2017 Directive 54 Performance Presentation

BAYTEX
ENERGY CORP.

Seal Scheme Approval No. 11320E
September 2017

Agenda

Subsurface

1. Overview
2. Geology / Geoscience
3. Drilling and Completions
4. Scheme Performance
5. Injection Pressures
6. Future Plans

Agenda

Surface

1. Facilities
2. Measurement and Reporting
3. Water Usage
4. Gas / Sulphur Production
5. Regulatory

Subsurface

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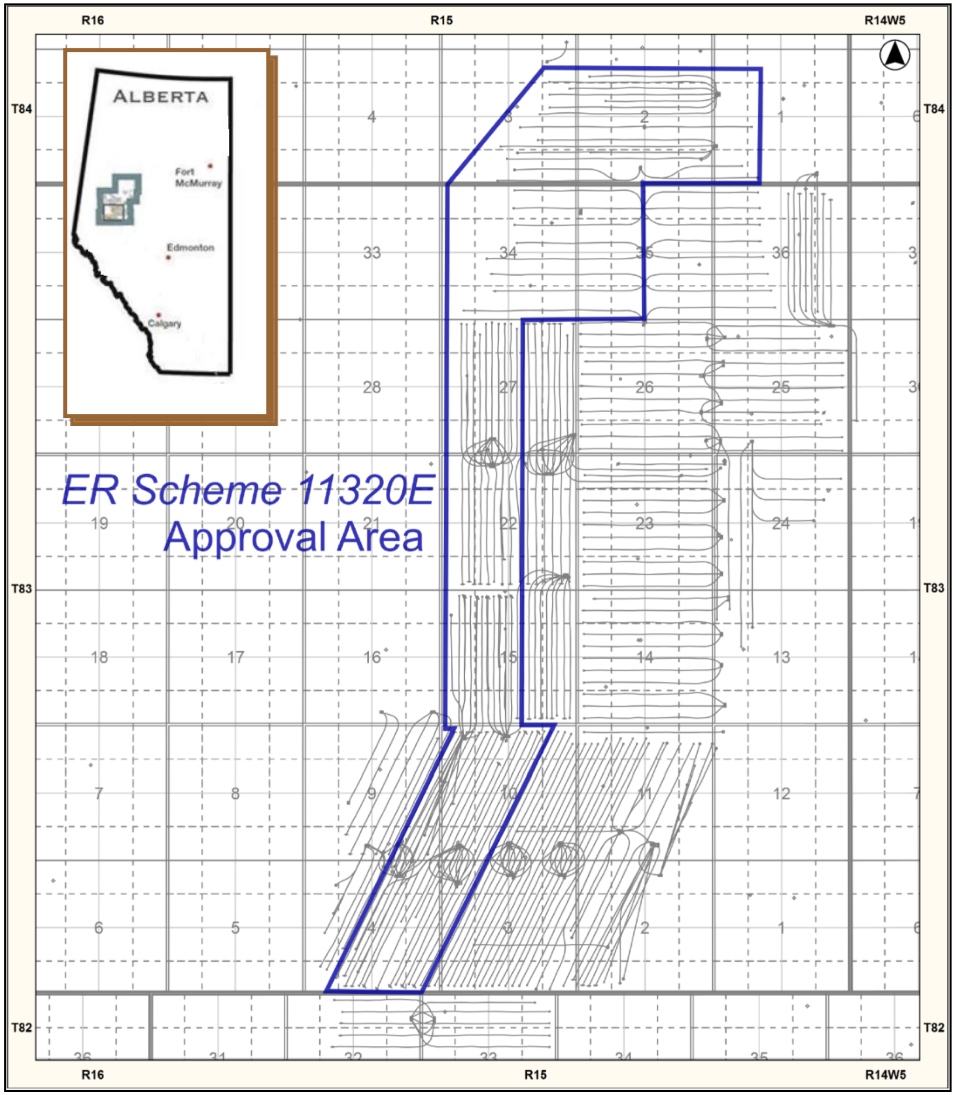
1. Overview

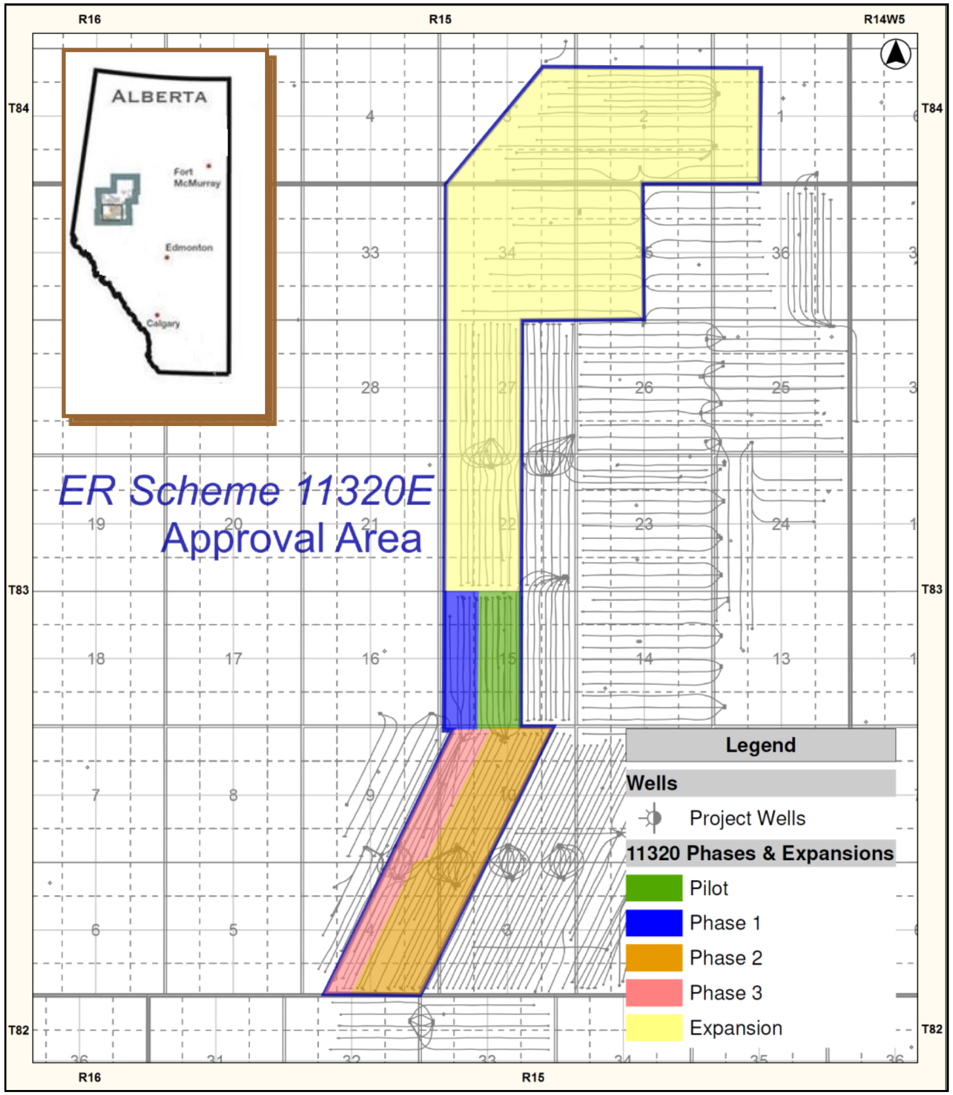
Background



- Peace River Oil Sands Area 2
- Range 15 – Townships 83 & 84
  - Seal Central
  - Enhanced Recovery Scheme Approval 11320E
- Polymer injection into horizontal wellbores to increase recovery of heavy oil from the Bluesky Formation
- Baytex acquired Seal Central assets including the polymer enhanced recovery scheme in January of 2017
  - Current presentation covers the time period of July 2016 to July 2017
- Polymer flooding is an established technology for EOR whereby fluid is injected into a formation to sweep oil to offset producing wells. Polymer flooding consists of dissolving polymer in the injected water to increase its viscosity and improve the sweep efficiency in the hydrocarbon reservoir

1. Overview

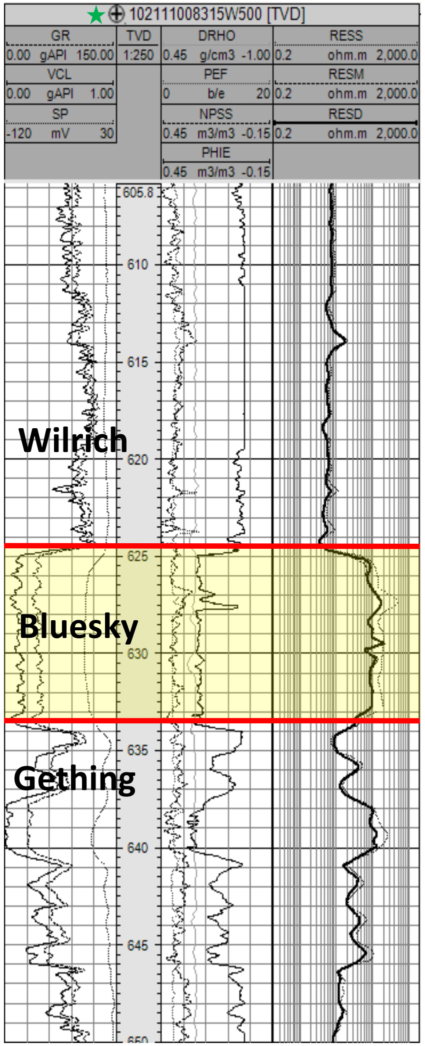
History



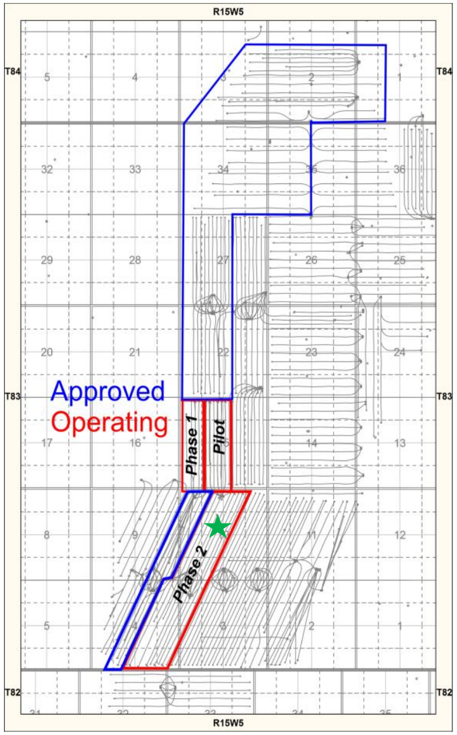
- Seal Central development began ~2001 under primary production utilizing single-leg horizontal wellbores; primary production continues to account for the majority of the oil produced in the area
- Beginning late 2010, Murphy Oil Corp. (Murphy) initiated an experimental polymer injection pilot making use of existing and infill drilled wellbores
- Based on encouraging preliminary results from the pilot, the scheme was expanded to include Phases 1, 2, and 3 in 2012
- The scheme was expanded again in 2013; this expansion was not implemented by Murphy
- Baytex Energy Corp. (Baytex) acquired all heavy oil assets in the Peace River area from Murphy effective January 2017; included in the acquisition was the Enhanced Oil Recovery (EOR) polymer flood, Approval 11320

2. Geology / Geoscience

Type Log & Reservoir Parameters

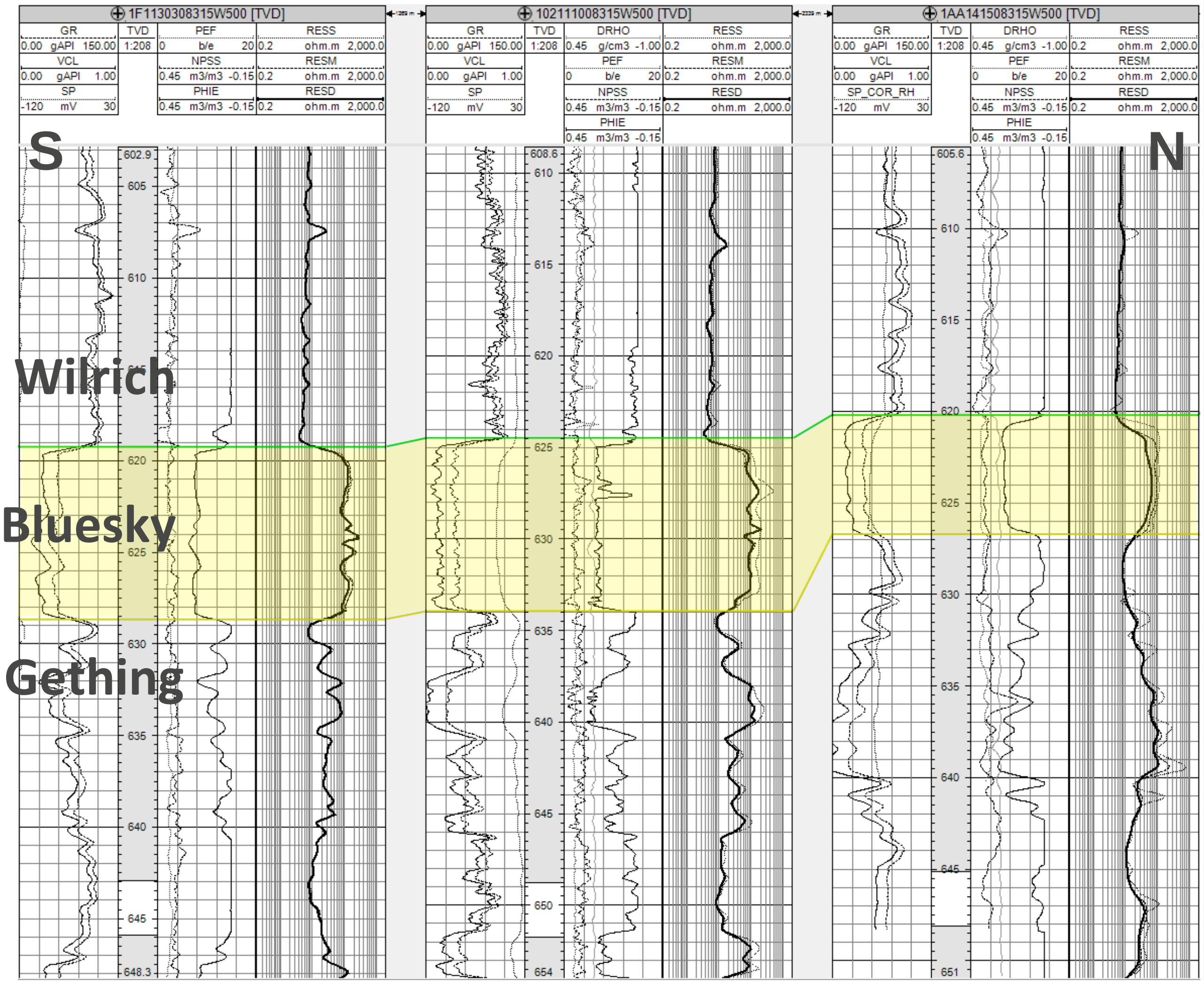


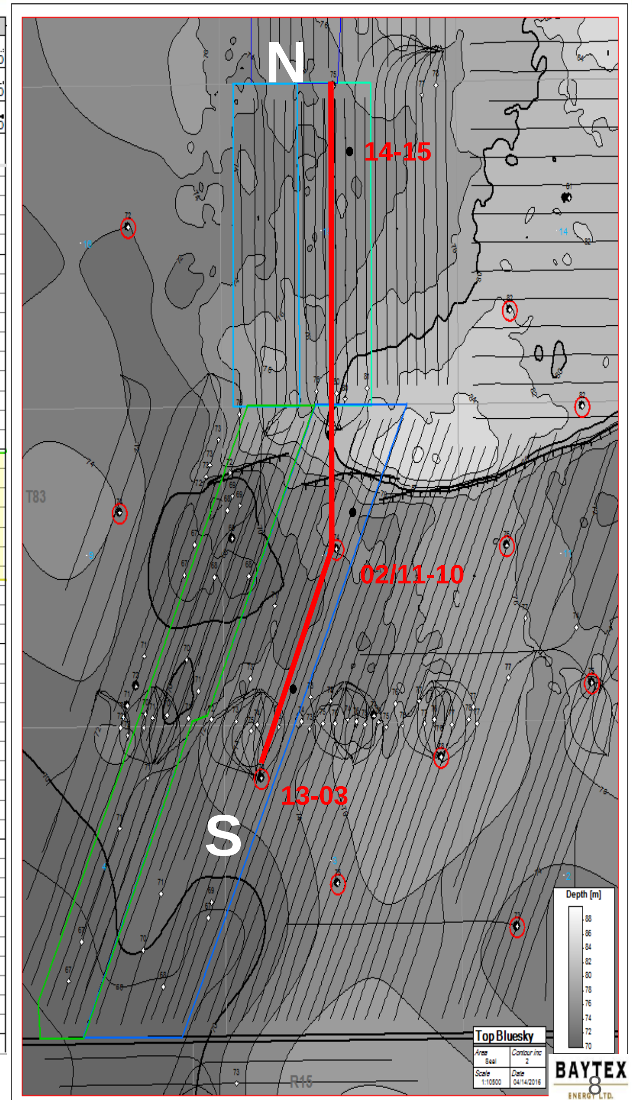
- Bluesky sand deposition represents a prograding barrier bar complex within a greater estuarine-deltaic environment
  - Moderately sorted, Quartz rich litharenite of upper fine to lower medium grain size
  - Relatively low clay content <5%
  - Absence of fluid contacts (top/bottom gas or water) over project area
- Capped by Wilrich marine shales above and basal seal by fluvio-estuarine, heterolithic Gething deposits
- Total OOIP – 13,811,000 m^3
  - Includes 11320C expansion & Phase 3 (approved, not implemented)
- Operating OOIP – 5,161,000 m^3
  - Includes Pilot, Phase 1 and Phase 2 only
  - Volumetric methodology
    - Well Tops, 3D Seismic Data where available
    - Core Sampling Data (Dean Stark / Helium Porosity) / Petrophysical Analysis
- Reservoir Parameters (Entire Scheme & Operating)
  - Depth: 625m TVD
  - Net Pay: 2 – 8m
  - Porosity: 22 – 30%
  - Permeability$_{Air}$: 500 – 2,000mD
  - Reservoir Temp: 19^{o}C
  - Water Saturation: 20%
  - Oil Viscosity: 5,000 – 30,000cSt (Dead Oil)
  - Initial Reservoir Pressure: 4,500 – 5,000kPa



2. Geology / Geoscience

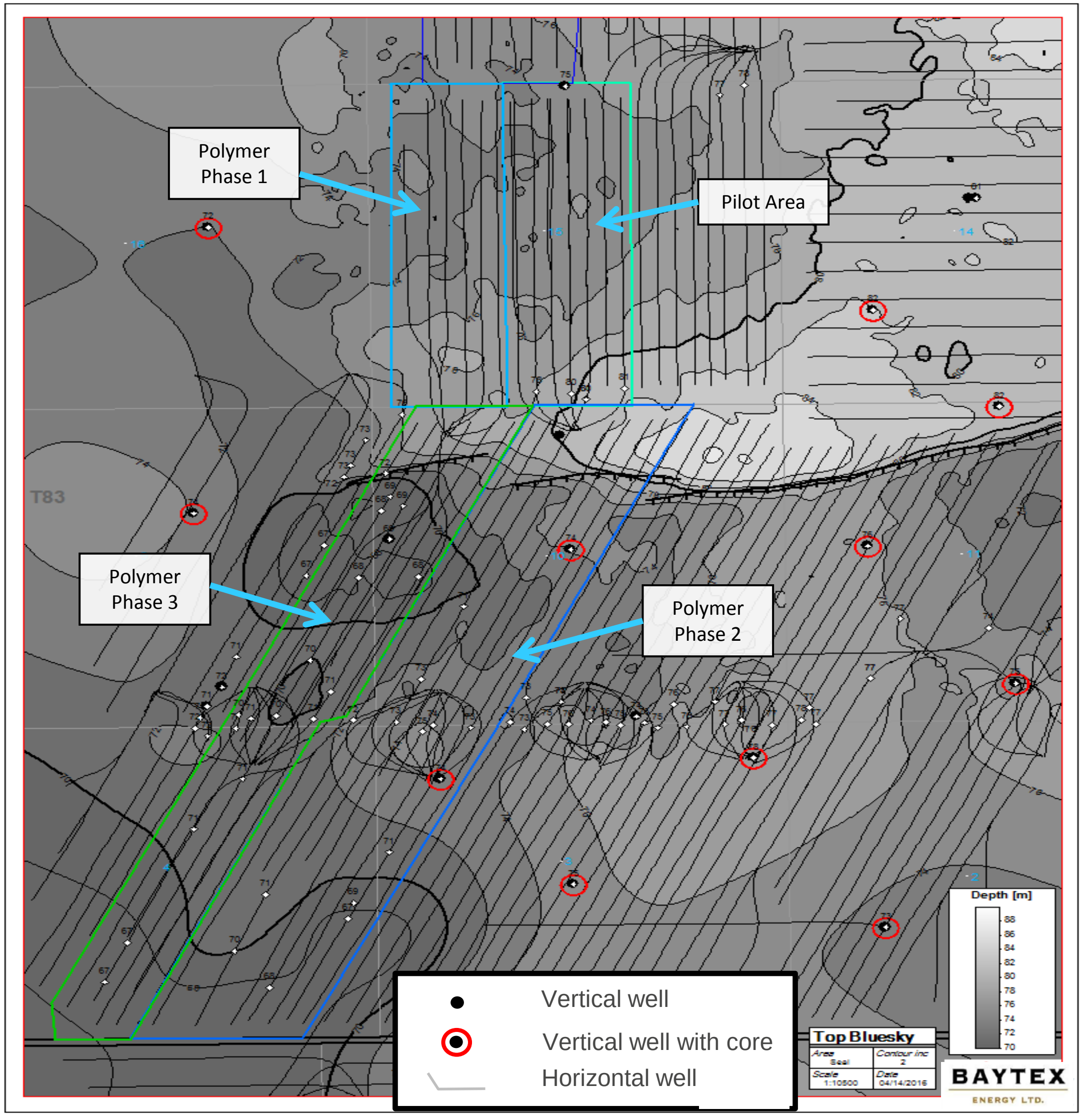
Structural Cross Section - South to North





2. Geology / Geoscience

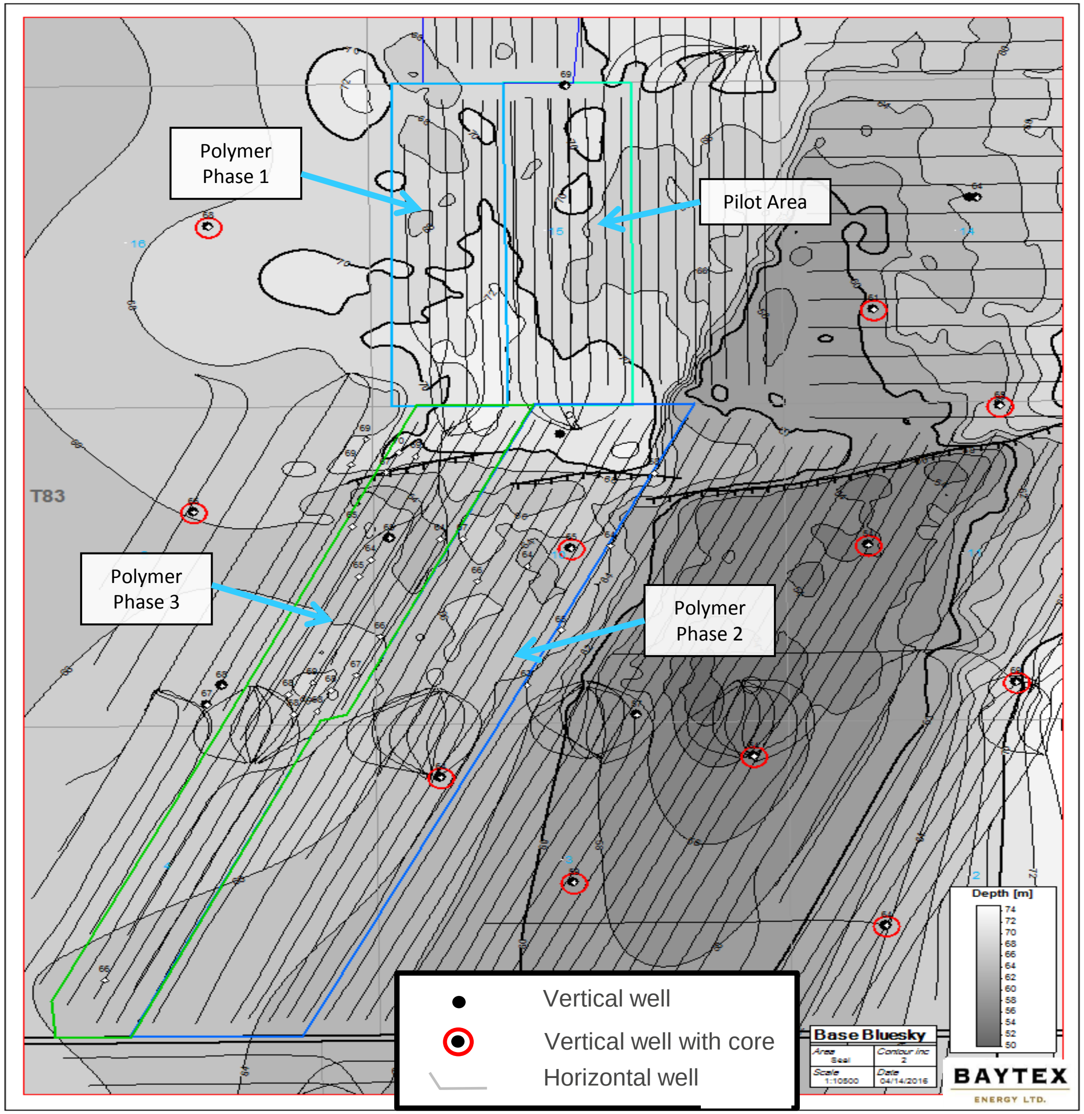
Structure - Top Net Oil Pay (Bluesky Top)



- Top net oil is Bluesky top
  - No top gas or water over project area
- Higher regional structure to the northeast towards Red Earth Highlands (Bluesky onlap edge)
  - Average structural dip of 0.1º
- Locally structure is fault influenced with relative lows within Phase 3 and Phase 2N
  - Normal displacement, footwall to south
  - 5-9m TVD flexure across fault zone over 100-400m (~2.5-4.5º)
- 3D seismic produces erratic contours
  - High resolution data
  - Will be revisited once data is reprocessed, interpreted and integrated into Baytex dataset

2. Geology / Geoscience

Structure - Base Net Oil Pay



- Base Bluesky bitumen pay is equivalent to top Gething
  - No bottom water over project area
- Gething comprises a mixture of non reservoir fluvio-deltaic and estuarine deposits
  - Shales, silts and generally areally discontinuous sands
  - Shale flooding surface at Bluesky base/Gething top provides basal seal over project area
- Average structural dip of 0.1º
- Consistent 5-9m flexure across fault zone with Bluesky top
  - Flexure due to faulting at lower stratigraphic levels
- 3D seismic produces erratic contours
  - High resolution data
  - Will be revisited once data is reprocessed, interpreted and integrated into Baytex dataset

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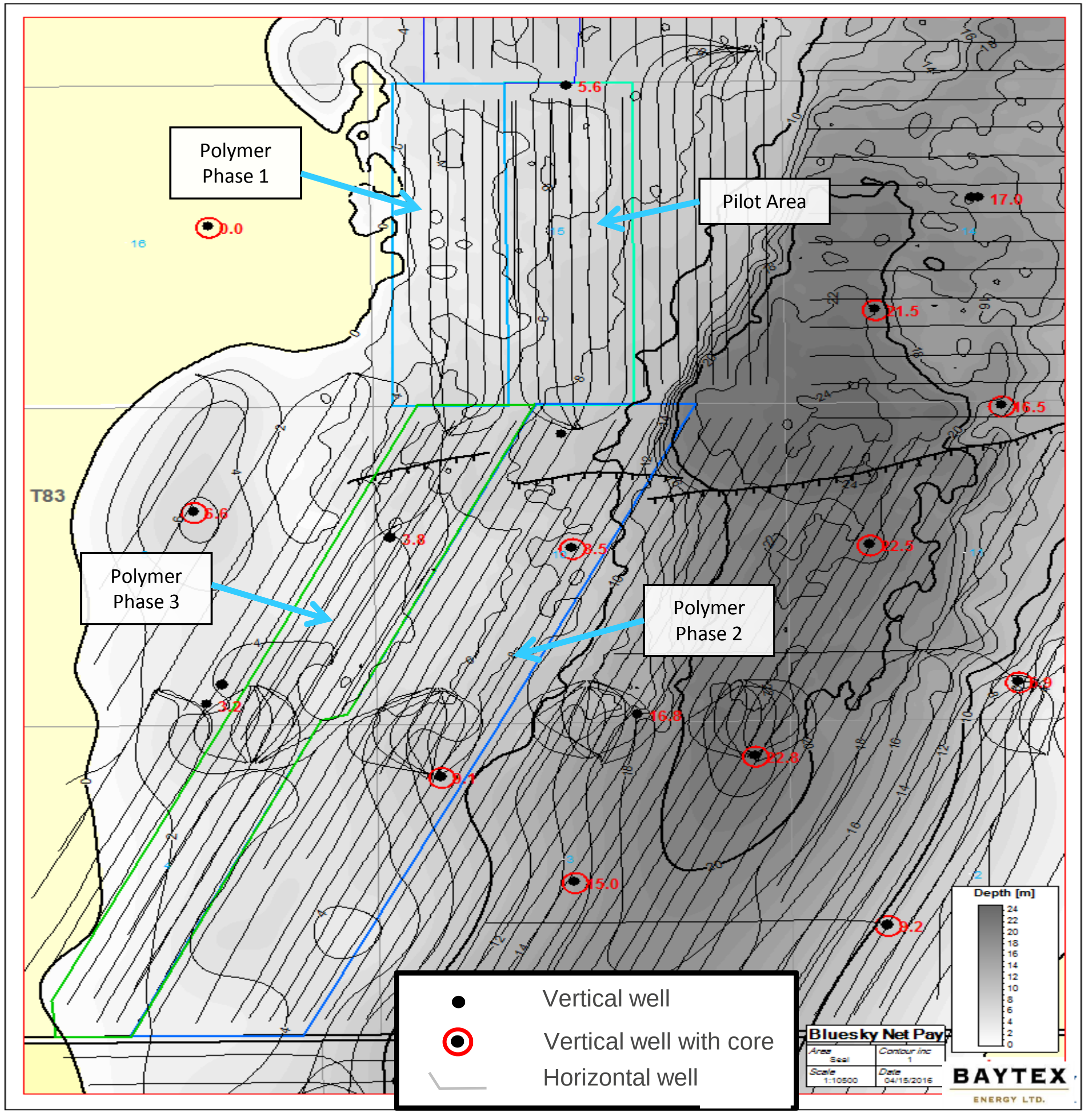
2. Geology / Geoscience

Net Oil Pay Isopach

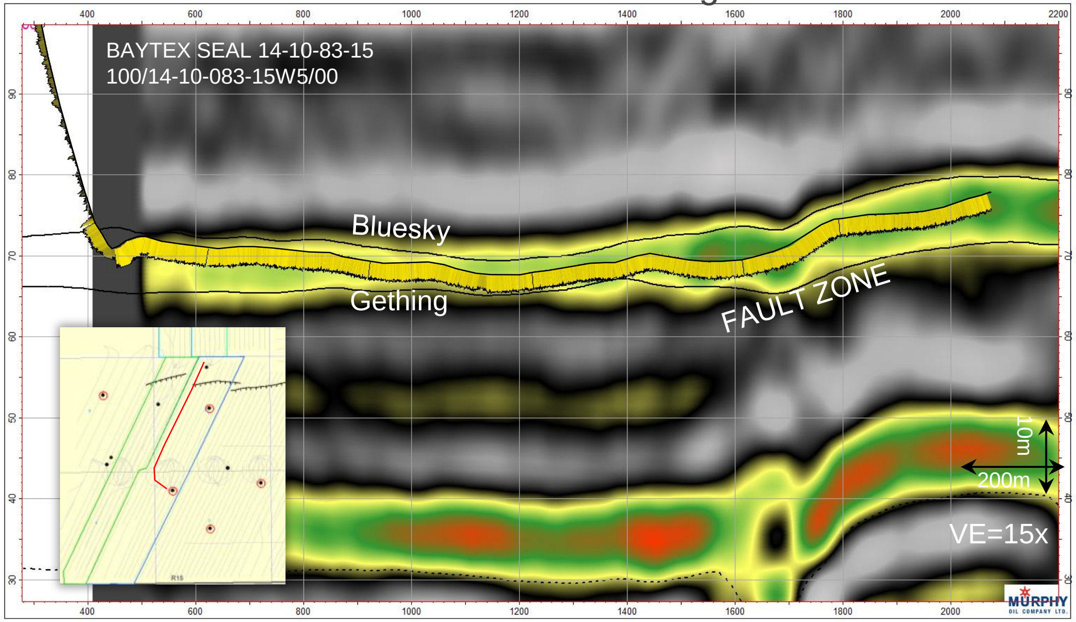


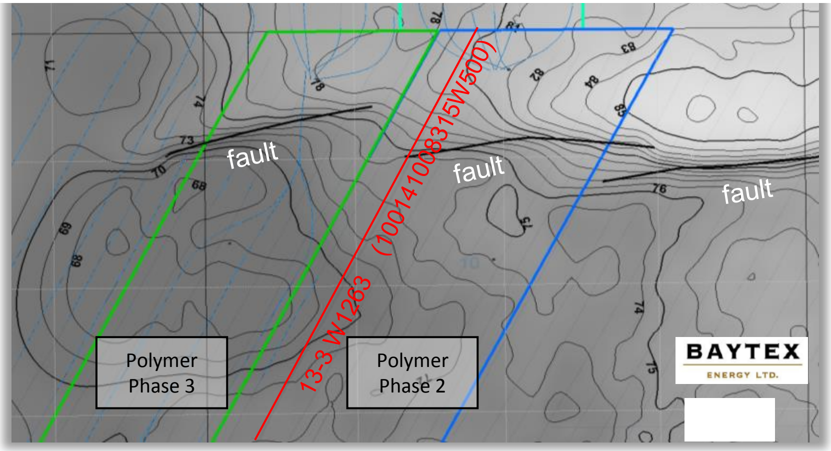
- Net bitumen pay calculated from
  - VCL (~75-80 API Gamma Ray)
  - Phi_e >17%
  - Sw_e <30%
- Net Pay ranges from ~2-10m thick in Polymer project area
  - Locally, generally thinning east to west
- Depth converted 3D seismic included in interpretation
- MWD Gamma Ray from horizontal drilling included in interpretation
- Operating OOIP – 5,161,000 m^3 (~32,500,000 bbl)

2. Geology / Geoscience

Local Faulting

100/14-10-83-15W5/00 section along horizontal well

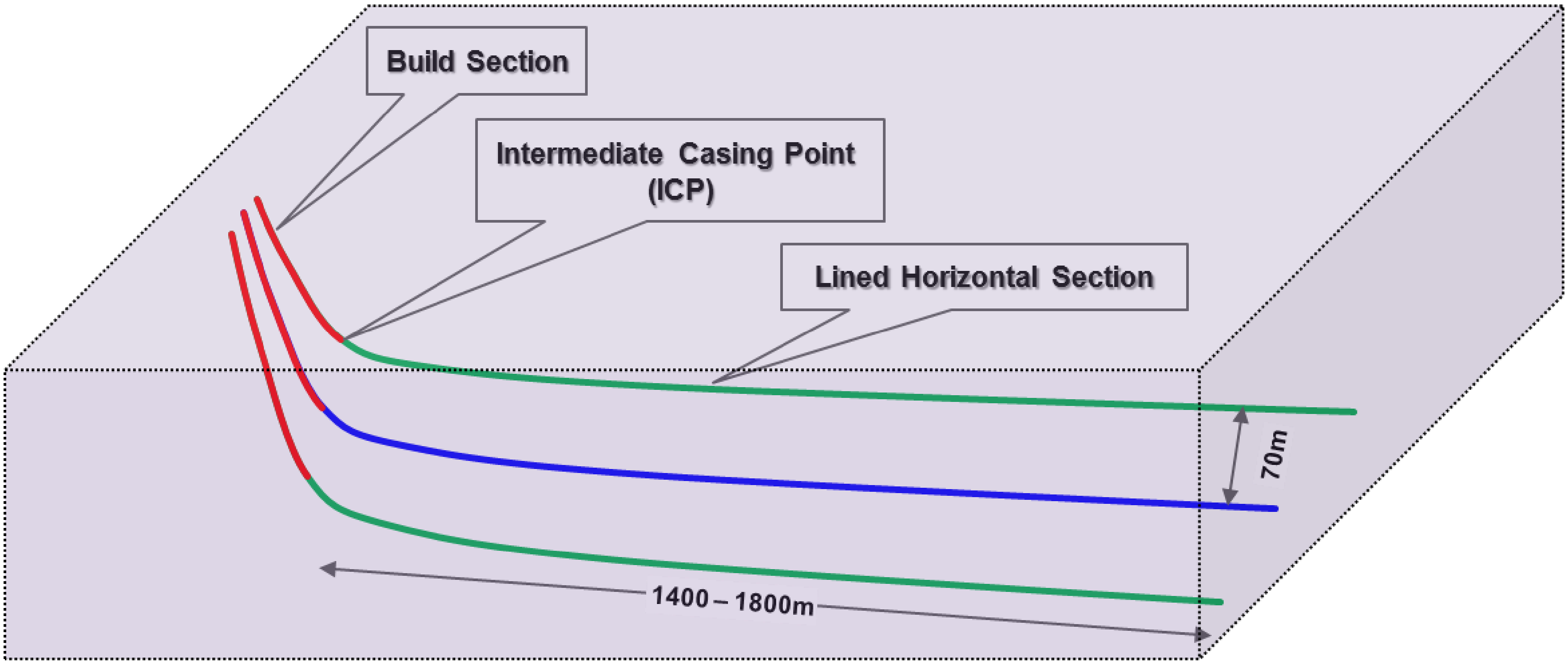




- Fault zones do not appear to cross the Bluesky level
  - Limited to deeper stratigraphic layers
  - Result is flexure at Bluesky level; 5-9m TVD flexure across fault zone over 100-400m (~2.5-4.5º)
- Fault is interpreted from structure mapping utilizing horizontal and vertical well control at this time with credence given to seismic interpretations from the previous operator
  - Reservoir continuity is demonstrated through horizontals across fault zone
  - Consistent Bluesky isopach across fault zone
  - Will be revisited once seismic data is reprocessed, interpreted and integrated into Baytex dataset
- Faulting does not affect operating strategy or well placement
  - Horizontal well paths follow reservoir through structural flexure
  - Where zone is 5m or less, no priority given to drilling target
  - >10m thickness, top 5m has been targeted

3. Drilling and Completions

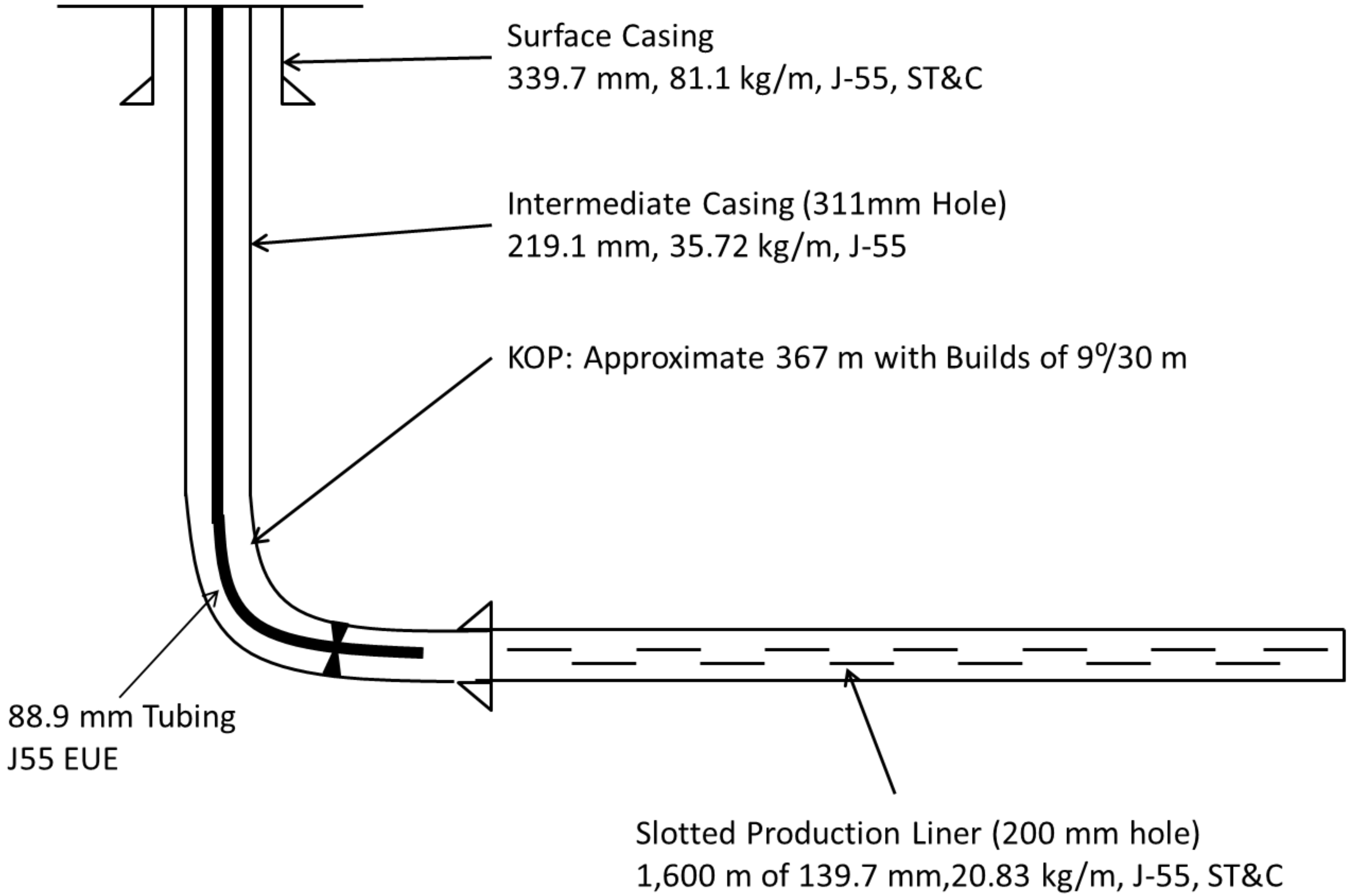
Typical Drilling Configuration



- Original primary inter-well spacing was 140 meters
- Open hole laterals re-entered to add slotted liners
- Infill wellbores drilled prior to injection
  - Resultant producer to injector spacing of 70m
  - Producer and injector planned to be drilled at the same elevation

3. Drilling and Completions

Typical Completion Details



4. Scheme Performance

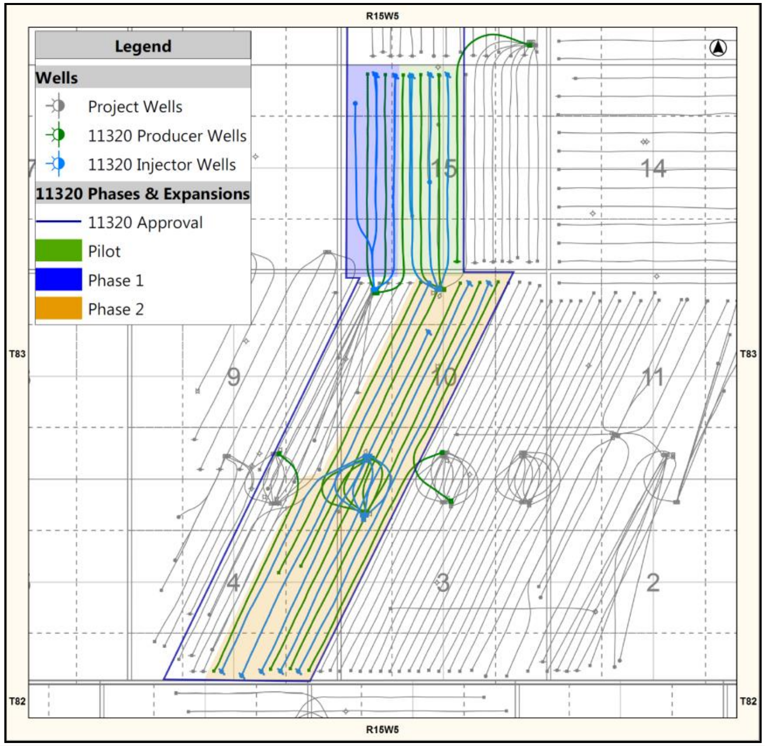
Operating History

- Historic primary wells were drilled on 140m spacing; these were converted to injectors under scheme approval
- Primary recovery levels prior to polymer injection range from 2 – 7%
- Infill wells at 70m spacing were drilled and brought online as production wells
- Polymer injection commenced October 2010 at Pilot, late 2012 for Phase 1 and Phase 2 expansions
- Operational phases have seen little in the way of downtime since inception; what downtime was experienced was mostly attributed to flowline issues at surface (Pilot, Phase 1, Phase 2 North)
- Only one of the Phase 1 injection wells is operating due to premature communication between 100/13-15 and offsetting producer 103/13-15
- Phase 2 South (04-10 Pad) has experienced premature communication between injectors and producers and is currently not operating
- Since assuming operations, Baytex has begun optimizing production and injection to maximize scheme performance; efforts are ongoing to ensure producers remain in a nearly pumped-off state while injection is targeted within 500 kPa of MAWHIP (4900 kPa-g)
- Consistent with the previous operator, Baytex has continued to target an injection viscosity of 50cp while currently analyzing whether further optimization is possible

4. Scheme Performance

Resource Recovery

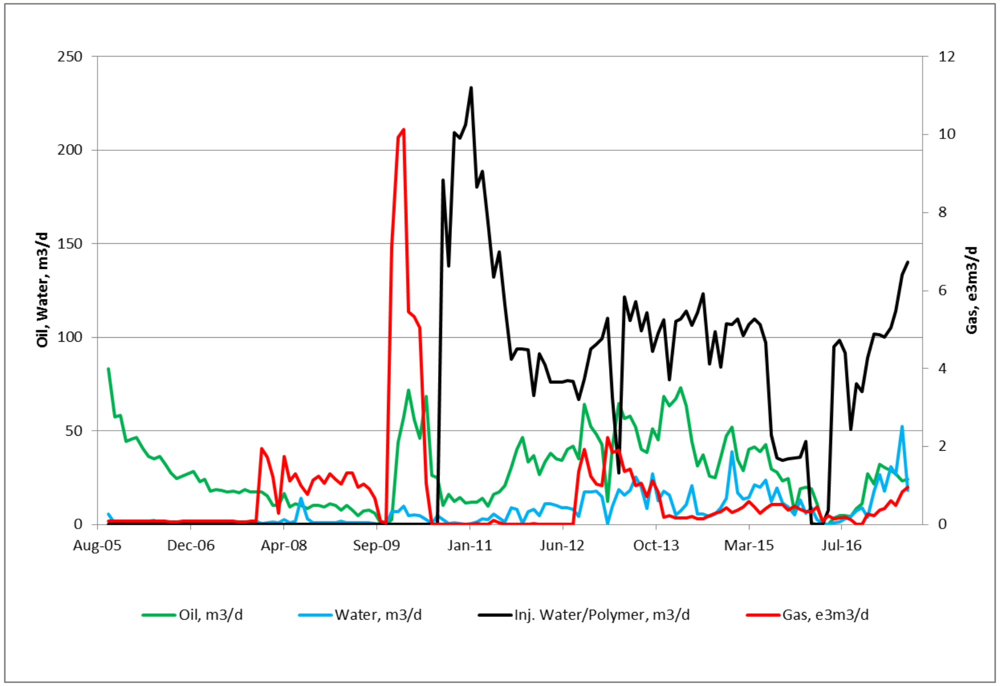
- Baytex is currently working to update performance predictions based on recent production history and revised internal reservoir modelling
- Variability in recovery is driven by changes in oil viscosity and reservoir permeability across the schemes
- Well placement variability is also a key factor, i.e. minimum distances between injectors and producers

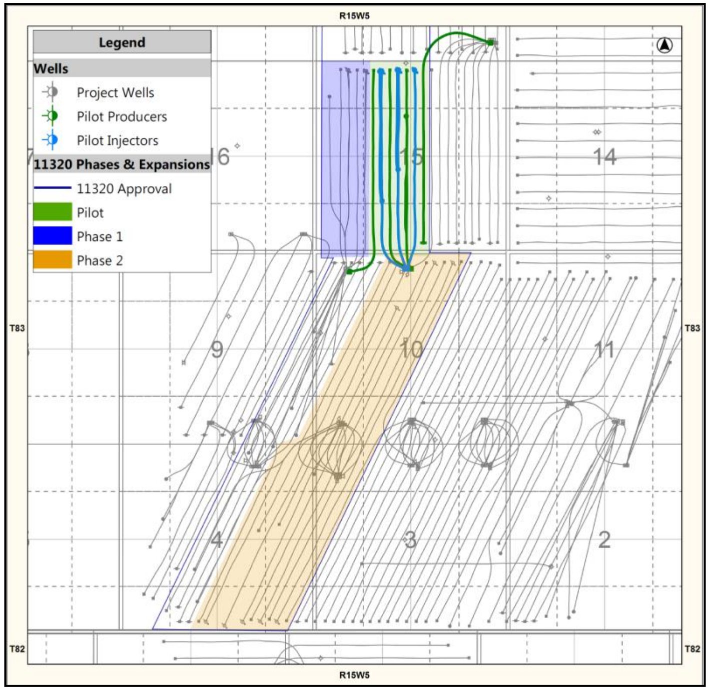


Resource Summary							
	Original Oil In Place (e^3m^3)	Primary Recovery (e^3m^3)	Primary Recovery %	Secondary Recovery (e^3m^3)	Secondary Recovery %	Current Recovery %	Ultimate Recovery %
Pilot	1,093	44.8	4.1%	106.0	9.7%	13.8%	>20%
Phase 1	588	39.4	6.7%	16.5	2.8%	9.5%	>10%
Phase 2	2,650	87.5	3.3%	31.8	1.2%	4.5%	>5%

4. Scheme Performance

Pilot



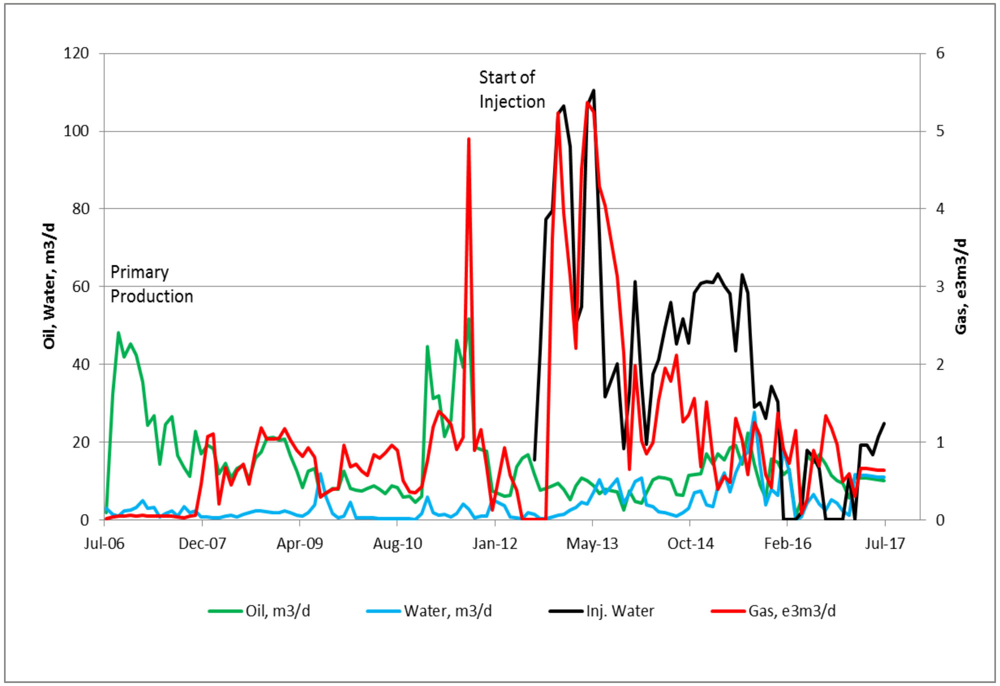


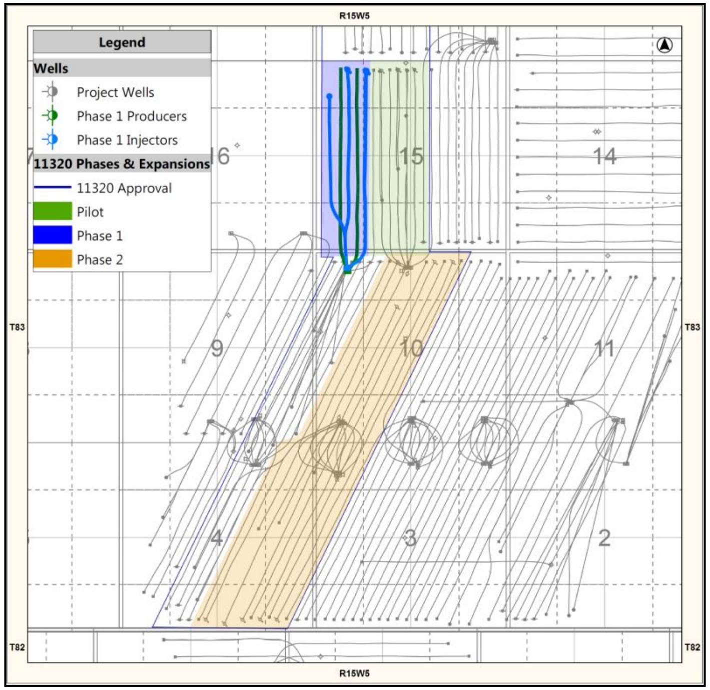
- Pilot consists of 3 injectors and 4 producers on 70m spacing
- Injection commenced Q4 2010, production response observed Q3 2011
- Oil production remains stable and is expected to exceed previous recovery estimate
- Produced water is increasing as is expected as the polymer flood operation matures

	Original Oil In Place (e^3m^3)	Primary Recovery (e^3m^3)	Primary Recovery %	Secondary Recovery (e^3m^3)	Secondary Recovery %	Current Recovery %	Ultimate Recovery %
Pilot	1,093	44.8	4.1%	106.0	9.7%	13.8%	>20%

4. Scheme Performance

Phase 1



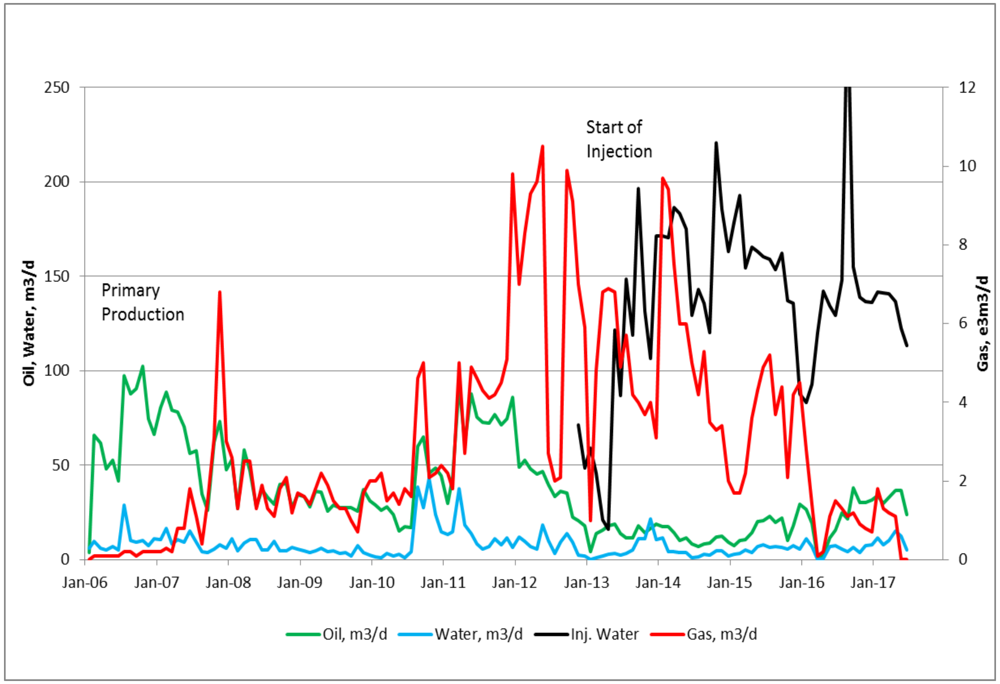


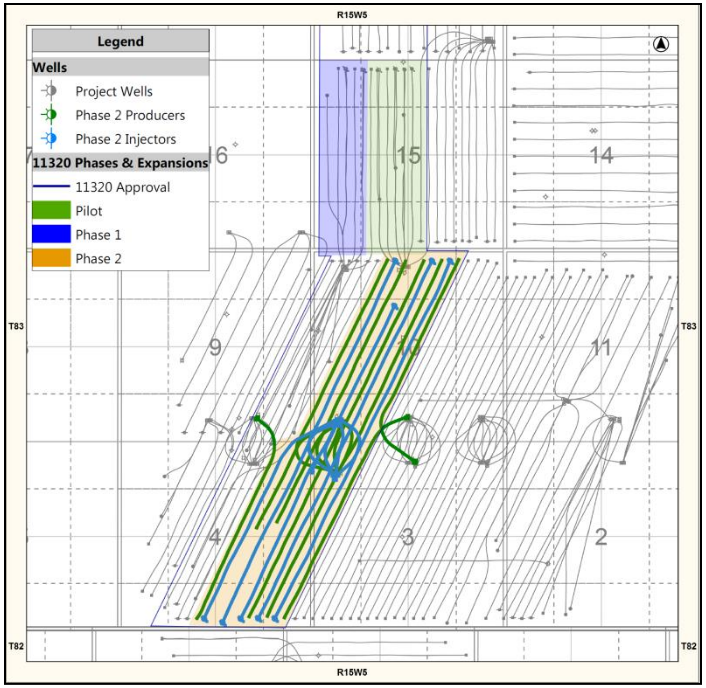
- Phase 1 consists of 2 injectors and 2 producers
- Injection commenced Q3 2012, production response observed Q4 2014
- Oil production continue**s** to be stable despite shut-in of 100/13-15-083-15W5 injector
- Water cut increasing as polymer flood matures

	Original Oil In Place (e^3m^3)	Primary Recovery (e^3m^3)	Primary Recovery %	Secondary Recovery (e^3m^3)	Secondary Recovery %	Current Recovery %	Ultimate Recovery %
Phase 1	588	39.4	6.7%	16.5	2.8%	9.5%	>10%

4. Scheme Performance

Phase 2



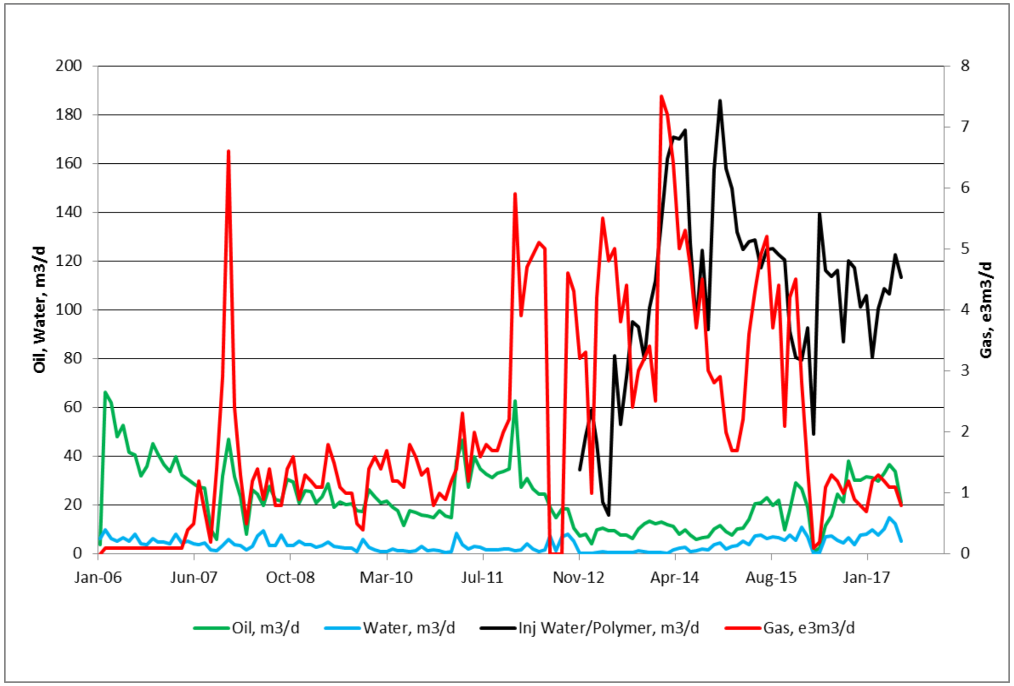


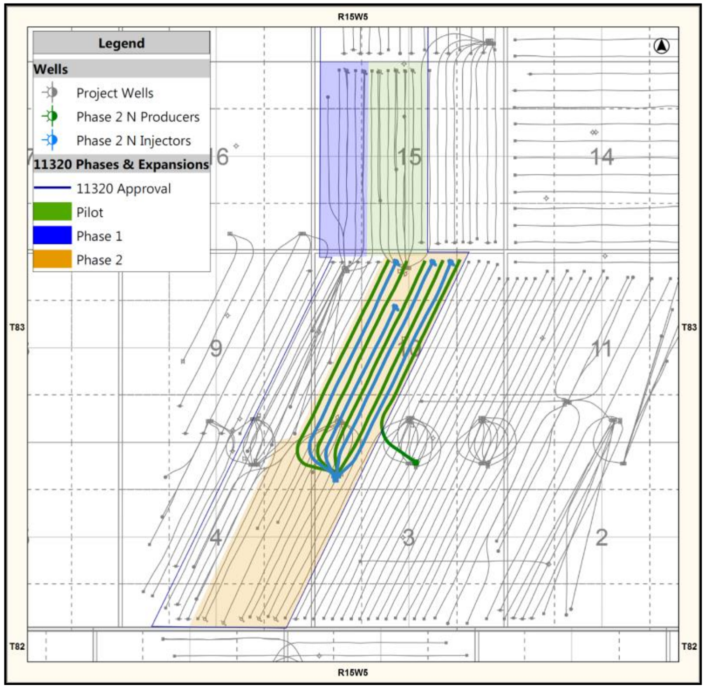
- Phase 2 consists of 9 injectors and 11 producers
- Injection commenced Q4 2012 at the 13-03 pad & Q2 2013 on the 04-10 pad
- Recent reactivation work has improved production
- 13-03 pad is driving phase 2 production, 04-10 pad performance has been quite poor

	Original Oil In Place (e^3m^3)	Primary Recovery (e^3m^3)	Primary Recovery %	Secondary Recovery (e^3m^3)	Secondary Recovery %	Current Recovery %	Ultimate Recovery %
Phase 2	2,650	87.5	3.3%	31.8	1.2%	4.5%	>5%

4. Scheme Performance

Phase 2 North (13-03 Pad)

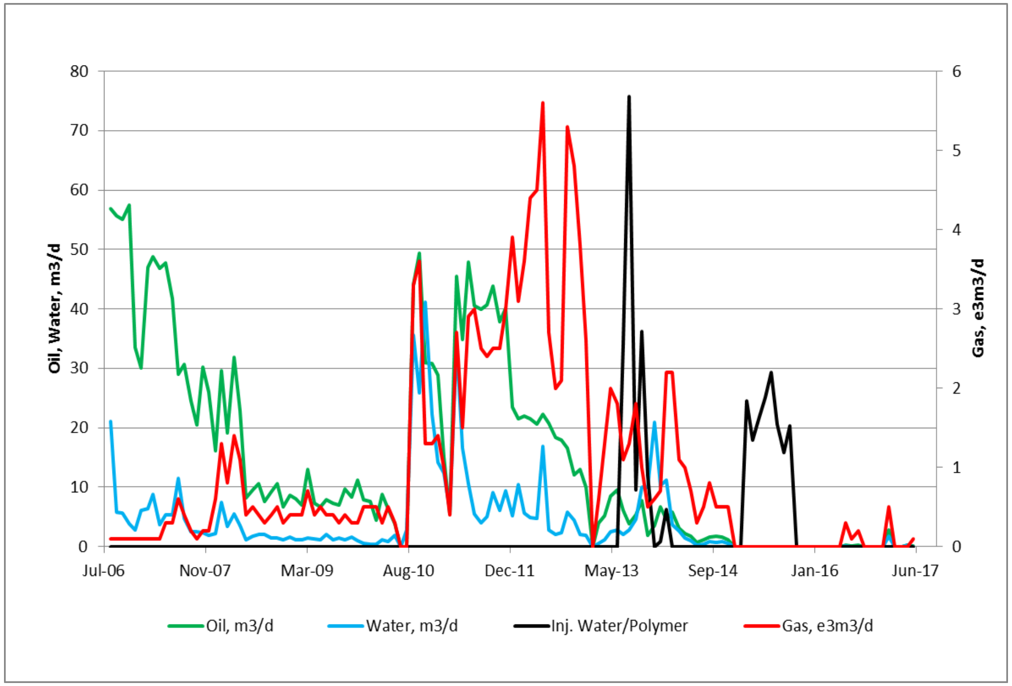


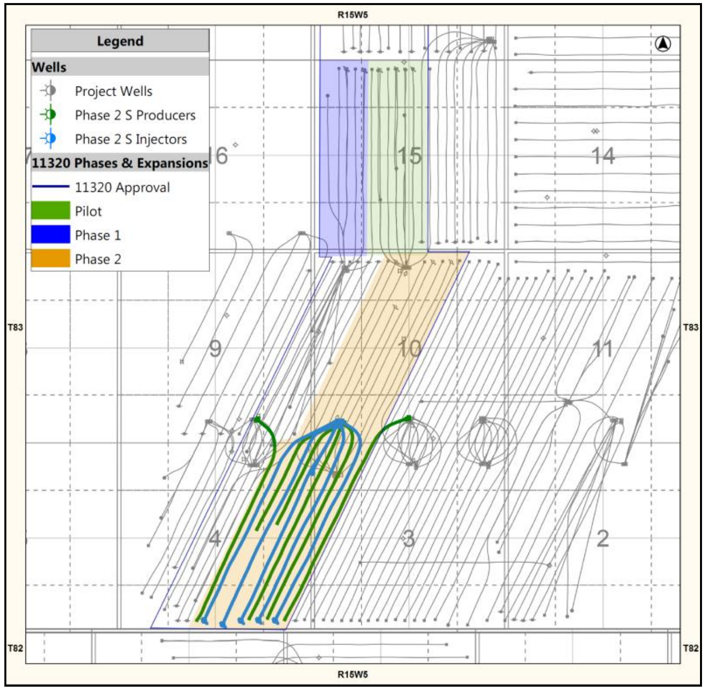


- Phase 2 (North) consists of 4 injectors and 5 producers
- Injection commenced Q4 2012 at the 13-03 pad
- Recent reactivation work has improved production
- 13-03 pad is driving Phase 2 production and has continued to ramp during 2016

4. Scheme Performance

Phase 2 South (04-10 Pad)





- Phase 2 (South) consists of 5 injectors and 6 producers
- Injection commenced Q2 2013 at the 04-10 pad
- Wells experienced early communication from Phase 2 North injectors, likely due to the "cross-drilled" nature of the pads with insufficient heel to heel offset
- Poor well placement cannot be rectified with out major workovers, no timeline is proposed to resume injection into Phase 2 South

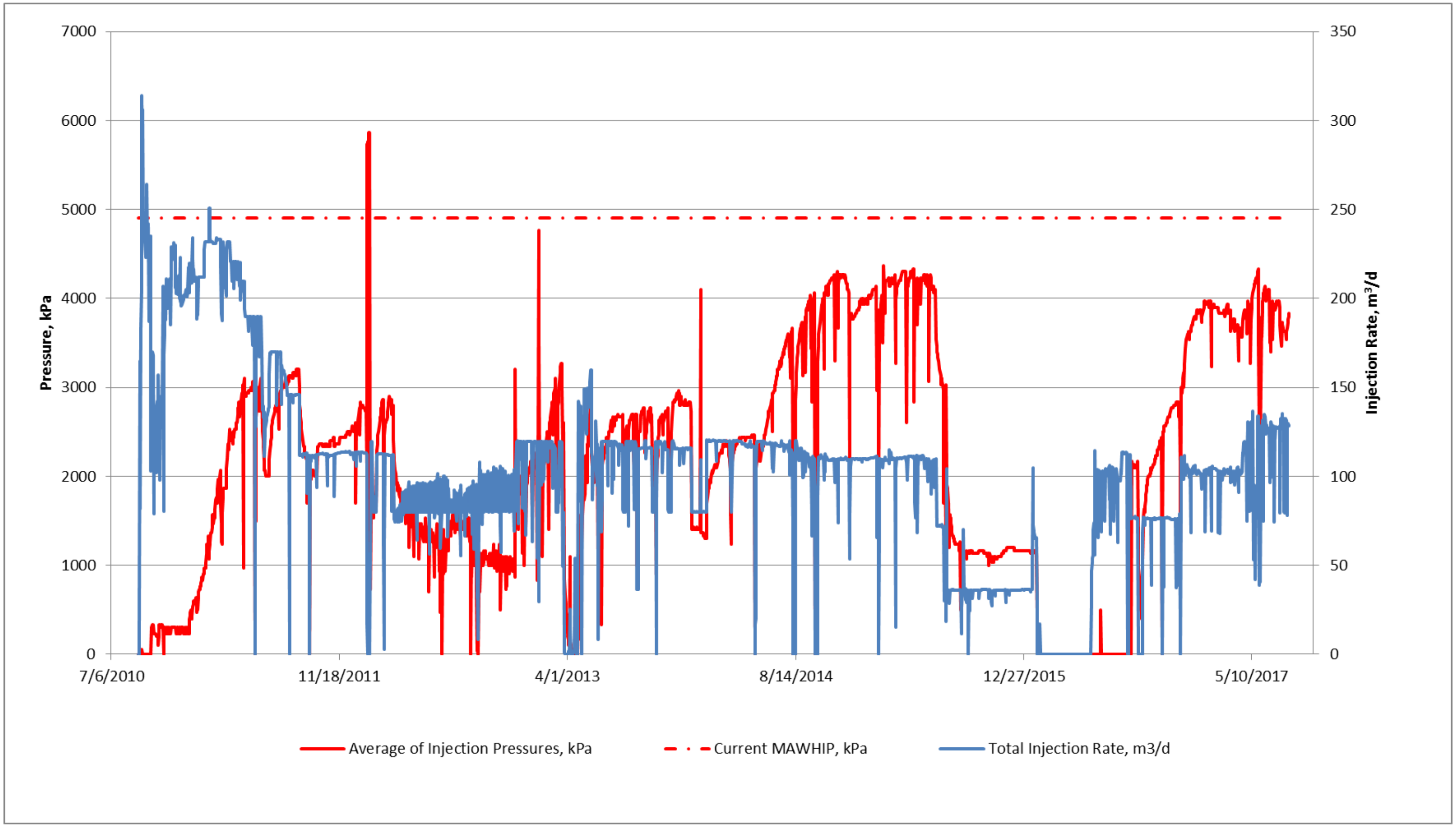
4. Scheme Performance

Lessons Learned

- Water cut is increasing across operational phases, which is expected as the flood continues to mature. Prior efforts of reducing production in attempt to alleviate increasing water cut have been counter-productive to optimizing scheme performance
- Well placement is critical to a successful polymer flood. Drilling practices by the previous operator resulted in wells in both Phase 1 and Phase 2 South which have heels of injectors and producers that are too proximal. Injected fluid immediately breaks through to producing wells and only a major workover, such as cementing liners can improve this situation
- Phase 2 South wells and the 100/13-15-083-15W5 injector at Phase 1 will remain shut-in; the workovers required to remediate are not justified under current economic conditions

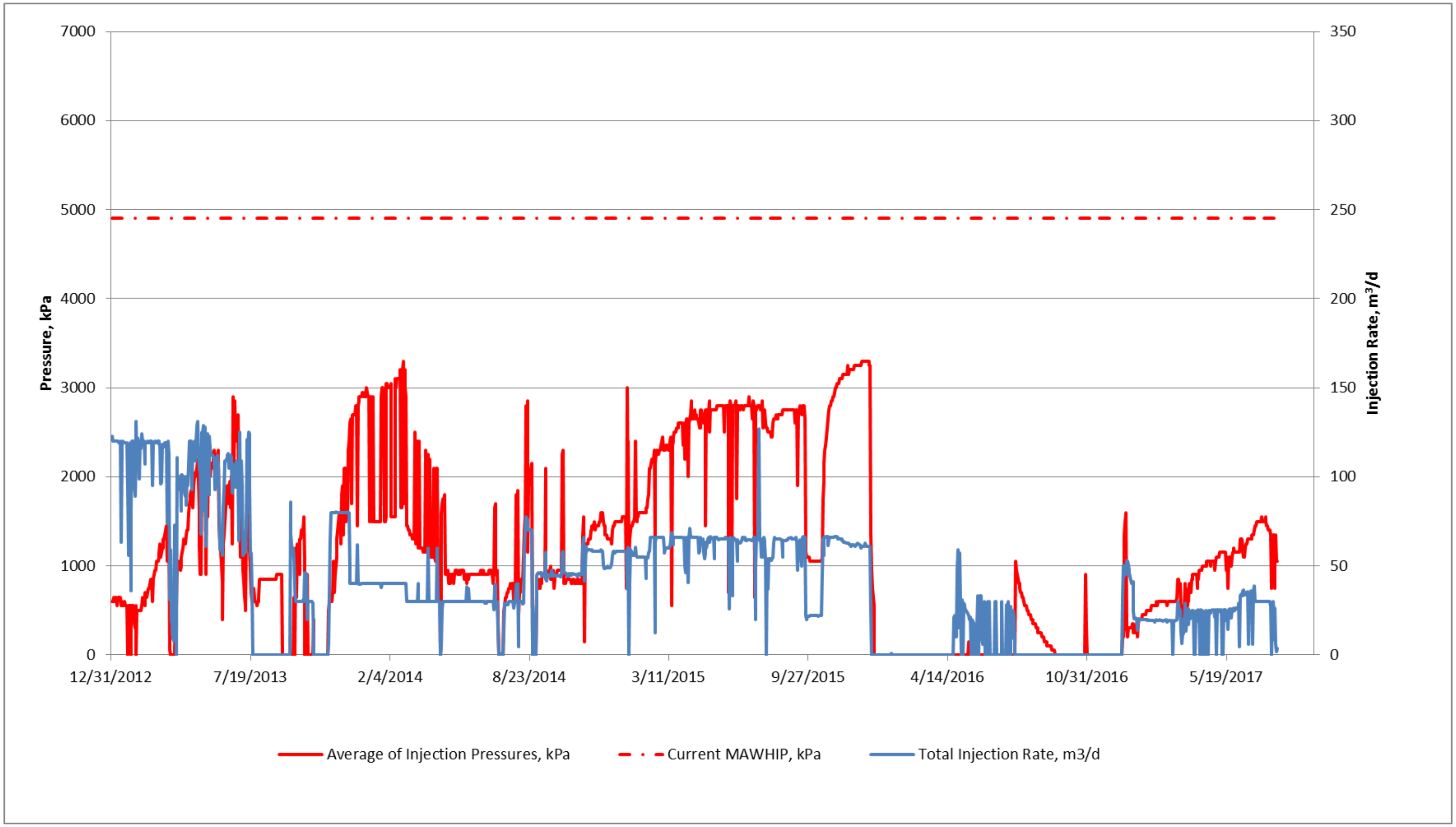
4. Scheme Performance

Pilot Injection Pressures and Rates



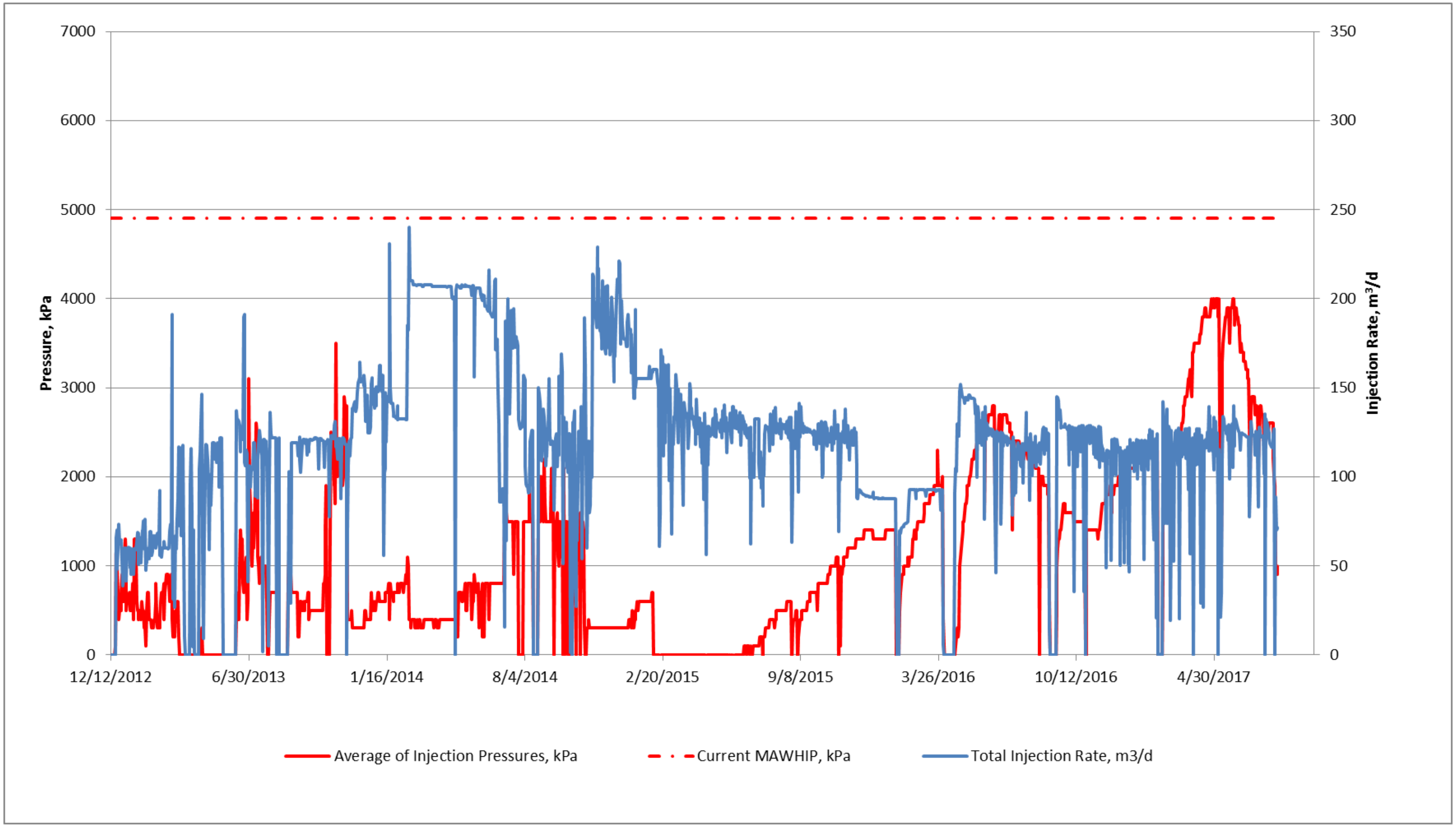
4. Scheme Performance

Phase 1 Injection Pressures and Rates



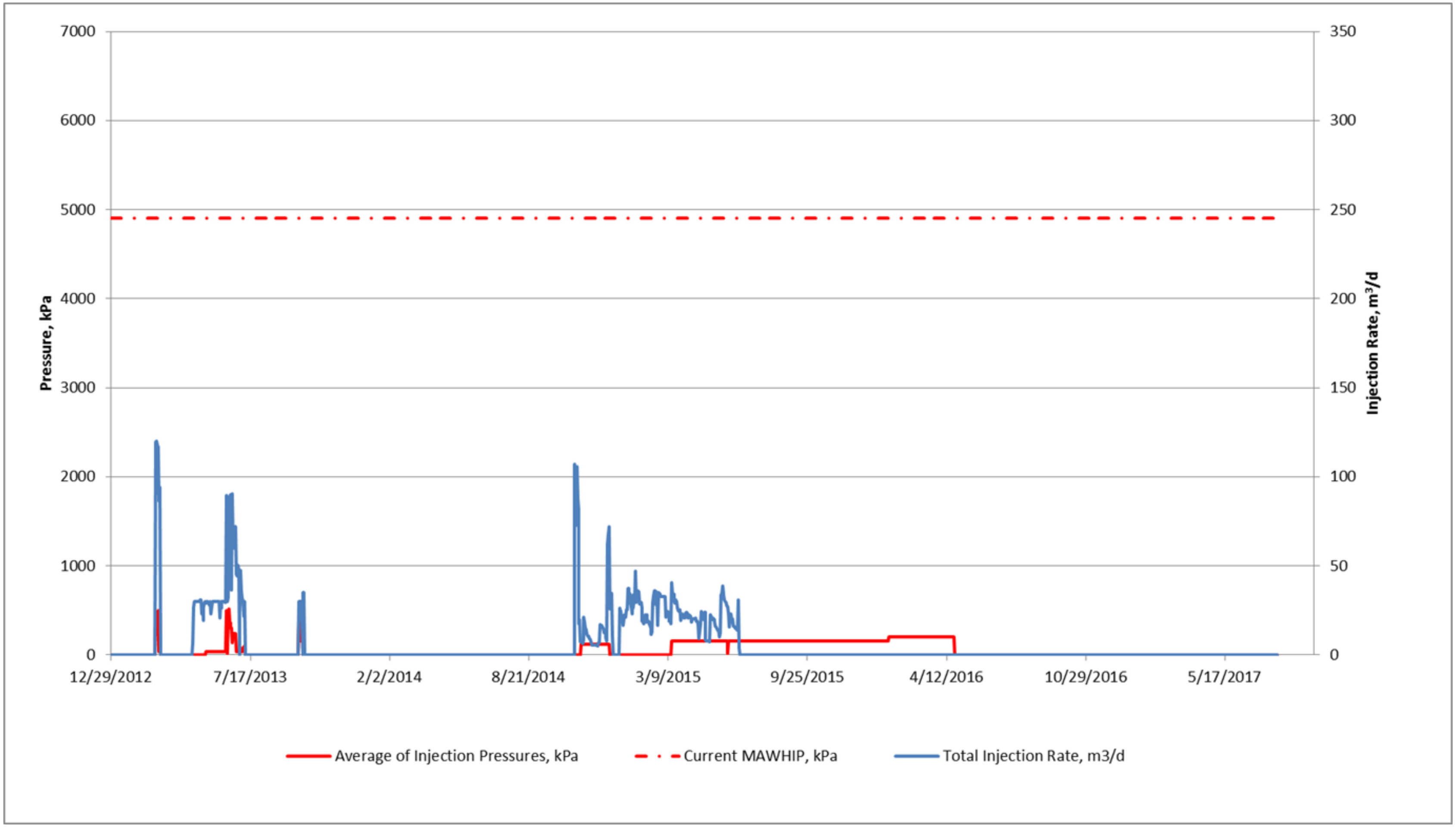
4. Scheme Performance

Phase 2 North Injection Pressures and Rates



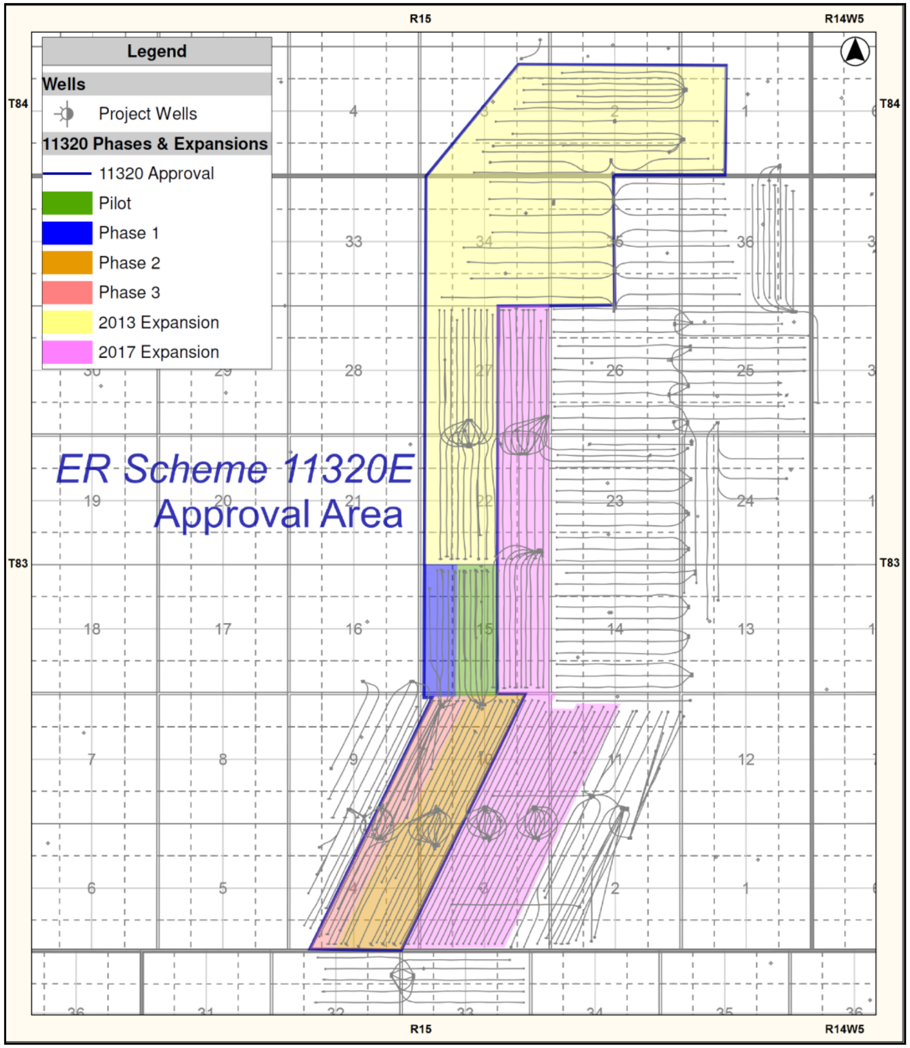
4. Scheme Performance

Phase 2 South Injection Pressures and Rates



5. Future Plans

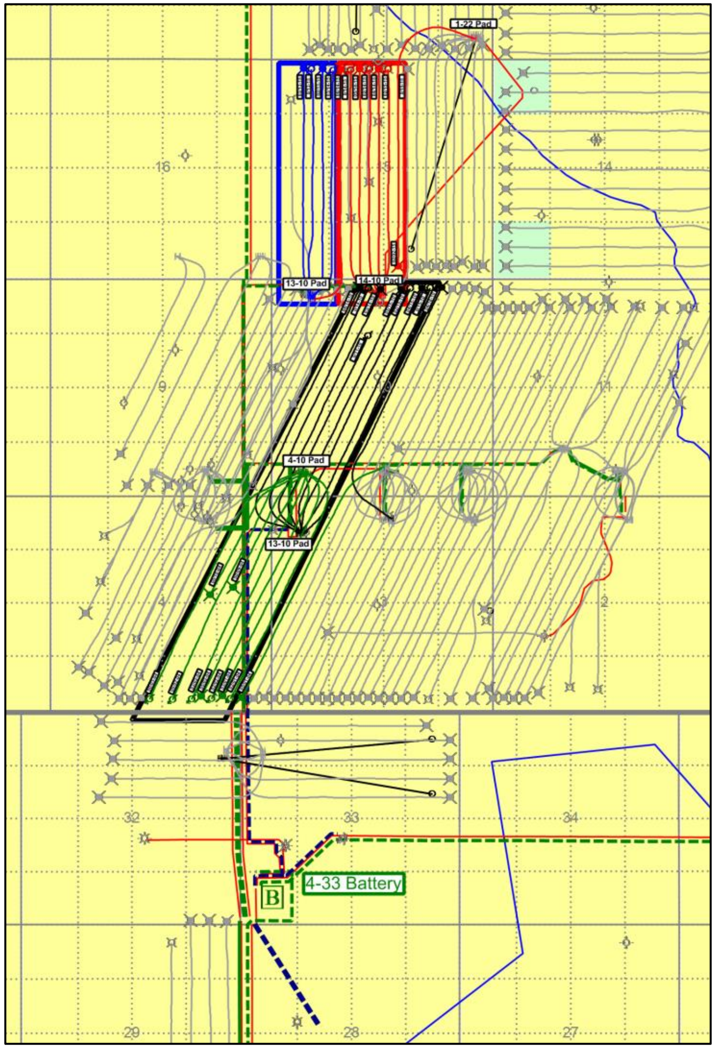
- Baytex plans to apply for a scheme amendment to expand adjacent to the Pilot and Phase 2 North pattern which will allow for a contiguous area to be developed under scheme 11320
- The 2013 expansion area remains on hold at this time
- The Water Act License for 1F1/14-10-083-15W5/0 source well expires in March 2018. Renewal application is being prepared.



Surface

1. Facilities

Facility Locations

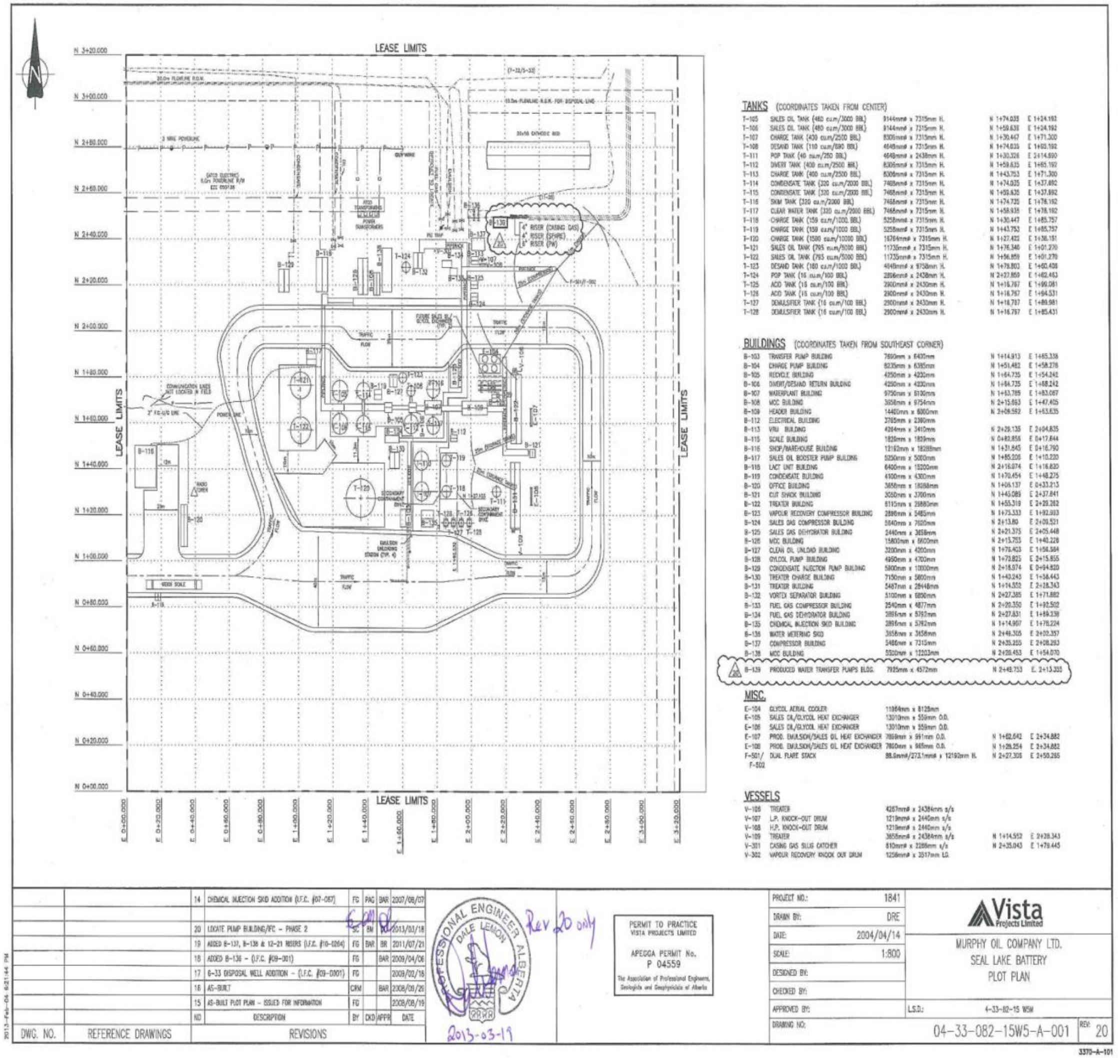


- The polymer flood surface locations are located at:
  - Pilot: 14-10-083-15W5
  - Phase 1: 13-10-083-15W5
  - Phase 2 N: 13-03-083-15W5
  - Phase 2 S: 04-10-083-15W5
- Polymer Injection facilities are located at:
  - 14-10-083-15W5 (Pilot & Phase 1)
  - 13-03-083-15W5 (Phase 2)

ABIF	ABBT	ABCT	Description
0111879	0121572	N/A	14-10 Polymer Injection Facility
0129026	0129029	N/A	13-03 Polymer Injection Facility
N/A	0129032	N/A	
N/A	0094150	N/A	Flow line of 04-33 CPF
N/A	N/A	0133398	04-33 CPF
0080049	N/A	N/A	10-04 SWD
0088019	N/A	N/A	11-28 SWD
0107239	N/A	0133398	06-33 SWD

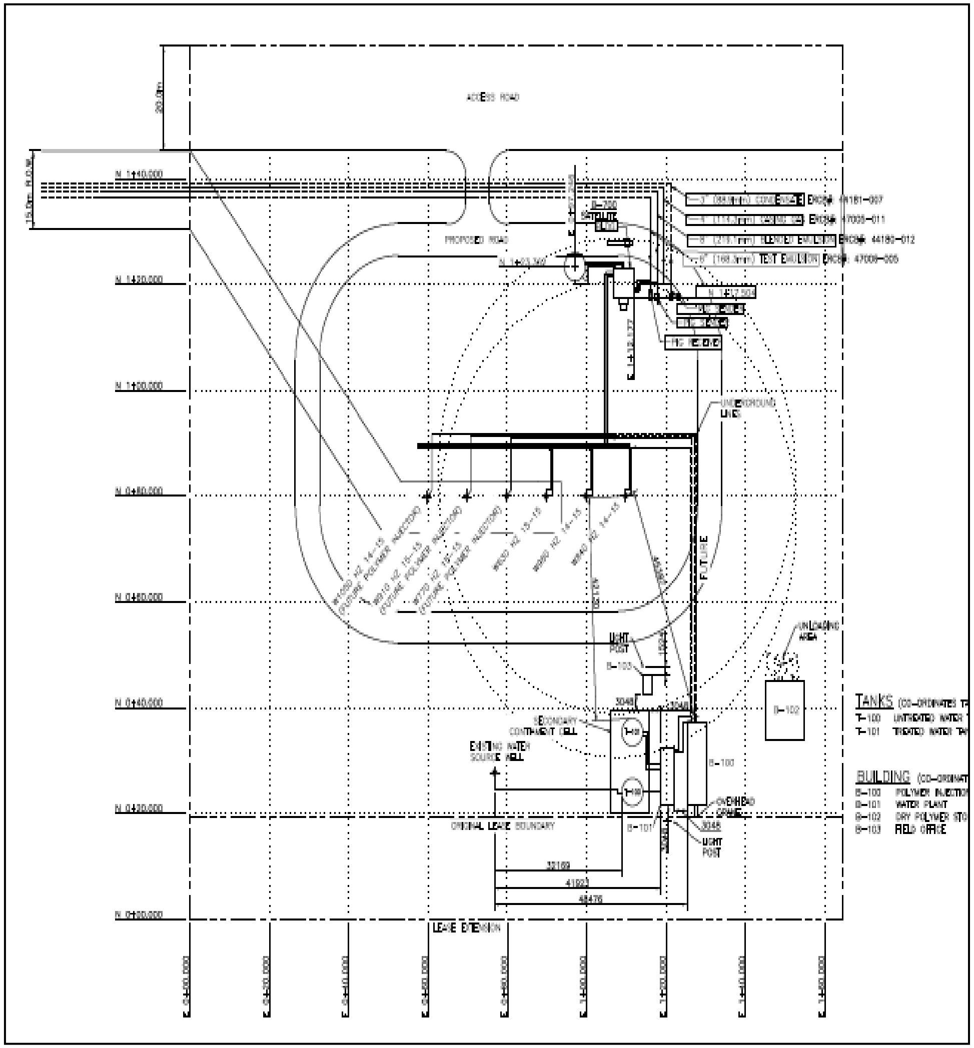
1. Facilities

Central Processing Facility - 04-33-083-15W5 Plot Plan



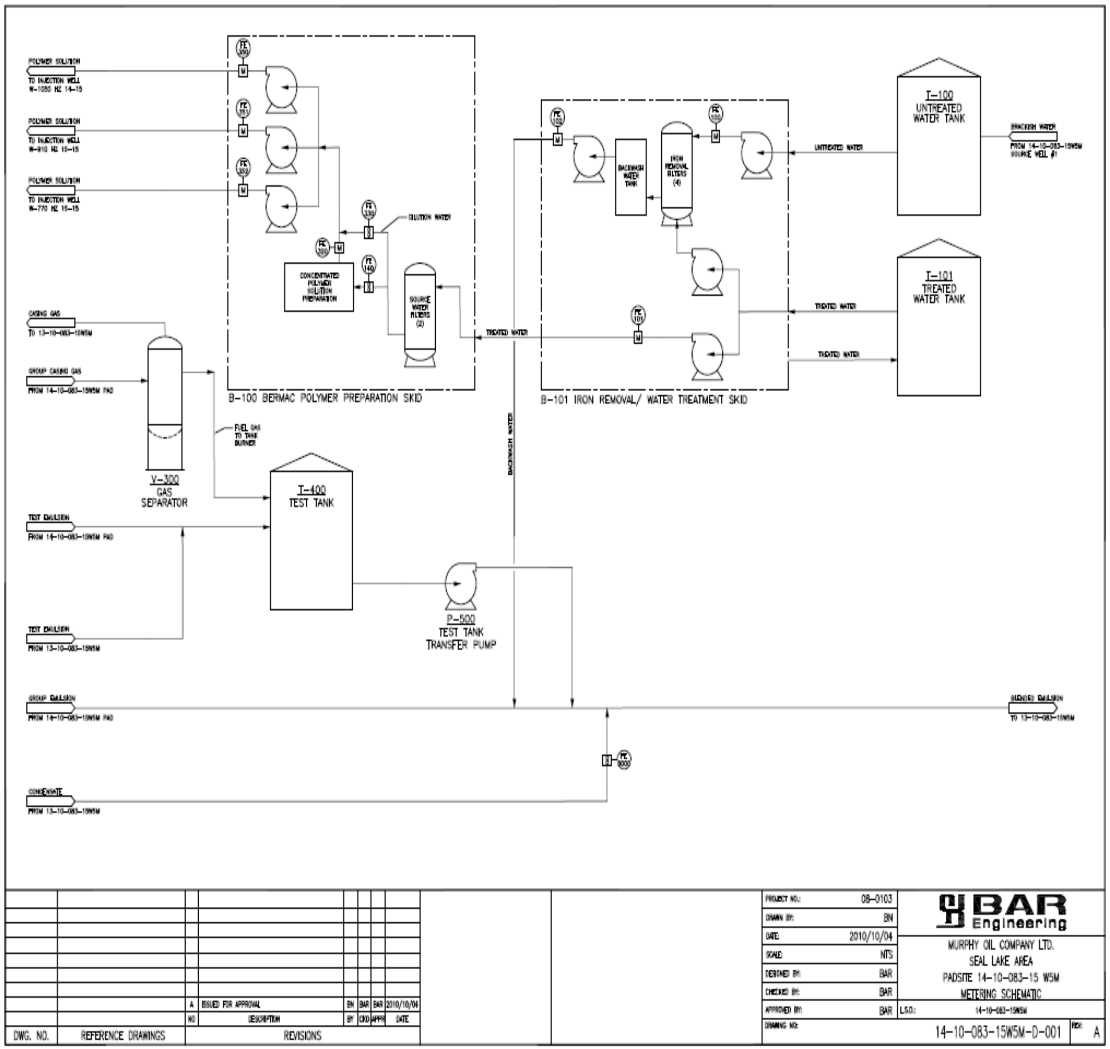
1. Facilities

Pilot – 14-10-083-15W5 Plot Plan



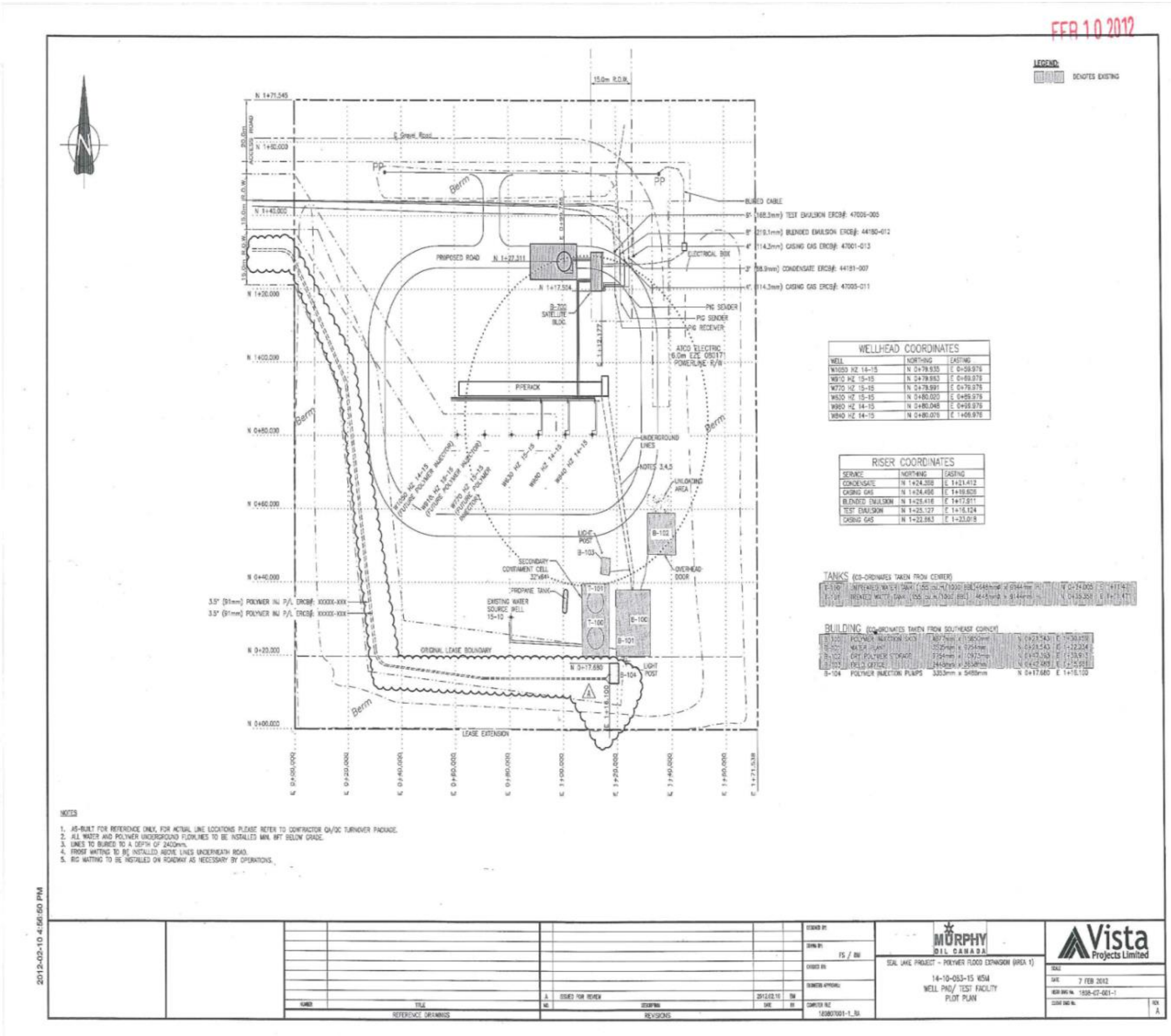
1. Facilities

Pilot – 14-10-083-15W5 Process Flow Diagram



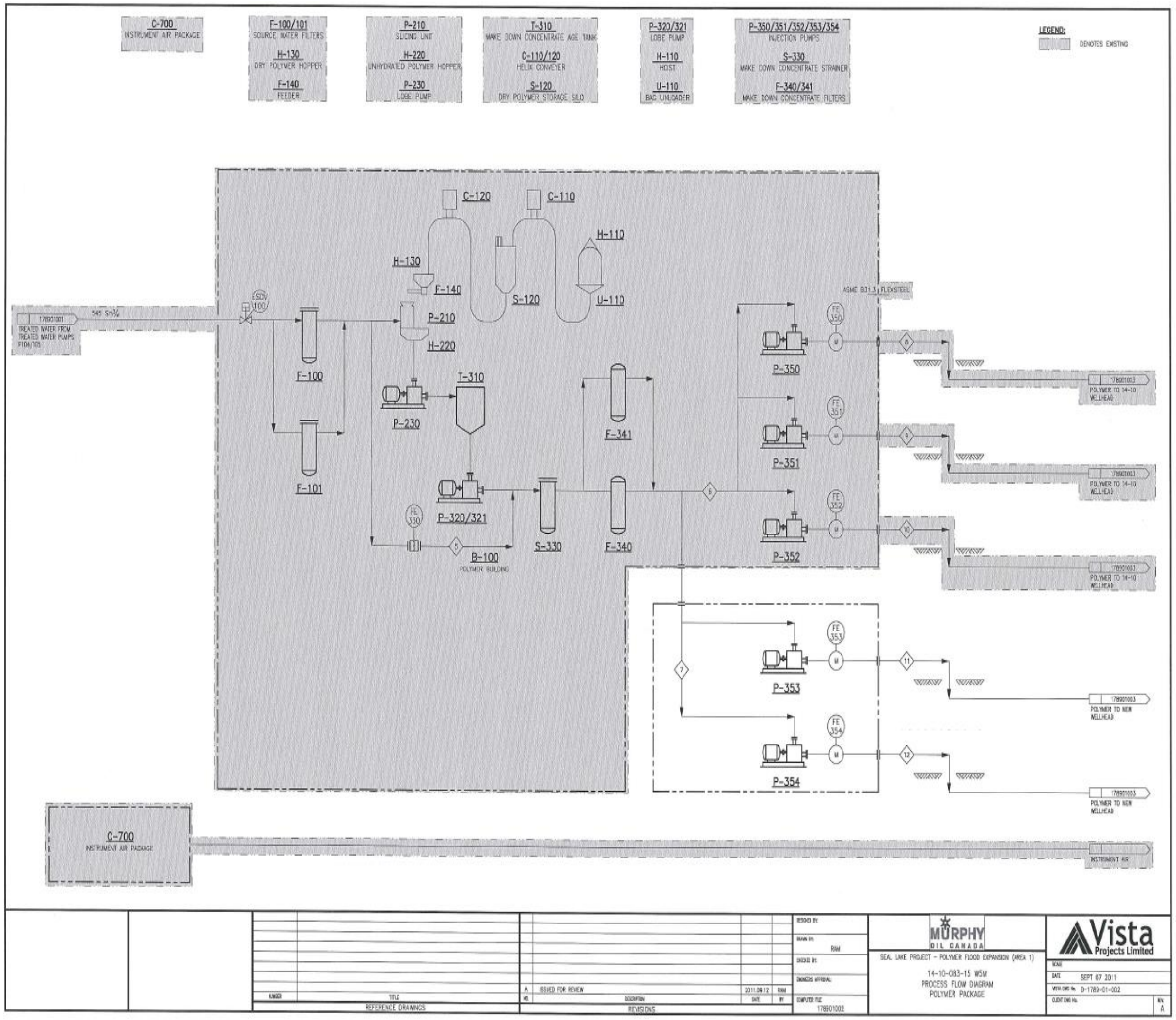
1. Facilities

Phase 1 – 14-10-083-15W5 Plot Plan



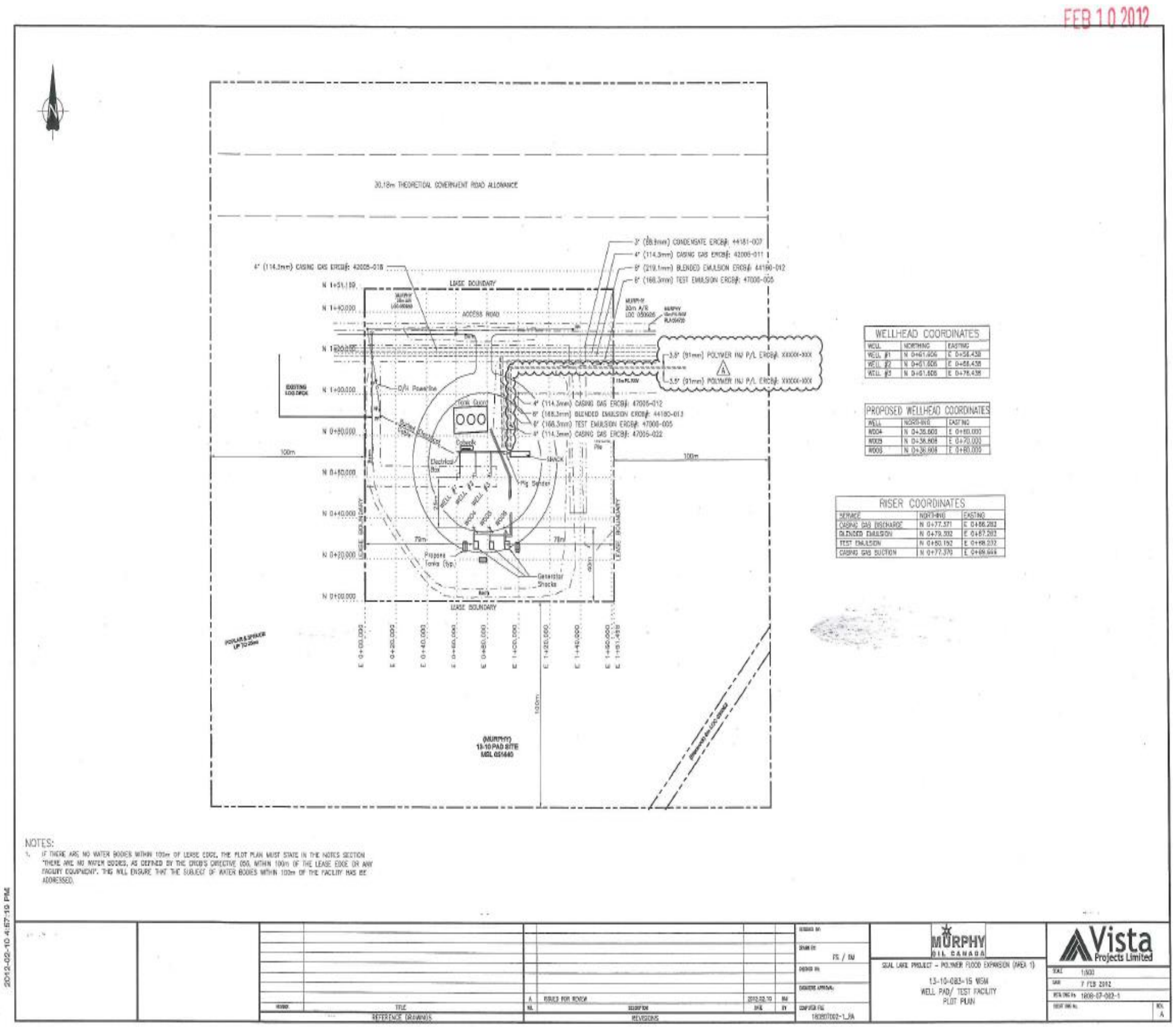
1. Facilities

Phase 1 – 14-10-083-15W5 Process Flow Diagram



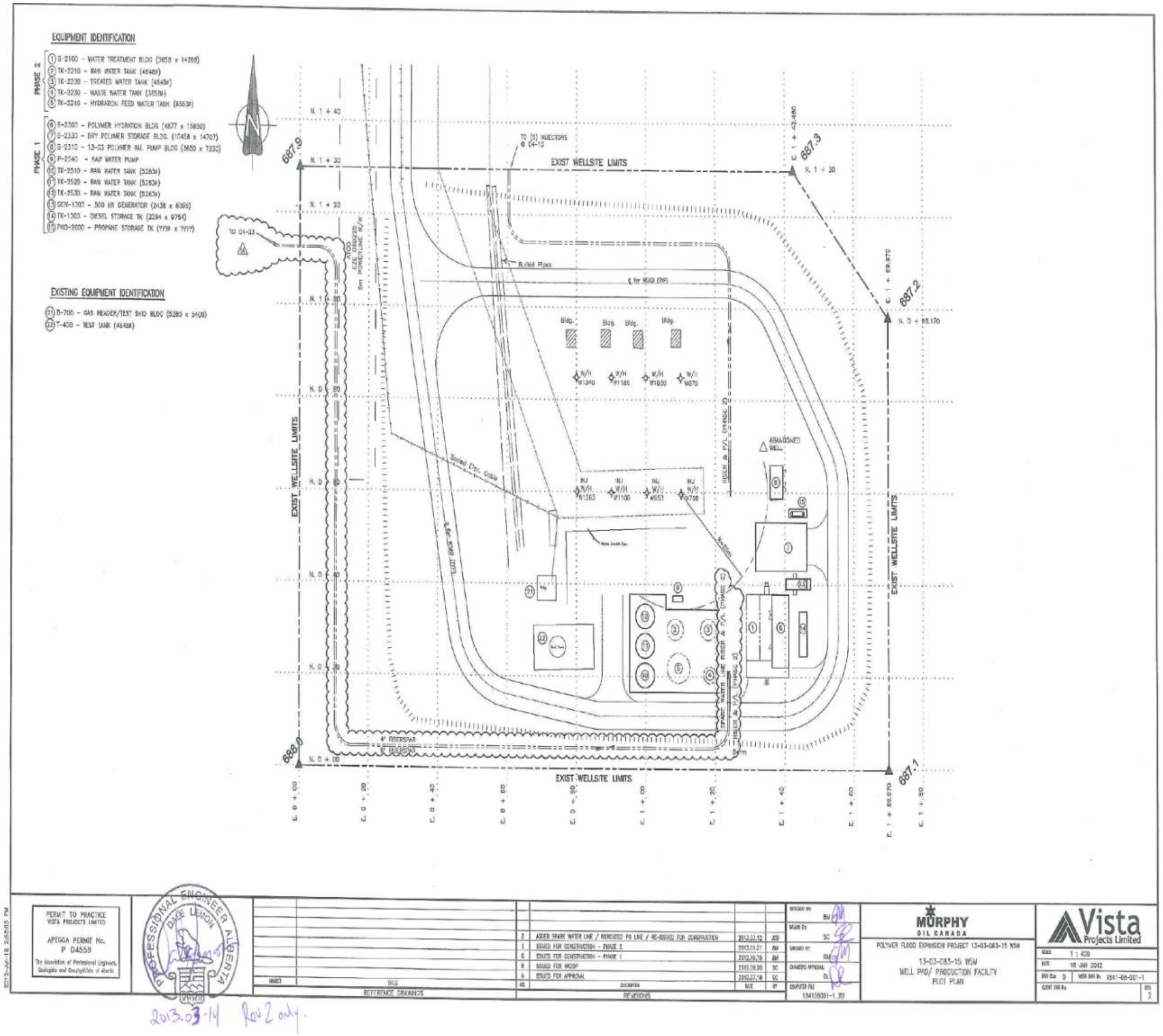
1. Facilities

Phase 1 – 13-10-083-15W5 Plot Plan



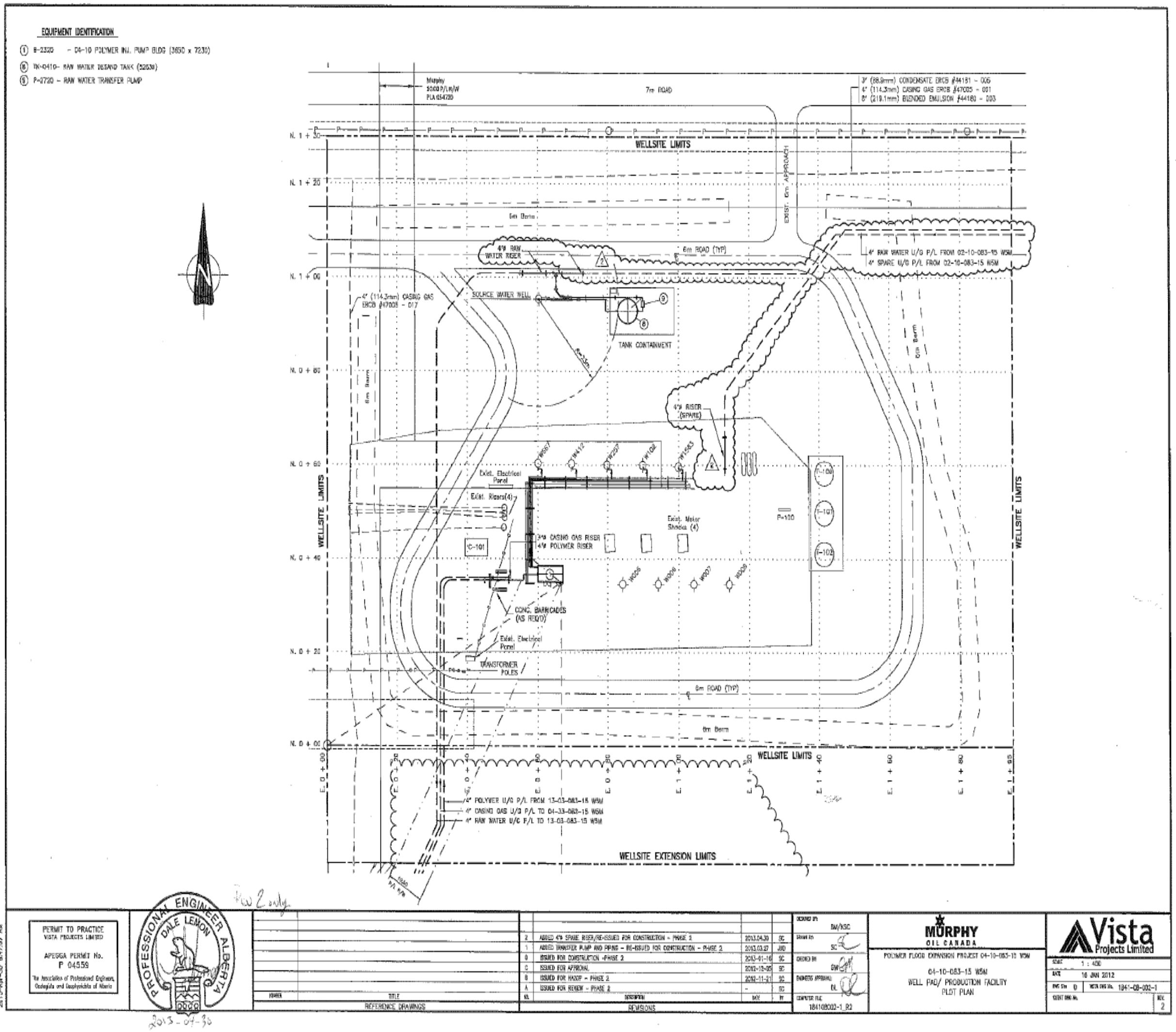
1. Facilities

Phase 2 – 13-03-083-15W5 Plot Plan



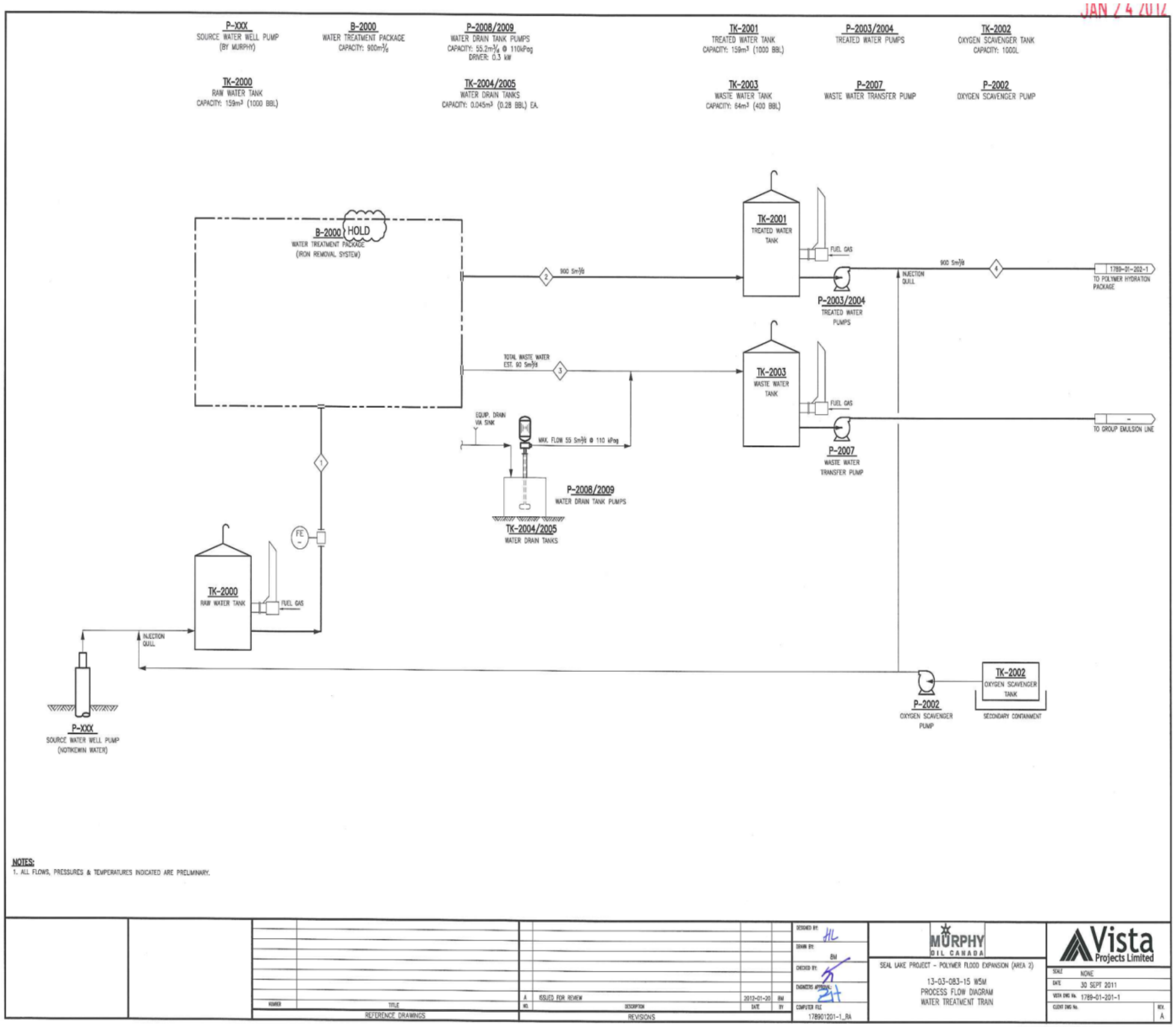
1. Facilities

Phase 2 – 04-10-083-15W5 Plot Plan



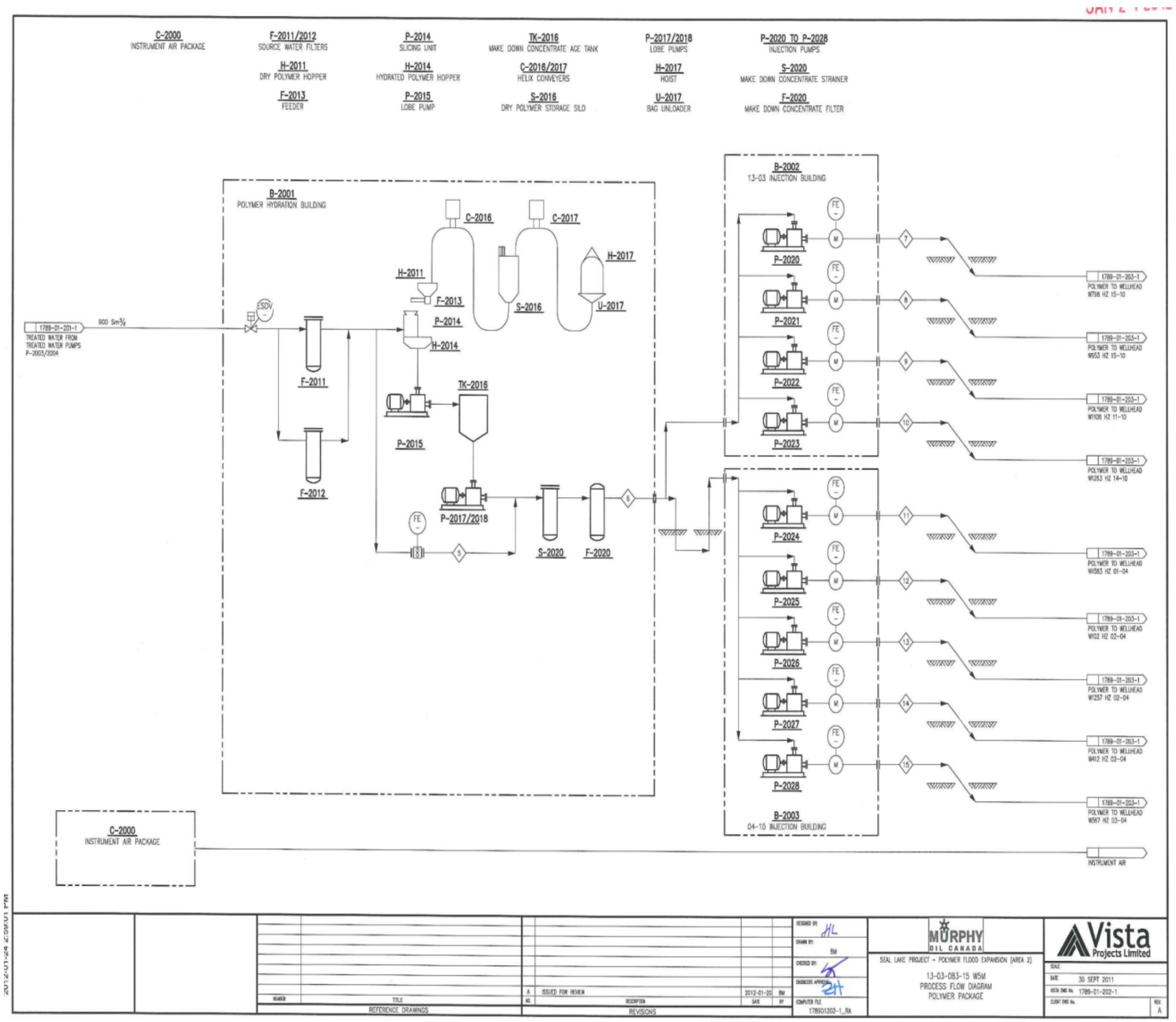
1. Facilities

Phase 2 – Process Flow Diagram



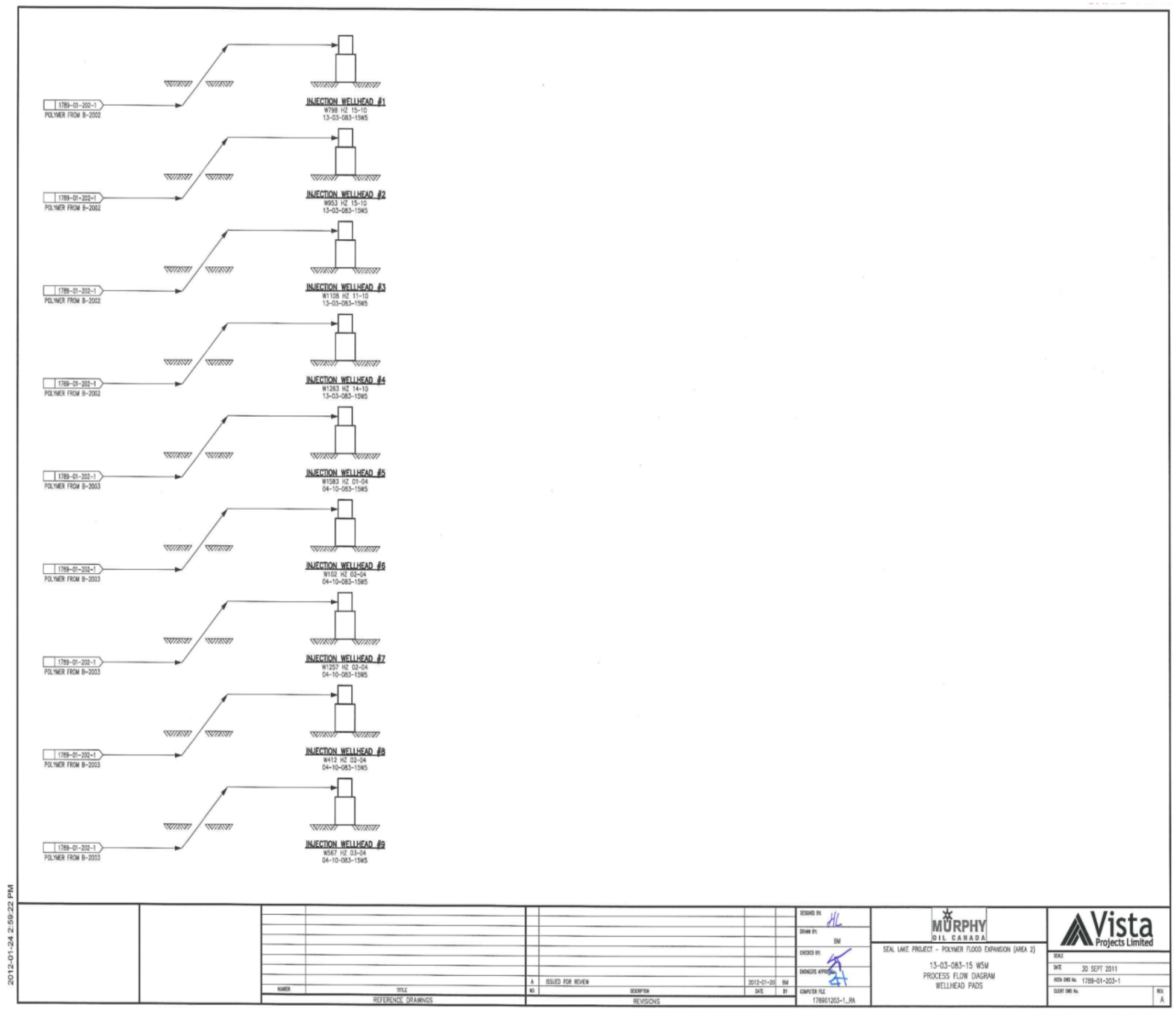
1. Facilities

Phase 2 – Process Flow Diagram (cont.)



1. Facilities

Phase 2 – Process Flow Diagram (cont.)



2. Measurement and Reporting

Well Testing and Injection Rates

Well Tests

- Test tanks located at 14-10 (which also serves 13-10 pad), and 13-03 pads to determine production rates
- Composite fluid samples are collected via top cut samplers for manual S&W measurement
- There is a wide range of variability with respect to well productivity in the project, as such Baytex schedules its testing frequency and durations based on the requirements prescribed in Directive 17, Section 6.4.4, Table 6.1. There is no single testing frequency that is appropriate for all wells in the project.

Polymer Injection

- Polymer injection rates are measured via individual wellhead meters
- Produced polymer is contained in the aqueous phase and is not miscible with the oil phase

2. Measurement and Reporting

Production Accounting Proration

Production Date	Oil Proration Factor	Gas Proration Factor	Water Proration Factor
2016-01	0.63	0.88	0.70
2016-02	0.76	1.10	0.87
2016-03	0.79	1.16	0.61
2016-04	0.55	1.27	0.63
2016-05	0.38	1.06	0.85
2016-06	0.71	0.74	0.34
2016-07	0.56	0.81	0.68
2016-08	0.64	0.90	0.68
2016-09	0.60	1.07	0.67
2016-10	0.84	0.80	0.76
2016-11	0.75	0.60	0.60
2016-12	0.63	0.54	0.53
2017-01	0.83	0.57	0.58
2017-02	0.74	1.14	0.83
2017-03	0.75	1.17	0.69
2017-04	0.80	1.06	0.77
2017-05	0.71	0.97	0.88
2017-06	0.57	1.00	0.99
2017-07	0.42	0.94	1.10

2. Measurement and Reporting

Actions to Improve Proration Factors

- Since acquiring the asset Baytex has identified deficiencies in fluid rate and S&W measurements at the 04-33 battery
- To improve upon existing practices, Baytex production personnel began following the testing requirements for proration pads as outlined in Directive 17, Section 6.4.4, Table 6.1
- Several steps have been implemented to improve the proration factors:
  - Baytex has exceeded the frequency of meter calibration required for Directive 17 and inspections of the primary measurement element have been conducted
  - During truck off-loading at the 04-33 Battery, the sampling frequency has been increased to improve accuracy
- Baytex intends to monitor the results of meter calibrations and sampling improvements to determine whether the causes of poor proration factors have been addressed
- In Q3 2017 Baytex hired an external consultant to audit fluid rate and S&W measurement practices at the 04-33 battery; the report and recommendations are being evaluated

3. Water Usage

Paddy Cadotte Formation Source Water

- UWI: 1F1/14-10-083-15W5/0
  - Alberta Environment & Parks (AEP) Water Act approval 00289082-00-00 for the diversion of up to 164,250 m3 of water for injection
  - Expires 2018-03-05
  - 3,750 ppm TDS
  - Fe was not detected
  - Volume of water diverted in 2016 was 22,144 m3
  - Volume of water diverted up to July 2017 was 27,232 m3

- UWI: 1F1/15-03-083-15W5/0
  - No Water Act approval necessary with TDS testing >4,000 ppm
  - 5,383 ppm TDS
  - Fe was not detected
  - Not in use since 2013

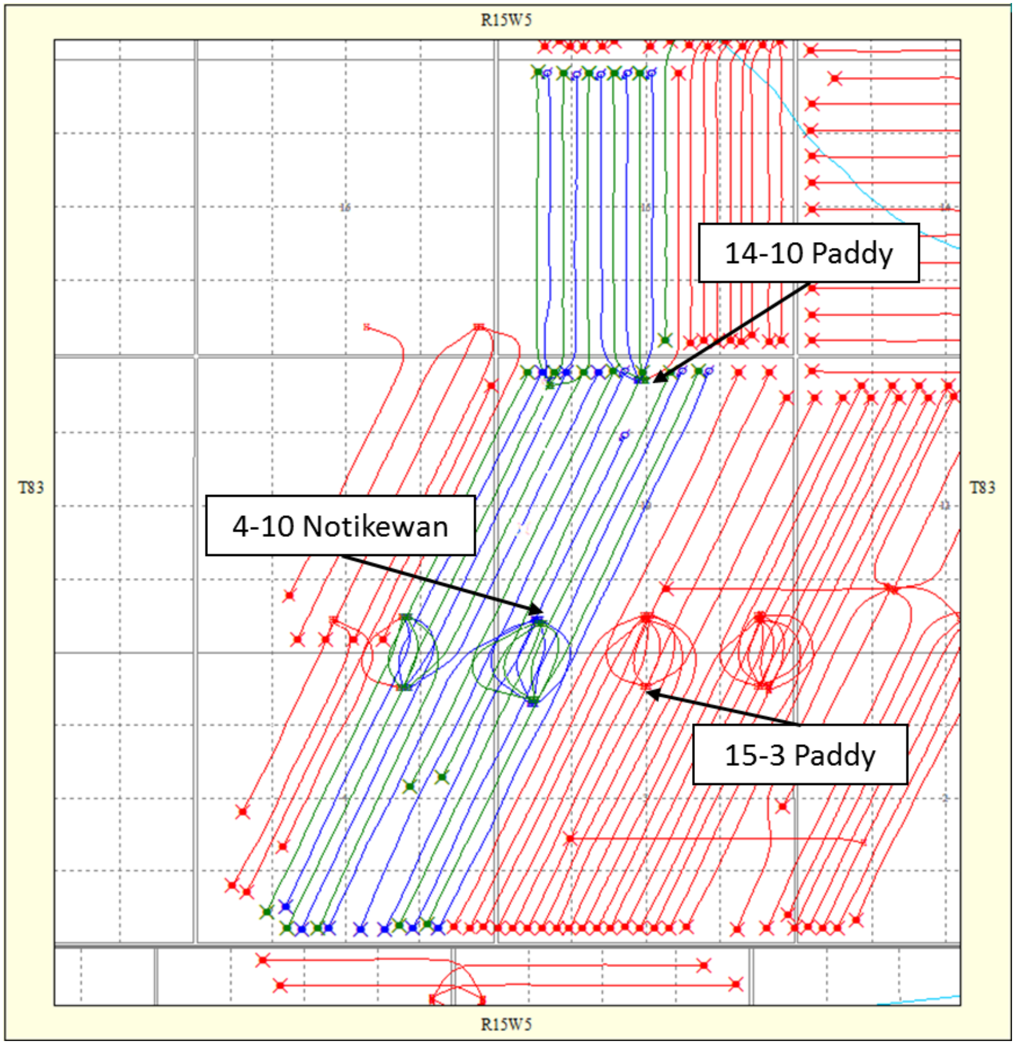
3. Water Usage

Notikewan Formation Source Water

- UWI: 1F1/4-10-083-15W5
  - Water Act approvals are not needed for Notikewan wells with TDS >4,000 ppm
  - 10,592 ppm TDS
  - Fe was not detected
  - Current supply for the Polymer facility at the 13-03 Pad
  - Volume of water diverted in 2016 was 36,985 m3
  - Volume of water diverted up to July 2017 was 24,162 m3

3. Water Usage

Source Water Well Locations



3. Water Usage

04-33 Water Volumes

04-33 Water Volumes, m³	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17
Produced Water, Polymer Flood	766	1381	785	13	17	245	273	268	257	433	414	715	1241	1296	963	1529	2061	2741	874
Produced Water, Field	4227	5623	4677	1994	2301	4257	5260	5053	3130	3010	3332	4324	4262	3926	5293	5477	5433	5825	8917
Received Water	209	60	71	0	0	0	0	0	0	0	0	0	0	1210	561	1368	124	115	70
Fresh Water Injected	3125	20	0	0	327	3507	3345	3069	1525	2326	2136	2763	3531	3438	3640	3585	4326	4082	4629
Saline Water Injected	2492	2228	2870	1469	4326	3487	3524	3604	2606	3725	3518	3136	3280	2728	2728	3850	3542	4049	3985
Disposal Volumes, Battery	5202	7063	5533	4015	2317	4502	5533	5321	3387	3443	3746	5039	5503	5709	6928	8345	7516	8685	9831

Source Water, m³	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17
1F1/04-10-083-15W5	2492	2228	2870	1469	4326	3487	3524	3604	2606	3725	3518	3136	3280	2728	2728	3850	3542	4049	3985
1F1/14-10-083-15W5	3125	20	0	0	327	3507	3345	3069	1525	2326	2136	2763	3531	3438	3640	3585	4326	4082	4629

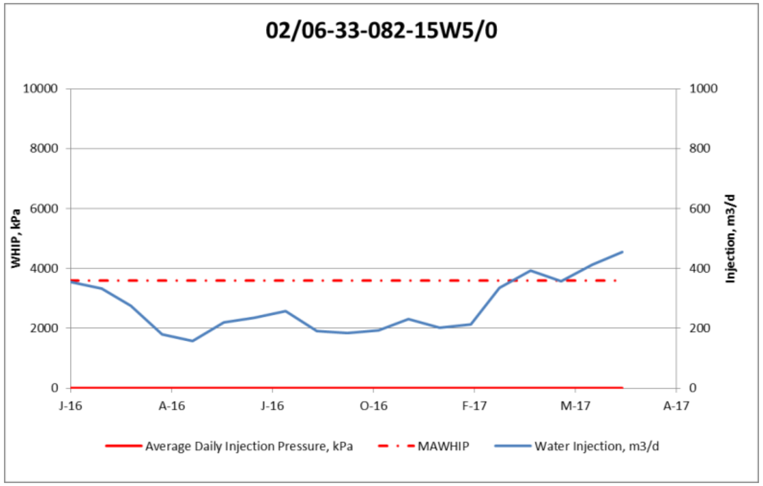
3. Water Usage

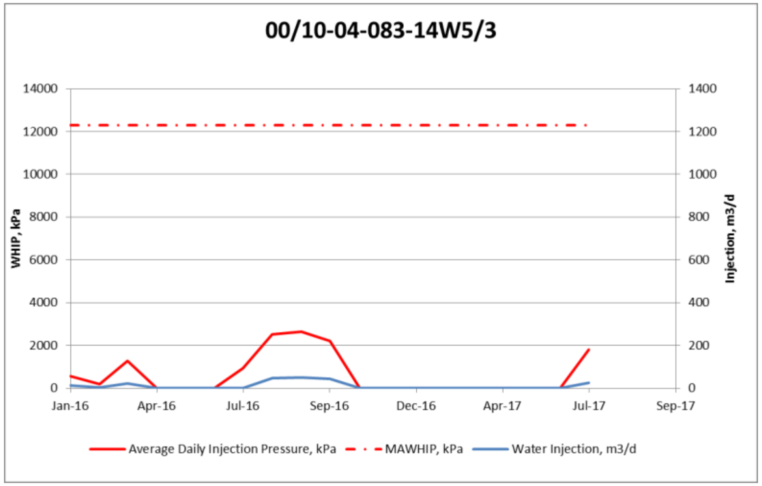
Produced Water Volumes

- Produced volumes are prorated back to the producing wells by periodic well tests performed at each pad and the proration meter at the 04-33 battery
- As of July 2017, there has been a recorded 56,198 m^3 of water produced during polymer flood operation at the respective phases. Volumes are considered from the beginning of polymer injection at each individual pattern
- Water volumes are calculated through sampling the BS&W during the well test
- Produced water is currently being injected into the disposal well at 102/06-33-082-15W5/0 that is connected to the 04-33 battery by a pipeline

3. Water Usage

Disposal Wells





UWI	Approval Number	MWHIP kPa	Formation	2016 Disposal Volume m^3	2017 Disposal Volume (to July), m^3
102/06-33-082-15W5/0	11949	3,600	Debolt	84,119	74,201
100/10-04-083-14W5/3	11353C	12,300	Nisku	1,969	795
100/11-28-082-15W5/2, not active	11949	3,600	Debolt	--	--

3. Water Usage

Injected Volumes

- Pilot 247,163 m^3 injected
- Phase 1 70,721 m^3 injected
- Phase 2 192,544 m^3 injected
- **Total 510,428 m^3 injected**

- Baytex measures bacteria levels as part of the field monitoring program for corrosion and fouling
- Currently employing a biocide batch treatment program to reduce levels of sulphur-reducing bacteria and acid producing bacteria

4. Gas / Sulphur Production

(e^3m^3)	16-Jan	16-Feb	16-Mar	16-Apr	16-May	16-Jun	16-Jul	16-Aug	16-Sep	16-Oct	16-Nov	16-Dec	17-Jan	17-Feb	17-Mar	17-Apr	17-May	17-Jun	17-Jul
Produced Gas, Polymer Flood	183	117	93	6	6	35	49	43	36	44	43	69	56	115	112	97	73	41	41
Produced Gas, Field	1564	1722	1868	754	656	869	1162	1219	829	949	901	883	817	782	1197	1203	1399	1375	1314
Received Gas (Other batteries + third party)	250	265	274	92	162	85	90	116	118	105	103	114	95	0	0	0	6	5	6
Total Inlets	**1997**	**2104**	**2235**	**852**	**825**	**989**	**1301**	**1378**	**982**	**1098**	**1048**	**1066**	**968**	**897**	**1309**	**1300**	**1477**	**1421**	**1361**
Consumed (04-33 Fuel)	529	448	571	156	125	146	150	168	168	167	157	181	172	89	366	366	366	366	366
Consumed (04-33 Fuel in Field + Polymer)	31	325	191	47	0	0	173	297	93	17	0	0	0	120	0	0	0	0	0
Consumed (Disp, AB CT 0133398)	407	347	345	251	270	221	228	242	228	343	364	371	278	224	321	331	369	340	306
Flared	34	27	42	25	31	38	40	33	54	20	8	20	5	5	12	15	40	39	15
Vent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delivered (Disp, AB BT 0140019)	996	957	1086	375	399	584	710	639	440	551	519	494	523	0	0	0	0	0	0
Delivered (Disp, AB GS 0095626)	0	0	0	0	0	0	0	0	0	0	0	0	0	459	611	588	703	675	675
Total Outlets	**1997**	**2104**	**2235**	**852**	**825**	**989**	**1301**	**1378**	**982**	**1098**	**1048**	**1066**	**978**	**897**	**1309**	**1300**	**1477**	**1421**	**1361**

- Gas usage shown reflects values reported into Petrinex at the 04-33 Battery
- There are no flares on the polymer flood specific sites. Since the polymer flood operates above the bubble point, unlike the primary production that accounts for the majority of gas production volumes at 04-33 Battery, the contribution of polymer flood to total flare volumes ranges from 1-13% with an average of 5% over the reporting period
- There is no sulphur production at the polymer facilities
- All gas is sent to third party gas plant (Tidewater) via 04-33 for sales and processing

5. Regulatory

Compliance Statement

- Baytex inherited a long-standing measurement problem which results in proration factors being out of compliance with respect to Directive 17
- Baytex is actively working to understand the issue(s) so that a solution can be implemented to improve production data quality and ensure regulatory compliance
- There are no known environmental issues