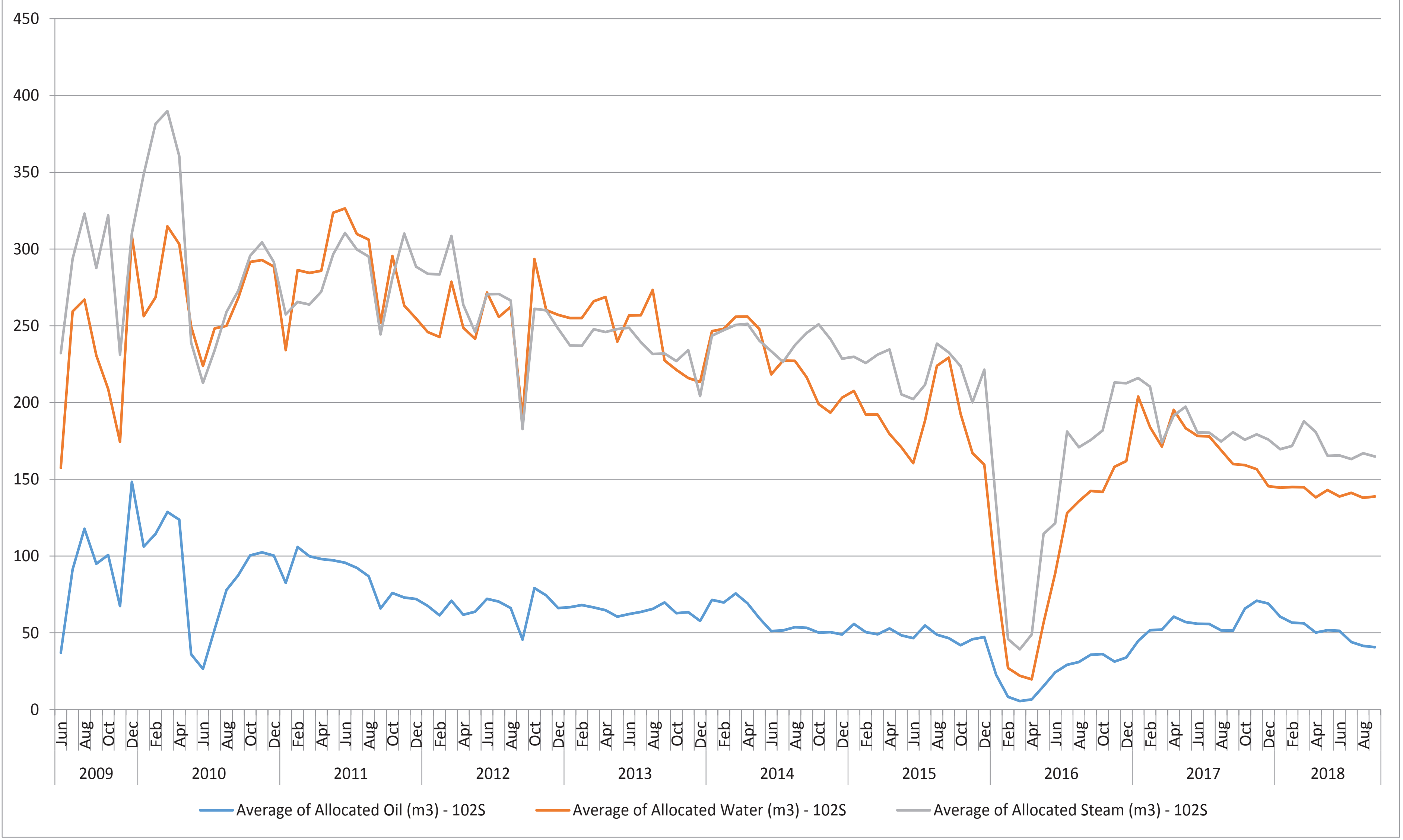
2018



Pod One Pad 102S Production

Connacher OIL AND GAS LIMITED 2018



Pod One Pad 102W Production

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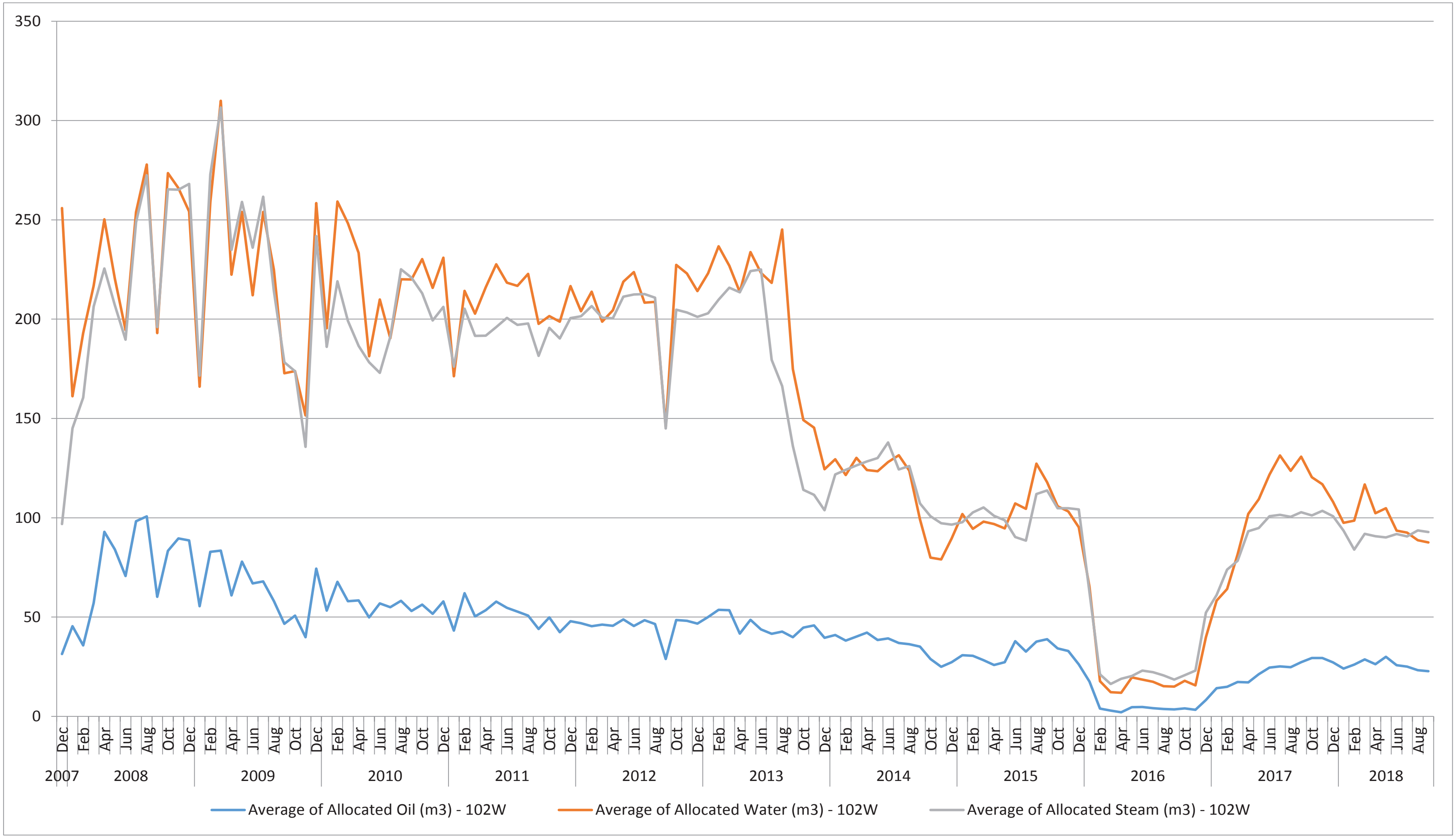
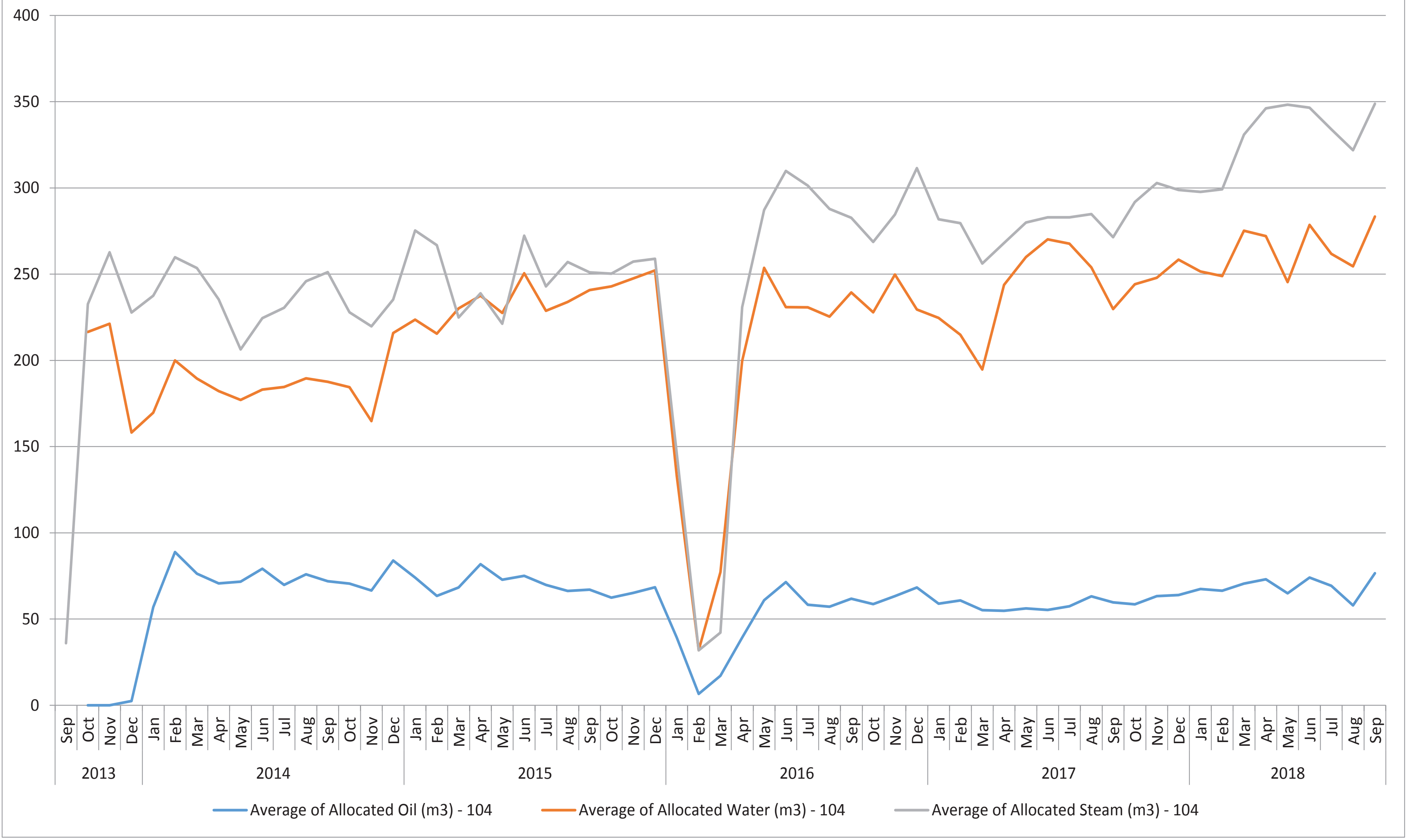
2018



Pod One Pad 104 Production

Connacher OIL AND GAS LIMITED 2018



Algar - Pad 201 Production

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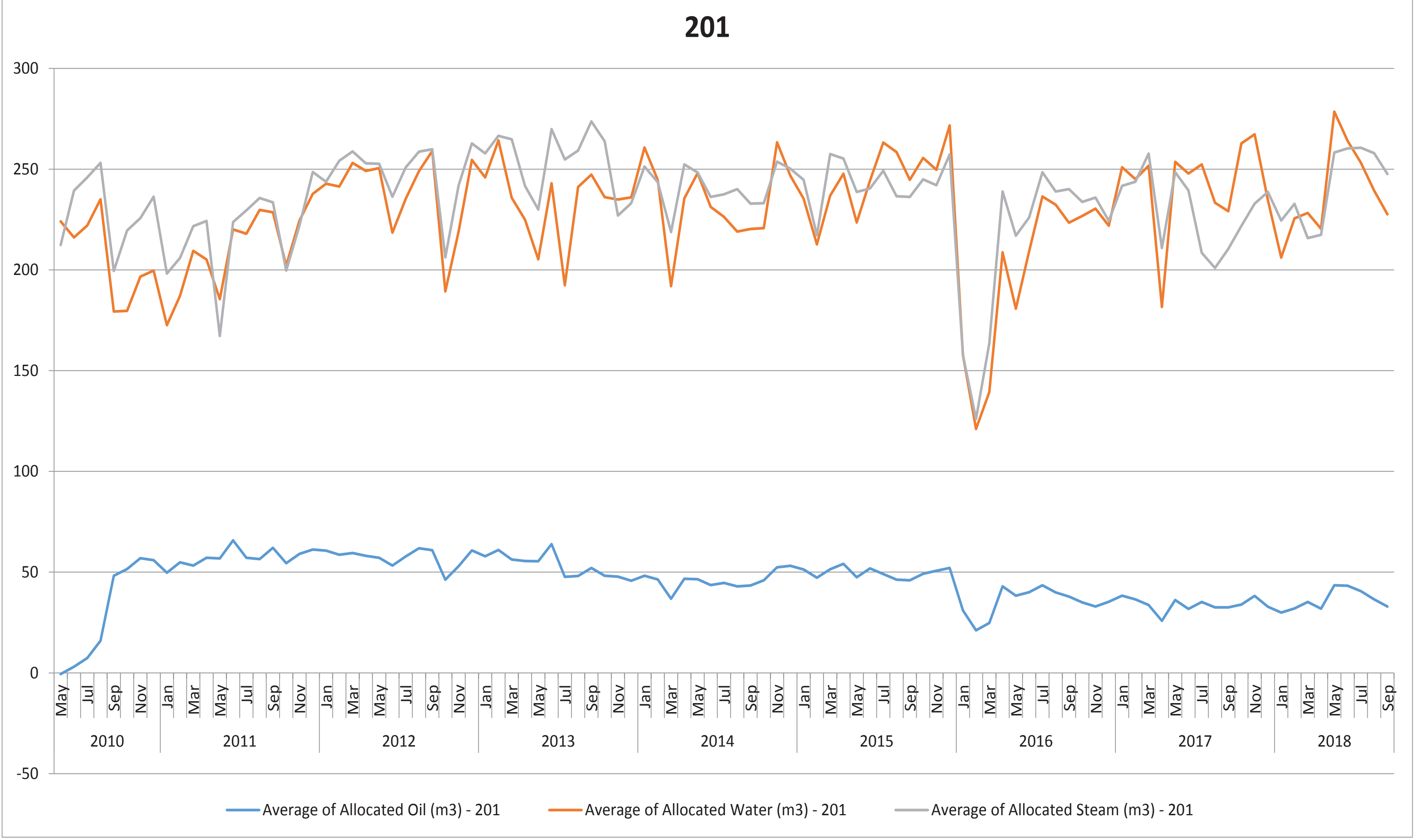
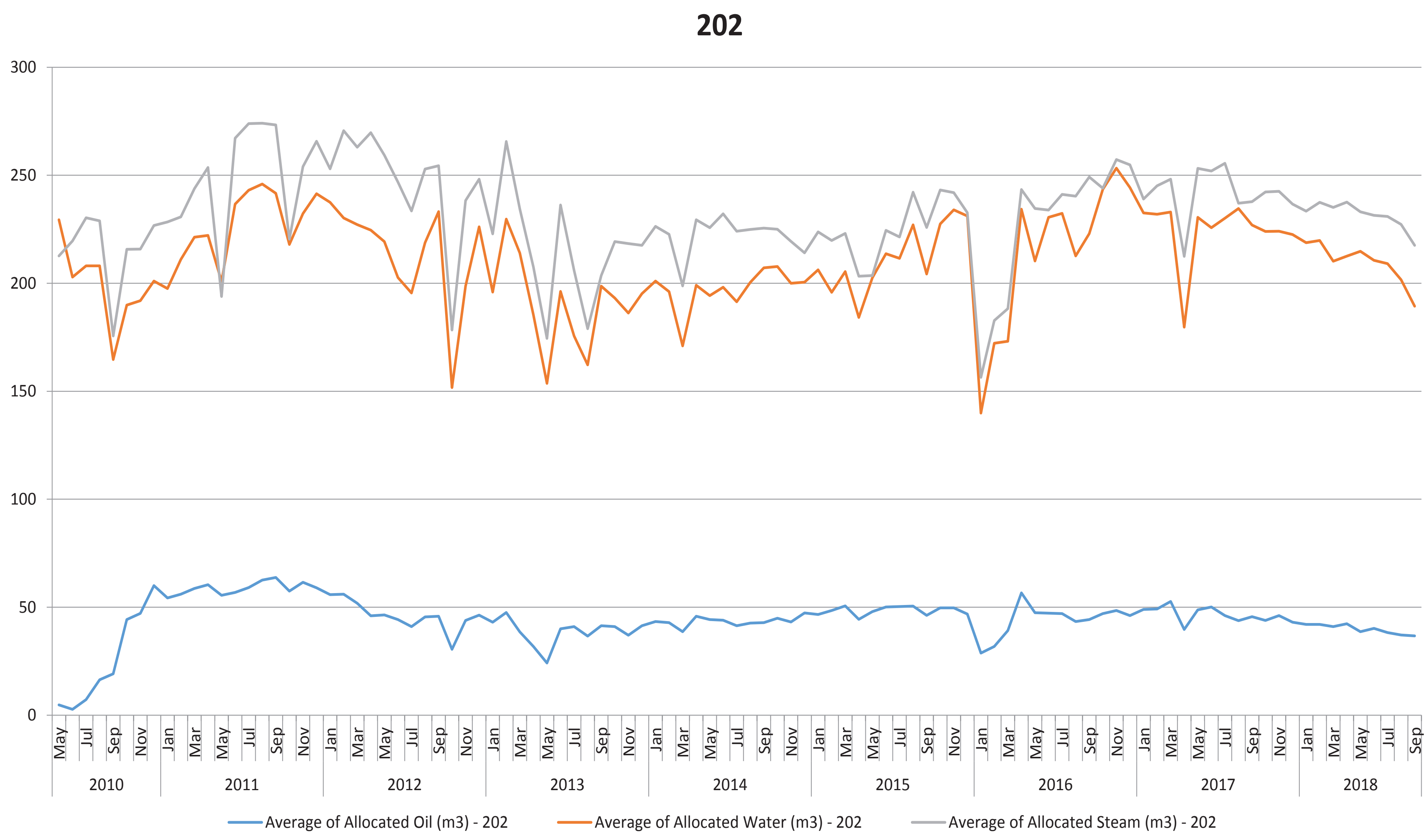
OIL AND GAS LIMITED
2018

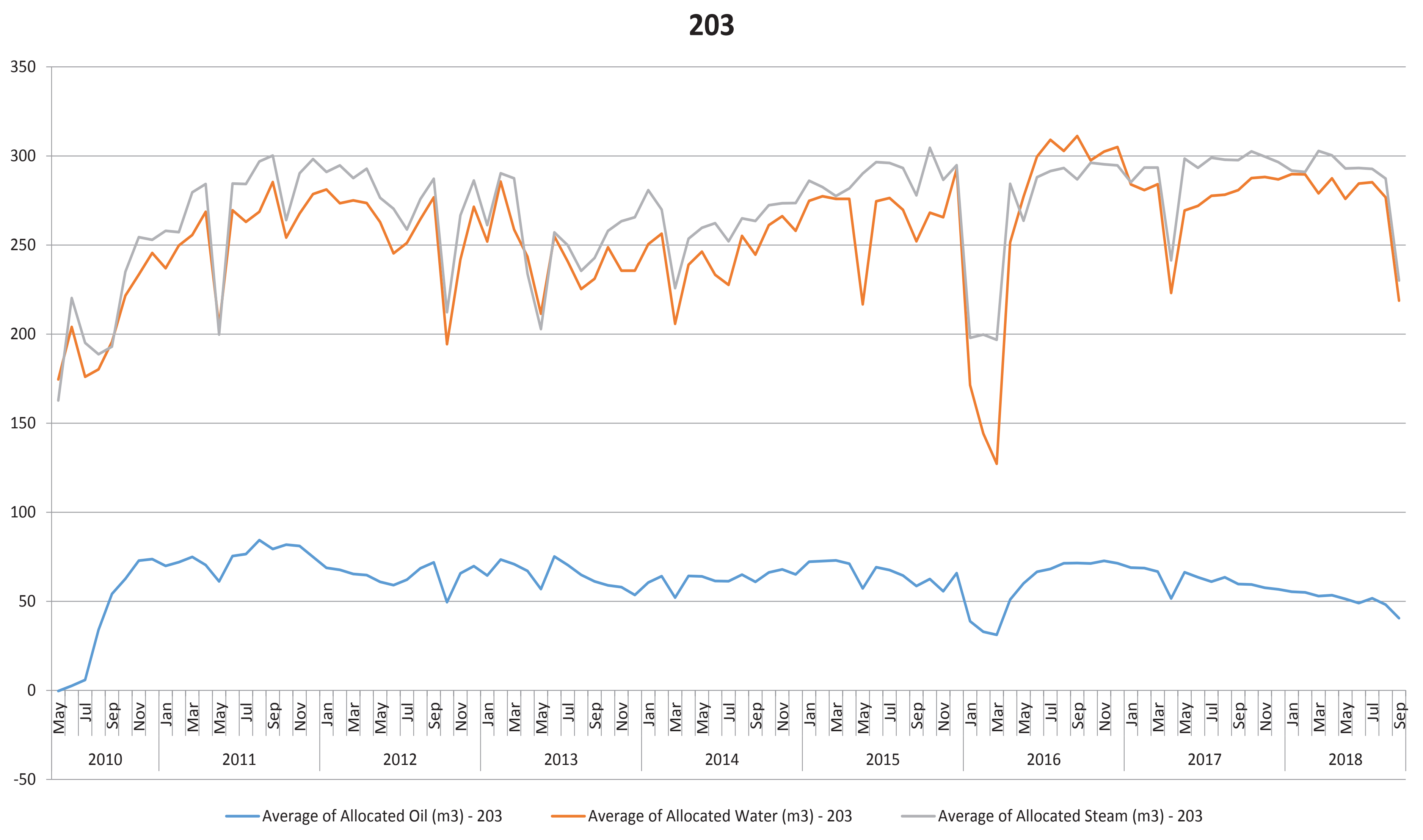


Algar Pad 202 Production

Connacher OIL AND GAS LIMITED 2018



Algar Pad 203 Production



Great Divide Performance - Cumulative Production by Pad

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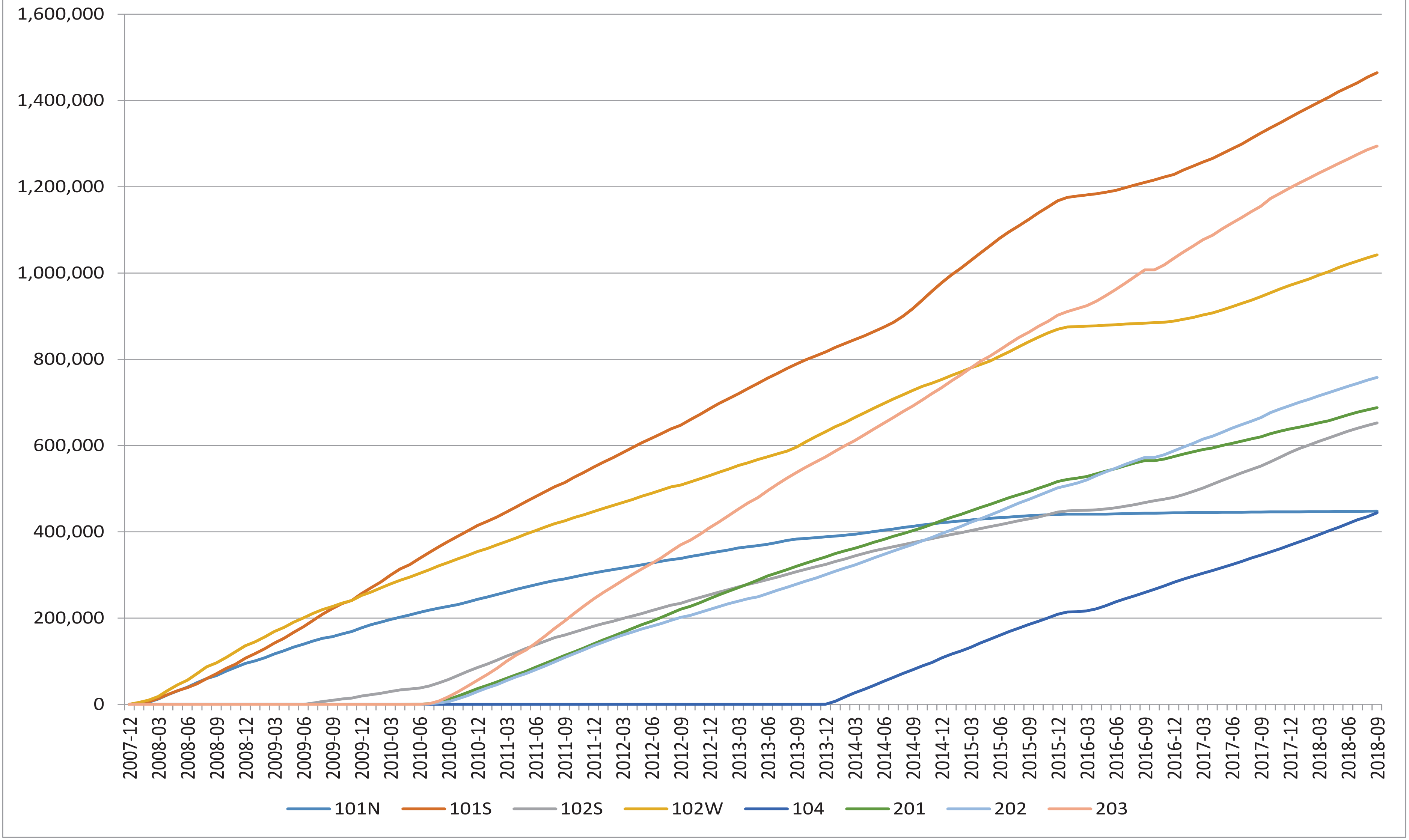
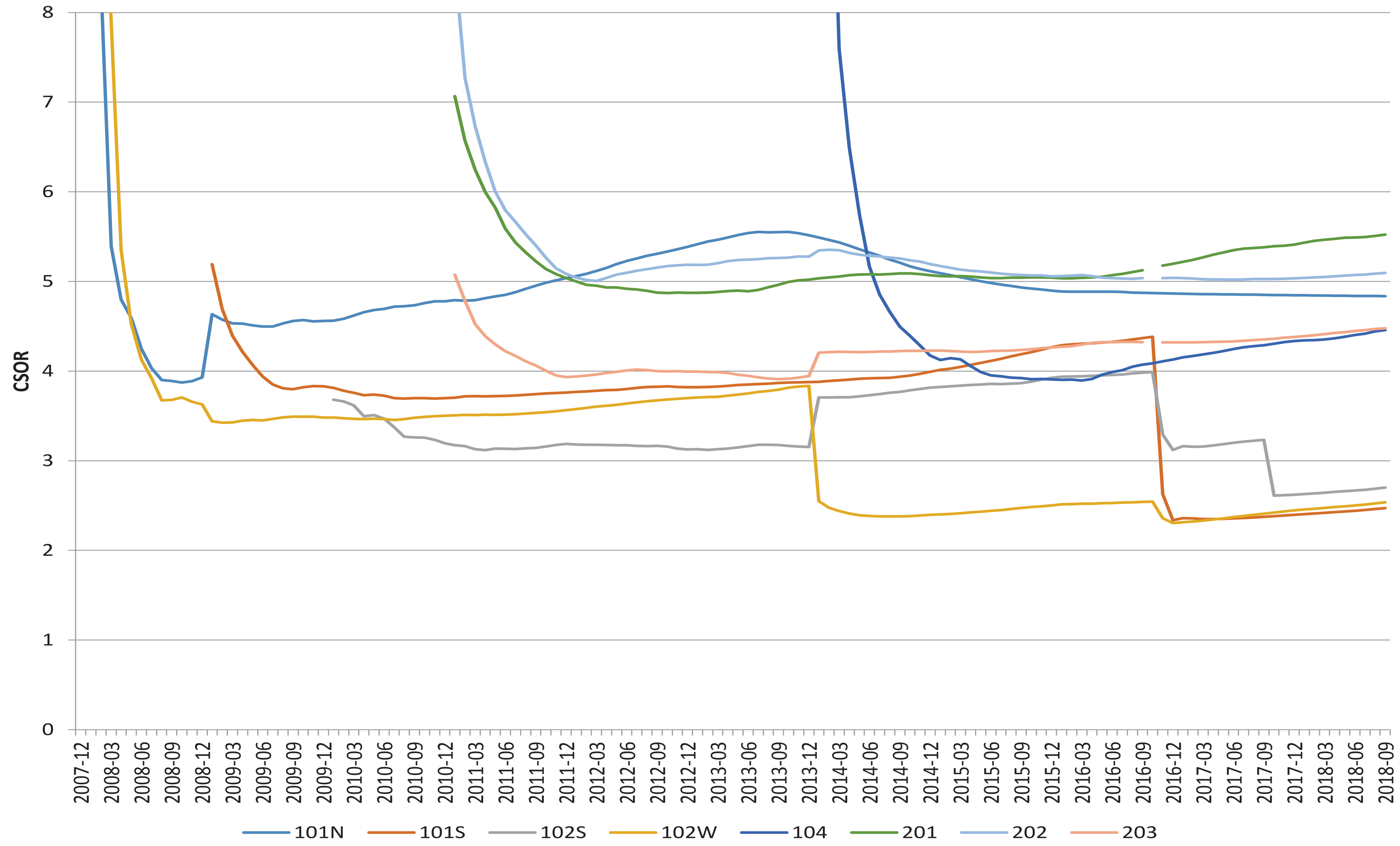
2018



Great Divide Performance - Cumulative Steam to Oil Ratio by Pad



Pod One Performance - Well Summary

Connacher
OIL AND GAS LIMITED
2018

Well Pad	Well Pair	Date	Months On	Cum Oil m3	Cum Steam m3	Oil Rate (m3/day)	CSOR	Lift	Comments
101N	101-01	Sep-2017	101	90,674	436,980	0.00	4.82	Rod Pump	North Pad, Channel Edge, Shut-in Jan 2016
101N	101-02	Sep-2017	101	78,888	429,657	0.00	5.45	Rod Pump	North Pad, Channel Edge, Shut-in Jan 2016
101N	101-03	Sep-2017	100	65,631	330,690	0.00	5.04	Rod Pump	North Pad, Channel Edge, Shut-in Jan 2016
101N	101-04	Sep-2017	133	113,666	465,679	8.77	4.10	Rod Pump	North Pad, Channel Edge, Blowdown
101N	101-05	Sep-2017	111	104,326	417,136	6.25	4.00	PC Pump	North Pad, Channel Edge, Shut-in Oct 2016
101S	101-06	Sep-2017	133	135,906	672,718	18.12	4.95	Rod Pump	Average Well, Channel Edge
101S	101-07	Sep-2017	133	128,714	746,635	10.58	5.80	Rod Pump	Average Well, Channel Edge
101S	101-08	Sep-2017	133	256,979	1,004,673	20.18	3.91	Rod Pump	Good Well in Good Pay
101S	101-09	Sep-2017	133	170,921	809,910	13.41	4.74	Rod Pump	Good Well in Good Pay
101S	101-10	Sep-2017	133	208,647	927,662	18.25	4.45	ESP	Good Well in Good Pay
101S	101-11	Sep-2017	114	218,870	1,045,650	17.87	4.78	ESP	Good Well in Good Pay
101S	101-INF07	Sep-2017	37	31,009	6,268	38.61	0.20	Rod Pump	Good Well in Good Pay
101S	101-INF08	Sep-2017	49	71,553	917	52.46	0.01	Rod Pump	Good Well in Good Pay
101S	101-INF09	Sep-2017	51	58,052	3,369	55.48	0.06	Rod Pump	Good Well in Good Pay
101S	101-INF10	Sep-2017	51	47,275	9,985	32.71	0.21	Rod Pump	Good Well in Good Pay
101S	101-INF11	Sep-2017	50	51,499	2,433	30.69	0.05	Rod Pump	Good Well in Good Pay
101S	101-INF12	Sep-2017	50	84,648	1,184	52.76	0.01	Rod Pump	Good Well in Good Pay

Pod One Performance Well Summary (2)

Connacher
OIL AND GAS LIMITED
2018

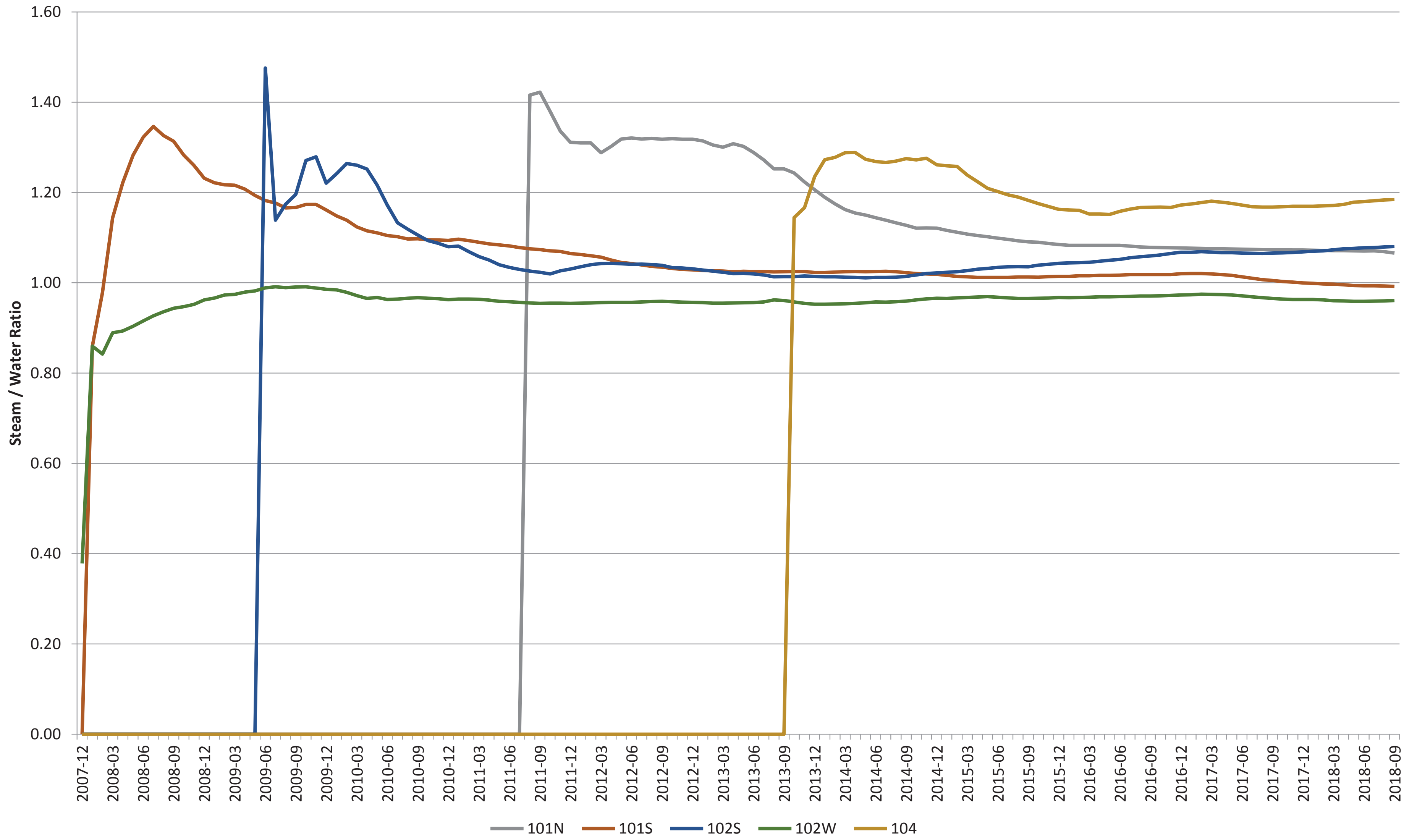
Well Pad	Well Pair	Date	Months On	Cum Oil m3	Cum Steam m3	Oil Rate (m3/day)	CSOR	Lift	Comments
102W	102-01	Sep-2017	133	161,074	701,889	22.30	4.36	Rod Pump	Average Well, Crosses Channel
102W	102-02	Sep-2017	133	139,849	694,175	12.47	4.96	Rod Pump	Average Well, Crosses Channel
102W	102-03	Sep-2017	133	141,899	719,716	5.29	5.07	Rod Pump	Average Well, Crosses Channel
102W	102-04	Sep-2017	133	161,813	740,934	14.44	4.58	Rod Pump	Average Well, Crosses Channel
102W	102-05	Sep-2017	133	163,233	879,529	6.91	5.39	ESP	Average Well, Crosses Channel
102S	102-12	Sep-2017	114	285,279	1,106,909	54.02	3.88	ESP	Good Well in Good Pay
102S	102-13	Sep-2017	102	125,539	584,251	28.97	4.65	ESP	Average Well, Channel Edge
102S	102-14	Sep-2017	101	150,085	690,280	29.54	4.60	ESP	Average Well, Channel Edge
102W	102-INF02	Sep-2017	62	43,597	613	26.28	0.01	Rod Pump	Average Well, Crosses Channel
102W	102-INF03	Sep-2017	63	66,458	434	42.73	0.01	Rod Pump	Average Well, Crosses Channel
102W	102-INF04	Sep-2017	63	65,400	975	40.41	0.01	Rod Pump	Average Well, Crosses Channel
102W	102-INF05	Sep-2017	63	54,867	1,083	11.45	0.02	Rod Pump	Average Well, Crosses Channel
102W	102-INF06	Sep-2017	41	51,396	1,560	34.09	0.03	Rod Pump	Good Well in Good Pay
102W	102-INF13	Sep-2017	36	39,655	2,438	29.16	0.06	Rod Pump	Good Well in Good Pay
102W	102-INF14	Sep-2017	21	49,167	2,145	64.44	0.04	Rod Pump	Good Well in Average Pay
104S	104-03	Sep-2017	61	151,269	589,285	119.62	3.90	ESP	Good Well, Thief Zone Impacts
104S	104-04	Sep-2017	61	120,098	455,360	104.54	3.79	ESP	Good Well, Thief Zone Impacts
104S	104-05	Sep-2017	61	102,227	451,125	62.28	4.41	ESP	Good Well, Thief Zone Impacts
104S	104-06	Sep-2017	61	62,753	303,015	24.28	4.83	ESP	Avgerage Well, Thief Zone Impacts

Algar Performance - Well Summary

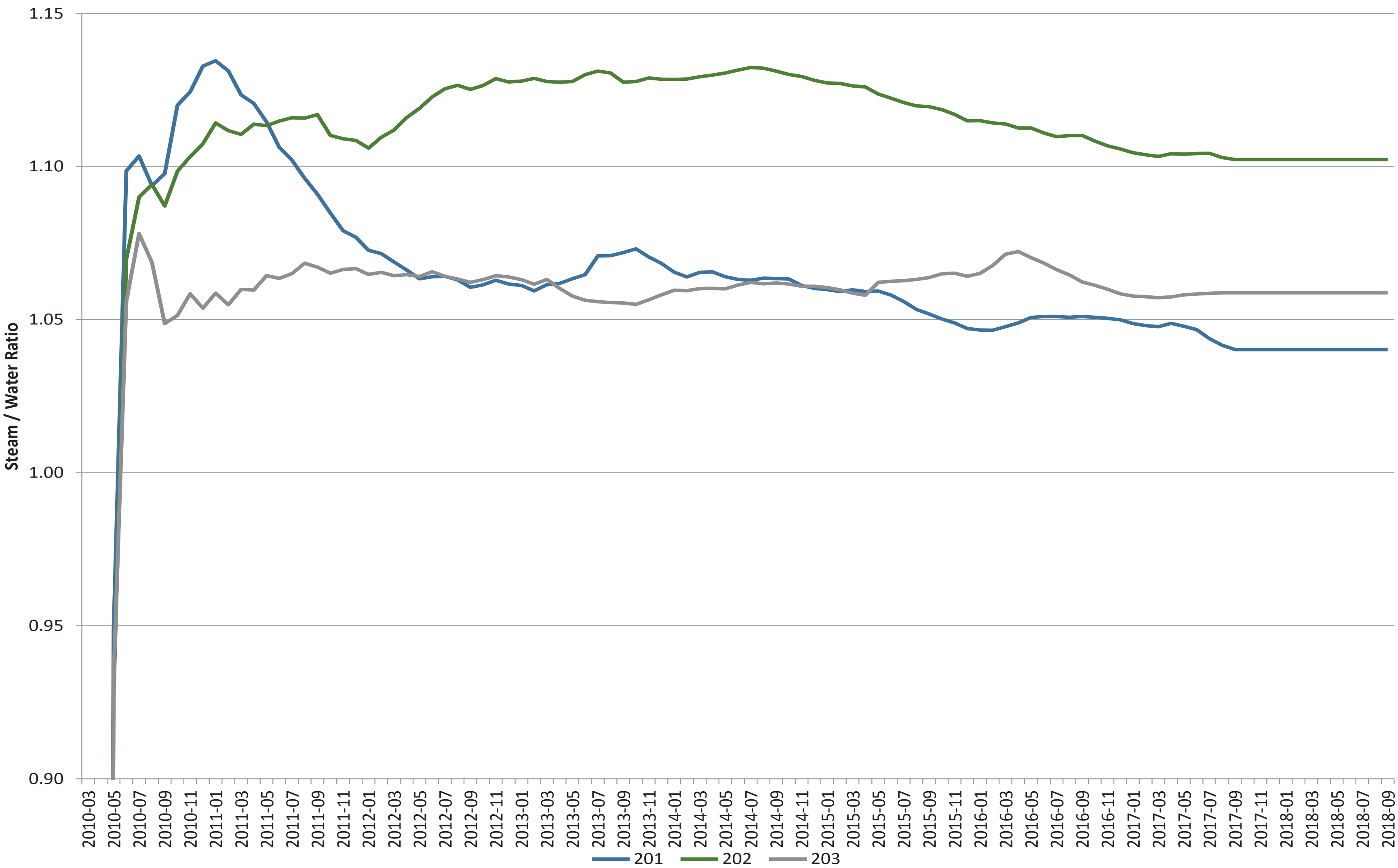
Connacher OIL AND GAS LIMITED 2018

Well Pad	Well Pair	Date	Months On	Cum Oil m3	Cum Steam m3	Oil Rate (m3/day)	CSOR	Lift	Comments
201	201-01	Sep-2017	101	222,730.9	1,064,412	51.95	4.78	Gas Lift	Good Well, Good Pay, BW
201	201-02	Sep-2017	101	220,431.1	963,278	49.91	4.37	Gas Lift	Good Well, Good Pay, BW
201	201-03	Sep-2017	101	74,498.2	448,928	18.15	6.03	Gas Lift	Intermittent, Sand Issues, BW
201	201-04	Sep-2017	101	84,919.5	497,162	31.69	5.85	Gas Lift	BW / Evaluating Pump Strategy
201	201-05	Sep-2017	101	77,413.6	487,583	14.69	6.30	Gas Lift	BW / Evaluating Pump Strategy
202	202-01	Sep-2017	101	94,503.8	207,702	39.69	2.20	Gas Lift	Edge Well
202	202-02	Sep-2017	101	175,709.7	814,351	45.29	4.63	Gas Lift	Good Well in Good Pay
202	202-03	Sep-2017	101	110,926.5	634,169	22.91	5.72	Gas Lift	Average Well, BW
202	202-04	Sep-2017	101	115,161.2	657,163	35.00	5.71	Gas Lift	Average well, BW
202	202-05	Sep-2017	101	146,540.5	803,938	36.73	5.49	Gas Lift	Good Well in Good Pay
202	202-01-1	Sep-2017	66	108,497.3	660,266	42.57	6.09	Gas Lift	Good Well in Good Pay
203	203-01	Sep-2017	101	191,625.3	742,276	45.10	3.87	Gas Lift	Average Well,Good Pay, Edge
203	203-02	Sep-2017	101	210,565.0	788,273	30.31	3.74	Gas Lift	Good Well in Good Pay
203	203-03	Sep-2017	101	187,497.6	809,078	45.85	4.32	Gas Lift	Good Well in Good Pay
203	203-04	Sep-2017	101	201,021.4	813,428	55.10	4.05	Gas Lift	Good Well in Good Pay
203	203-05	Sep-2017	101	223,117.2	925,289	31.74	4.15	Gas Lift	Good Well in Good Pay
203	203-06	Sep-2017	101	165,122.1	774,057	39.98	4.69	Gas Lift	Average Well, Near Edge
203	203-07	Sep-2017	101	107,754.8	609,305	30.88	5.65	Gas Lift	Edge Well, Delayed Start Up

Pod One - Water Balance
Cumulative Steam In / Water Produced

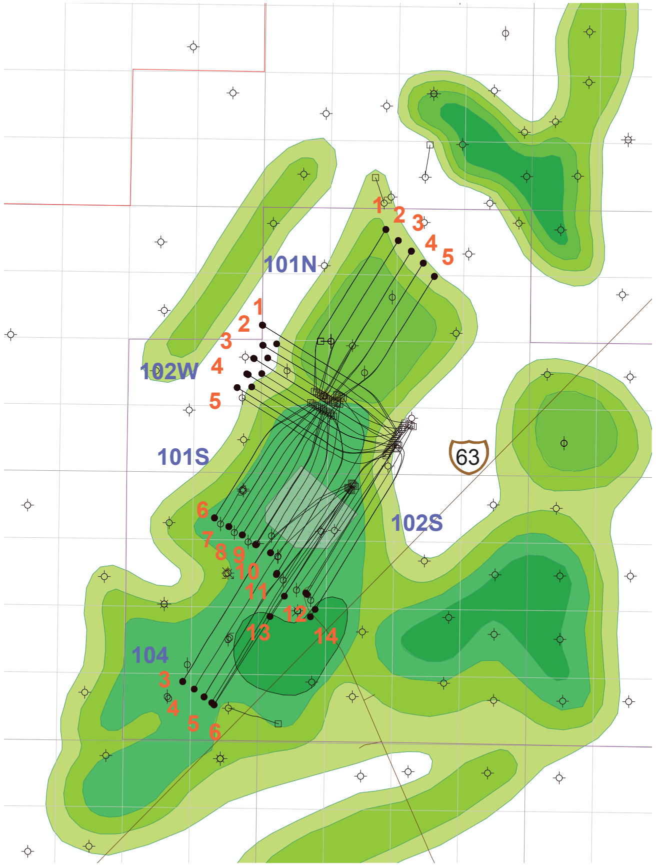


Algar - Water Balance
Cumulative Steam In / Water Produced



Pod One - Recoverable Bitumen By Pad

Pad	Area	Average Porosity (%)	Average So (%)	Average Net Pay (m)	Pad OBIP (e^3m^3)	To Date Recovery (e^3m^3)	To Date Recovery (%)	Estimated Ultimate Recovery (%)	Estimated Ultimate Recovery (e^3m^3)
101N	29.6	33	74	18.0	1,300	453	34.9	34.9	454
101S	32.6	33	80	20.0	1,720	1,464	85.1	87.0	1,496
102W	31.6	33	80	17.0	1,420	1,050	73.9	75.0	1,065
102S	32.7	33	80	19.0	1,640	650	39.6	80.0	1,312
104	70.3	33	80	21.5	4,030	436	10.8	80.0	3,224

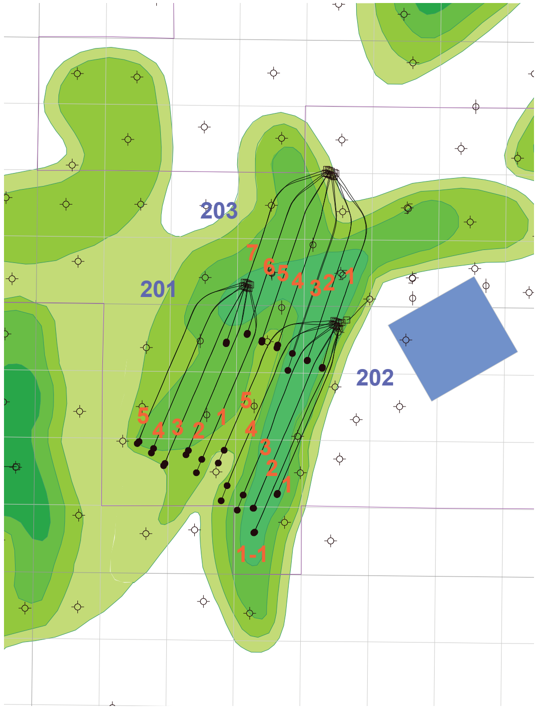


Notes:

1. Pad 101N only 101-04 and 101-05 are producing
2. Additional of estimated infill recoveries of approximately 8% for Pads 101S, 102W, 102S, and 104
3. Estimated Pad Recovery is based on the basic SAGD process
4. Pad 101N injectors were plugged back approximately 1/3 back from well toes
5. Initial Pad recoveries are proving to be on the conservative side

Algar - Recoverable Bitumen by Pad

Pad	Area	Average Porosity (%)	Average So (%)	Average Net Pay (m)	Pad OBIP (e^3m^3)	To Date Recovery (e^3m^3)	To Date Recovery (%)	Estimated Ultimate Recovery (%)	Estimated Ultimate Recovery (e^3m^3)
201	47.1	33	75	19.0	1,930	680	35.2	75.0	1,448
202	45.6	33	75	18.0	1,890	751	39.8	80.0	1,512
203	56.7	33	75	22.0	3,040	1,287	42.3	80.0	2,432



Notes:

1. Pad 203 has completed SAGD+ ® on a trial basis. Reserves will be adjusted when the commercial project begins. An additional recovery between 5 to 8% of the OBIP is estimated.
2. Estimated Pad Recovery is based on the basic SAGD process.

Surface - Facilities

Pod One Plant

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OIL AND GAS LIMITED
2018

Algar Plant

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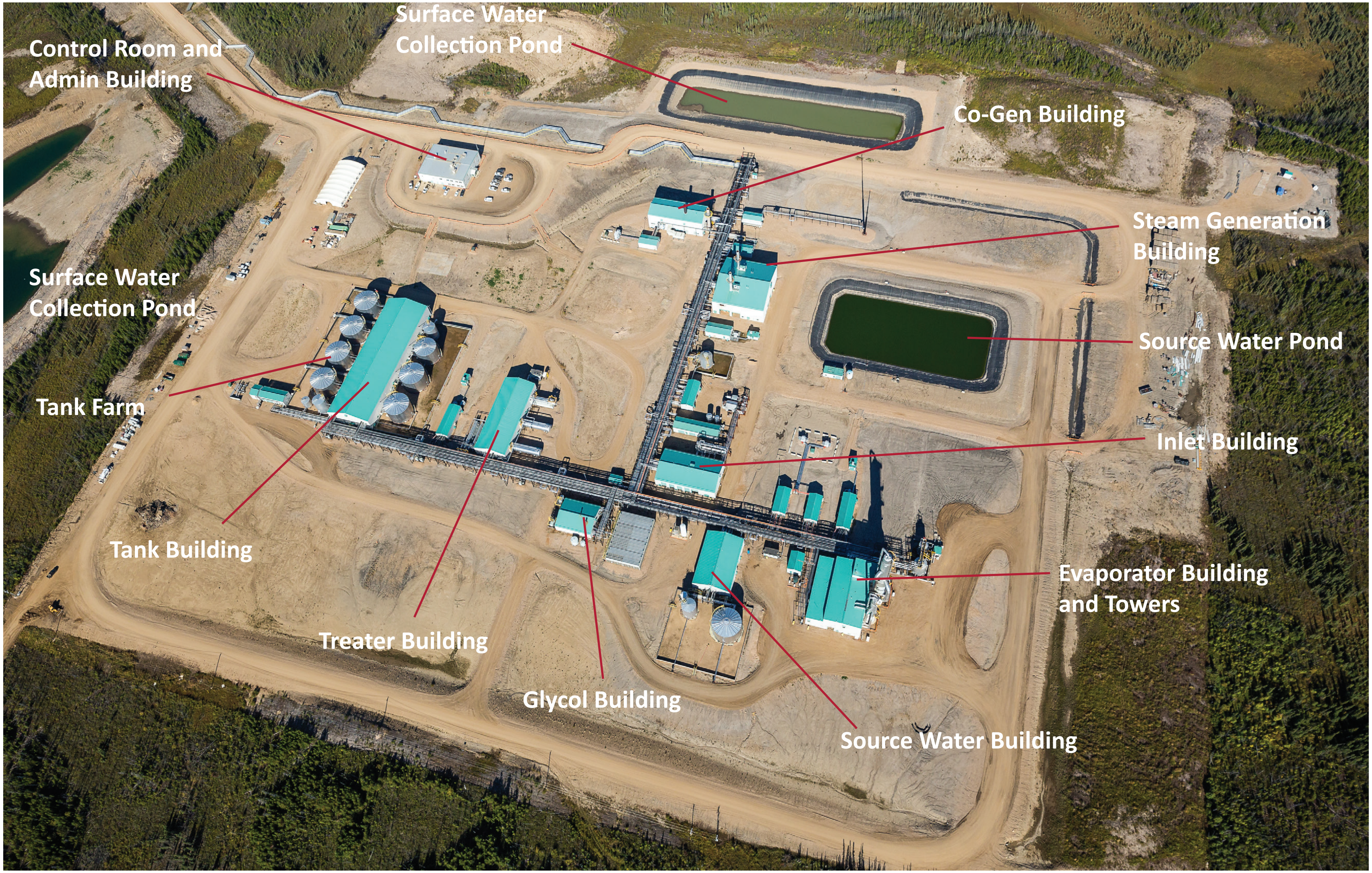


Pod One Facilities

Connacher OIL AND GAS LIMITED 2018

Key Points

Design *Capacity* ~ 1,600 m^3/day bitumen

Steam Generation: Drum boilers

Operating pressure 6,300 kPa

Deliver 4,300 m^3/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 2nd Stage Evaporators

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

Algar Facilities

Key Points

Design *Capacity* ~ 1,600 m^3/day bitumen

Steam Generation: Drum boilers

Operating pressure 6,700 kPa

Deliver 4,800 m^3/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

Great Divide Plant Modifications

Connacher OIL AND GAS LIMITED 2018

Pod One

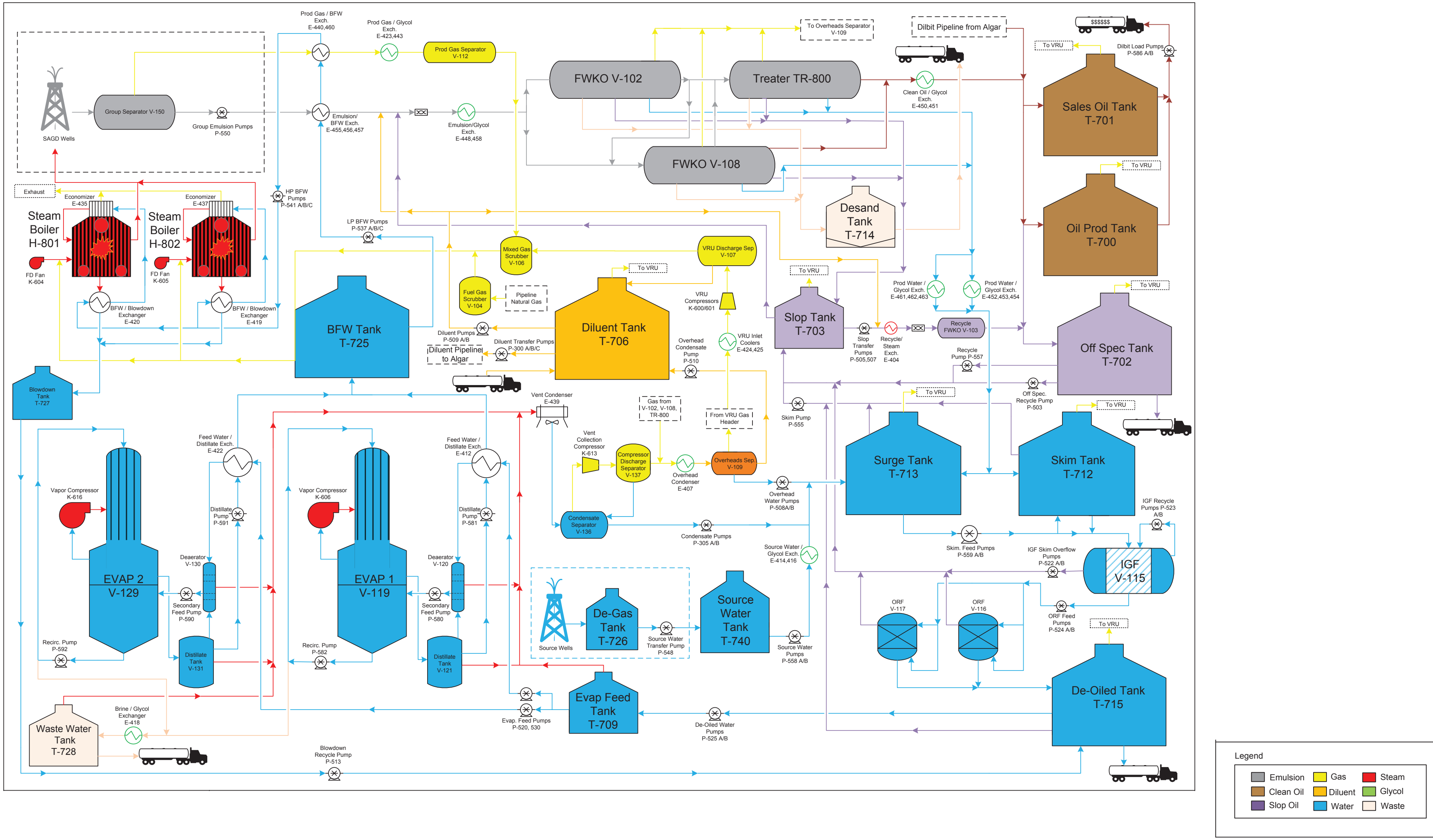
- Replaced corroded 10,000 bbl tank with new 10,000 bbl tank from inventory
- Replaced Water and Process Lab with a new Water and Process Lab
- Upgraded Sumps in buildings
- Upgraded Tank thief hatches to stainless steel

Algar

- Upgraded Sumps
- Upgraded Tank Thief hatches to stainless steel
- Converted wells 201-P3,P4 and P5 to gas lift
- Installed Inspection Manway Culvert on Diluent Pipeline from Pod One to Algar

Pod One Process Schematic

Connacher OIL AND GAS LIMITED 2018



Algar Process Schematic

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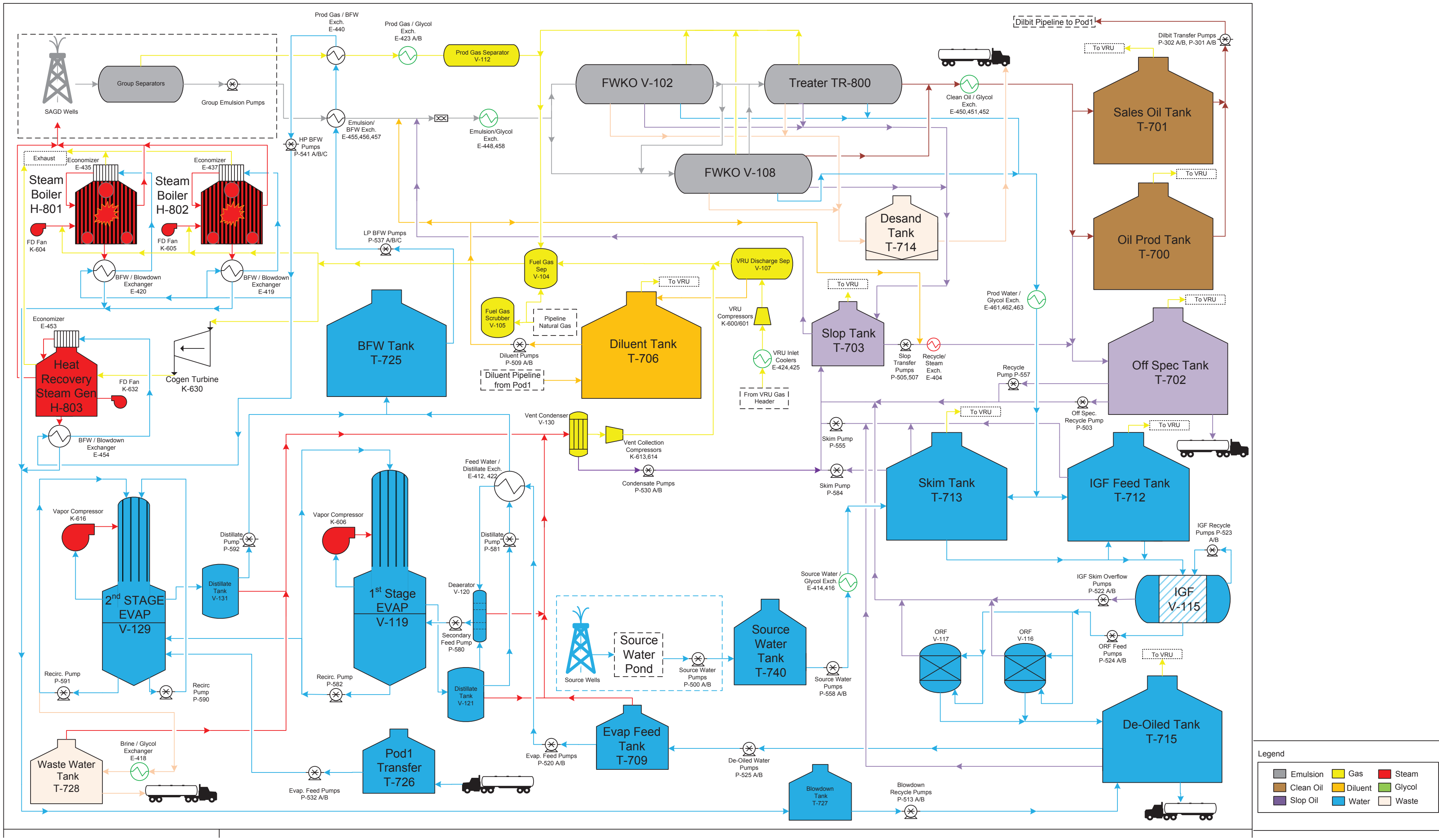
2018



Pod One Plant Layout

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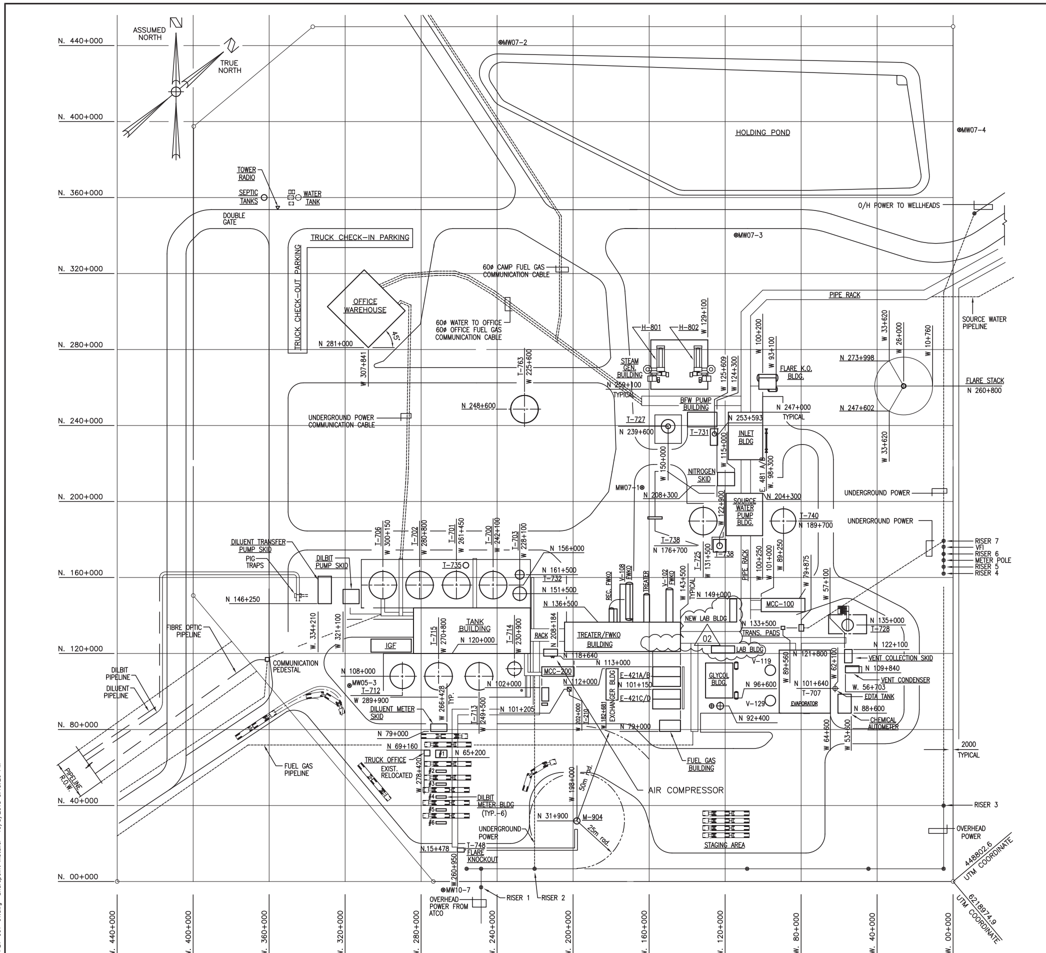
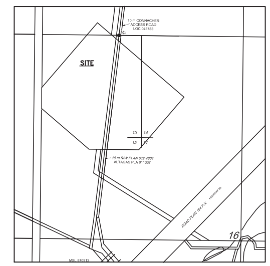
2018





SITE LOCATION
13-16-82-12 W4M
SCALE: 1:5000

BUILDING LEGEND			
EQUIPMENT DESCRIPTION	WIDTH	LENGTH	EAVE HEIGHT
FUEL GAS BUILDING	5900	11000	4400
INLET BUILDING	18100	25000	7010
TREATER/FWKO BUILDING	15500	61000	9224
STEAM GENERATOR BUILDING	30000	26000	11307
GLYCOL BUILDING	18400	14400	5555
TANK BUILDING	24000	61500	9296
GLYCOL COOLERS (E-421A/B & E-421C/D)	10325	14630	N/A
SOURCE WATER PUMP BUILDING	19200	22300	7560
EVAPORATOR BUILDING	26900	33200	13000
T-700 OIL PROD. TANK	14478ø	N/A	N/A
T-701 SALES OIL TANK	14478ø	N/A	N/A
T-702 OFF SPEC. BITUMEN TANK	14478ø	N/A	N/A
T-703 SLOP TANK	7163ø	N/A	N/A
T-728 EVAPORATOR WASTE TANK	6096ø	N/A	N/A
T-706 DILUENT TANK	14478ø	N/A	N/A
T-712 SKIM TANK	12954ø	N/A	N/A
T-713 SURGE TANK	14478ø	N/A	N/A
T-714 DESAND TANK	7163ø	N/A	N/A
T-715 DE-OILED WATER TANK	14478ø	N/A	N/A
T-725 BFW TANK	14478ø	N/A	N/A
T-727 STEAM GEN. BLOWDOWN TANK	7163ø	N/A	N/A
T-732 FLOOR DRAIN TANK	2896ø	N/A	N/A
T-740 SOURCE WATER TANK	12954ø	N/A	N/A
FLARE STACK	219ø	----	39100
OFFICE/WAREHOUSE	30480	27432	3658
MCC-100	7000	23000	4203
MCC-200	5000	17000	4203
FLARE KNOCKOUT BUILDING	6000	9144	4500
NITROGEN SKID	7000	9000	N/A
BFW PUMP BUILDING	7700	15500	5182
POD 1 CHEMICAL AUTOMETER	7000	10000	5182
EMERGENCY GENERATOR	3658	7010	3048
	6900	21200	5400
T-707 BRINE TANK	2438ø	N/A	N/A
DILBIT PUMP BUILDING	7000	8400	3658
DILUENT METER BUILDING	8534	3962	2581
LAB BUILDING	3658	12192	2581
T-735 REVERSE EMUL. BREAKER TANK	1829ø	N/A	N/A
T-738 REVERSE EMUL. BREAKER TANK	3048ø	N/A	N/A
T-731 COORDINATED PHOSPHATE TANK	3048ø	N/A	N/A
PROD. WATER/GLYCOL EXCHANGER BUILDING	6300	16500	5800
VENT COLLECTION SKID	4000	7000	4572
VENT CONDENSER	3245	7239	---
DILUENT TRANSFER SKID	7000	15000	4694
DILBIT METER BUILDING #1	5944	3962	2581
V-108 FWKO BUILDING	6700	18288	5182
VAPOR RETURN SKID	1219	2065	
DILBIT METERING BLDG'S	1219	5415	
TRUCK OFFICE BUILDING (EXIST. RELOCATED)	3048	3048	
I/A COMPRESSOR BUILDING	7315	3658	2591
T-763 HEAVY DILBIT SWING STORAGE TANK	14478ø	–	9760
NEW LAB BUILDING	3658	12192	3683

02

REFERENCE DRAWING	REFERENCE DRAWING TITLE

REV	DESCRIPTION	CLL PROJECT	DATE	DES	DRN	CKD	LDE	PE
02	ISSUED FOR INFORMATION	17-GD-008	2018.07.30	DS	DM	DS	–	–
01	ISSUED AS-BUILT PER FIELD REDLINES	17-GD-043	2017.12.05	ZT	DM	ZT	–	–
00	DRAWING RE-NUMBERED FROM 64200-A-00-01 REV. 30	81105	23/05/2013	–	SW	RC	–	–

STAMPS

STAMP AND PERMIT APPLY TO CURRENT REVISION ONLY

CONSULTANT PROJECT 17-GD-008
CONSULTANT DRAWING 64200-A-00-01
WORK PACKAGE
FACILITY LSD 13-16-82-12 W4M

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GREAT DIVIDE POD 1 – C.P.F.
PLANT GENERAL AREA
GREAT DIVIDE SAGD FACILITY
PLOT PLAN

DRAWING GD1-000-M-PLT-001-01 REV. 02

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Algar Plant Layout

Connacher
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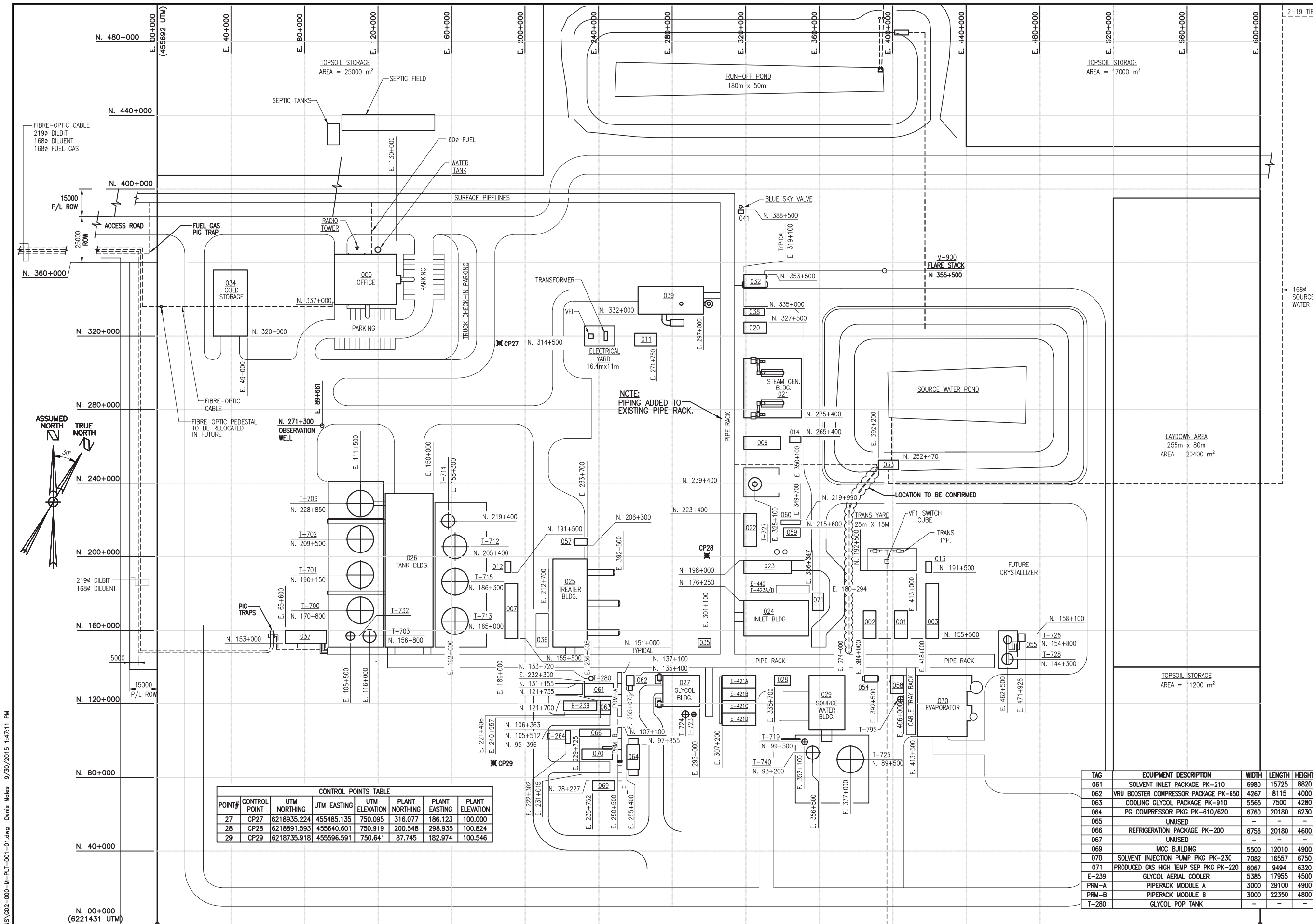
2018



EQUIPMENT LEGEND				
TAG	EQUIPMENT DESCRIPTION	WIDTH	LENGTH	HEIGHT
000	OFFICE/WAREHOUSE	27432	33528	7620
001	ELECTRICAL BUILDING SWGR–100	7000	15000	4216
002	ELECTRICAL BUILDING SWGR–101	7000	15000	4216
003	ELECTRICAL BUILDING MCC–110	7000	30000	4216
004	FUTURE ELECT. BUILDING MCC–120	7000	30000	4216
007	ELECTRICAL BUILDING MCC–210	7000	30000	4216
008	FUTURE ELECT. BUILDING MCC–220	7000	30000	4216
009	ELECTRICAL BUILDING MCC–310	7000	20000	4216
010	FUTURE ELECT. BUILDING MCC–320	7000	20000	4216
011	CO–GEN MCC	7000	12000	4216
012	EMERGENCY GENERATOR G–200	3352	6096	2738
013	EMERGENCY GENERATOR G–100	3352	6096	2738
014	EMERGENCY GENERATOR G–300	3352	6096	2738
020	FUEL GAS BUILDING	6000	12300	4495
021	STEAM GENERATOR BUILDING	31200	32600	11240
022	BFW PUMP BUILDING	7000	17900	4724
023	CHEMICAL BUILDING	7000	25700	5182
024	INLET BUILDING	19400	31000	6839
025	TREATER BUILDING	18500	47800	6525
026	TANK BUILDING	26000	83400	8852
027	GLYCOL BUILDING	20000	17000	4437
028	NITROGEN SKID	5334	8712	N/A
029	SOURCE WATER BUILDING	19500	29500	6493
030	EVAPORATOR BUILDING	26900	33200	13835
031	CRYSTALLIZER BUILDING	16026	31099	15544
032	FLARE KNOCKOUT BUILDING	6000	9144	5030
033	SOURCE WATER PUMP HOUSE	5000	11000	3404
034	COLD STORAGE BUILDING	18600	36000	2658
035	INSTR. AIR SKID	4450	7000	3658
036	CLEAN OIL EXCHANGER SKID	6700	18000	N/A
037	DILBIT TRANSFER SKID	7000	22400	4694
038	FUEL GAS EXCHANGER SKID	3700	13000	N/A
039	COGEN. BUILDING	15000	35500	11440
040	FUTURE GROUP SEP. BUILDING	6000	13000	5000
041	STEAM SILENCER BUILDING	3000	1800	3048
042	FUTURE FUEL GAS BUILDING	6000	13000	4495
043	FUTURE FUEL GAS EXCH. SKID	4500	11000	N/A
044	FUTURE STEAM GEN. BUILDING	45000	32600	11240
045	FUTURE H.P. BFW PUMP BUILDING	7000	21500	4724
046	FUTURE CHEMICAL BUILDING	7000	14000	5182
047	FUTURE INLET BUILDING	21000	33000	6839
048	FUTURE INSTR. AIR SKID	4450	7000	3658
049	FUTURE TANK BUILDING	24000	66500	8852
050	FUTURE CLEAN OIL EXCH. SKID	6700	18000	5444
051	FUTURE TREATER BUILDING	17000	49000	6525
052	FUTURE GLYCOL BUILDING	20000	16000	4437
053	FUTURE EVAPORATOR BUILDING	26900	49200	13835
054	CLEAN LAB	3581	7315	2438
055	POD 1 WASTE PUMP BUILDING	3700	4100	2746
056	FUTURE CO–GEN BUILDING	15000	35500	11440
057	OIL LAB	3658	6706	2438
058	CHEMICAL INJECTION BUILDING	7000	10000	5182
059	COMPRESSOR SKID (TEMPORARY)	4877	9095	4547
060	SEPARATOR TRAILER (TEMPORARY)	2590	10363	–
E–421	A/B/C/D GLYCOL COOLERS	6820	18408	5080
E–440	BFW/VAPOR EXCHANGER	652ø	14021	N/A
E–423A/B	INLET VAPOR COOLER	652ø	14021	N/A
E–265	FUTURE BFW/VAPOR EXCHANGER	652ø	14021	N/A
E–266A/B	FUTURE INLET VAPOR COOLER	652ø	14021	N/A
E–218 A/B/C/D	FUTURE GLYCOL COOLERS	6820	18408	5080
M–900	FLARE STACK	219ø	–––	39100
T–700	OIL PRODUCTION TANK	14478ø	N/A	9760
T–701	SALES OIL TANK	14478ø	N/A	9760
T–702	OFF SPEC. BITUMEN TANK	14478ø	N/A	9760
T–703	SLOP TANK	7163ø	N/A	9760
T–706	DILUENT TANK	14478ø	N/A	9760
T–712	IGF FEED TANK	12954ø	N/A	9760
T–713	SKIM TANK	14478ø	N/A	9760
T–714	DESAND TANK	7163ø	N/A	9760
T–715	DE–OILED WATER TANK	14478ø	N/A	9760
T–719	BRINE DISSOLVING TANK	2438ø	N/A	4572
T–723	GLYCOL POP TANK	2388ø	N/A	1829
T–724	GLYCOL STORAGE TANK	3765ø	N/A	3048
T–725	BOILER FEEDWATER TANK	14478ø	N/A	9760
T–726	POD 1 WASTE TANK	4267ø	N/A	7620
T–727	STEAM GEN. BLOWDOWN TANK	7163ø	N/A	7944
T–728	EVAP. WASTE/CRYST. FEED TANK	6096ø	N/A	8224
T–731	COORDINATED PHOSPHATE TANK	2286ø	N/A	4826
T–732	FLOOR DRAIN TANK	4724ø	N/A	4877
T–738	WATER CLARIFIER BREAKER TANK	2743ø	N/A	4064
T–740	SOURCE WATER TANK	7163ø	N/A	9760
T–770	FUTURE SKIM TANK	20438ø	N/A	9760
T–771	FUTURE IGF FEED TANK	20438ø	N/A	9760
T–772	FUTURE DE–OILED WATER TANK	20438ø	N/A	9760
T–773	FUTURE OIL PRODUCTION TANK	20438ø	N/A	9760
T–774	FUTURE SALES OIL TANK	20438ø	N/A	9760
T–775	FUTURE DESAND TANK	7163ø	N/A	9760
T–776	FUTURE DILUENT TANK	20438ø	N/A	9760
T–782	FUTURE CRYSTALLIZER FEED TANK	7163ø	N/A	7620
T–784	FUTURE BOILER FEEDWATER TANK	20438ø	N/A	9760
T–785	FUTURE BLOWDOWN TANK	7163ø	N/A	7944
T–787	FUTURE FLOOR DRAIN TANK	4724ø	N/A	4877
T–795	EDTA STORAGE TANK	1829ø	N/A	5668

TAG	EQUIPMENT DESCRIPTION	WIDTH	LENGTH	HEIGHT
061	SOLVENT INLET PACKAGE PK–210	6980	15725	8820
062	VRU BOOSTER COMPRESSOR PACKAGE PK–650	4267	8115	4000
063	COOLING GLYCOL PACKAGE PK–910	5565	7500	4280
064	PG COMPRESSOR PKG PK–610/620	6760	20180	6230
065	UNUSED	–	–	–
066	REFRIGERATION PACKAGE PK–200	6756	20180	4600
067	UNUSED	–	–	–
069	MCC BUILDING	5500	12010	4900
070	SOLVENT INJECTION PUMP PKG PK–230	7082	16557	6750
071	PRODUCED GAS HIGH TEMP SEP PKG PK–220	6067	9494	6320
E–239	GLYCOL AERIAL COOLER	5385	17955	4500
PRM–A	PIPERACK MODULE A	3000	29100	4900
PRM–B	PIPERACK MODULE B	3000	22350	4800
T–280	GLYCOL POP TANK	–	–	–

CONTROL POINTS TABLE							
POINT#	CONTROL POINT	UTM NORTHING	UTM EASTING	UTM ELEVATION	PLANT NORTHING	PLANT EASTING	PLANT ELEVATION
27	CP27	6218935.224	455485.135	750.095	316.077	186.123	100.000
28	CP28	6218891.593	455640.601	750.919	200.548	298.935	100.824
29	CP29	6218735.918	455596.591	750.641	87.745	182.974	100.546

REFERENCE DRAWING	REFERENCE DRAWING TITLE

REV	DESCRIPTION	CLL PROJECT	DATE	DES	DRN	CKD	LDE	PE
03	ISSUED AS–BUILT PER REDLINES	81105	2015.09.29	MG	DM	MG	–	–
02	ISSUED FOR IMPLEMENTATION (ADDED CP LOCATIONS)	81105	2015.08.06	–	DM	MG	–	–
01	ISSUED FOR CONSTRUCTION		2014.09.12	GM	GS	LS	GL	RK
00	DRAWING RE–NUMBERED FROM 74429–A–00–01 REV. 21		2013.11.08	–	SW	RC	–	–

STAMPS

STAMP AND PERMIT APPLY TO CURRENT REVISION ONLY

CONSULTANT PROJECT 81105
CONSULTANT DRAWING 74429–A–00–01
WORK PACKAGE
FACILITY LSD 14–18–82–11 W4M

Connacher OIL AND GAS LIMITED

GREAT DIVIDE POD 2 (ALGAR) – C.P.F. PHASE 1
PLANT GENERAL AREA
PLOT PLAN
PLOT PLAN

DRAWING GD2–000–M–PLT–001–01 REV. 03

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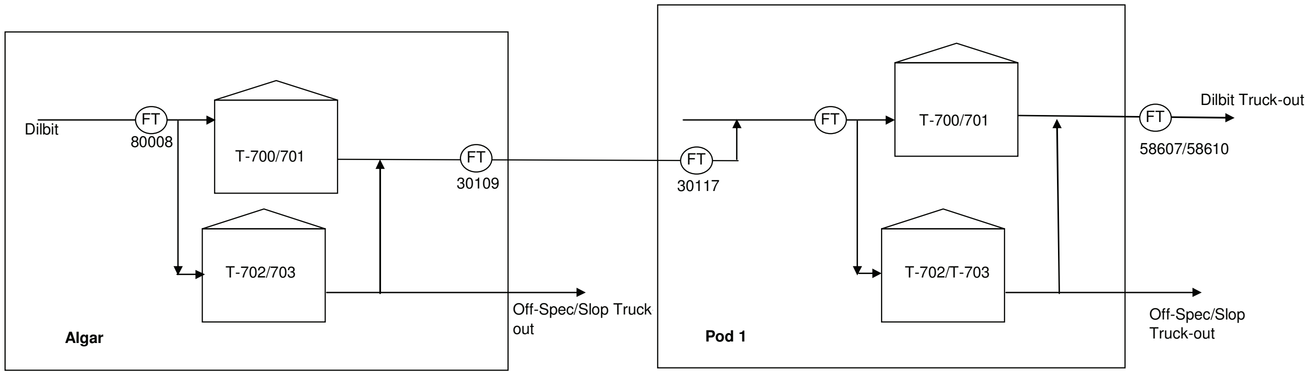
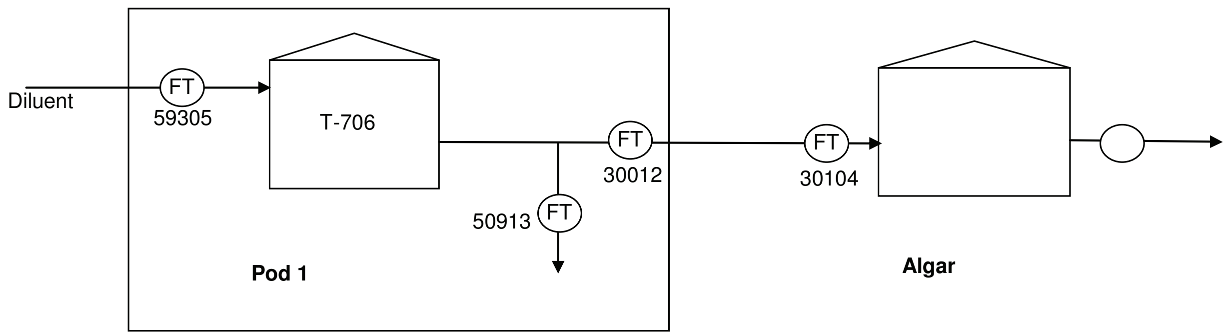
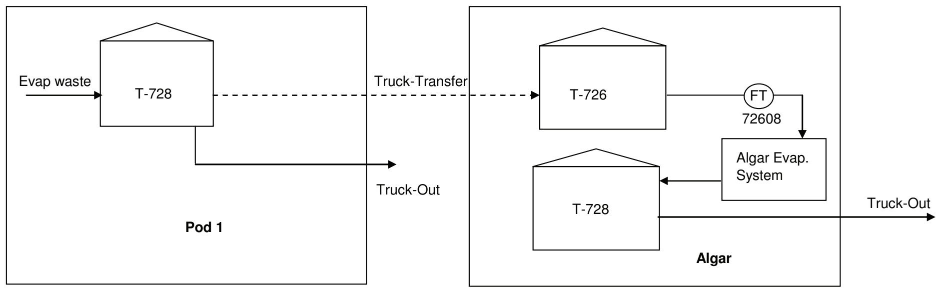


Dilbit



Diluent

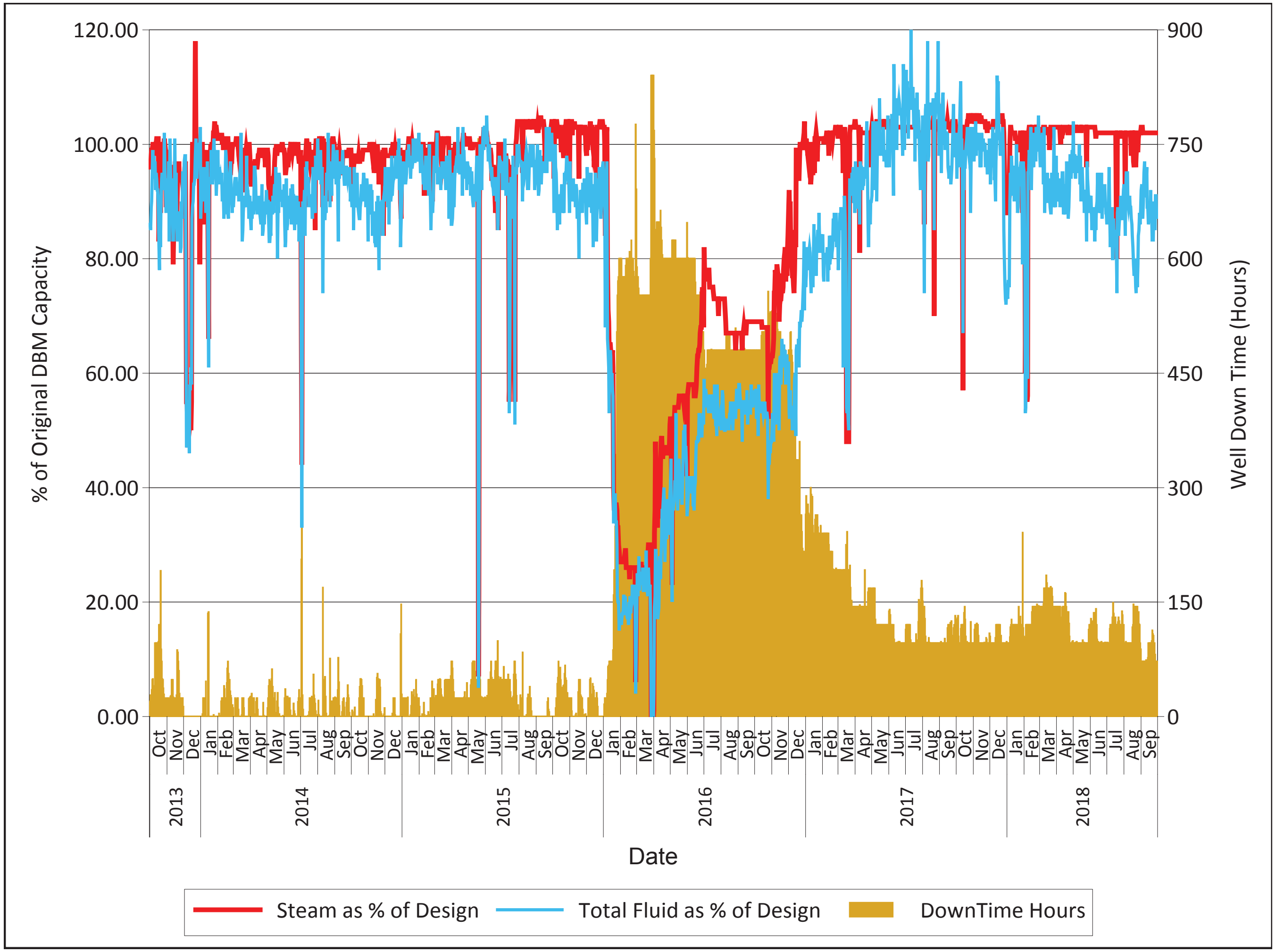


Evap Waste

Surface -
Facility Performance

Pod One CPF Performance

Connacher
OIL AND GAS LIMITED
2018



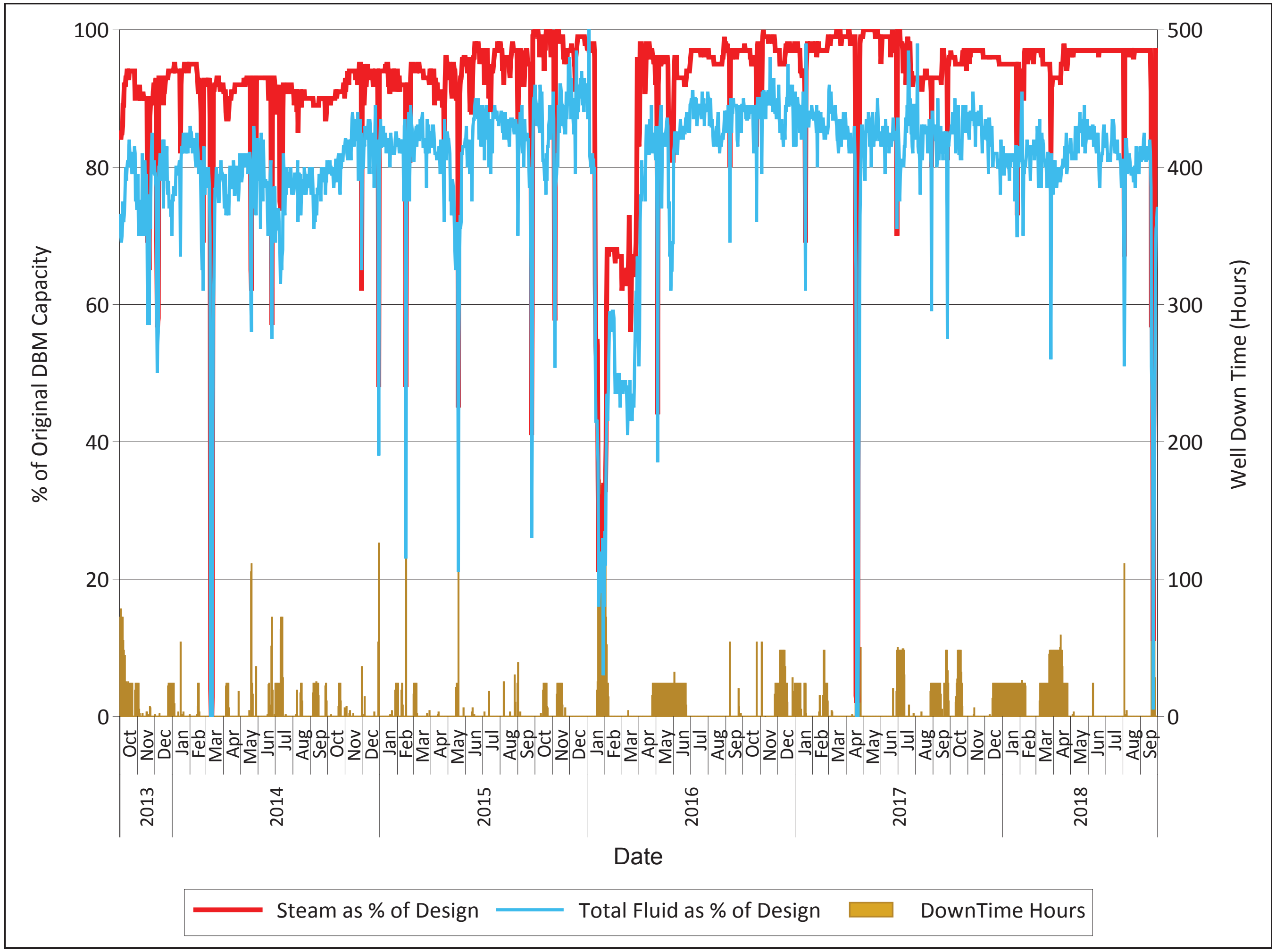
The reliability considers the two steam Boilers at the plant.

For the period October 1, 2017 to September 30, 2018 the steam plant has averaged 101.7% of the original design basis (4,320 m3 /day) and 92.6% of the designed total fluid capacity (5,920 m3/day).

This performance compares to the previous 12 months. Which had a steam generation of 95.4% and a total fluid throughput of 85.5% of plant design capacity.

Downtime Hours is the reported downtime for the Well Pairs.

Algar CPF Performance

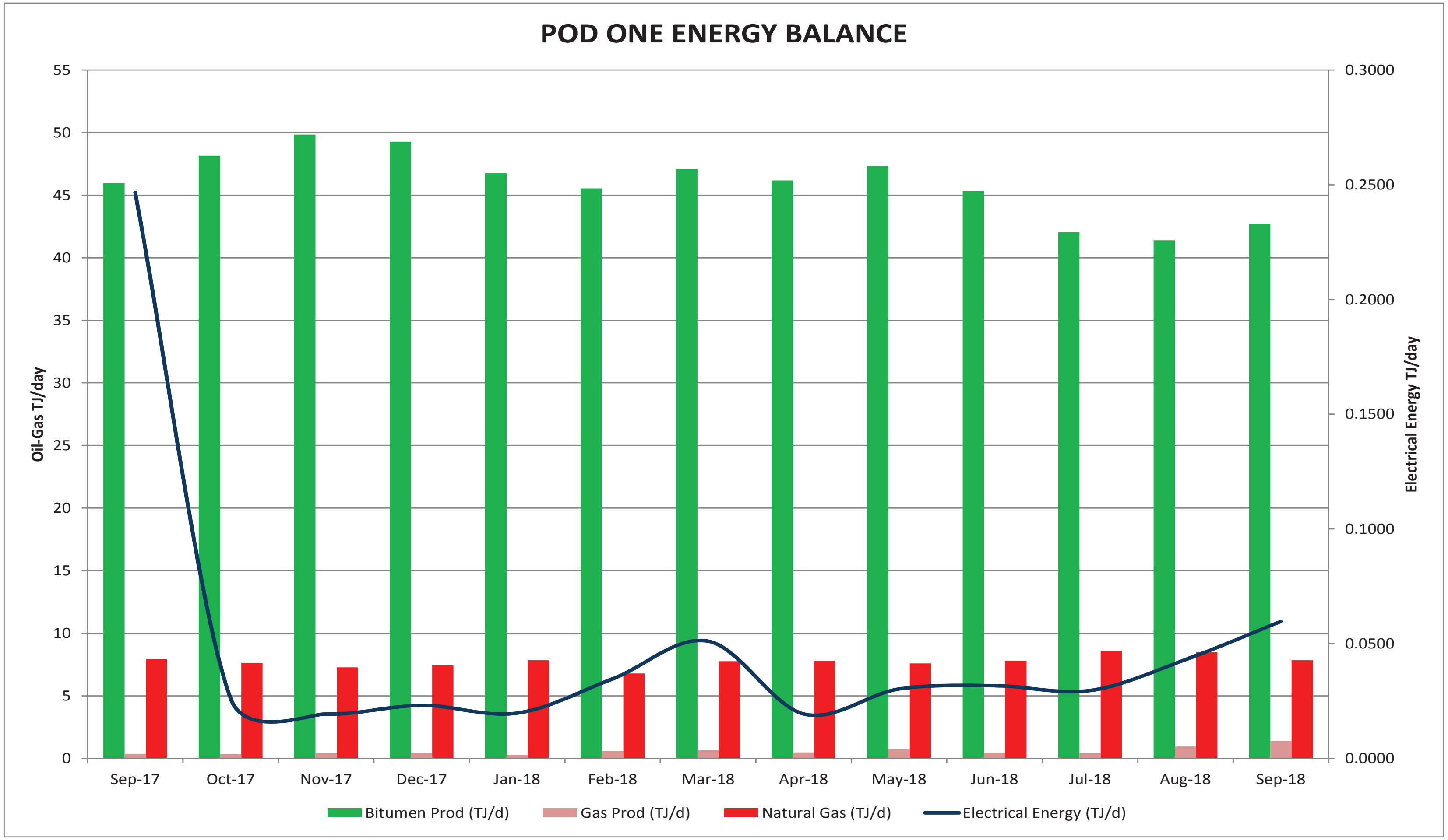


The reliability considers the two steam Boilers at the plant. The Cogen steam is not included.

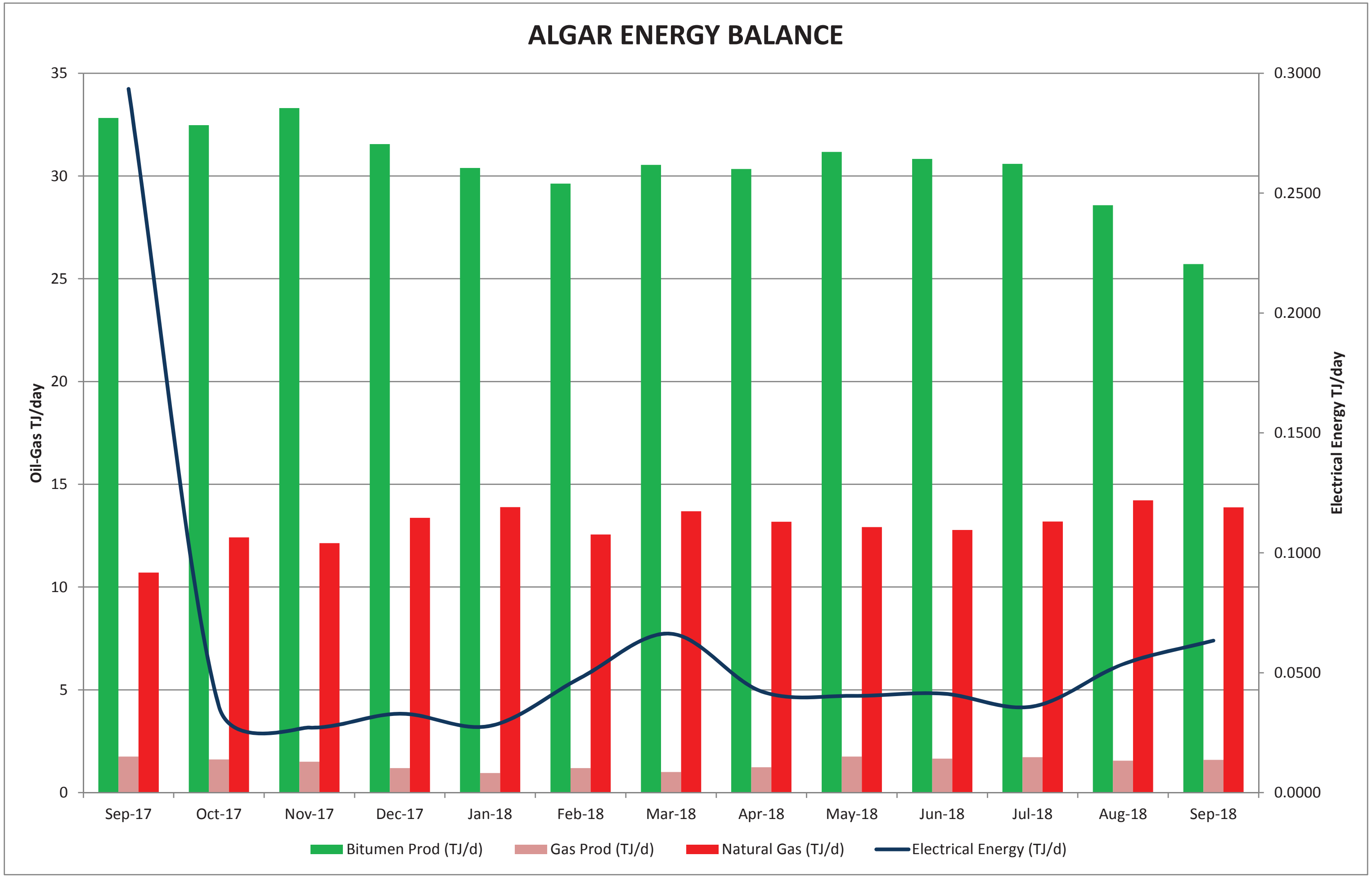
For the 12 months from October 1 2017, to the of September 30, 2018 the steam plant output has averaged 96.4% of the original design basis (4800 m3 /day) and 81.8% of the designed total fluid handling capacity (6400 m3/day).

This performance compares to the previous 12 months which had a steam generation of 96.7% and total fluid throughput of 85.0% of plant design capacity.

Downtime Hours is the reported downtime for the Well Pairs.



Greenhouse Gas Emissions Reported for December, 2017 = 237,333 t CO_2 equivalent



Greenhouse Gas Emissions Reported for December, 2017 = 288,064 t CO_2 equivalent

Algar Co-Generation Facility

Connacher OIL AND GAS LIMITED 2018

- Designed to produce 13.1 MW electricity from GT and 588 m^3/d of steam from the HRSG
- Horse River sub-station on line June 2011
- Running near capacity with power distributed to both Algar and Pod One
- Steam being used at Algar

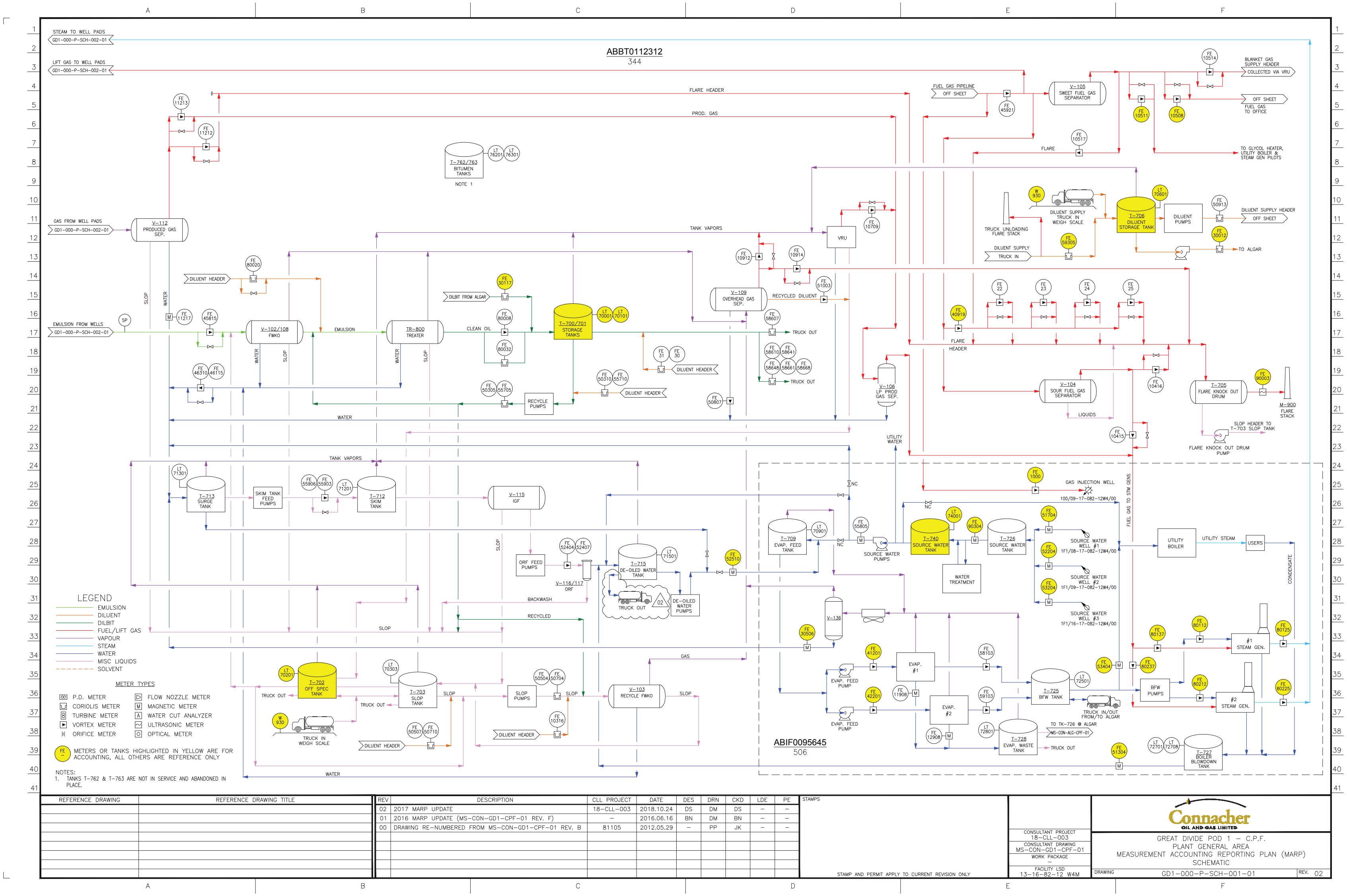
Surface -
Measurement and Reporting

Changes to MARP

1. Updated MARP to include disposal well at Pod One, Pad 101.

Pod One MARP - CPF

Connacher OIL AND GAS LIMITED 2018



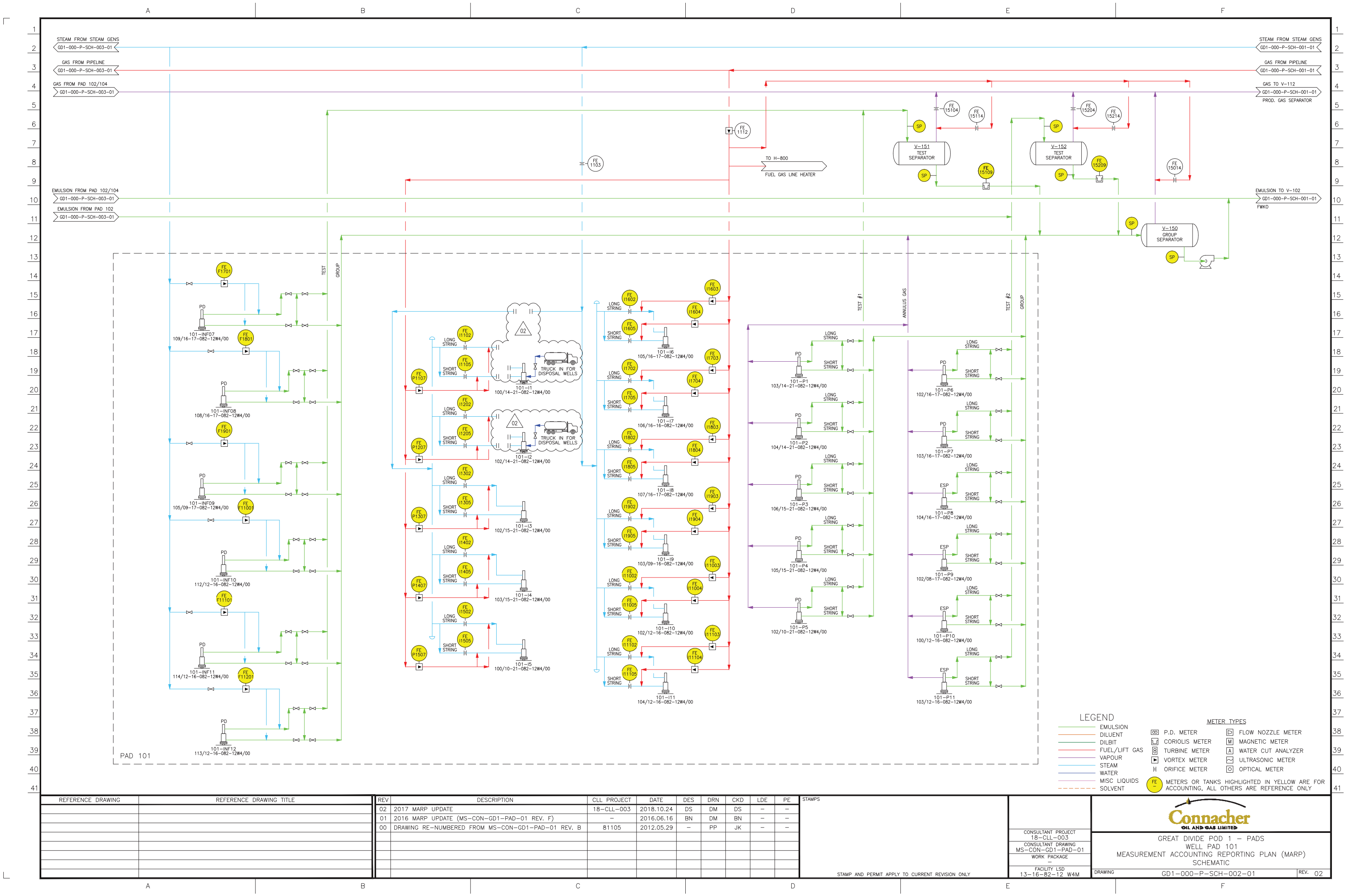
REV	DESCRIPTION	CLL PROJECT	DATE	DES	DRN	CKD	LDE	PE
02	2017 MARP UPDATE	18-CLL-003	2018.10.24	DS	DM	DS	–	–
01	2016 MARP UPDATE (MS-CON-GD1-CPF-01 REV. F)	–	2016.06.16	BN	DM	BN	–	–
00	DRAWING RE-NUMBERED FROM MS-CON-GD1-CPF-01 REV. B	81105	2012.05.29	–	PP	JK	–	–

GREAT DIVIDE POD 1 – C.P.F.
PLANT GENERAL AREA
MEASUREMENT ACCOUNTING REPORTING PLAN (MARP)
SCHEMATIC

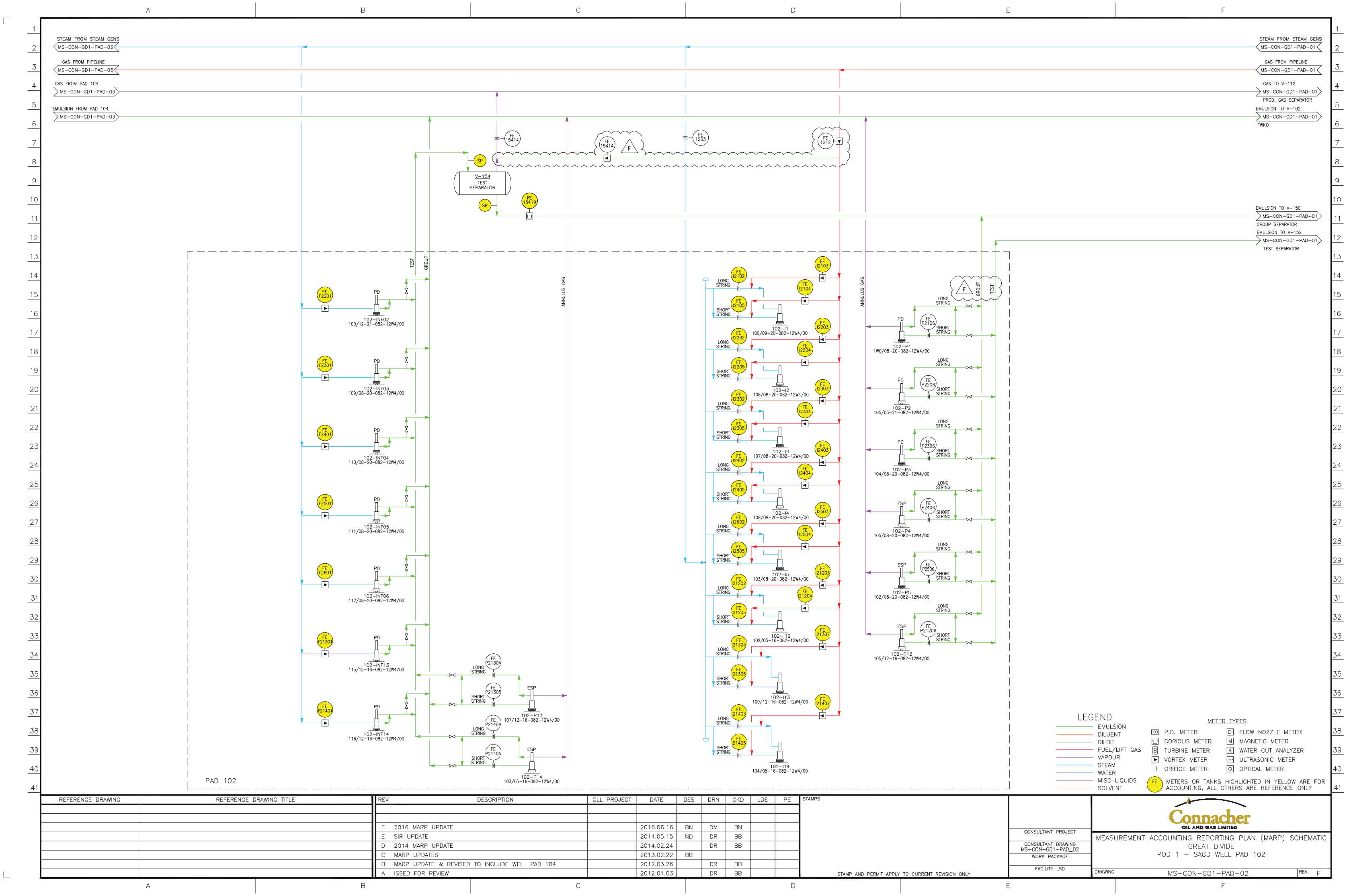
CONSULTANT PROJECT 18-CLL-003
CONSULTANT DRAWING MS-CON-GD1-CPF-01
FACILITY LSD 13-16-82-12 W4M
DRAWING GD1-000-P-SCH-001-01 REV. 02

Pod One MARP - Pad 101

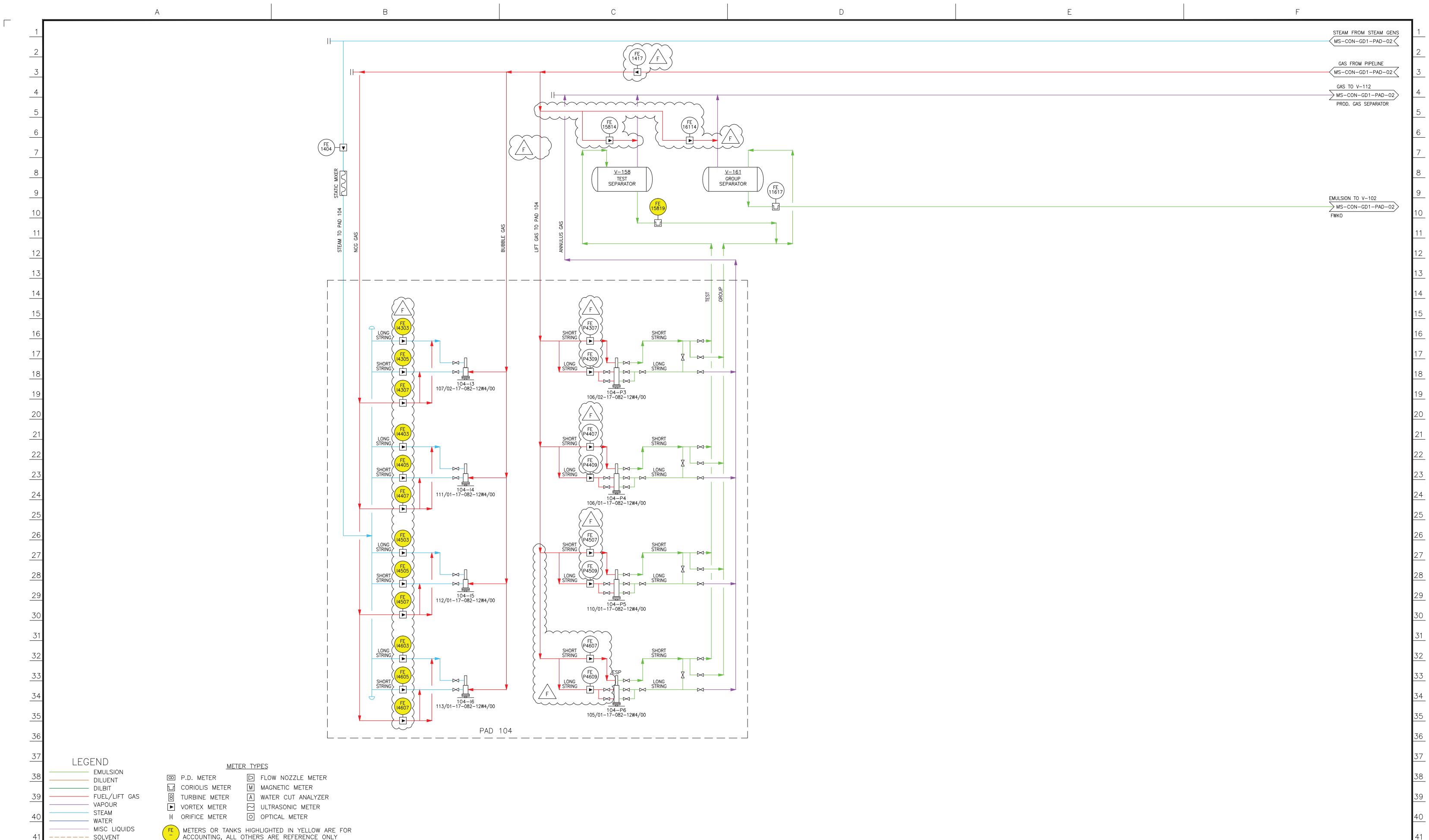
Connacher
OIL AND GAS LIMITED
2018



Pod One MARP - Pad 102



Pod One MARP - Pad 104



REFERENCE DRAWING	REFERENCE DRAWING TITLE

REV	DESCRIPTION	CLL PROJECT	DATE	DES	DRN	CKD	LDE	PE
F	2016 MARP UPDATE		2016.06.16	BN	DM	BN		
E	SIR UPDATE		2014.05.15	ND	DR	BB		
D	2014 MARP UPDATE		2014.02.24		DR	BB		
C	MARP UPDATES		2013.02.22	BB				
B	MARP UPDATE & REVISED TO INCLUDE WELL PAD 104		2012.03.26		DR	BB		
A	ISSED FOR REVIEW		2012.01.03		DR	BB		

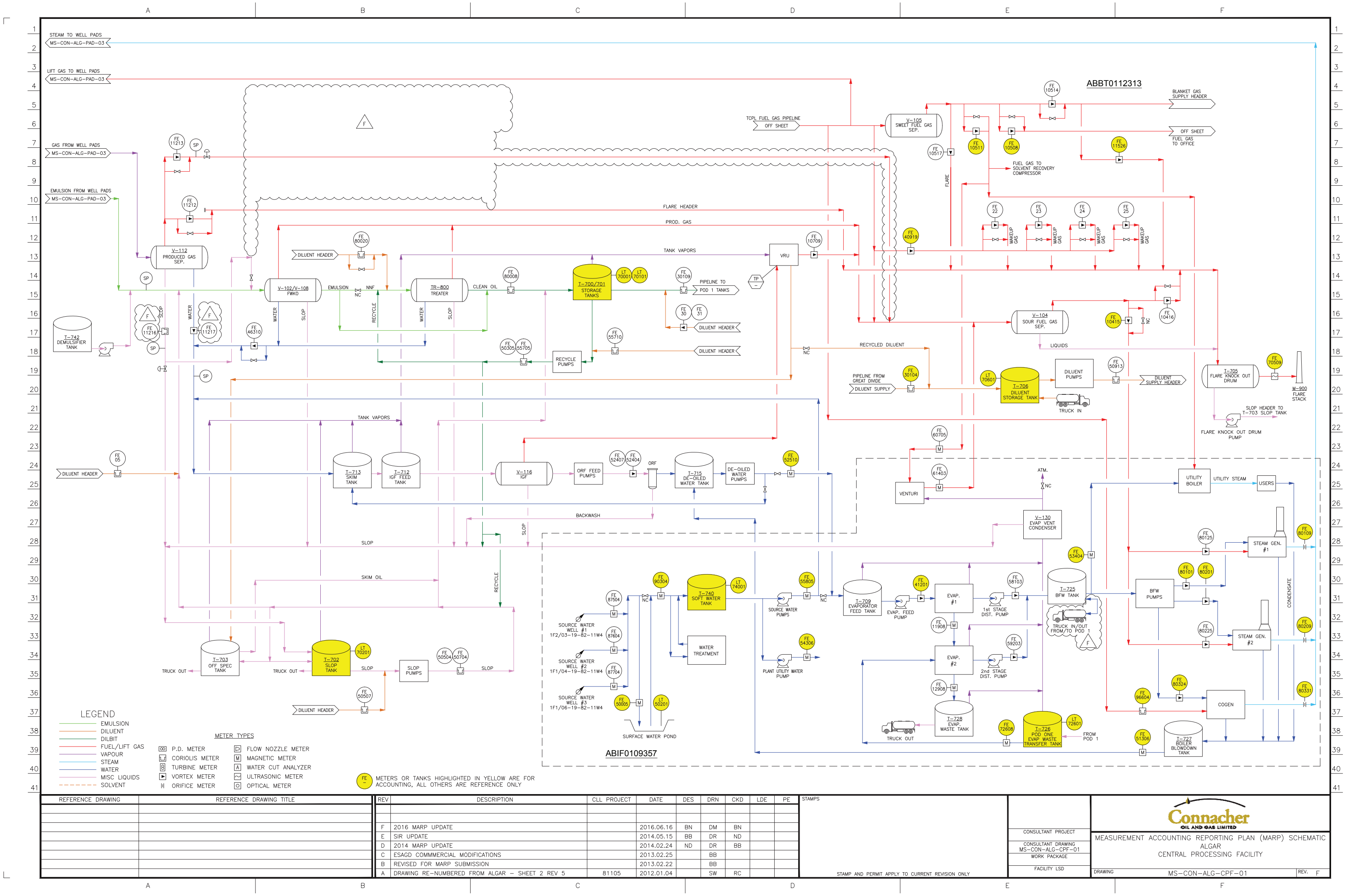
STAMPS
STAMP AND PERMIT APPLY TO CURRENT REVISION ONLY

CONSULTANT PROJECT
CONSULTANT DRAWING MS-CON-GD1-PAD_03
WORK PACKAGE
FACILITY LSD

Connacher OIL AND GAS LIMITED
MEASUREMENT ACCOUNTING REPORTING PLAN (MARP) SCHEMATIC
GREAT DIVIDE
POD 1 – SAGD WELL PAD 104
DRAWING MS-CON-GD1-PAD-03 REV. F

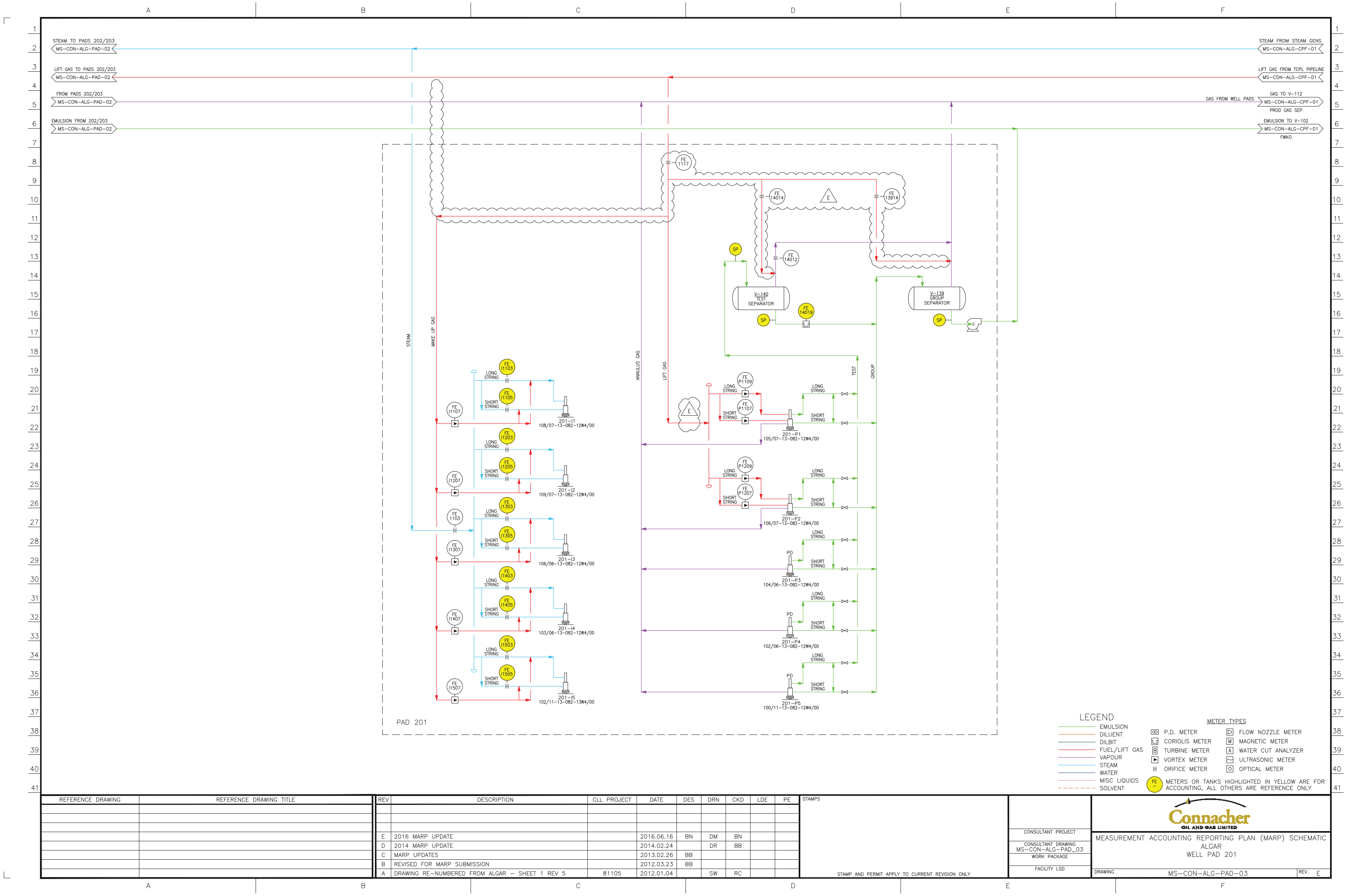
Algar MARP - CPF

Connacher
OIL AND GAS LIMITED
2018



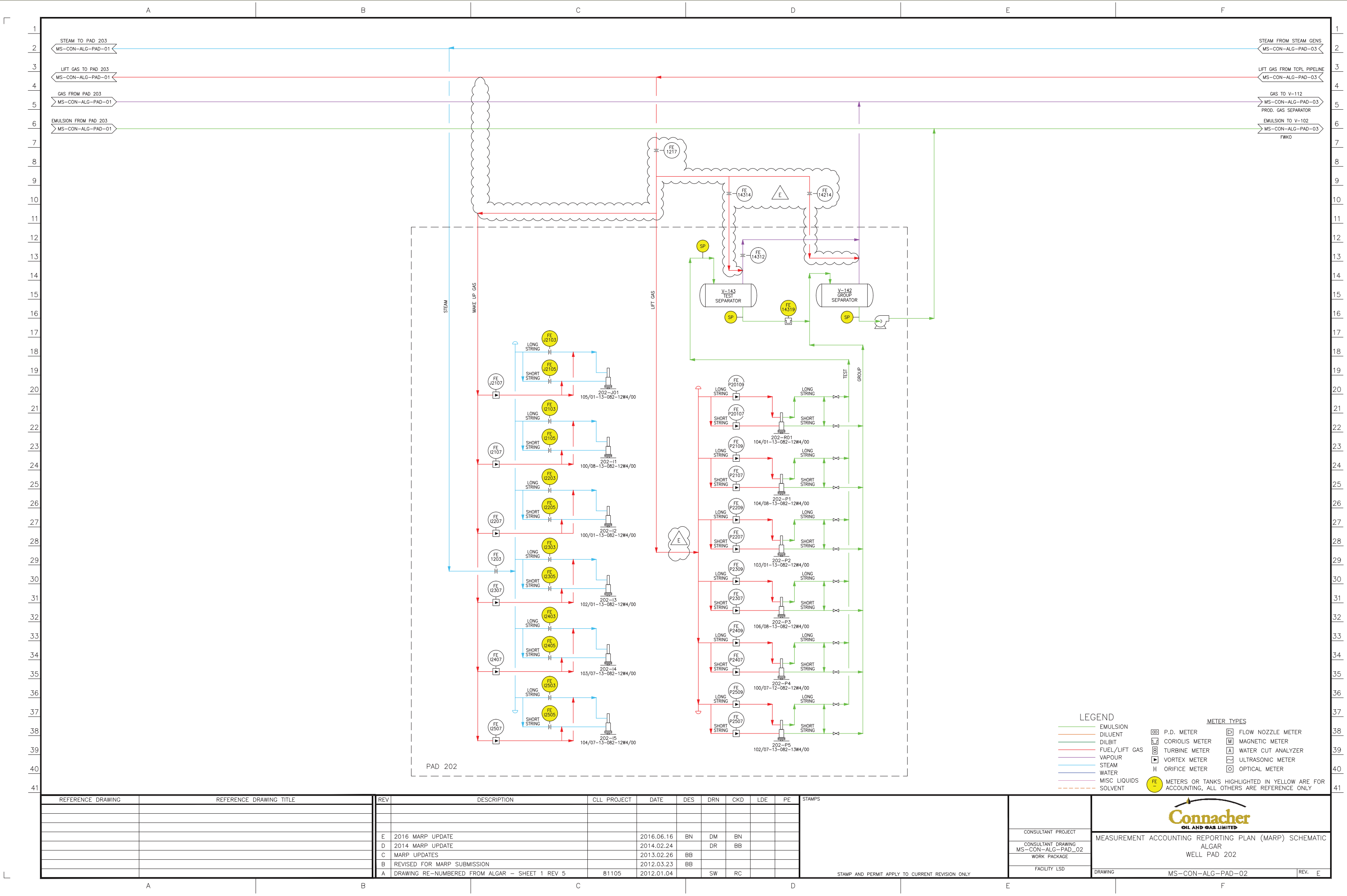
Algar MARP - Pad 201

Connacher
OIL AND GAS LIMITED
2018



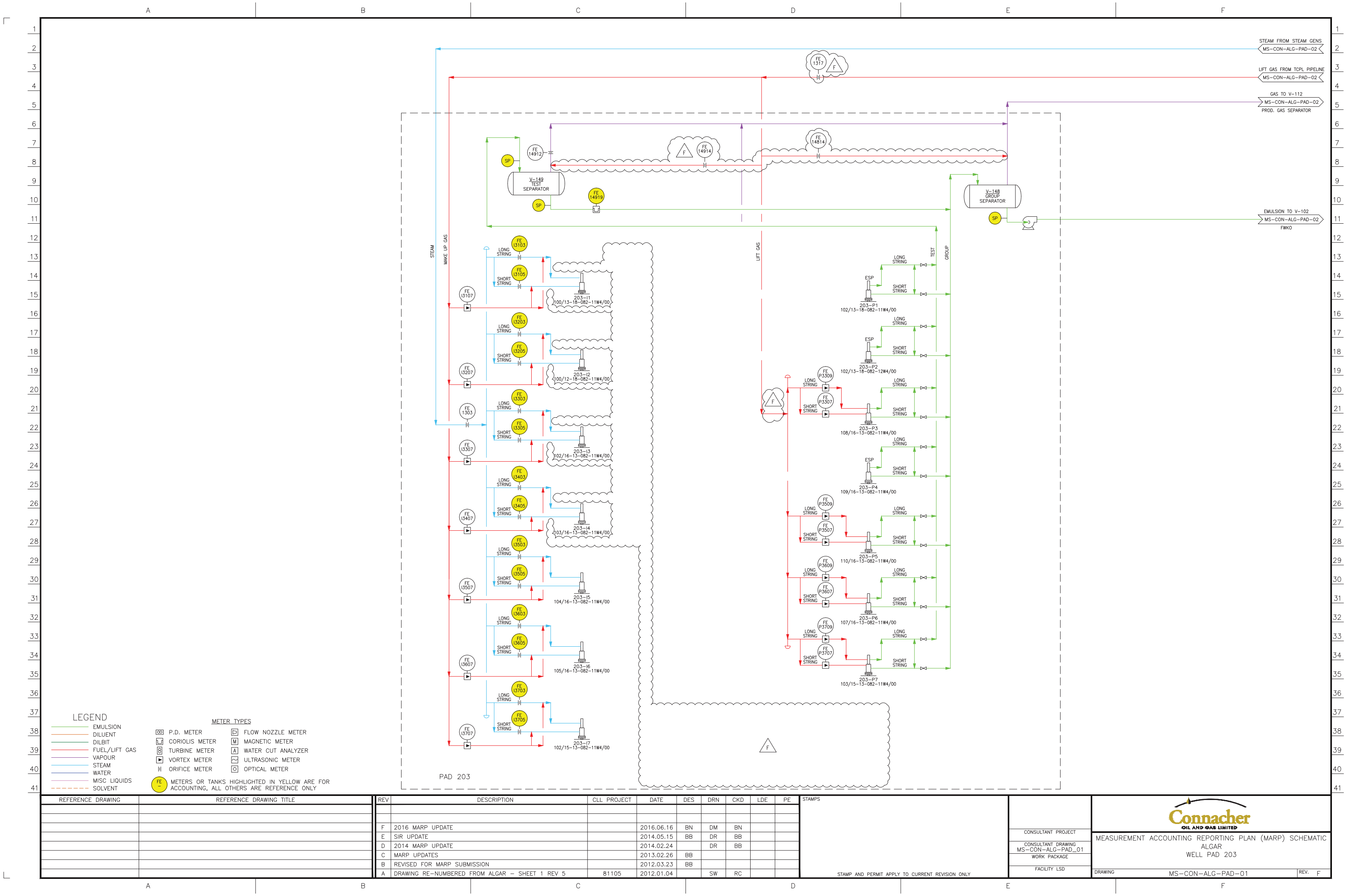
Algar MARP - Pad 202

Connacher
OIL AND GAS LIMITED
2018



Algar MARP - Pad 203

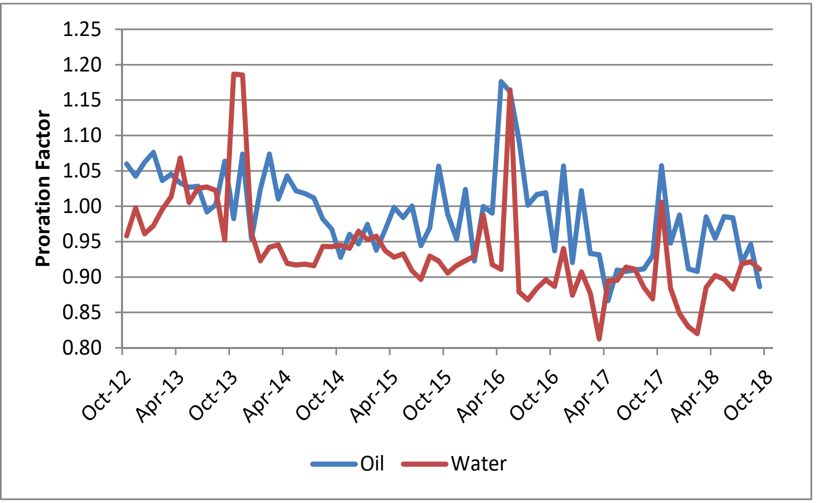
Connacher
OIL AND GAS LIMITED
2018



Pod One and Algar Proration Factors

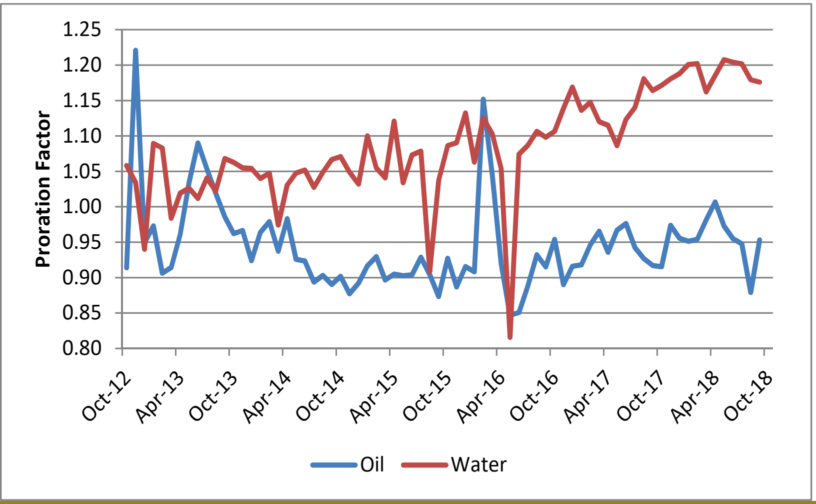
Connacher OIL AND GAS LIMITED 2018

Pod One



Pod One uses manual oil cuts however procedures implemented 2012 are clearly showing improved results.

Algar



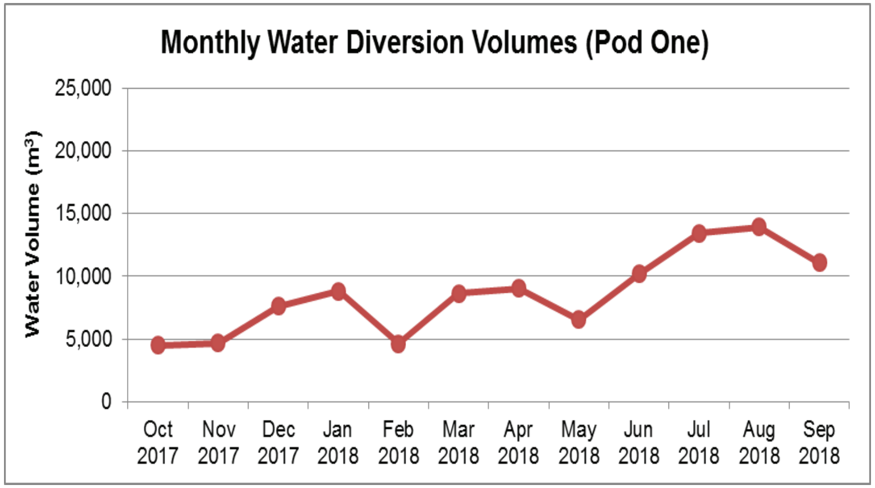
The proration factor at Algar is calculated from the interconnect pipeline volumes whereas the Pod One proration factor is calculated from truck receipts less the Algar pipeline volumes and is subject to typical truck measurement differences.

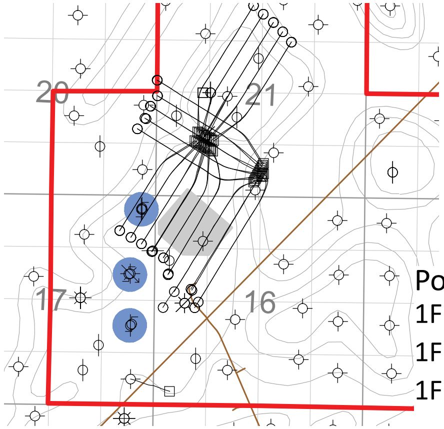
Surface - Water Recycle

Source Water Wells - Pod One

Year	Pod One Water Withdrawals (m^3/year)	Licenced Maximum Annual Diversion (m^3/year)
2012	132,670	292,000
2013	92,462	292,000
2014	122,720	292,000
2015	114,208	292,000
2016	156,313	292,000
2017	87,536	292,000
2018	86,310	292,000

Water Act Licence 00240458-01-00	
Well Location	Production Interval (meters below grade)
16-17-082-12 W4M	300 - 350
09-17-082-12 W4M	300 - 350
08-17-082-12 W4M	300 - 350
02-17-082-12 W4M (standby)	324 - 330





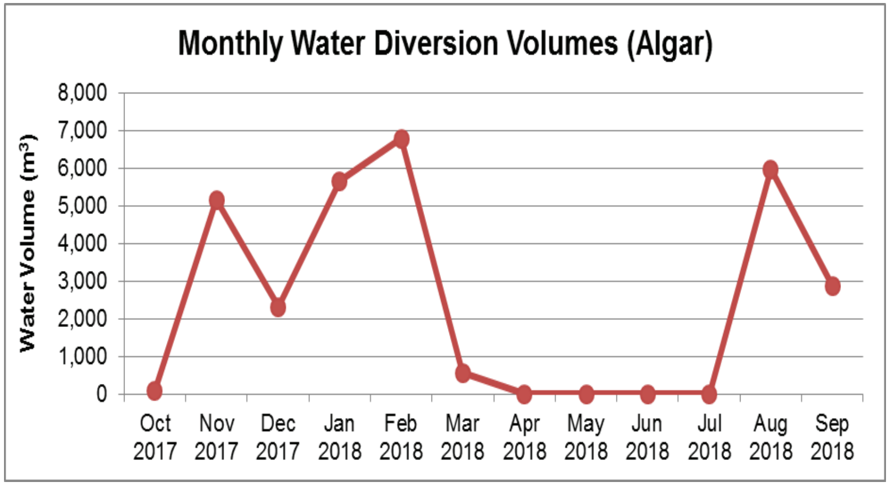
Pod One Water Wells
1F1/08-17-082-12W4/00
1F1/09-17-082-12W4/00
1F1/16-17-082-12W4/00

All wells use the Grand Rapids Formation for source water.

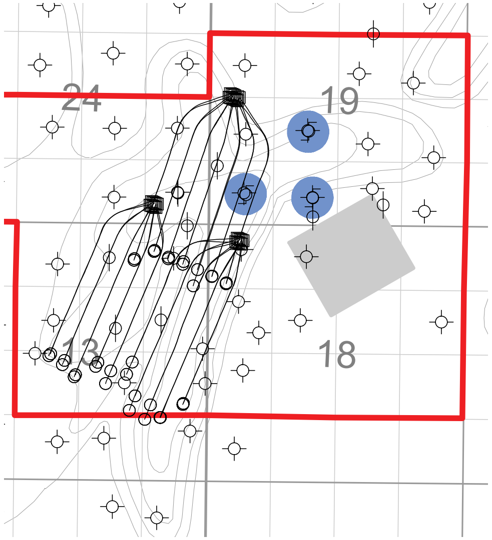
Source Water Wells - Algar

Connacher OIL AND GAS LIMITED 2018

Year	Algar Water Withdrawals (m^3/year)	Licenced Maximum Annual Diversion (m^3/year)
2012	96,164	330,000
2013	78,917	330,000
2014	45,632	330,000
2015	45,142	330,000
2016	68,956	330,000
2017	23,298	330,000
2018	21,854	330,000



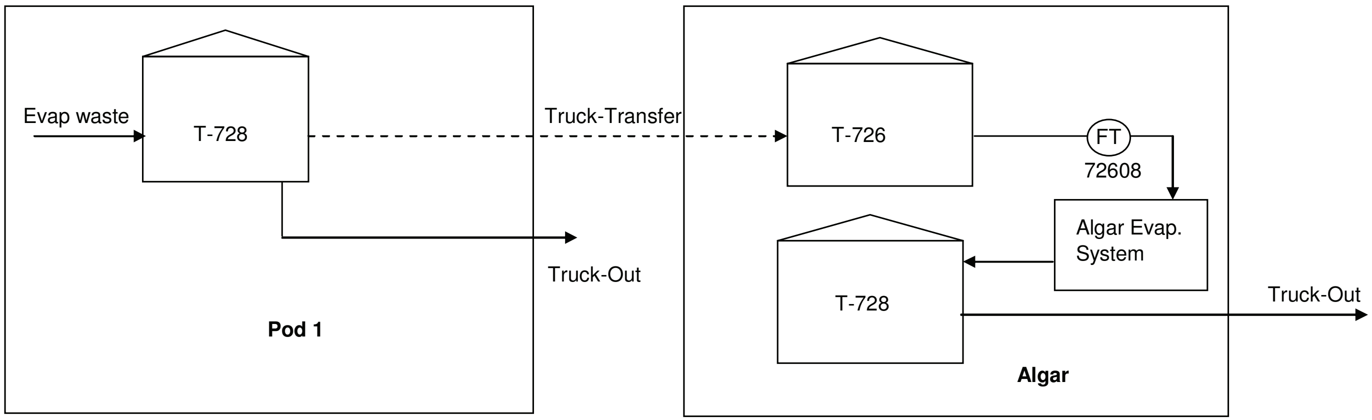
Water Act Licence 00240527-00-02	
Well Location	Production Interval (meters below grade)
02-19-082-11 W4M standby	356 - 382
03-19-082-11 W4M	349 - 382
04-19-082-11 W4M	350 - 382
06-19-082-11 W4M	347 - 382



Algar Water Wells
1F2/03-19-082-11W4/00
1F1/04-19-082-11W4/00
1F1/06-19-082-11W4/00

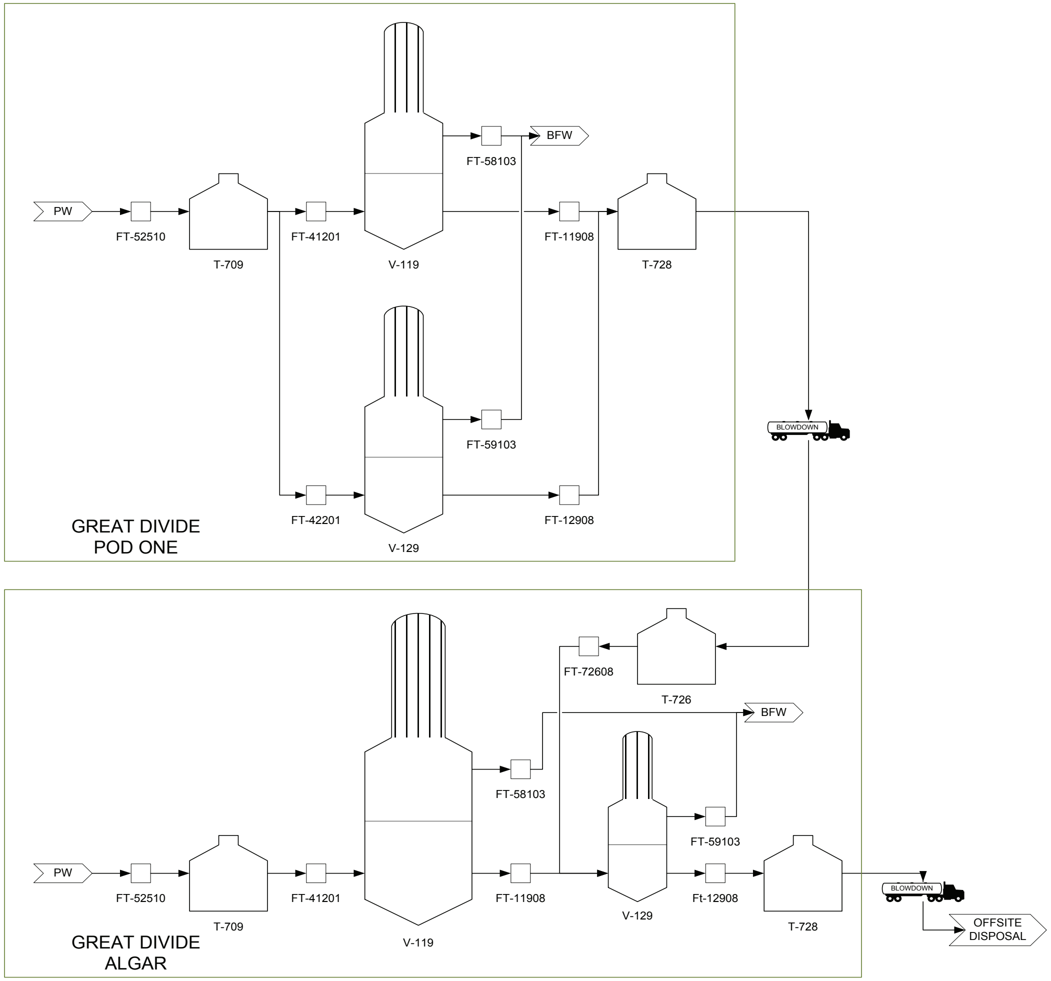
All wells use the Grand Rapids Formation for source water.

Evaporator Waste Integration



Integrated Water Recycle Scheme

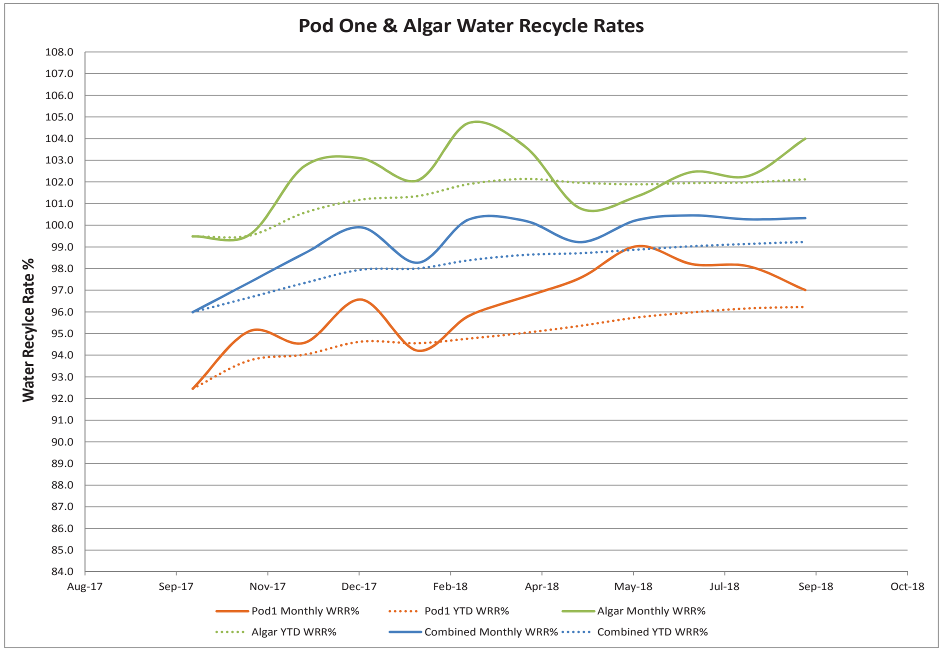
Connacher
OIL AND GAS LIMITED
2018



- Evaporators produce high quality boiler feed water efficiently while generating a highly concentrated brine for disposal.
- At Algar a second stage evaporator further concentrates both the Algar brine and a portion of the Pod One brine to improve water reuse and minimize disposal.
- Disposal concentrations are close to crystallizer performance.
- Chemical optimization has significantly improved evaporator reliability.

Water Recycle Ratio

Connacher OIL AND GAS LIMITED
2018



- The series evaporator operation at Algar provides high recycle rates and improved reliability.
- The Algar operation accommodates waste from the parallel evaporators at Pod One and brine is shipped from Pod One to Algar.
- By treating part of the Pod One blow-down at Algar the average yearly water recycle ratio for both plants is approximately 99.2%.

Month	Pod1 Monthly WRR%	Pod1 YTD WRR%	Algar Monthly WRR%	Algar YTD WRR%	Combined Monthly WRR%	Combined YTD WRR%
Oct-17	92.5	92.5	99.5	99.5	96.0	96.0
Nov-17	95.1	93.8	99.6	99.5	97.4	96.7
Dec-17	94.6	94.0	102.7	100.6	98.7	97.3
Jan-18	96.6	94.6	103.1	101.2	99.9	97.9
Feb-18	94.2	94.6	102.1	101.3	98.3	98.0
Mar-18	95.8	94.8	104.7	101.9	100.3	98.4
Apr-18	96.7	95.0	103.6	102.1	100.2	98.6
May-18	97.6	95.4	100.8	102.0	99.2	98.7
Jun-18	99.0	95.7	101.3	101.9	100.2	98.9
Jul-18	98.2	96.0	102.5	101.9	100.5	99.0
Aug-18	98.1	96.2	102.3	102.0	100.3	99.1
Sep-18	97.0	96.2	104.0	102.1	100.3	99.2

Water Disposal and Directive 81 Compliance

Connacher
OIL AND GAS LIMITED
2018

Directive 81 Compliance		
	Disposal Limit	Acutal Disposal
Pod One	9.6%	2.7%
Algar	9.9%	0.0%
Great Divide	9.7%	1.3%

Pod One Water Volumes

Fresh Water Make-up: 98,662 m^3
Produced Water: 1,563,307 m^3
Disposal: 44,380 m^3

Algar Water Volumes

Fresh Water Make-up: 19,921 m^3
Produced Water: 1,621,906 m^3
Disposal: 0 m^3

Surface - Gas Recycle

Natural Gas Usage

Connacher
OIL AND GAS LIMITED
2018

Pod One Natural Gas Usage Summary

Production Month	Purchased Gas (e3m3)	Solution Gas (e3m3)	Consumed Gas (e3m3)	Flared and Vented (e3m3)
Oct-17	9,527	277	10,050	76
Nov-17	9,396	327	9,937	68
Dec-17	9,509	371	10,132	65
Jan-18	9,557	174	9,987	62
Feb-18	8,027	423	8,684	52
Mar-18	9,499	489	10,259	43
Apr-18	9,334	347	9,937	46
May-18	9,327	563	10,157	49
Jun-18	9,189	330	9,778	44
Jul-18	9,385	312	9,969	43
Aug-18	9,088	745	10,057	50
Sep-18	8,693	1,048	9,921	33

Algar Natural Gas Usage Summary

Production Month	Purchased Gas (e3m3)	Solution Gas (e3m3)	Consumed Gas (e3m3)	Flared and Vented (e3m3)
Oct-17	10,320	1,285	11,600	5
Nov-17	10,336	1,176	11,508	3
Dec-17	10,833	920	11,754	0
Jan-18	10,801	767	11,565	3
Feb-18	9,529	887	10,411	5
Mar-18	10,699	864	11,507	55
Apr-18	10,238	960	11,193	5
May-18	10,337	1,421	11,709	10
Jun-18	10,088	1,277	11,362	3
Jul-18	10,339	1,366	11,702	2
Aug-18	10,410	1,194	11,586	18
Sep-18	9,161	1,151	10,233	80

Future Plans

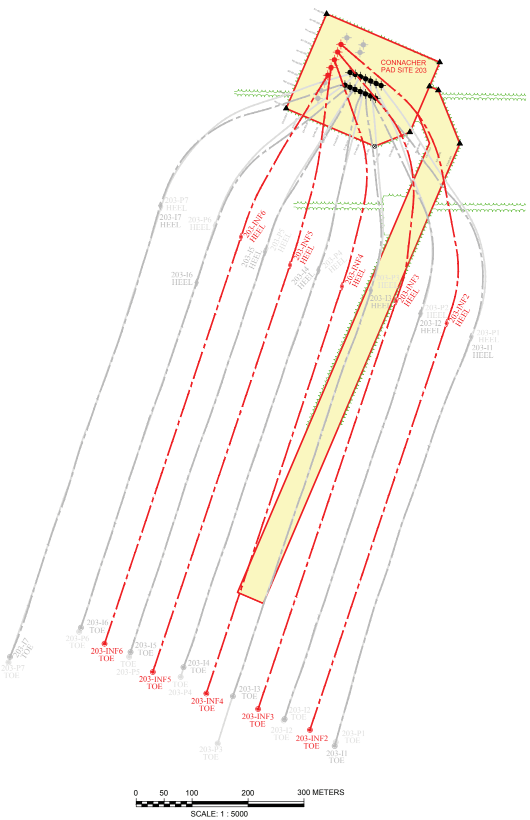
Summary of Future Plans

Connacher OIL AND GAS LIMITED 2018

- Connacher has no major projects planned for the next 12 months that would require additional AER approvals
- Connacher has approval to drill five infill wells on Pad 203, currently scheduled for Q1 2019
- Connacher has approval for three major projects, summarized in the next slides:
  - Pod One Sustaining Production
  - Algar Expansion and Sustaining Production
  - Pod One Mini Steam Expansion
  - Algar SAGD+ Commercialization

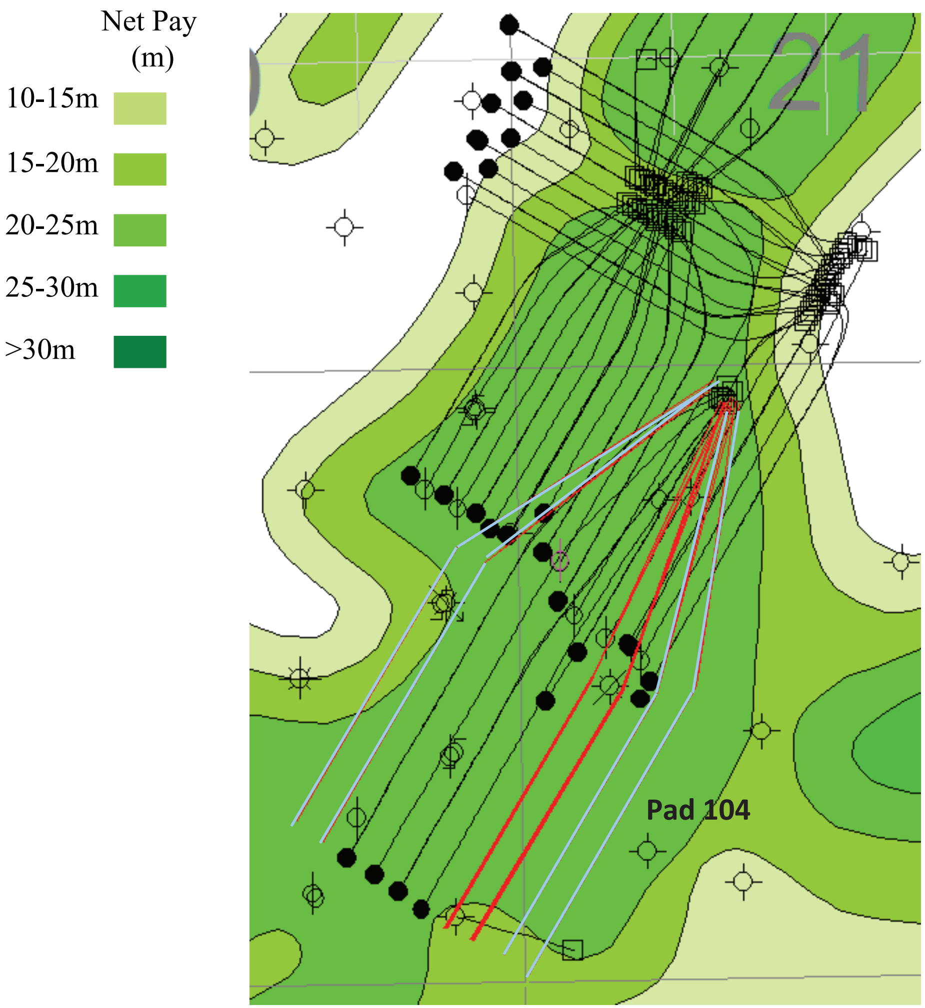
Pad 203 Infills

- Commercial Scheme Approval 10587Q
- 5 Infills Approved at Pad 203



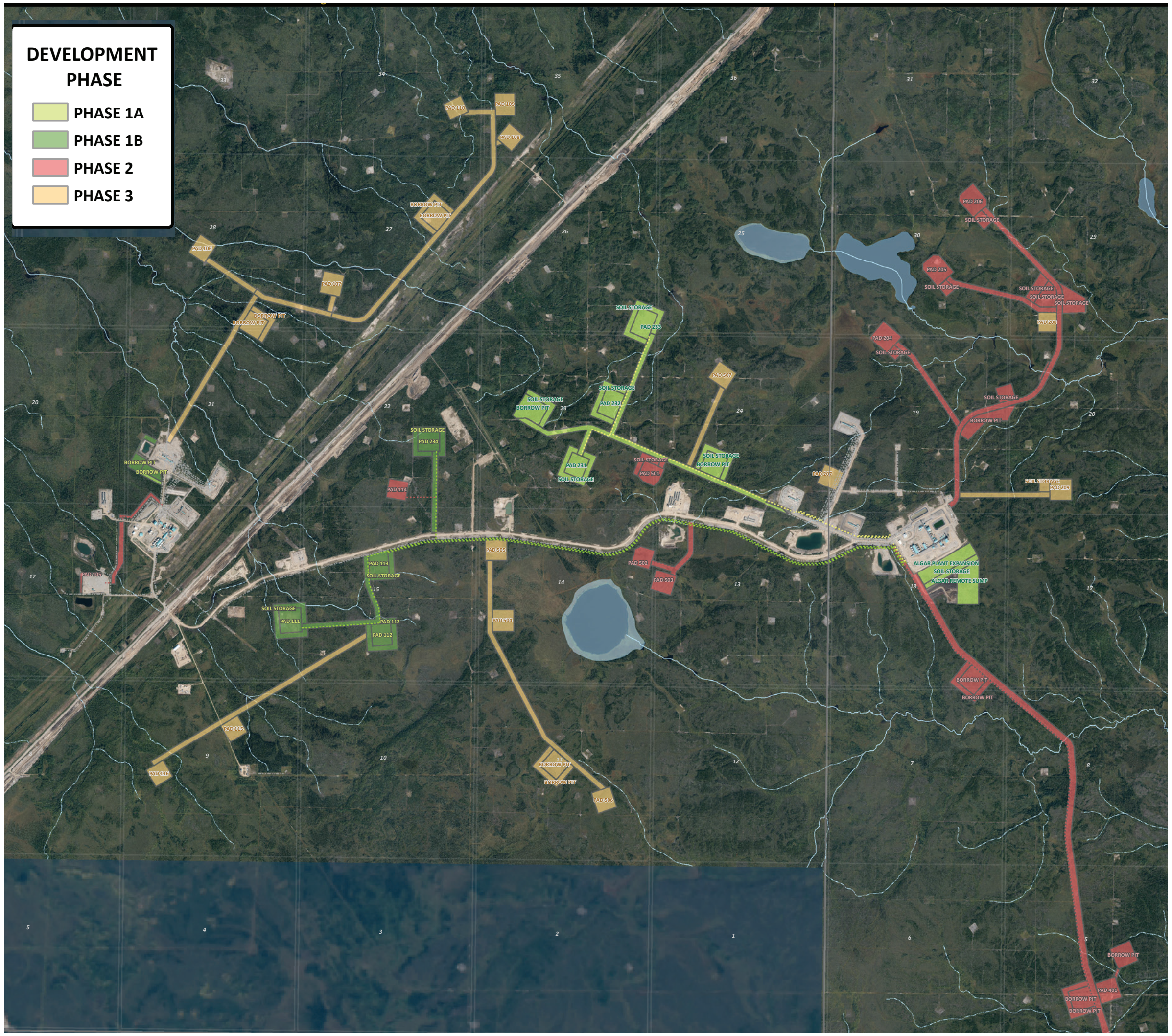
Pod One Sustaining Production

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



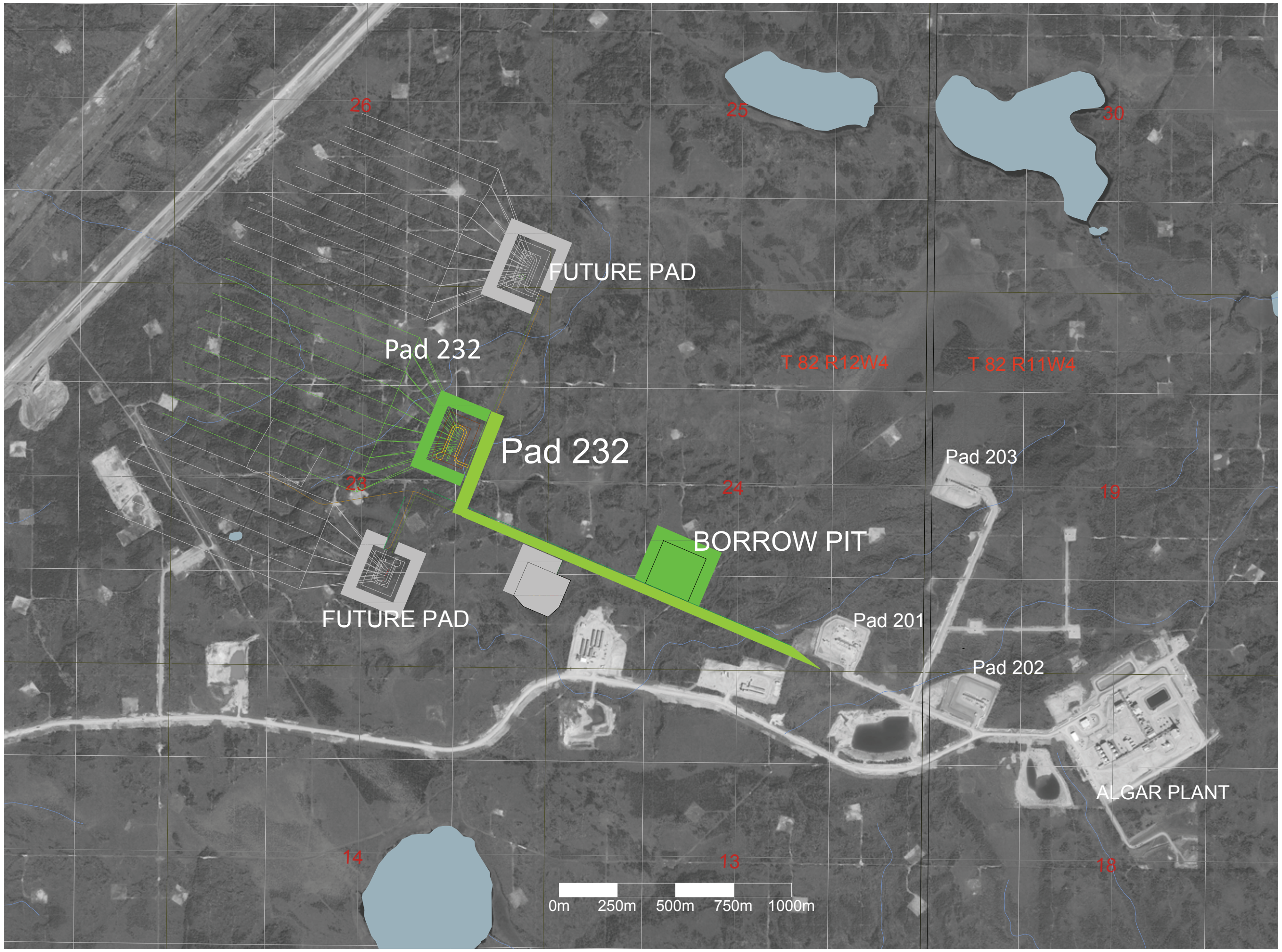
Approved (blue line)
Approved (red line)
Existing (black line)

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

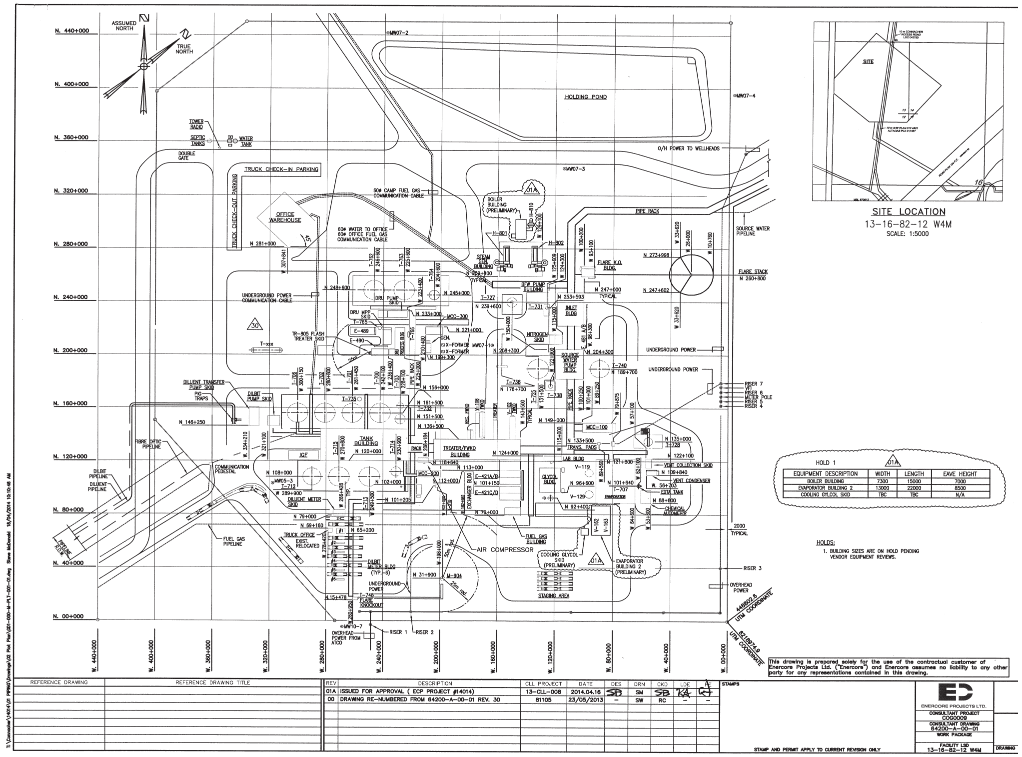


Near Future Development to include:

- 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

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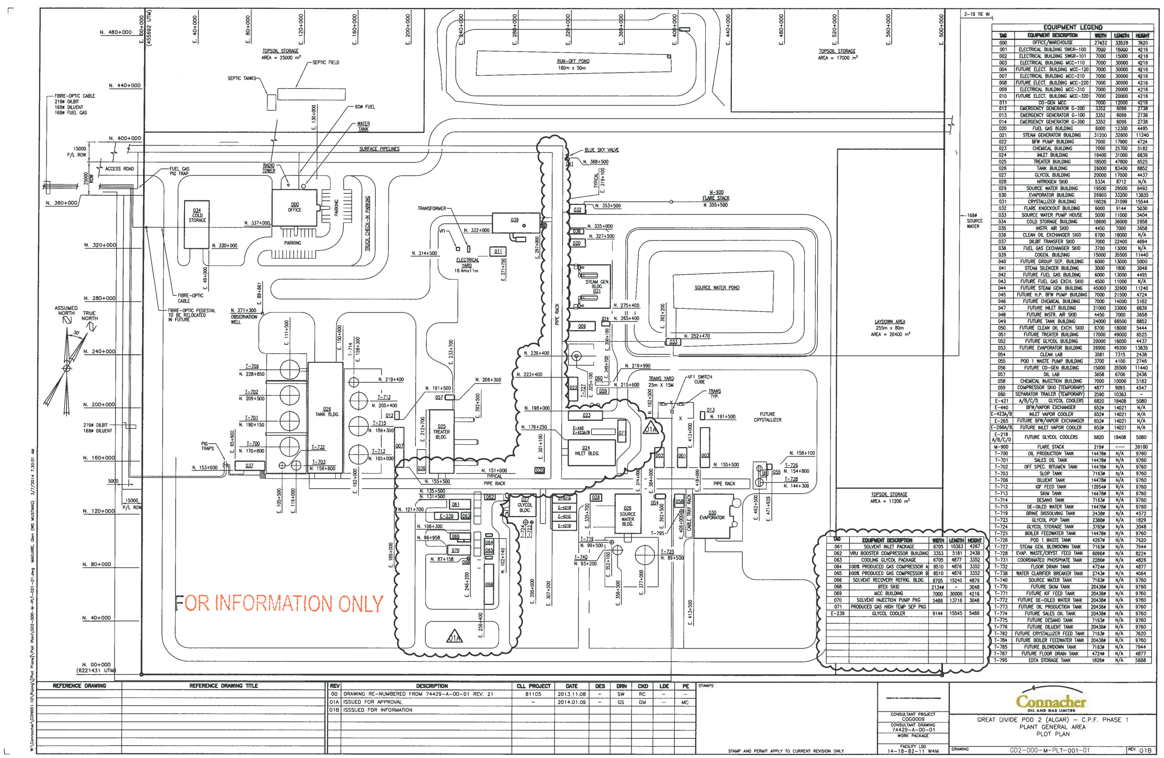
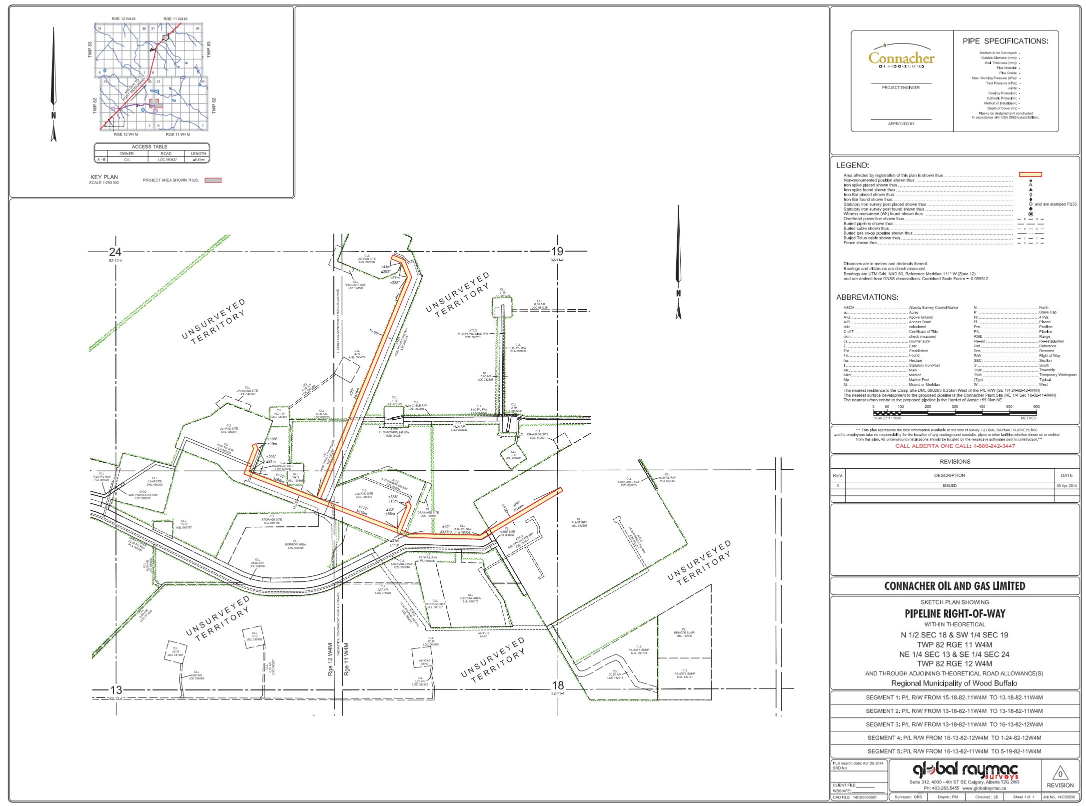
2018

- 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.



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



Surface - Sulphur Production

Pod One Sulphur Emissions

Connacher Oil and Gas Limited 2018

Quarter	Average Sulphur Dioxide Emissions (t/day)
Q4 - 2017	0.26
Q1 - 2018	0.29
Q2 - 2018	0.26
Q3 - 2018	0.27

- Pod One EPEA SO_2 emission limit is 1.98 t/day
- Peak SO_2 emissions were 0.34 t/day: Aug 22, 2018

- Plant Total SO_2 = Flared SO_2 + Steam Generators SO_2
- There has been no material change in sulphur production observed over the past year of production at Pod One
- Connacher will continue to monitor produced gas H_2S concentrations, sulphur emissions and evaluate plans for sulphury recovery installations
- SO_2 production is well below emission limits

Algar Sulphur Emissions

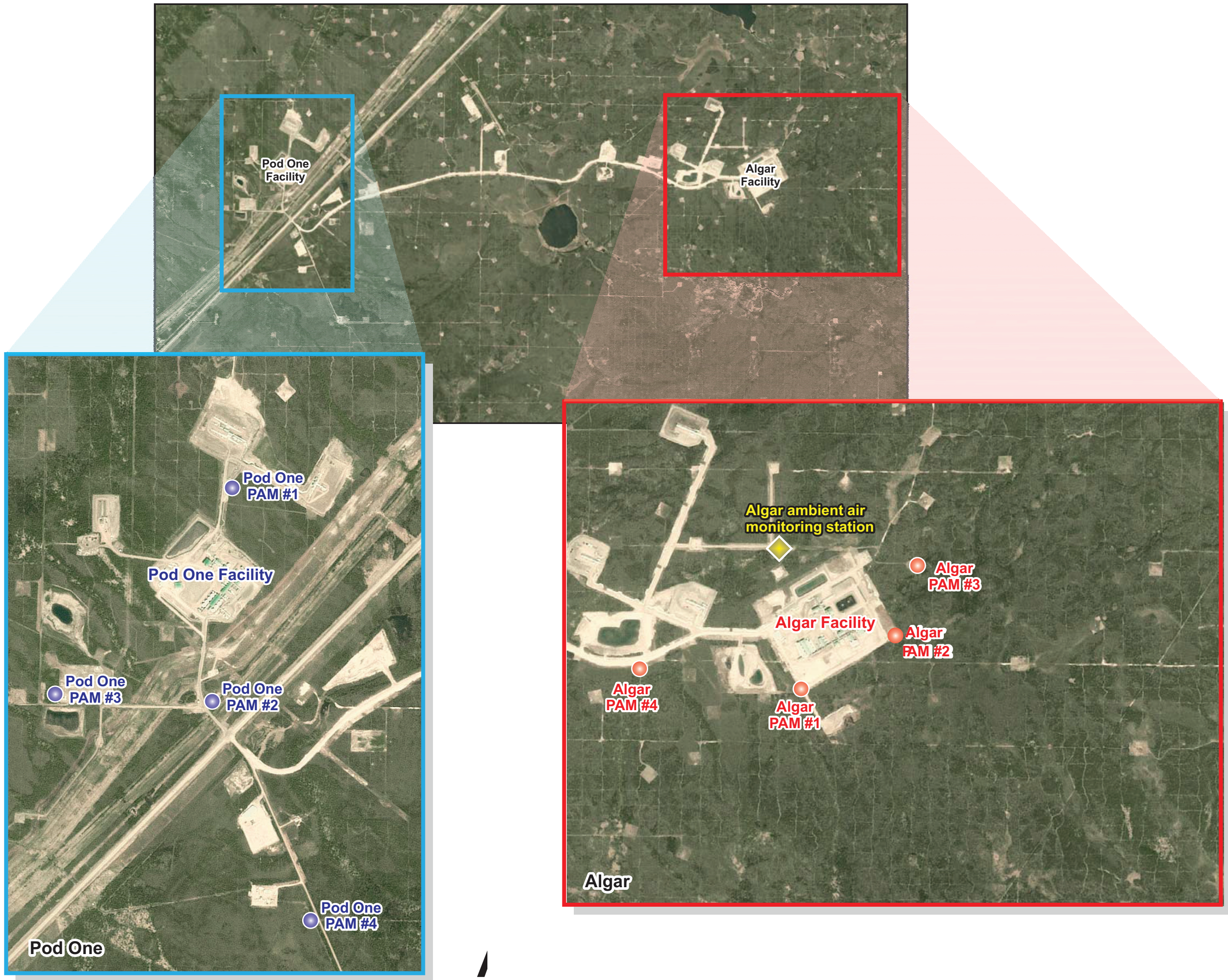
Connacher OIL AND GAS LIMITED 2018

Quarter	Average Sulphur Dioxide Emissions (t/day)
Q4 - 2017	0.61
Q1 - 2018	0.69
Q2 - 2018	0.75
Q3 - 2018	0.84

- Algar EPEA SO_2 emission limit is 1.98 t/day
- Peak SO_2 emissions were 1.19 t/day: Sep 30, 2018

- Plant Total SO_2 = Flared SO_2 + Steam Generators SO_2
- There has been no material change in sulphur production observed over the past year of production at Algar
- Connacher will continue to monitor produced gas H_2S concentrations, sulphur emissions and evaluate plans for sulphury recovery installations
- SO_2 production is well below emission limits

Ambient Air Quality Network



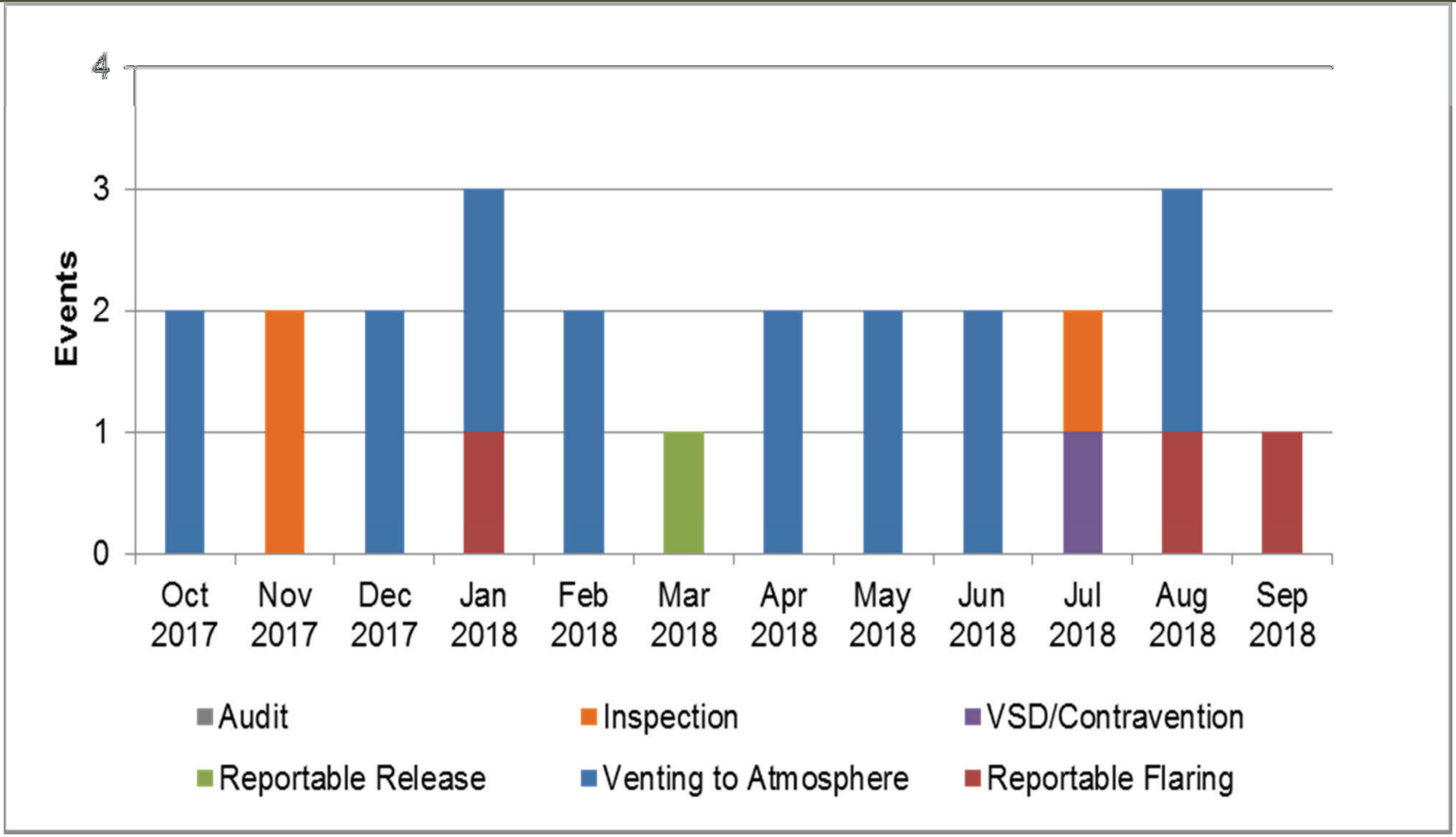
There are a total of 8 passive air monitoring stations at Pod One and Algar. These sites monitor for SO_2 and H_2S. For the reporting period there were no exceedances of the AAAQO

Connacher is required to complete continuous ambient air monitoring station for SO_2, H_2S and NO_2, as well as wind speed and wind direction. This monitoring is required 6 months per year. For the reporting period all measured concentrations were within the AAAQO's.

Surface - Environment

Great Divide Compliance

Connacher
OIL AND GAS LIMITED
2018



Details of non-compliance events summarized above are available as an appendix to this presentation

Great Divide Applications / Authorizations

Connacher OIL AND GAS LIMITED 2018

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	10587O	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

Great Divide Inspections

Connacher
OIL AND GAS LIMITED
2018

Inspection Date	Agency	Location	Inspection Result
November, 2017	AER	Pod One SAGD Facility	ID Numbers 469169 and 469172. Unsatisfactory result that required multiple corrective actions be implemented to mitigate deficiencies. Inspections closed.
November, 2017	AEP	Pod One Pad 101	Routine inspection, satisfactory result.
July, 2018	AER	Pod One and Algar SAGD Facilities	ID Numbers 477265, 477276, 477277, 477282, and 477296. Unsatisfactory result that required multiple corrective actions be implemented to mitigate deficiencies. Inspections closed.
July, 2018	AER	Pod One SAGD Facility	ID Number 477279. Specific inspection was overlooked when completing mitigation of deficiencies from 5 other inspection reports in July 2018 (see above). Unsatisfactory result that requires corrective action. AER has provided an extention to November 30, 2018 to implement corrective actions.

Details of facilty inspections summarized above are available as an appendix to this presentation

Great Divide Audits

Audit Date	Agency	Location	Issue and Resolution

- No audits were completed during the reporting period
- Technical data, such as flare and venting logs and meter calibration records were provided to the AER as part of the inspections completed in November 2017 and July 2018

Great Divide Voluntary Self Disclosures

Date	Licence Number	Location	Issue and Resolution
July, 2018	EPEA 240008-00-04	Algar SAGD Facility (14-18-082-11 W4M)	Approval Contravention, exceedance of ambient air quality objectivec for Hydrogen Sulfide. Closed.

Details of non-compliance events summarized above are available as an appendix to this presentation

Great Divide Monitoring Programs

Connacher OIL AND GAS LIMITED 2018

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

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

No changes or developments to EPEA compliance monitoring programs

Appendix A - List of Additional Material Submitted

Additional Material Attached to Submission:

Energy Usage & Balance for Algar & Great Divide

Electrical Use at Pod One & Algar

Connacher Heave Monitoring Data

Pump Runlife Histories

Observation Well Pressure and Temperature Data

Production and Injection Well Pressure and Temperature Data

Great Divide Regulatory Compliance Table

Great Divide Summary of Non-compliance Events and VSDs

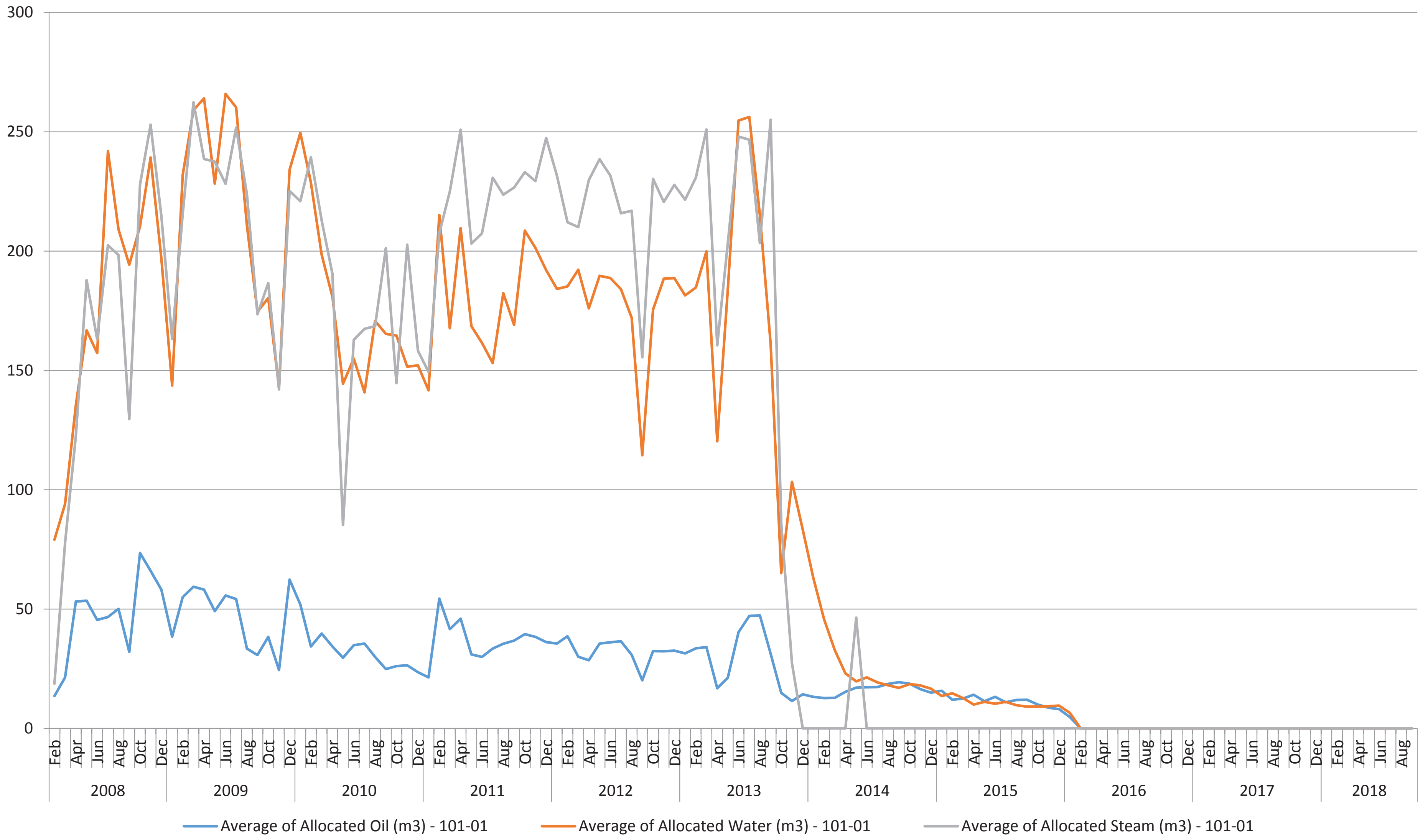
Appendix B - Bitumen Reserves and Resources

1)Proved reserves are those reserves that can be estimated with a high degree of certainty to be recoverable. It is likely that the actual remaining quantities recovered will exceed the estimated proved reserves.

2)Probable reserves are those additional reserves that are less certain to be recovered than proved reserves. It is equally likely that the actual remaining quantities recovered will be greater or less than the sum of the estimated proved plus probable reserves.

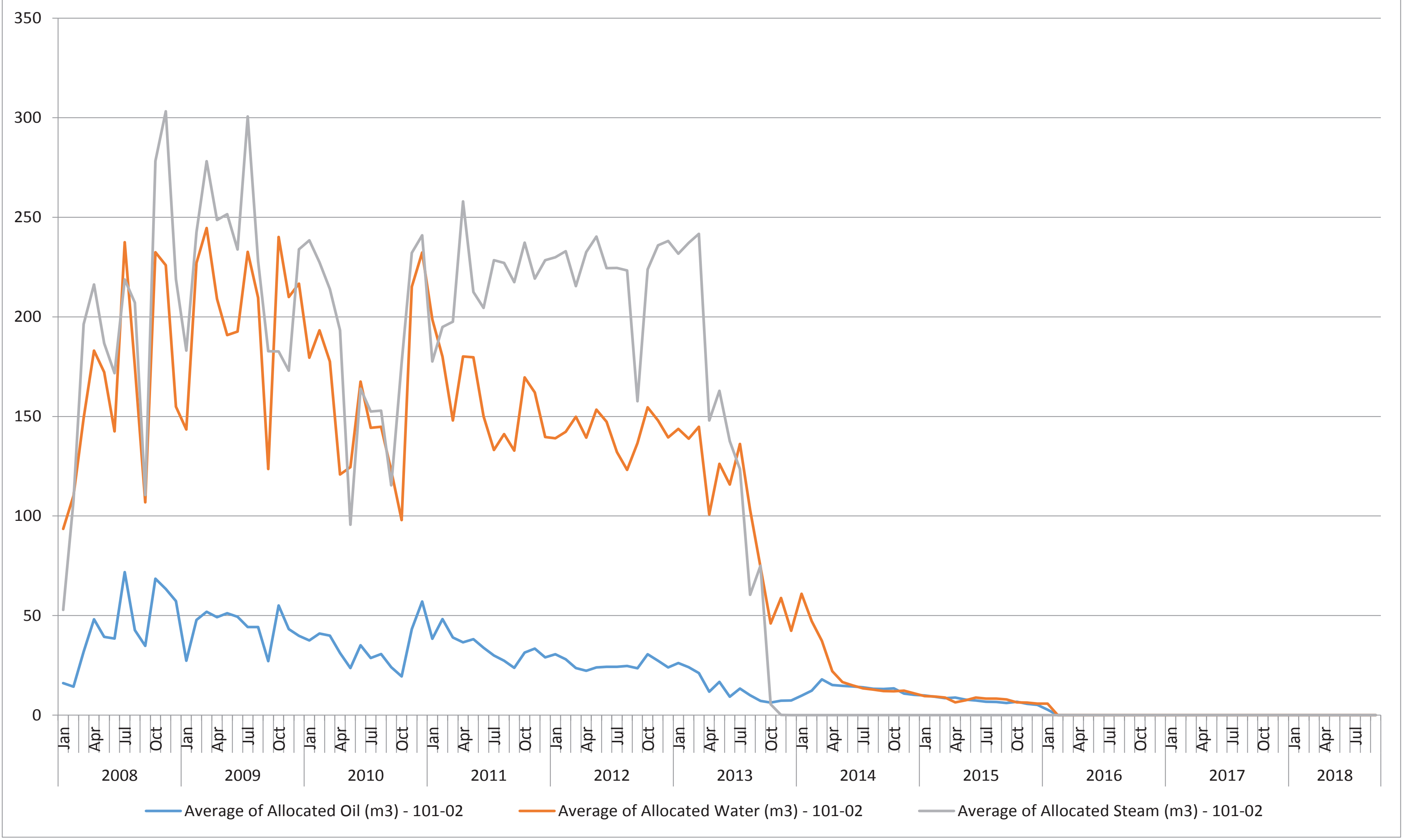
Appendix C - Individual Well Performance

Pod One - 101-01



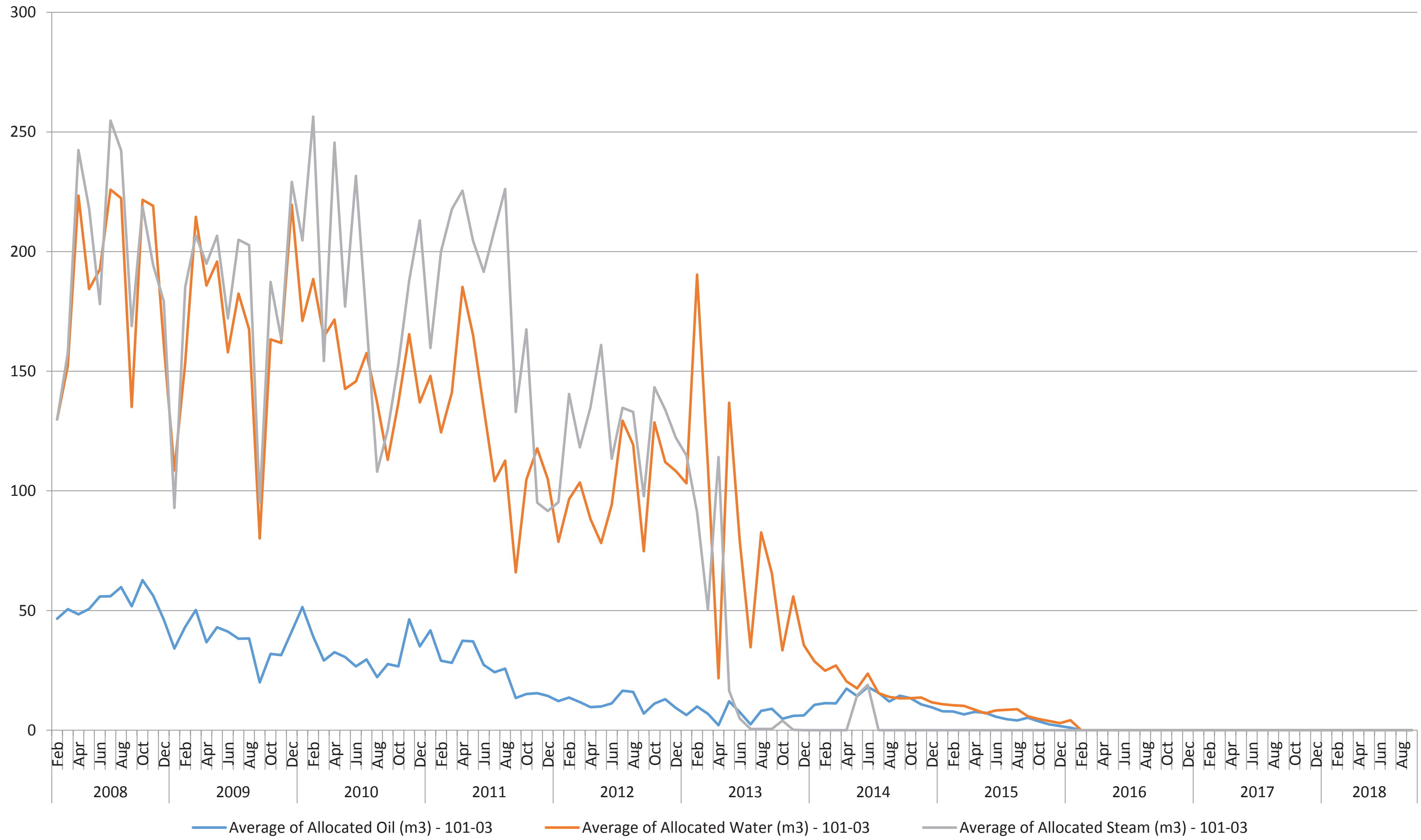
Pod One - 101-02

Connacher
OIL AND GAS LIMITED
2018



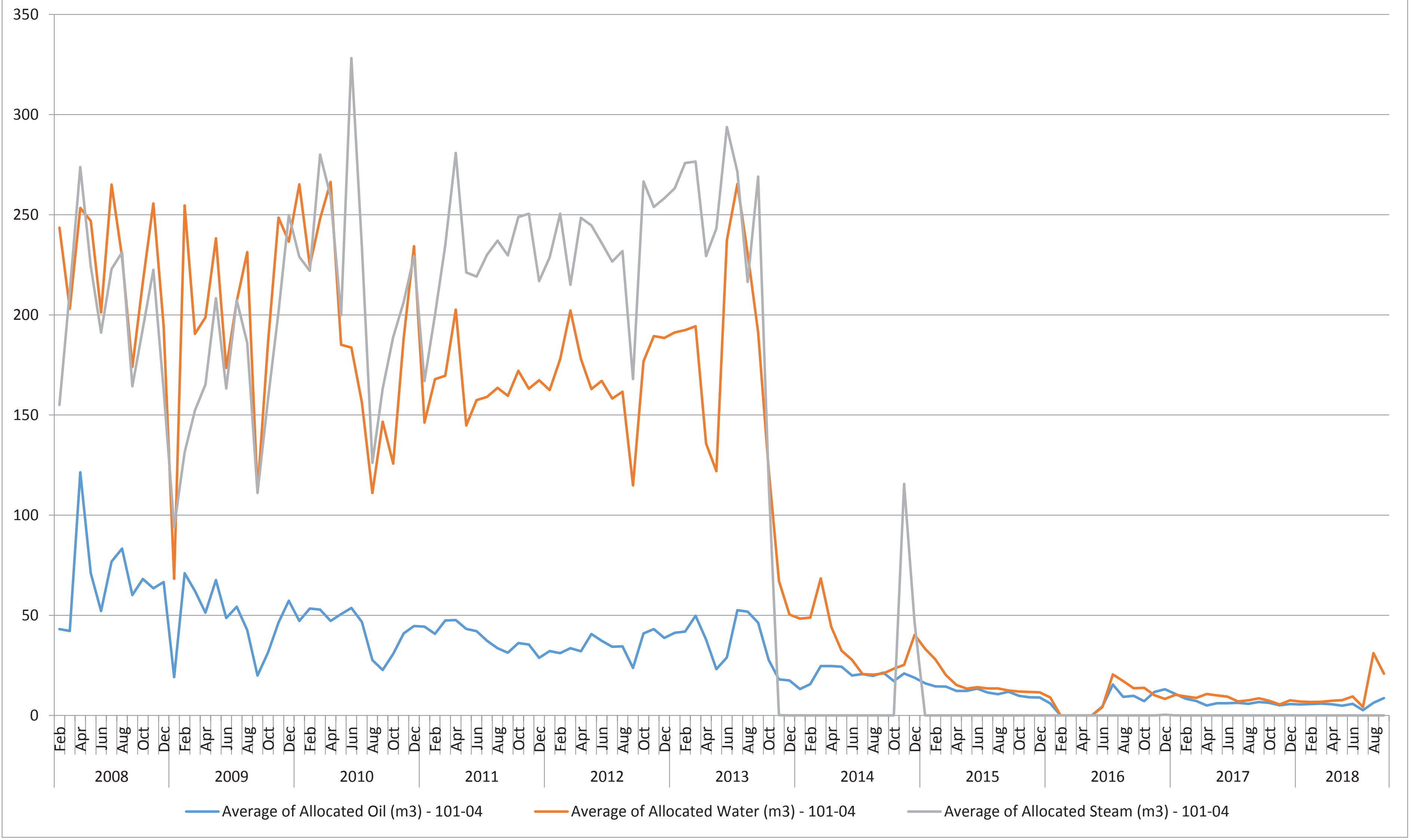
Pod One - 101-03

Connacher
OIL AND GAS LIMITED
2018



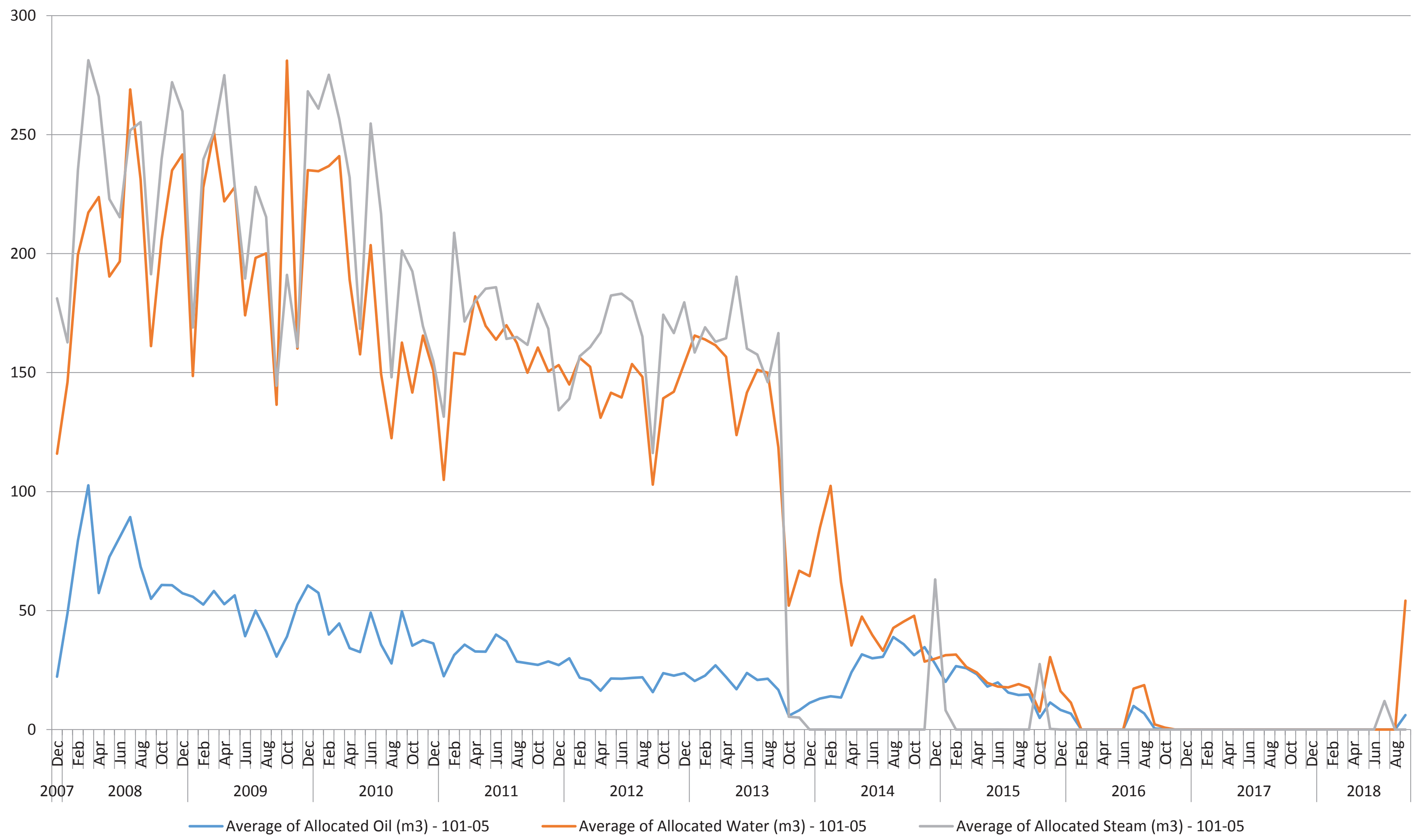
Pod One - 101-04

Connacher
OIL AND GAS LIMITED
2018



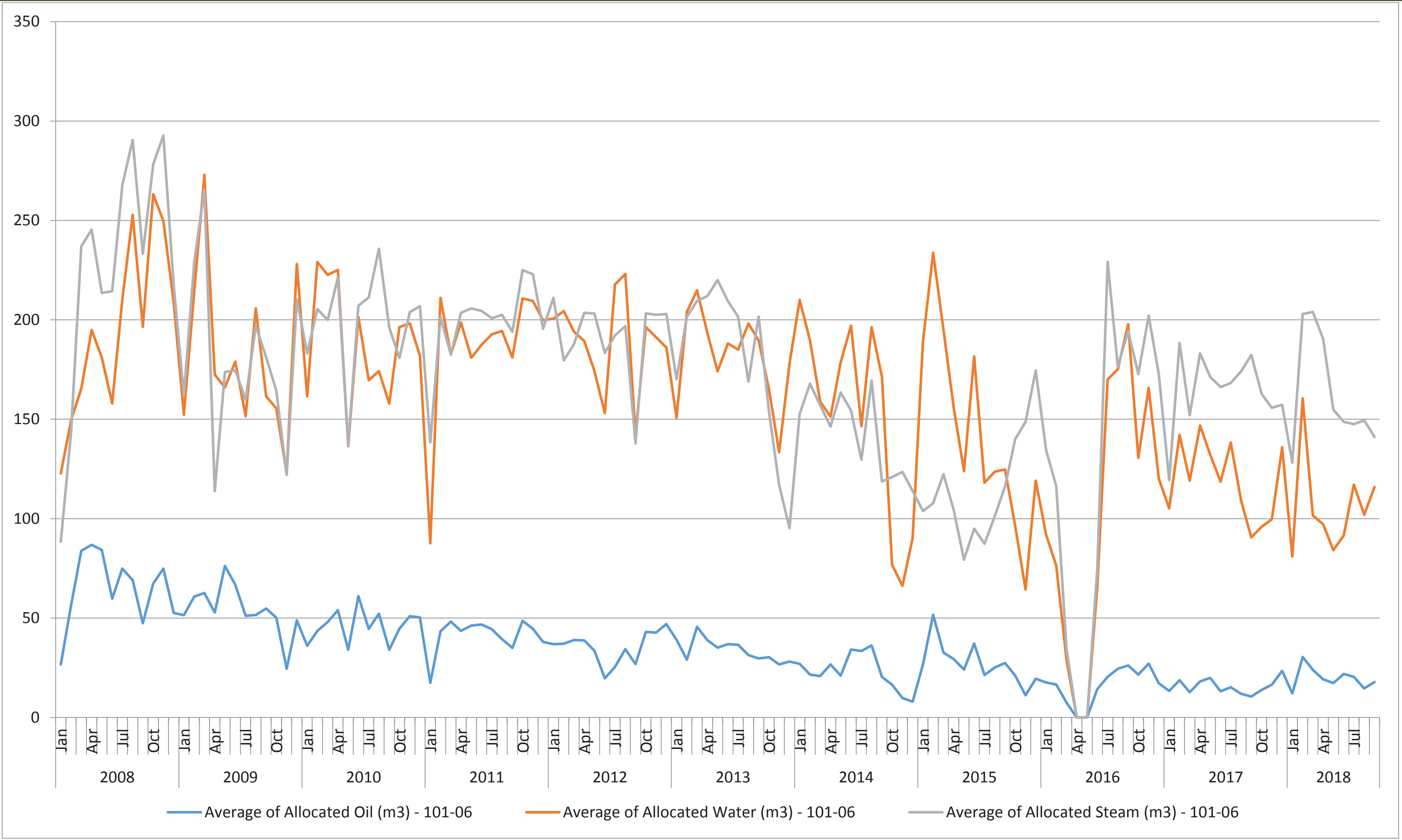
Pod One - 101-05

Connacher OIL AND GAS LIMITED
2018



Pod One - 101-06

Connacher OIL AND GAS LIMITED 2018



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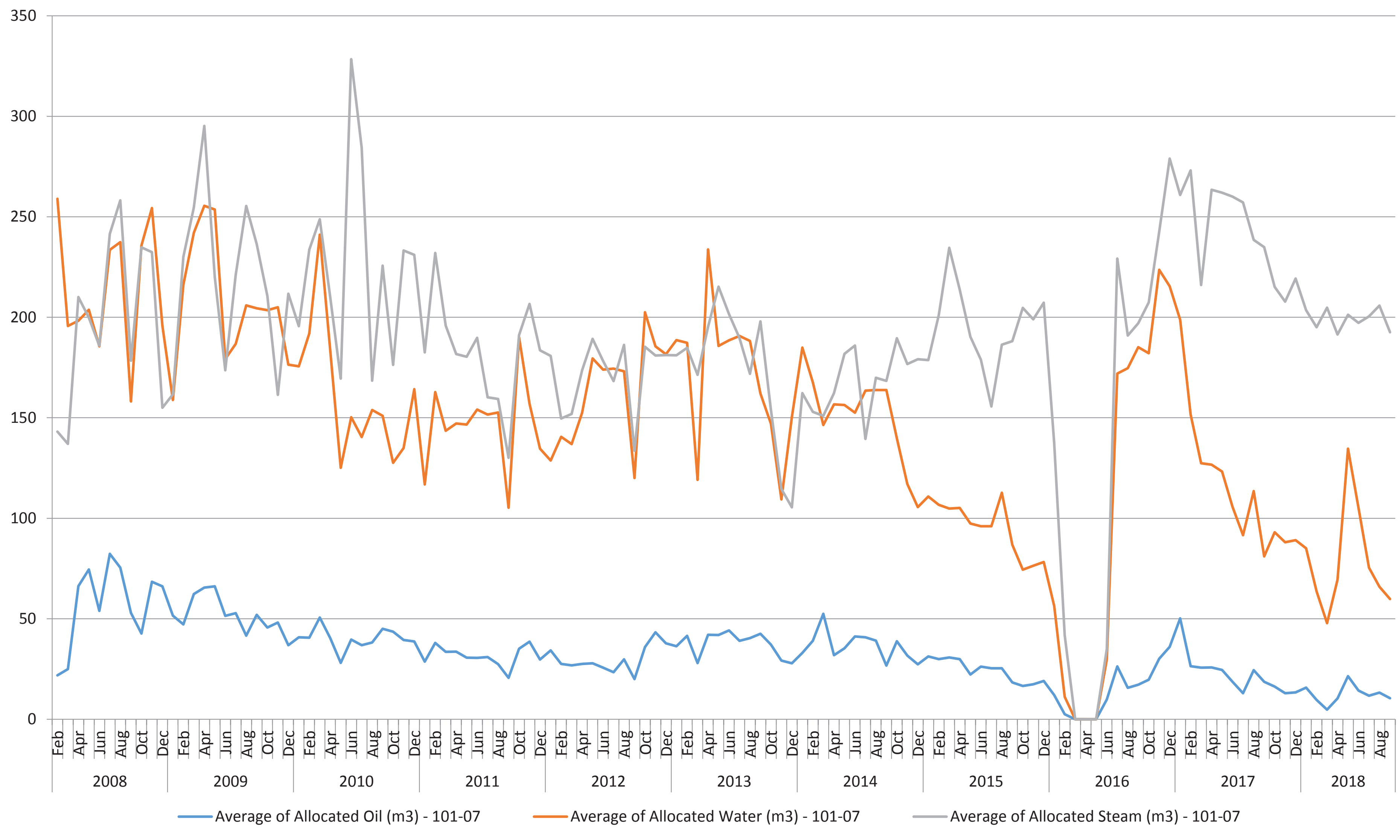
Connacher OIL AND GAS LIMITED 2018



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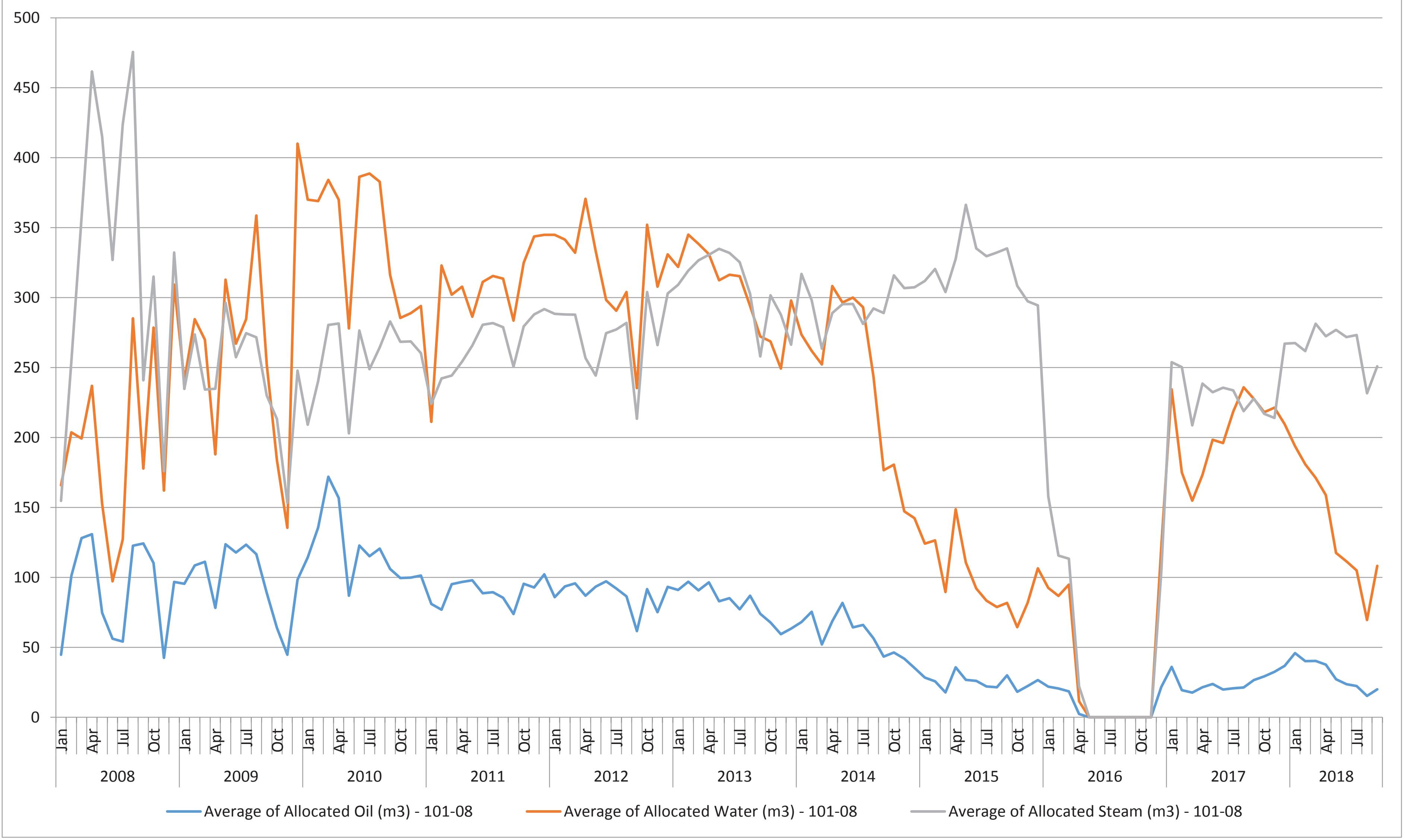
OIL AND GAS LIMITED
2018



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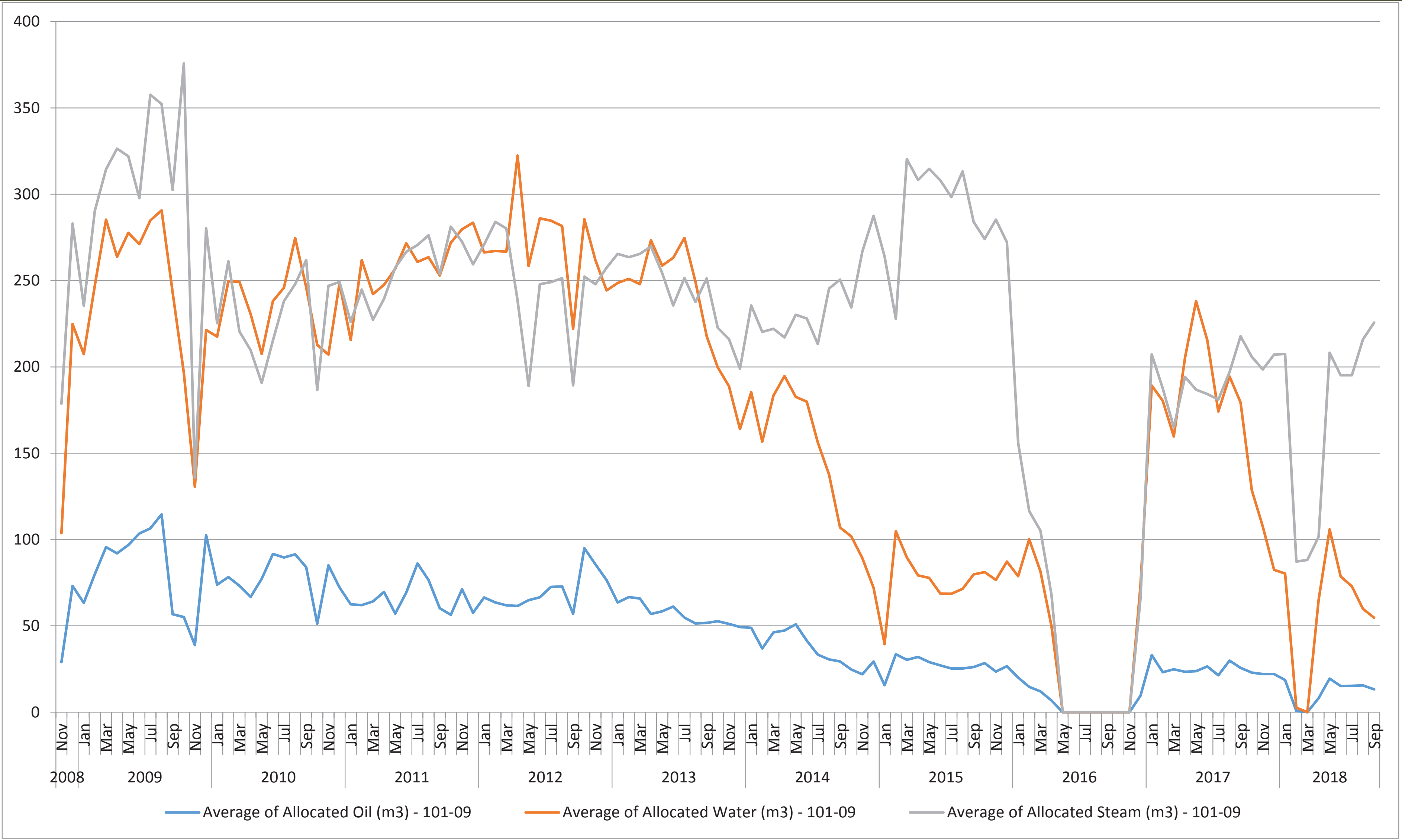
OIL AND GAS LIMITED
2018



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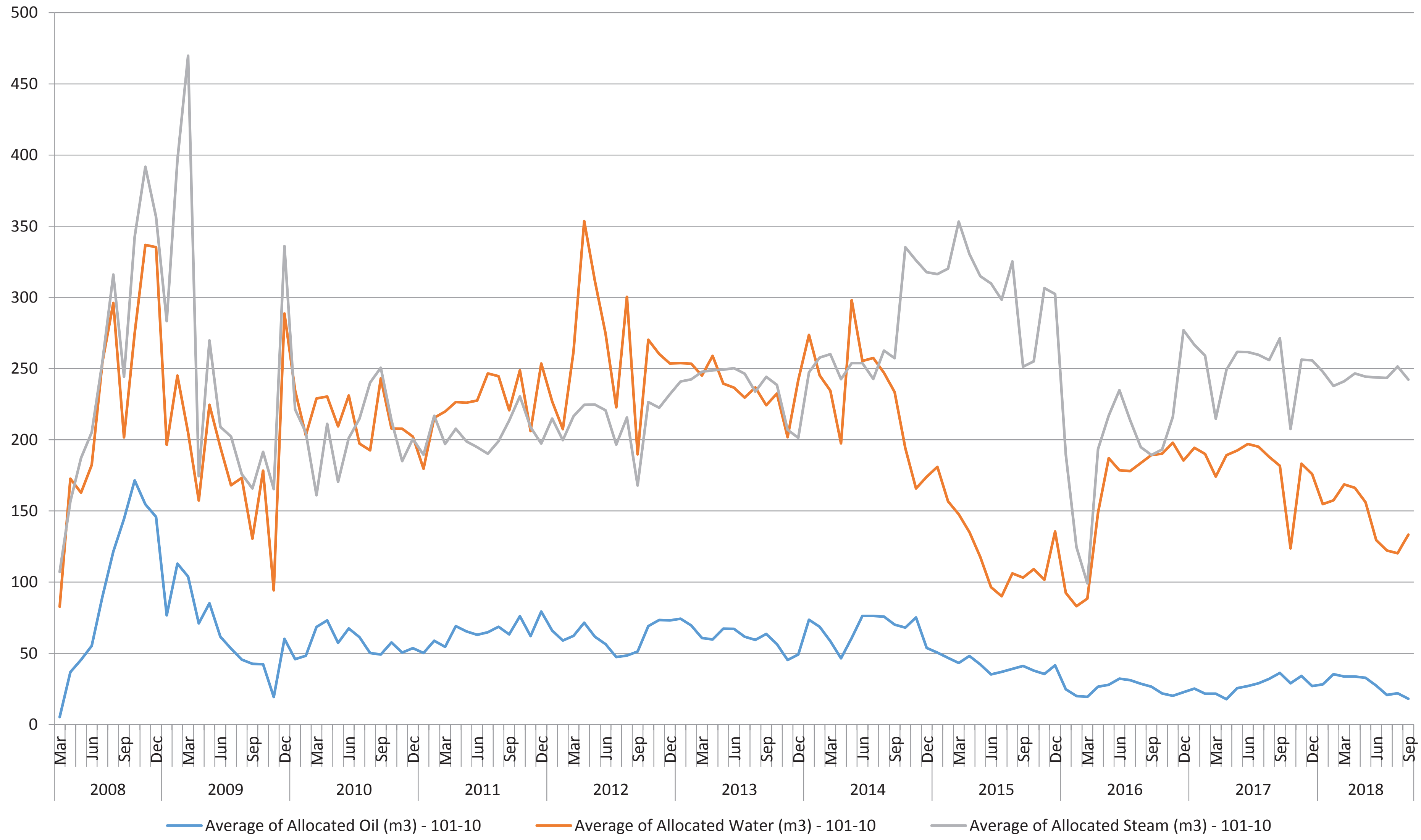
OIL AND GAS LIMITED
2018



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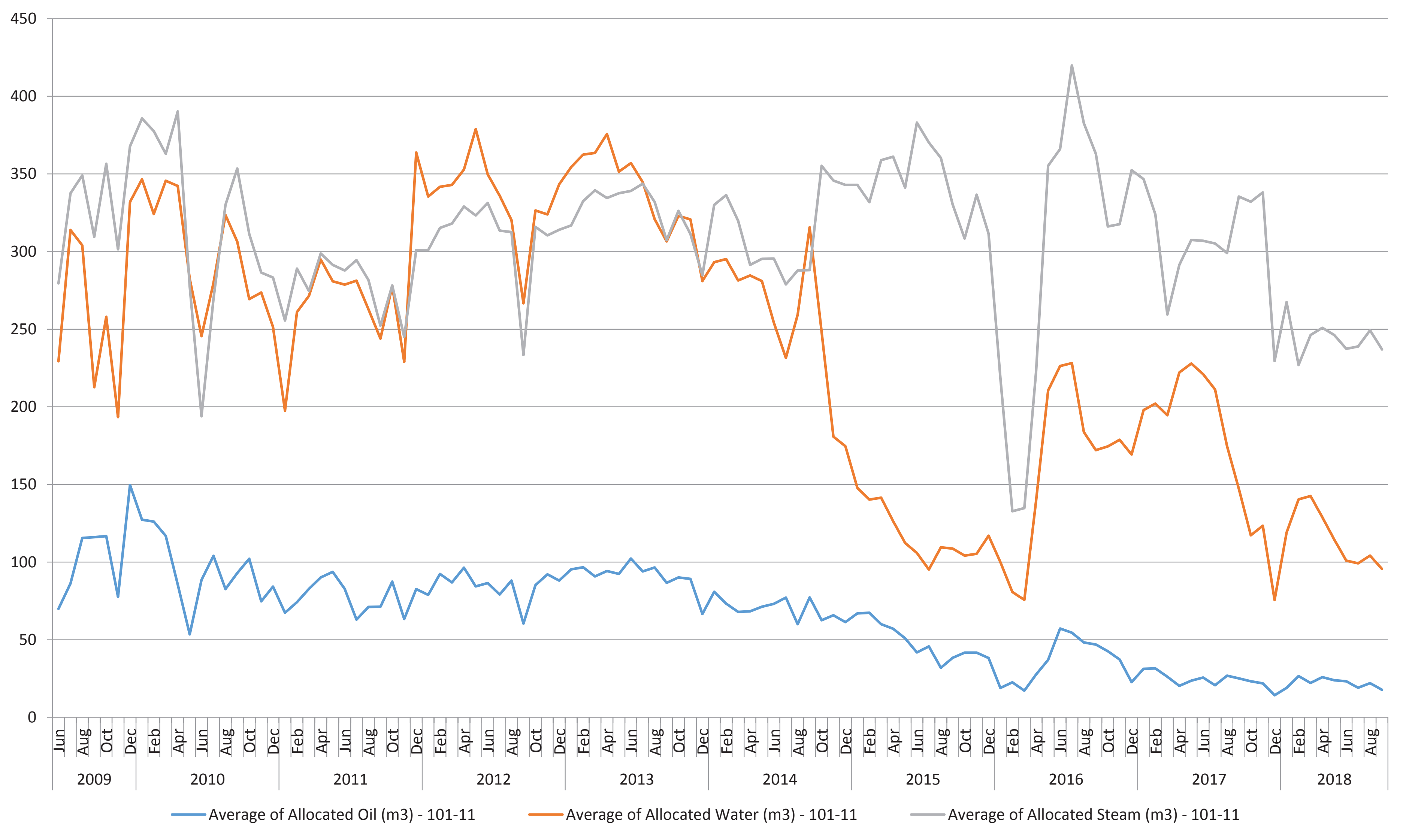

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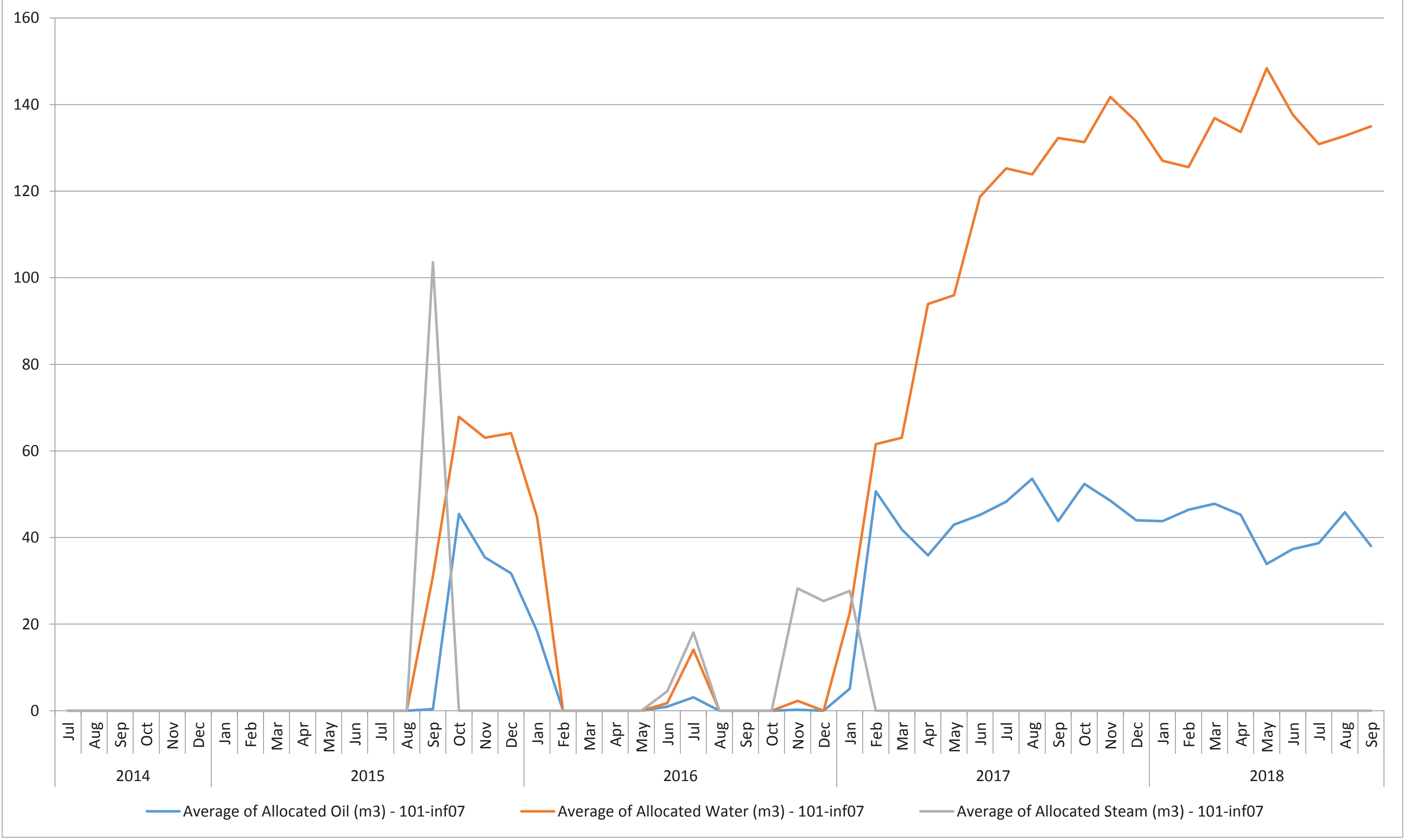
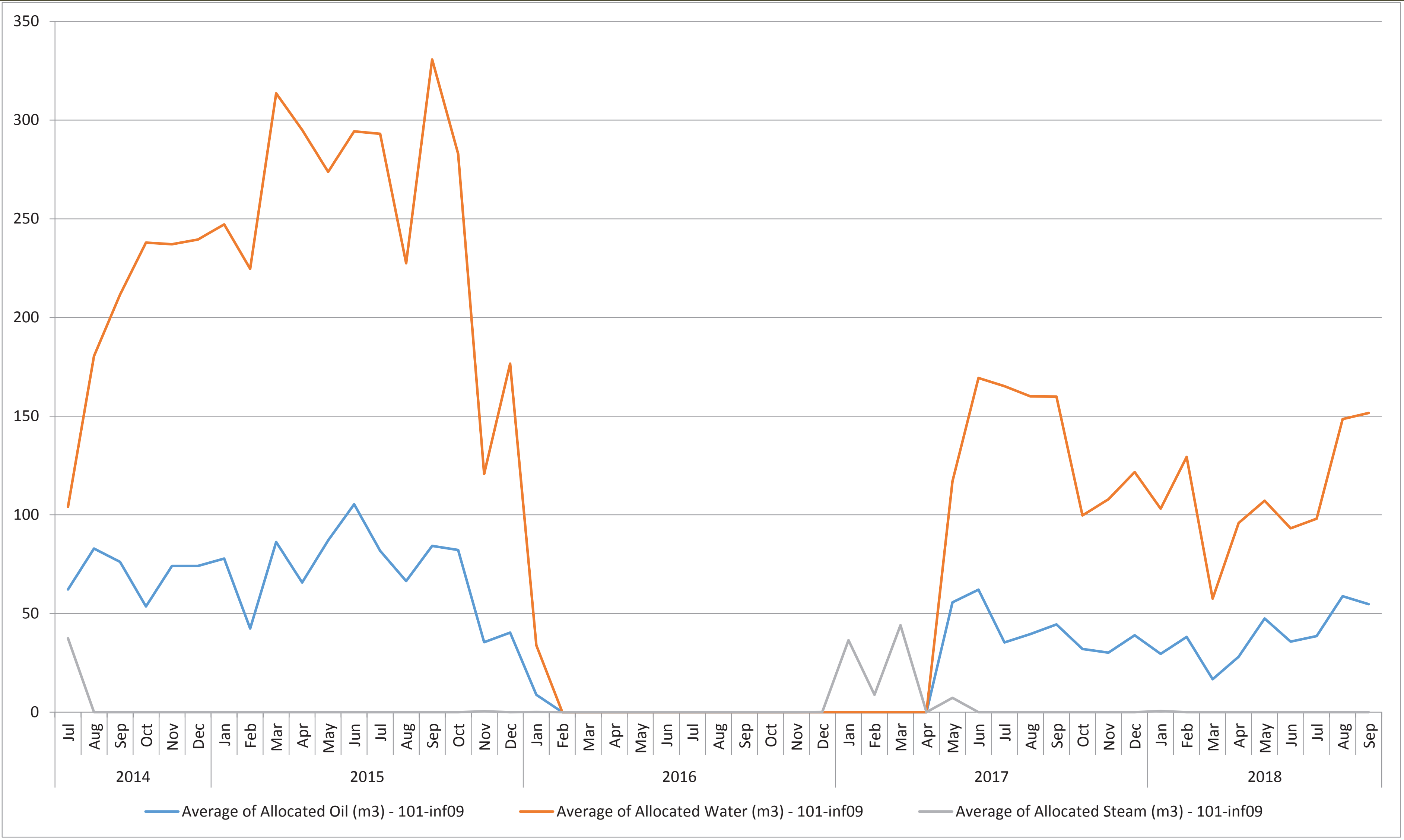


Pod One - 101-F08

Connacher OIL AND GAS LIMITED 2018

Pod One - 101-F09

Connacher
OIL AND GAS LIMITED
2018



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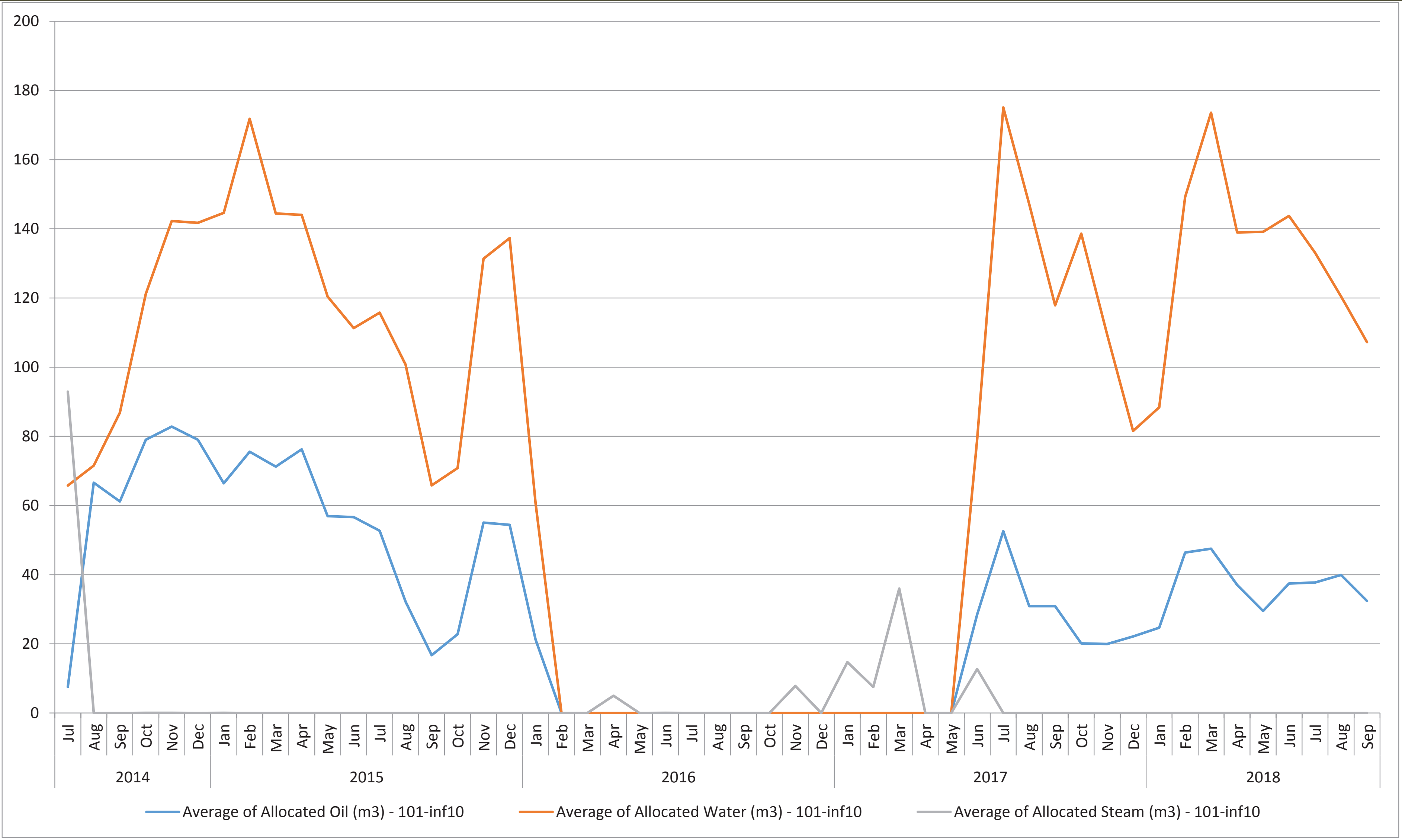

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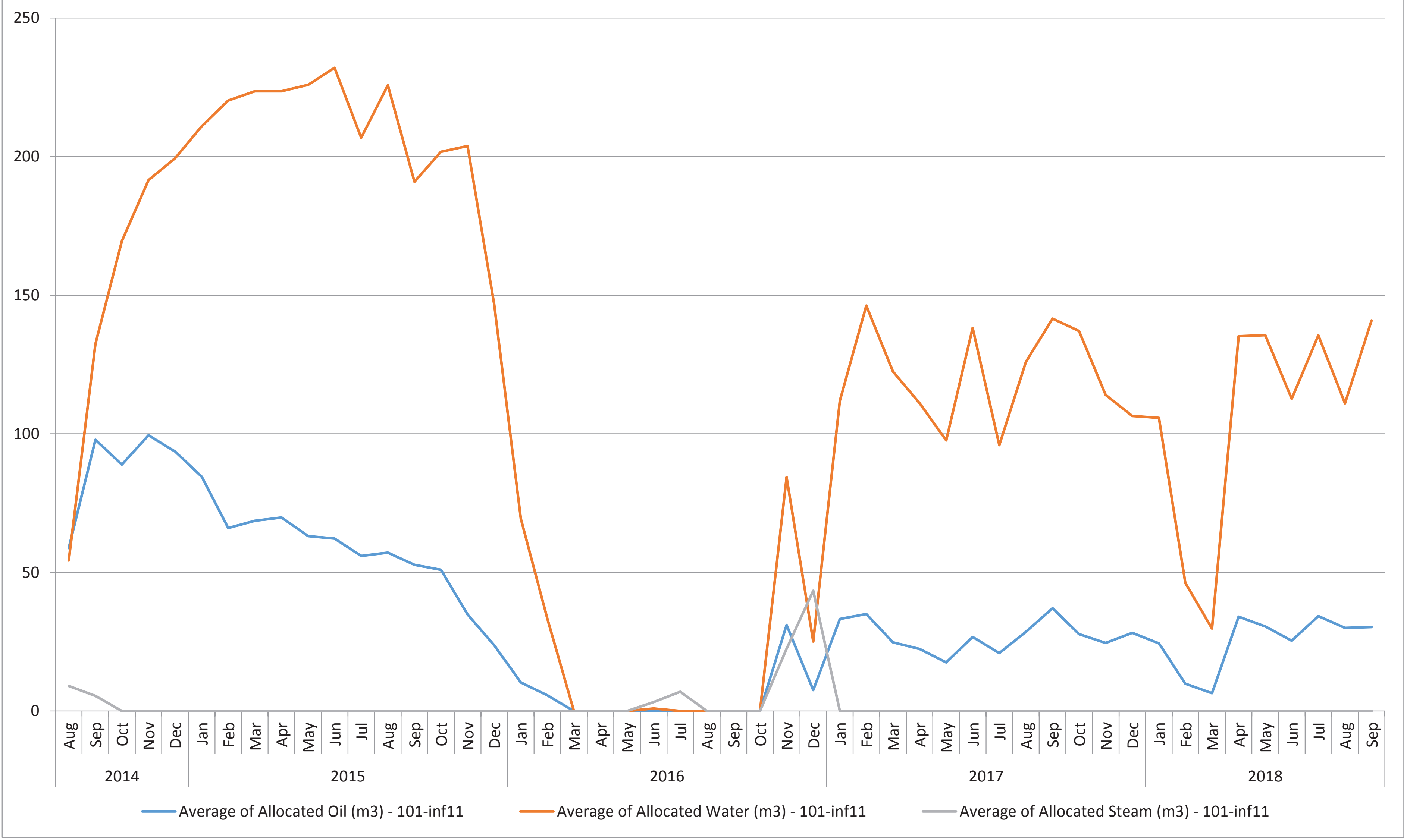
Connacher OIL AND GAS LIMITED 2018



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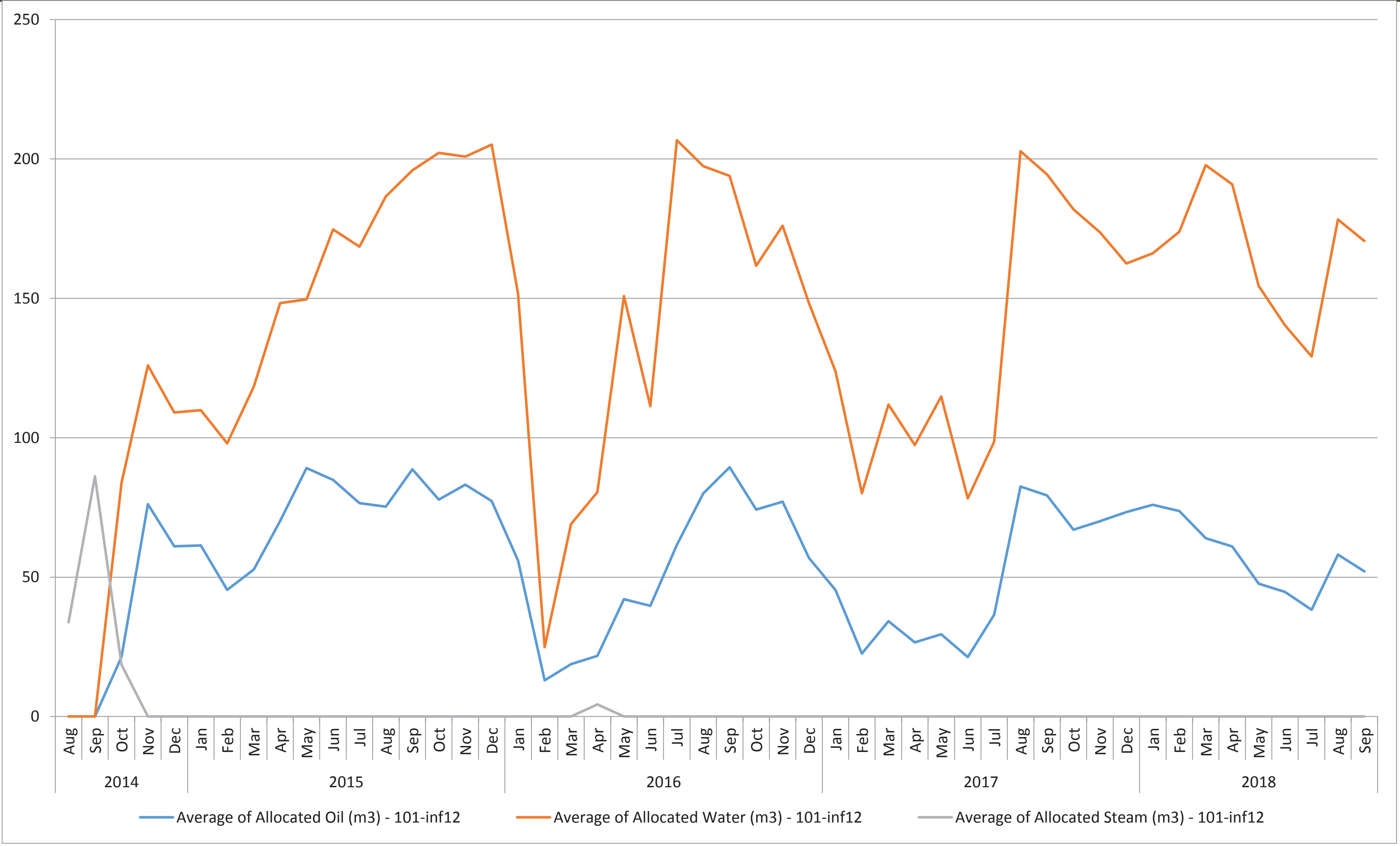
OIL AND GAS LIMITED
2018



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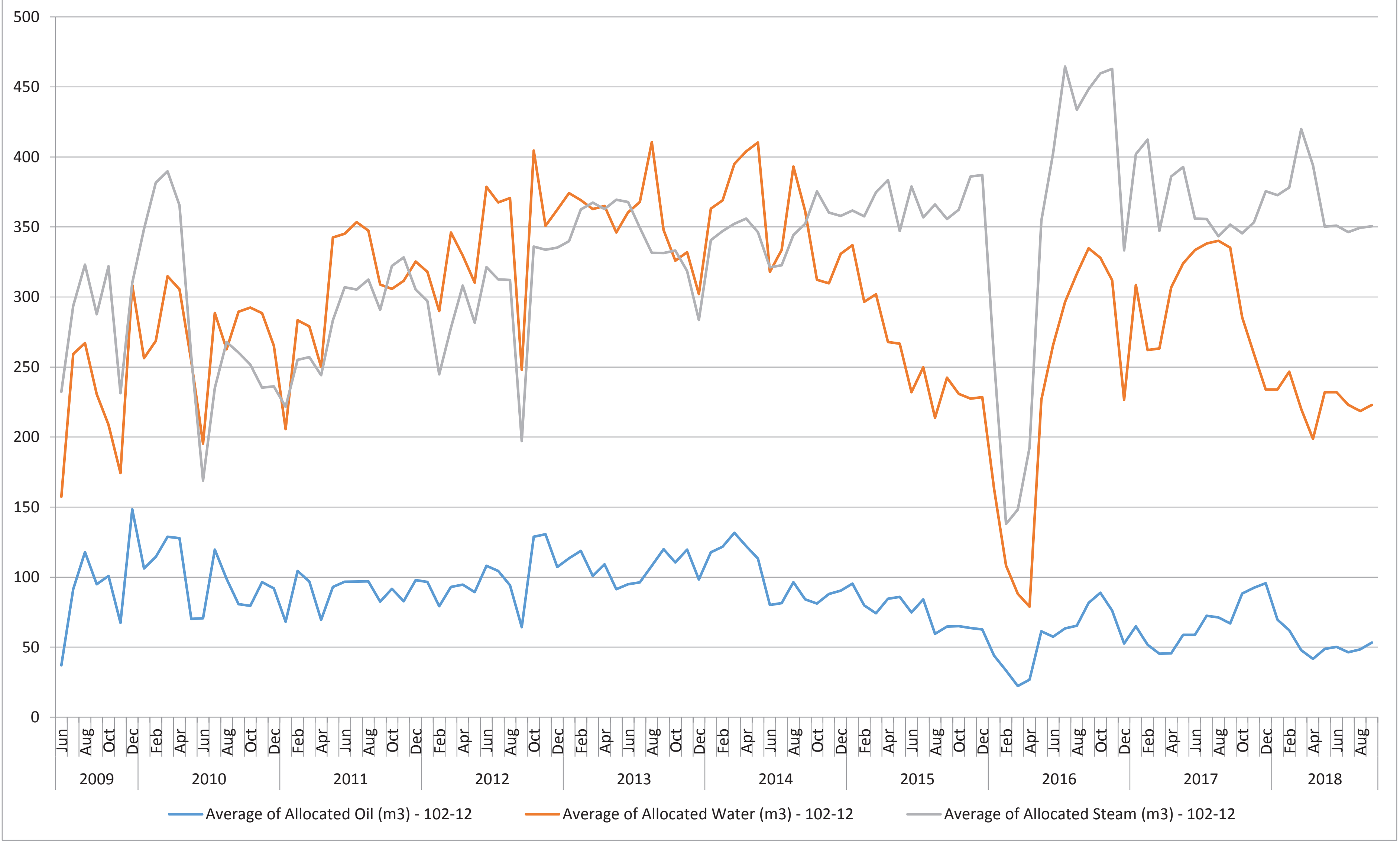
OIL AND GAS LIMITED
2018



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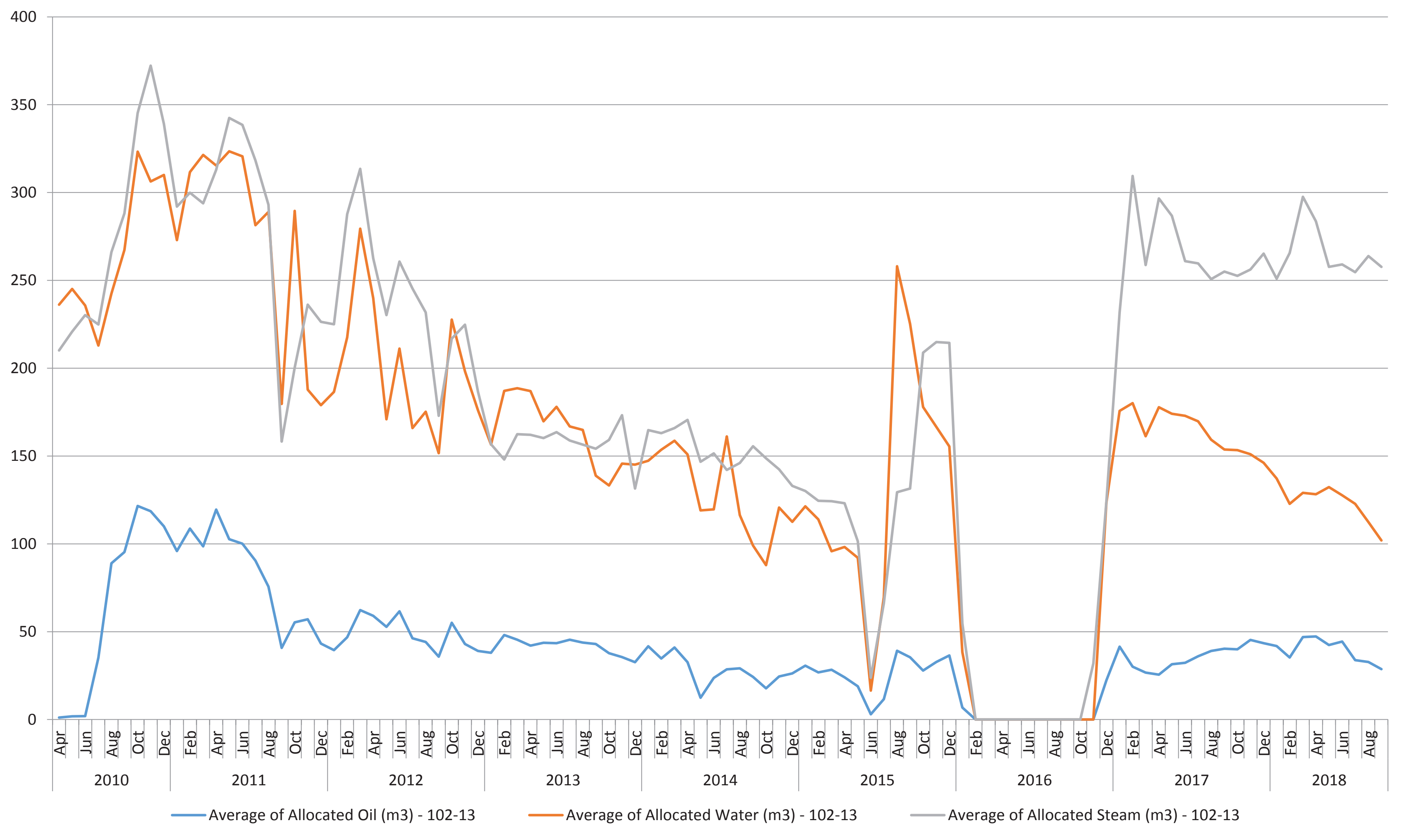
OIL AND GAS LIMITED
2018



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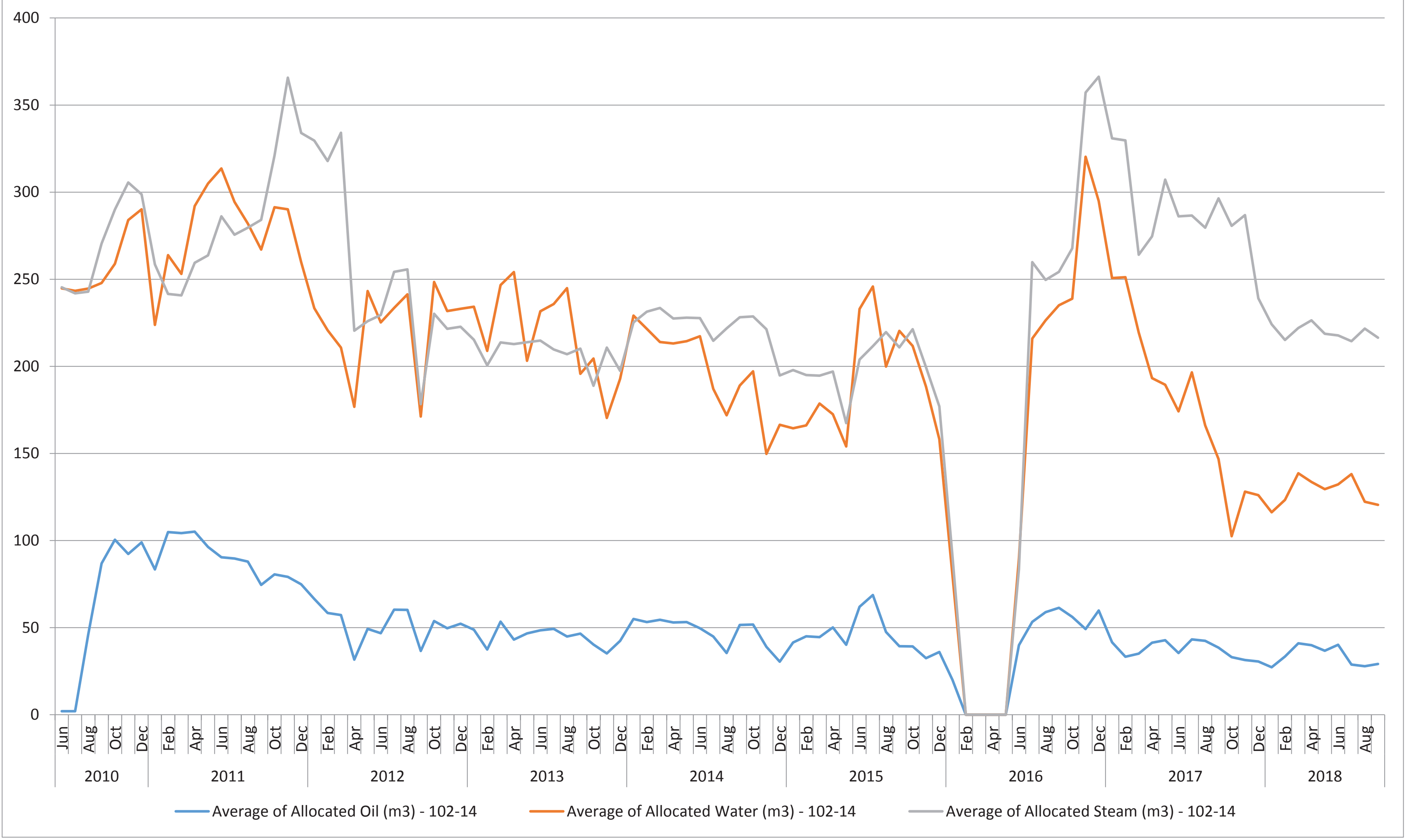
OIL AND GAS LIMITED
2018



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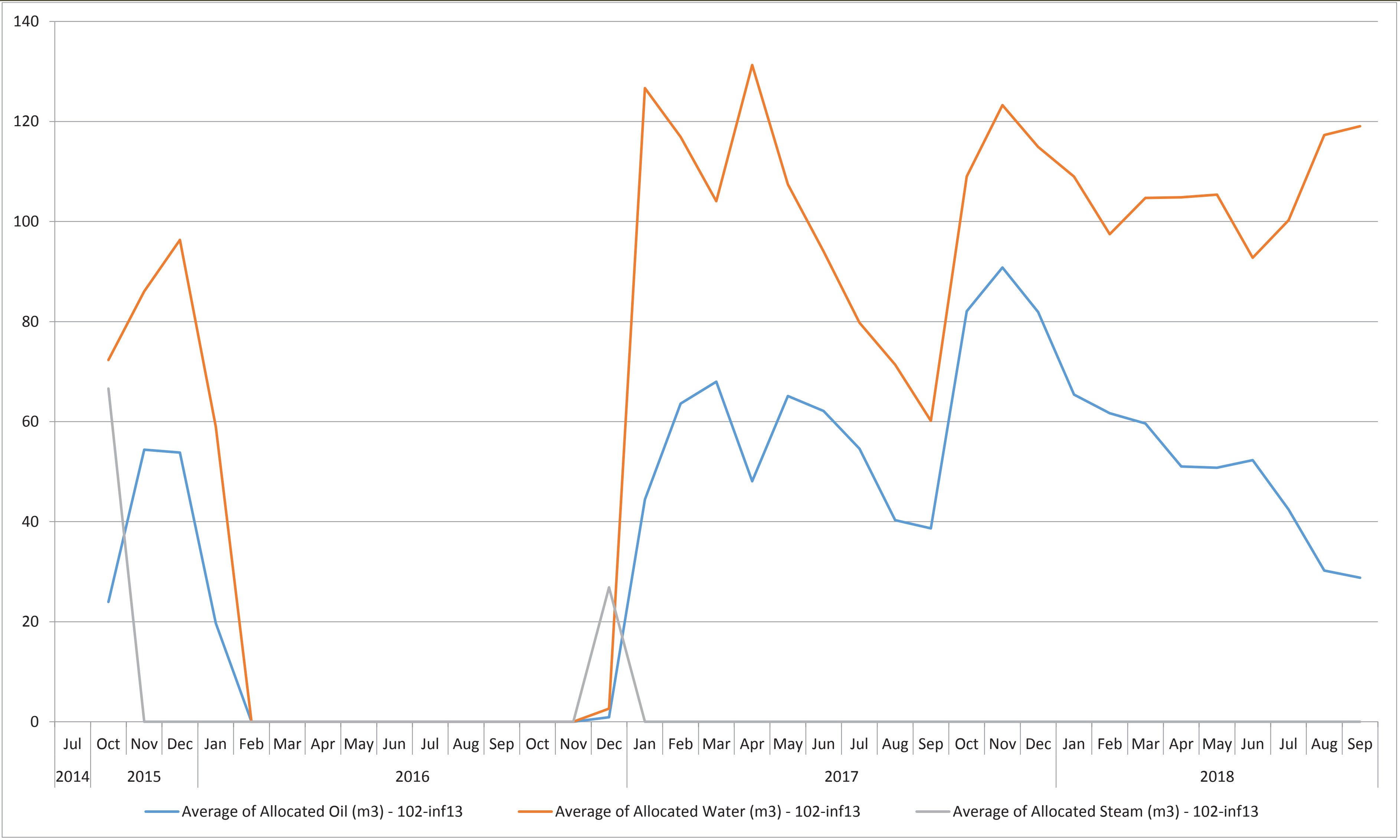

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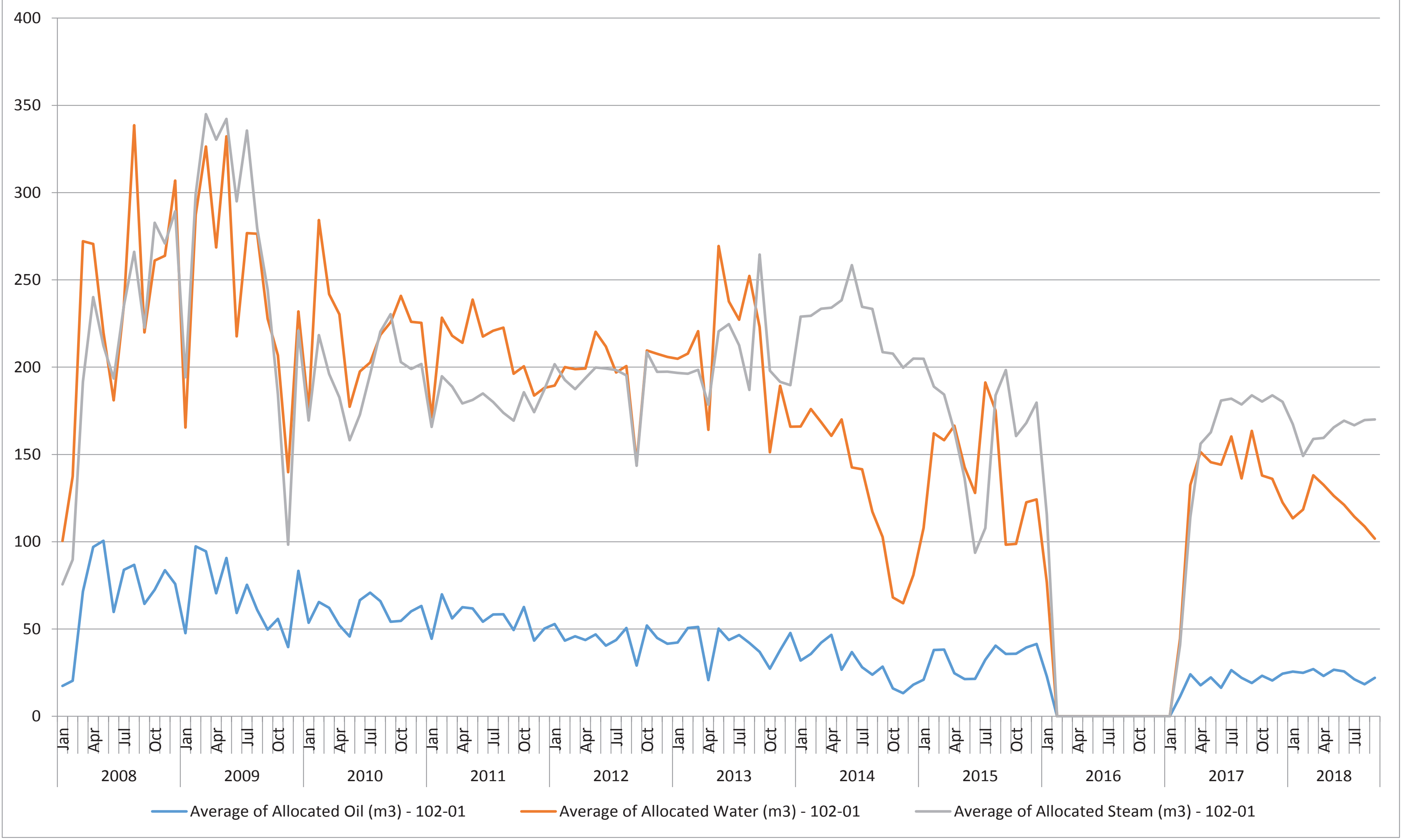
Pod One - 102-01



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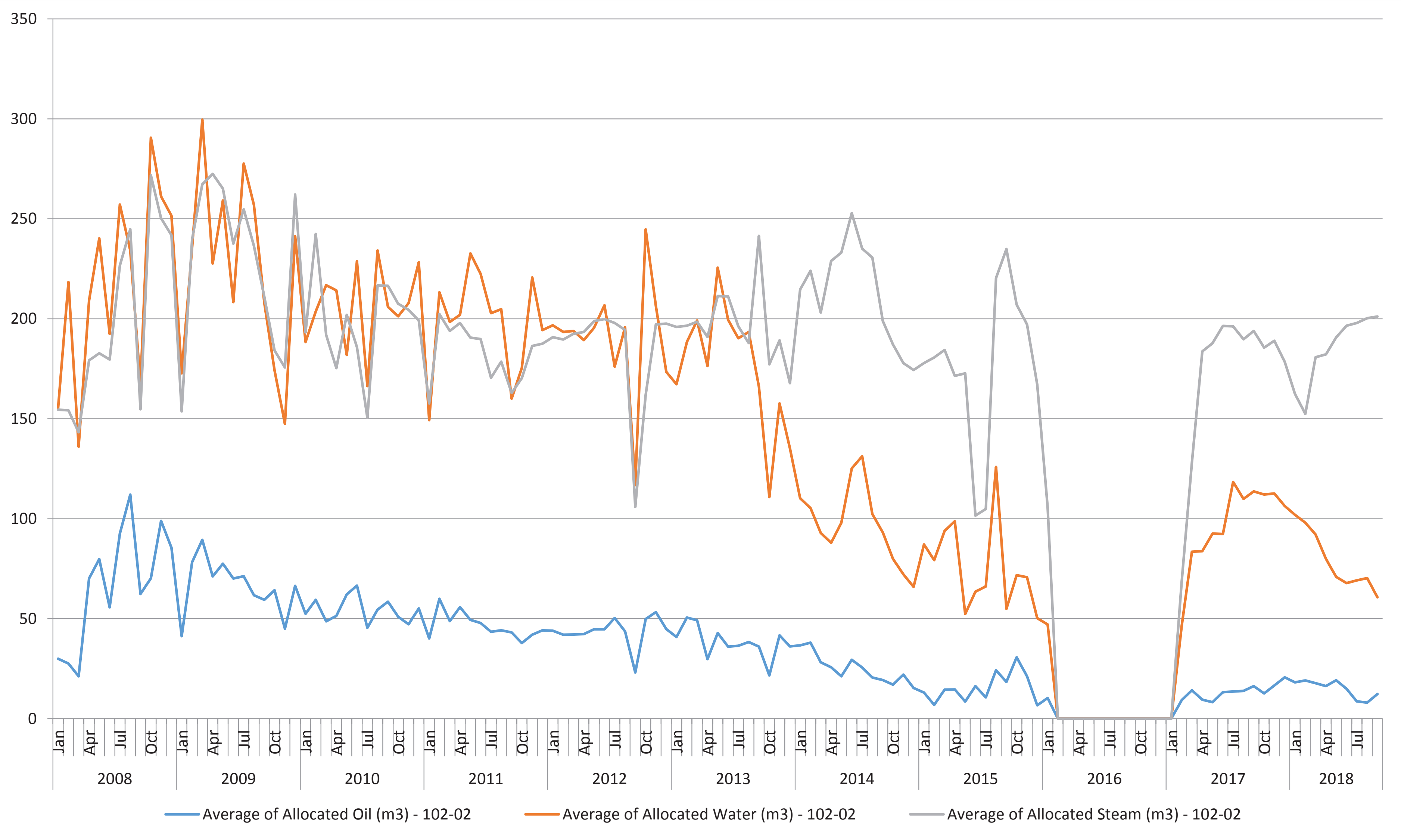

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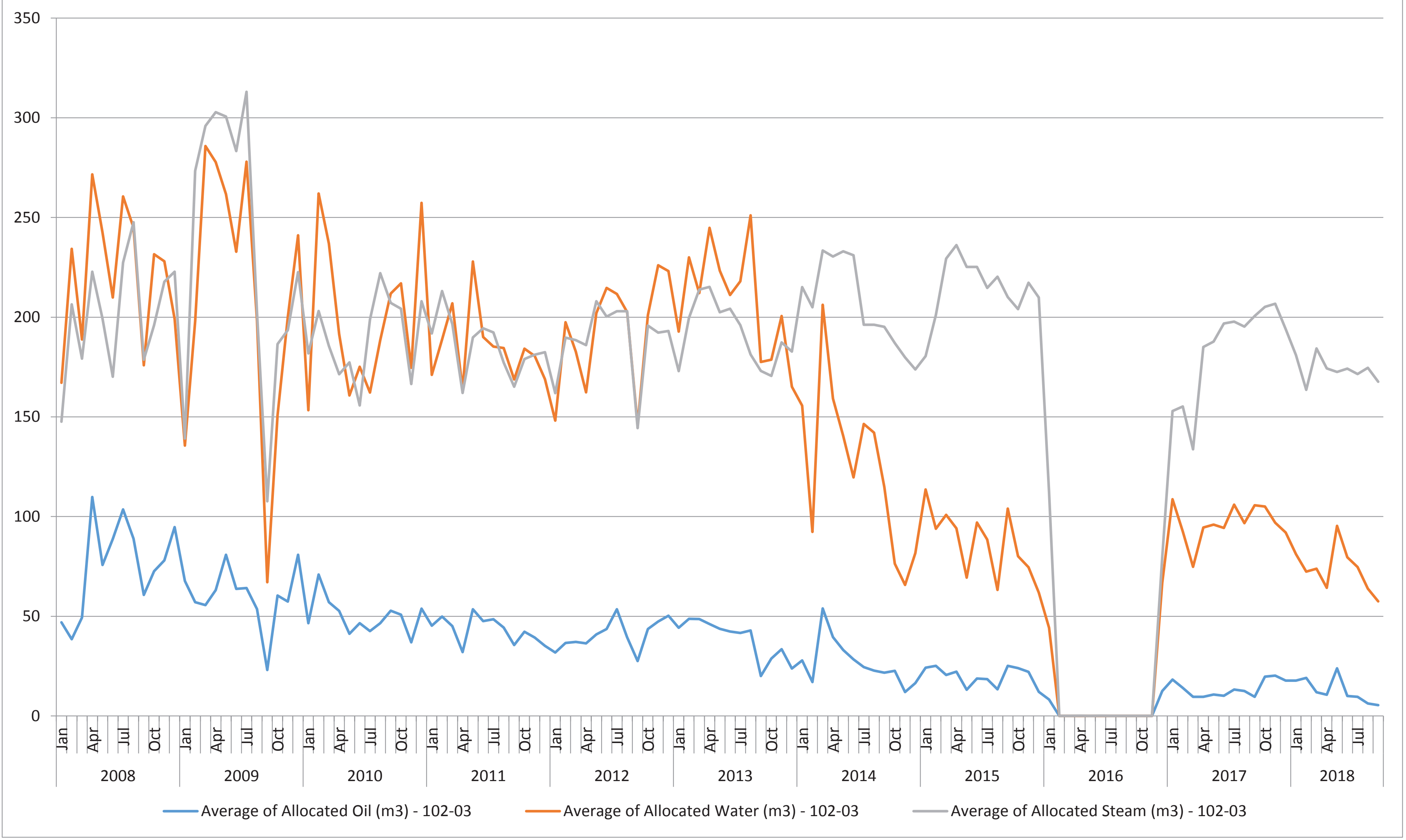

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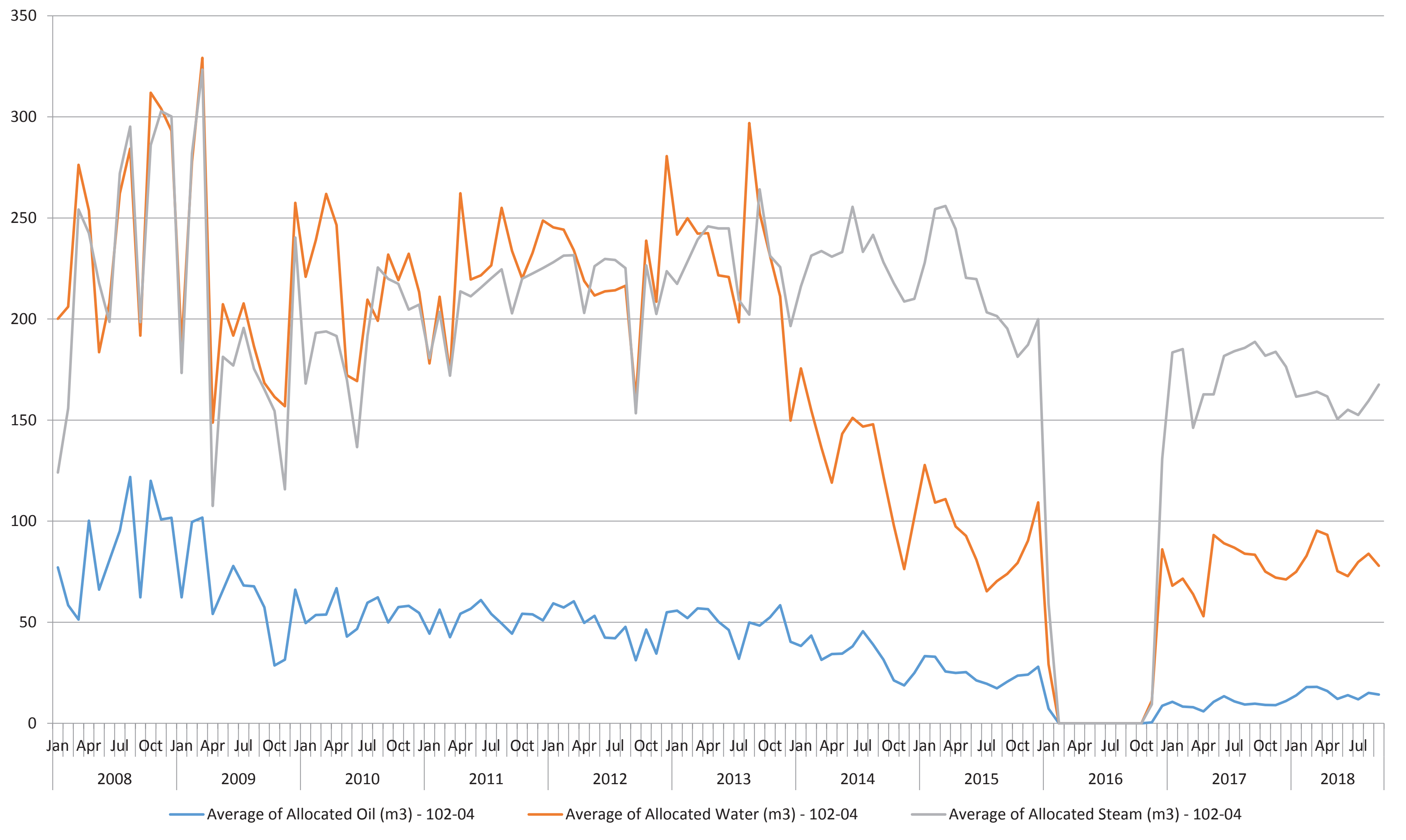
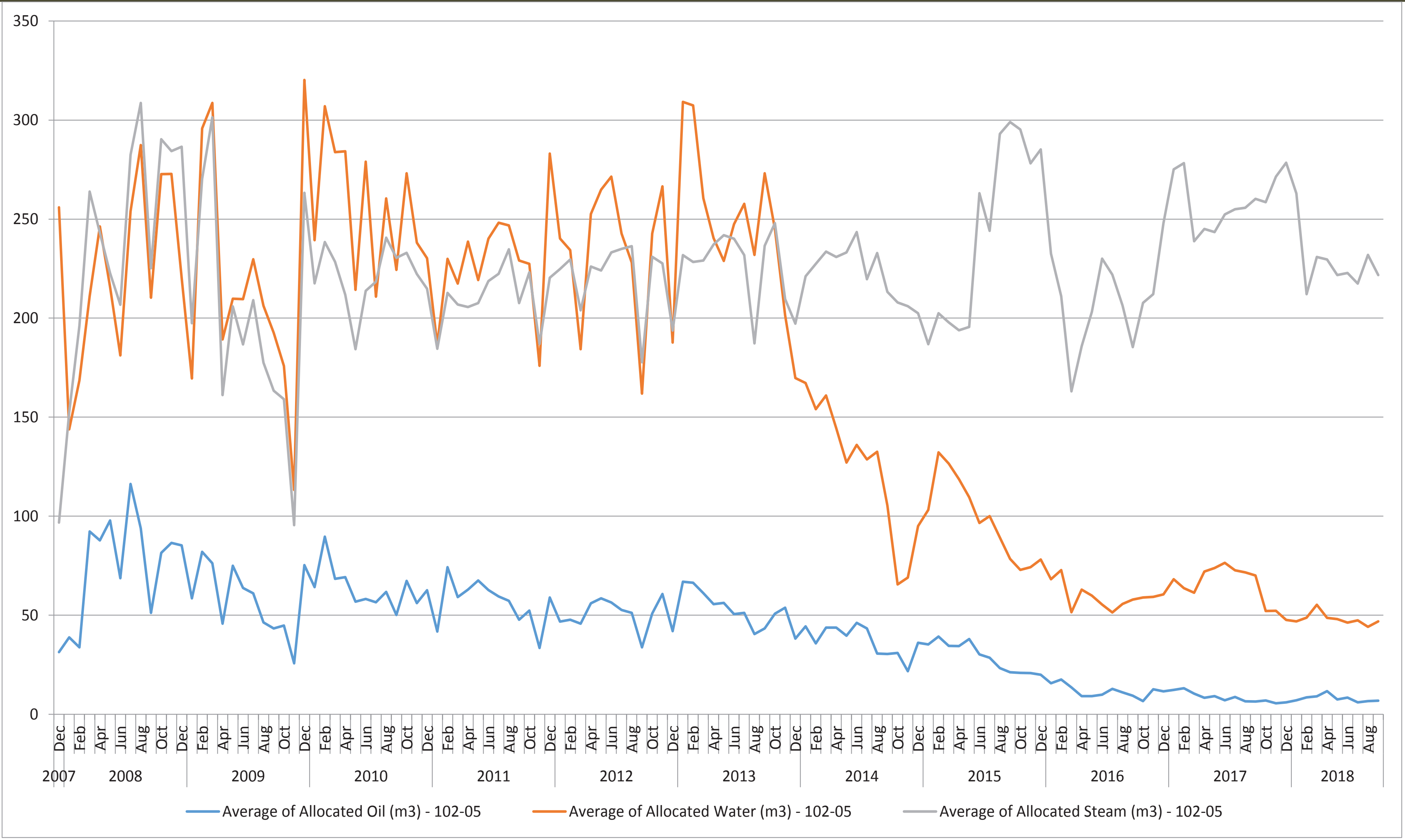


Pod One - 102-05

Connacher OIL AND GAS LIMITED 2018



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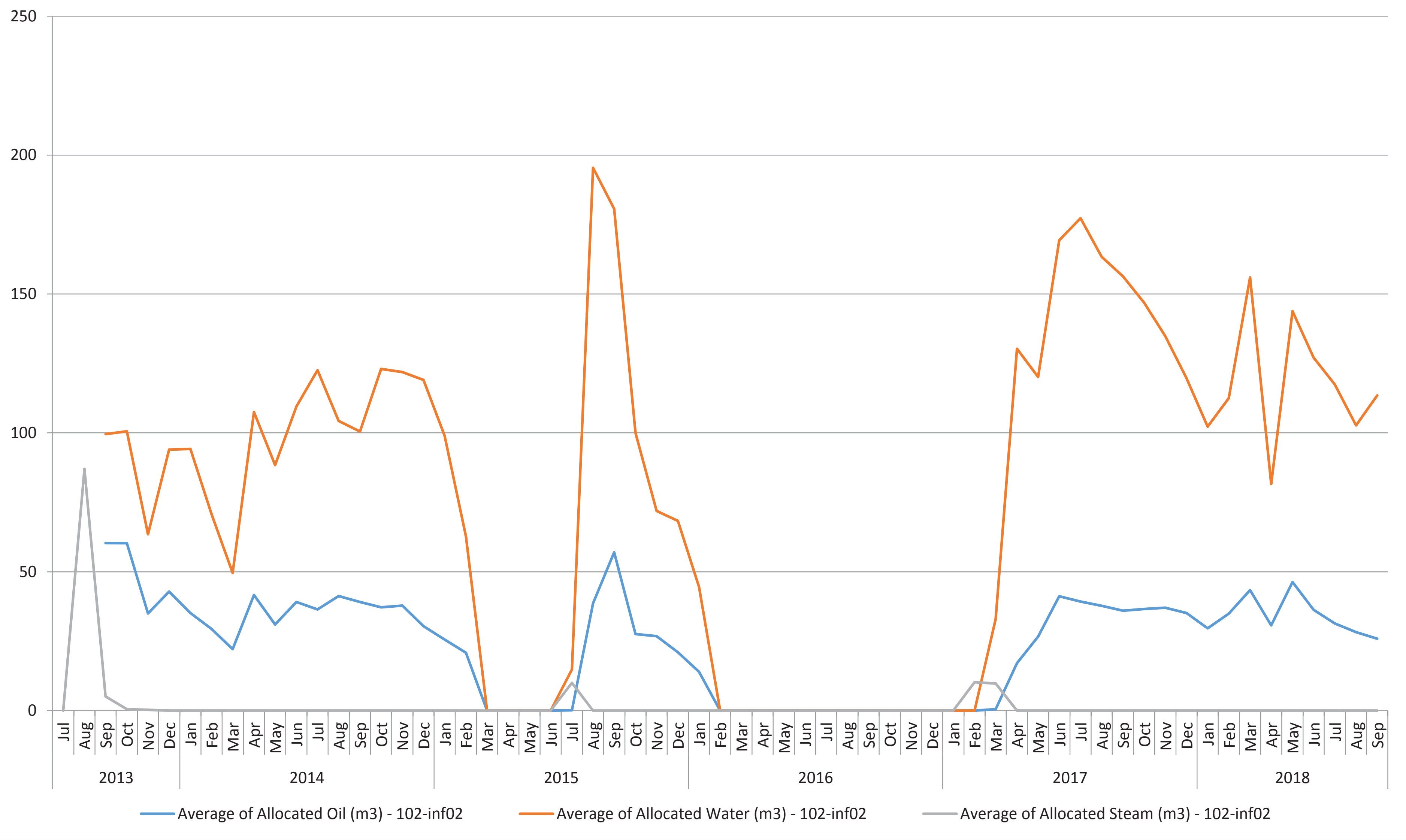

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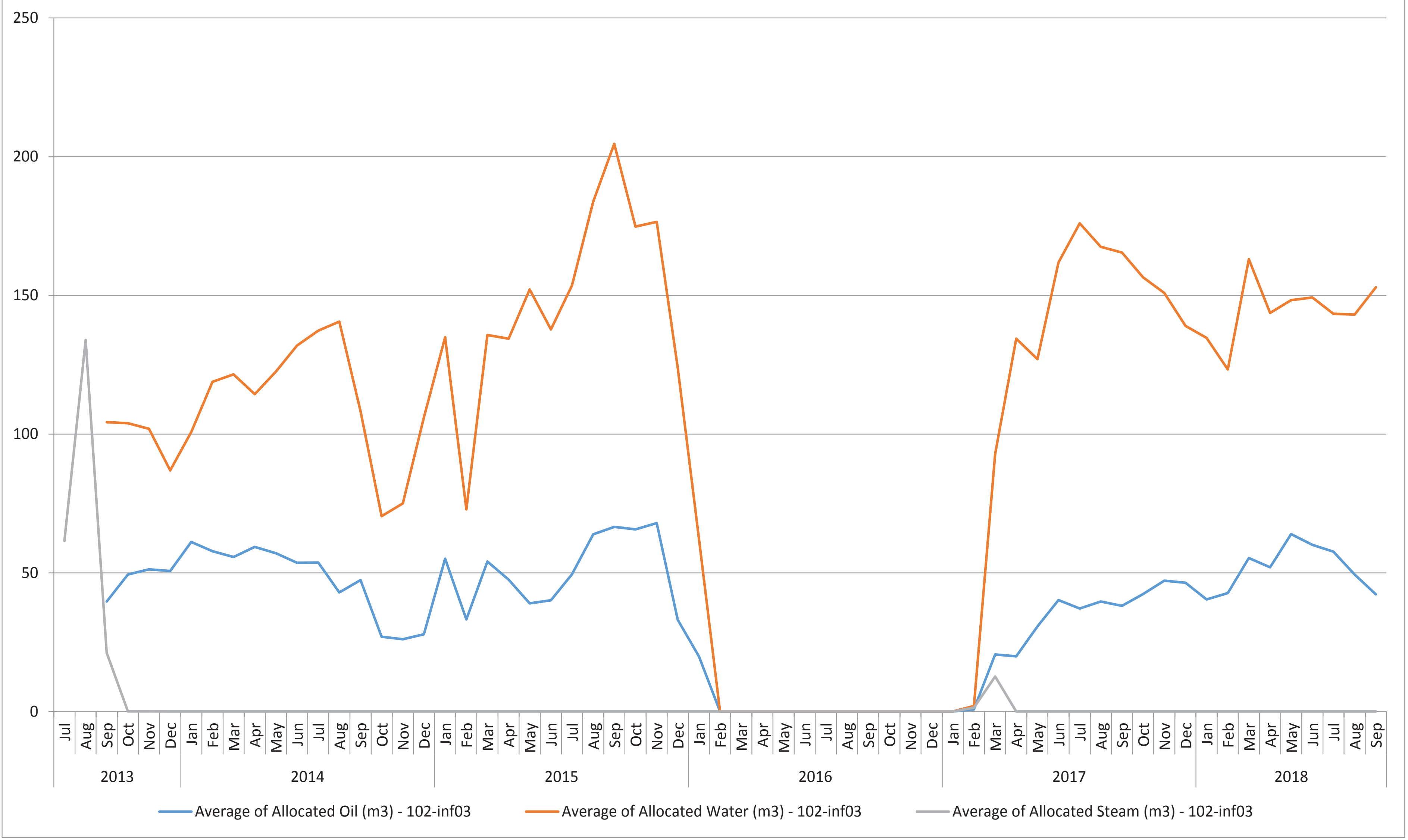

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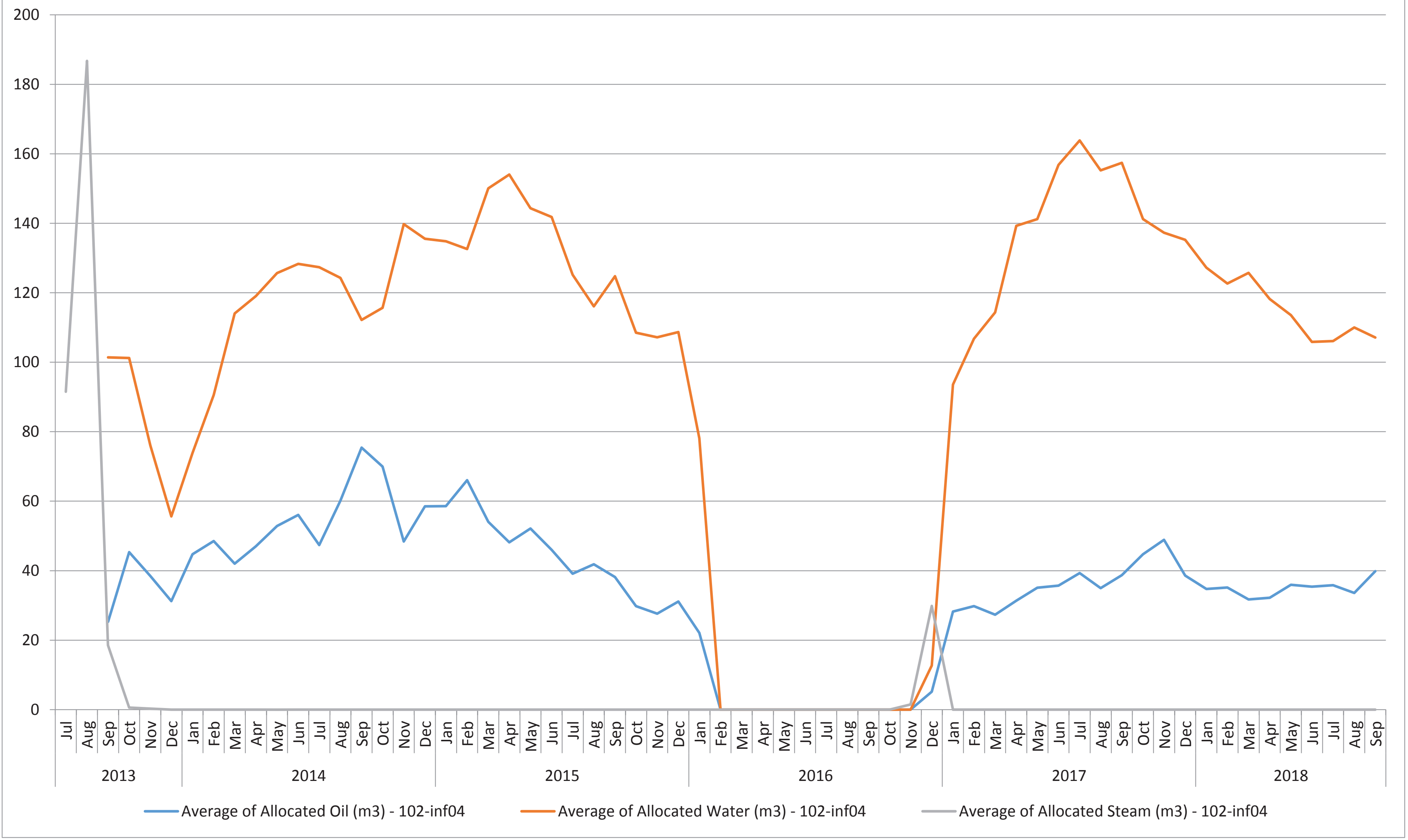
Connacher
OIL AND GAS LIMITED
2018



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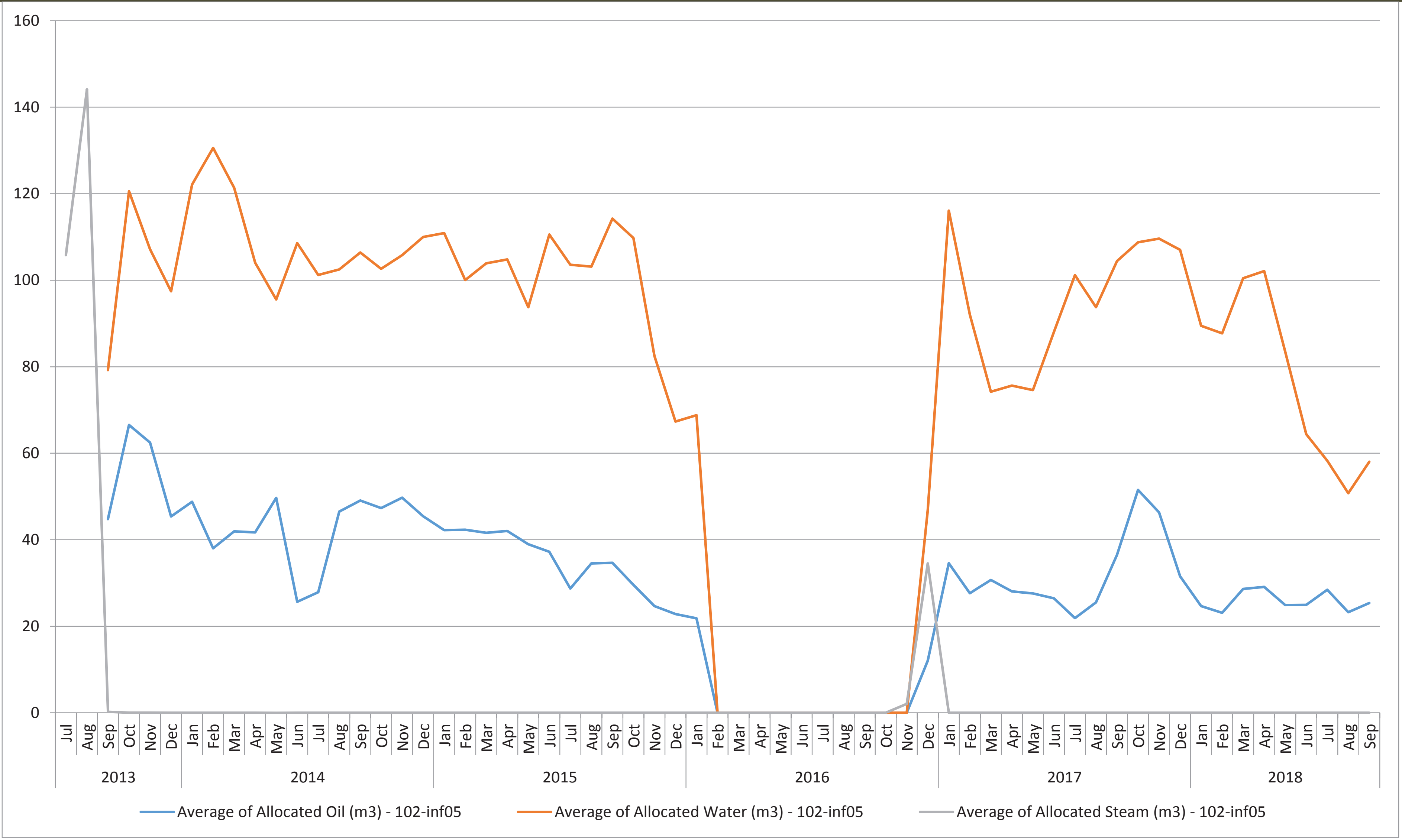
OIL AND GAS LIMITED
2018



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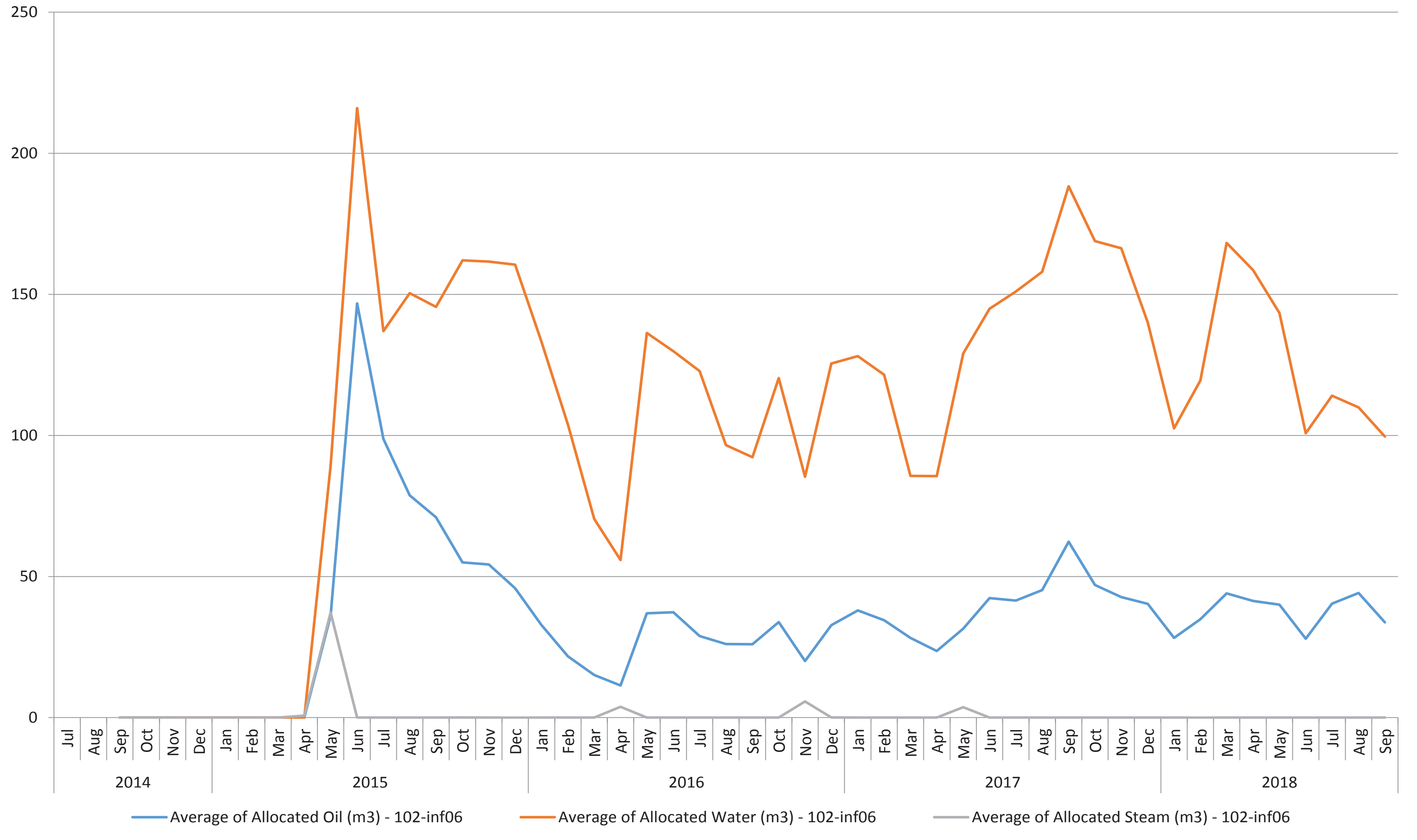
OIL AND GAS LIMITED
2018



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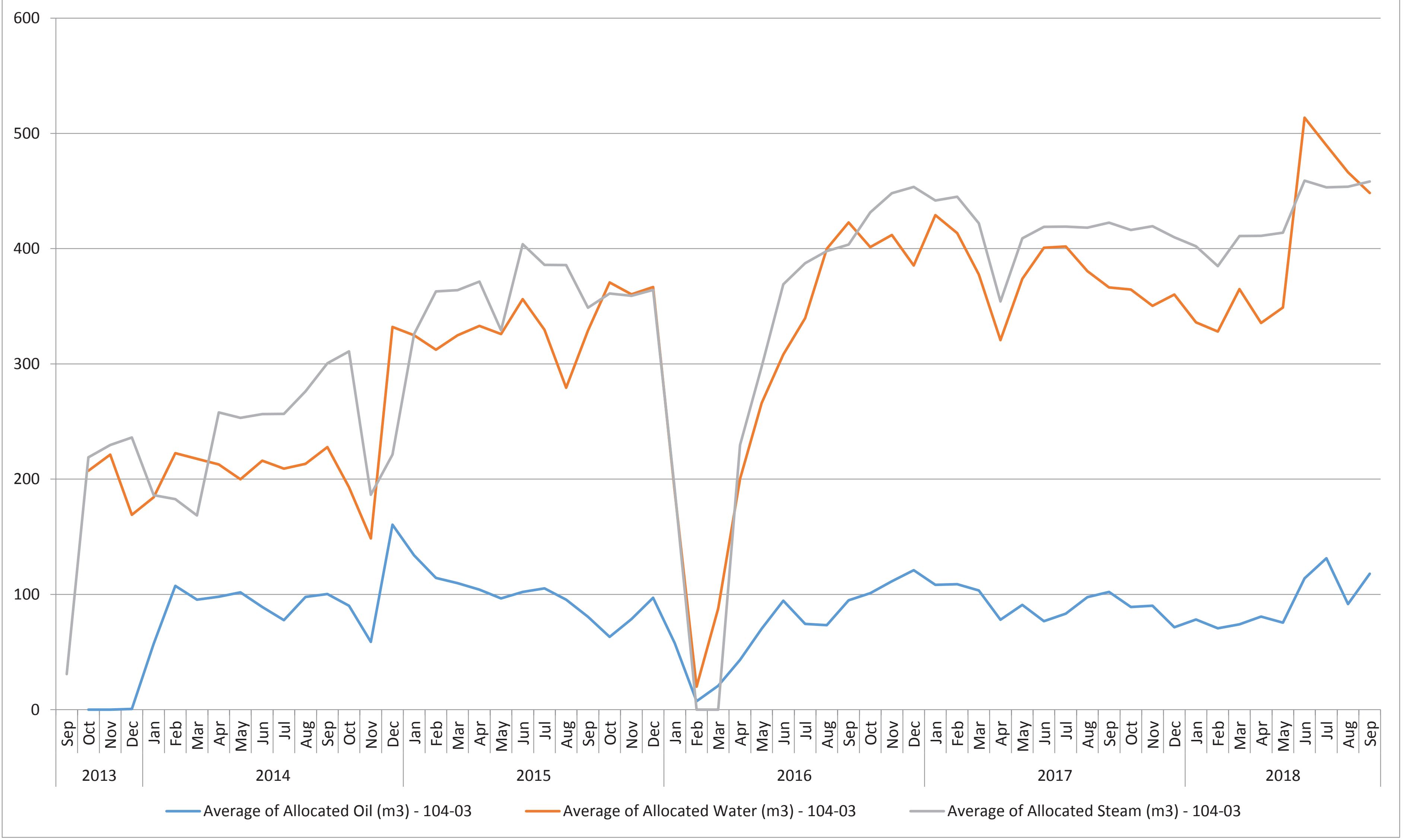

Pod One - 104-04

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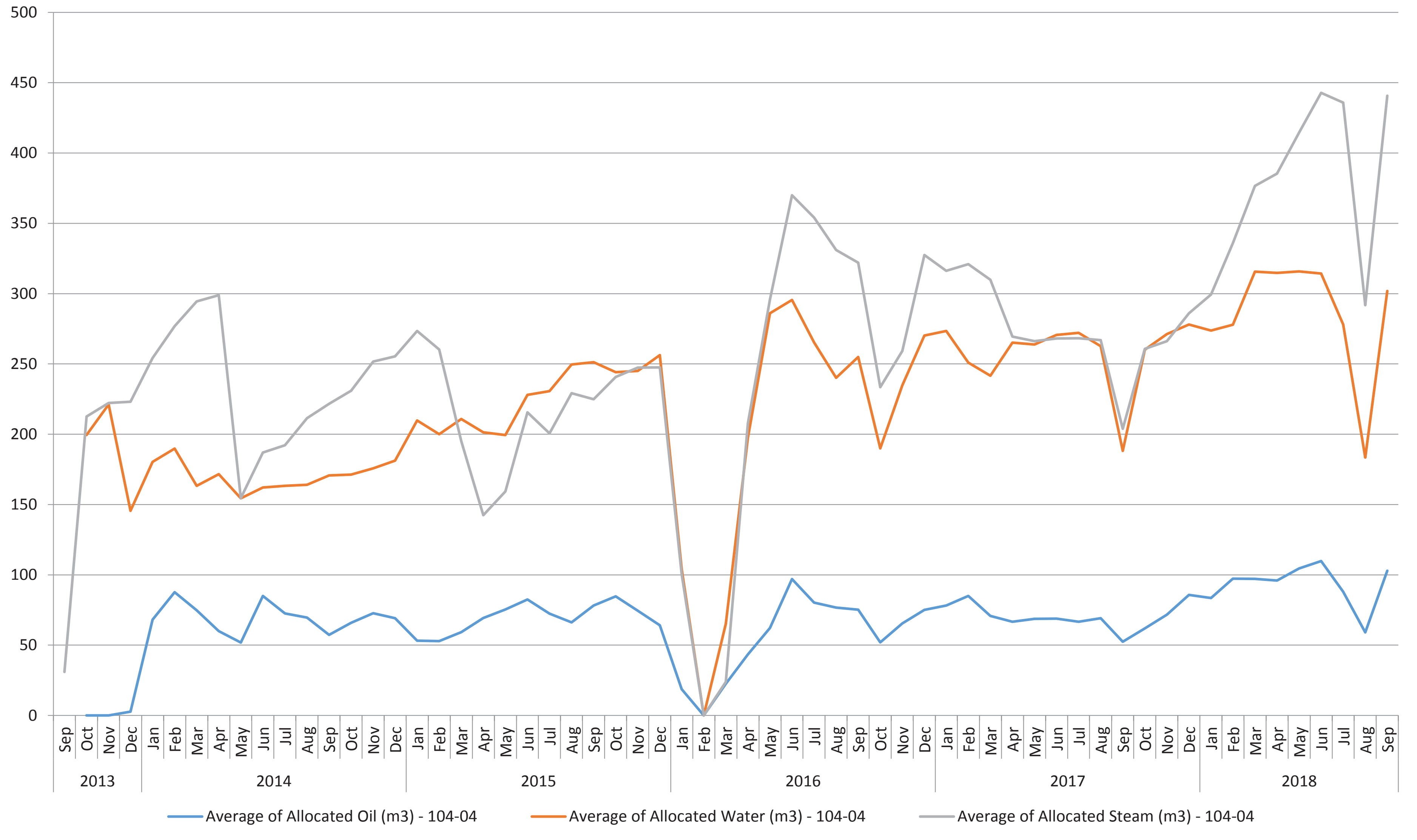

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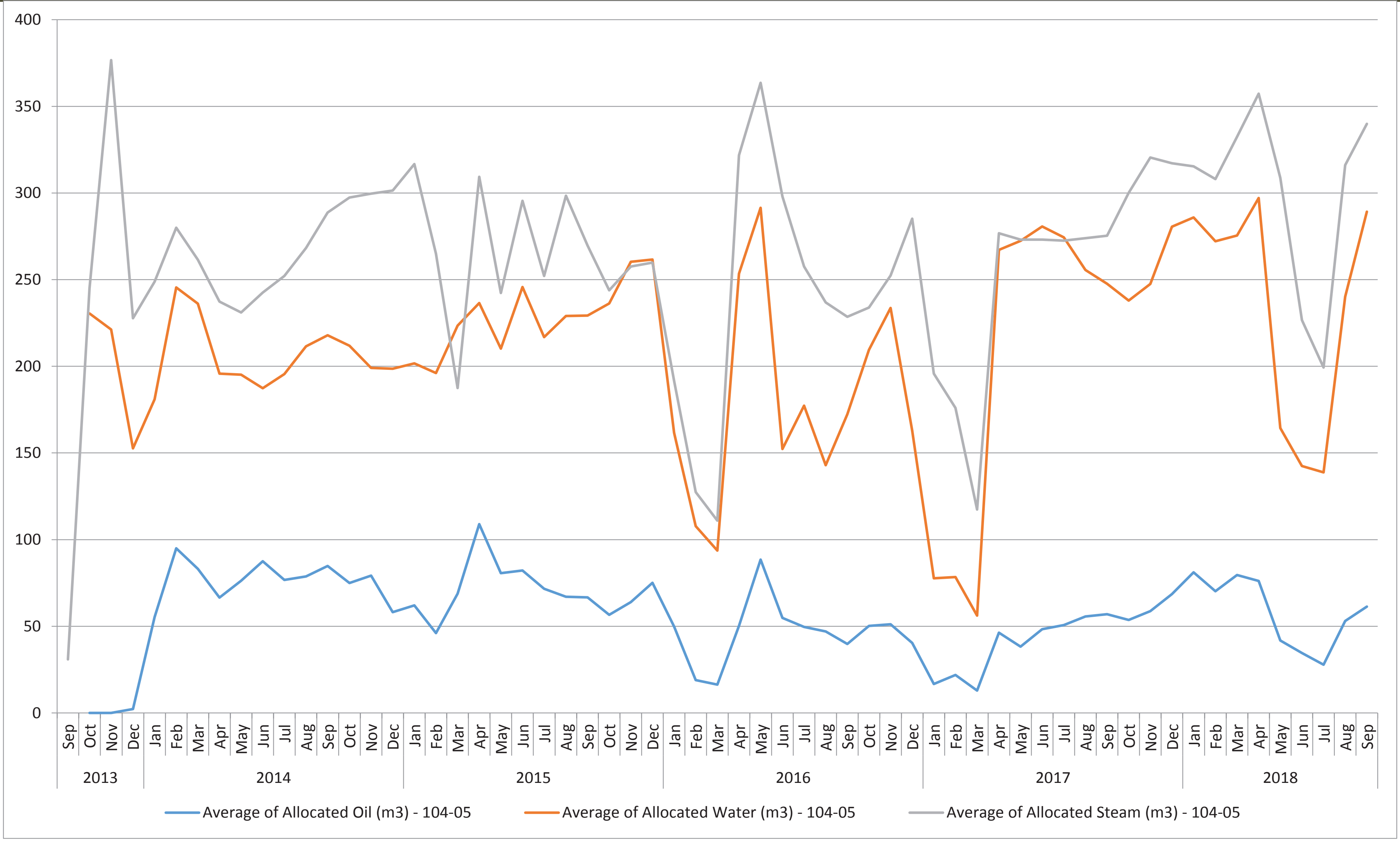
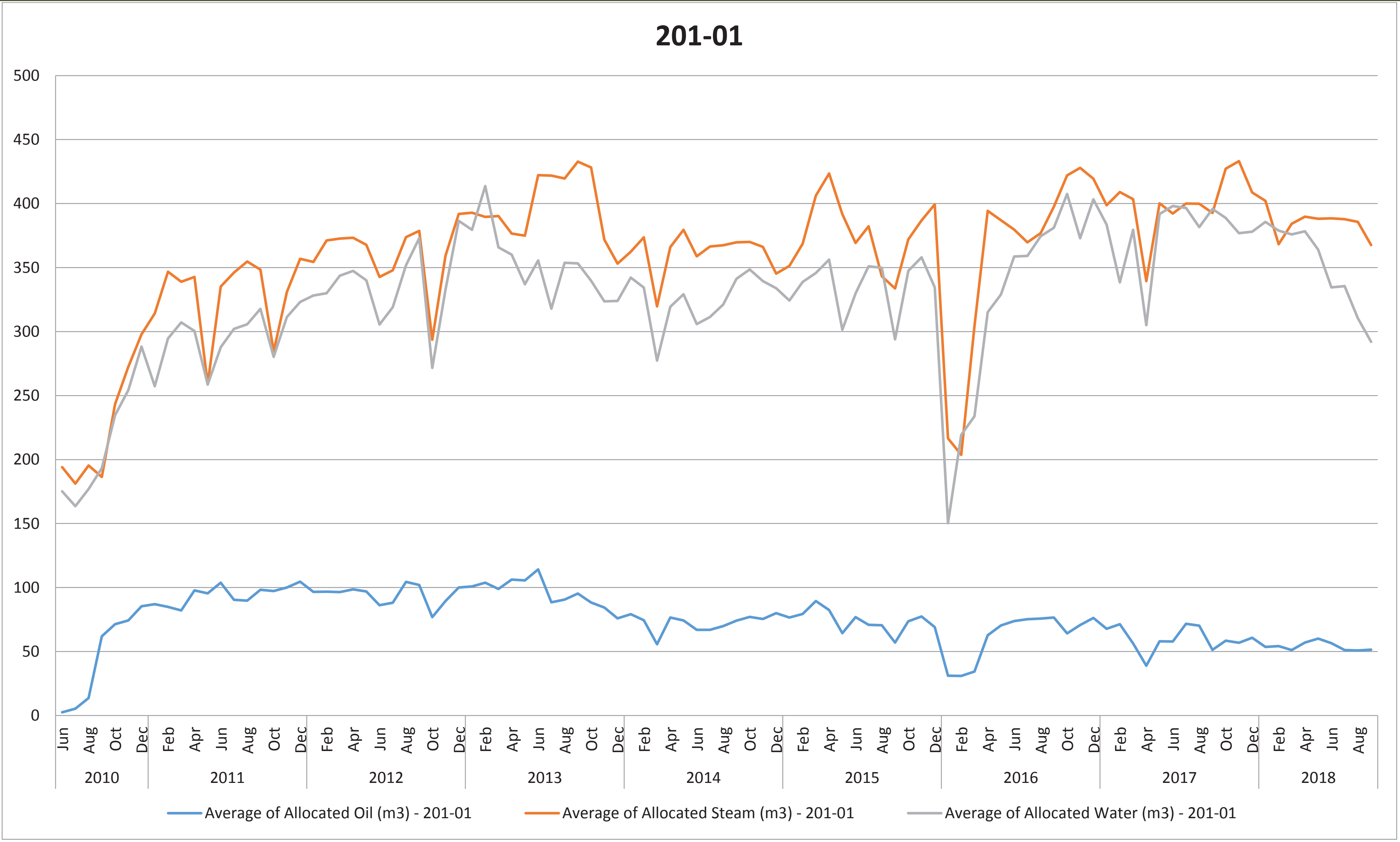
OIL AND GAS LIMITED
2018



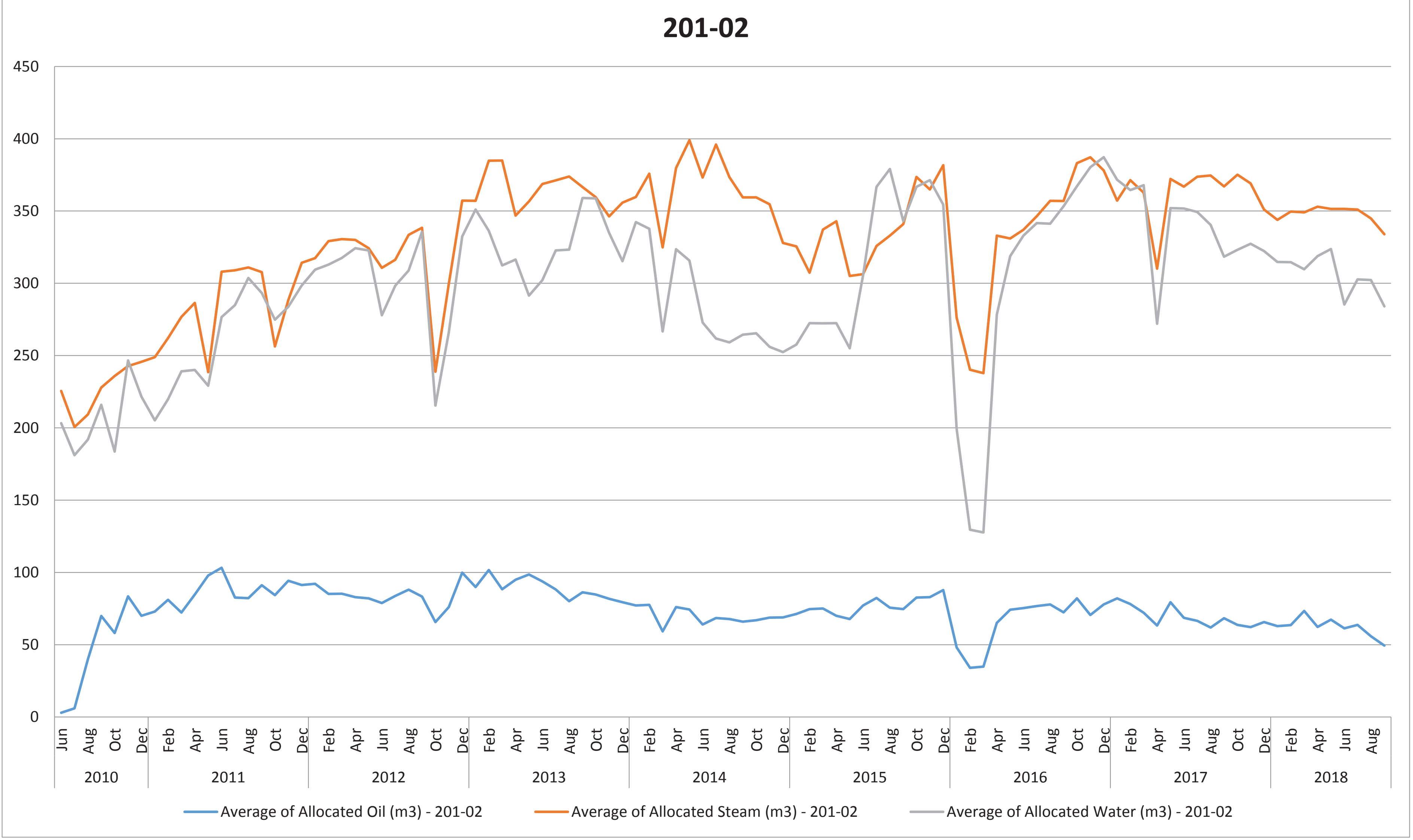
Pod One - 104-06

Connacher
OIL AND GAS LIMITED
2018

Connacher OIL AND GAS LIMITED 2018



Algar - 201-02



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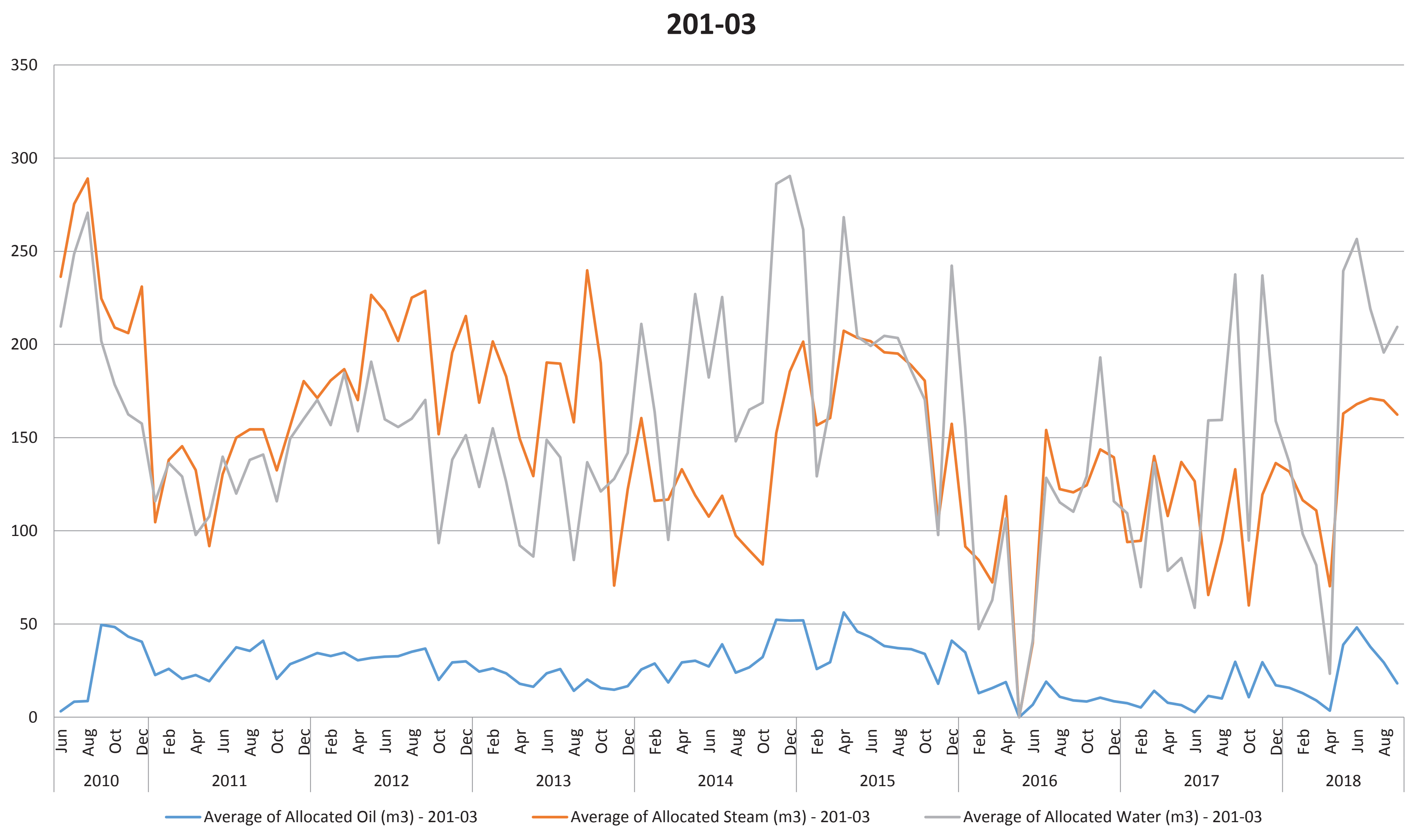
2018
Average of Allocated Oil (m3) - 201-02
Average of Allocated Steam (m3) - 201-02
Average of Allocated Water (m3) - 201-02

Algar - 201-03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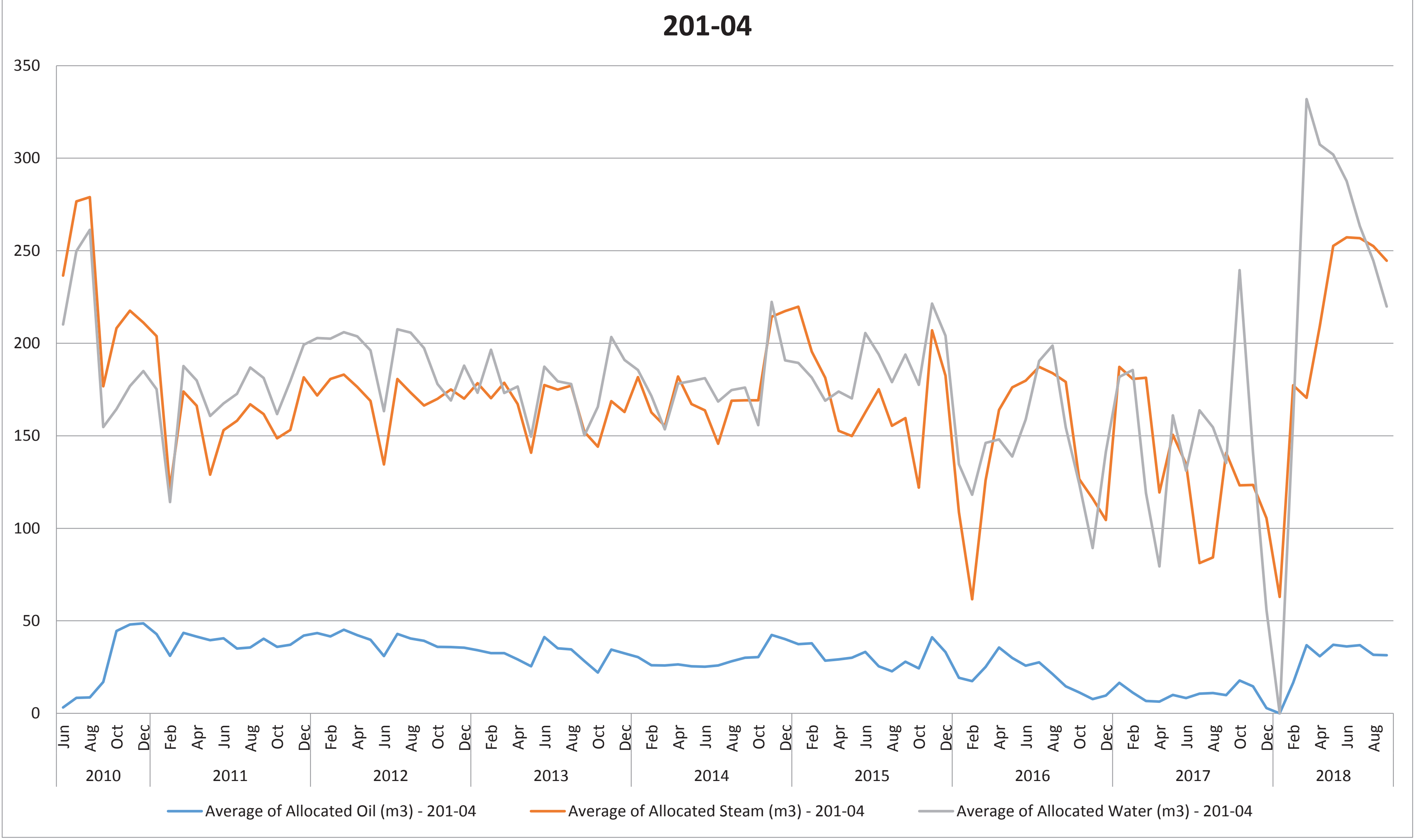
Average of Allocated Oil (m3) - 201-03
Average of Allocated Steam (m3) - 201-03
Average of Allocated Water (m3) - 201-03

Algar - 201-04



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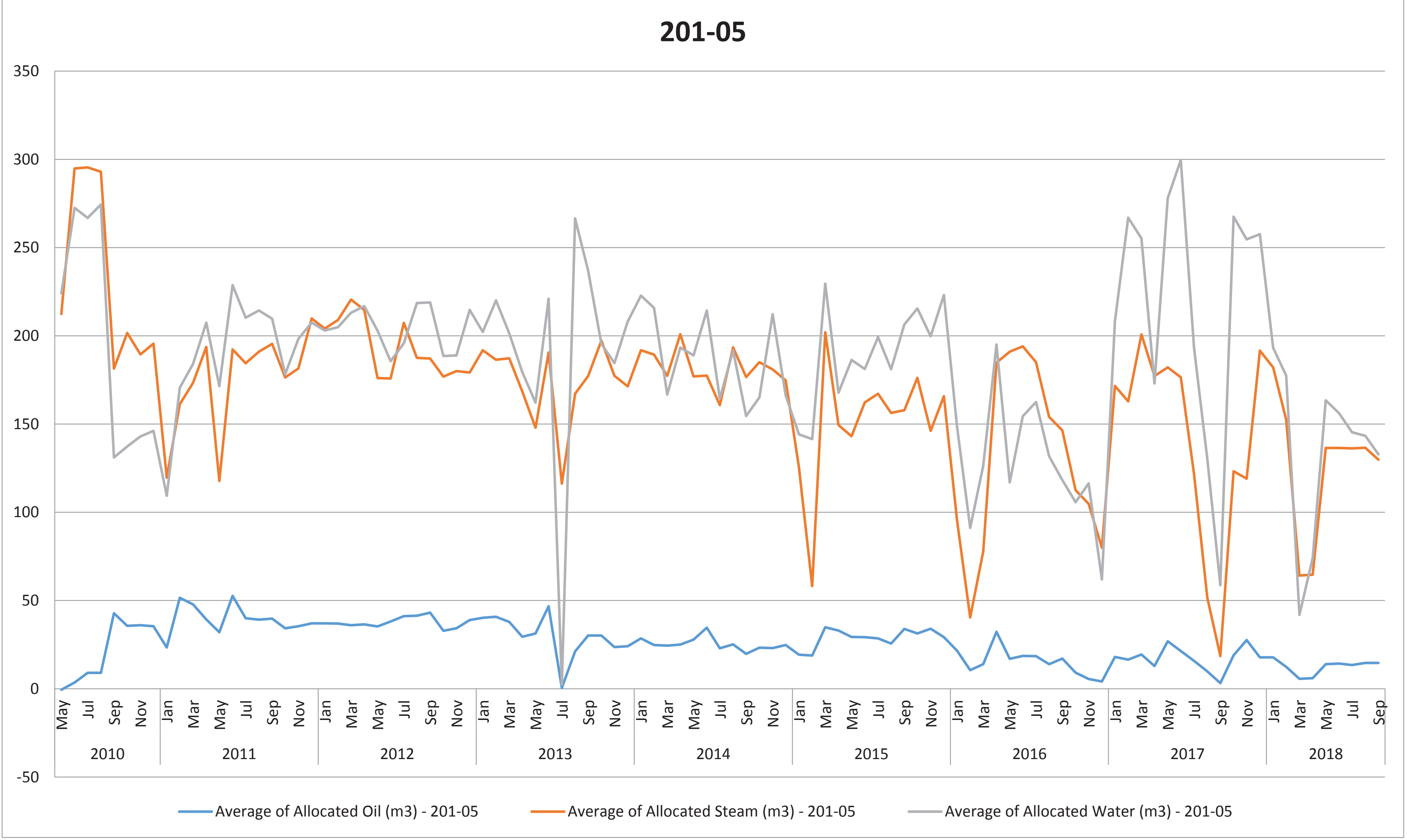
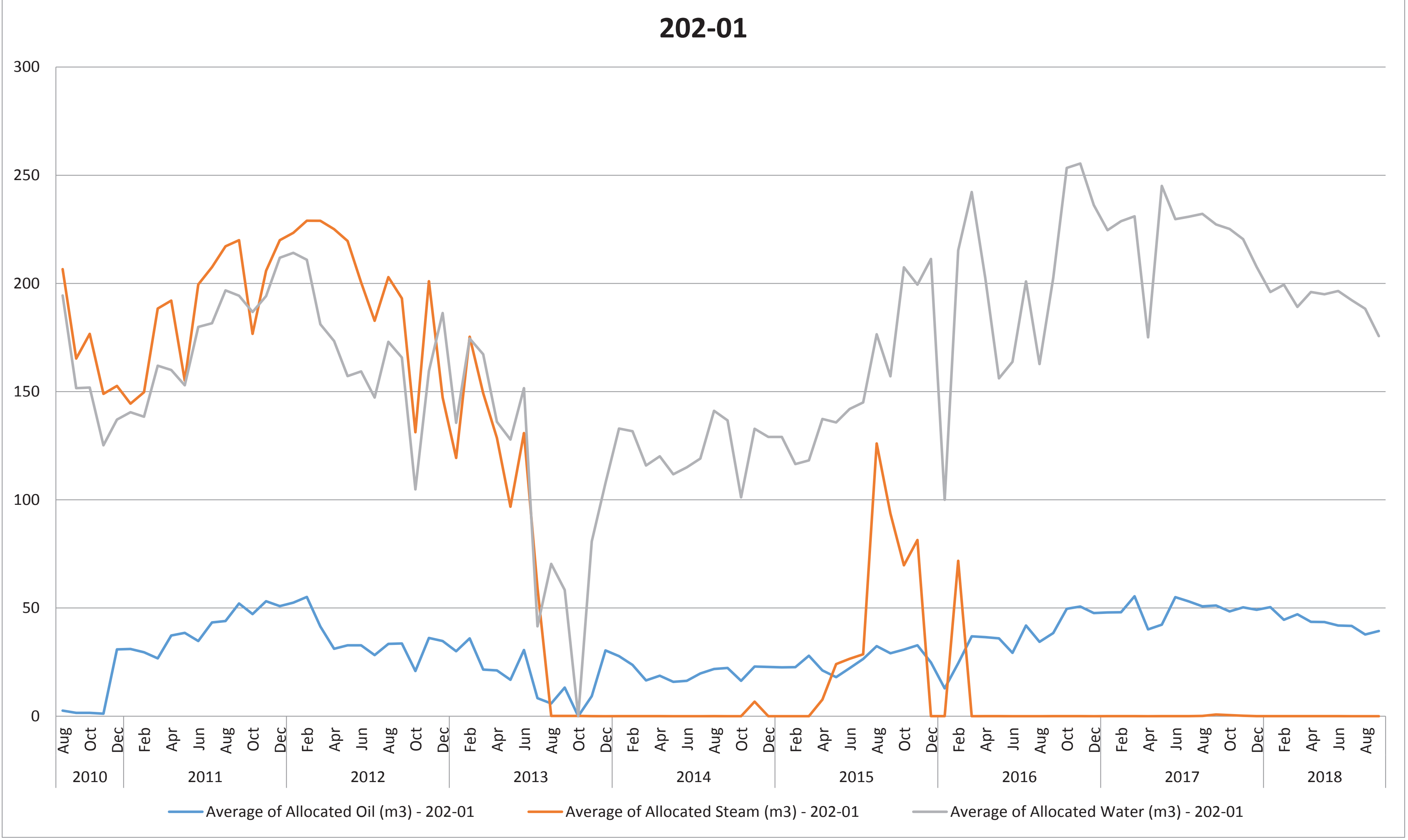
Feb Apr Jun Aug
2018
Average of Allocated Oil (m3) - 201-04
Average of Allocated Steam (m3) - 201-04
Average of Allocated Water (m3) - 201-04

Algar - 201-05

Connacher
OIL AND GAS LIMITED
2018

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2010
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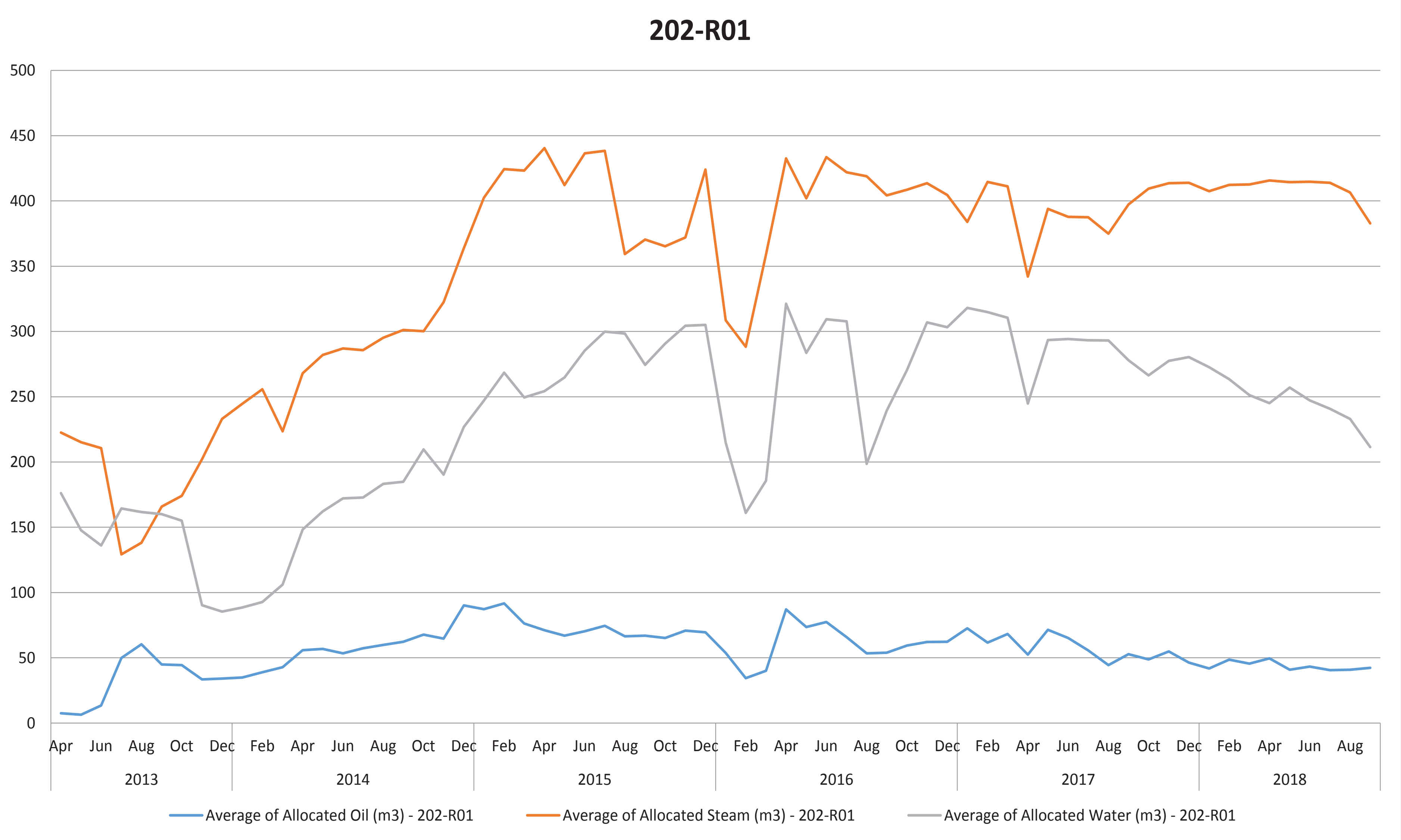
2018
Average of Allocated Oil (m3) - 202-01
Average of Allocated Steam (m3) - 202-01
Average of Allocated Water (m3) - 202-01

Algar - 202-01-1

Connacher
OIL AND GAS LIMITED
2018



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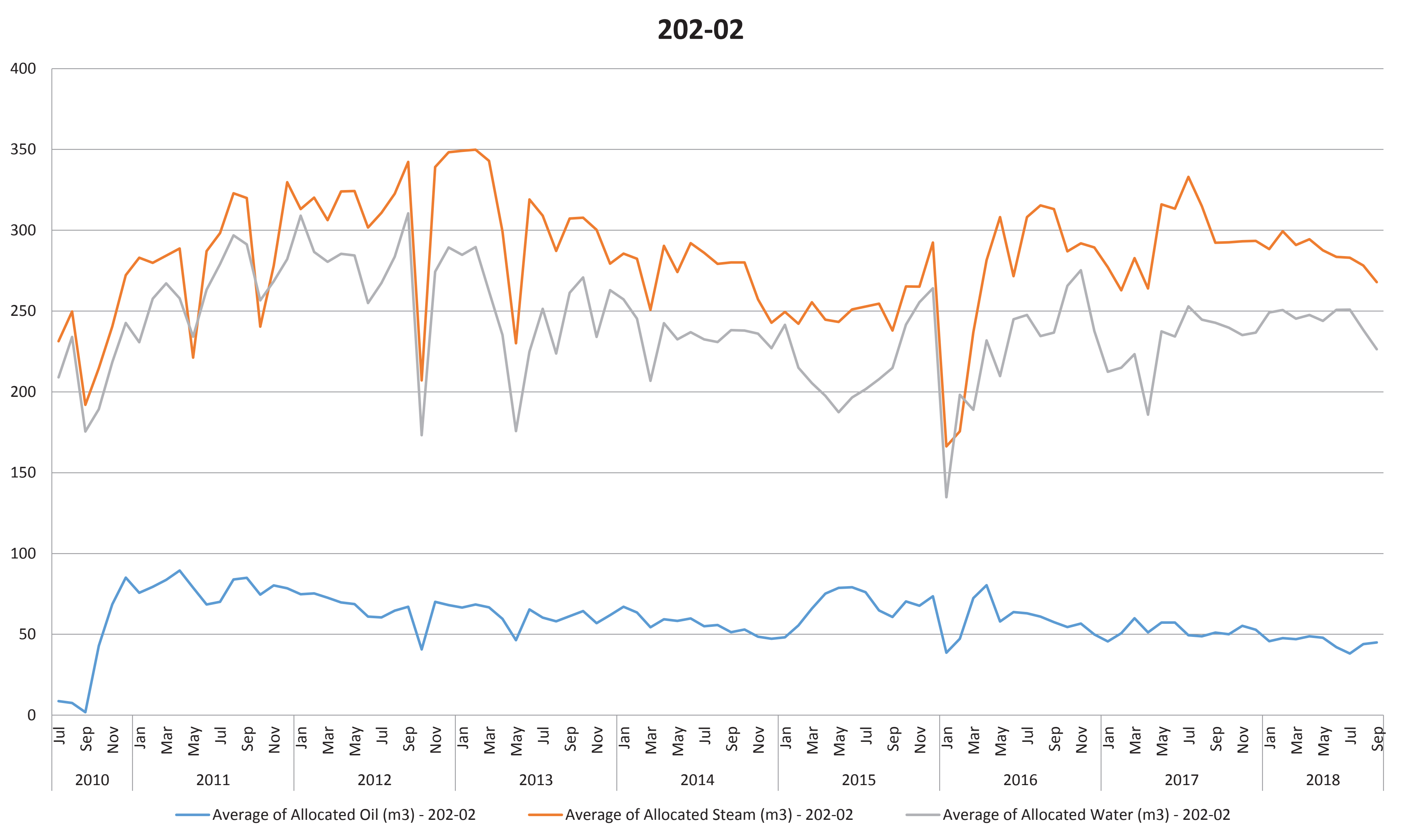
Connacher OIL AND GAS LIMITED 2018



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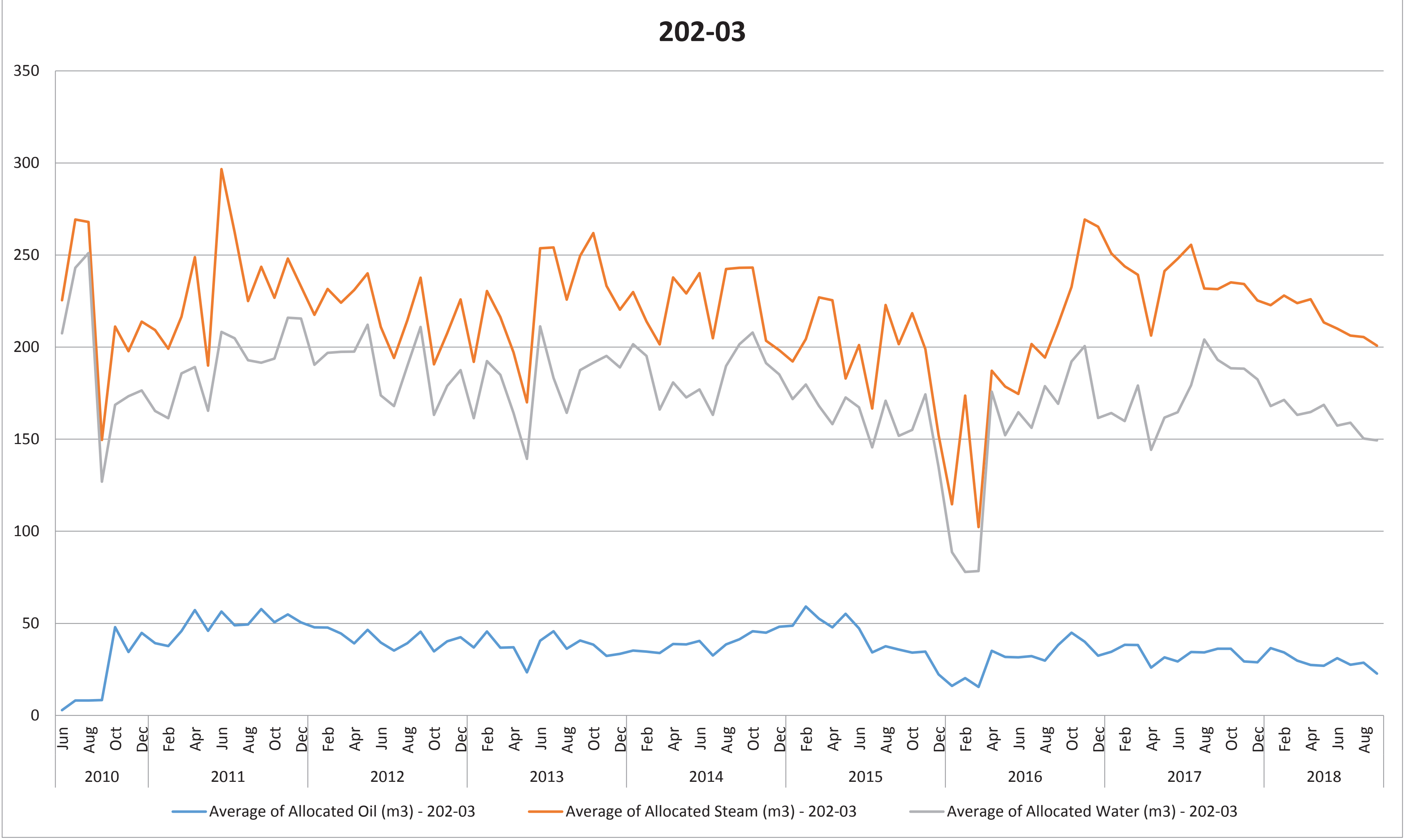
Connacher OIL AND GAS LIMITED 2018



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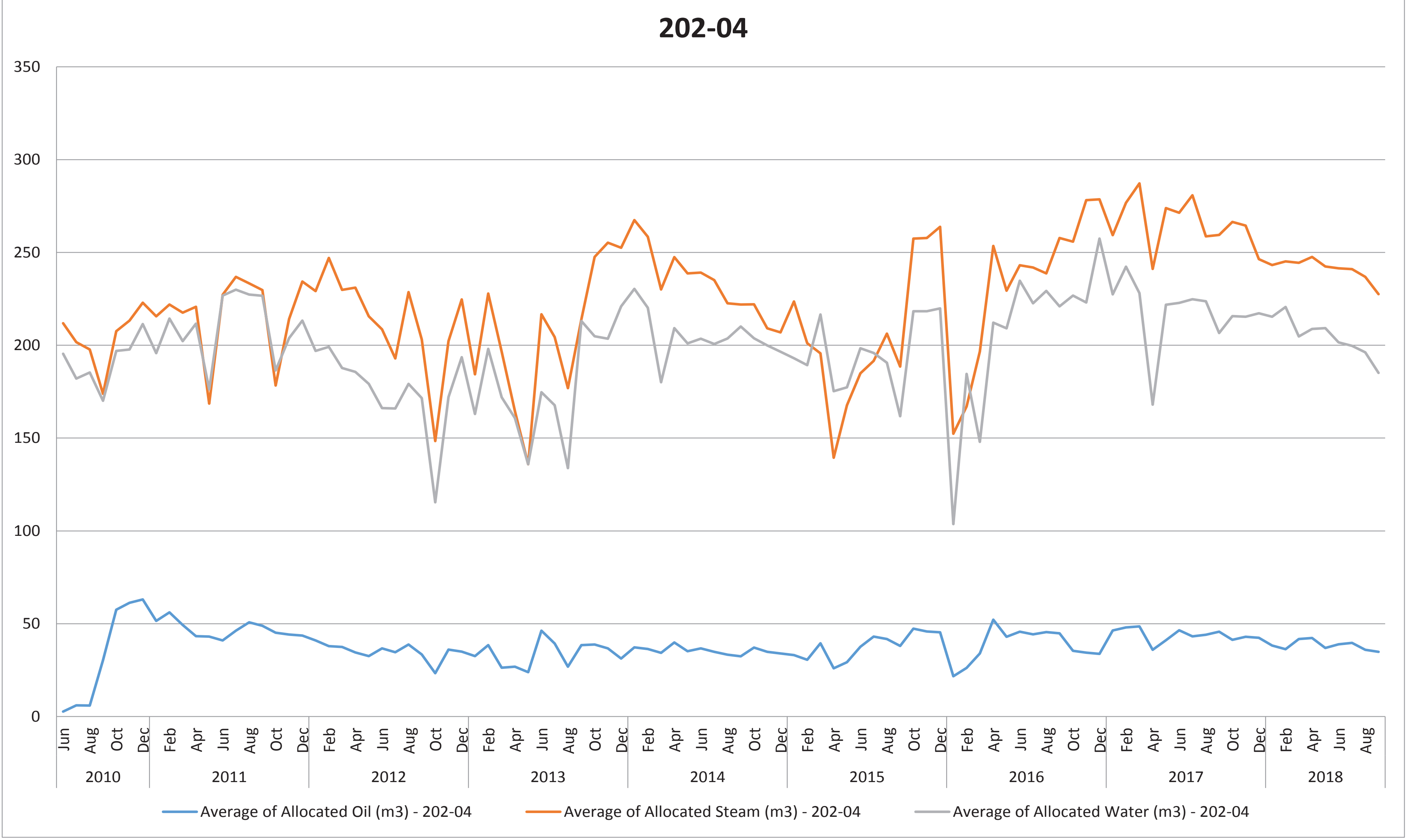
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Feb Apr Jun Aug Oct Dec
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Feb Apr Jun Aug Oct Dec
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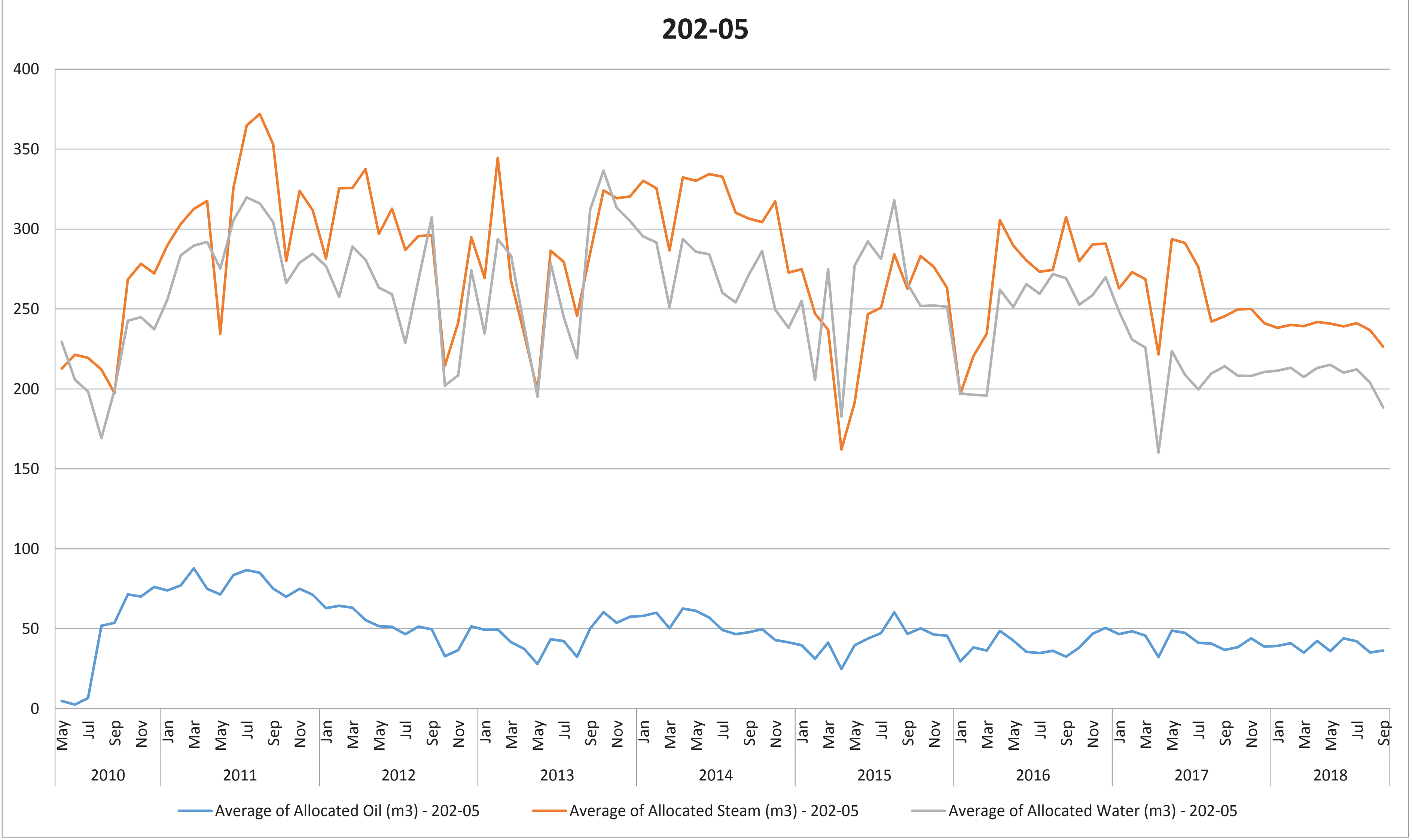
Feb Apr Jun Aug
2018
Average of Allocated Oil (m3) - 202-04
Average of Allocated Steam (m3) - 202-04
Average of Allocated Water (m3) - 202-04

Algar - 202-05

Connacher
OIL AND GAS LIMITED
2018



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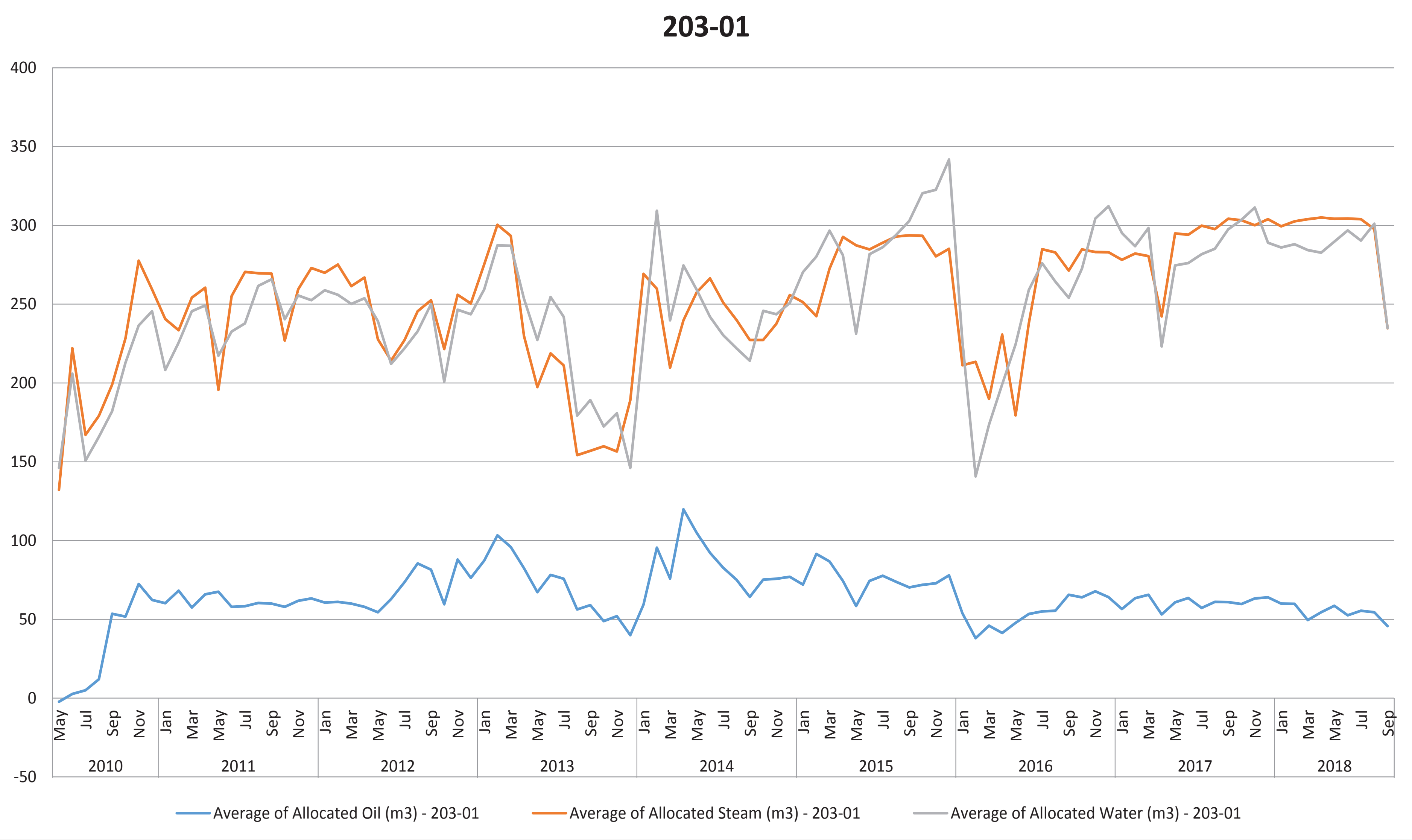
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Average of Allocated Oil (m3) - 203-01
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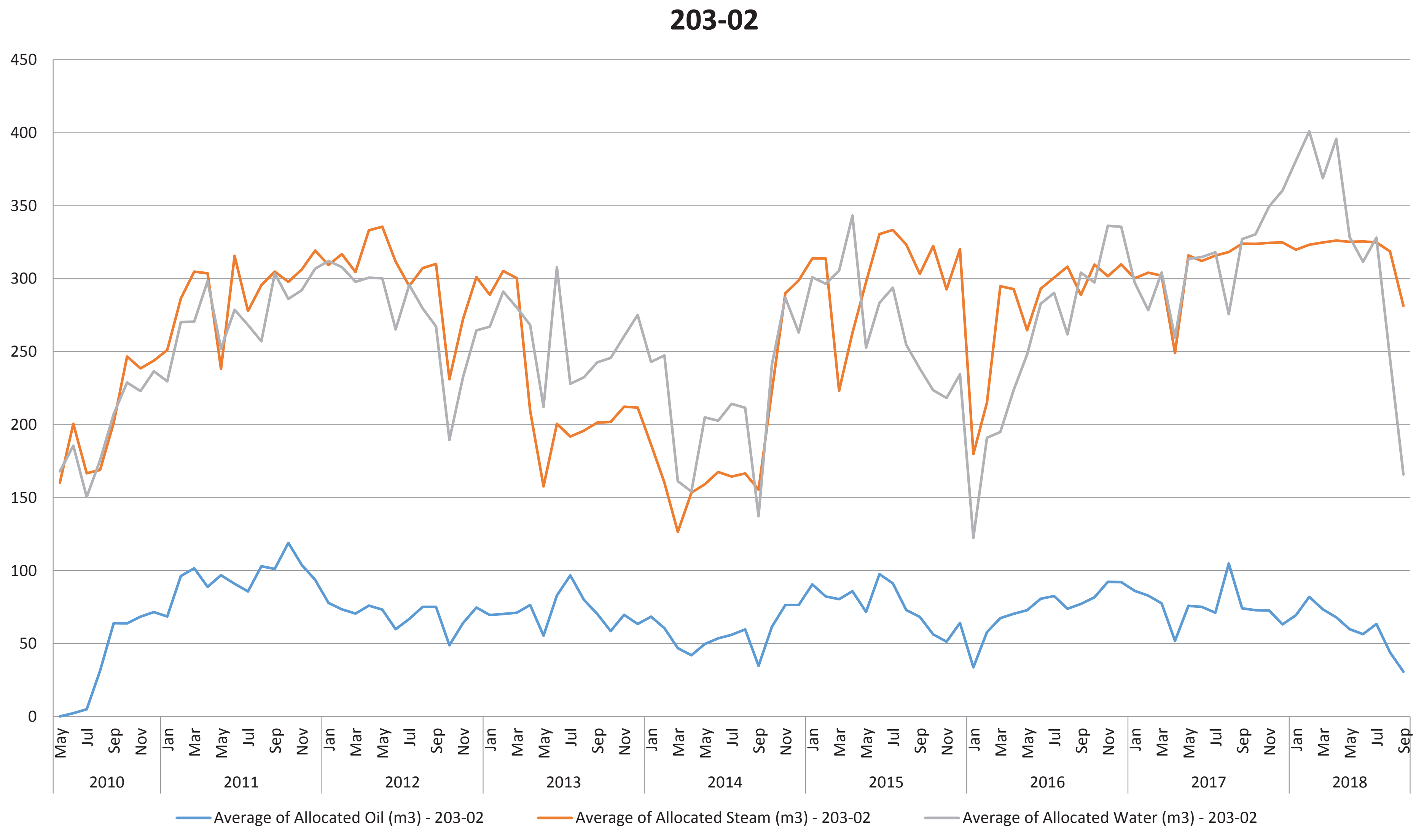
Algar - 203-02

Connacher OIL AND GAS LIMITED 2018



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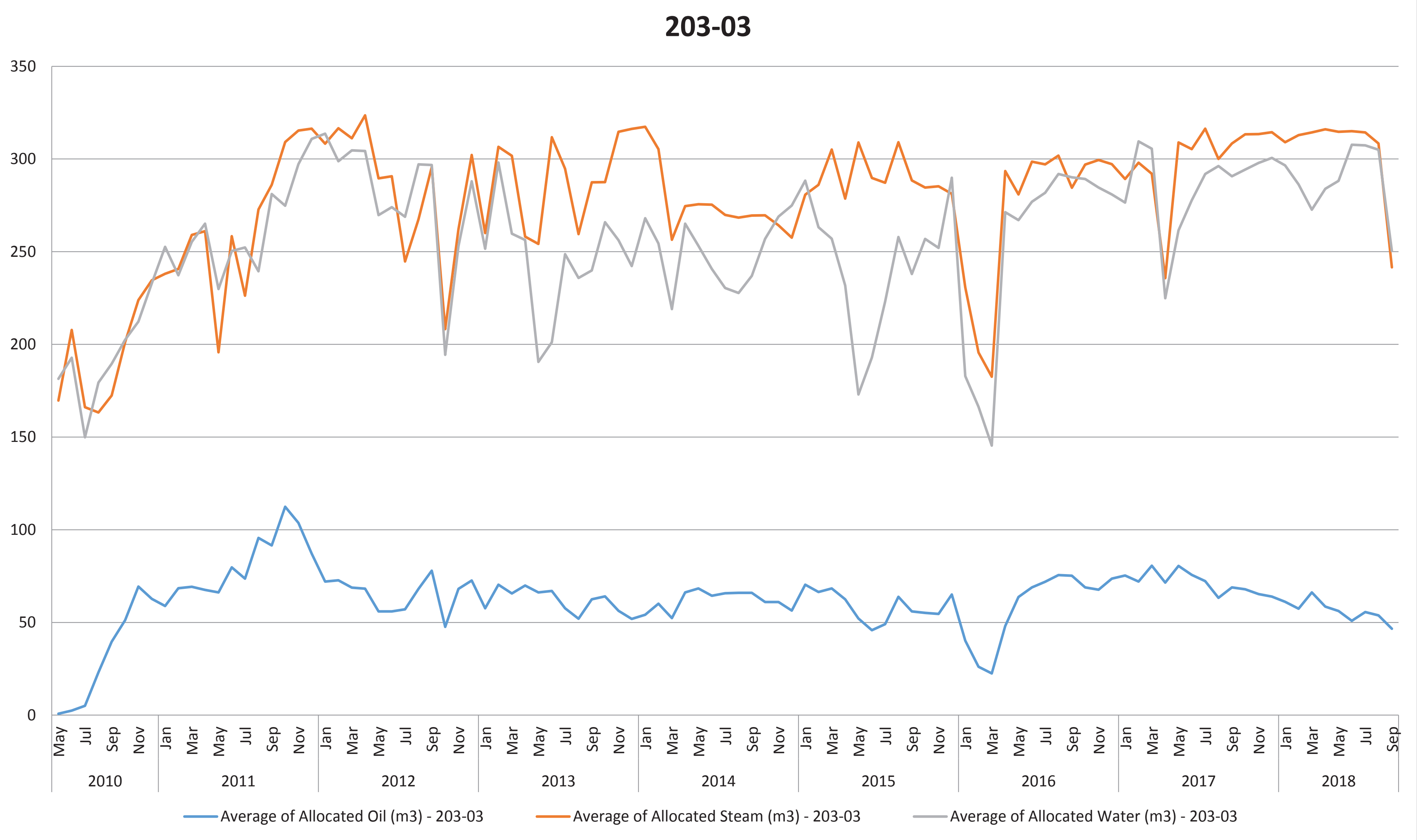
Connacher
OIL AND GAS LIMITED
2018



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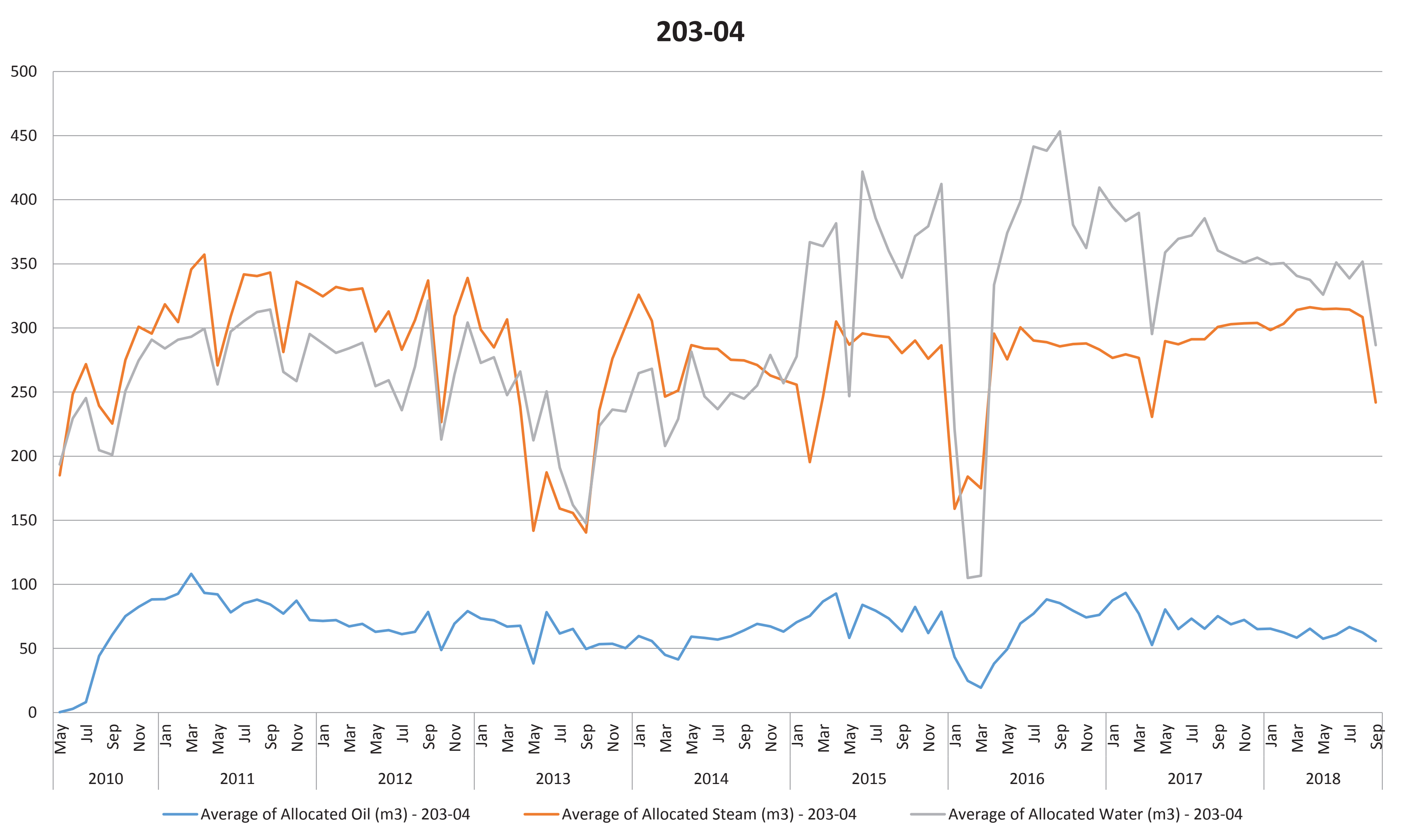
Connacher OIL AND GAS LIMITED 2018



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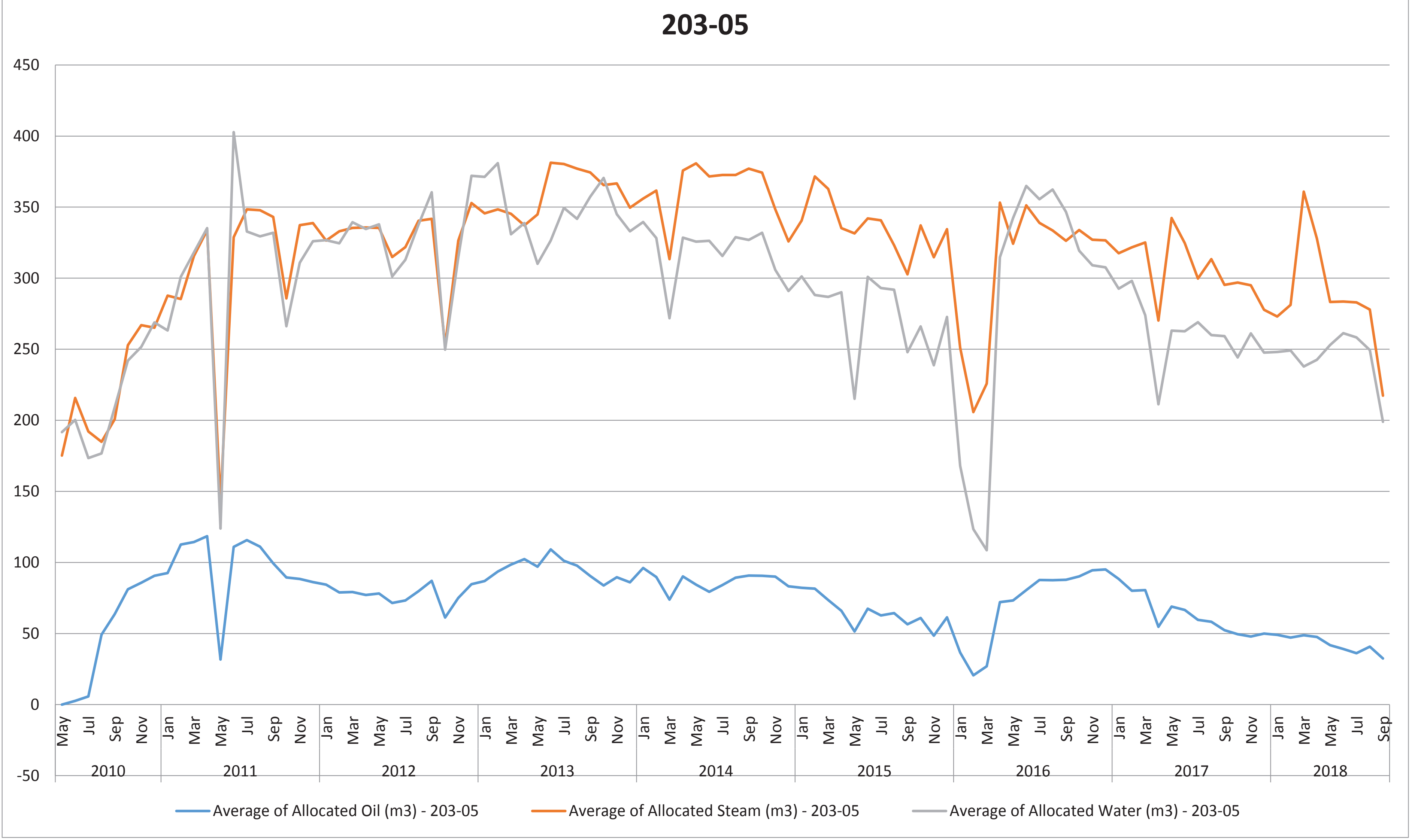
OIL AND GAS LIMITED
2018



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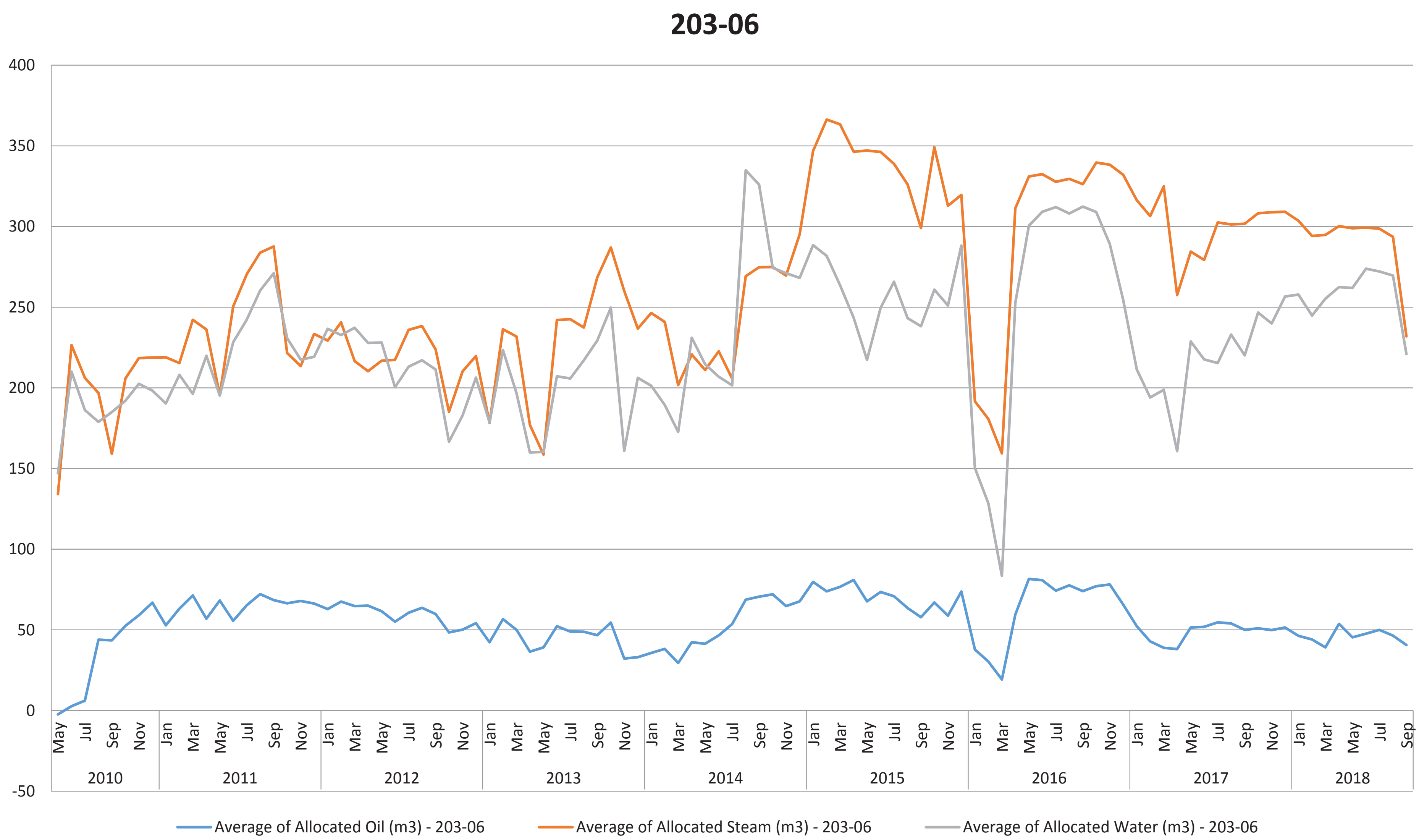

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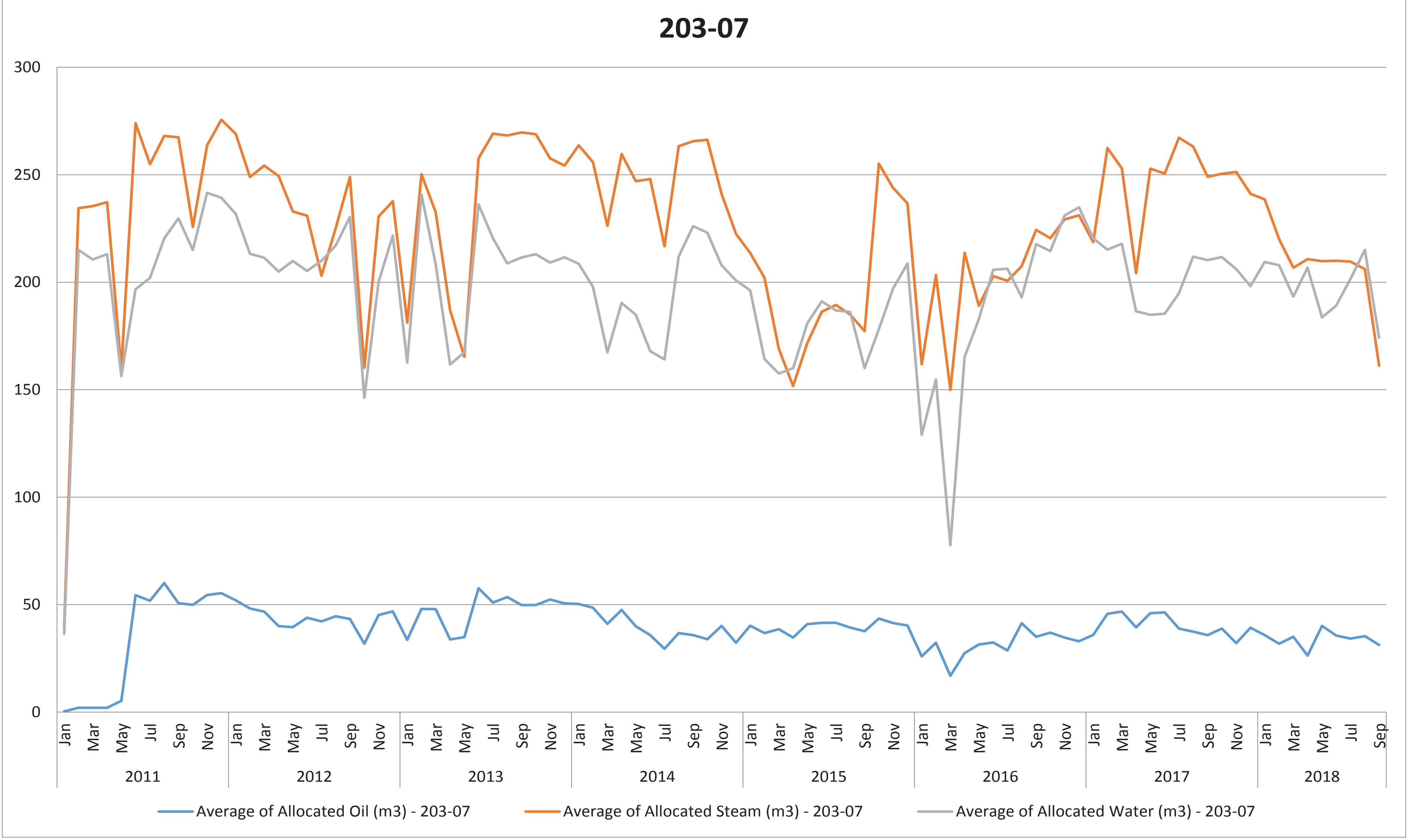
Average of Allocated Steam (m3) - 203-06
Average of Allocated Water (m3) - 203-06

Algar - 203-07



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2018
Average of Allocated Oil (m3) - 203-07
Average of Allocated Steam (m3) - 203-07
Average of Allocated Water (m3) - 203-07