

Cenovus FCCL Ltd. Foster Creek In-situ Progress Report Scheme 8623

Appendices 2016

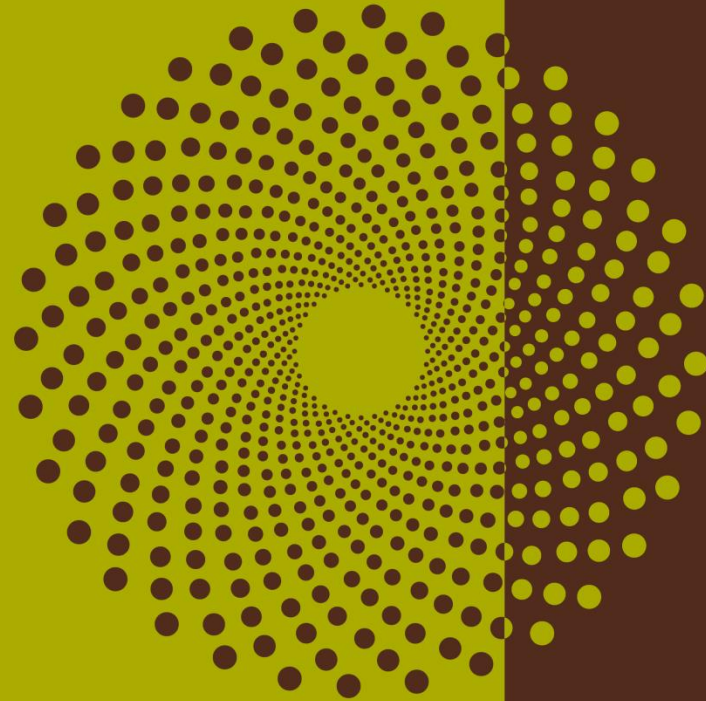


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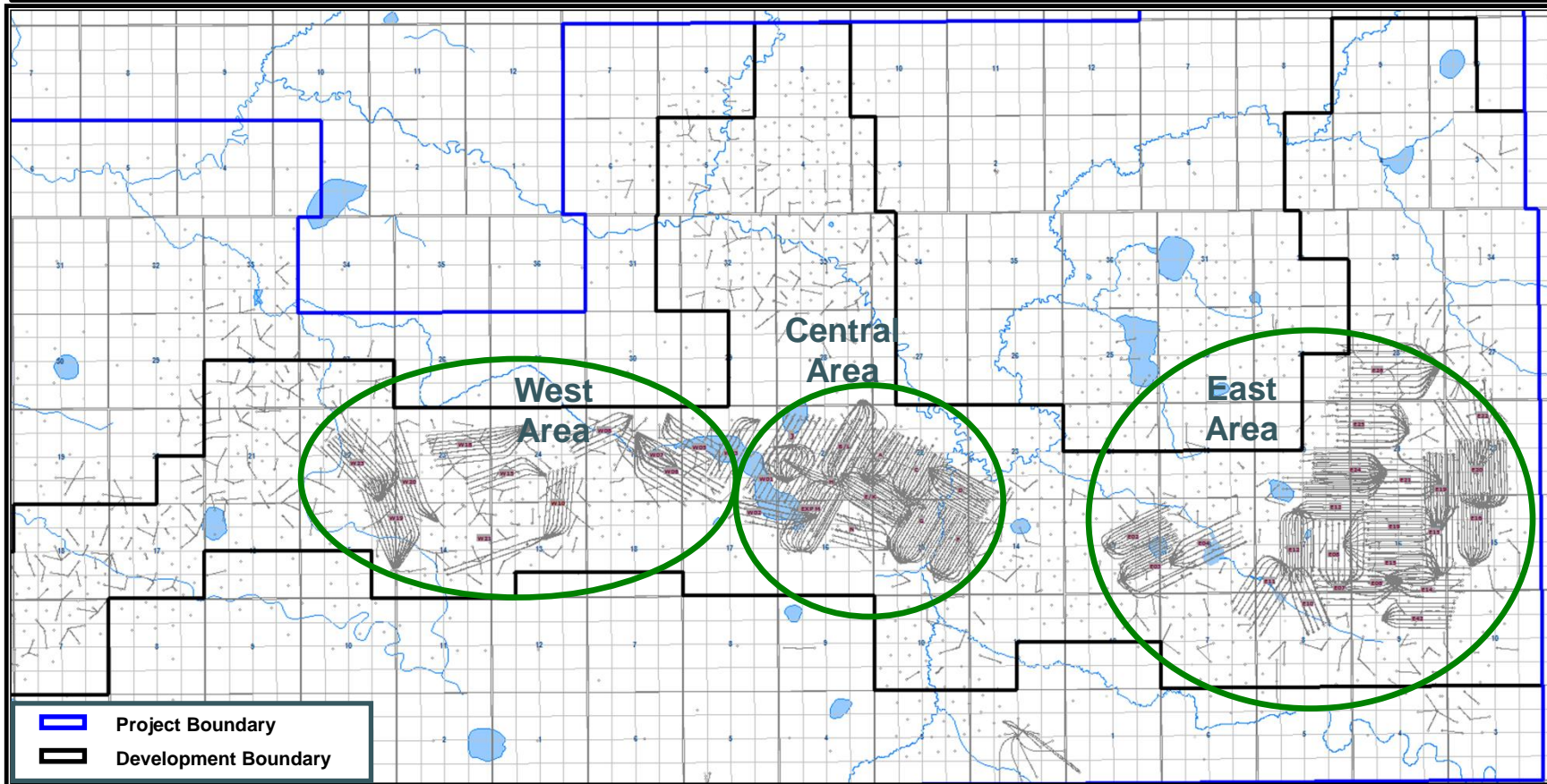
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Fibre temperature data	68-140

Pad plots

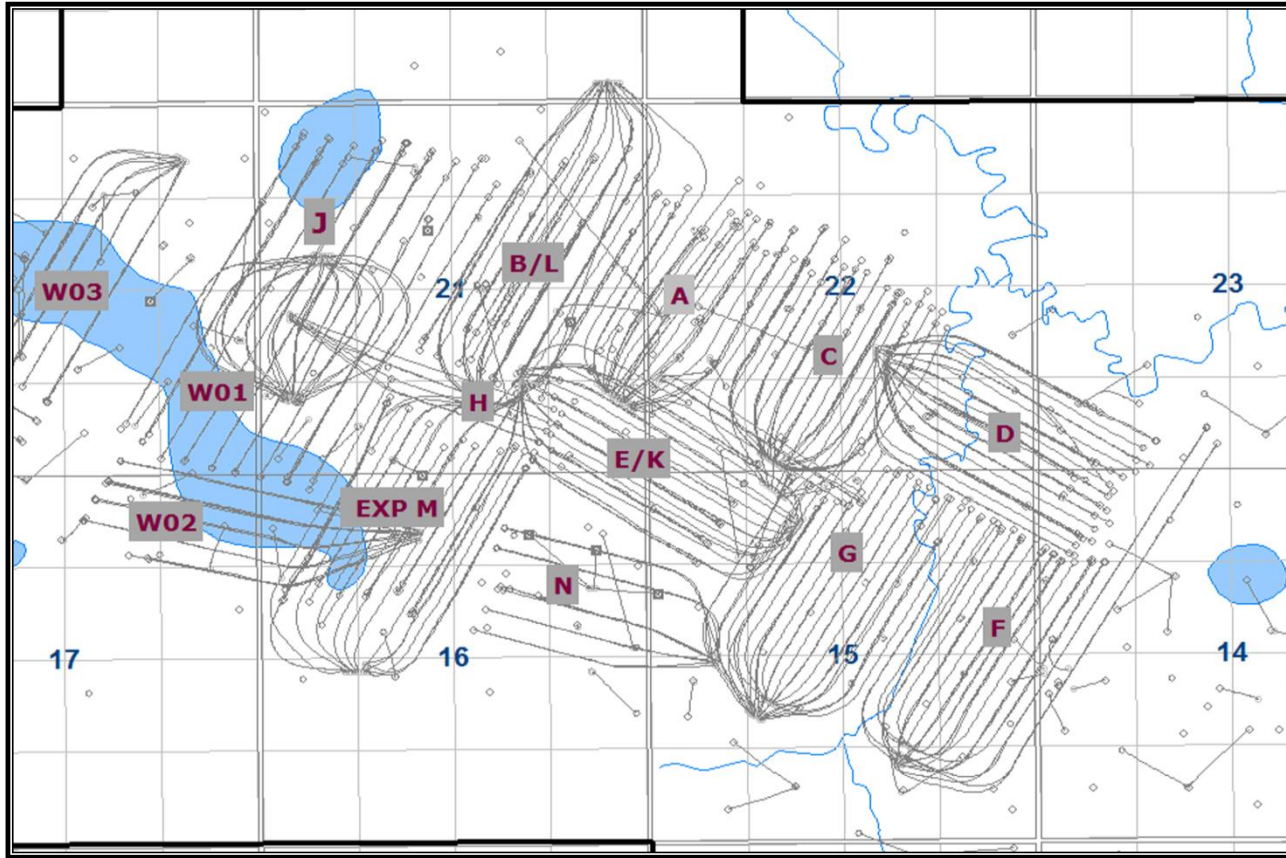
Subsection 3.1.1 – 7h)



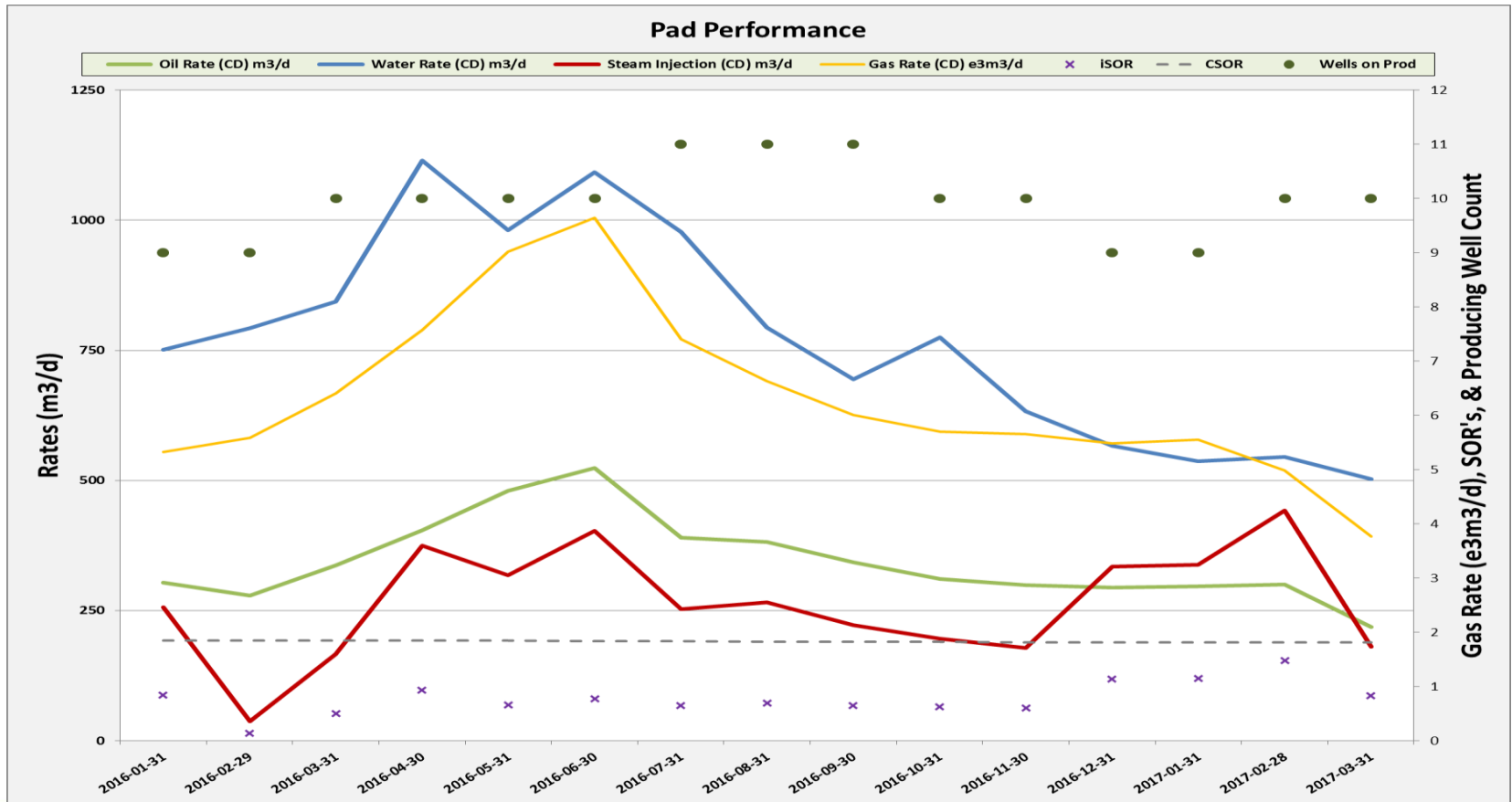
Cenovus - Foster Creek



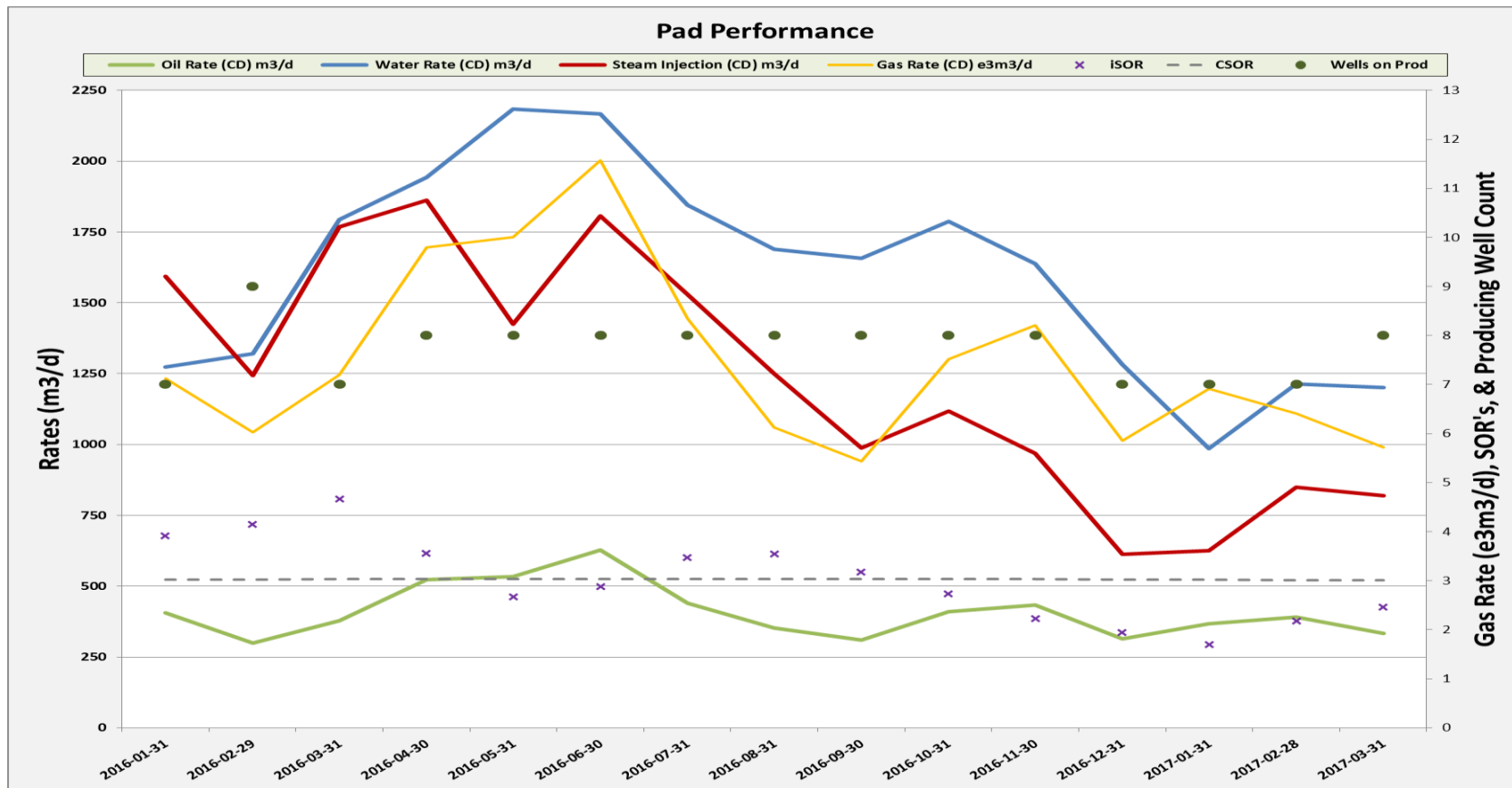
Foster Creek Central Area



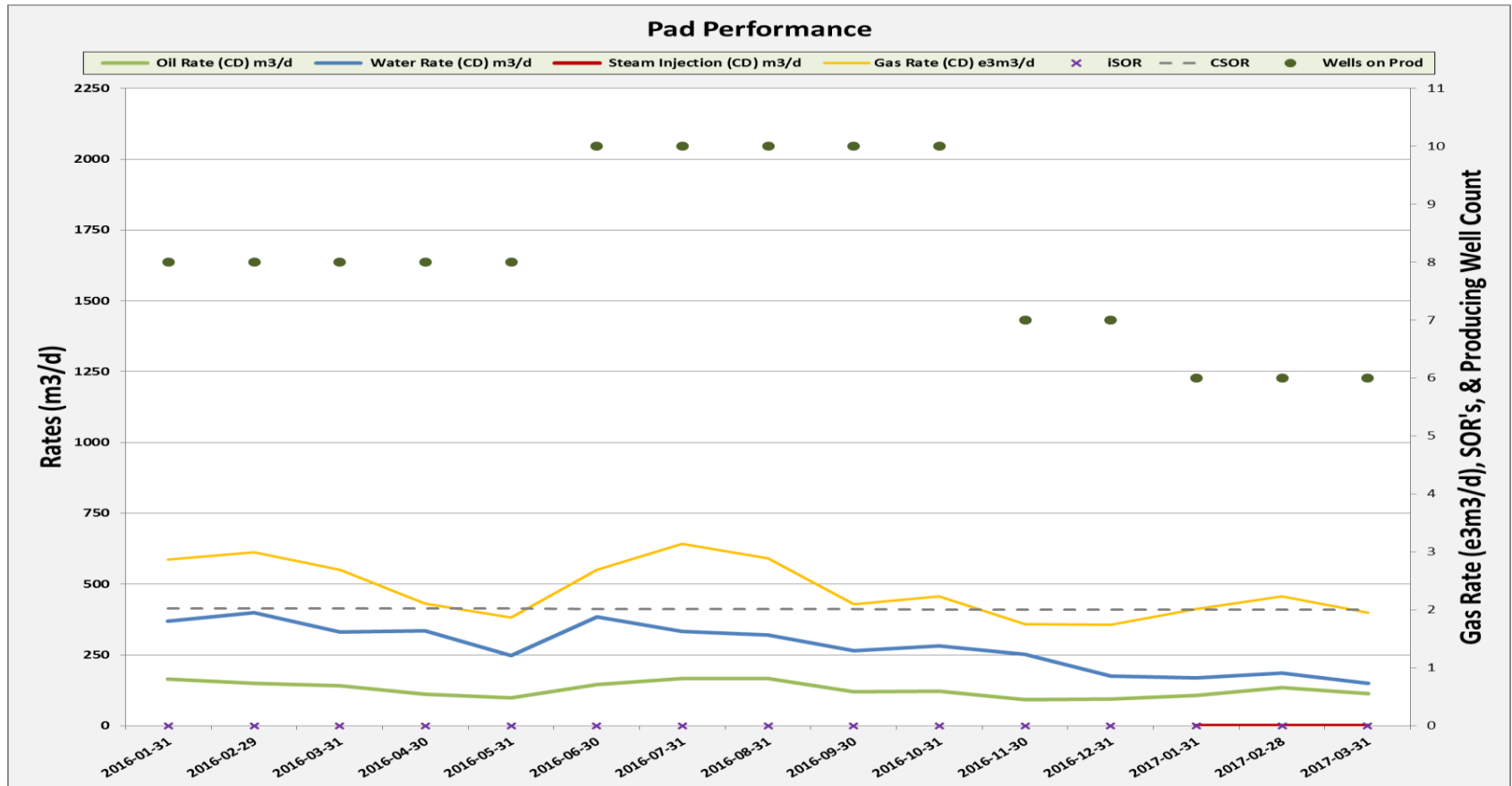
A Pad & A wells utilizing Wedge Well™ technology



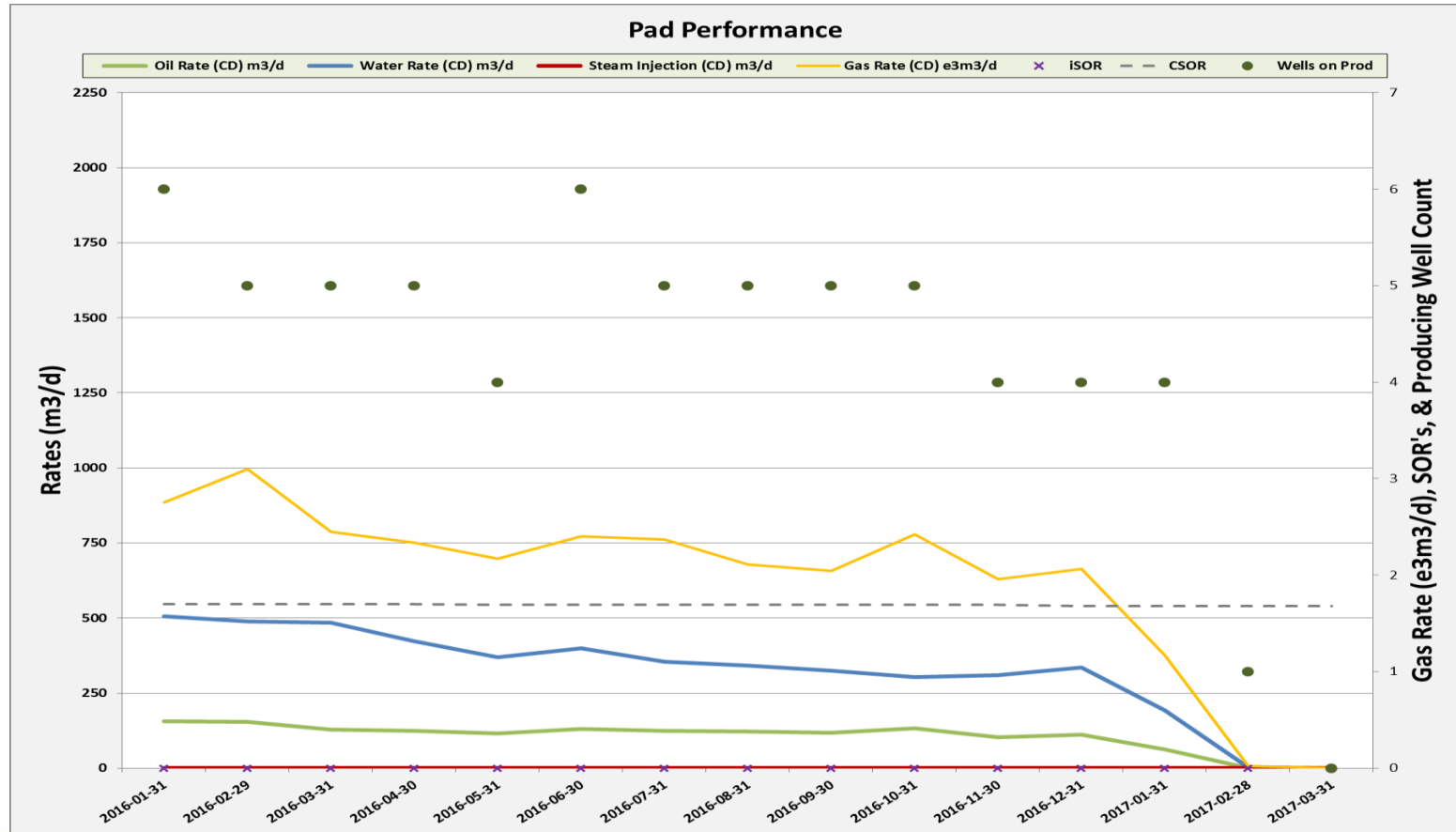
B_L Pad & B_L wells utilizing Wedge Well™ technology



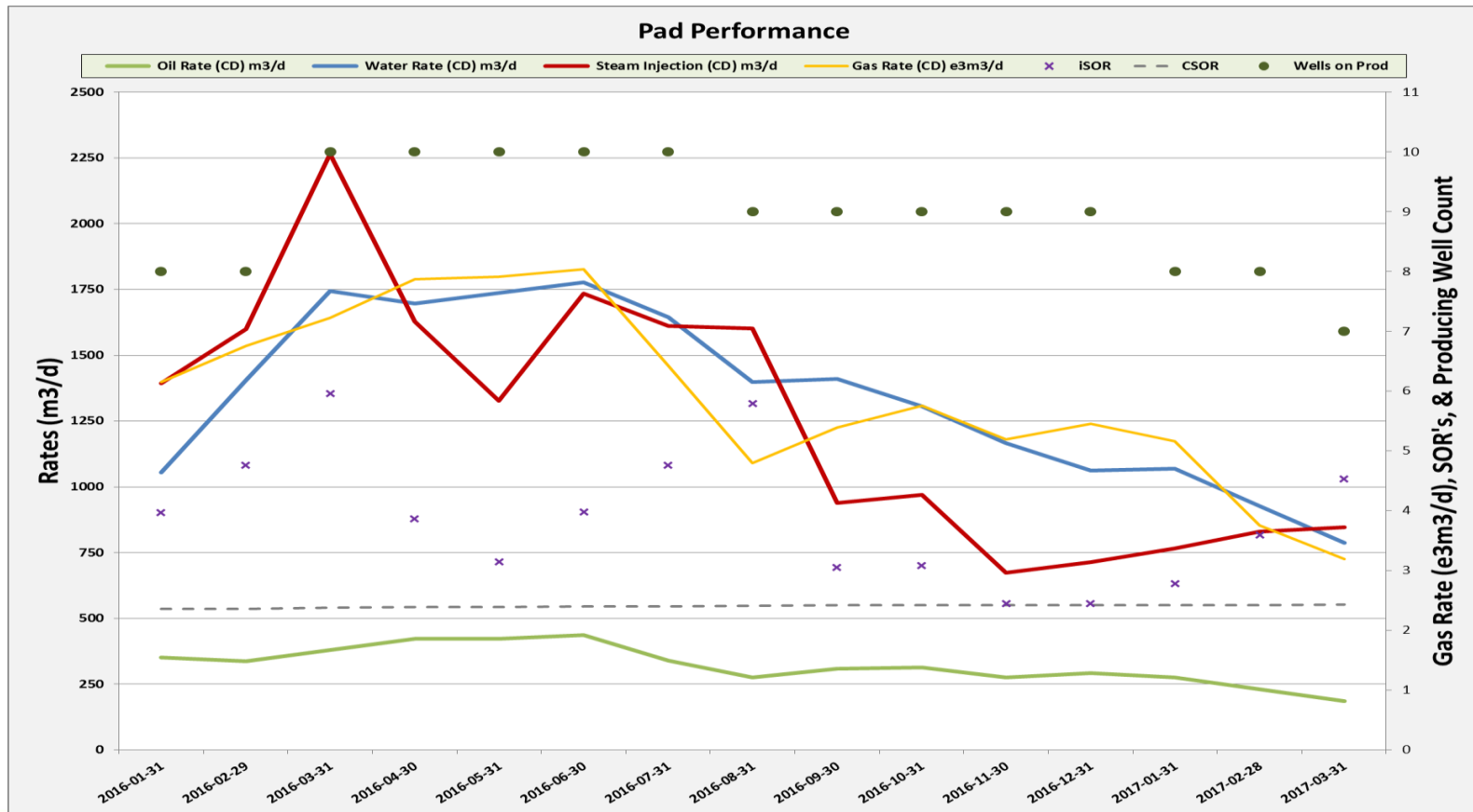
C Pad & C wells utilizing Wedge Well™ technology



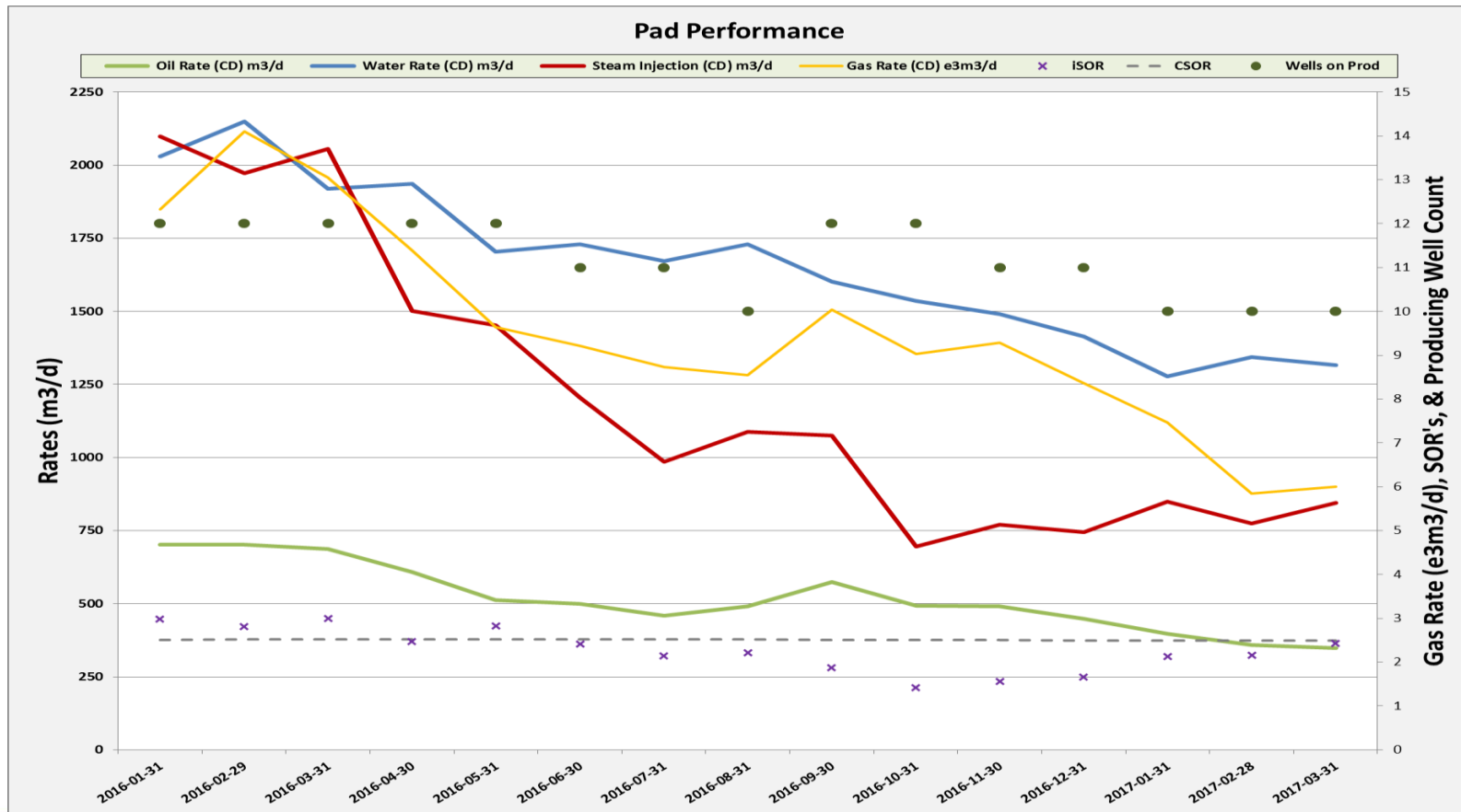
D Pad & D wells utilizing Wedge Well™ technology



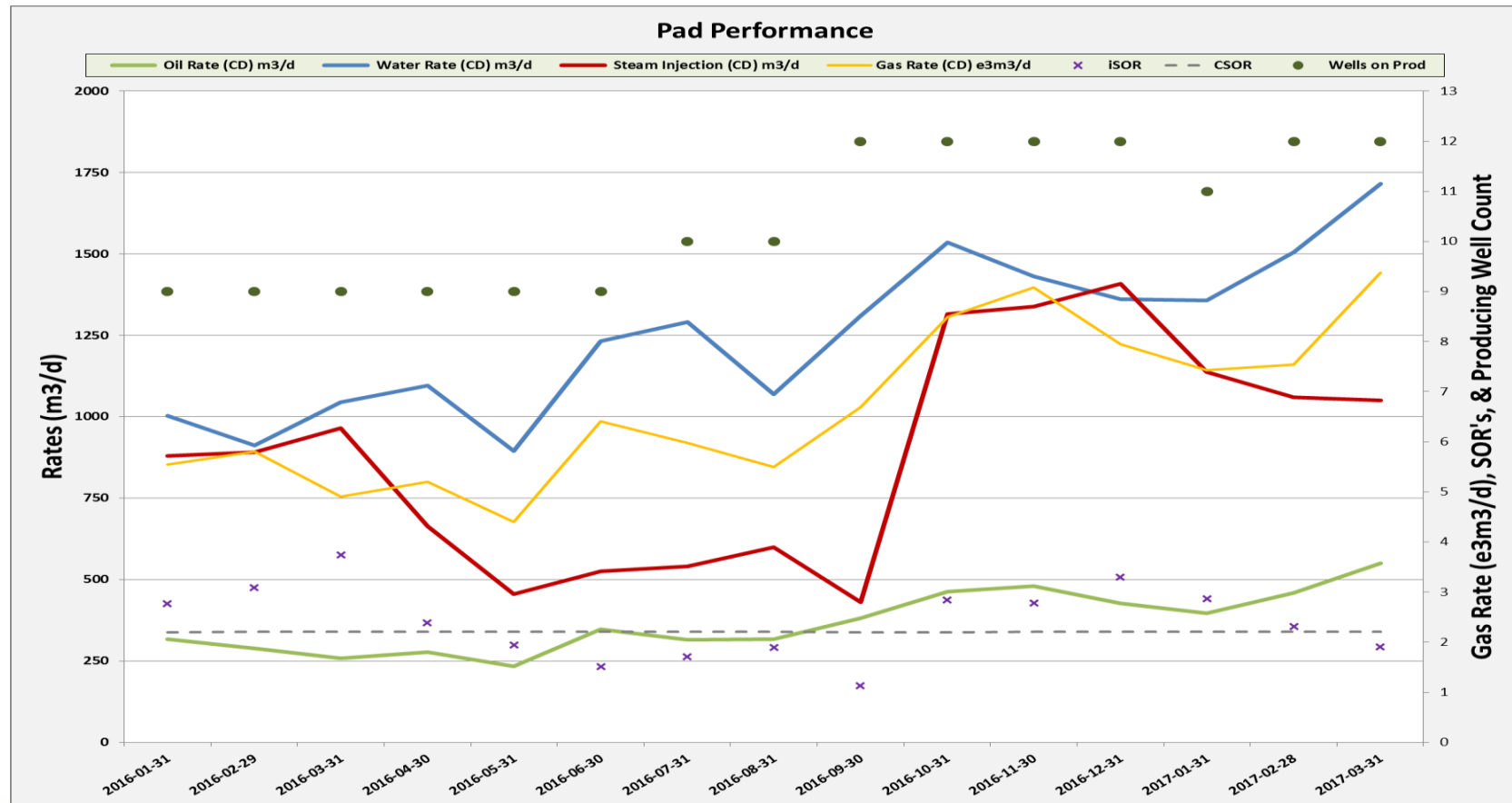
E_K Pad & E_K wells utilizing Wedge Well™ technology



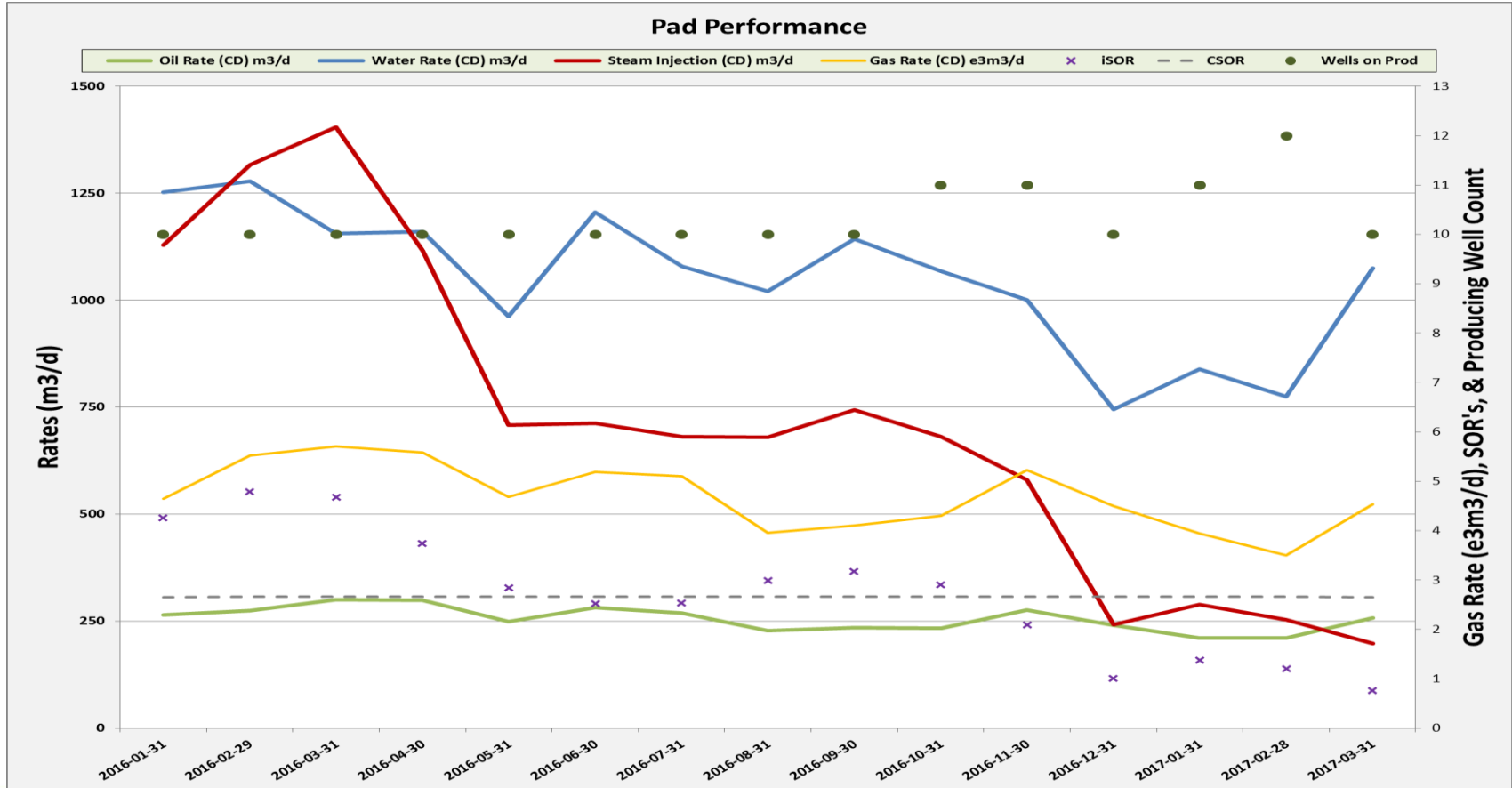
Exp_M Pad & M wells utilizing Wedge Well™ technology



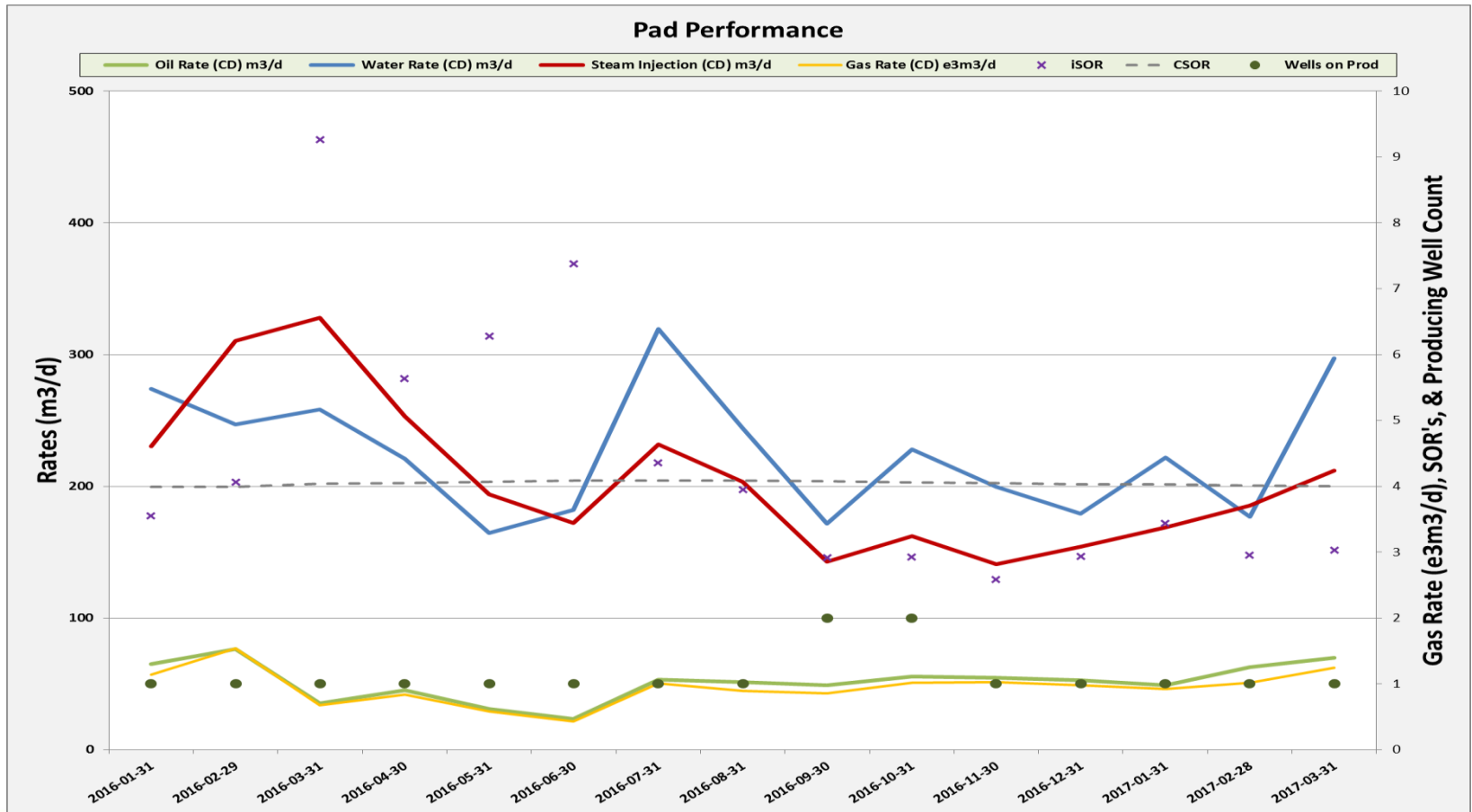
F Pad & F wells utilizing Wedge Well™ technology



G Pad & G wells utilizing Wedge Well™ technology

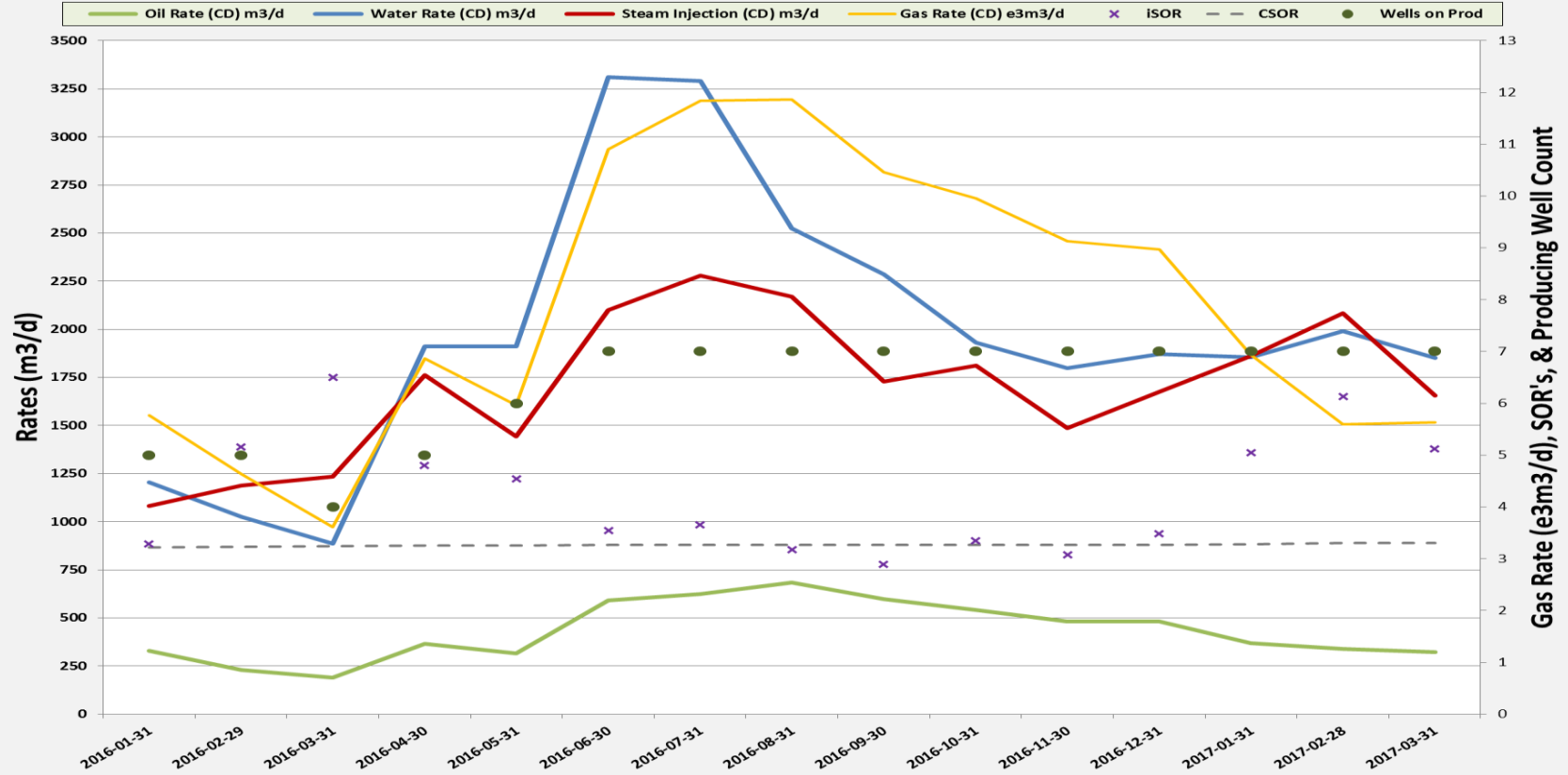


H Pad



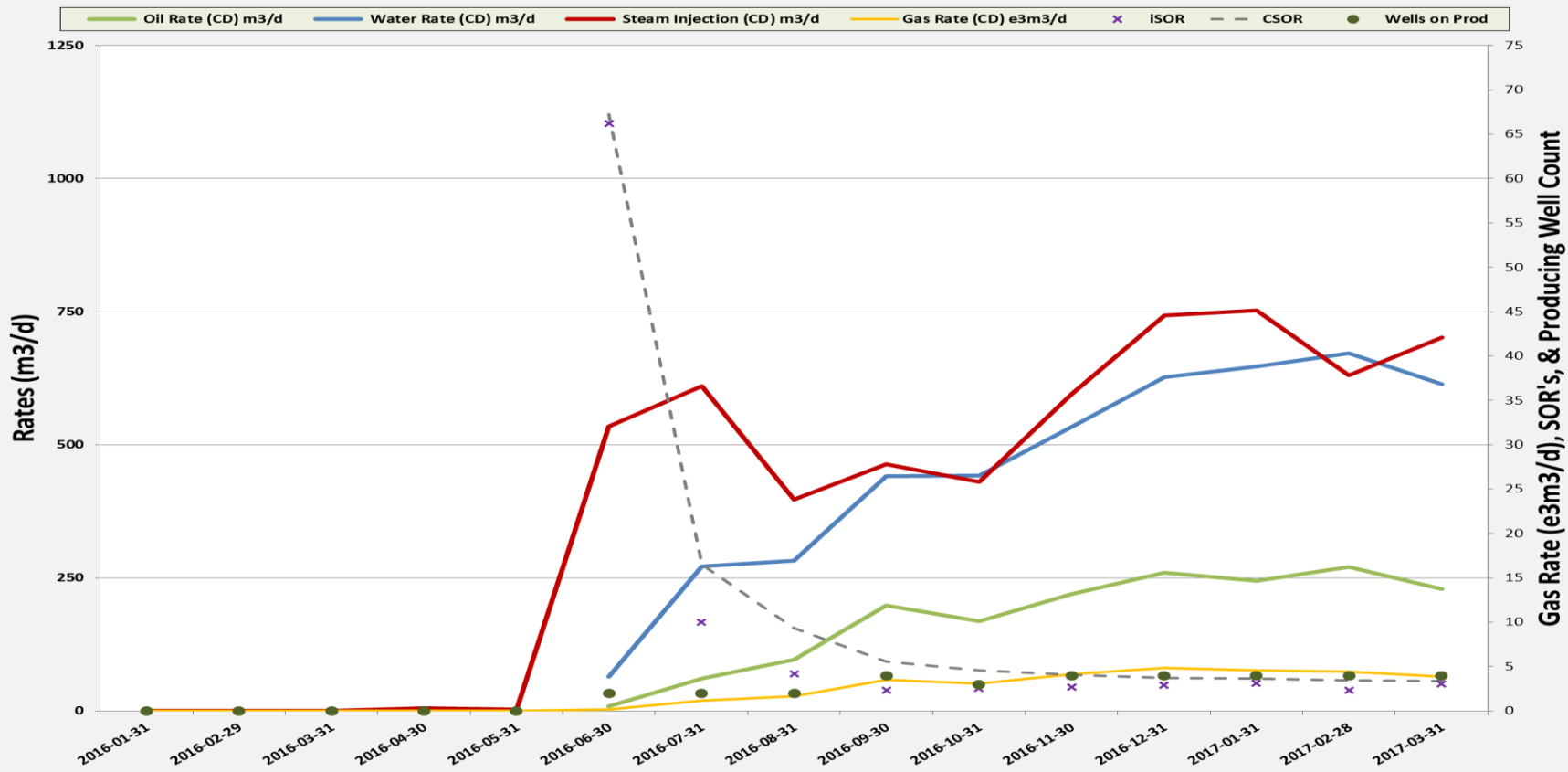
J Pad

Pad Performance

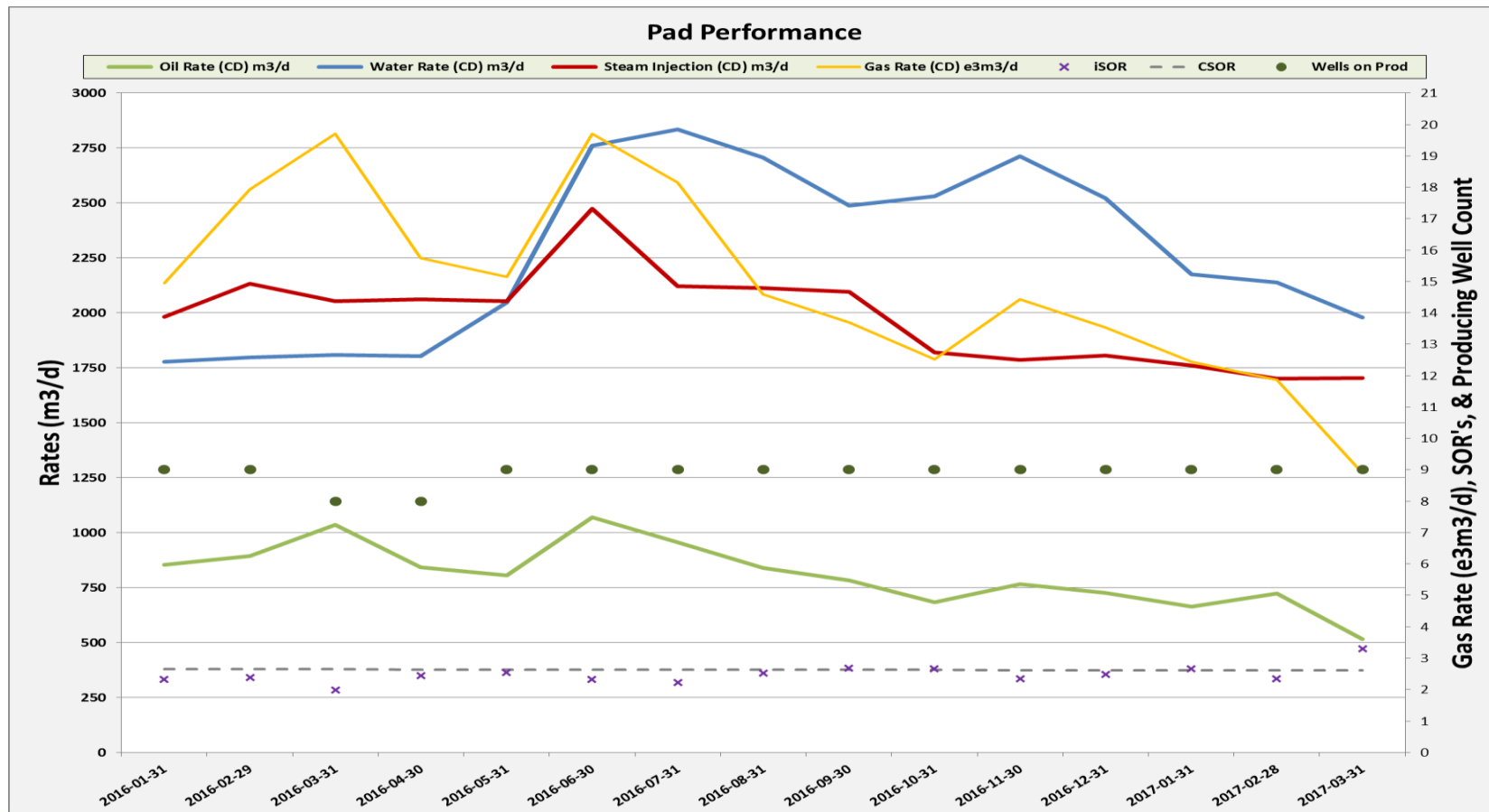


N Pad

Pad Performance

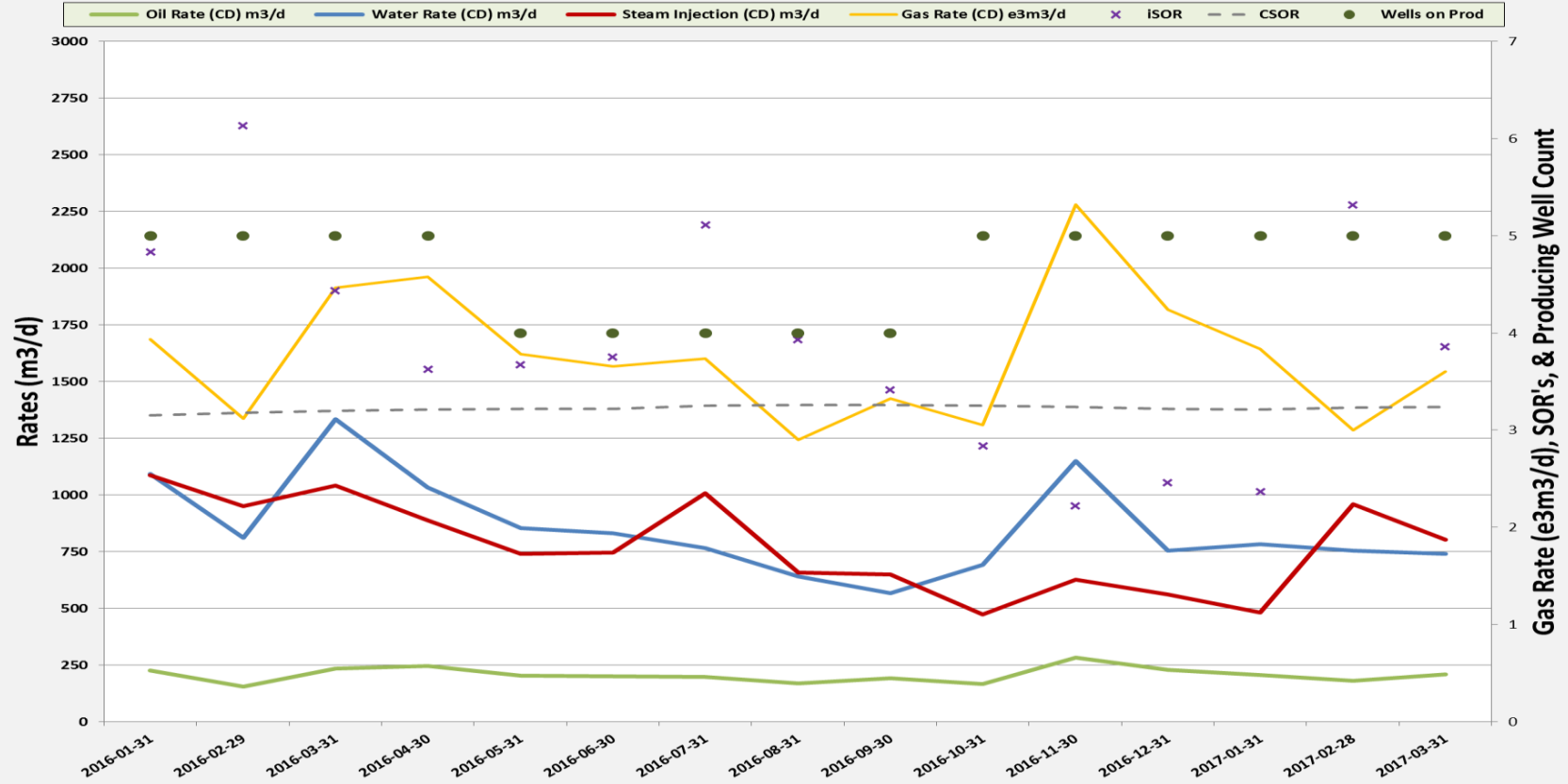


W01 Pad

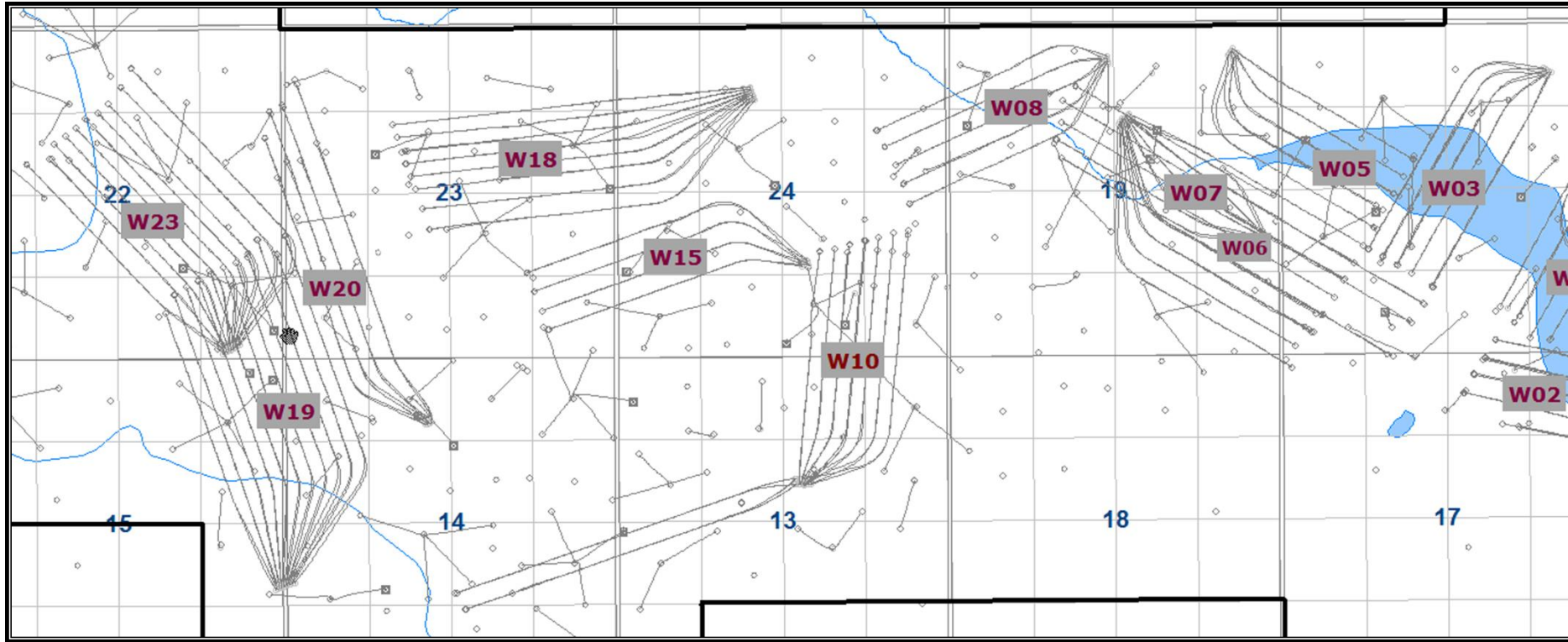


W02 Pad

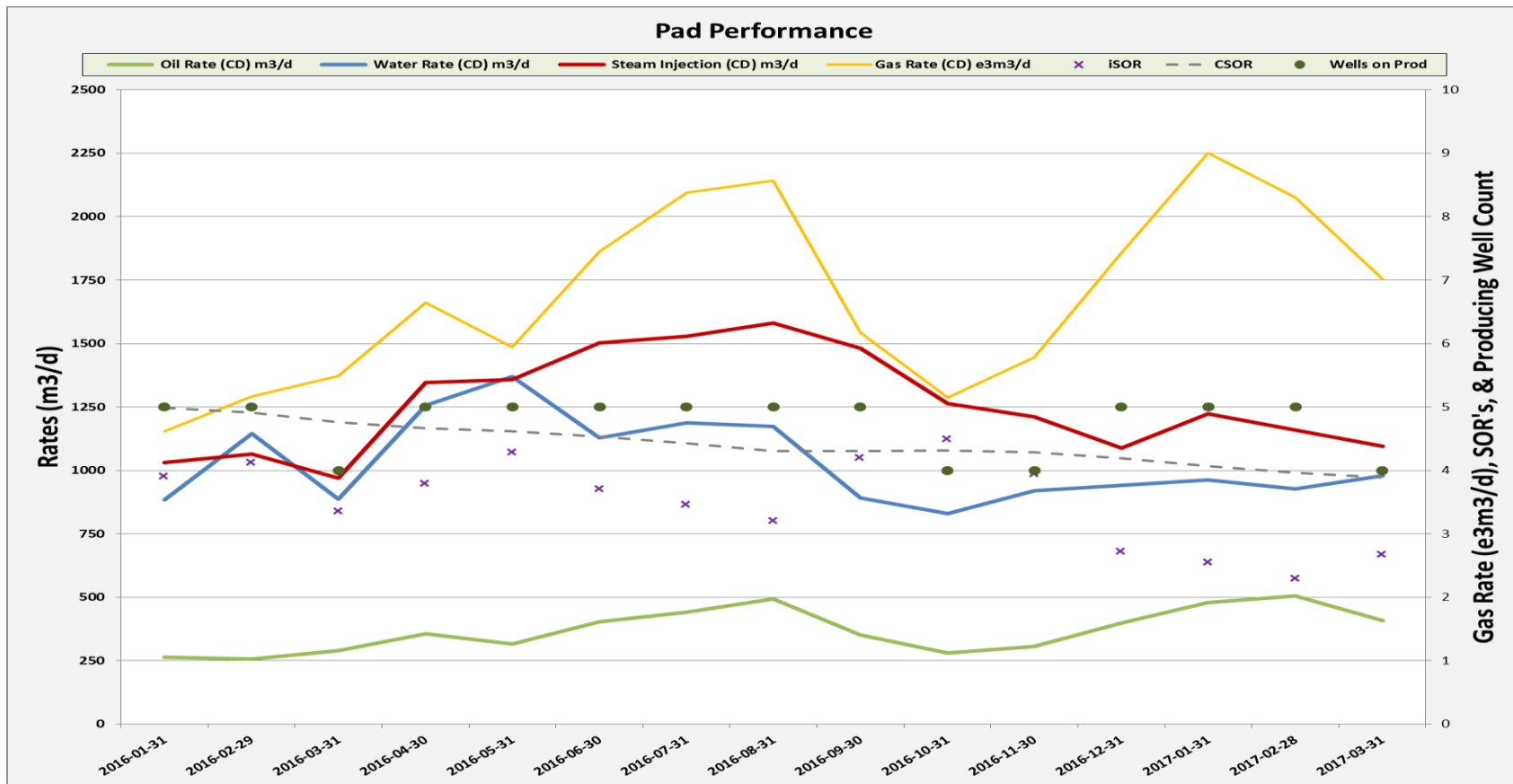
Pad Performance



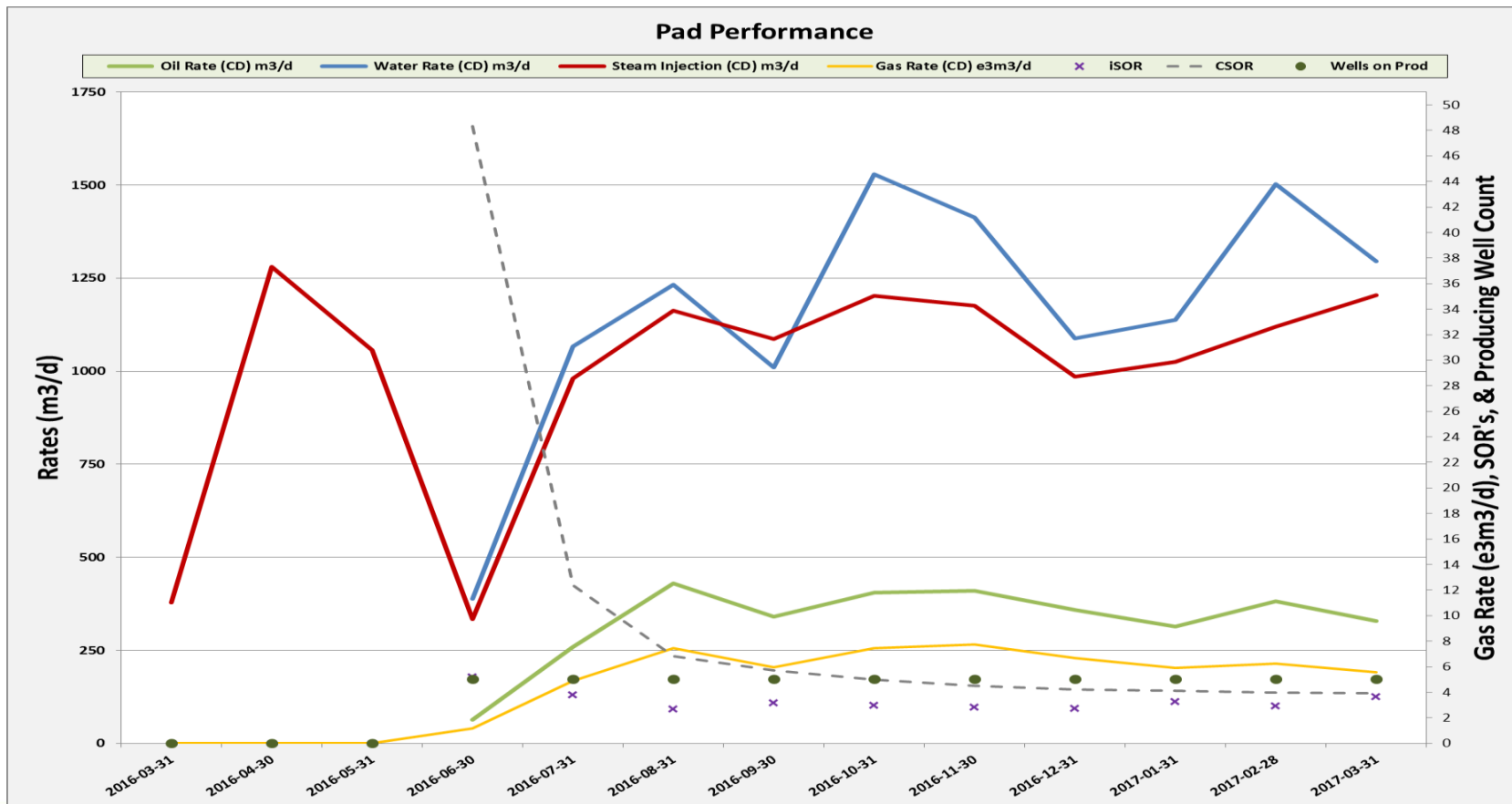
Foster Creek West Area



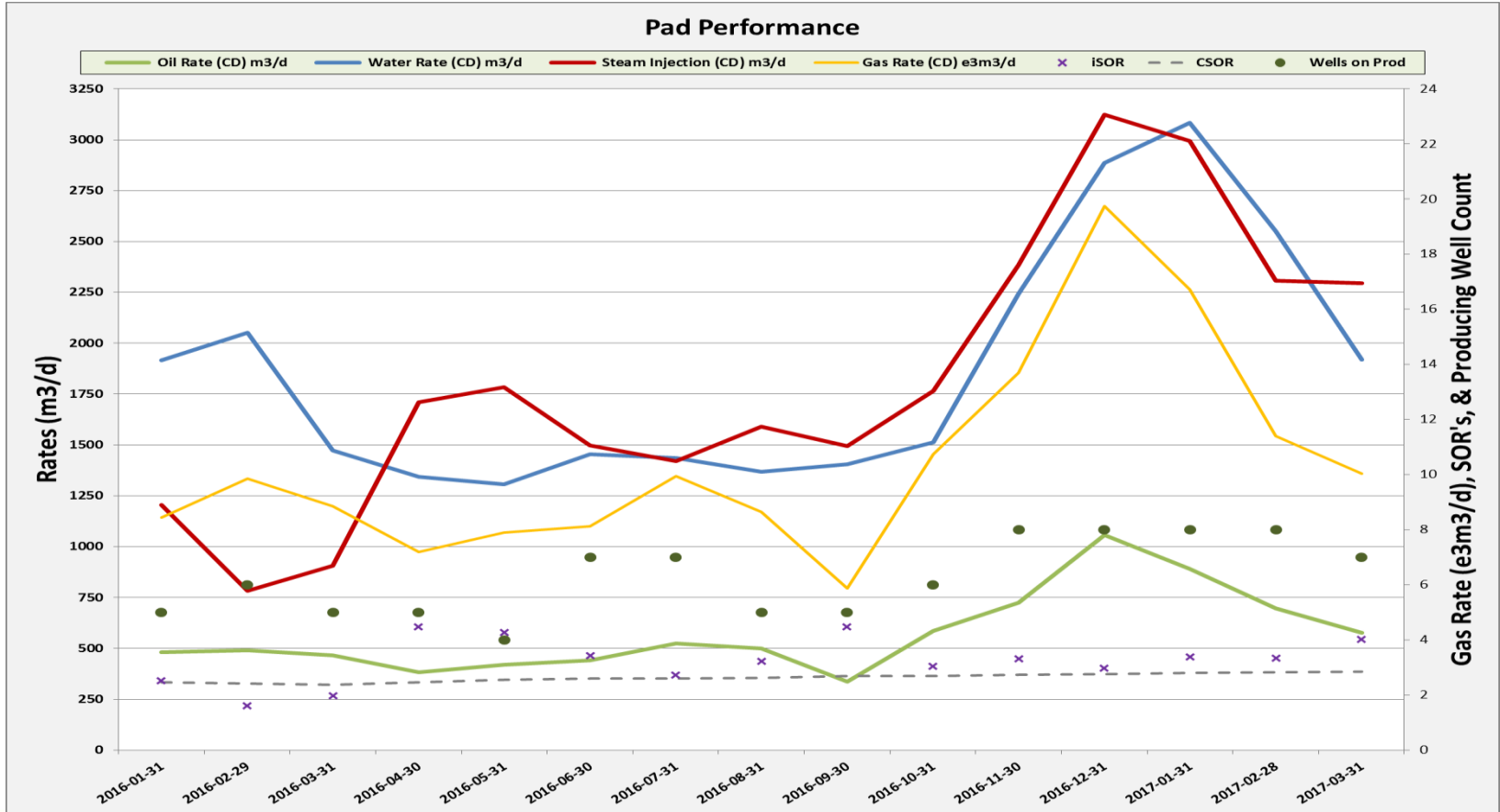
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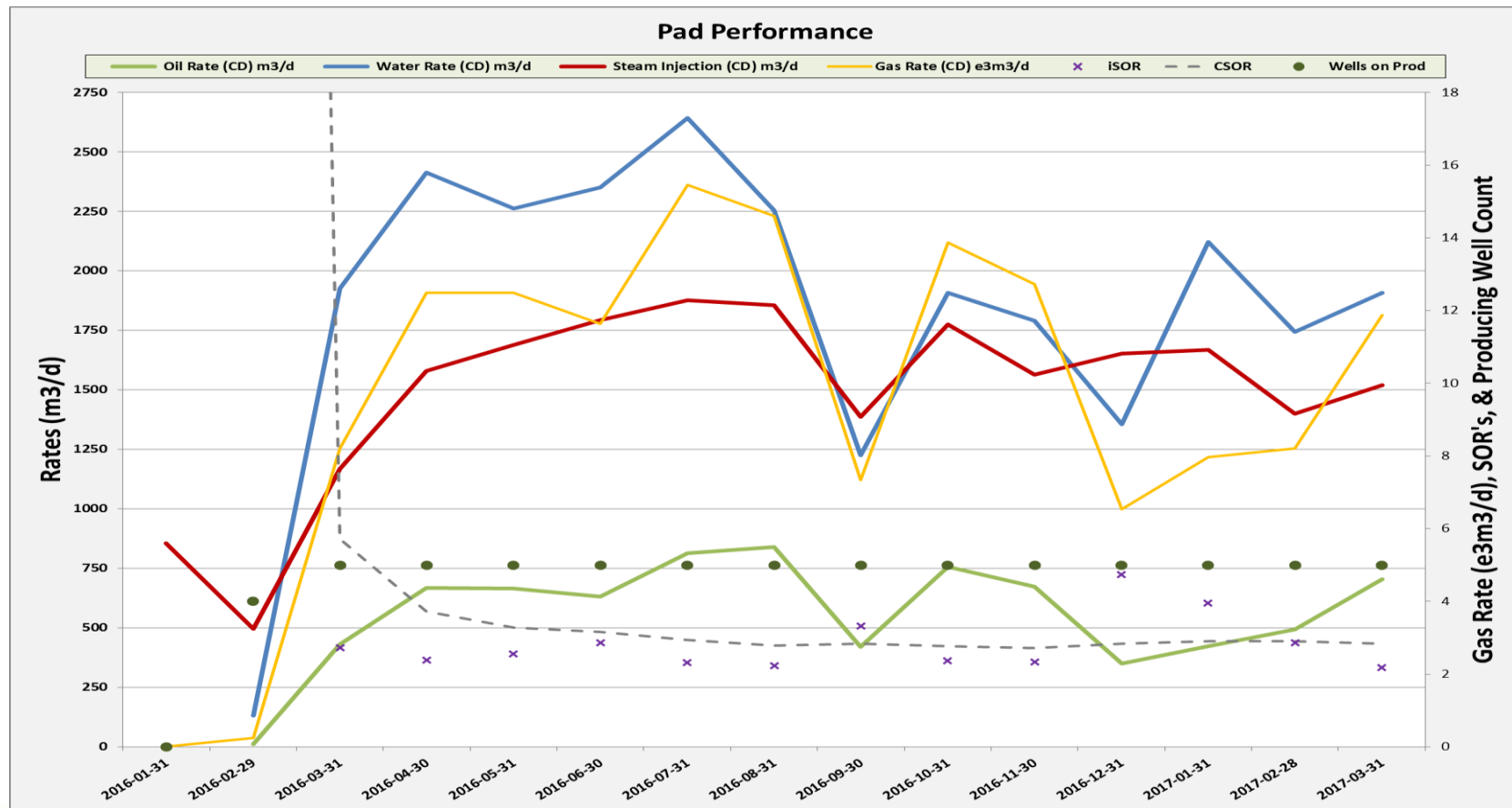
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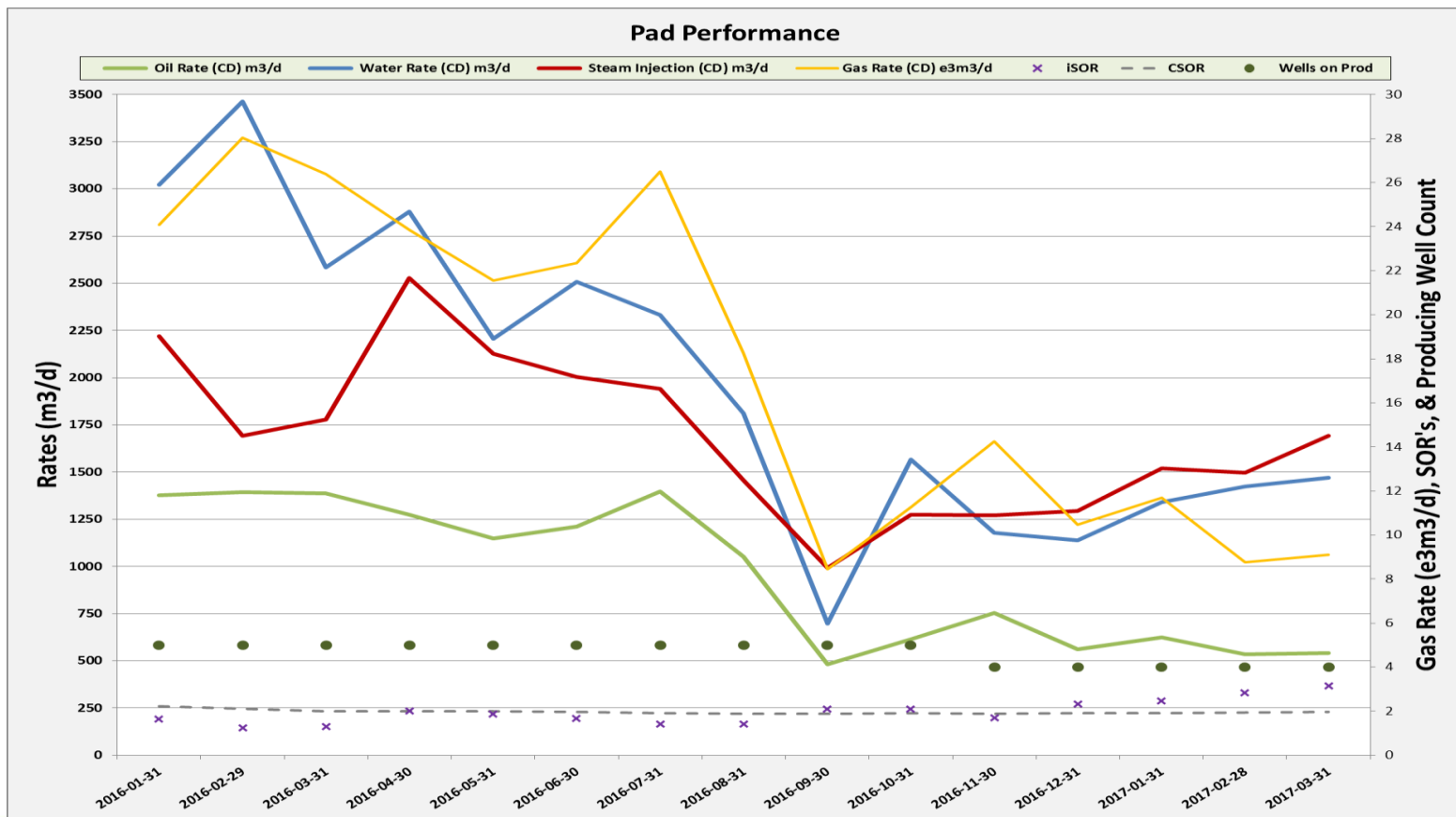
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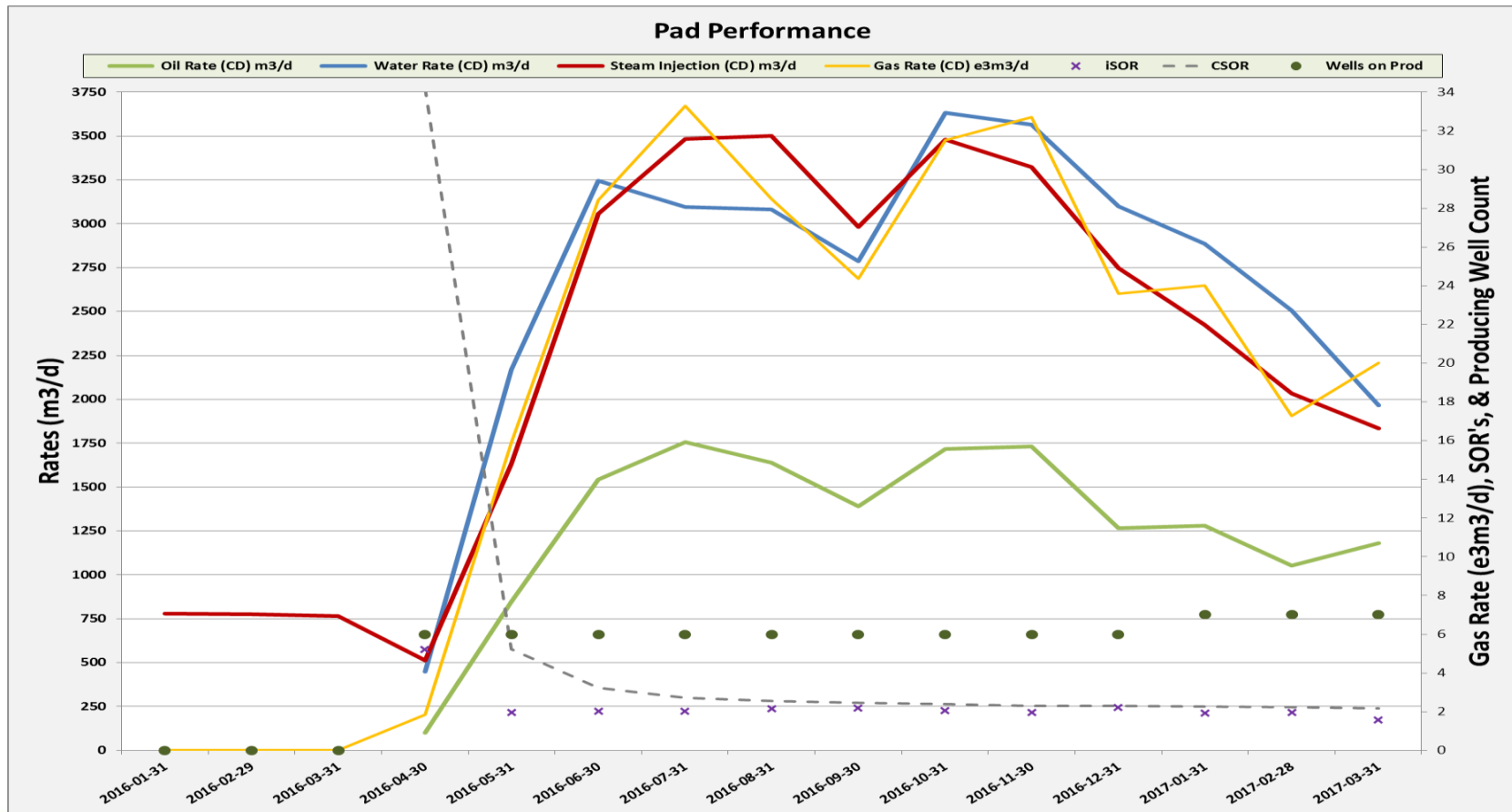
W07 Pad



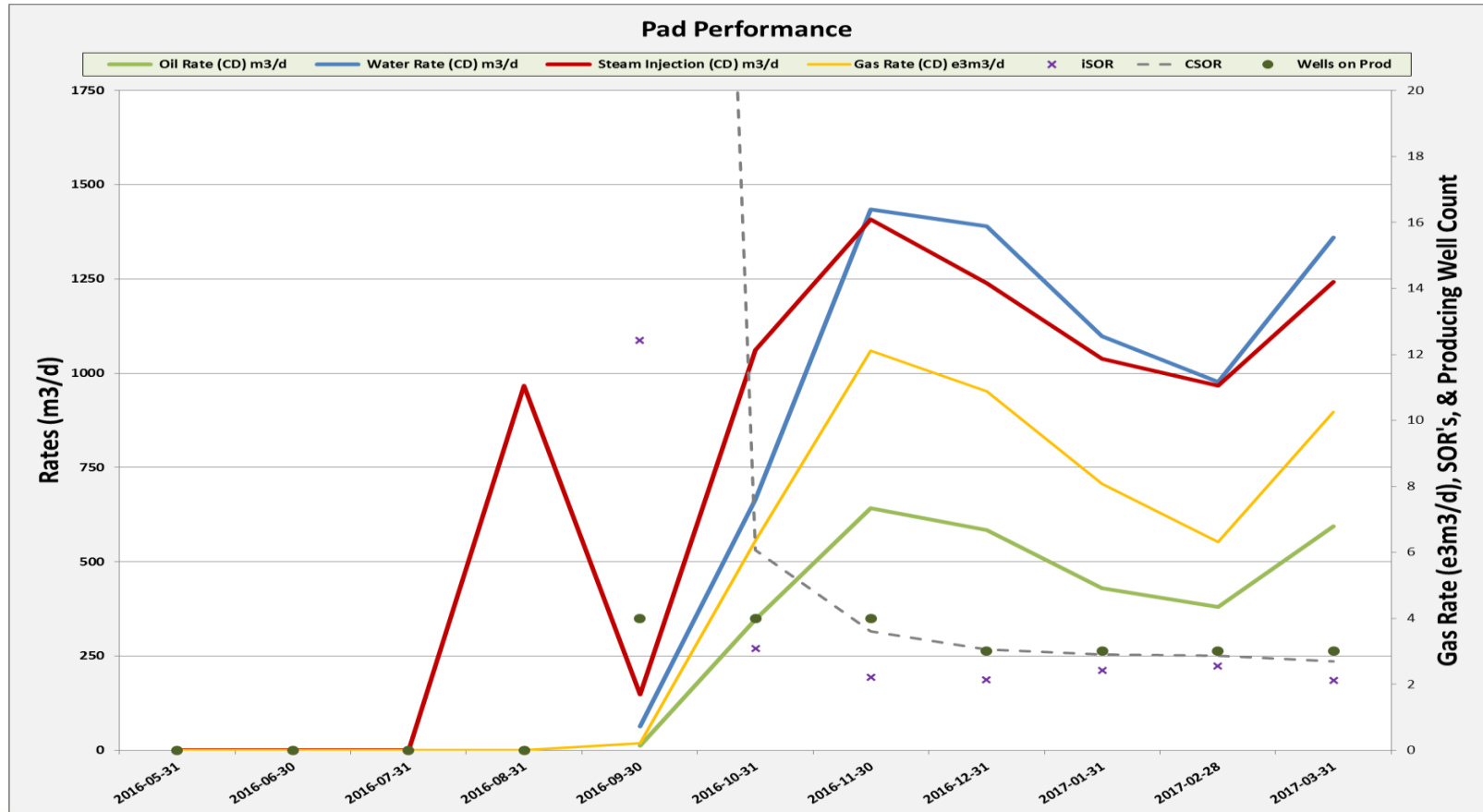
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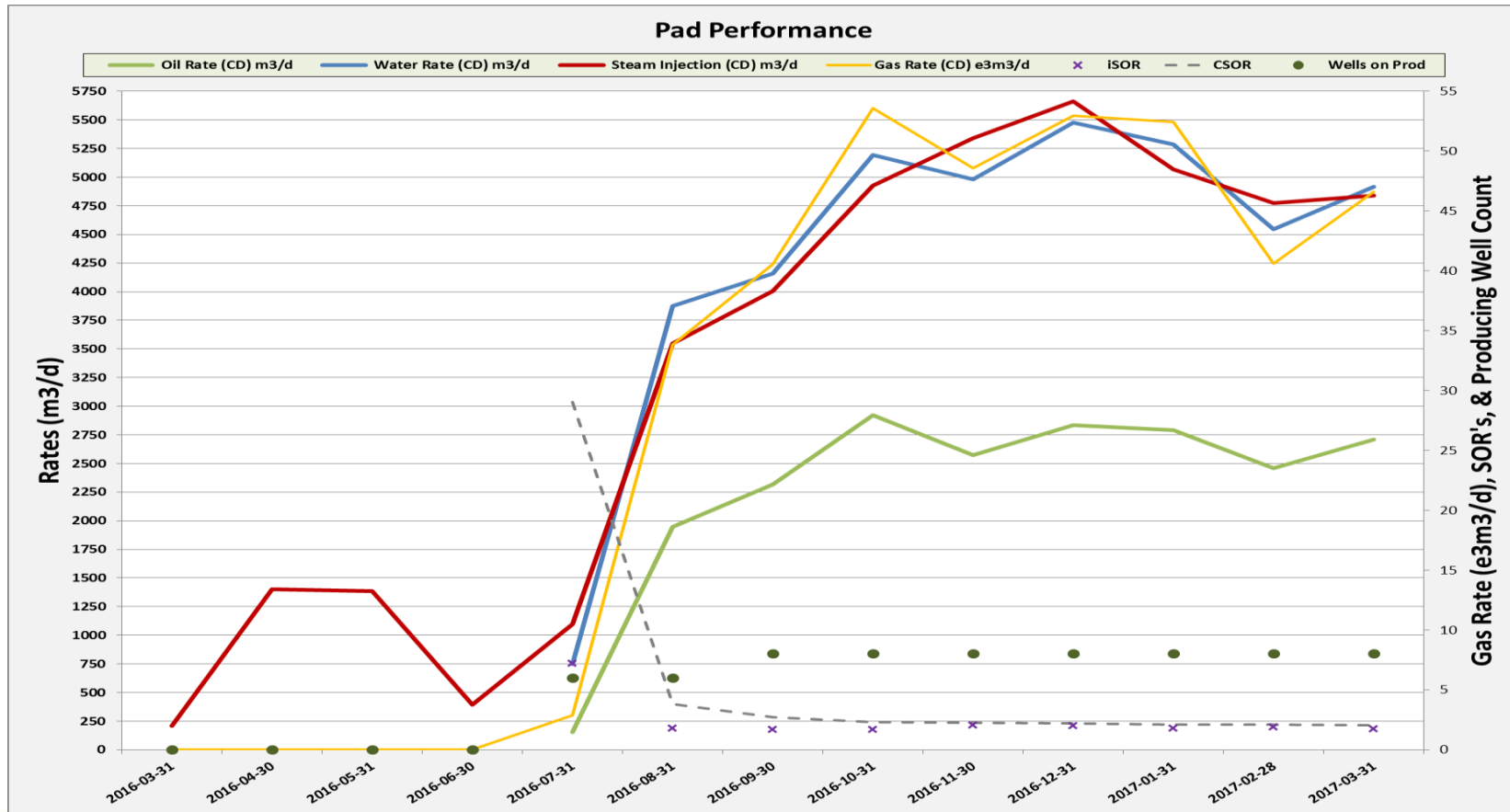
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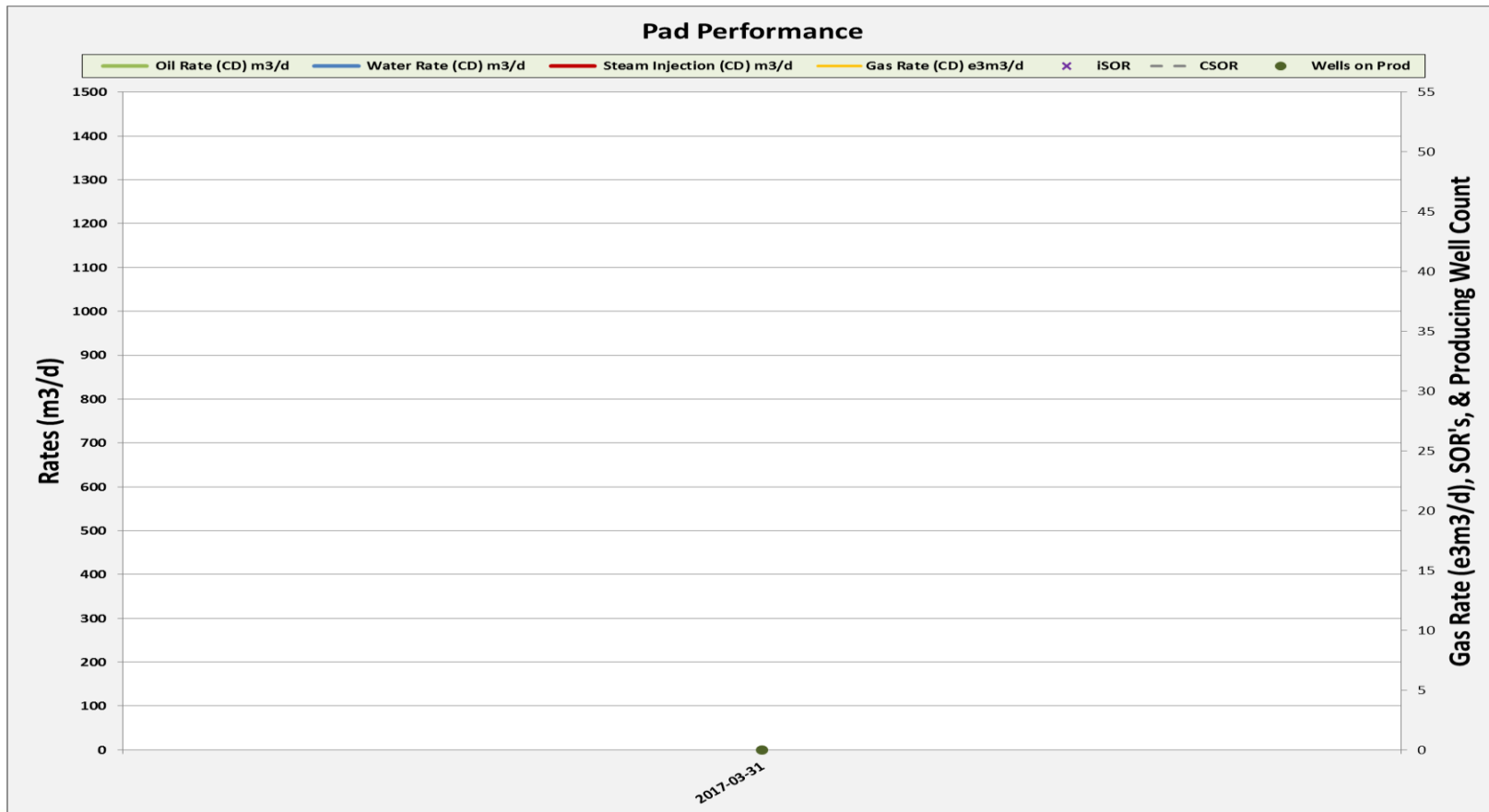
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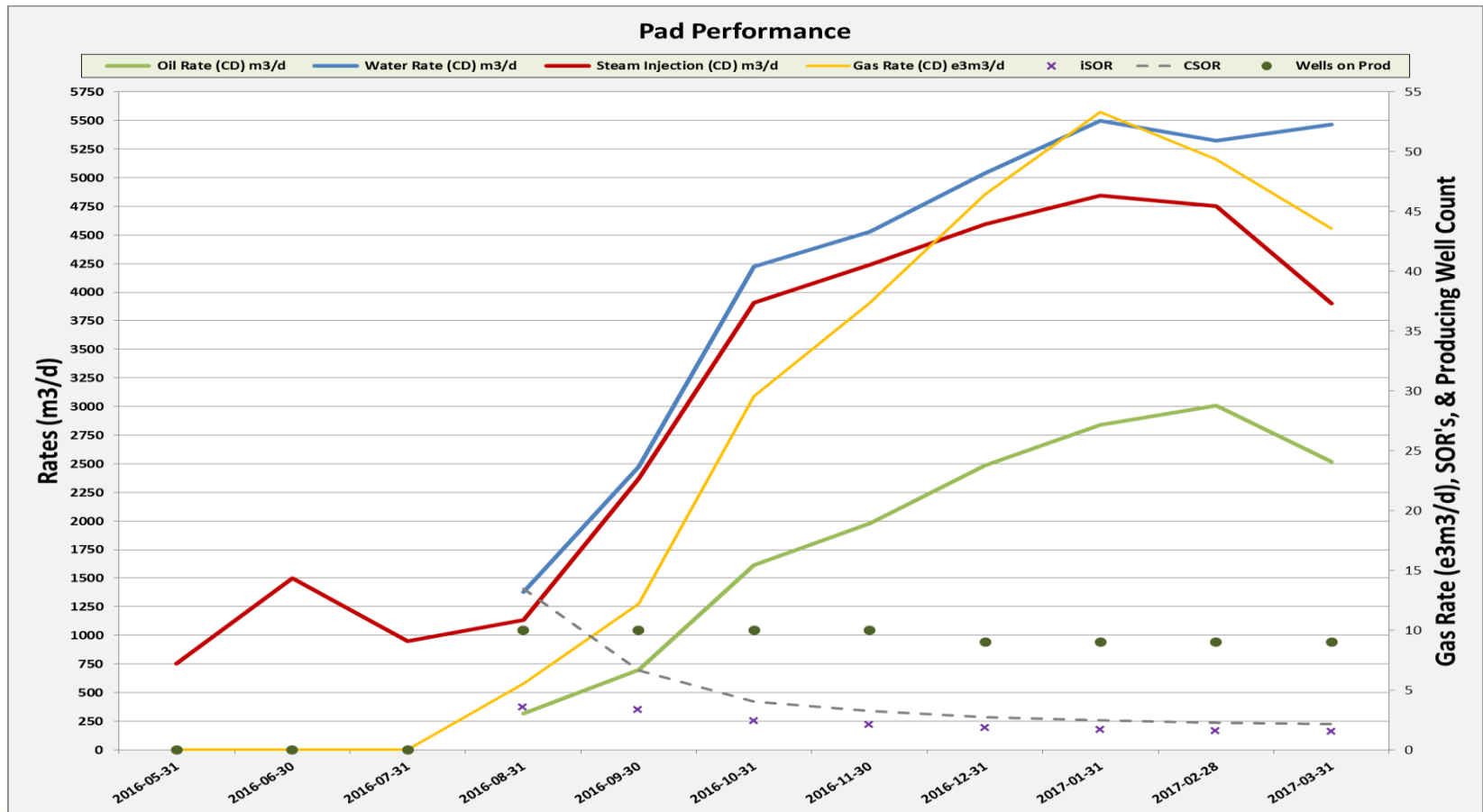
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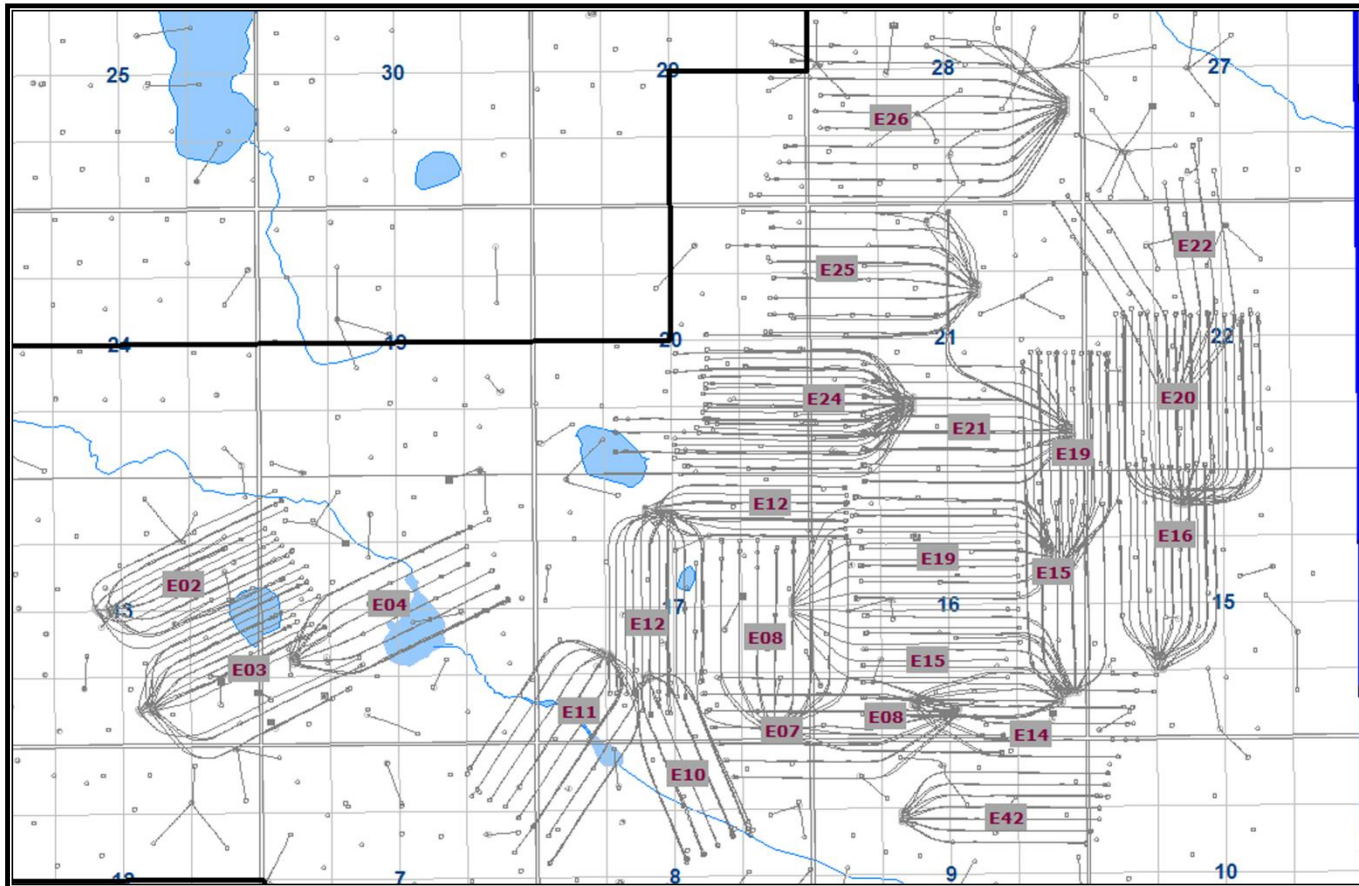
W19 Pad



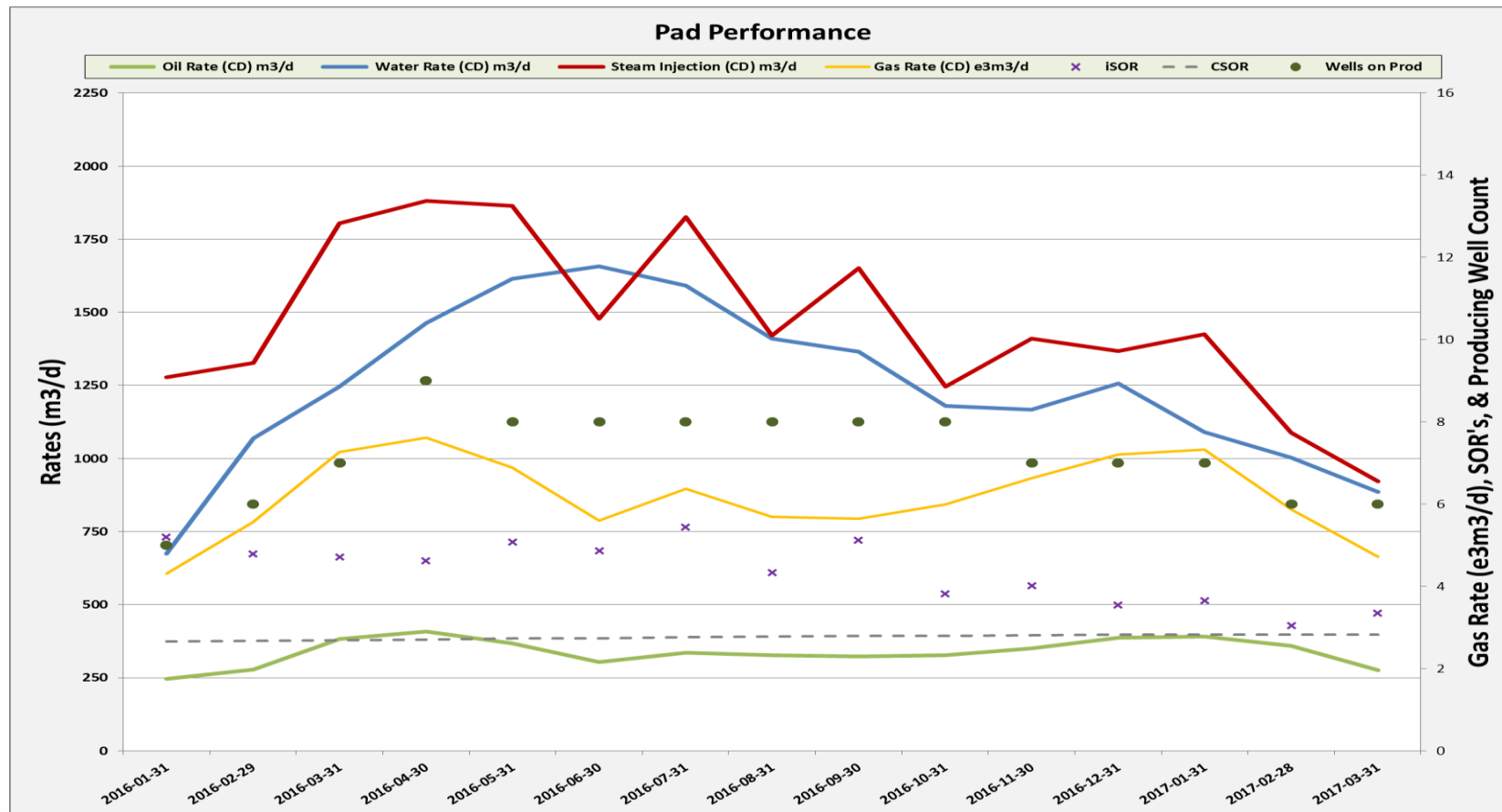
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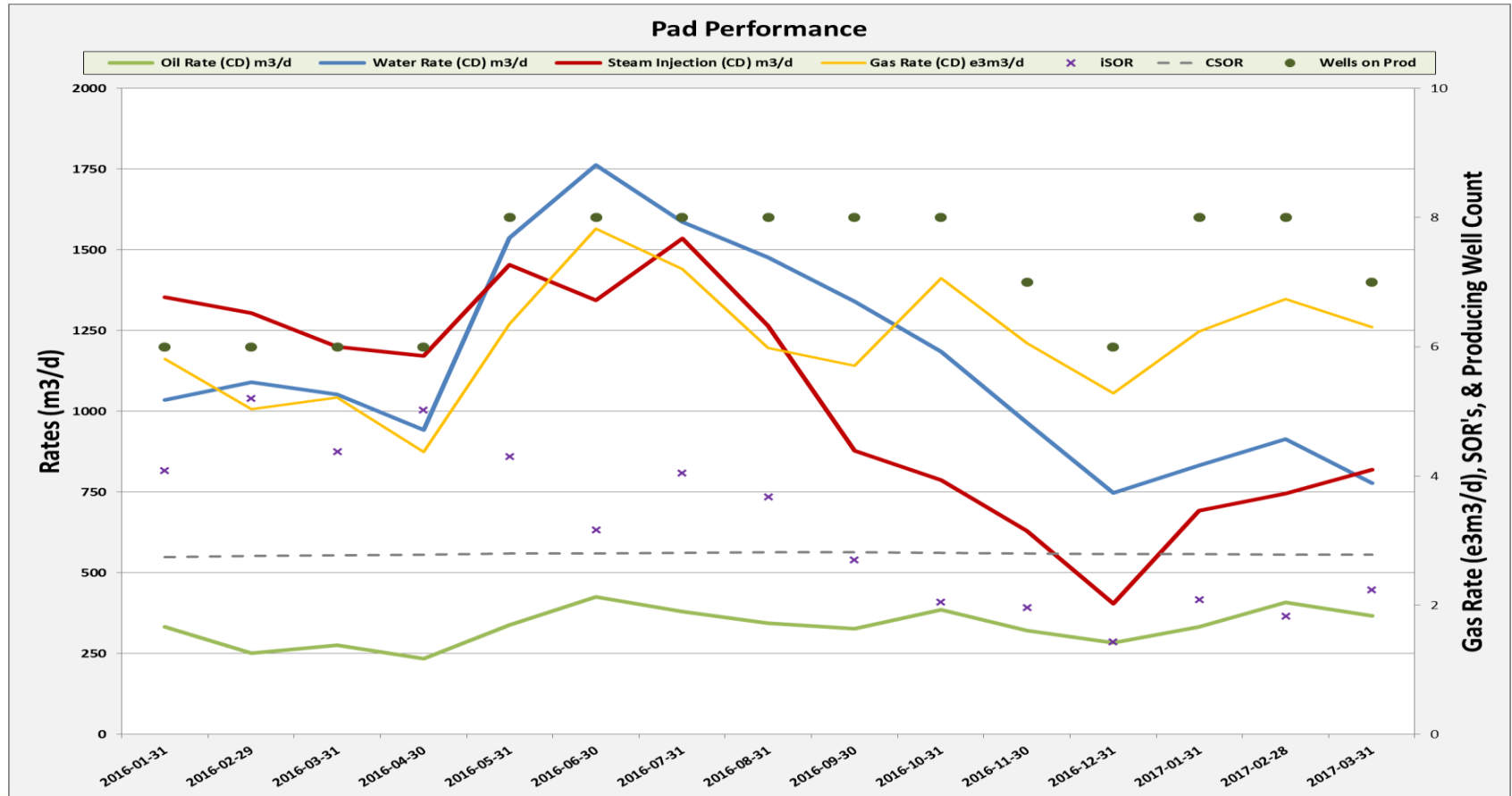
Foster Creek East Area



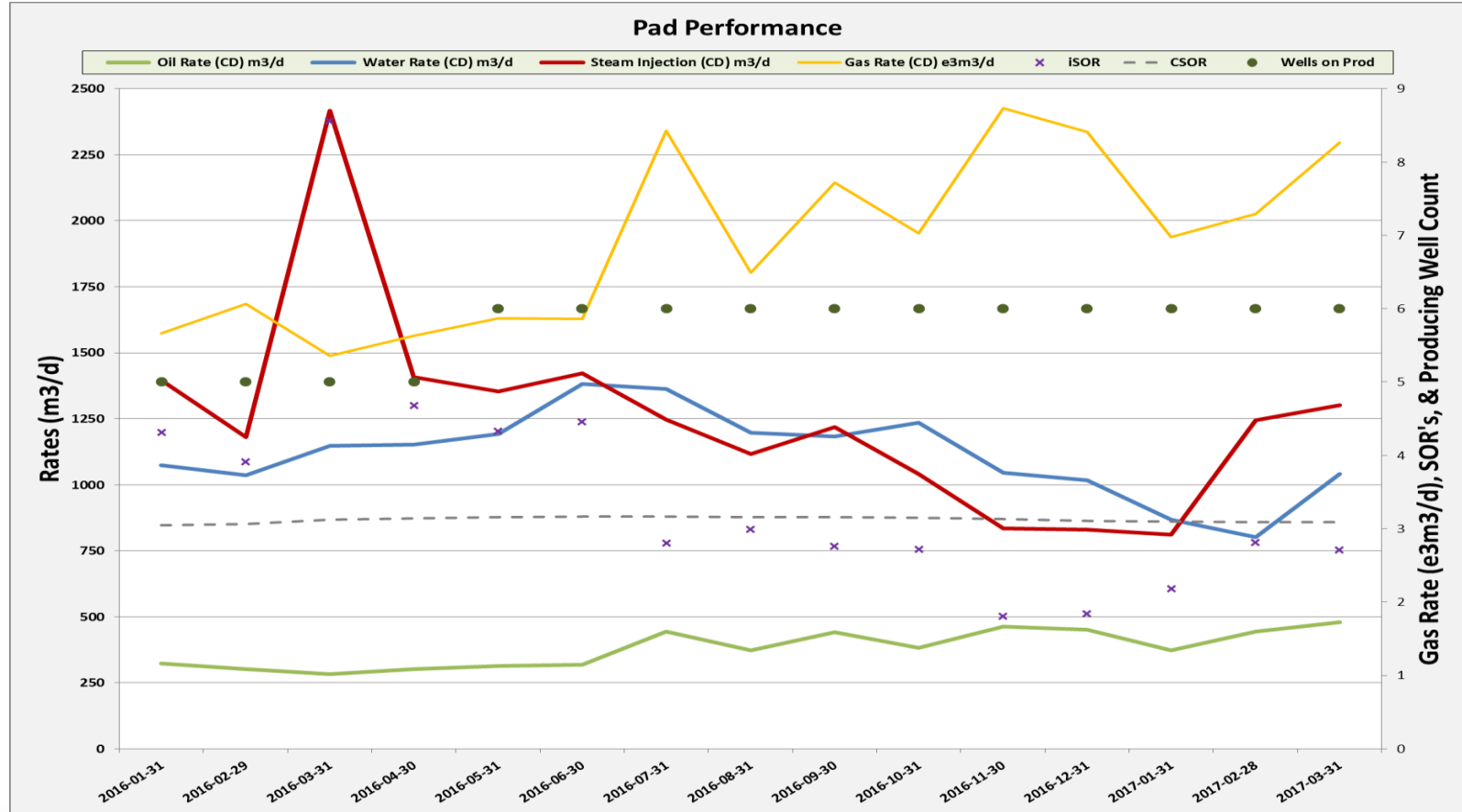
E02 Pad & E02 wells utilizing Wedge Well™ technology



E03 Pad & wells utilizing E03 Wedge Well™ technology

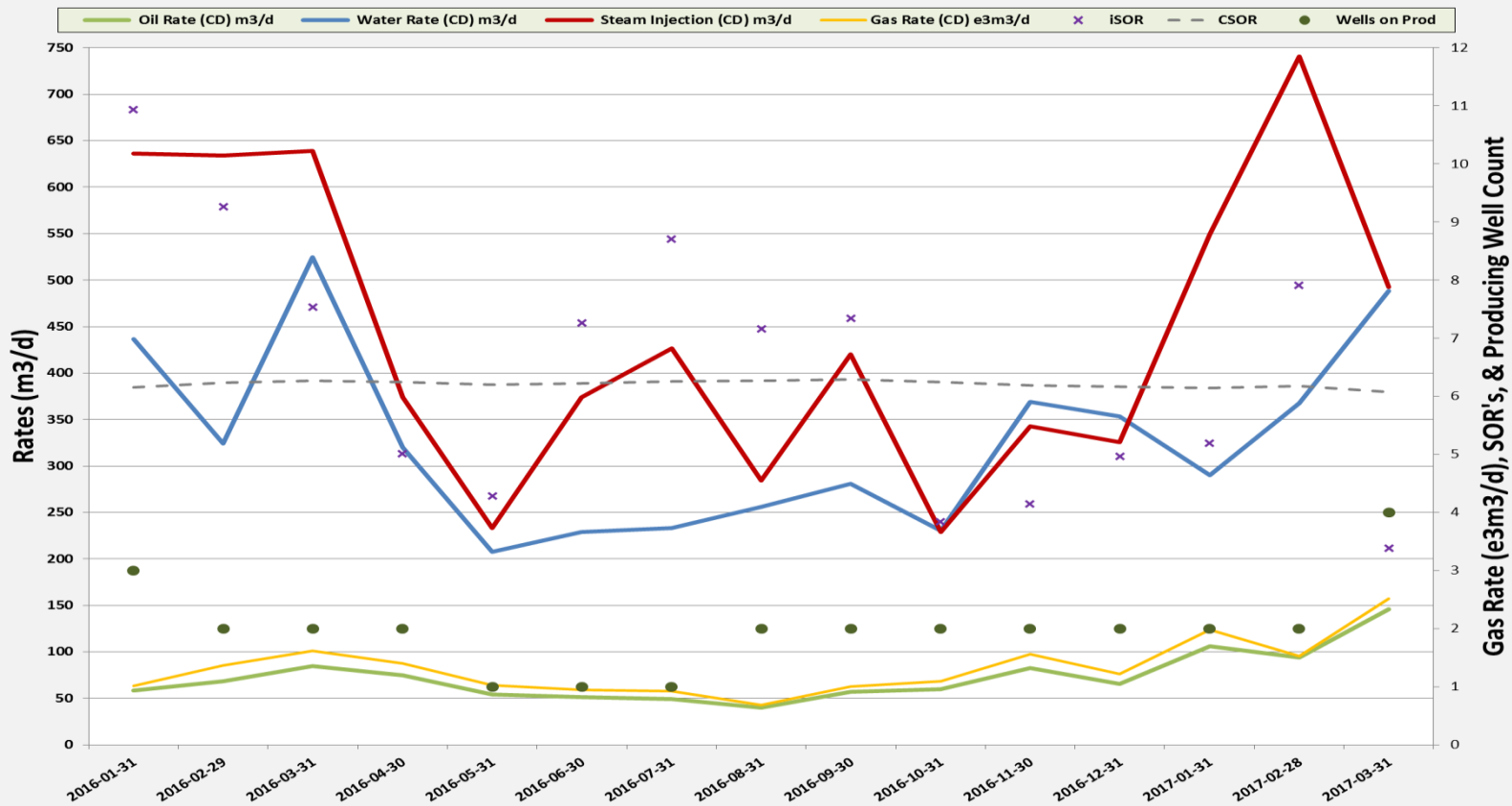


E04 Pad

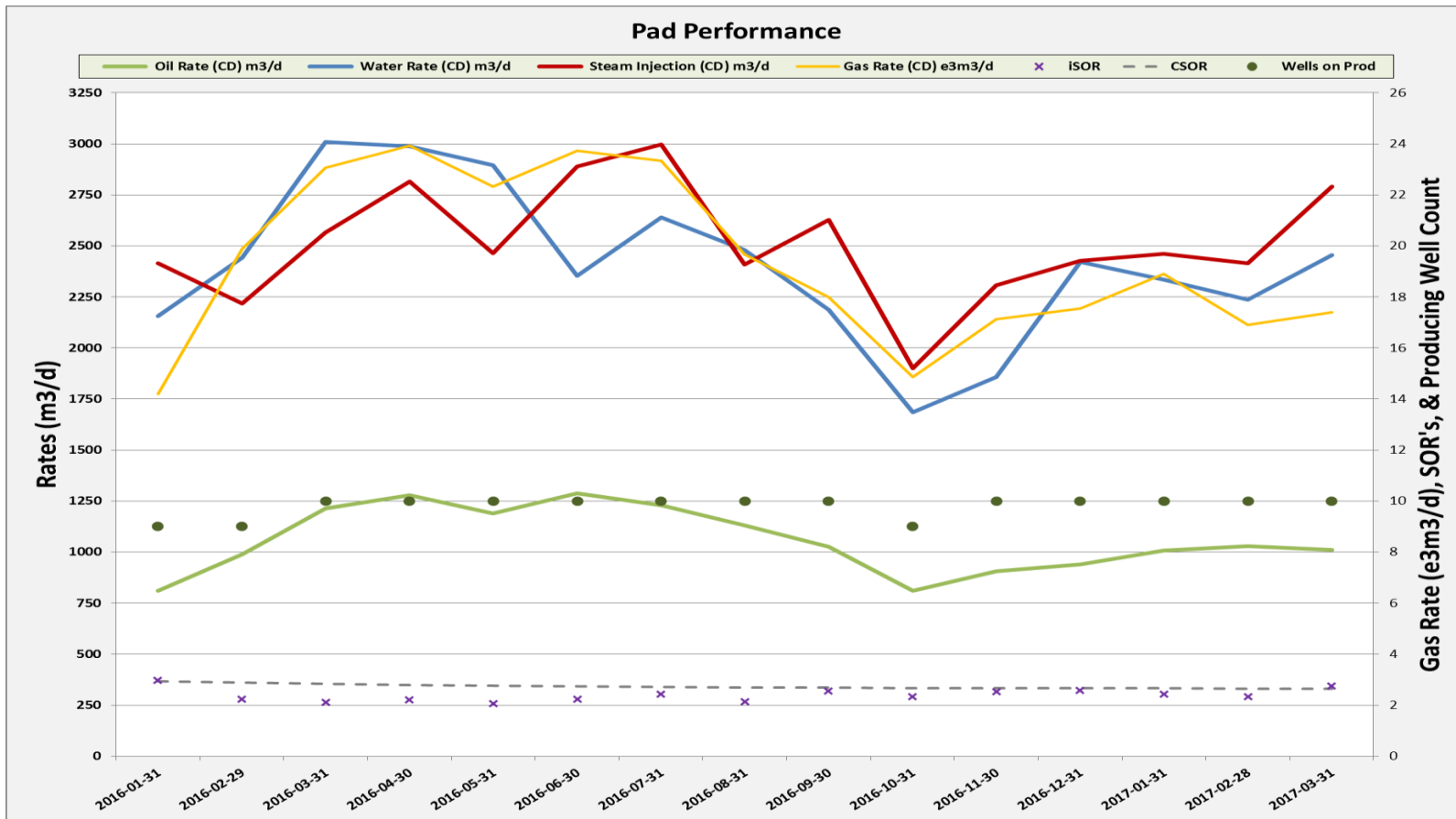


E07 Pad

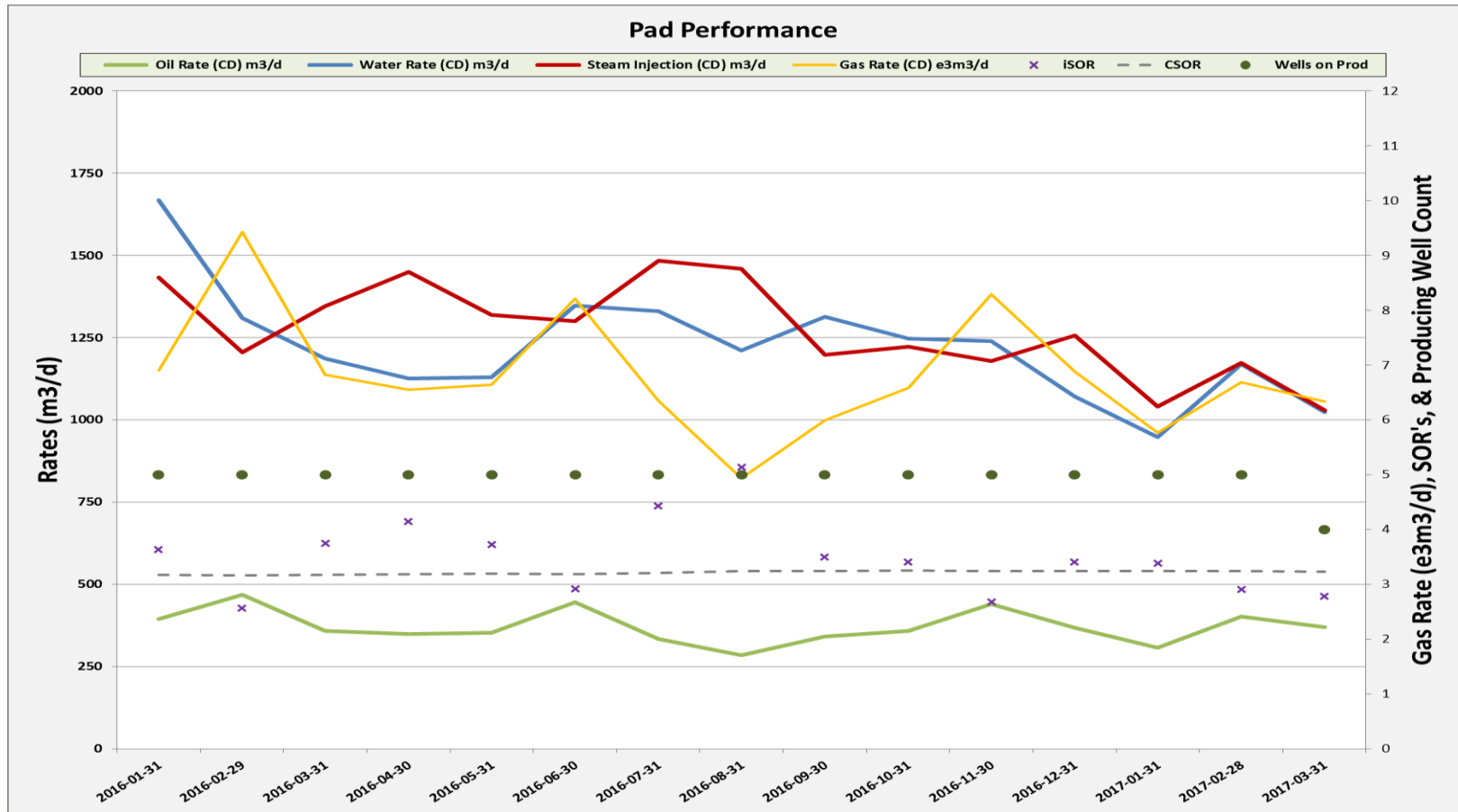
Pad Performance



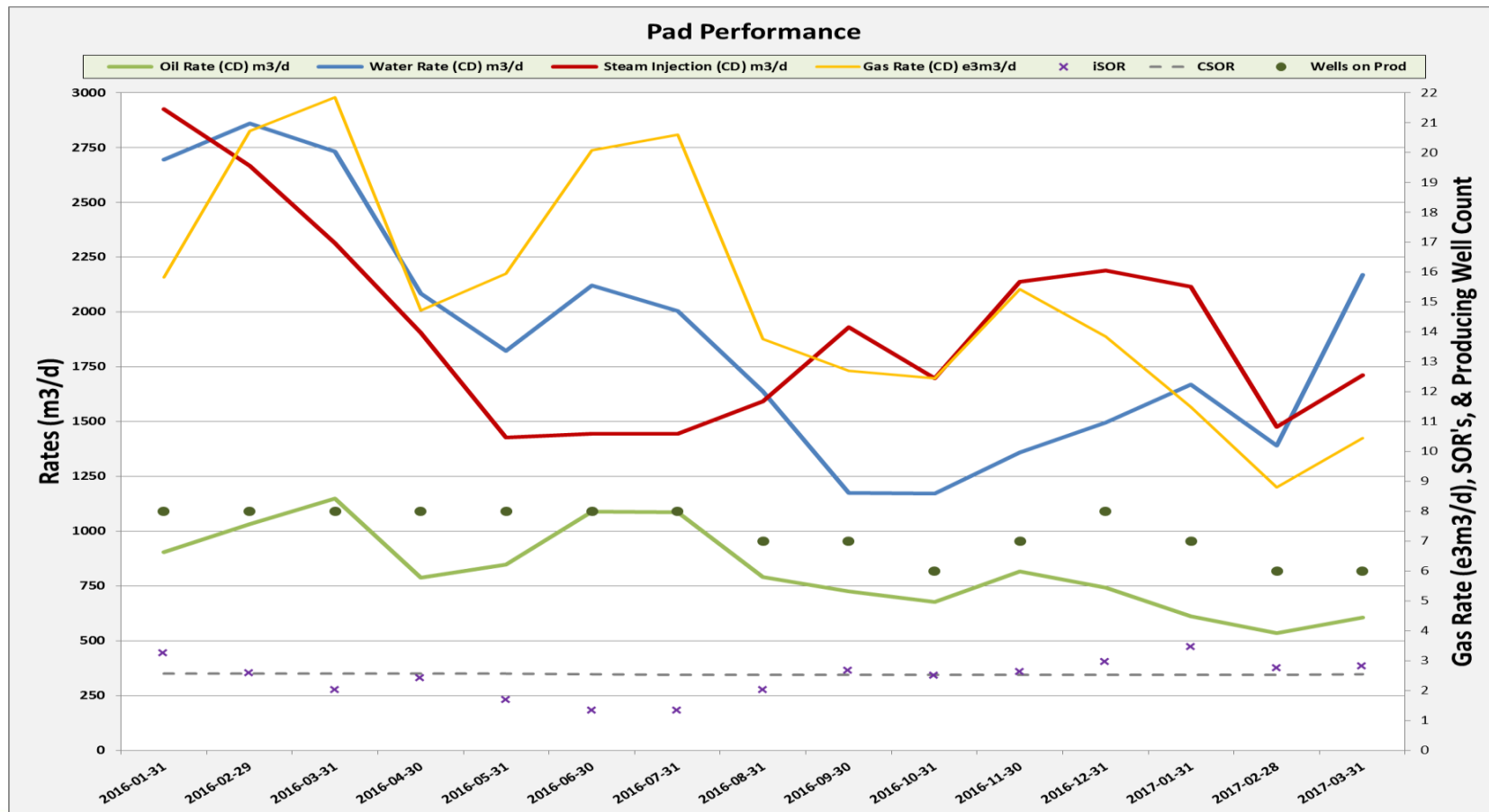
E08 Pad



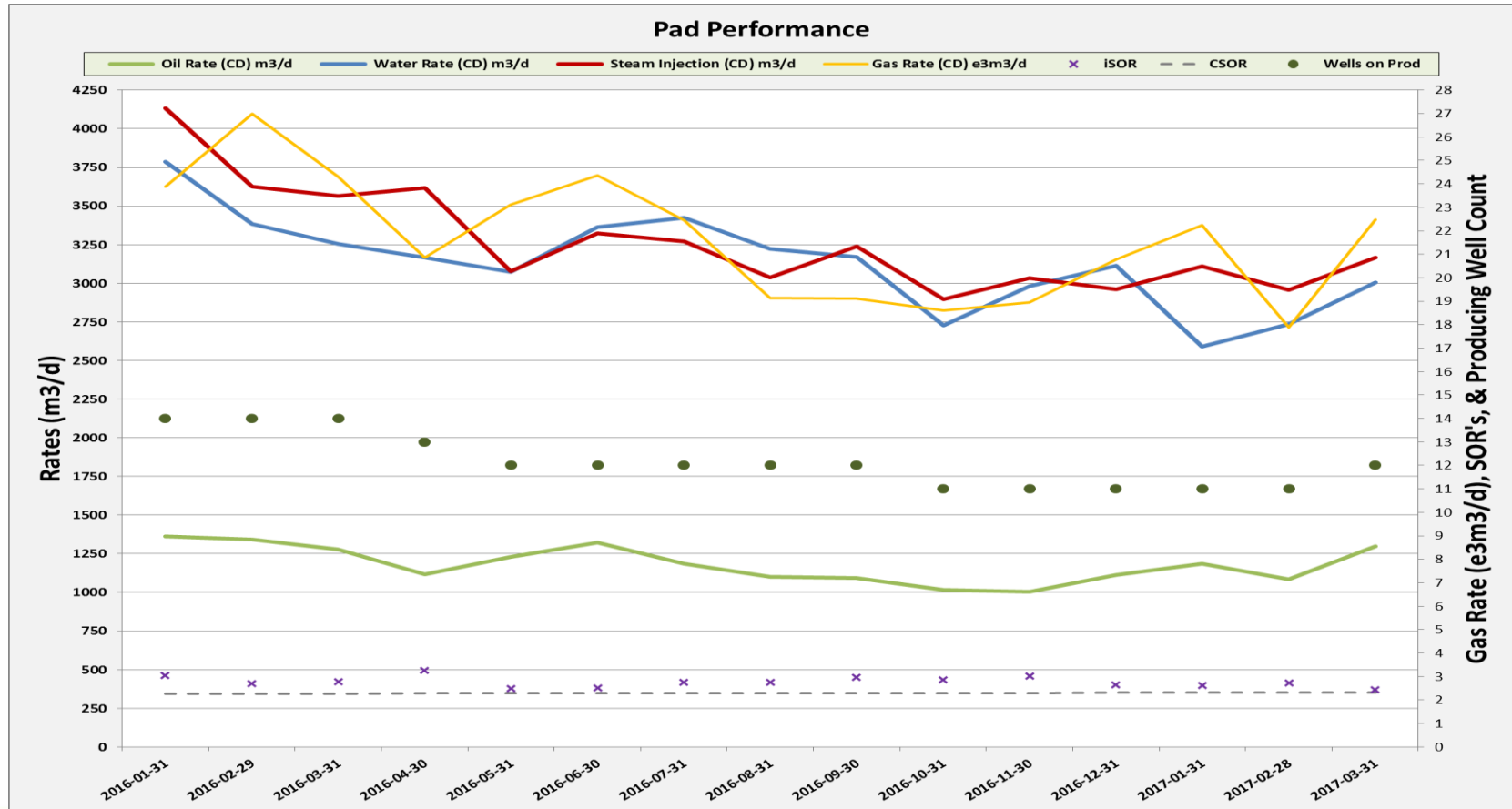
E10 Pad



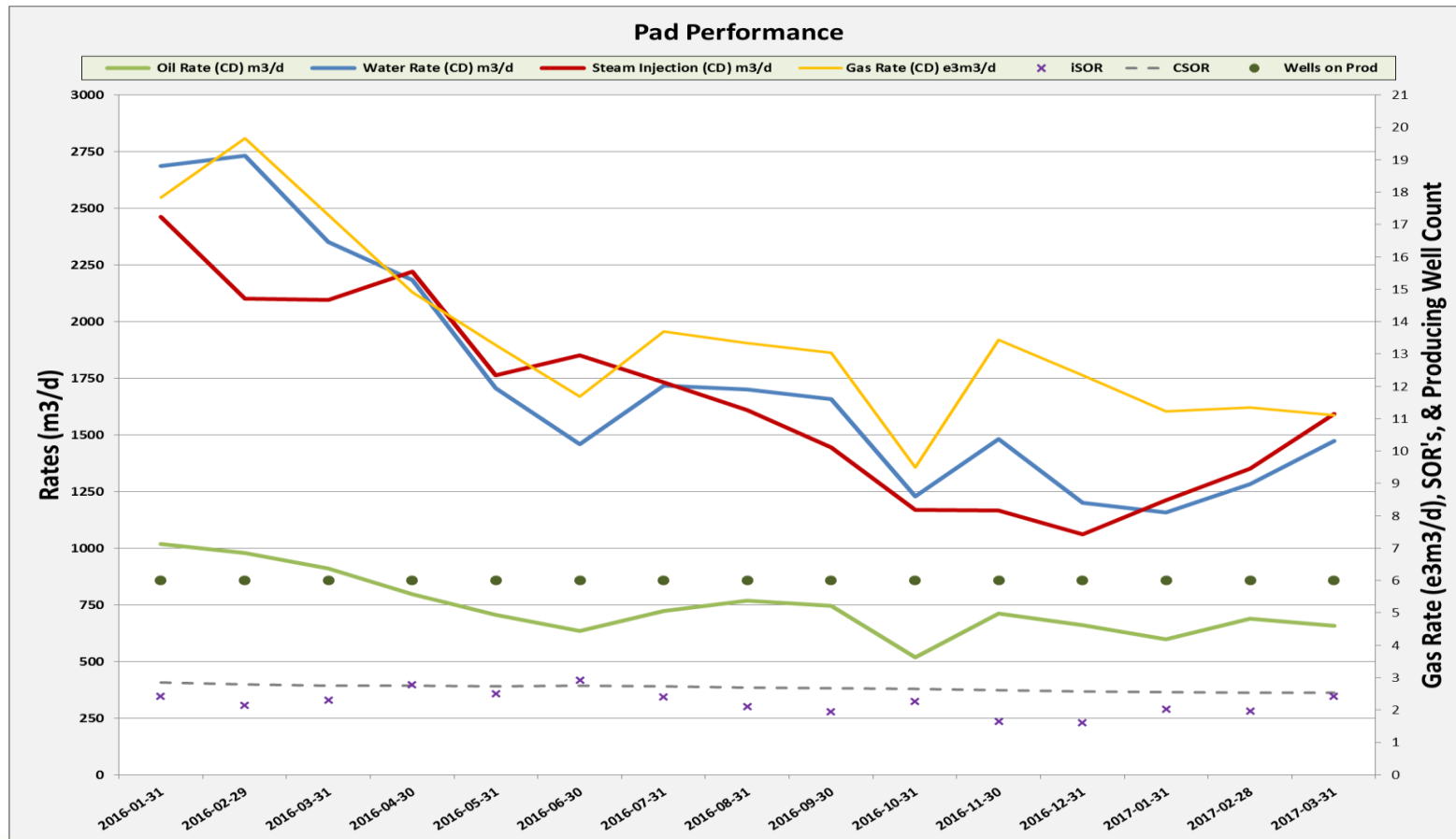
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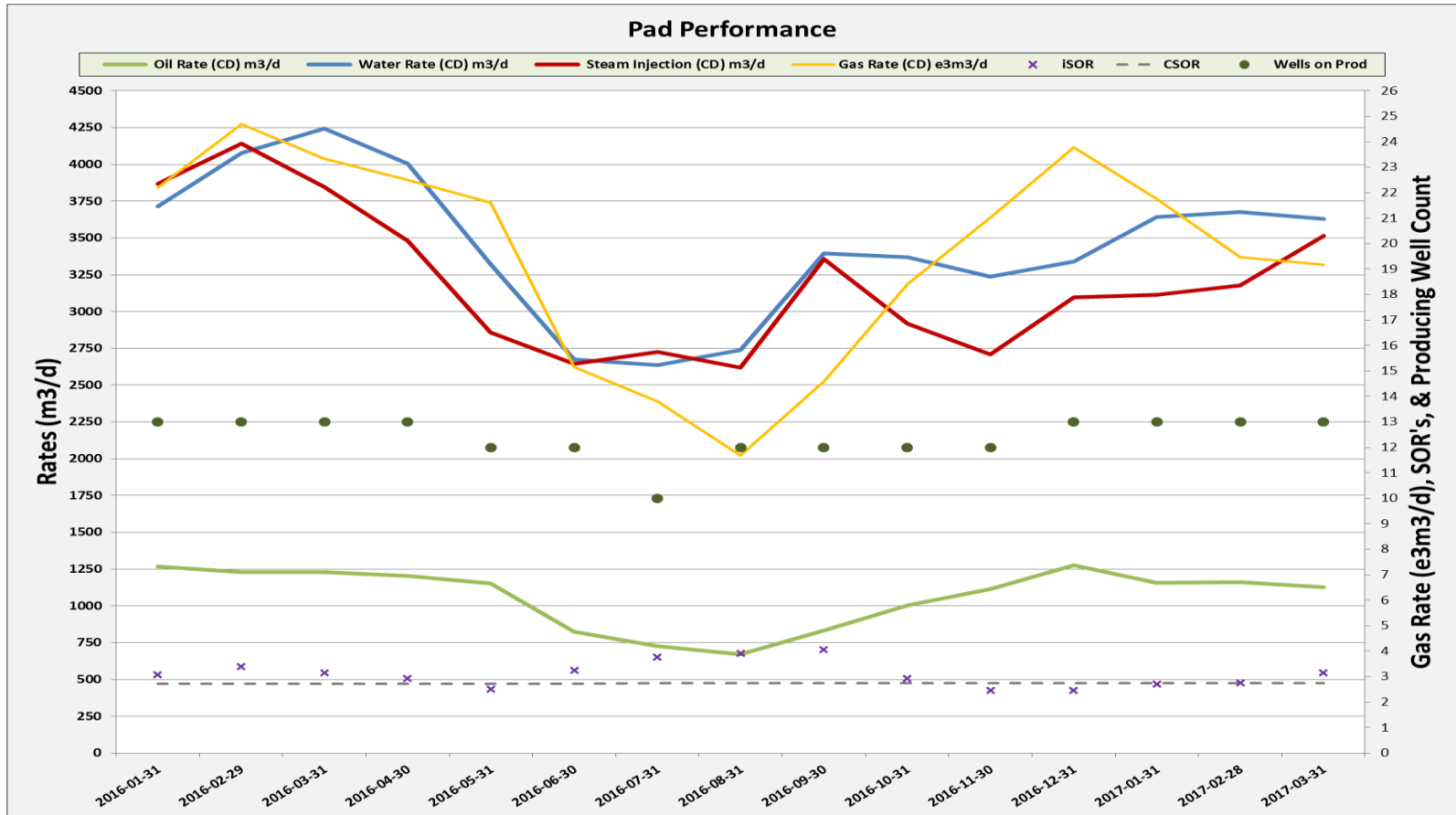
E12 Pad & E12 wells utilizing Wedge Well™ technology



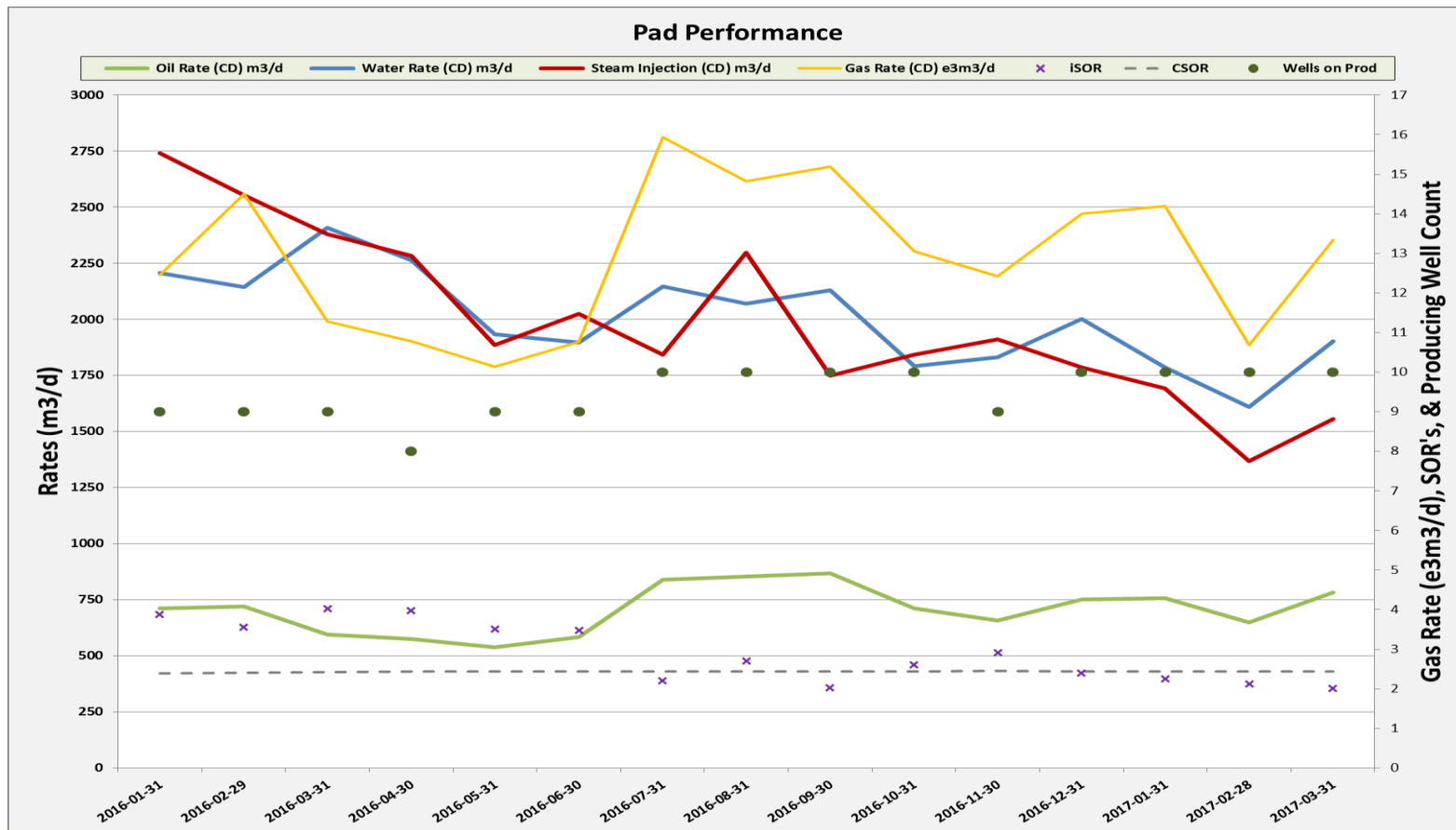
E14 Pad



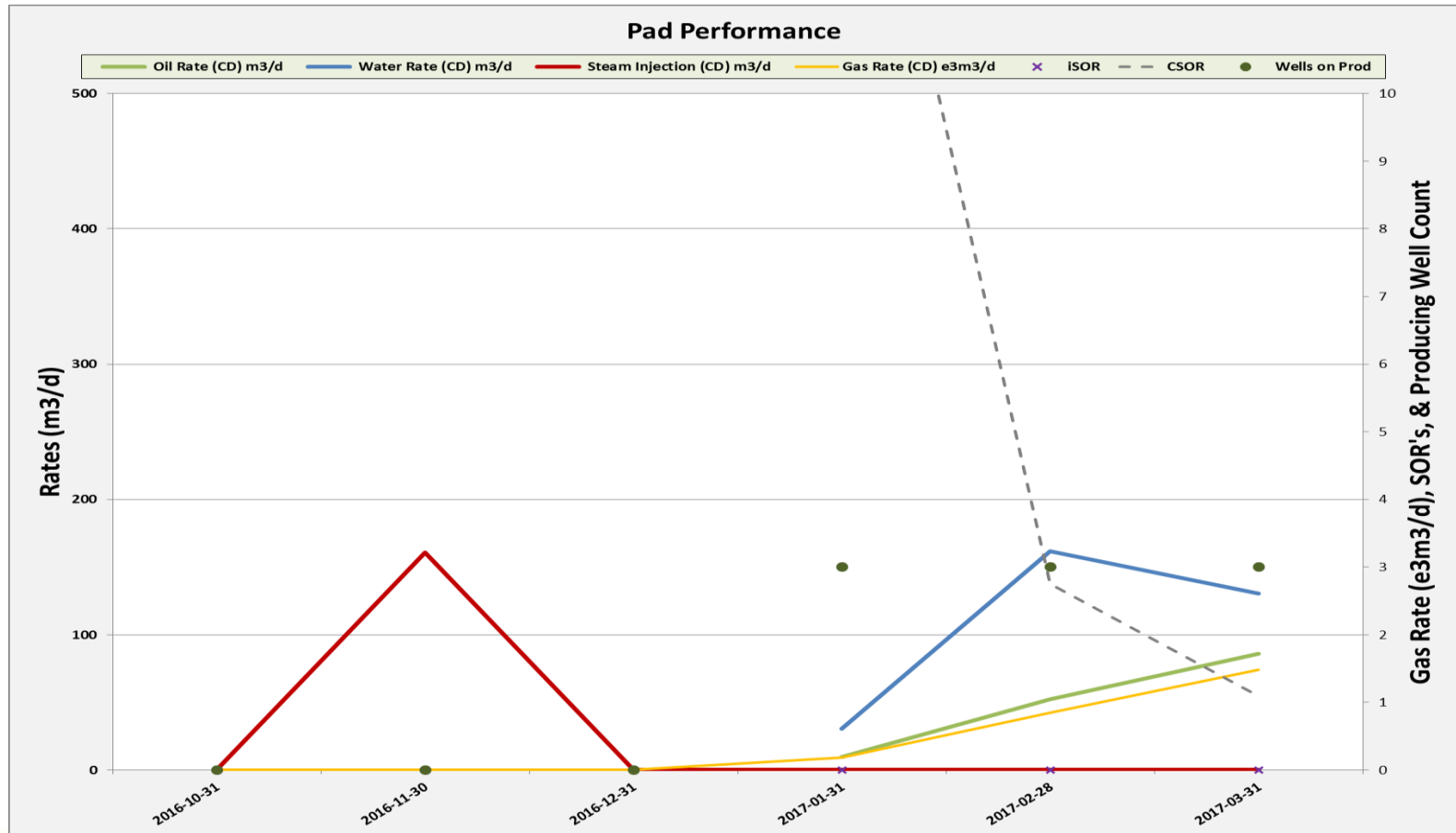
E15 Pad



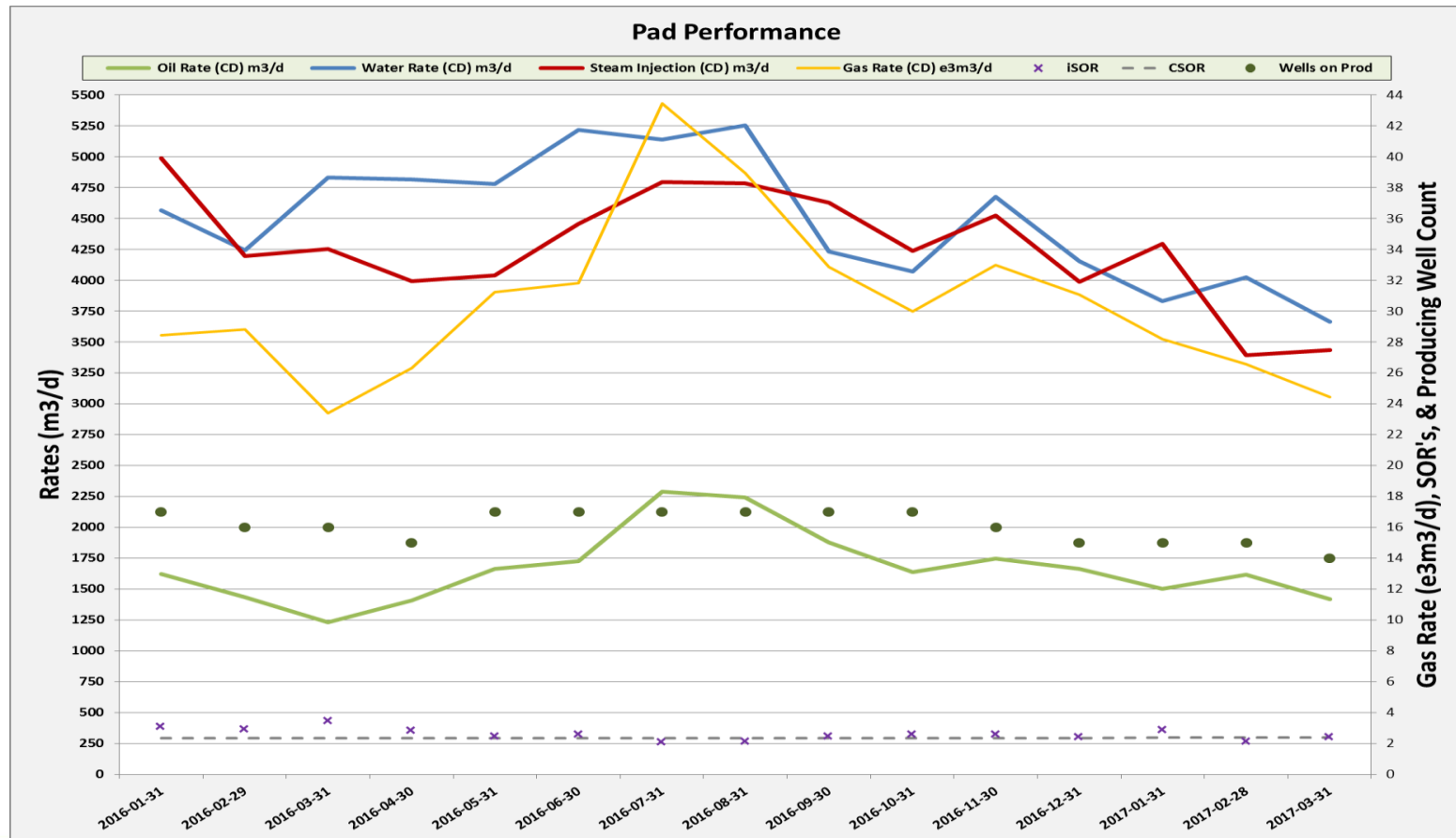
E16 Pad & E16 wells utilizing Wedge Well™ technology



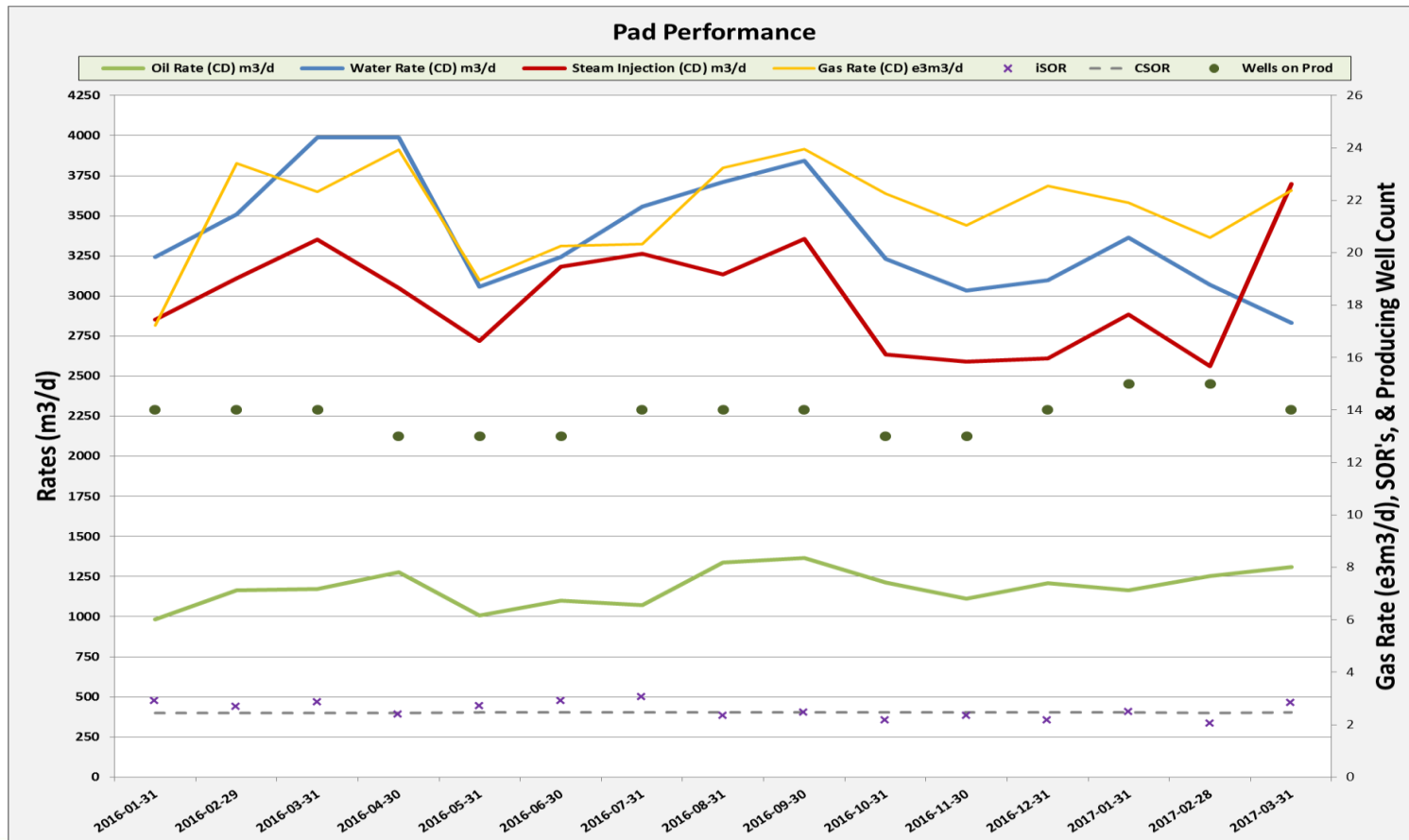
E17 Pad



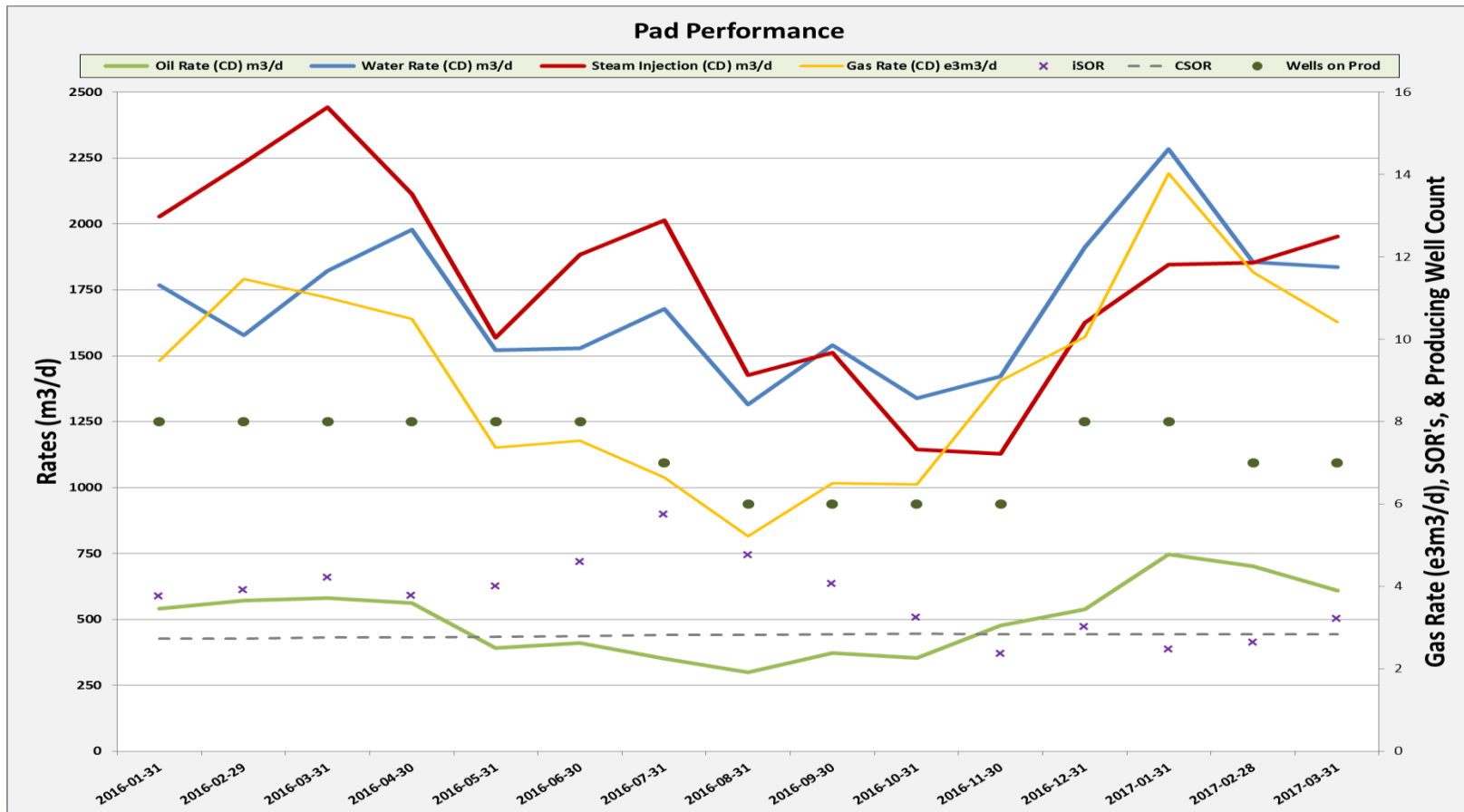
E19 Pad & E19 wells utilizing Wedge Well™ technology



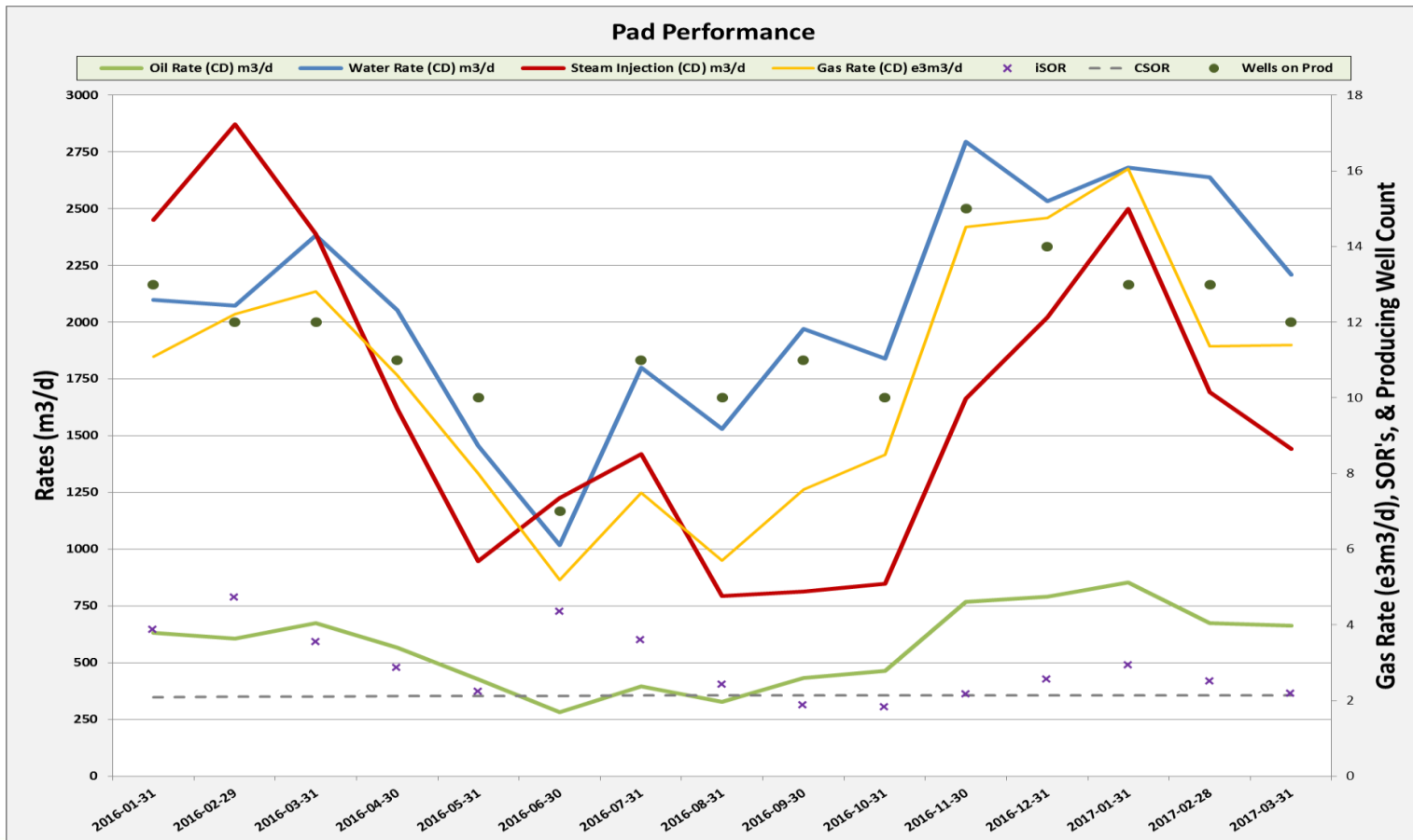
E20 Pad & E20 wells utilizing Wedge Well™ technology



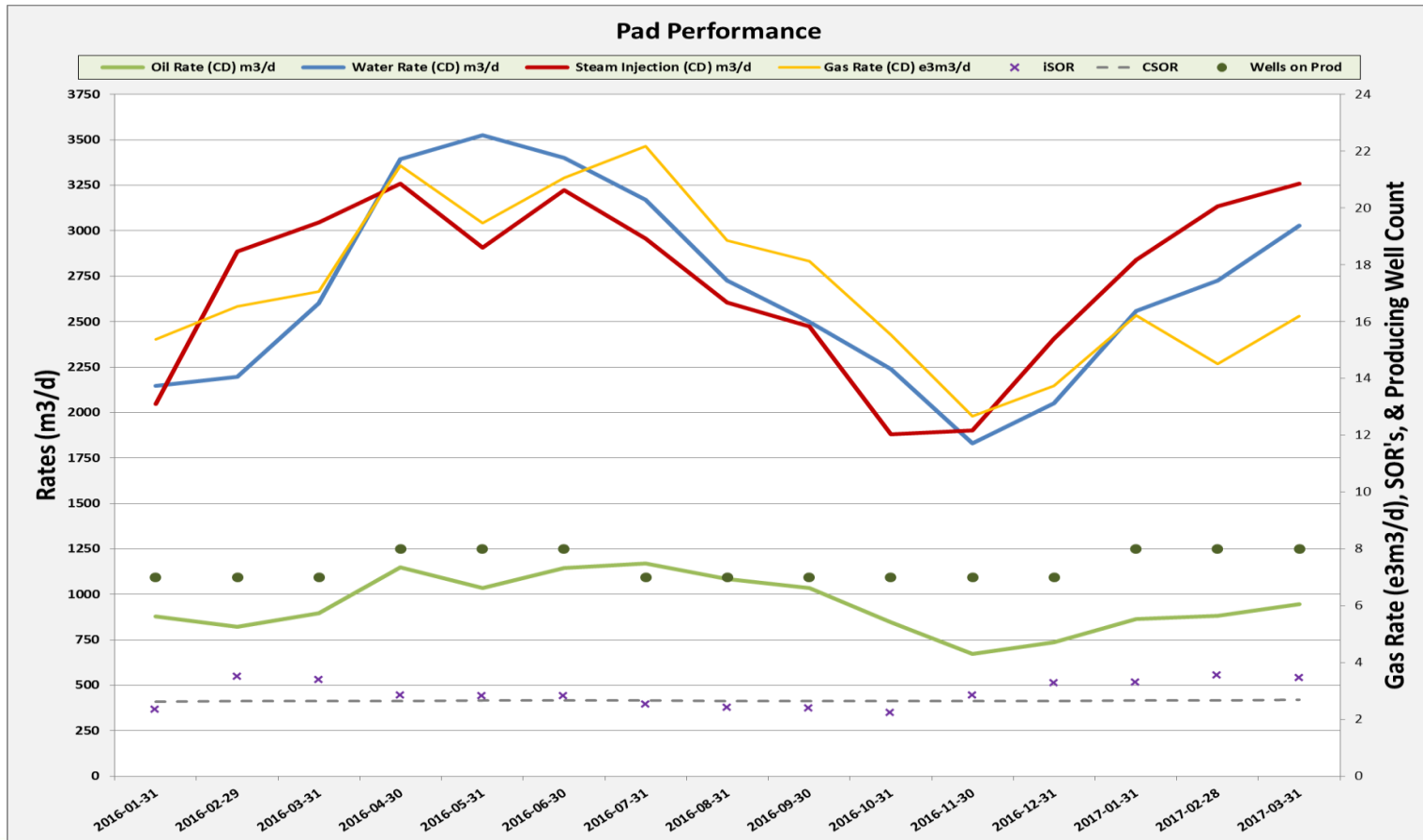
E21 Pad



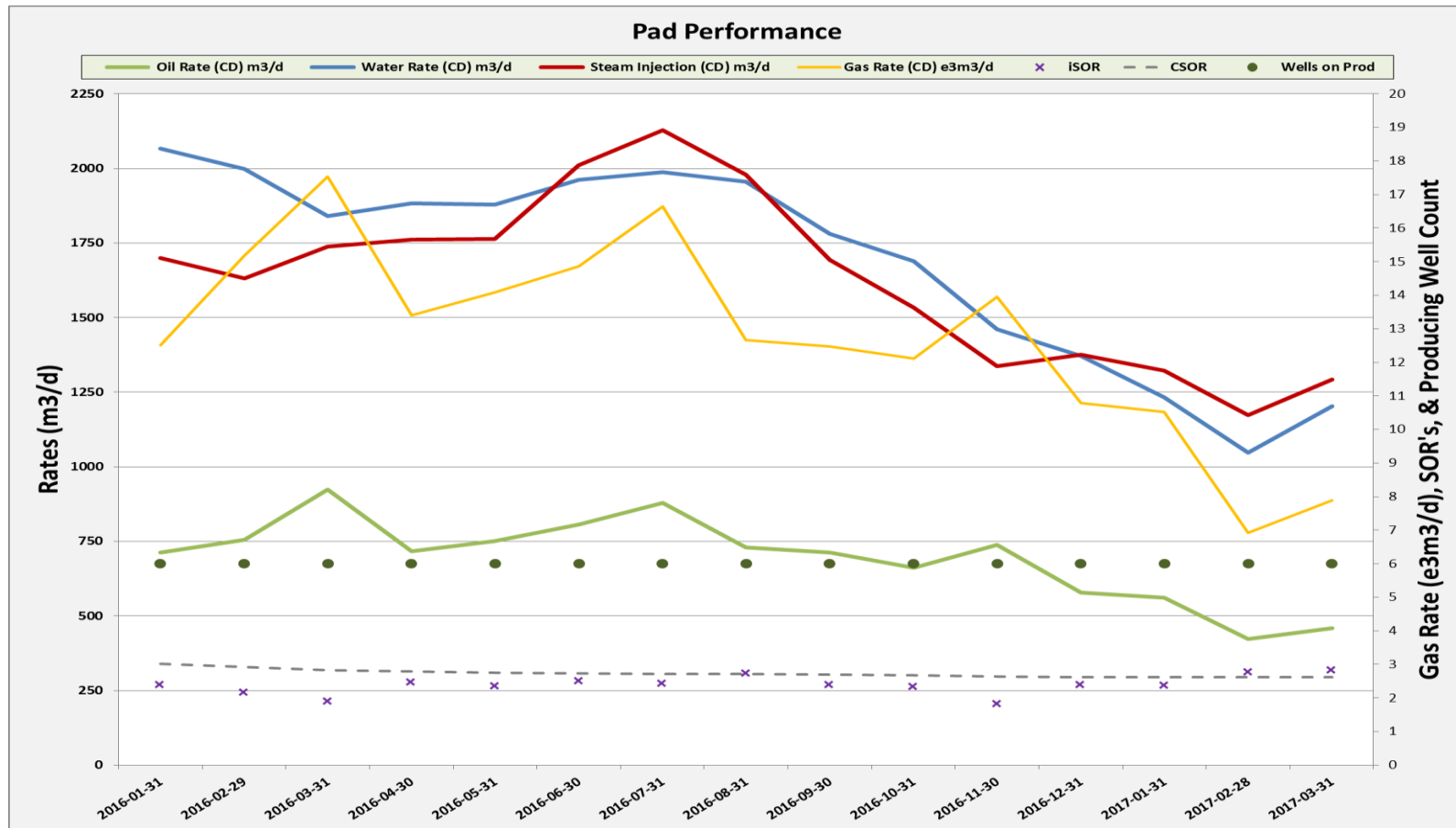
E24 Pad & E24 wells utilizing Wedge Well™ technology



E25 Pad



E42 Pad

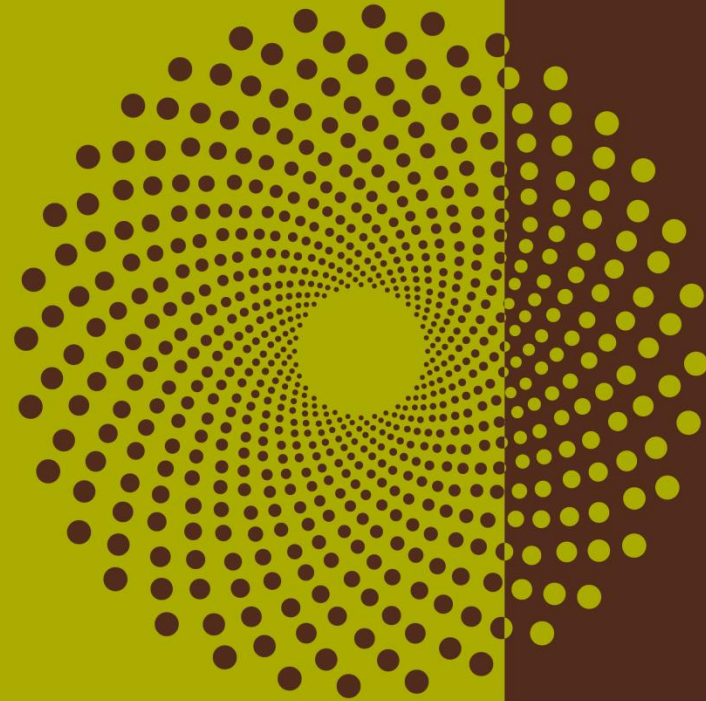


Instrumentation in wells

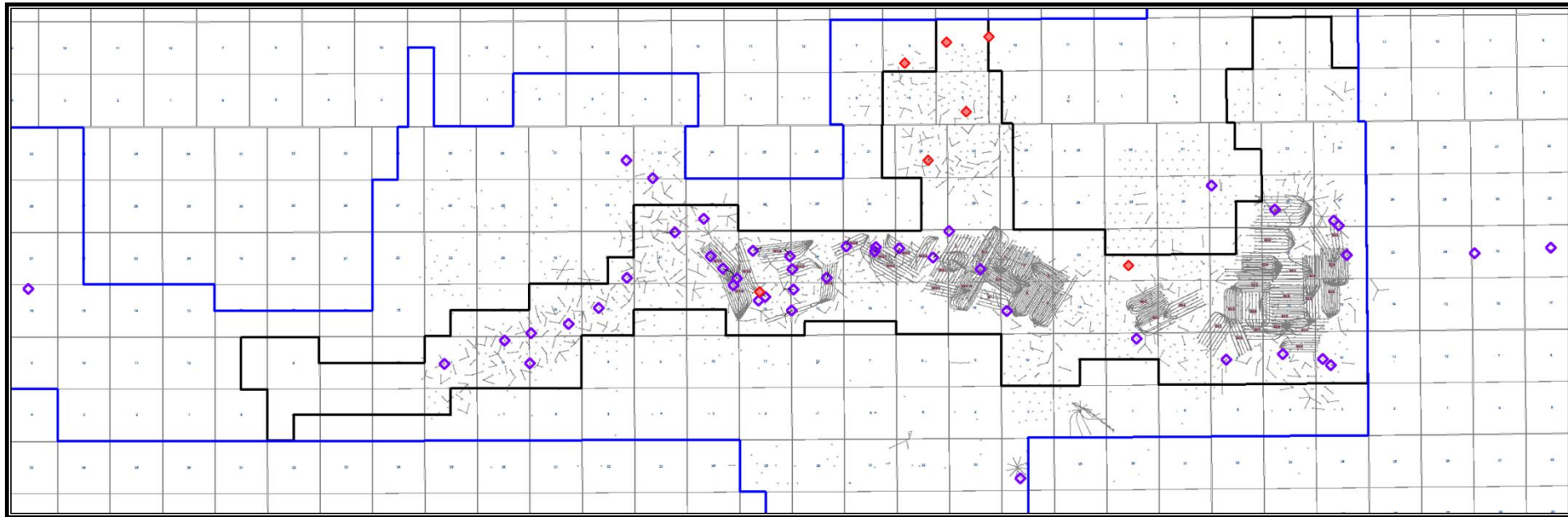
Subsection 3.1.1 – 5 c, d)



Piezometer data

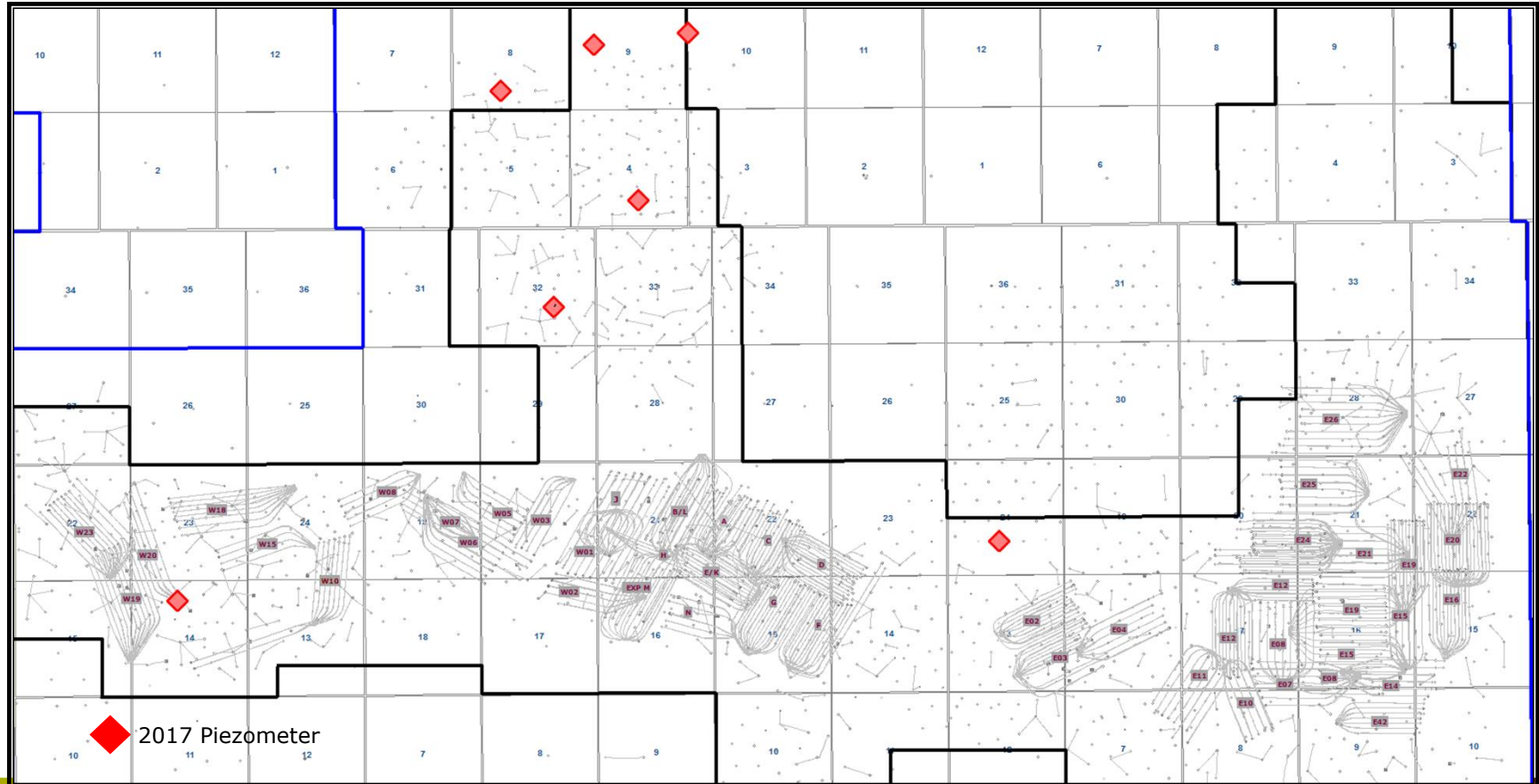


Foster Creek piezometer locations



- Existing Piezometer
- 2017 Piezometer

Foster Creek 2017 Piezometer Locations



Piezometer details

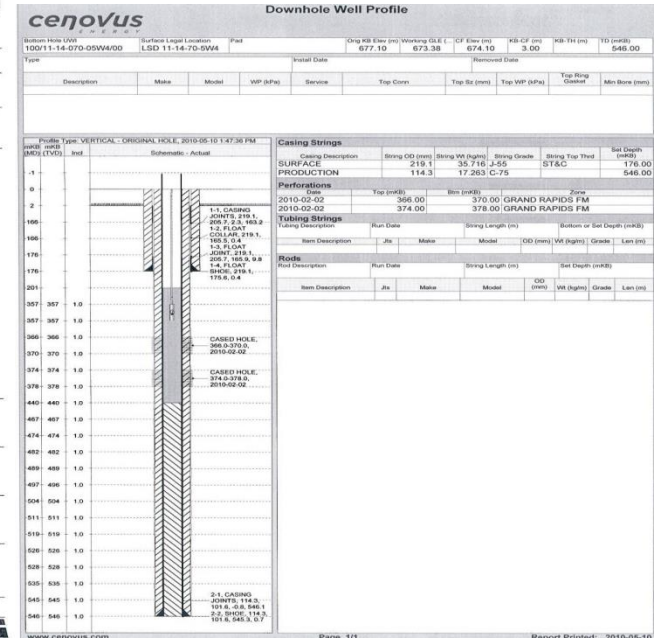
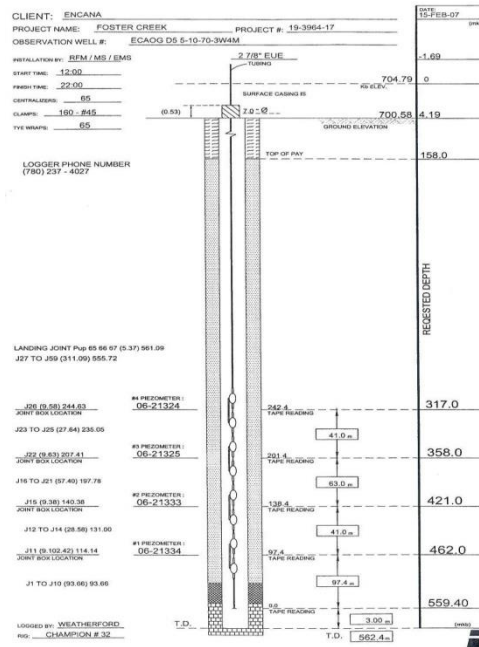
Three installation types:

Cemented tubing - vibrating wire piezometers mounted on tubulars and cemented in place (14 wells)

Hanging wire – pressure / temperature gauges hung from the wellhead to about 10-15m above perforations (10 wells)

Cemented casing – High temperature optical pressure sensors strapped and cemented to the production casing (39 wells)

Seven new McMurray piezometers installed



Piezometer Pressure Data

UWI	Formation	MD (mKB)	TVD (mSS)	2017	Reported Pressures (kPaa)
100/02-21-070-04W4/03	Colorado Shale	241	428.93	31-Jan-17	3838
100/02-21-070-04W4/03	Colorado Shale	241	428.93	28-Feb-17	
100/02-21-070-04W4/03	Colorado Shale	241	428.93	31-Mar-17	
100/03-27-070-05W4/00	McM B.W.	526.8	147.07	31-Jan-17	3195
100/03-27-070-05W4/00	McM B.W.	526.8	147.07	28-Feb-17	3192
100/03-27-070-05W4/00	McM B.W.	526.8	147.07	31-Mar-17	3188
100/03-27-070-05W4/02	McM Transition	512	161.87	31-Jan-17	2988
100/03-27-070-05W4/02	McM Transition	512	161.87	28-Feb-17	2985
100/03-27-070-05W4/02	McM Transition	512	161.87	31-Mar-17	2981
100/03-27-070-05W4/03	McM Bitumen	495.6	178.27	31-Jan-17	2873
100/03-27-070-05W4/03	McM Bitumen	495.6	178.27	28-Feb-17	2871
100/03-27-070-05W4/03	McM Bitumen	495.6	178.27	31-Mar-17	2870
100/03-34-069-04W4/00	McM BWater	635.85	68.47	2017-01-31	3679
100/03-34-069-04W4/00	McM BWater	635.85	68.47	2017-02-28	4542
100/03-34-069-04W4/00	McM BWater	635.85	68.47	2017-03-31	5057
100/05-28-070-03W4/00	CLWRA	421.5	263.28	31-Jan-17	1879
100/05-28-070-03W4/00	CLWRA	421.5	263.28	28-Feb-17	1869
100/05-28-070-03W4/00	CLWRA	421.5	263.28	31-Mar-17	1867
100/05-28-070-03W4/00	GRD	381	303.78	31-Jan-17	684
100/05-28-070-03W4/00	GRD	381	303.78	28-Feb-17	678
100/05-28-070-03W4/00	GRD	381	303.78	31-Mar-17	664
100/05-28-070-03W4/00	McM Bitumen	501	183.78	31-Jan-17	2620
100/05-28-070-03W4/00	McM Bitumen	501	183.78	28-Feb-17	2623
100/05-28-070-03W4/00	McM Bitumen	501	183.78	31-Mar-17	2623
100/06-08-070-03W4/00	McMurray	529	161.15	31-Jan-17	3233
100/06-08-070-03W4/00	McMurray	529	161.15	28-Feb-17	3102
100/06-08-070-03W4/00	McMurray	529	161.15	31-Mar-17	3004
100/11-09-070-03W4/00	GRD	405	296.49	31-Jan-17	1201
100/11-09-070-03W4/00	GRD	405	296.49	28-Feb-17	1196
100/11-09-070-03W4/00	GRD	405	296.49	31-Mar-17	1200
100/11-09-070-03W4/00	McM Transition	538.5	162.99	31-Jan-17	3494
100/11-09-070-03W4/00	McM Transition	538.5	162.99	28-Feb-17	3492
100/11-09-070-03W4/00	McM Transition	538.5	162.99	31-Mar-17	3495
100/11-14-070-05W4/00	GRC	357.2	319.9	31-Jan-17	1505
100/11-14-070-05W4/00	GRC	357.2	319.9	28-Feb-17	1503
100/11-14-070-05W4/00	GRC	357.2	319.9	31-Mar-17	1502
100/13-13-070-05W4/03	McM B.W.	636.39	165.38	31-Jan-17	2914
100/13-13-070-05W4/03	McM B.W.	636.39	165.38	28-Feb-17	2912
100/13-13-070-05W4/03	McM B.W.	636.39	165.38	31-Mar-17	2910
100/13-13-070-05W4/04	McM Bitumen L2	614.18	179.76	31-Jan-17	3049
100/13-13-070-05W4/04	McM Bitumen L2	614.18	179.76	28-Feb-17	3044
100/13-13-070-05W4/04	McM Bitumen L2	614.18	179.76	31-Mar-17	3039
100/13-13-070-05W4/05	McM Bitumen L2	602.86	187.14	31-Jan-17	2872
100/13-13-070-05W4/05	McM Bitumen L2	602.86	187.14	28-Feb-17	2870
100/13-13-070-05W4/05	McM Bitumen L2	602.86	187.14	31-Mar-17	2870
100/14-16-070-07W4/04	GRD	402	263.13	31-Jan-17	
100/14-16-070-07W4/04	GRD	402	263.13	28-Feb-17	
100/14-16-070-07W4/04	GRD	402	263.13	31-Mar-17	
100/15-12-070-04W4/00	McM Transition/OWC	517.9	161.61	31-Jan-17	3112
100/15-12-070-04W4/00	McM Transition/OWC	517.9	161.61	28-Feb-17	3120
100/15-12-070-04W4/00	McM Transition/OWC	517.9	161.61	31-Mar-17	3112

Piezometer Pressure Data Continued...

UWI	Formation	MD (mKB)	TVD (mSS)	2017	Reported Pressures (kPa)
102/01-20-070-05W4/00	McM B.W.	523.88	151.39	31-Jan-17	3151
102/01-20-070-05W4/00	McM B.W.	523.88	151.39	28-Feb-17	3150
102/01-20-070-05W4/00	McM B.W.	523.88	151.39	31-Mar-17	3148
102/01-20-070-05W4/02	McM Transition	514.66	160.61	31-Jan-17	3064
102/01-20-070-05W4/02	McM Transition	514.66	160.61	28-Feb-17	3062
102/01-20-070-05W4/02	McM Transition	514.66	160.61	31-Mar-17	3060
102/01-20-070-05W4/03	McM Bitumen	489.88	185.39	31-Jan-17	2789
102/01-20-070-05W4/03	McM Bitumen	489.88	185.39	28-Feb-17	2788
102/01-20-070-05W4/03	McM Bitumen	489.88	185.39	31-Mar-17	2788
102/04-18-070-05W4/00	2WS	214.5	460.92	31-Jan-17	1677
102/04-18-070-05W4/00	2WS	214.5	460.92	28-Feb-17	1677
102/04-18-070-05W4/00	2WS	214.5	460.92	31-Mar-17	1677
102/04-18-070-05W4/00	CLWRA	420	255.42	31-Jan-17	2369
102/04-18-070-05W4/00	CLWRA	420	255.42	28-Feb-17	2369
102/04-18-070-05W4/00	CLWRA	420	255.42	31-Mar-17	2369
102/04-18-070-05W4/00	GRD	376.5	298.92	31-Jan-17	2364
102/04-18-070-05W4/00	GRD	376.5	298.92	28-Feb-17	2366
102/04-18-070-05W4/00	GRD	376.5	298.92	31-Mar-17	2364
102/04-18-070-05W4/00	McM B.W.	538.5	136.92	31-Jan-17	3115
102/04-18-070-05W4/00	McM B.W.	538.5	136.92	28-Feb-17	3115
102/04-18-070-05W4/00	McM B.W.	538.5	136.92	31-Mar-17	3115
102/04-18-070-05W4/00	McM Bitumen	490	185.42	31-Jan-17	2563
102/04-18-070-05W4/00	McM Bitumen	490	185.42	28-Feb-17	2563
102/04-18-070-05W4/00	McM Bitumen	490	185.42	31-Mar-17	2563
102/05-07-070-05W4/00	2WS	215	460.94	31-Jan-17	1857
102/05-07-070-05W4/00	2WS	215	460.94	28-Feb-17	1801
102/05-07-070-05W4/00	2WS	215	460.94	31-Mar-17	1693
102/05-07-070-05W4/00	McM B.W.	527	148.94	31-Jan-17	2991
102/05-07-070-05W4/00	McM B.W.	527	148.94	28-Feb-17	2995
102/05-07-070-05W4/00	McM B.W.	527	148.94	31-Mar-17	2994
102/05-07-070-05W4/00	McM Bitumen U2	494	181.94	31-Jan-17	2563
102/05-07-070-05W4/00	McM Bitumen U2	494	181.94	28-Feb-17	2374
102/05-07-070-05W4/00	McM Bitumen U2	494	181.94	31-Mar-17	2554
102/05-13-070-05W4/04	McM B.W.	623.45	160.68	31-Jan-17	3126
102/05-13-070-05W4/04	McM B.W.	623.45	160.68	28-Feb-17	3131
102/05-13-070-05W4/04	McM B.W.	623.45	160.68	31-Mar-17	3127
102/05-13-070-05W4/05	McM Transition/OWC	608.9	170.67	31-Jan-17	3148
102/05-13-070-05W4/05	McM Transition/OWC	608.9	170.67	28-Feb-17	3151
102/05-13-070-05W4/05	McM Transition/OWC	608.9	170.67	31-Mar-17	3155
102/05-13-070-05W4/06	McM Bitumen	600.79	176.26	31-Jan-17	3095
102/05-13-070-05W4/06	McM Bitumen	600.79	176.26	28-Feb-17	3103
102/05-13-070-05W4/06	McM Bitumen	600.79	176.26	31-Mar-17	3113
102/09-23-070-05W4/03	McM B.W.	619.59	158.73	31-Jan-17	3112
102/09-23-070-05W4/03	McM B.W.	619.59	158.73	28-Feb-17	3105
102/09-23-070-05W4/03	McM B.W.	619.59	158.73	31-Mar-17	3100
102/09-23-070-05W4/04	McM Transition	589.97	180.42	31-Jan-17	4096
102/09-23-070-05W4/04	McM Transition	589.97	180.42	28-Feb-17	4177
102/09-23-070-05W4/04	McM Transition	589.97	180.42	31-Mar-17	4255
102/09-23-070-05W4/05	McM Bitumen	581.86	186.27	31-Jan-17	4678
102/09-23-070-05W4/05	McM Bitumen	581.86	186.27	28-Feb-17	4531
102/09-23-070-05W4/05	McM Bitumen	581.86	186.27	31-Mar-17	4722

Piezometer Pressure Data Continued...

UWI	Formation	MD (mKB)	TVD (mSS)	2017	Reported Pressures (kPaa)
102/09-23-070-05W4/03	McM B.W.	619.59	158.73	31-Jan-17	3112
102/09-23-070-05W4/03	McM B.W.	619.59	158.73	28-Feb-17	3105
102/09-23-070-05W4/03	McM B.W.	619.59	158.73	31-Mar-17	3100
102/09-23-070-05W4/04	McM Transition	589.97	180.42	31-Jan-17	4096
102/09-23-070-05W4/04	McM Transition	589.97	180.42	28-Feb-17	4177
102/09-23-070-05W4/04	McM Transition	589.97	180.42	31-Mar-17	4255
102/09-23-070-05W4/05	McM Bitumen	581.86	186.27	31-Jan-17	4678
102/09-23-070-05W4/05	McM Bitumen	581.86	186.27	28-Feb-17	4531
102/09-23-070-05W4/05	McM Bitumen	581.86	186.27	31-Mar-17	4722
102/10-14-070-05W4/02	McM B.W.	659.5	149.29	31-Jan-17	
102/10-14-070-05W4/02	McM B.W.	659.5	149.29	28-Feb-17	
102/10-14-070-05W4/02	McM B.W.	659.5	149.29	31-Mar-17	
102/10-14-070-05W4/03	McM Bitumen	622.73	170.66	31-Jan-17	
102/10-14-070-05W4/03	McM Bitumen	622.73	170.66	28-Feb-17	
102/10-14-070-05W4/03	McM Bitumen	622.73	170.66	31-Mar-17	
102/10-14-070-05W4/04	McM Bitumen	613.59	175.98	31-Jan-17	
102/10-14-070-05W4/04	McM Bitumen	613.59	175.98	28-Feb-17	
102/10-14-070-05W4/04	McM Bitumen	613.59	175.98	31-Mar-17	
102/11-23-070-05W4/00	McM B.W.	621.31	152.1	31-Jan-17	3366
102/11-23-070-05W4/00	McM B.W.	621.31	152.1	28-Feb-17	3359
102/11-23-070-05W4/00	McM B.W.	621.31	152.1	31-Mar-17	3354
102/11-23-070-05W4/02	McM Bitumen	590.34	173.16	31-Jan-17	3985
102/11-23-070-05W4/02	McM Bitumen	590.34	173.16	28-Feb-17	3921
102/11-23-070-05W4/02	McM Bitumen	590.34	173.16	31-Mar-17	3810
102/11-23-070-05W4/03	McM Bitumen	559.27	194.56	31-Jan-17	3318
102/11-23-070-05W4/03	McM Bitumen	559.27	194.56	28-Feb-17	3327
102/11-23-070-05W4/03	McM Bitumen	559.27	194.56	31-Mar-17	3341
102/12-19-070-04W4/00	McM B.W.	601	164.88	31-Jan-17	3101
102/12-19-070-04W4/00	McM B.W.	601	164.88	28-Feb-17	3074
102/12-19-070-04W4/00	McM B.W.	601	164.88	31-Mar-17	3072
102/12-19-070-04W4/02	McM Transition	587	175.05	31-Jan-17	3312
102/12-19-070-04W4/02	McM Transition	587	175.05	28-Feb-17	3302
102/12-19-070-04W4/02	McM Transition	587	175.05	31-Mar-17	3349
102/12-19-070-04W4/03	McM Bitumen	573	185.22	31-Jan-17	3299
102/12-19-070-04W4/03	McM Bitumen	573	185.22	28-Feb-17	3306
102/12-19-070-04W4/03	McM Bitumen	573	185.22	31-Mar-17	3356
102/13-21-070-04W4/00	McM Bitumen/Transition	484.7	184.87	31-Jan-17	2660
102/13-21-070-04W4/00	McM Bitumen/Transition	484.7	184.87	28-Feb-17	2656
102/13-21-070-04W4/00	McM Bitumen/Transition	484.7	184.87	31-Mar-17	2628
102/15-12-070-06W4/03	2WS	223	458.38	31-Jan-17	1854
102/15-12-070-06W4/03	2WS	223	458.38	28-Feb-17	1855
102/15-12-070-06W4/03	2WS	223	458.38	31-Mar-17	1855
102/15-12-070-06W4/03	McM Bitumen	506.5	174.88	31-Jan-17	2491
102/15-12-070-06W4/03	McM Bitumen	506.5	174.88	28-Feb-17	2492
102/15-12-070-06W4/03	McM Bitumen	506.5	174.88	31-Mar-17	2493
102/15-12-070-06W4/03	McM L. B.W.	559.5	121.88	31-Jan-17	3238
102/15-12-070-06W4/03	McM L. B.W.	559.5	121.88	28-Feb-17	3239
102/15-12-070-06W4/03	McM L. B.W.	559.5	121.88	31-Mar-17	3240
103/07-20-070-04W4/00	McM B.W.	584.98	162.38	31-Jan-17	2959
103/07-20-070-04W4/00	McM B.W.	584.98	162.38	28-Feb-17	2956
103/07-20-070-04W4/00	McM B.W.	584.98	162.38	31-Mar-17	2928

Piezometer Pressure Data Continued...

UWI	Formation	MD (mKB)	TVD (mSS)	2017	Reported Pressures (kPaa)
103/07-20-070-04W4/02	McM Transition	565.97	176.96	31-Jan-17	2608
103/07-20-070-04W4/02	McM Transition	565.97	176.96	28-Feb-17	2606
103/07-20-070-04W4/02	McM Transition	565.97	176.96	31-Mar-17	2579
103/07-20-070-04W4/03	McM Bitumen	556.79	184.04	31-Jan-17	2491
103/07-20-070-04W4/03	McM Bitumen	556.79	184.04	28-Feb-17	2491
103/07-20-070-04W4/03	McM Bitumen	556.79	184.04	31-Mar-17	2478
103/07-20-070-04W4/04	GRD	389.67	313.96	31-Jan-17	1566
103/07-20-070-04W4/04	GRD	389.67	313.96	28-Feb-17	1564
103/07-20-070-04W4/04	GRD	389.67	313.96	31-Mar-17	1564
103/13-29-070-03W4/00	CLWRA	403.6	269.75	31-Jan-17	1555
103/13-29-070-03W4/00	CLWRA	403.6	269.75	28-Feb-17	1555
103/13-29-070-03W4/00	CLWRA	403.6	269.75	31-Mar-17	1553
103/13-29-070-03W4/02	GRD	365	308.35	31-Jan-17	1084
103/13-29-070-03W4/02	GRD	365	308.35	28-Feb-17	1081
103/13-29-070-03W4/02	GRD	365	308.35	31-Mar-17	1077
104/12-20-070-04W4/02	McM B.W.	626.68	169.85	31-Jan-17	3056
104/12-20-070-04W4/02	McM B.W.	626.68	169.85	28-Feb-17	3044
104/12-20-070-04W4/02	McM B.W.	626.68	169.85	31-Mar-17	3020
104/12-20-070-04W4/03	McM Transition	618.76	174.91	31-Jan-17	3068
104/12-20-070-04W4/03	McM Transition	618.76	174.91	28-Feb-17	3057
104/12-20-070-04W4/03	McM Transition	618.76	174.91	31-Mar-17	3037
104/12-20-070-04W4/04	McM Bitumen	607.6	182.03	31-Jan-17	3152
104/12-20-070-04W4/04	McM Bitumen	607.6	182.03	28-Feb-17	3142
104/12-20-070-04W4/04	McM Bitumen	607.6	182.03	31-Mar-17	3126
1AA/16-21-070-05W4/00	McM B.W.	607	151.35	31-Jan-17	3015
1AA/16-21-070-05W4/00	McM B.W.	607	151.35	28-Feb-17	3013
1AA/16-21-070-05W4/00	McM B.W.	607	151.35	31-Mar-17	2971
1AA/16-21-070-05W4/02	McM Transition	591	162.98	31-Jan-17	2871
1AA/16-21-070-05W4/02	McM Transition	591	162.98	28-Feb-17	2871
1AA/16-21-070-05W4/02	McM Transition	591	162.98	31-Mar-17	2870
1AA/16-21-070-05W4/03	McM Bitumen	581	170.22	31-Jan-17	2779
1AA/16-21-070-05W4/03	McM Bitumen	581	170.22	28-Feb-17	2797
1AA/16-21-070-05W4/03	McM Bitumen	581	170.22	31-Mar-17	2784
1AB/01-18-070-05W4/00	McM B.W.	526	143.95	31-Jan-17	3023
1AB/01-18-070-05W4/00	McM B.W.	526	143.95	28-Feb-17	3003
1AB/01-18-070-05W4/00	McM B.W.	526	143.95	31-Mar-17	3027
1AB/01-18-070-05W4/02	McM Transition	505	164.95	31-Jan-17	2748
1AB/01-18-070-05W4/02	McM Transition	505	164.95	28-Feb-17	2748
1AB/01-18-070-05W4/02	McM Transition	505	164.95	31-Mar-17	2785
1AB/01-18-070-05W4/03	McM Bitumen	490	179.95	31-Jan-17	2596
1AB/01-18-070-05W4/03	McM Bitumen	490	179.95	28-Feb-17	2594
1AB/01-18-070-05W4/03	McM Bitumen	490	179.95	31-Mar-17	2599
1AB/01-22-070-05W4/02	McM B.W.	633	153.42	31-Jan-17	3038
1AB/01-22-070-05W4/02	McM B.W.	633	153.42	28-Feb-17	3036
1AB/01-22-070-05W4/02	McM B.W.	633	153.42	31-Mar-17	3035
1AB/01-22-070-05W4/03	McM Transition	605	171.8	31-Jan-17	9078
1AB/01-22-070-05W4/03	McM Transition	605	171.8	28-Feb-17	8661
1AB/01-22-070-05W4/03	McM Transition	605	171.8	31-Mar-17	8598
1AB/01-22-070-05W4/04	McM Bitumen	575	191.93	31-Jan-17	3531
1AB/01-22-070-05W4/04	McM Bitumen	575	191.93	28-Feb-17	3551
1AB/01-22-070-05W4/04	McM Bitumen	575	191.93	31-Mar-17	3778

Piezometer Pressure Data Continued...

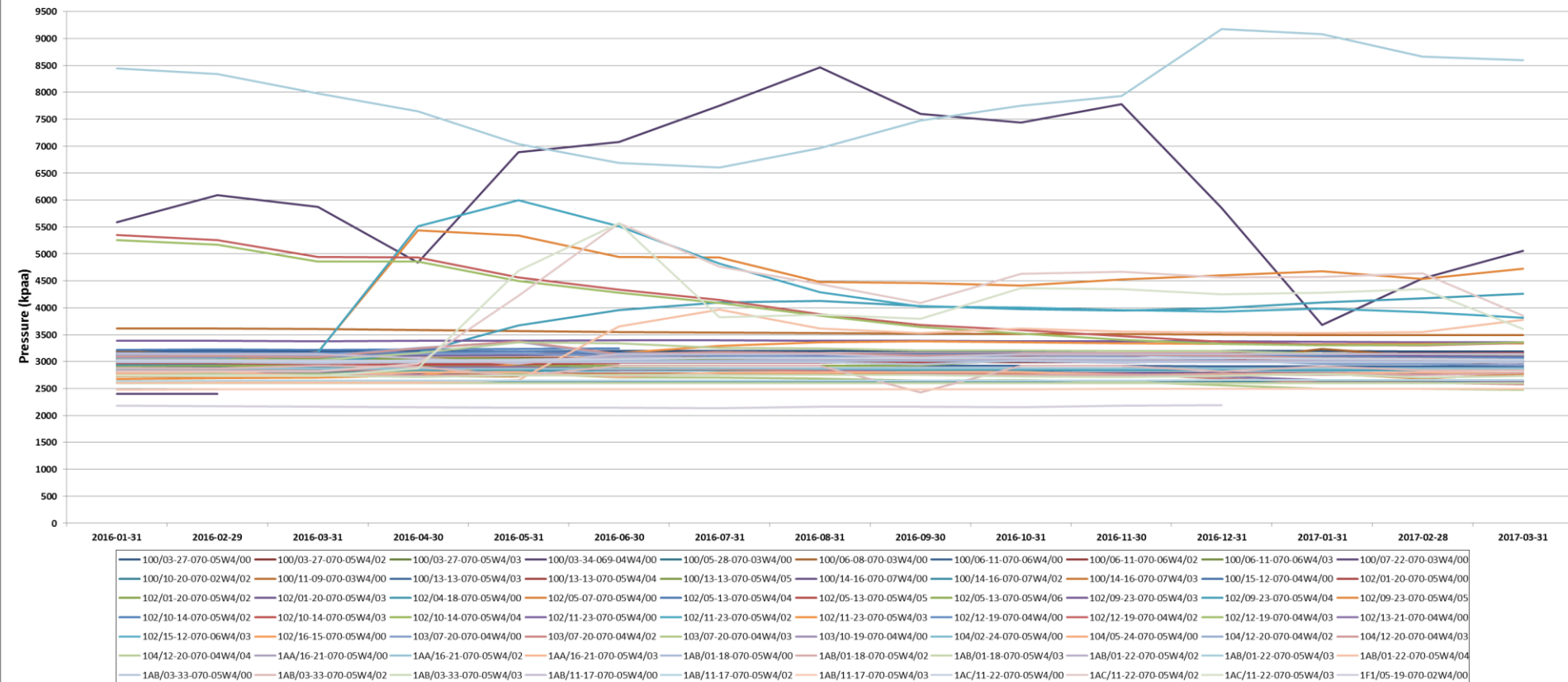
UWI	Formation	MD (mKB)	TVD (mSS)	2017	Reported Pressures (kPaa)
1AB/01-22-070-05W4/05	T31	518	231.34	31-Jan-17	2352
1AB/01-22-070-05W4/05	T31	518	231.34	28-Feb-17	2413
1AB/01-22-070-05W4/05	T31	518	231.34	31-Mar-17	2450
1AB/01-22-070-05W4/06	CLWRA	474	261.67	31-Jan-17	1230
1AB/01-22-070-05W4/06	CLWRA	474	261.67	28-Feb-17	1225
1AB/01-22-070-05W4/06	CLWRA	474	261.67	31-Mar-17	1218
1AB/03-27-070-03W4/00	CLWTop	457	249.36	31-Jan-17	2212
1AB/03-27-070-03W4/00	CLWTop	457	249.36	28-Feb-17	2330
1AB/03-27-070-03W4/00	CLWTop	457	249.36	31-Mar-17	2409
1AB/03-33-070-05W4/00	McM B.W.	519	152.81	31-Jan-17	2989
1AB/03-33-070-05W4/00	McM B.W.	519	152.81	28-Feb-17	2987
1AB/03-33-070-05W4/00	McM B.W.	519	152.81	31-Mar-17	2987
1AB/03-33-070-05W4/02	McM Transition/OWC	512	159.81	31-Jan-17	2914
1AB/03-33-070-05W4/02	McM Transition/OWC	512	159.81	28-Feb-17	2838
1AB/03-33-070-05W4/02	McM Transition/OWC	512	159.81	31-Mar-17	2836
1AB/03-33-070-05W4/03	McM Bitumen L2	500	171.81	31-Jan-17	2772
1AB/03-33-070-05W4/03	McM Bitumen L2	500	171.81	28-Feb-17	2704
1AB/03-33-070-05W4/03	McM Bitumen L2	500	171.81	31-Mar-17	2730
1AB/11-17-070-05W4/00	McM L. B.W.	543	137.94	31-Jan-17	3144
1AB/11-17-070-05W4/00	McM L. B.W.	543	137.94	28-Feb-17	3143
1AB/11-17-070-05W4/00	McM L. B.W.	543	137.94	31-Mar-17	3143
1AB/11-17-070-05W4/02	McM Bitumen	501	179.94	31-Jan-17	2652
1AB/11-17-070-05W4/02	McM Bitumen	501	179.94	28-Feb-17	2653
1AB/11-17-070-05W4/02	McM Bitumen	501	179.94	31-Mar-17	2652
1AB/11-17-070-05W4/03	McM Bitumen	487	193.94	31-Jan-17	2490
1AB/11-17-070-05W4/03	McM Bitumen	487	193.94	28-Feb-17	2492
1AB/11-17-070-05W4/03	McM Bitumen	487	193.94	31-Mar-17	2493
1AC/11-22-070-05W4/00	McM B.W.	517.5	151.8	31-Jan-17	3057
1AC/11-22-070-05W4/00	McM B.W.	517.5	151.8	28-Feb-17	3042
1AC/11-22-070-05W4/00	McM B.W.	517.5	151.8	31-Mar-17	3031
1AC/11-22-070-05W4/02	McM Bitumen	498	171.3	31-Jan-17	4572
1AC/11-22-070-05W4/02	McM Bitumen	498	171.3	28-Feb-17	4639
1AC/11-22-070-05W4/02	McM Bitumen	498	171.3	31-Mar-17	3852
1AC/11-22-070-05W4/03	McM Bitumen	488	181.3	31-Jan-17	4276
1AC/11-22-070-05W4/03	McM Bitumen	488	181.3	28-Feb-17	4344
1AC/11-22-070-05W4/03	McM Bitumen	488	181.3	31-Mar-17	3607
1AC/11-22-070-05W4/04	T31	455	214.3	31-Jan-17	3647
1AC/11-22-070-05W4/04	T31	455	214.3	28-Feb-17	3596
1AC/11-22-070-05W4/04	T31	455	214.3	31-Mar-17	3504
1AC/11-22-070-05W4/05	CLWRA	415	254.3	31-Jan-17	1671
1AC/11-22-070-05W4/05	CLWRA	415	254.3	28-Feb-17	1663
1AC/11-22-070-05W4/05	CLWRA	415	254.3	31-Mar-17	1665
1F1/03-27-070-03W4/00	CLWRA	462	242.8	31-Jan-17	2530
1F1/03-27-070-03W4/00	CLWRA	462	242.8	28-Feb-17	2530
1F1/03-27-070-03W4/00	CLWRA	462	242.8	31-Mar-17	2530

Piezometer Pressure Data Continued...

UWI	Formation	MD (mKB)	TVD (mSS)	2017	Reported Pressures (kPaa)
1F1/03-27-070-03W4/02	GRD	421	283.8	31-Jan-17	976
1F1/03-27-070-03W4/02	GRD	421	283.8	28-Feb-17	951
1F1/03-27-070-03W4/02	GRD	421	283.8	31-Mar-17	944
1F1/03-27-070-03W4/03	UGR	358	346.8	31-Jan-17	1408
1F1/03-27-070-03W4/03	UGR	358	346.8	28-Feb-17	1409
1F1/03-27-070-03W4/03	UGR	358	346.8	31-Mar-17	1408
1F1/03-27-070-03W4/04	Viking	317	387.8	31-Jan-17	2352
1F1/03-27-070-03W4/04	Viking	317	387.8	28-Feb-17	2357
1F1/03-27-070-03W4/04	Viking	317	387.8	31-Mar-17	2362
1F1/05-10-070-03W4/00	CLWRA	458	261.39	31-Jan-17	2335
1F1/05-10-070-03W4/00	CLWRA	458	261.39	28-Feb-17	2335
1F1/05-10-070-03W4/00	CLWRA	458	261.39	31-Mar-17	2334
1F1/05-10-070-03W4/02	GRD	425	294.39	31-Jan-17	1469
1F1/05-10-070-03W4/02	GRD	425	294.39	28-Feb-17	1441
1F1/05-10-070-03W4/02	GRD	425	294.39	31-Mar-17	1443
1F1/05-10-070-03W4/04	Viking	320	399.39	31-Jan-17	2250
1F1/05-10-070-03W4/04	Viking	320	399.39	28-Feb-17	2252
1F1/05-10-070-03W4/04	Viking	320	399.39	31-Mar-17	2255
1F1/05-19-070-02W4/00	McM B.W.	544.6	195.22	31-Jan-17	
1F1/05-19-070-02W4/00	McM B.W.	544.6	195.22	28-Feb-17	
1F1/05-19-070-02W4/00	McM B.W.	544.6	195.22	31-Mar-17	

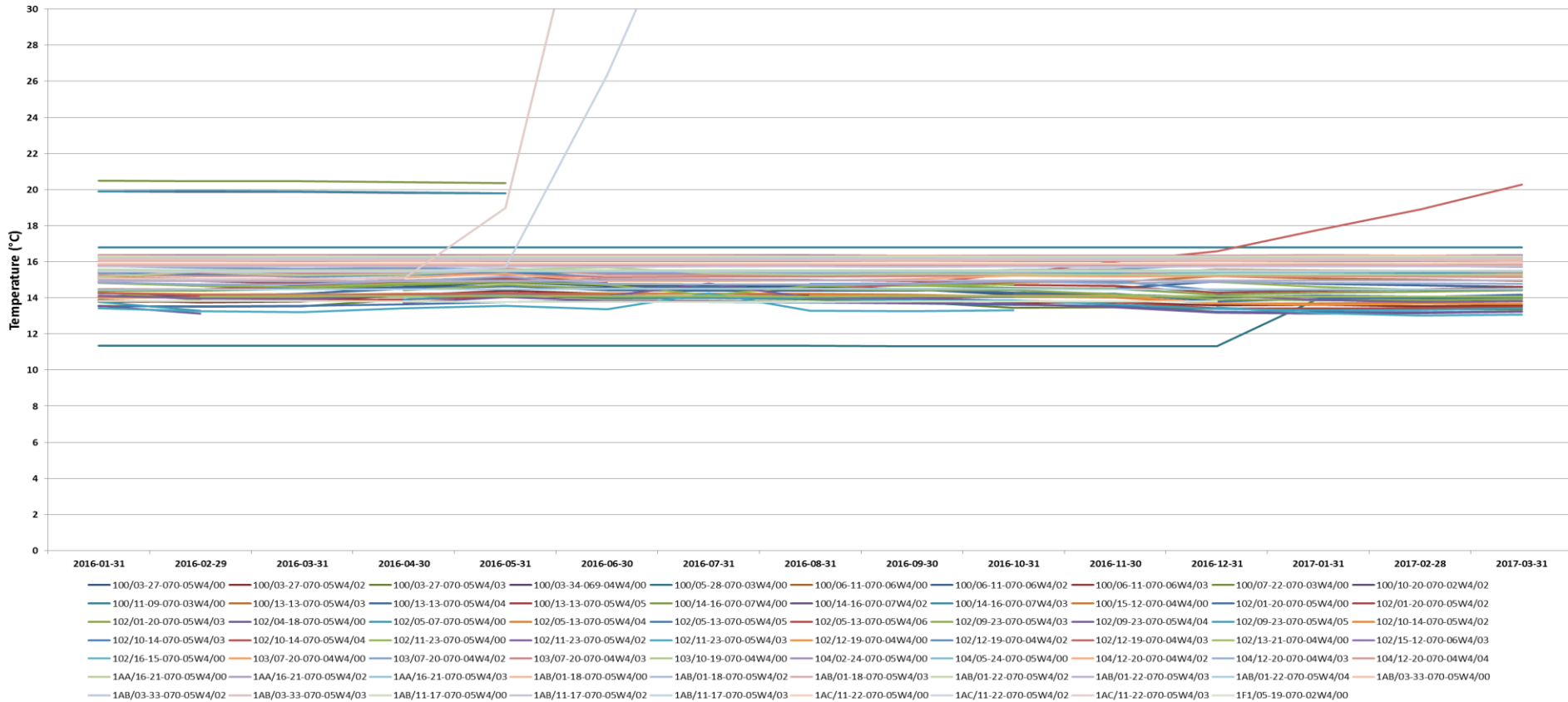
McMurray (All)

Piezometer Pressures



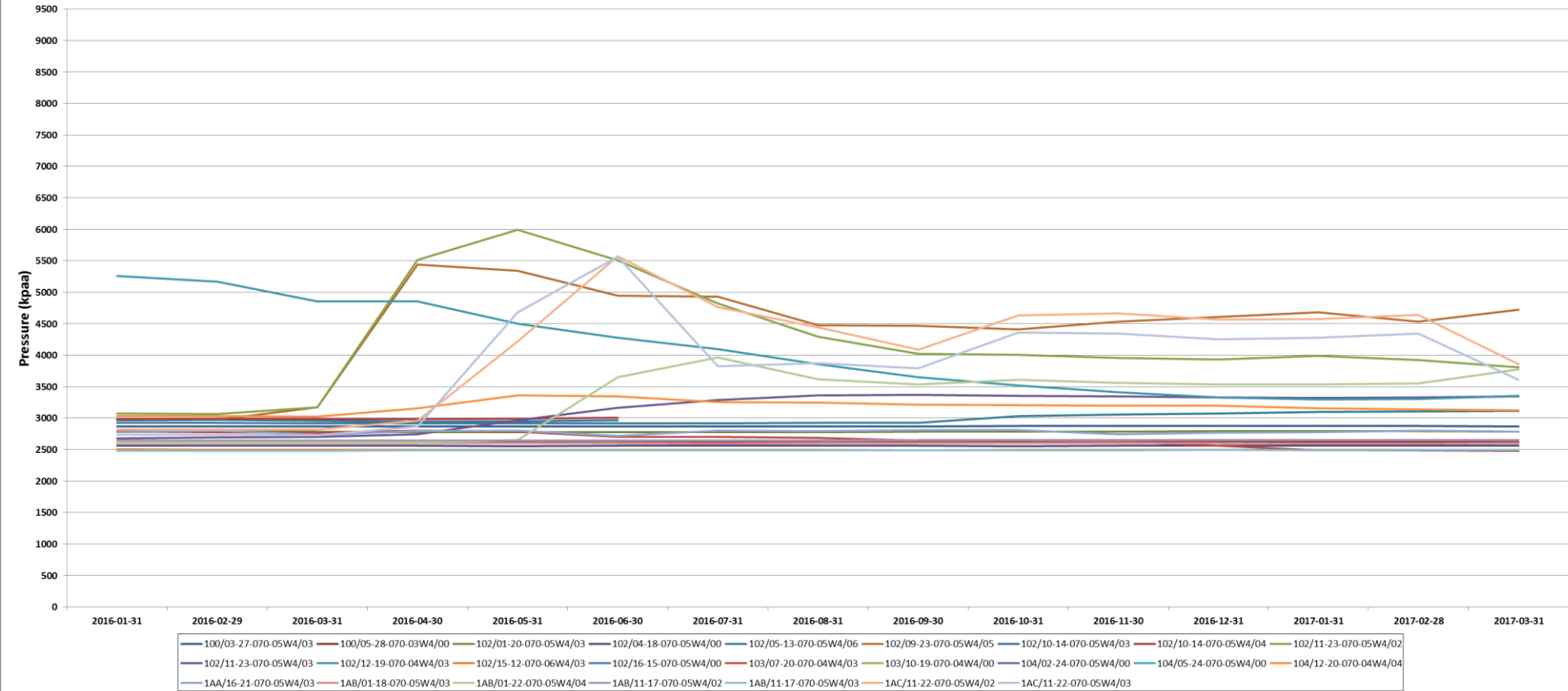
McMurray (All)

Piezometer Temperatures



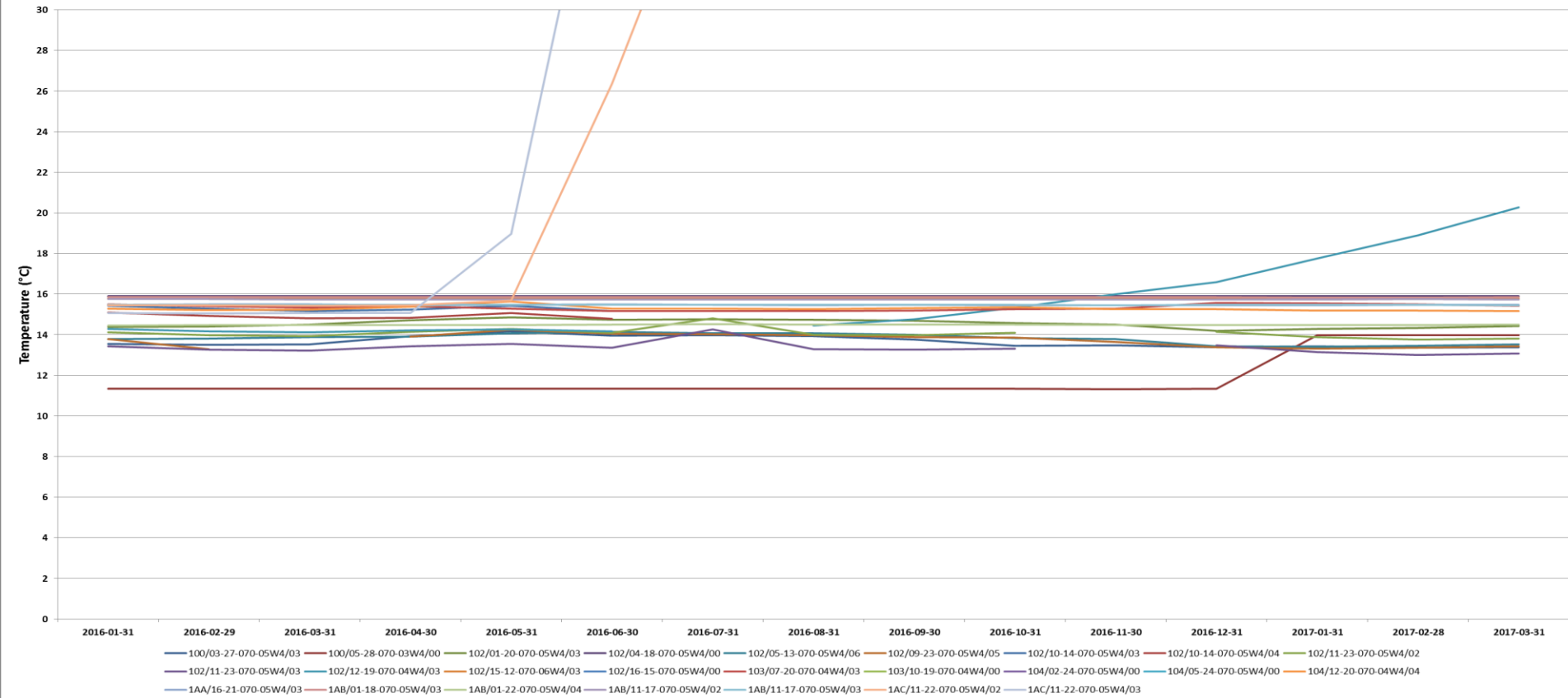
McMurray (Bitumen)

Piezometer Pressures



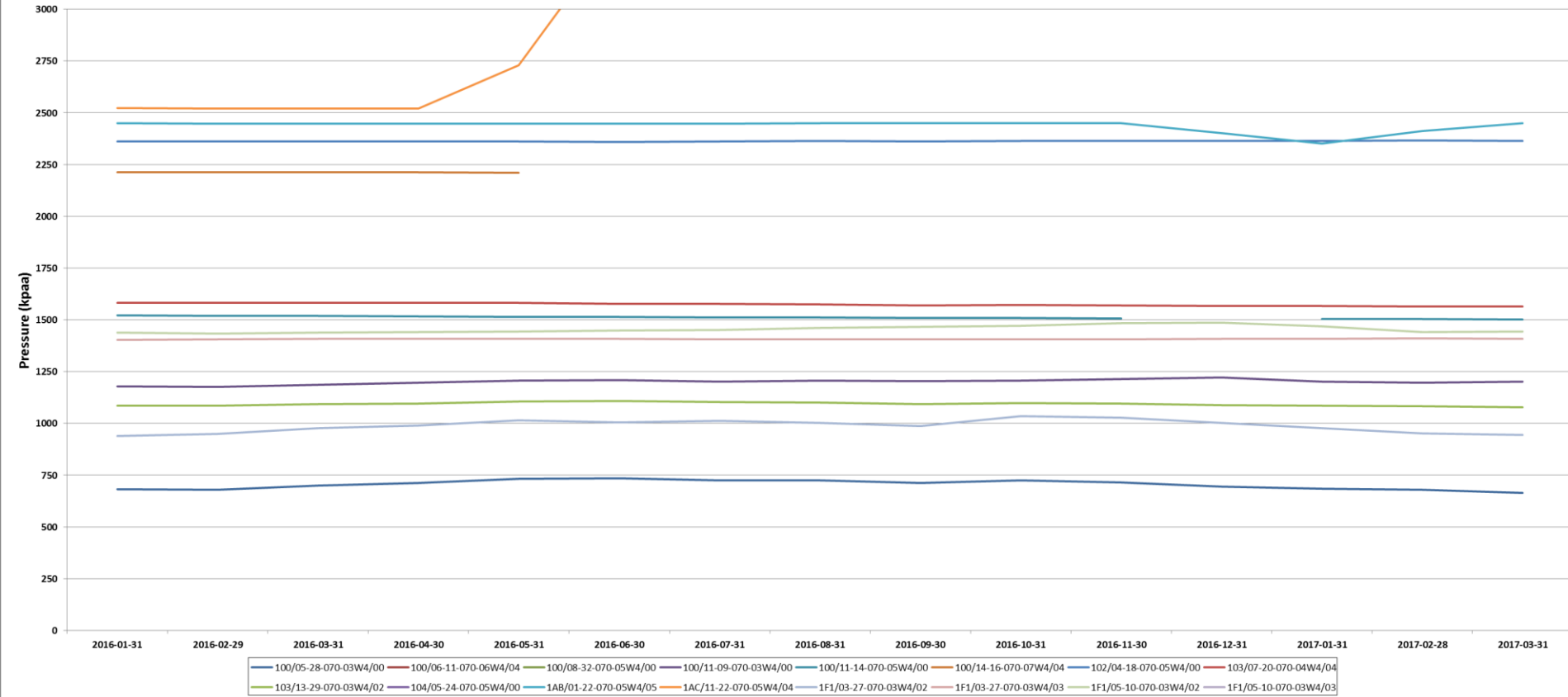
McMurray (Bitumen)

Piezometer Temperatures



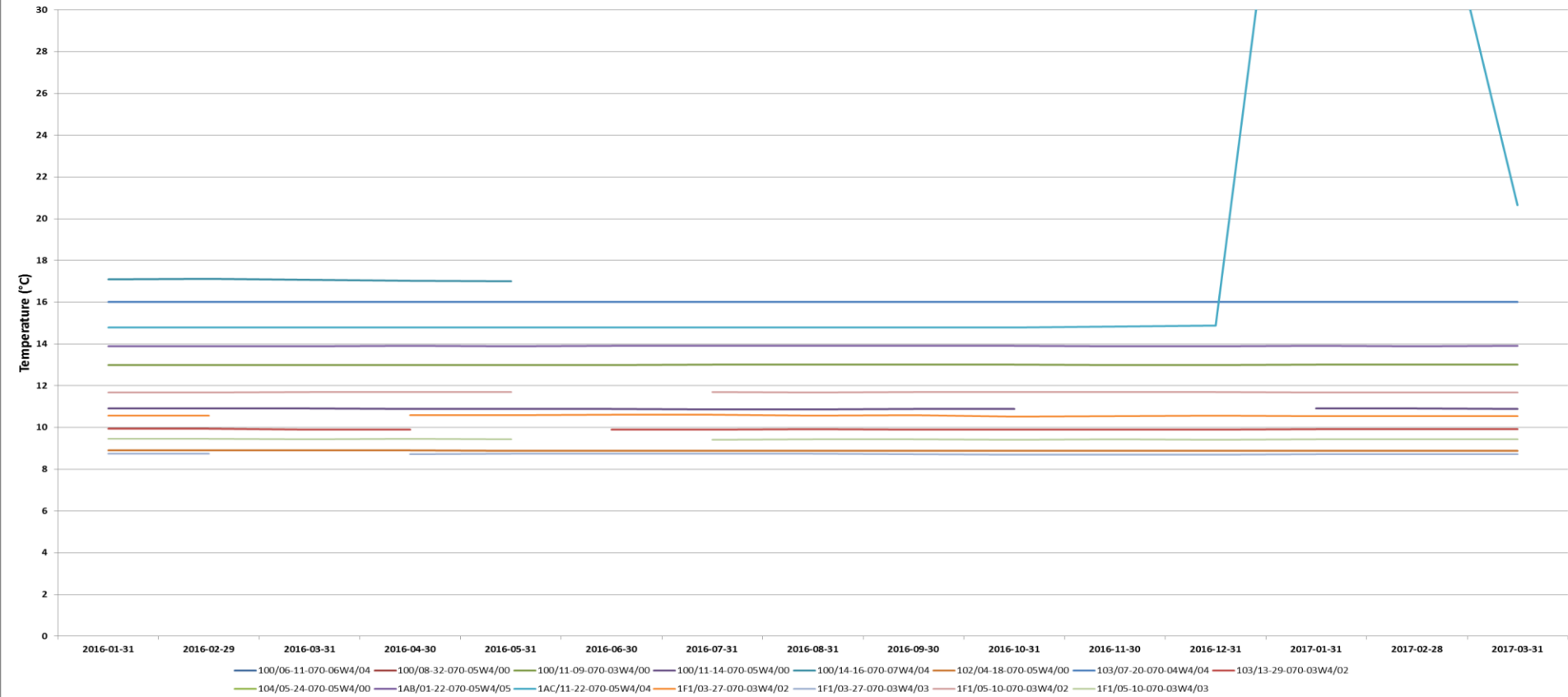
Grand Rapids

Piezometer Pressures



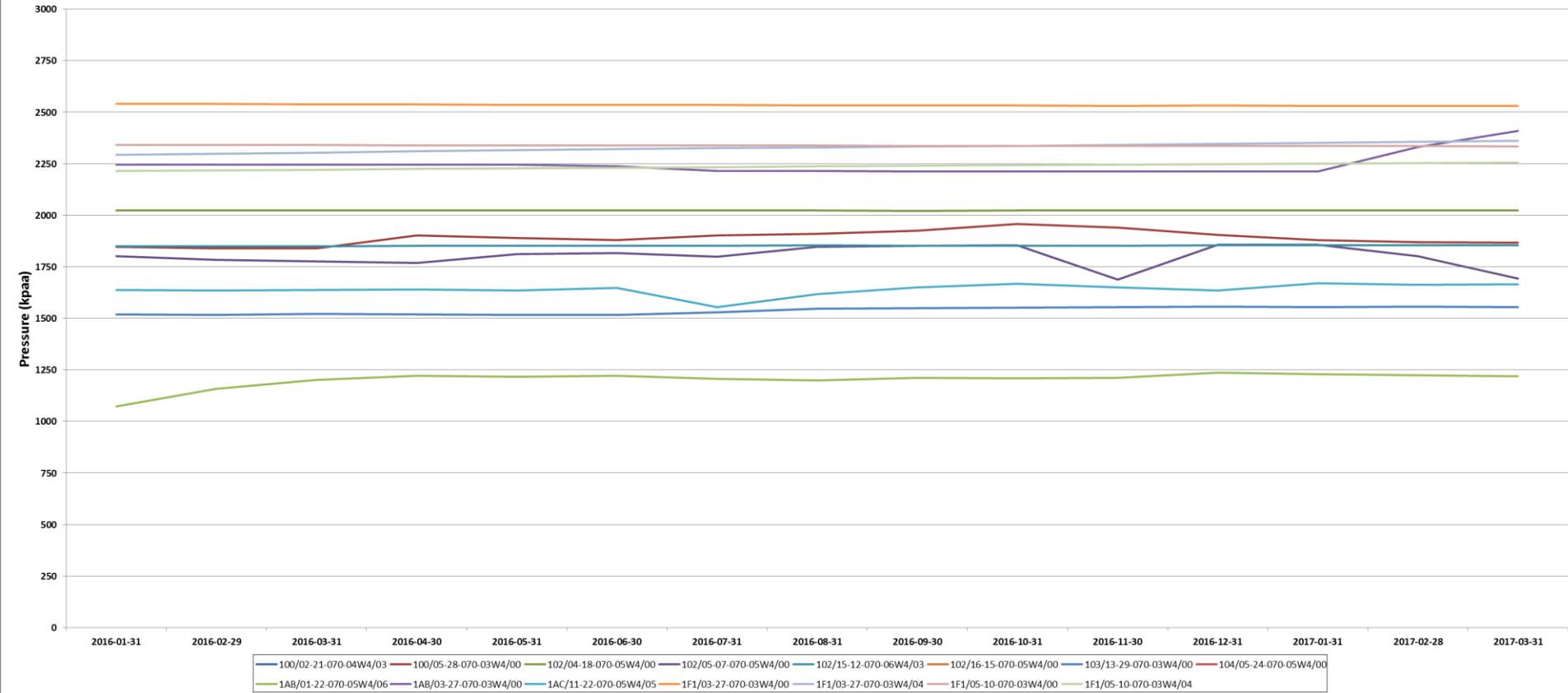
Grand Rapids

Piezometer Temperatures



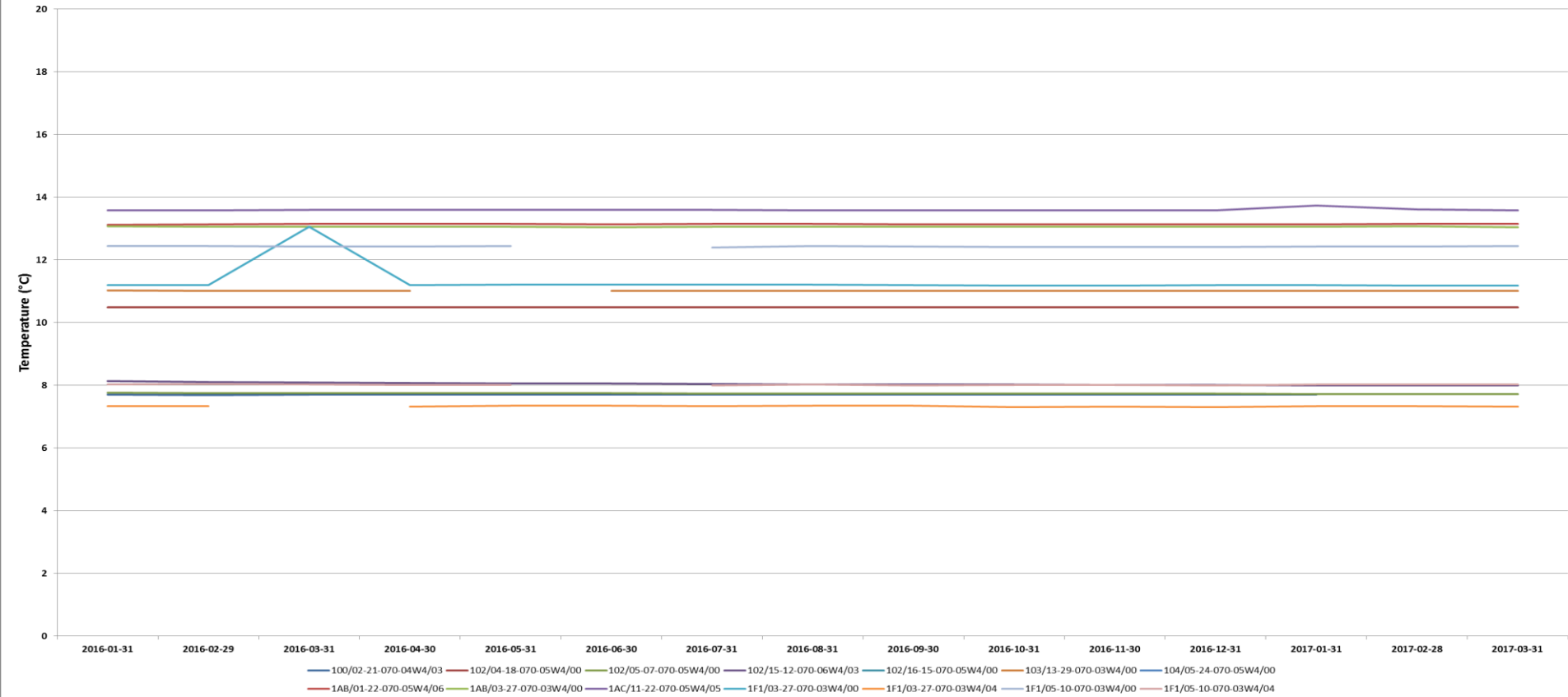
Misc. Formation

Piezometer Pressures

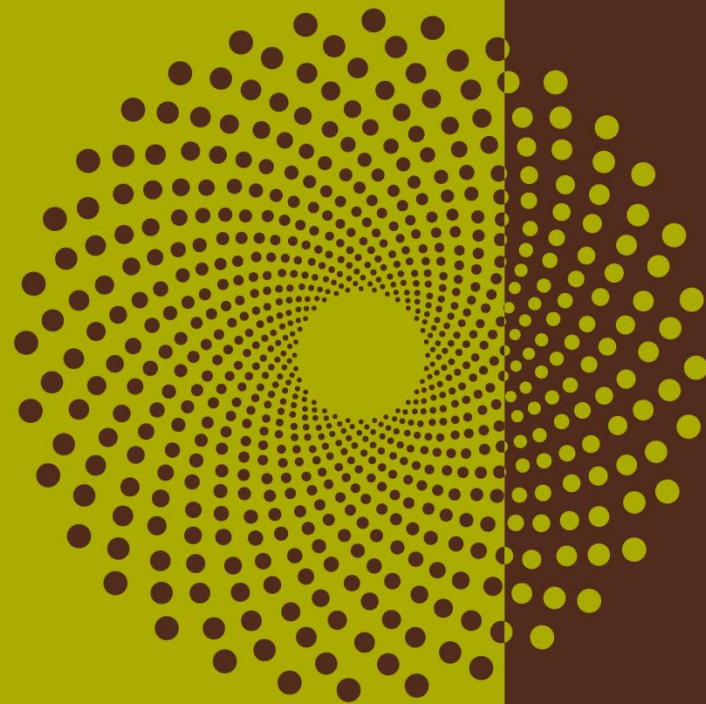


Misc. Formation

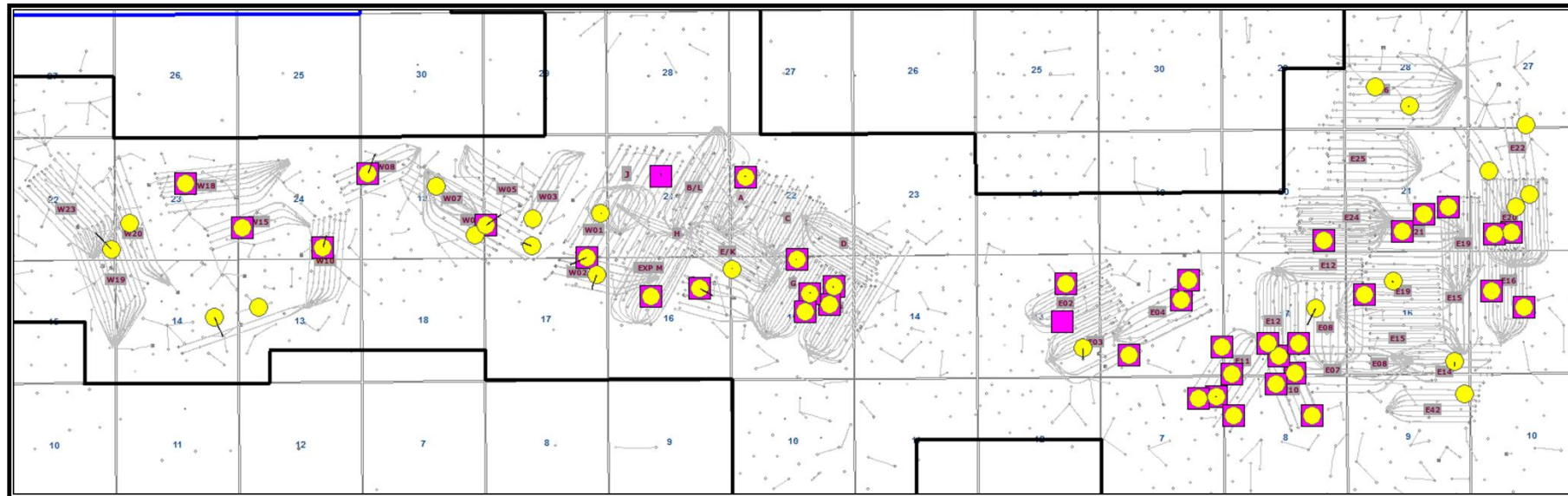
Piezometer Temperatures



Temperature data



Foster Creek Temperature and RST data -2017



2017 RST logging (62)

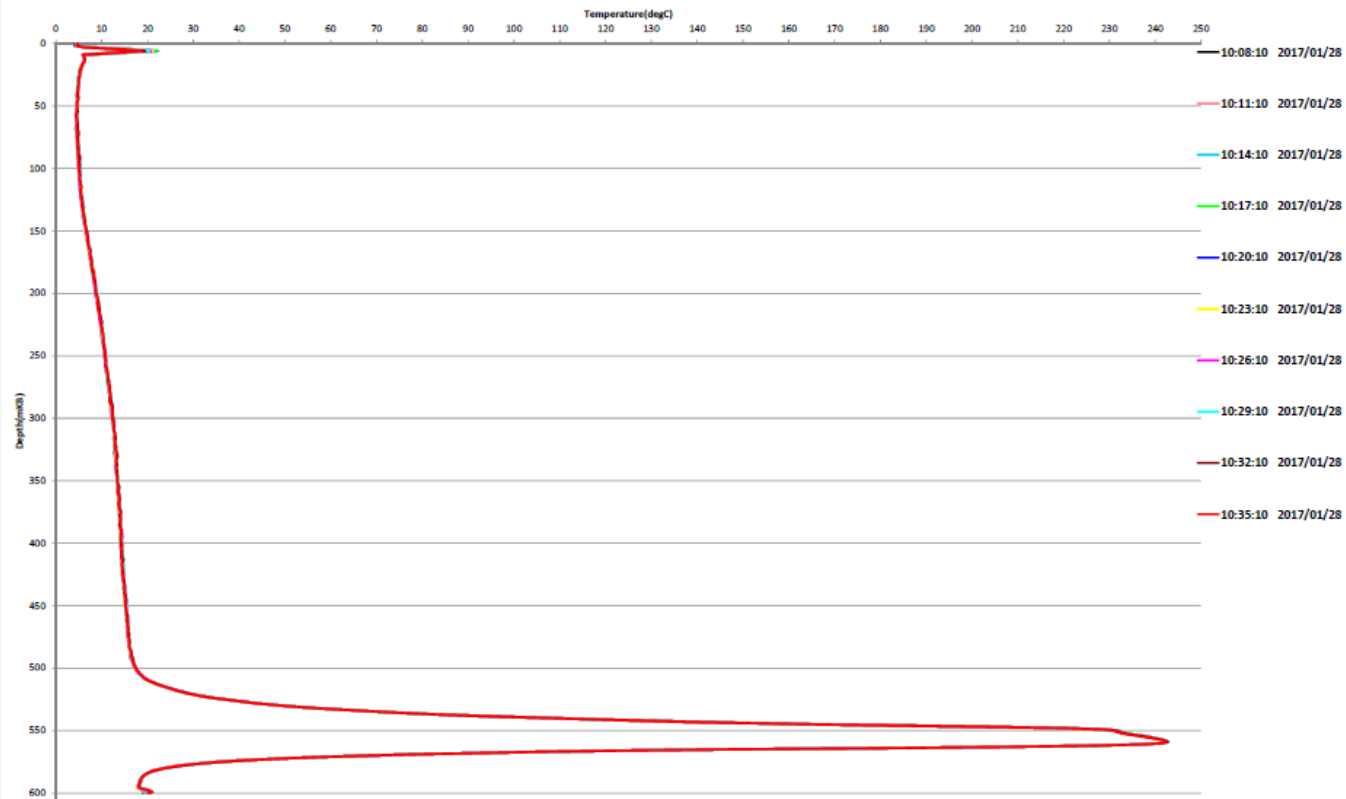


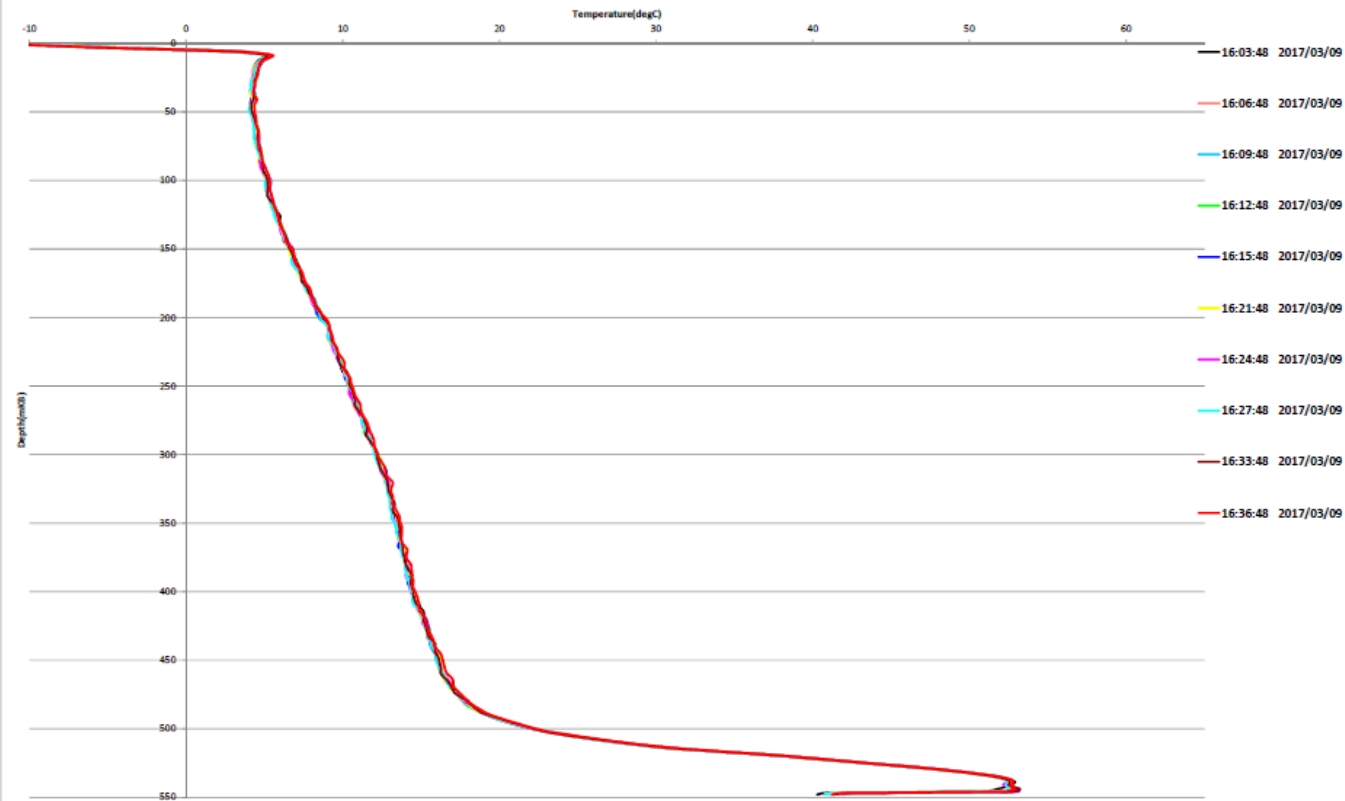
2017 Temperature logging (37)

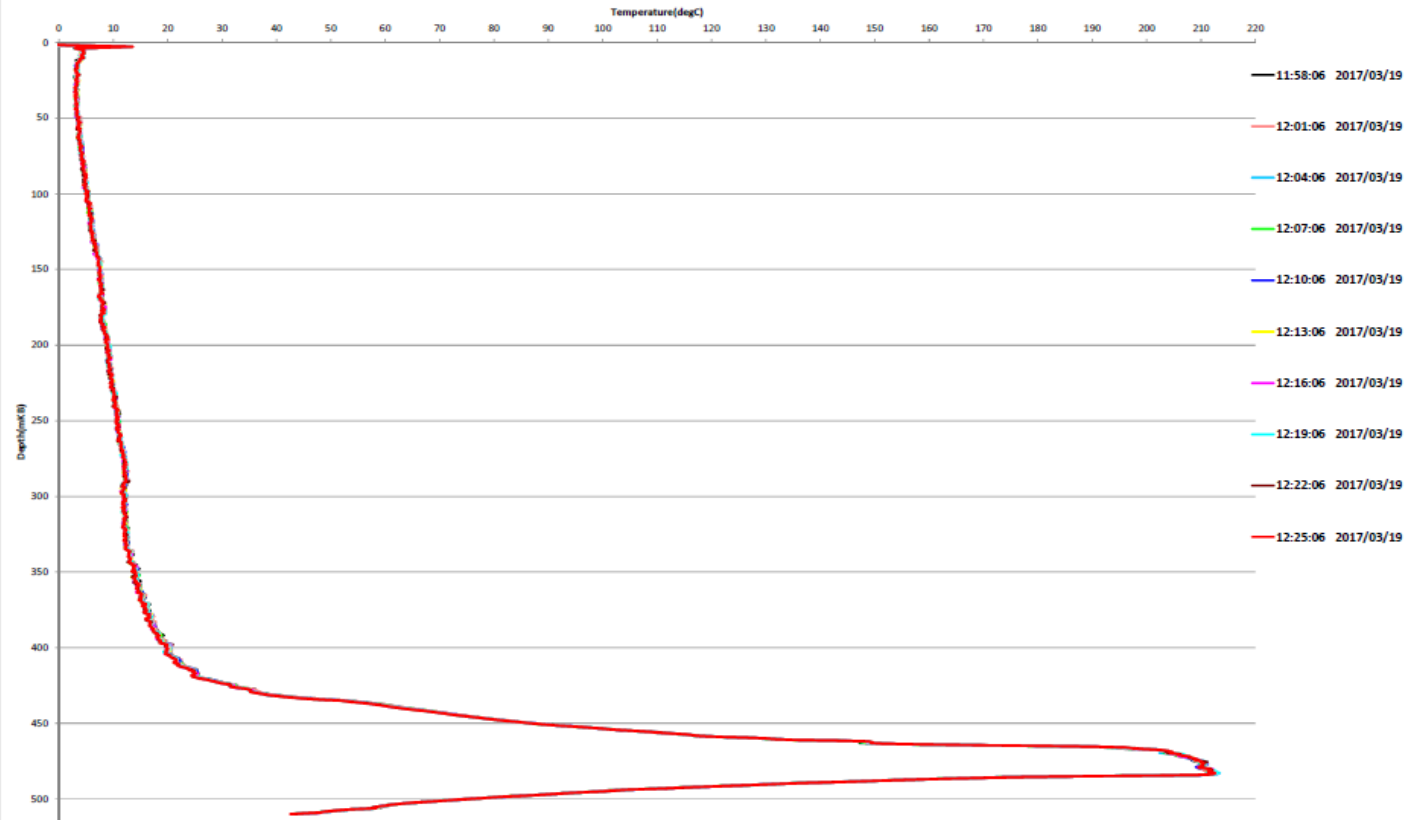
Observation well temperature log data

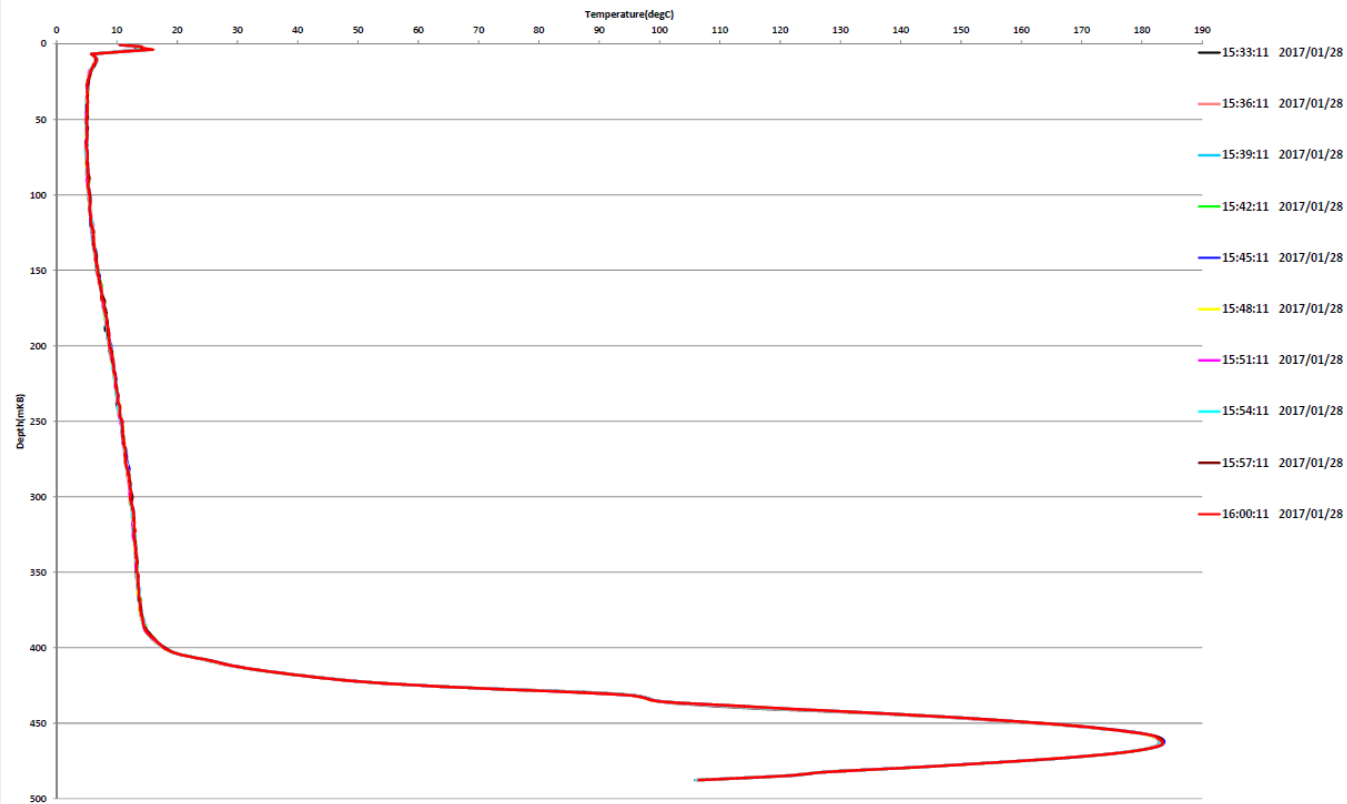
UWI	Well Name	Pad
102/01-18-070-03W400	D1 FISHER 1-18-70-3	E11
102/07-13-070-04W400	D7 FISHER 7-13-70-4	E02
100/15-18-070-03W400	A15 FISHER 15-18-70-3	E04
102/03-21-070-03W400	D3 FISHER 3-21-70-3	E21
100/10-08-070-03W400	D10 FISHER 10-8-70-3	E10
100/14-08-070-03W400	D14 FISHER 14-8-70-3	E10
100/03-17-070-03W400	FISHER 3-17-70-3	E12 NS
100/07-21-070-03W400	A7 FISHER 7-21-70-3	E21
100/10-18-070-03W400	A10 FISHER 10-18-70-3	E04
102/06-20-070-04W400	A5-20 B5 FISHER 6-20-70-4	W05
102/11-15-070-03W400	A11 FISHER 11-15-70-3	E16
100/12-16-070-03W400	D12 FISHER 12-16-70-3	E08
100/12-15-070-03W400	D12 FISHER 12-15-70-3	E16
100/03-22-070-03W400	FISHER 3-22-70-3	E20
103/08-21-070-03W400	B8 FISHER 8-21-70-3	E19
102/01-20-070-03W400	B1 FISHER 1-20-70-3	E24
100/02-17-070-03W400	B2 FISHER 2-17-70-3	E10
100/12-08-070-03W400	C12 FISHER 12-8-70-3	E11
100/16-07-070-03W400	A16 FISHER 16-7-70-3	E11
102/12-19-070-04W400	2B13-19C FISHER 12-19-70-4	W08
102/15-13-070-04W400	A15 FISHER 15-13-70-4	E02
102/09-15-070-04W400	B9 FISHER 9-15-70-4	F
102/16-07-070-03W400	B16 FISHER 16-7-70-3	E11
100/04-17-070-03W400	B4 FISHER 4-17-70-3	E11
100/16-15-070-04W400	B16 FISHER 16-15-70-4	F
103/10-15-070-04W400	D10 FISHER 10-15-70-4	G
104/10-15-070-04W400	B10 FISHER 10-15-70-4	G
103/12-22-070-04W400	12C FISHER 12-22-70-4	A
103/04-22-070-03W400	D4 FISHER 4-22-70-3	E20
102/01-20-070-04W400	15-17 FISHER 1-20-70-4	W02
102/07-17-070-03W400	B7 FISHER 7-17-70-3	E12 NS
103/06-17-070-03W400	B6 FISHER 6-17-70-3	E12 NS
100/11-16-070-04W400	C11 FISHER 11-16-70-4	MEXP
102/15-15-070-04W400	C15 FISHER 15-15-70-4	G
1AA/01-13-070-04W400	2C1-13 C1 FISHER 1-13-70-4	E03
100/04-18-070-03W400	D4-18 D4 FISHER 4-18-70-3	E03
1AB/11-21-070-04W400	3D11-21 D FISHER 11-21-70-4	J

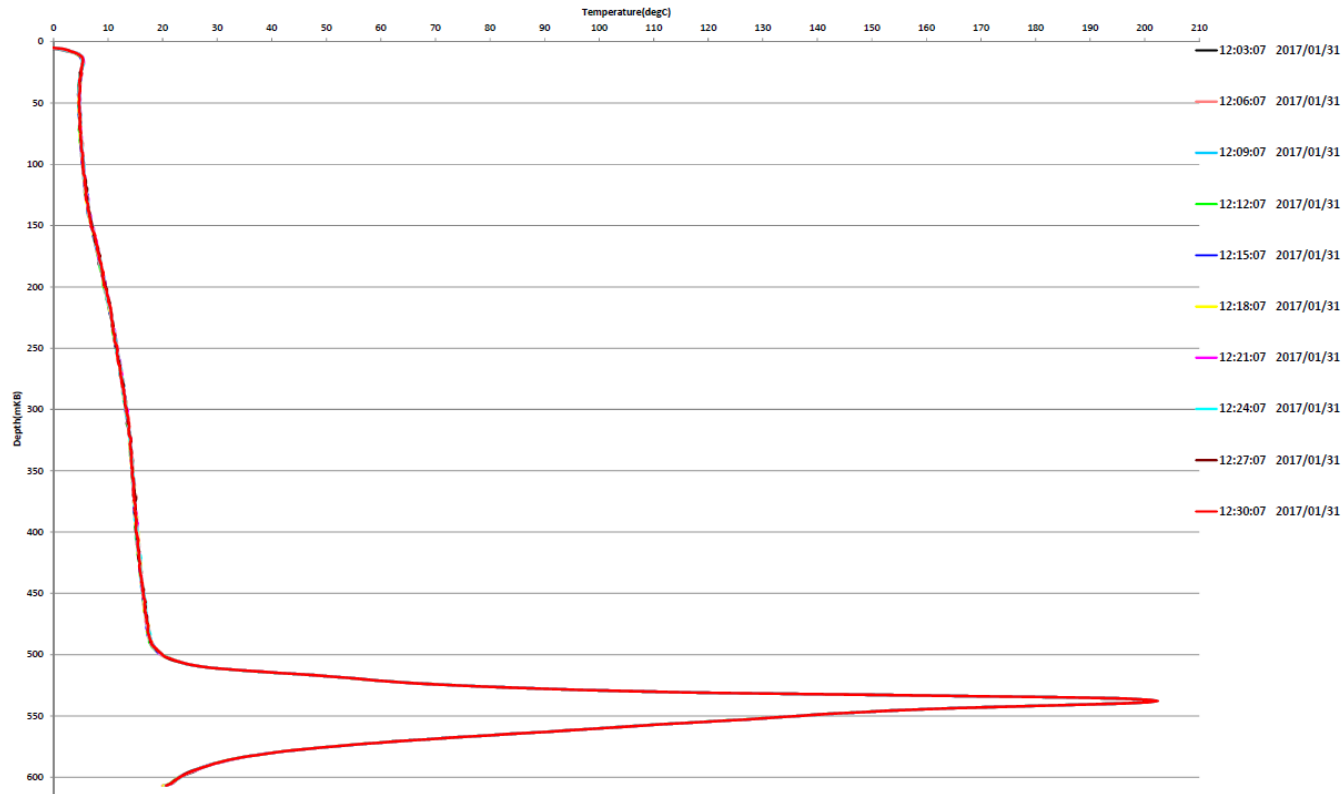
37 observation wells were logged with temperature fiber between March 2016 and March 2017

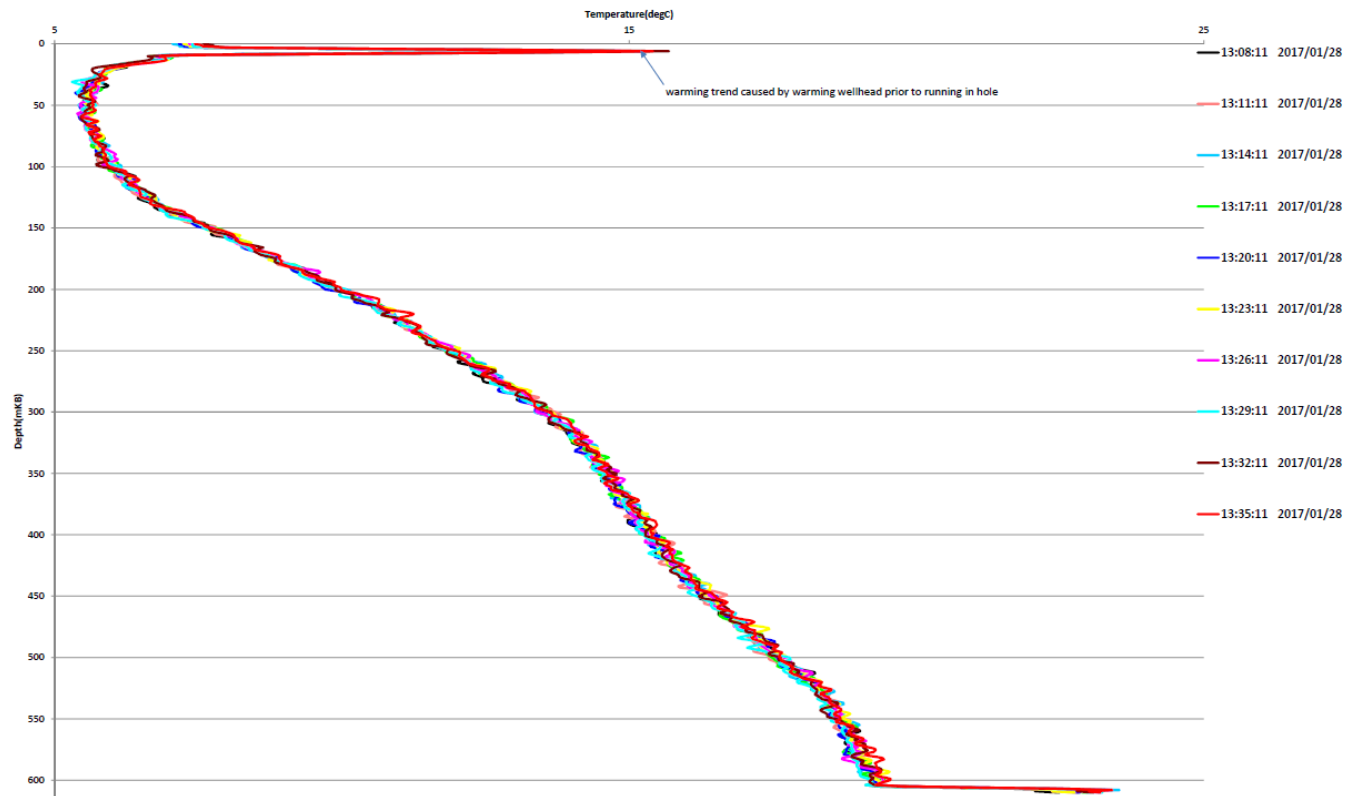


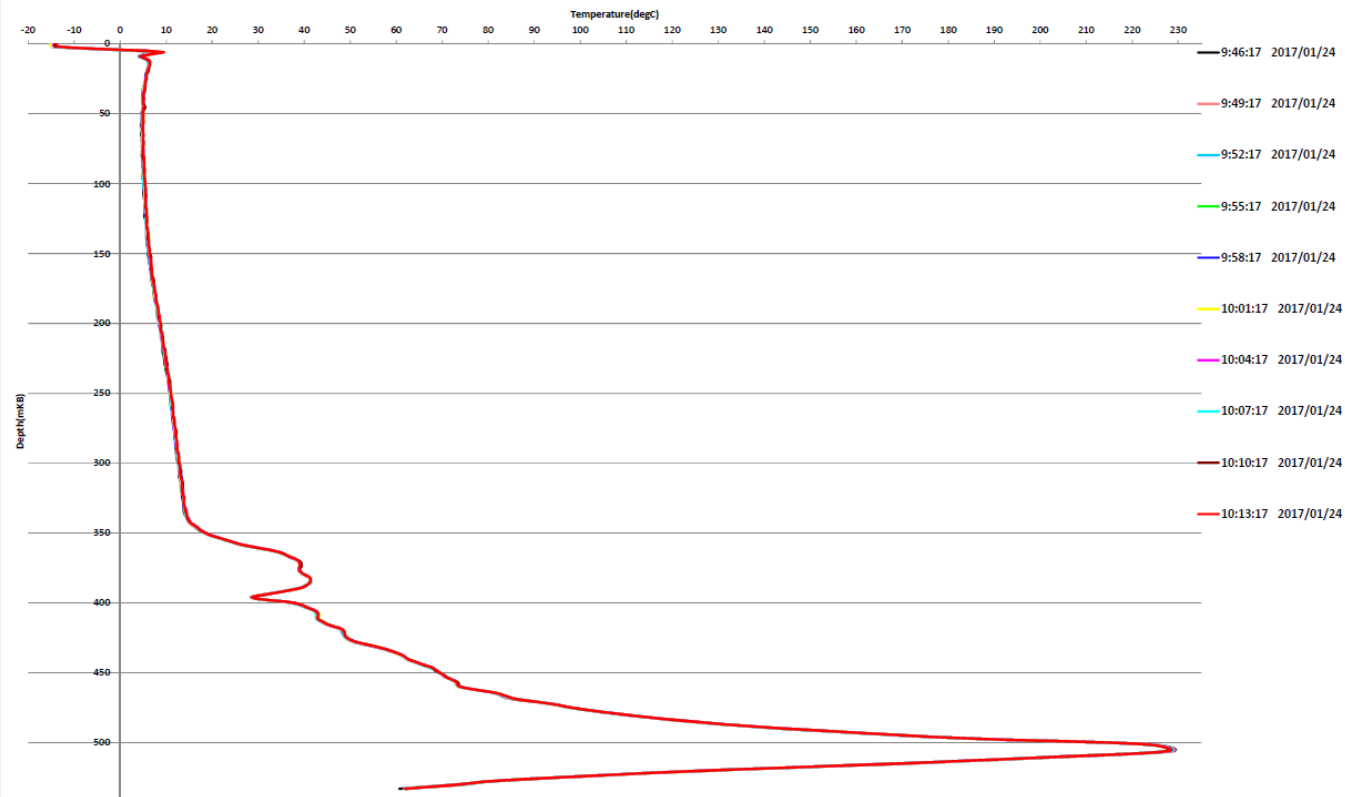


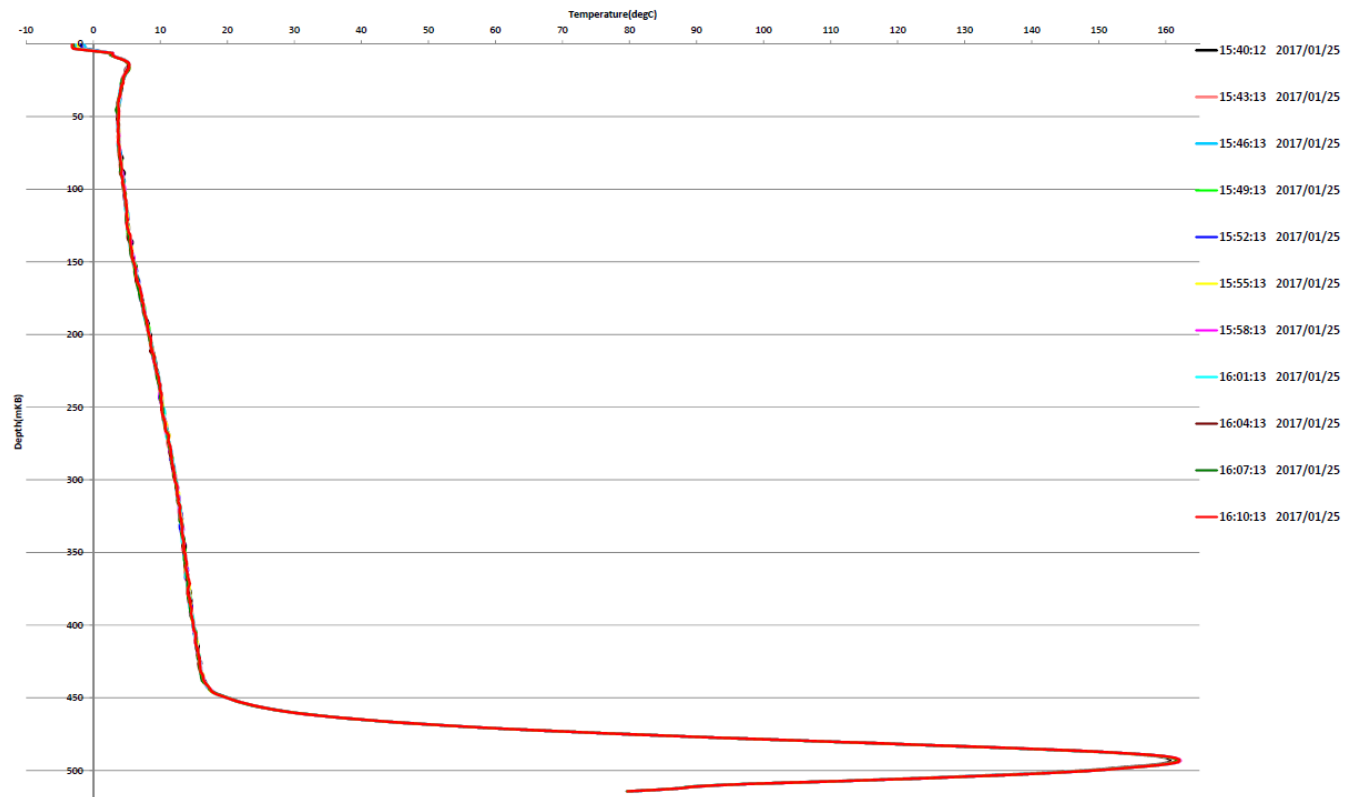


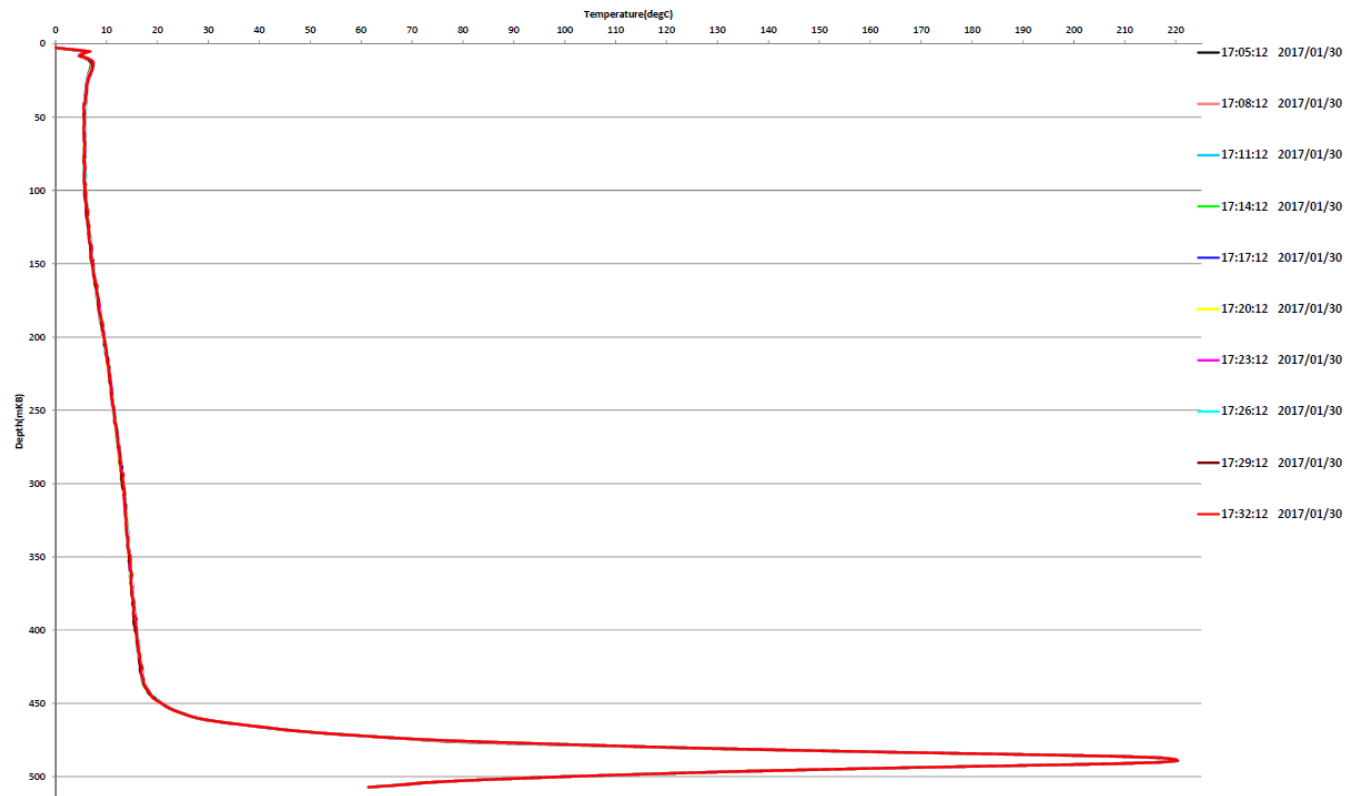


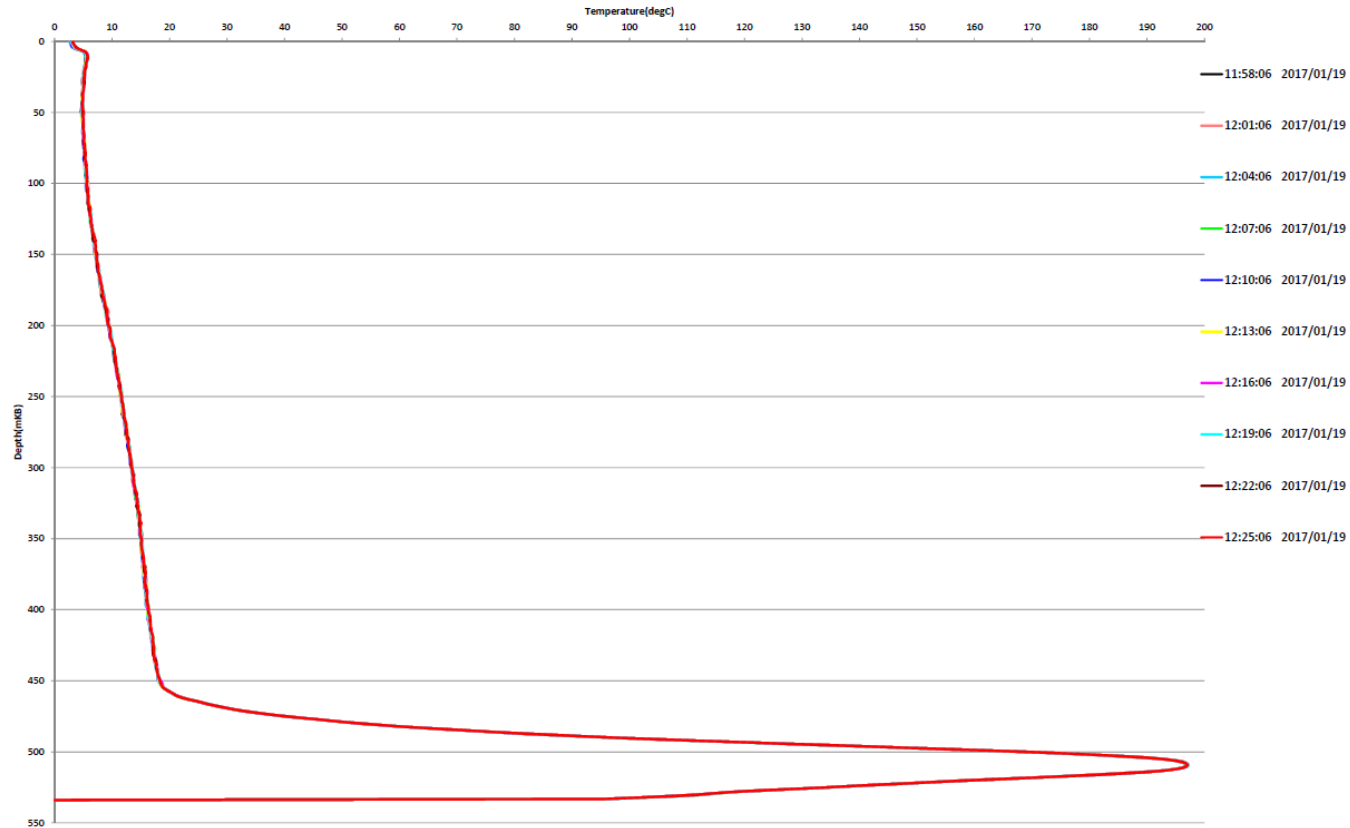


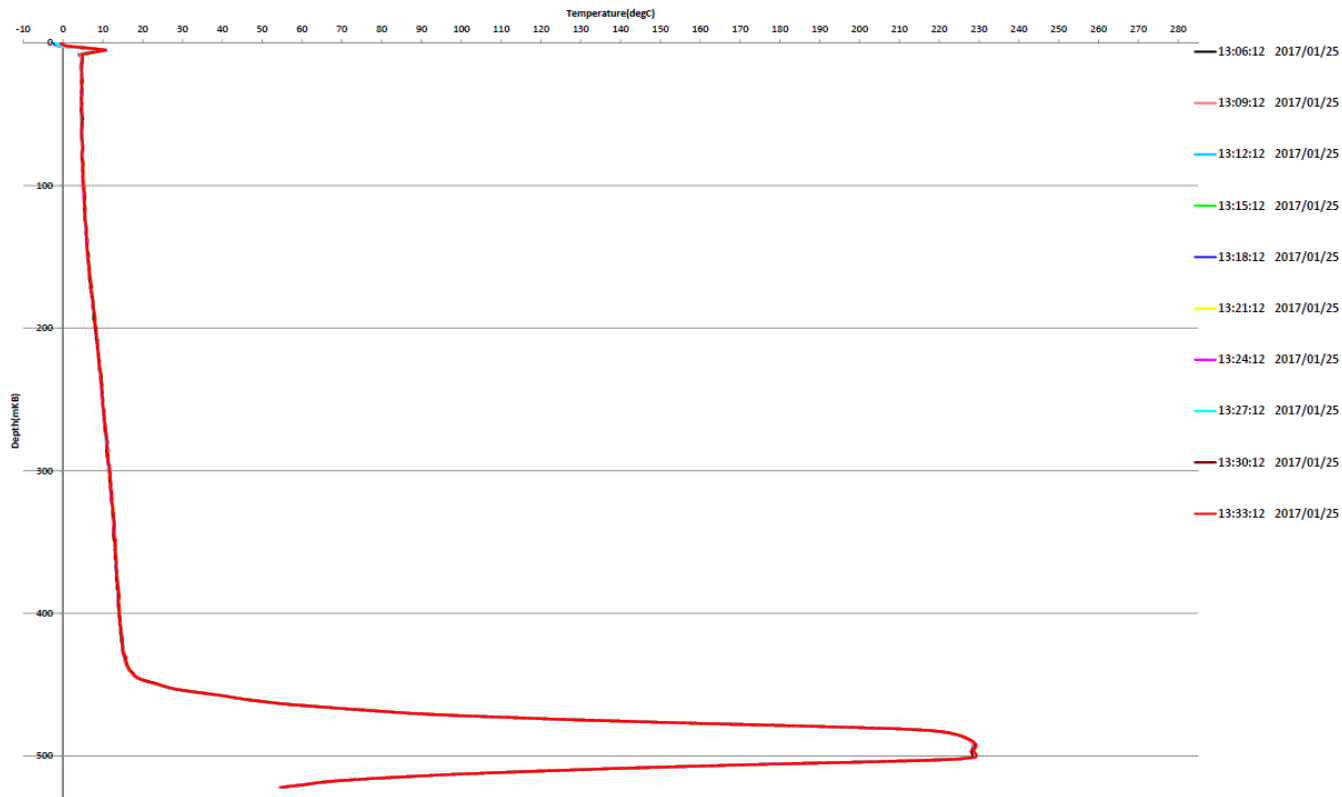


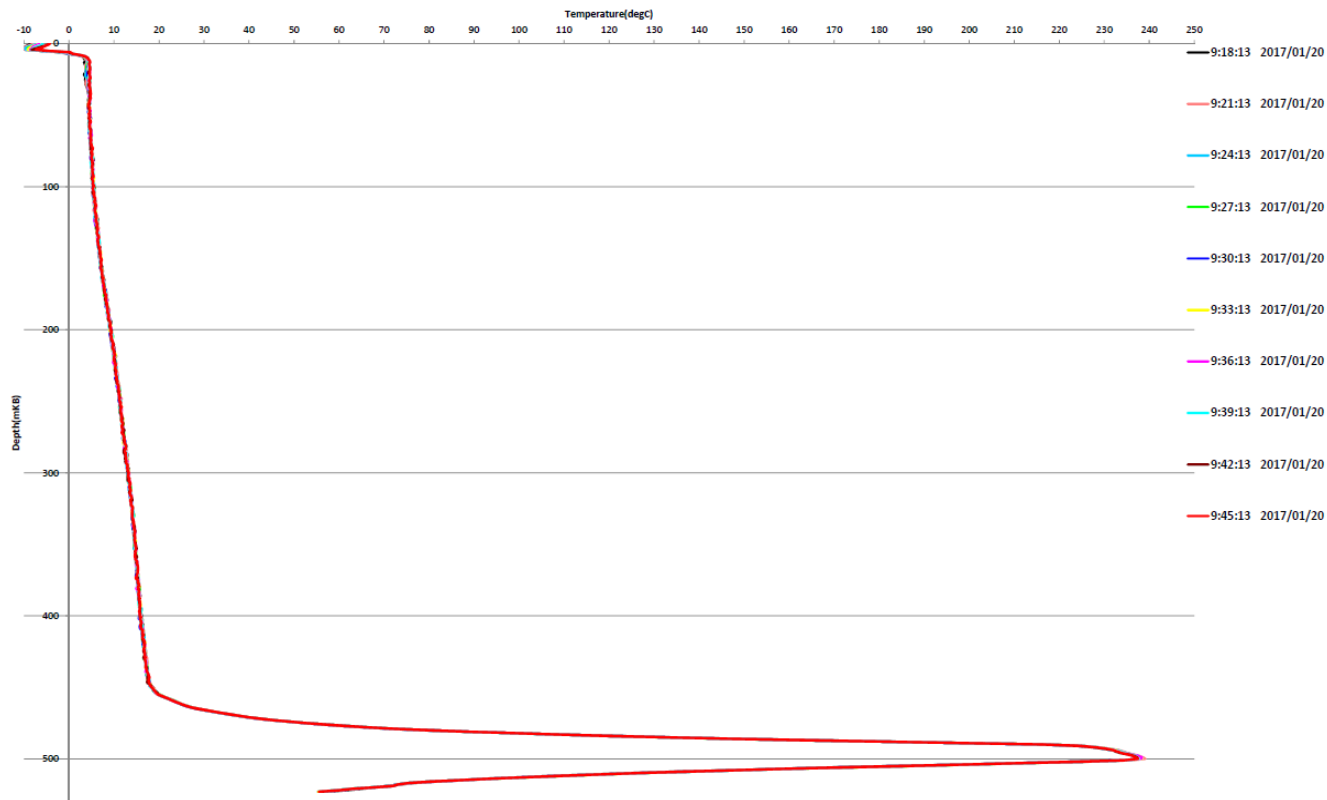


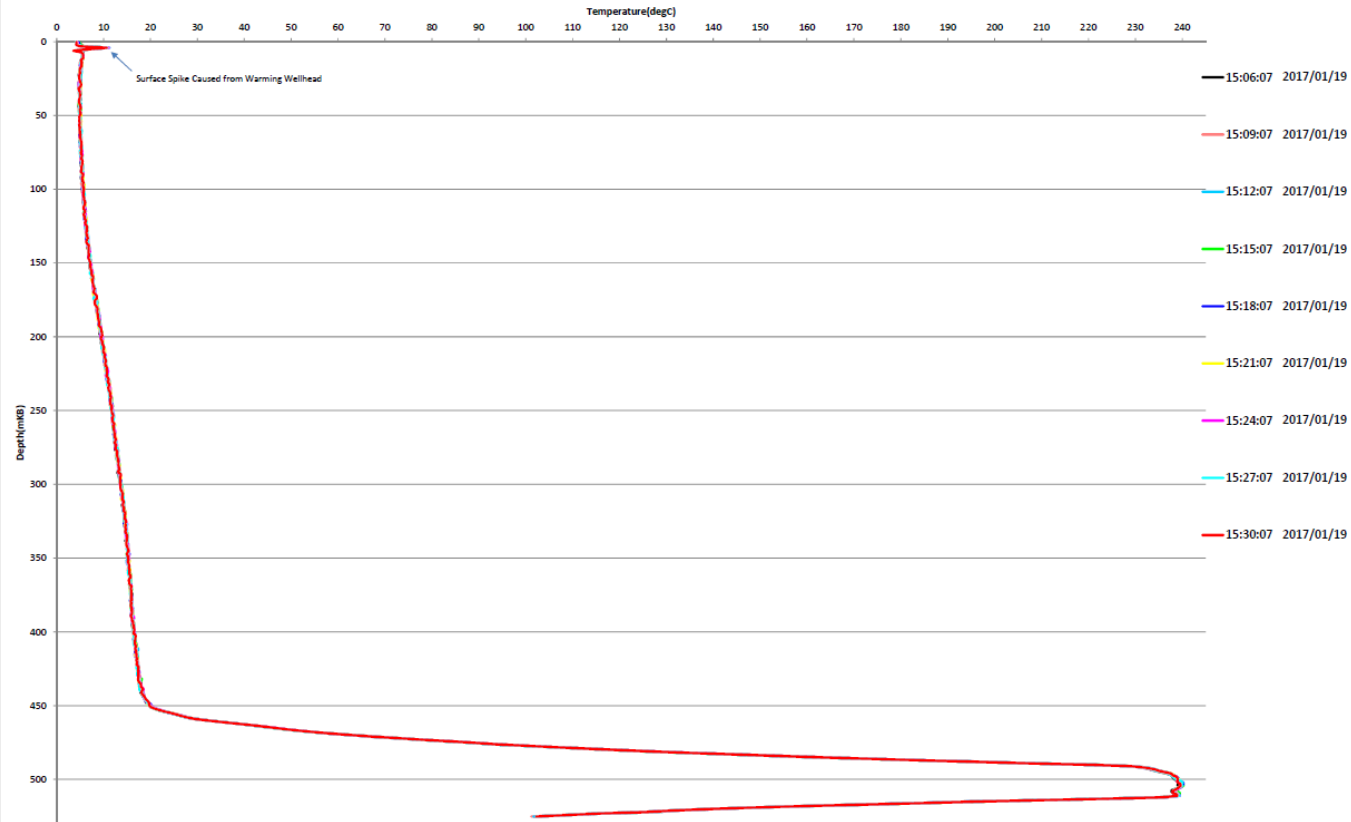






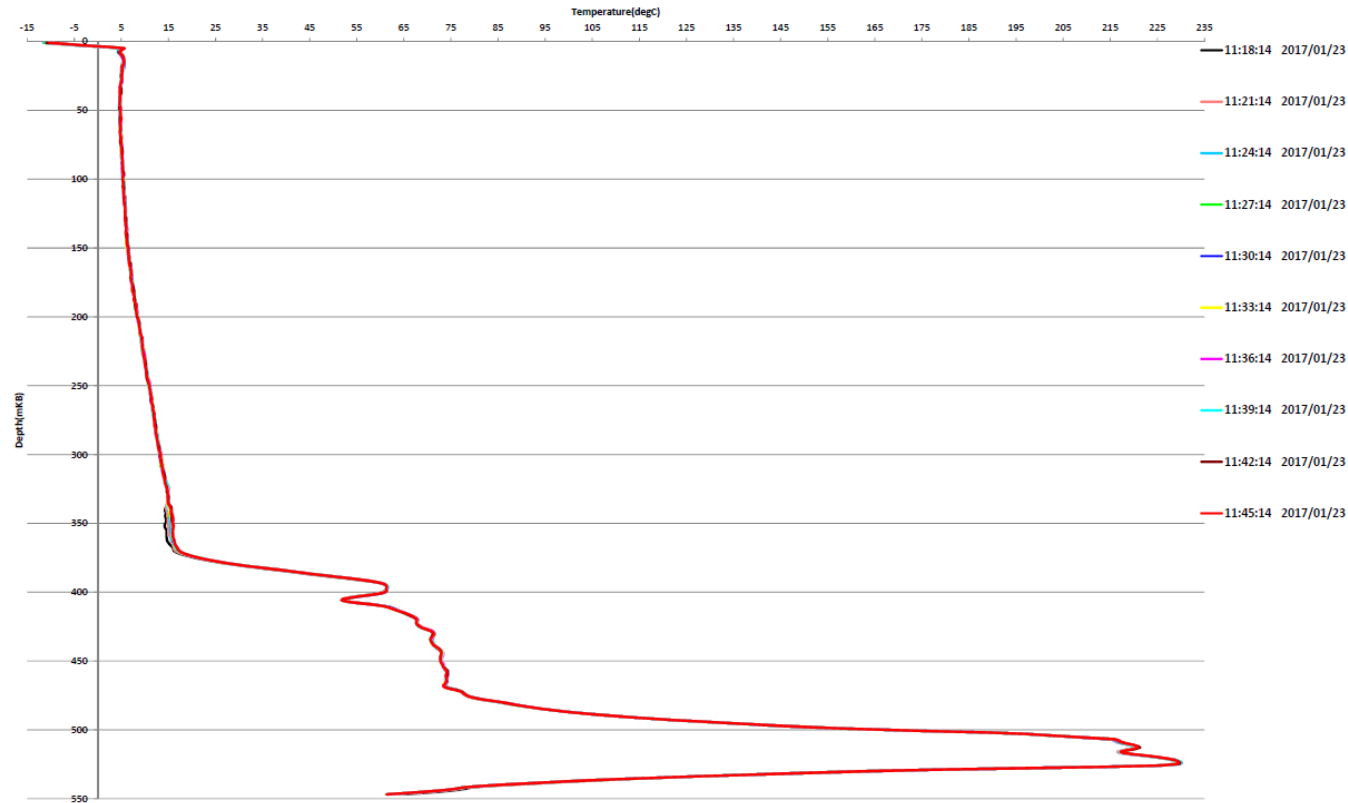


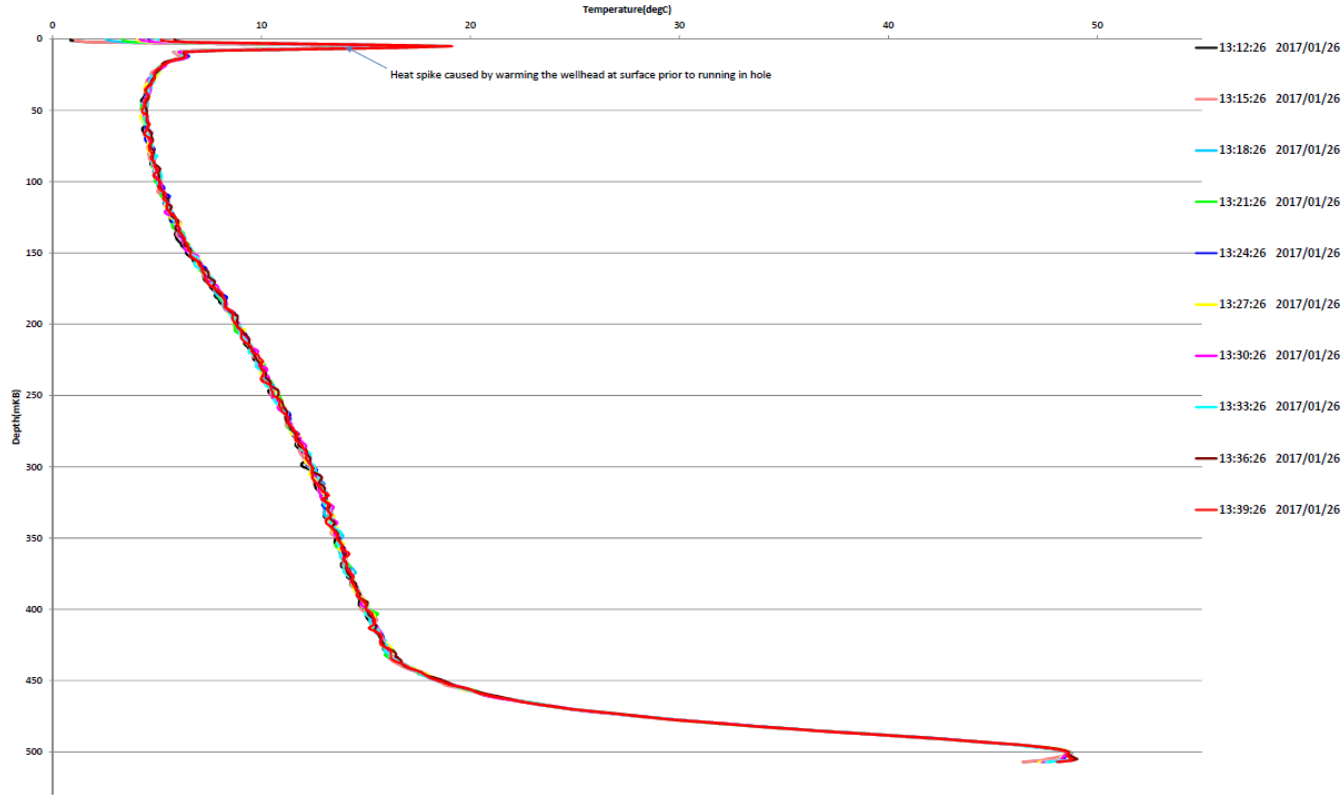


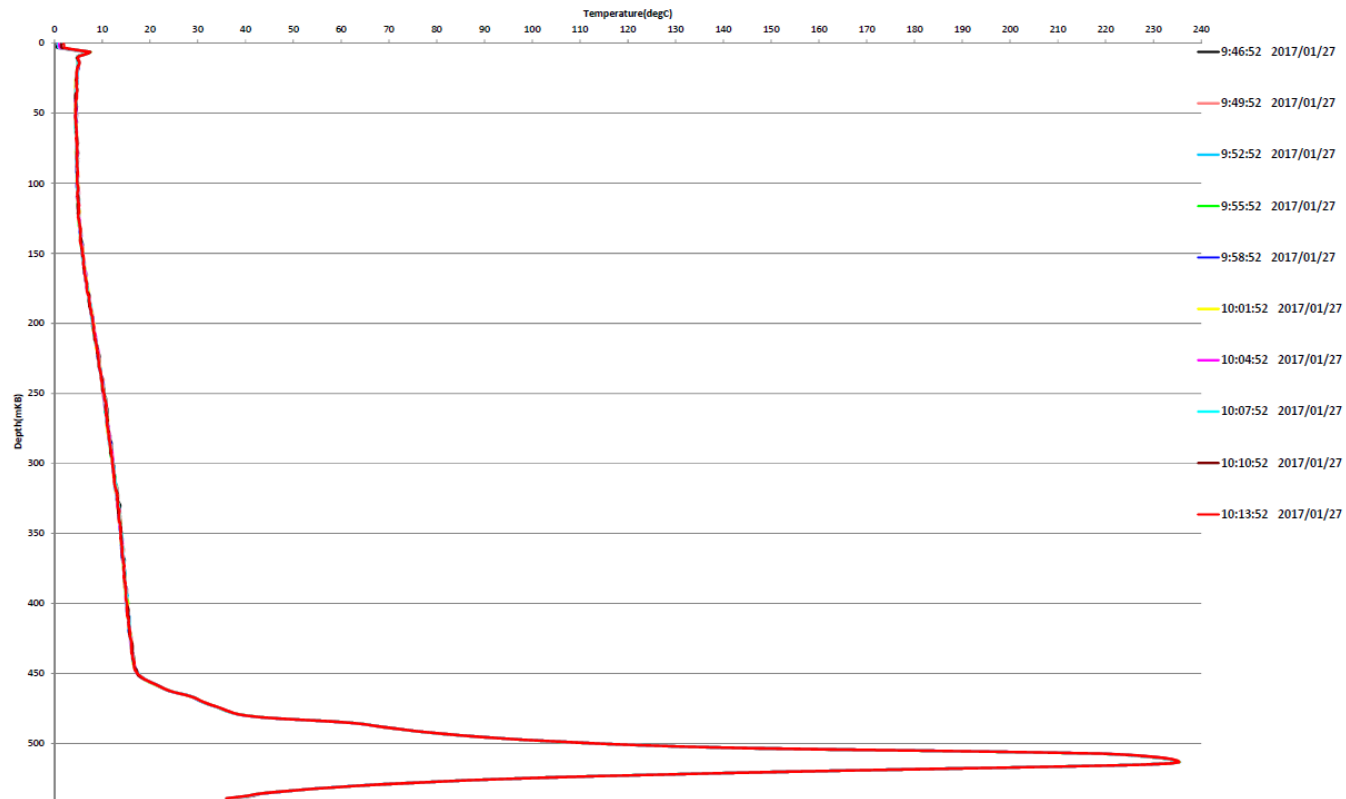




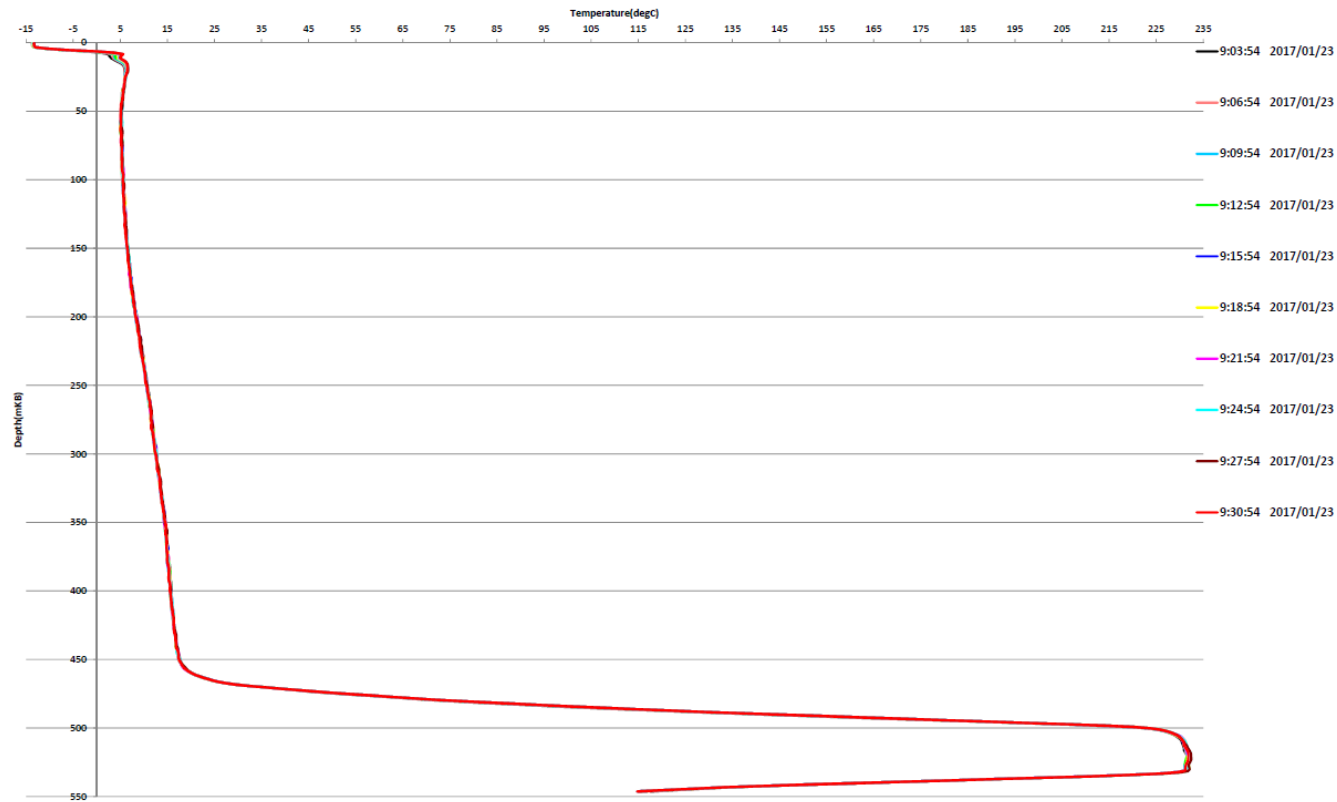


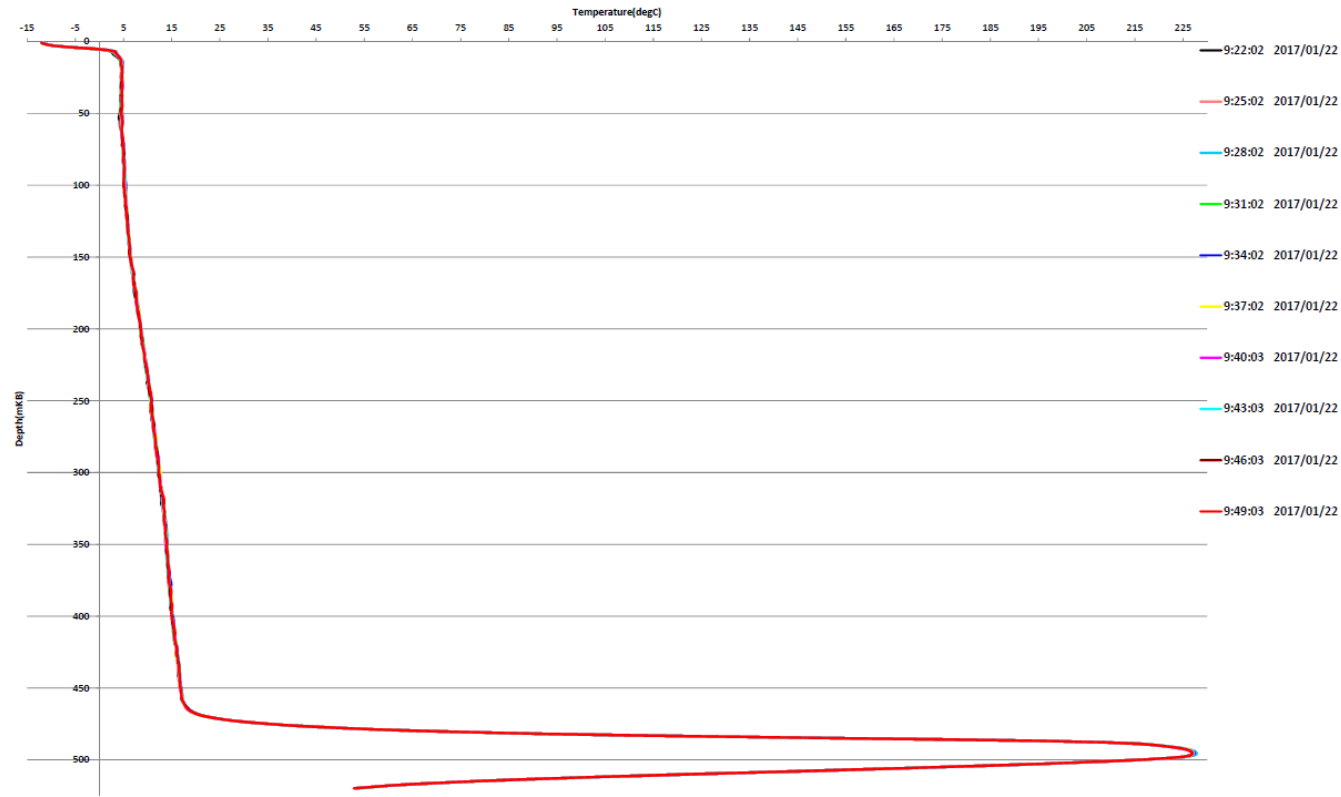


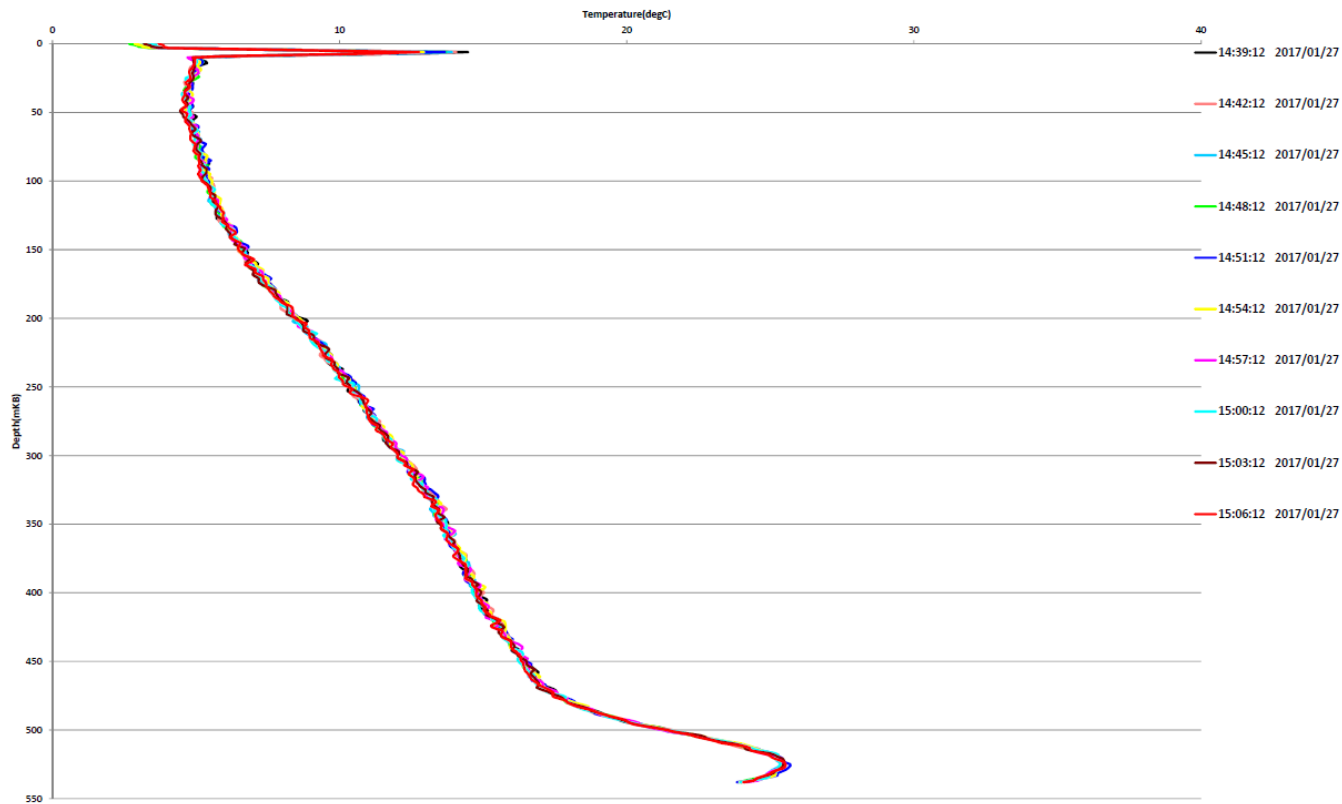


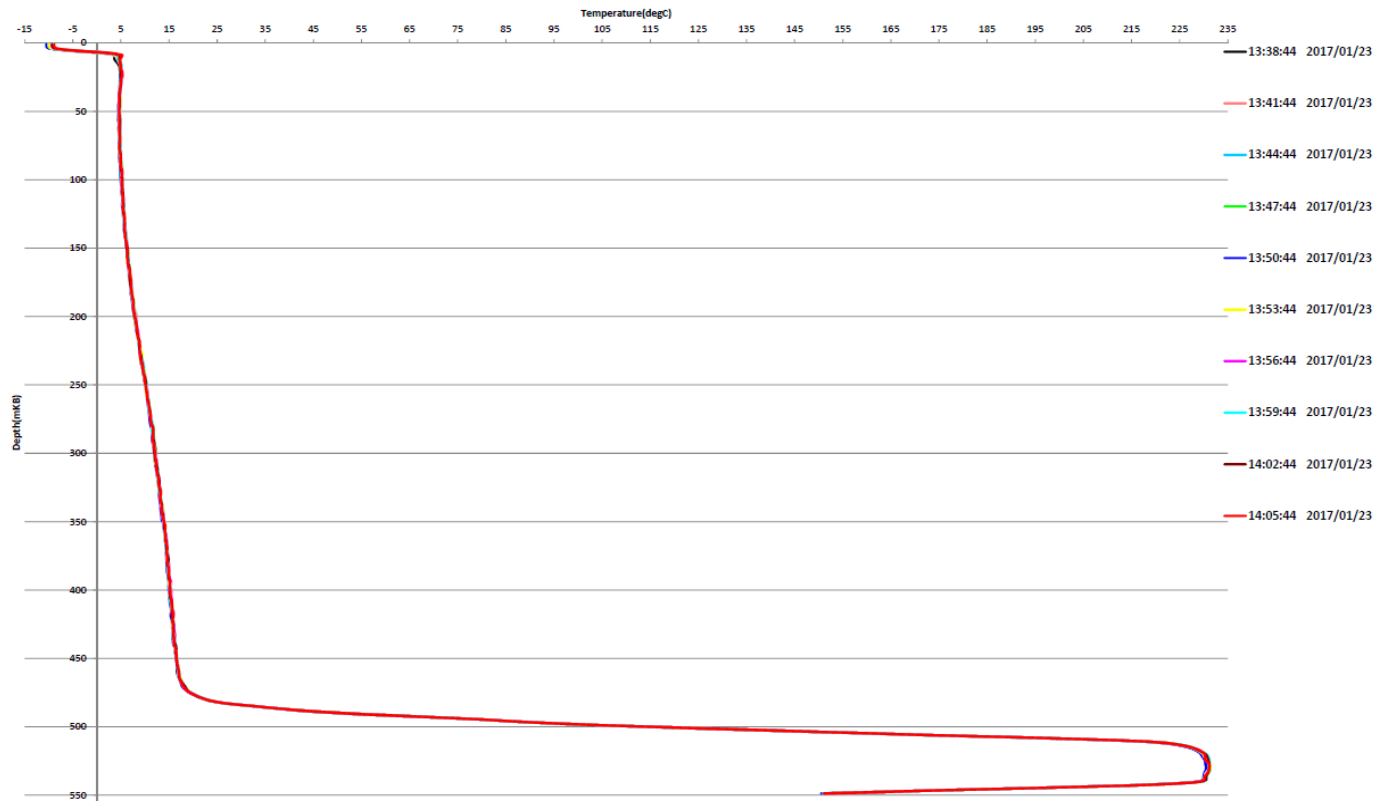


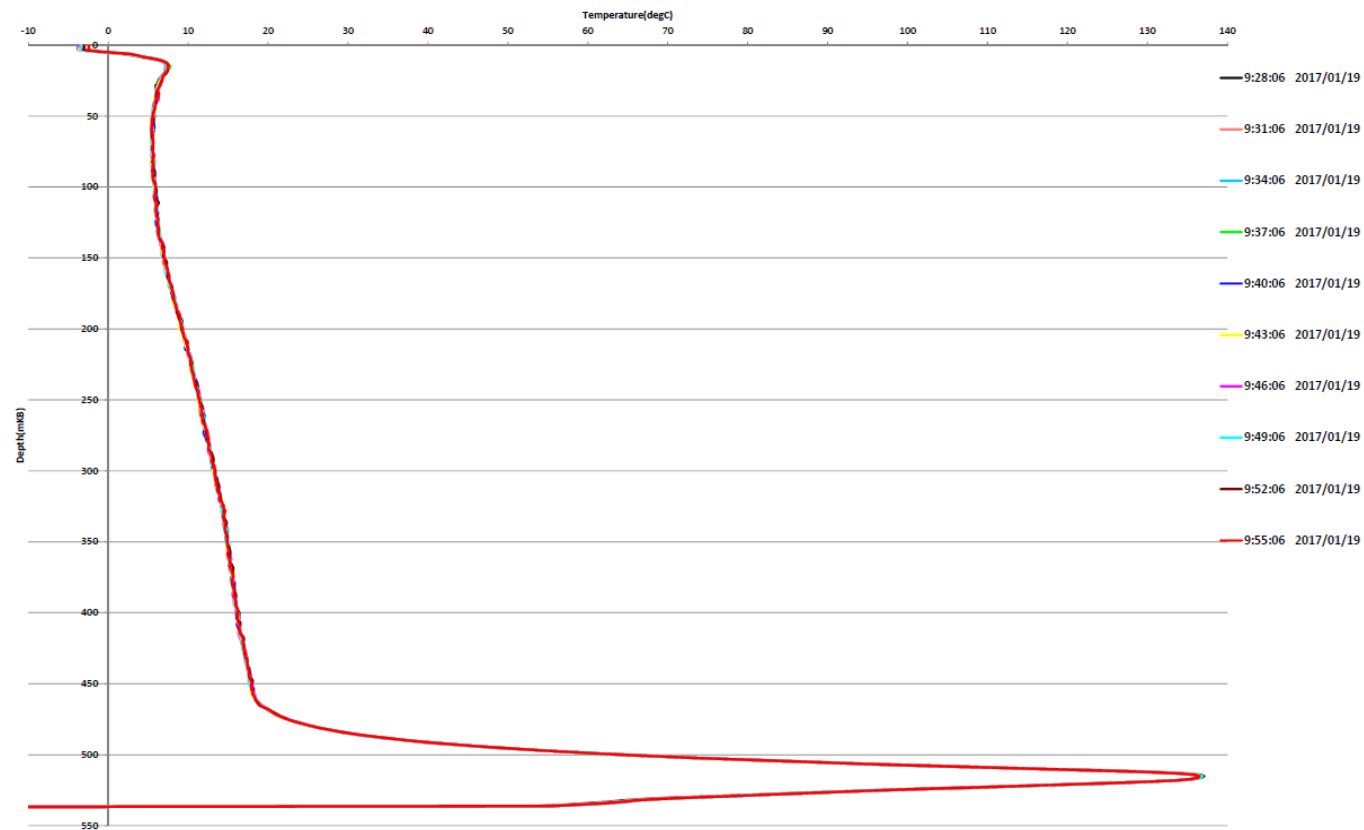


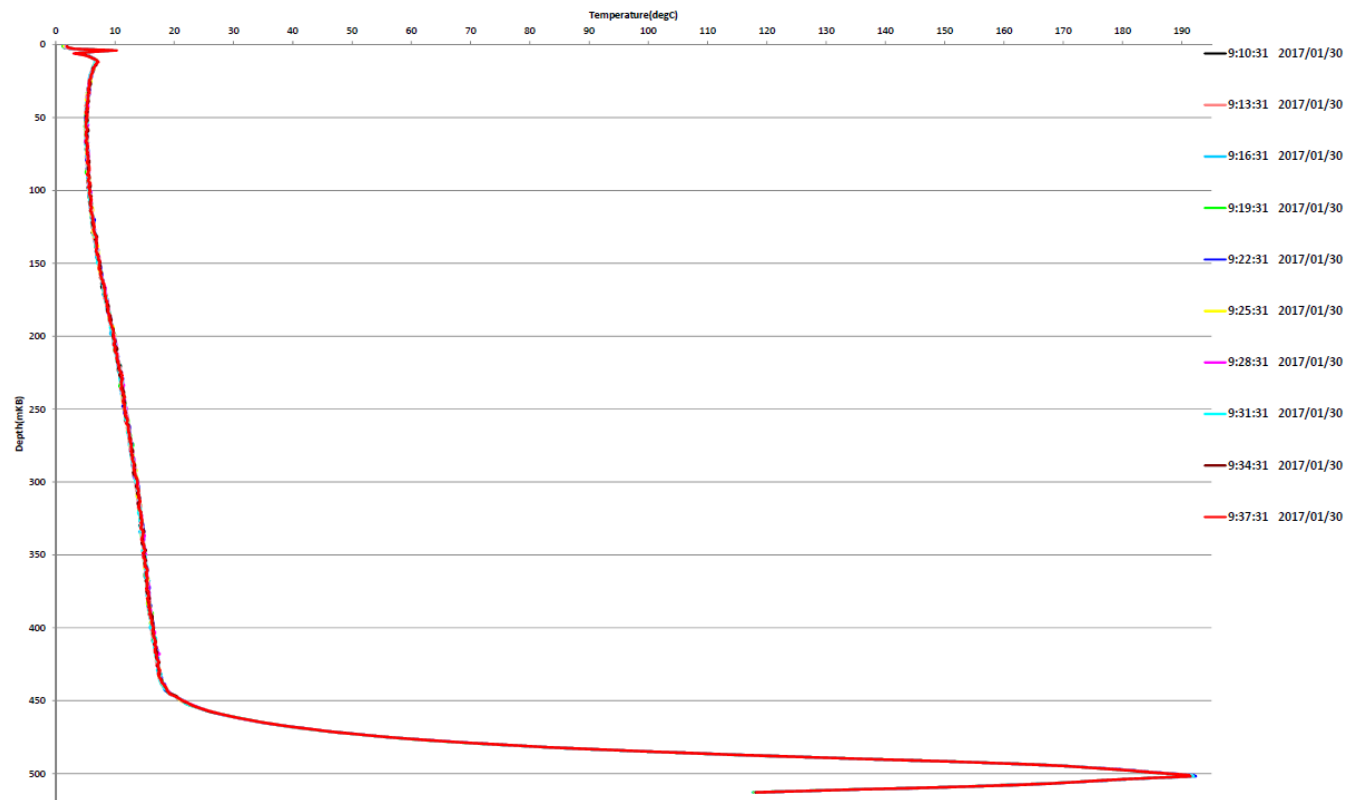


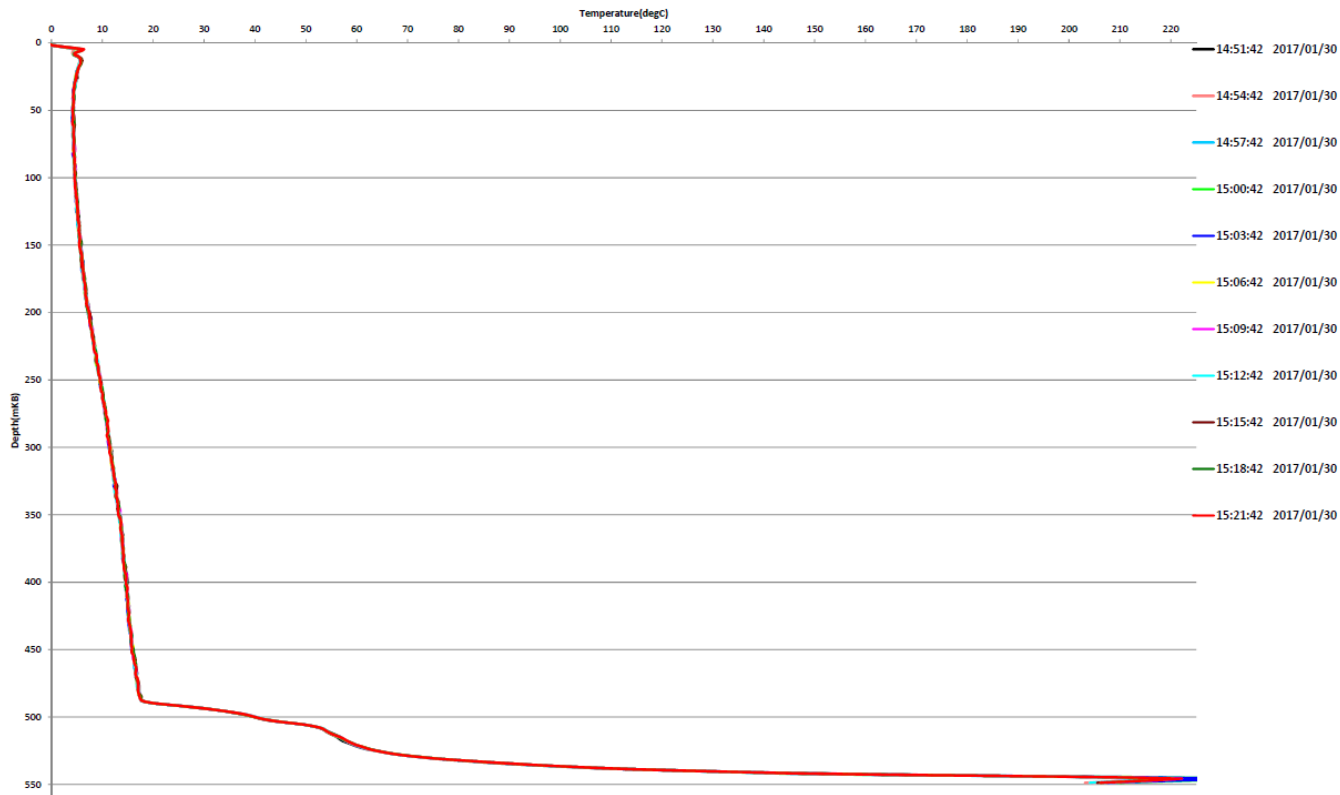


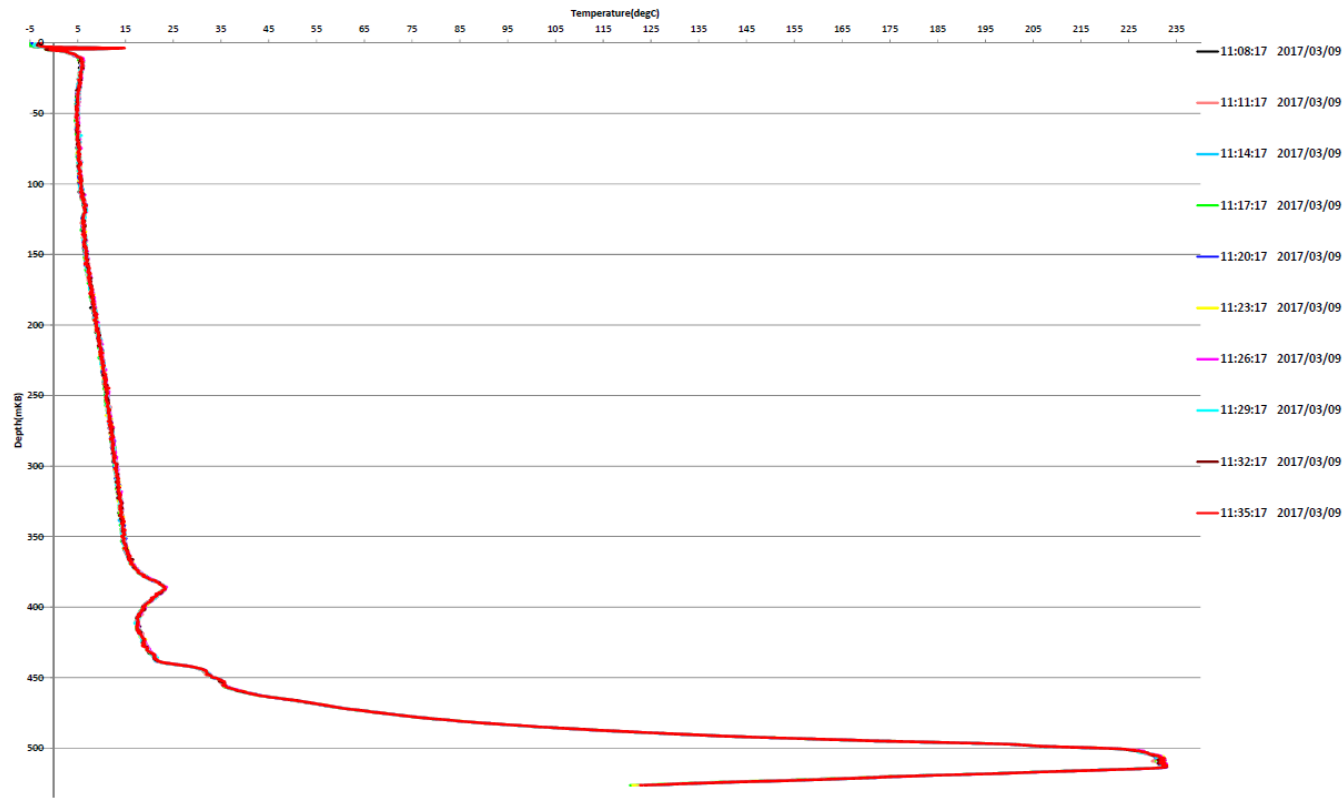




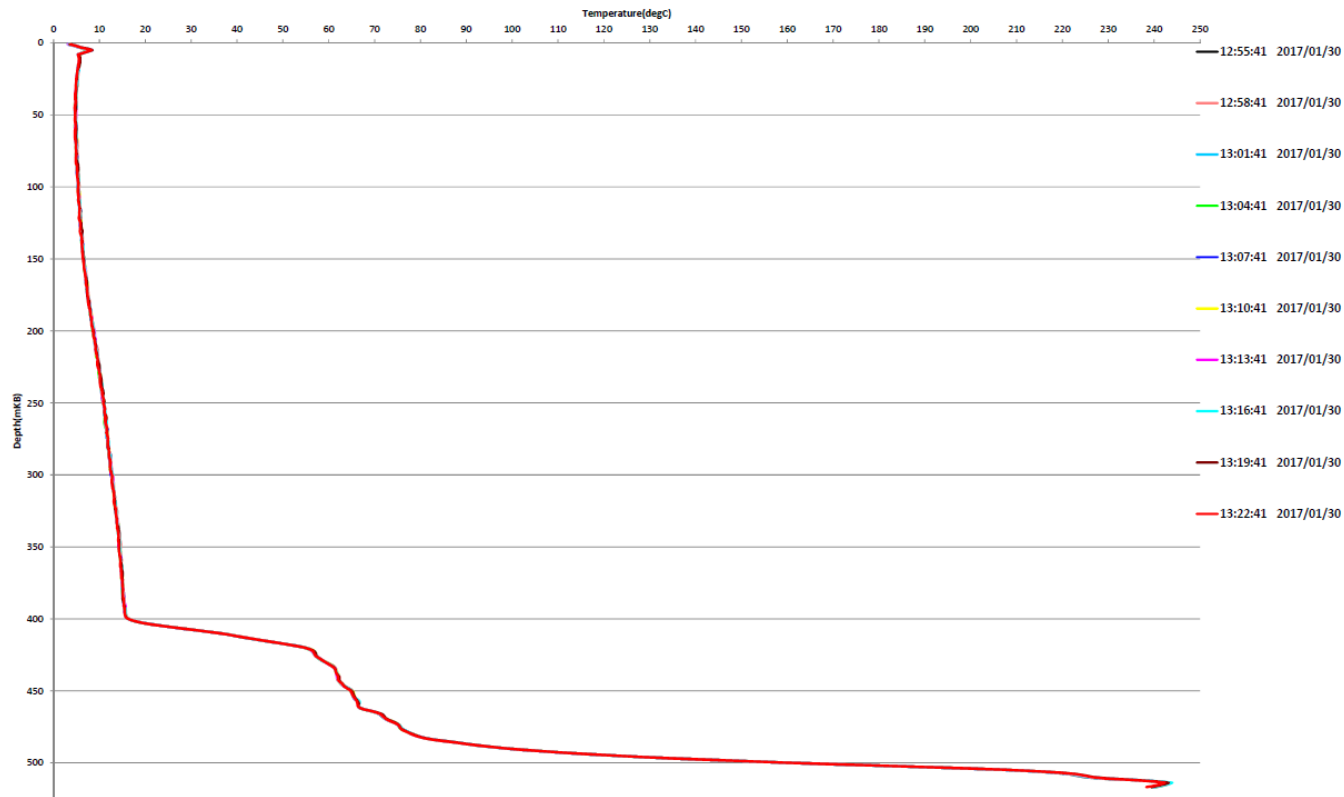


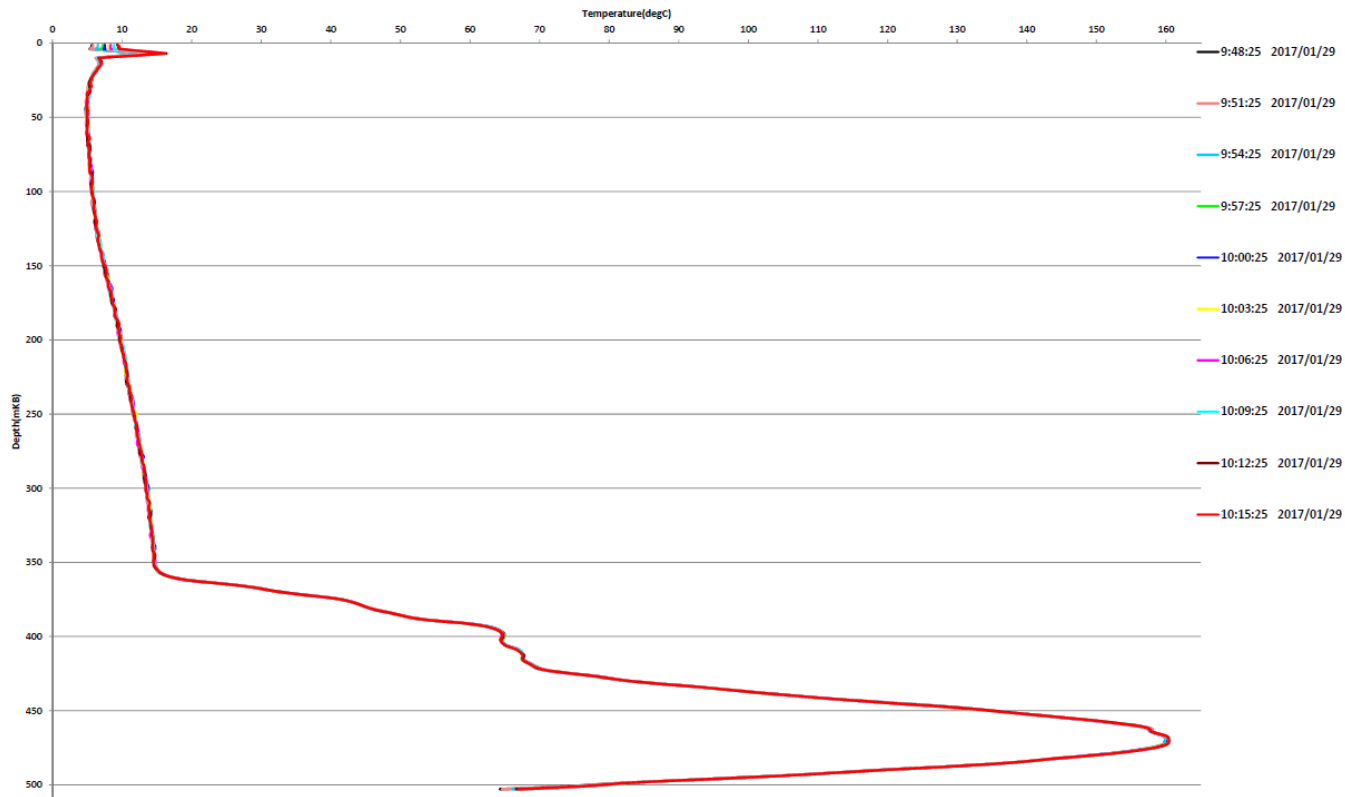


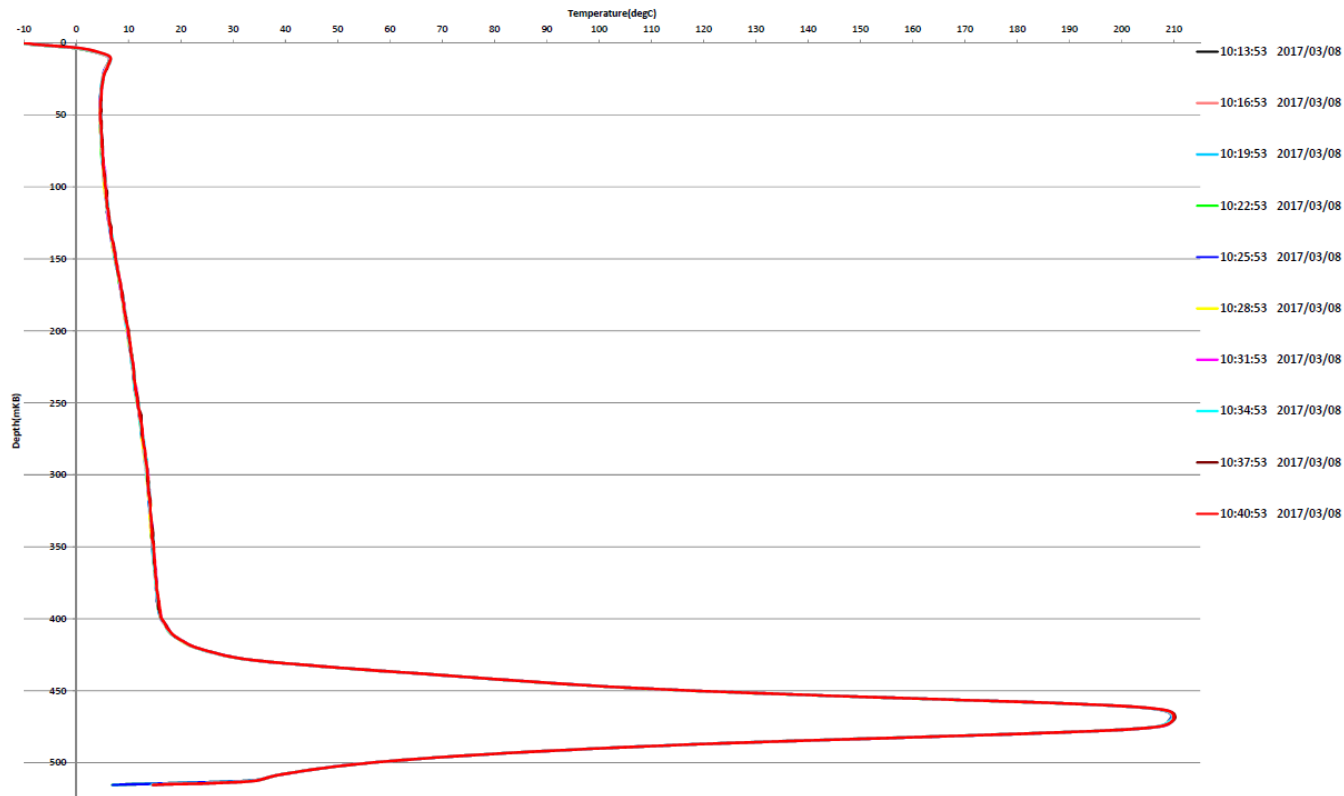


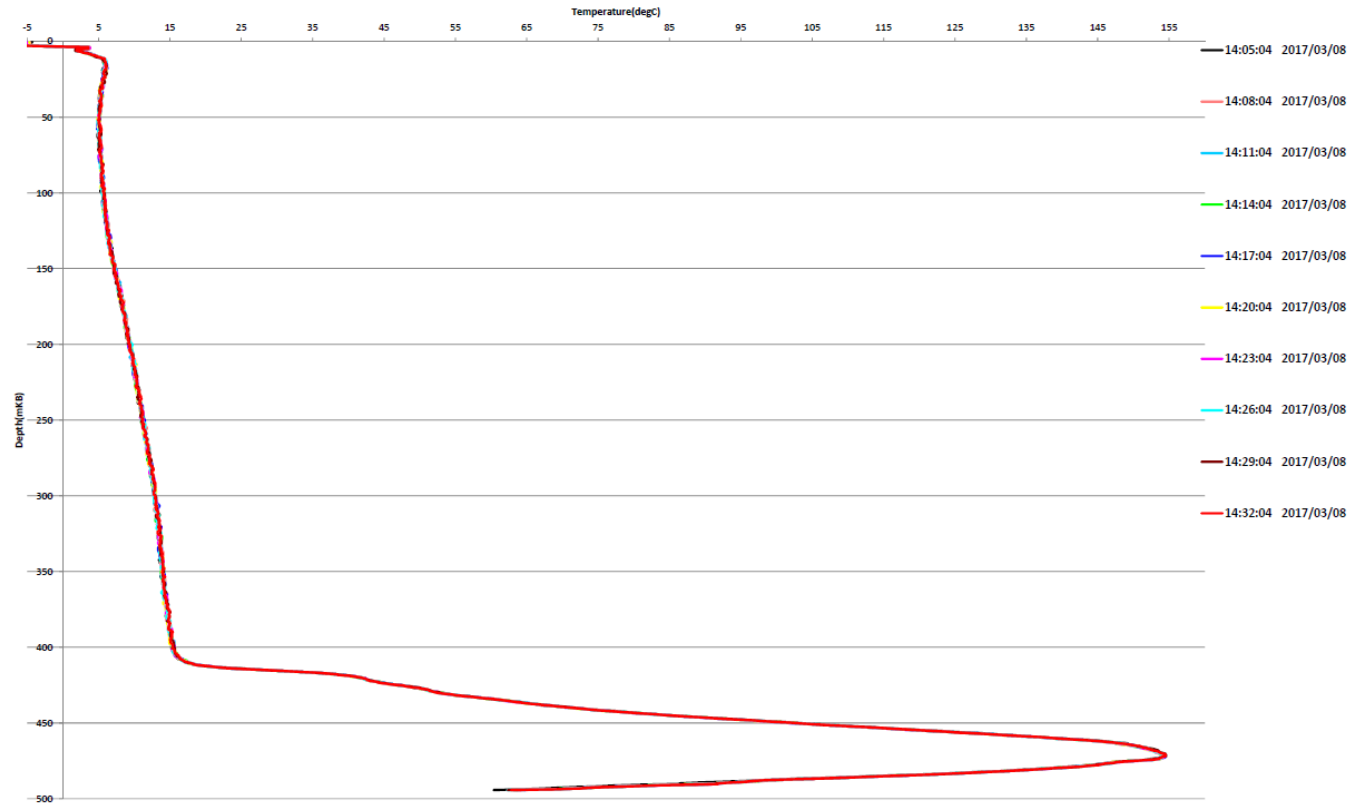


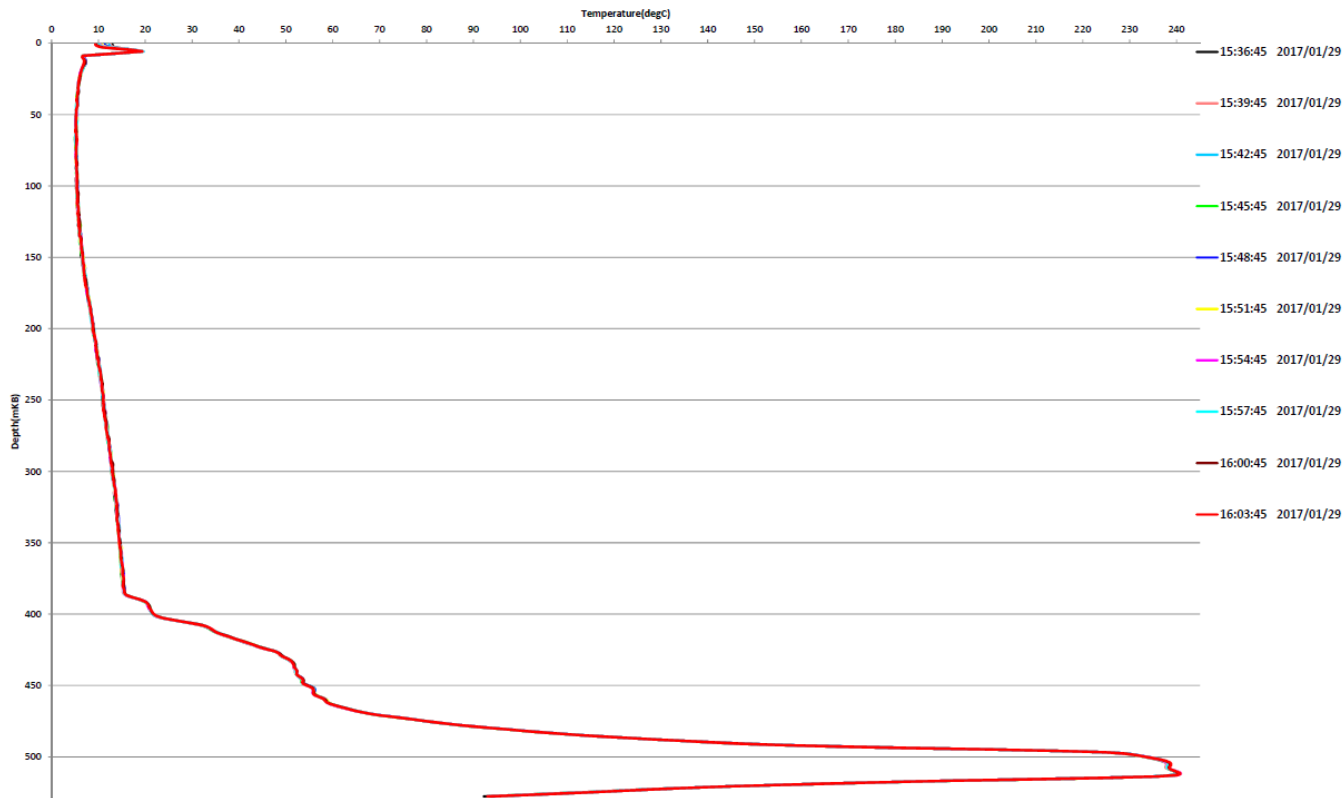


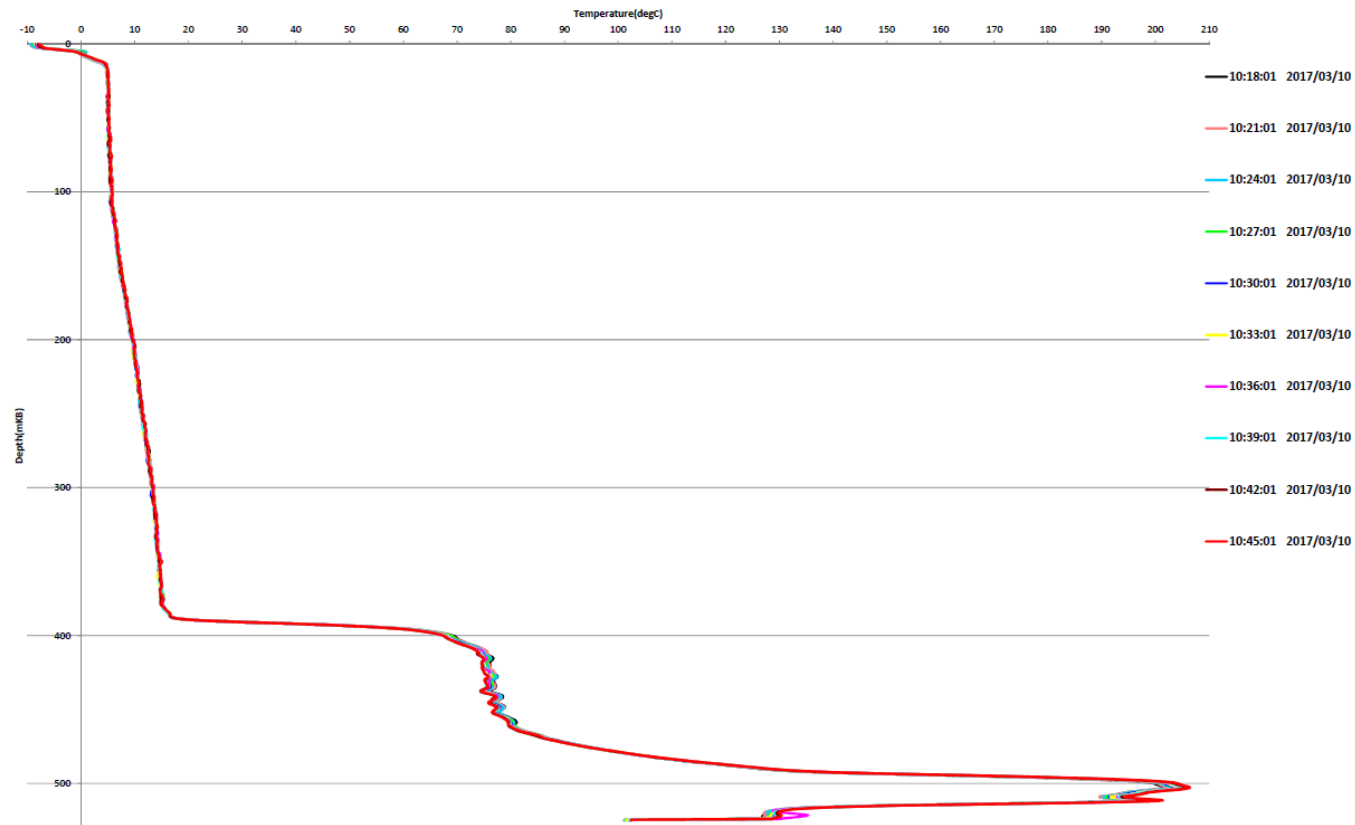


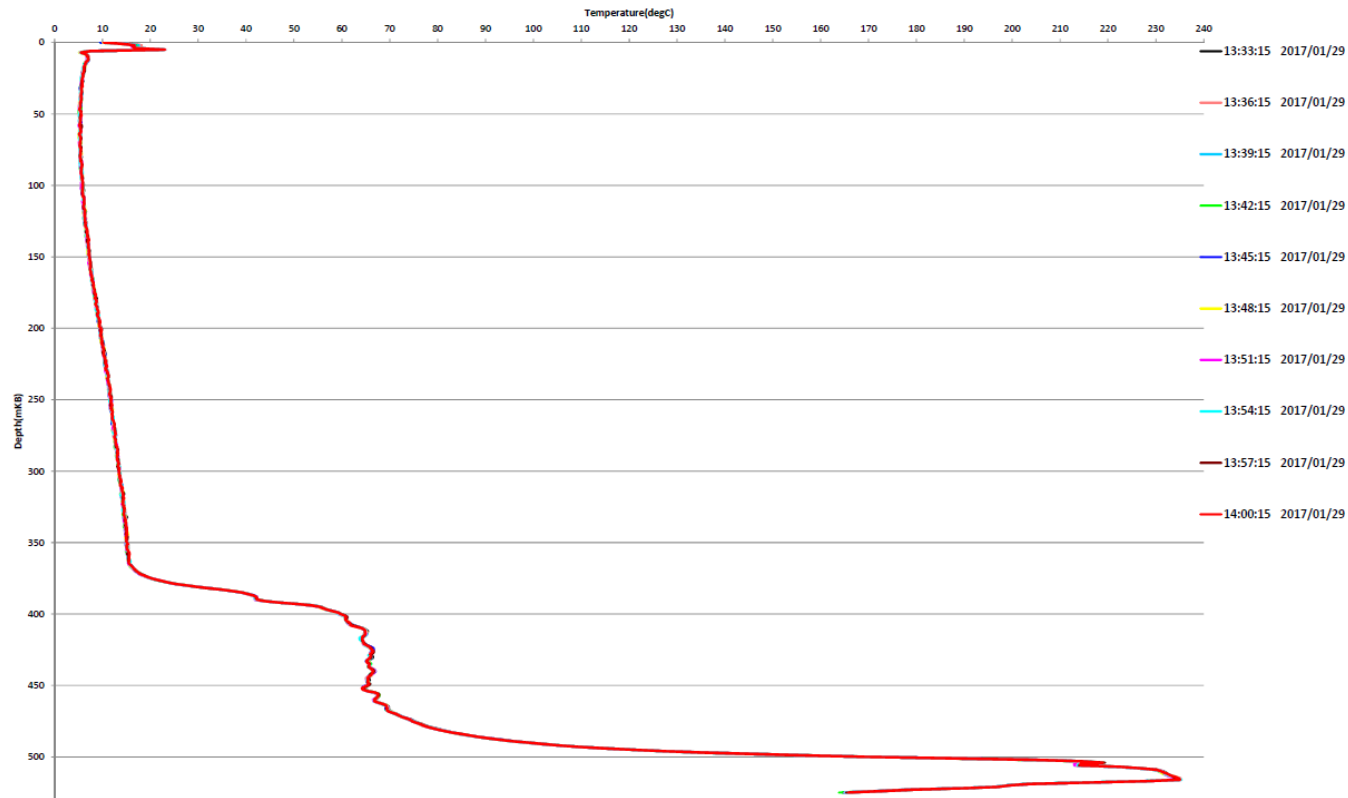




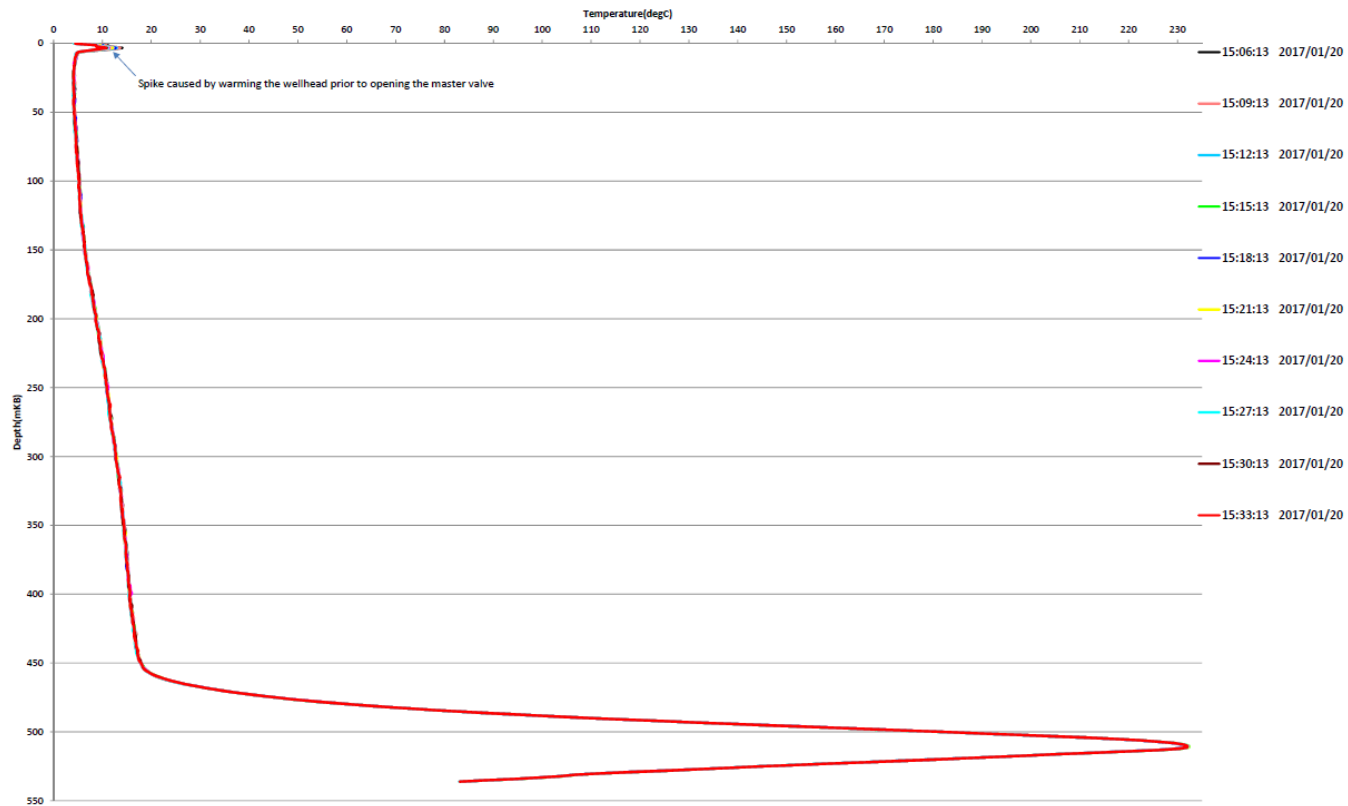








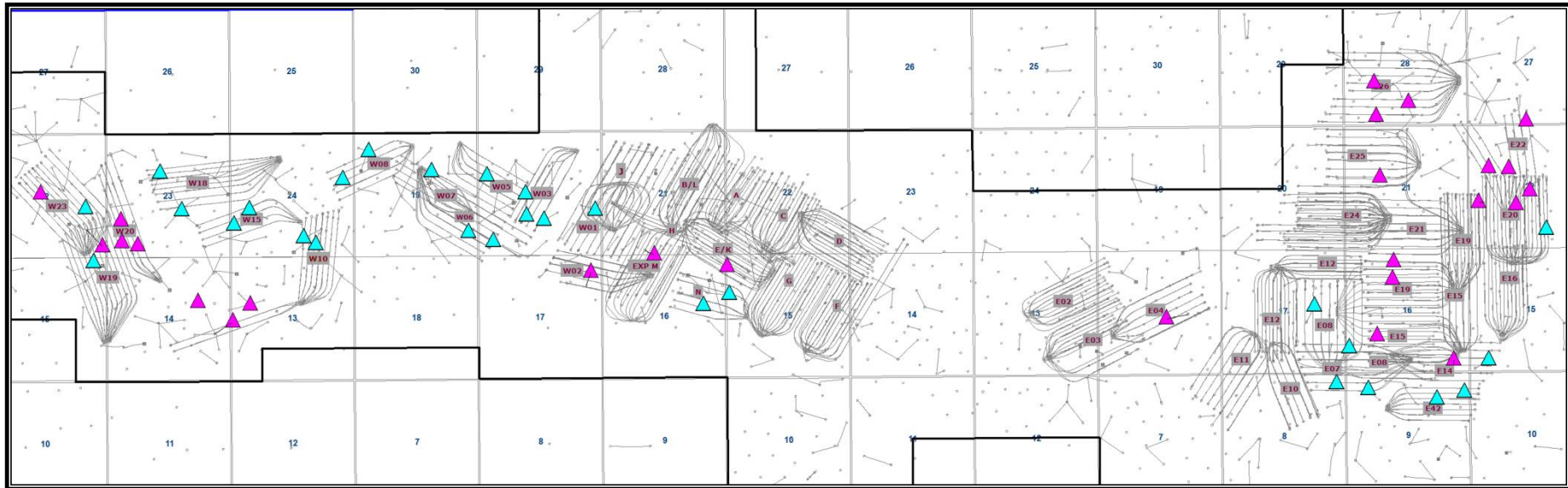




Thermocouple data



Foster Creek Thermocouple Locations



Existing Thermocouple



2017 Thermocouple (26)

Observation well thermocouple data

PAD	UWI	WELL NAME
E07	100041607003W400	CVE FCCL C4 FISHER 4-16-70-3
E07	100130907003W400	CVE FCCL A13 FISHER 13-9-70-3
E07	100160807003W400	CVE FCCL C16 FISHER 16-8-70-3
E08	106091707003W400	CVE FCCL D7-17 A10 FISHER 9-17-70-3
E14	103041507003W400	CVE FCCL 2B4 FISHER 4-15-70-3
E20	102022207003W400	CVE FCCL D2 FISHER 2-22-70-3
E42	100160907003W400	CVE FCCL A16 FISHER 16-9-70-3
E42	106150907003W400	CVE FCCL 2D10-9 A15 FISHER 15-9-70-3
N	103091607004W400	CVE FCCL B9 FISHER 9-16-70-4
N	1AA121507004W400	CVE FCCL C9-16 C12 FISHER 12-15-70-4
W01	100082007004W400	CVE FCCL A8 FISHER 8-20-70-4
W03	100072007004W400	CVE FCCL B7 FISHER 7-20-70-4
W03	100062007004W400	CVE FCCL A6 FISHER 6-20-70-4
W03	102112007004W400	CVE FCCL 6-20 FISHER 11-20-70-4
W05	104122007004W402	CVE FCCL D8-19 C12 FISHER 12-20-70-4
W06	100042007004W400	CVE FCCL B4 FISHER 4-20-70-4
W06	102011907004W400	CVE FCCL D1 FISHER 1-19-70-4
W07	102101907004W400	CVE FCCL B10-19 D FISHER 10-19-70-4
W07	103101907004W400	CVE FCCL 2B10 FISHER 10-19-70-4
W08	102092407005W400	CVE FCCL D9 FISHER 9-24-70-5
W08	100131907004W400	CVE FCCL B13 FISHER 13-19-70-4
W10	100022407005W400	CVE FCCL C2 FISHER 2-24-70-5
W15	100052407005W400	CVE FCCL D5 FISHER 5-24-70-5
W15	104052407005W400	CVE FCCL B5 FISHER 5-24-70-5
W18	100072307005W400	CVE FCCL C7 FISHER 7-23-70-5
W18	100112307005W400	CVE FCCL D11 FISHER 11-23-70-5
W19	102161507005W400	CVE FCCL D16 FISHER 16-15-70-5
W23	100082207005W400	CVE FCCL C8 FISHER 8-22-70-5

E07 Pad, CVE FCCL C4 FISHER 4-16-70-3

Cold Reservoir Conditions

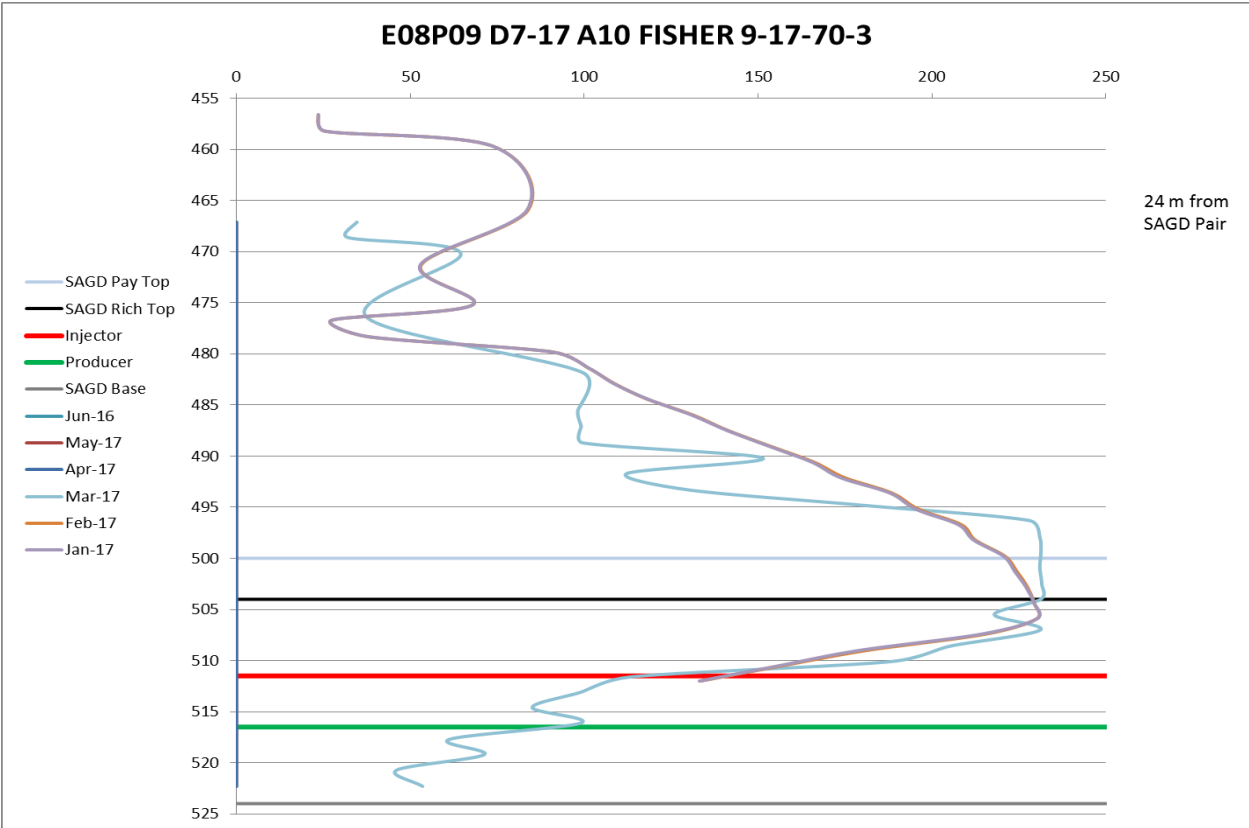
E07 Pad, CVE FCCL A13 FISHER 13-9-70-3

Cold Reservoir Conditions

E07 Pad, CVE FCCL C16 FISHER 16-8-70-3

Cold Reservoir Conditions

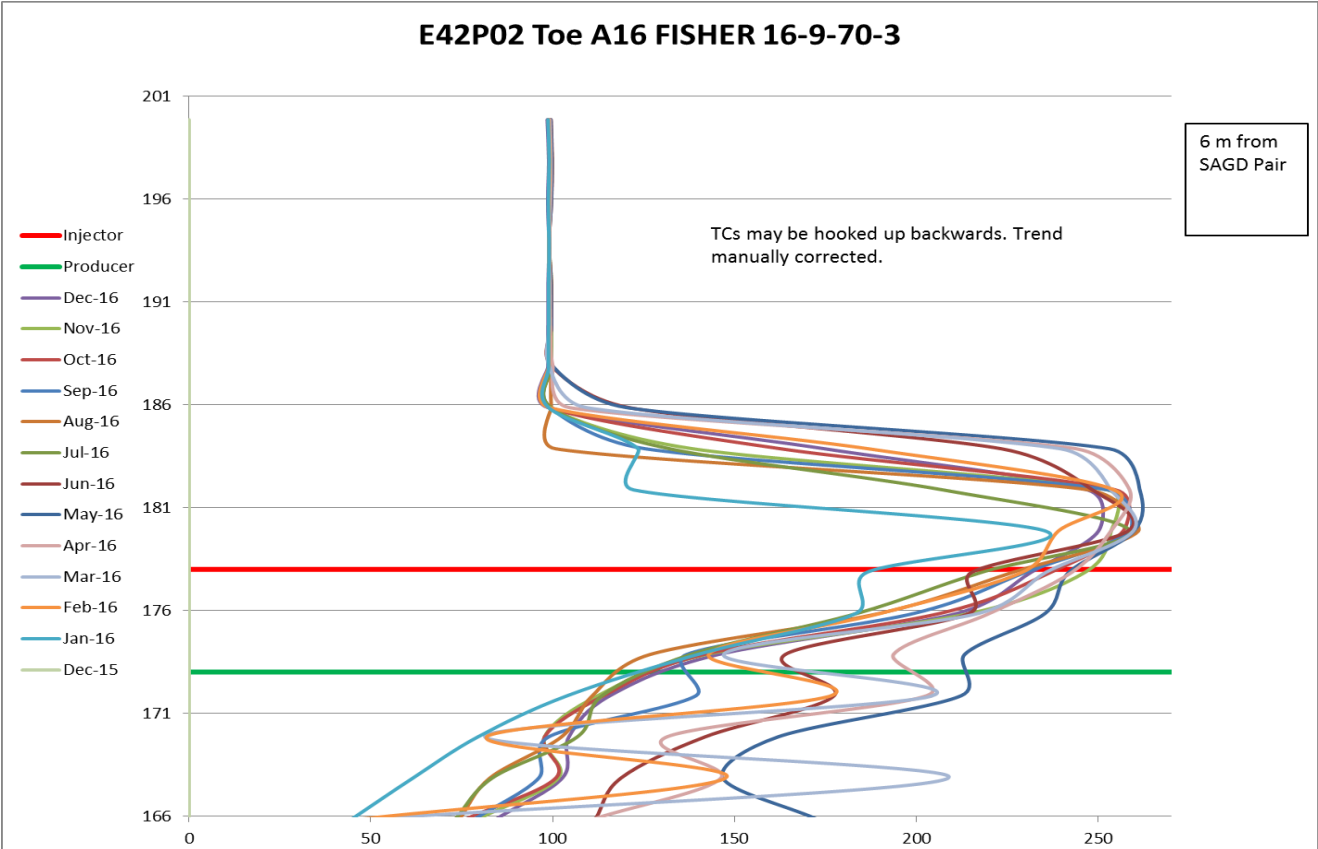
E08 Pad, CVE FCCL D7-17 A10 FISHER 9-17-70-3



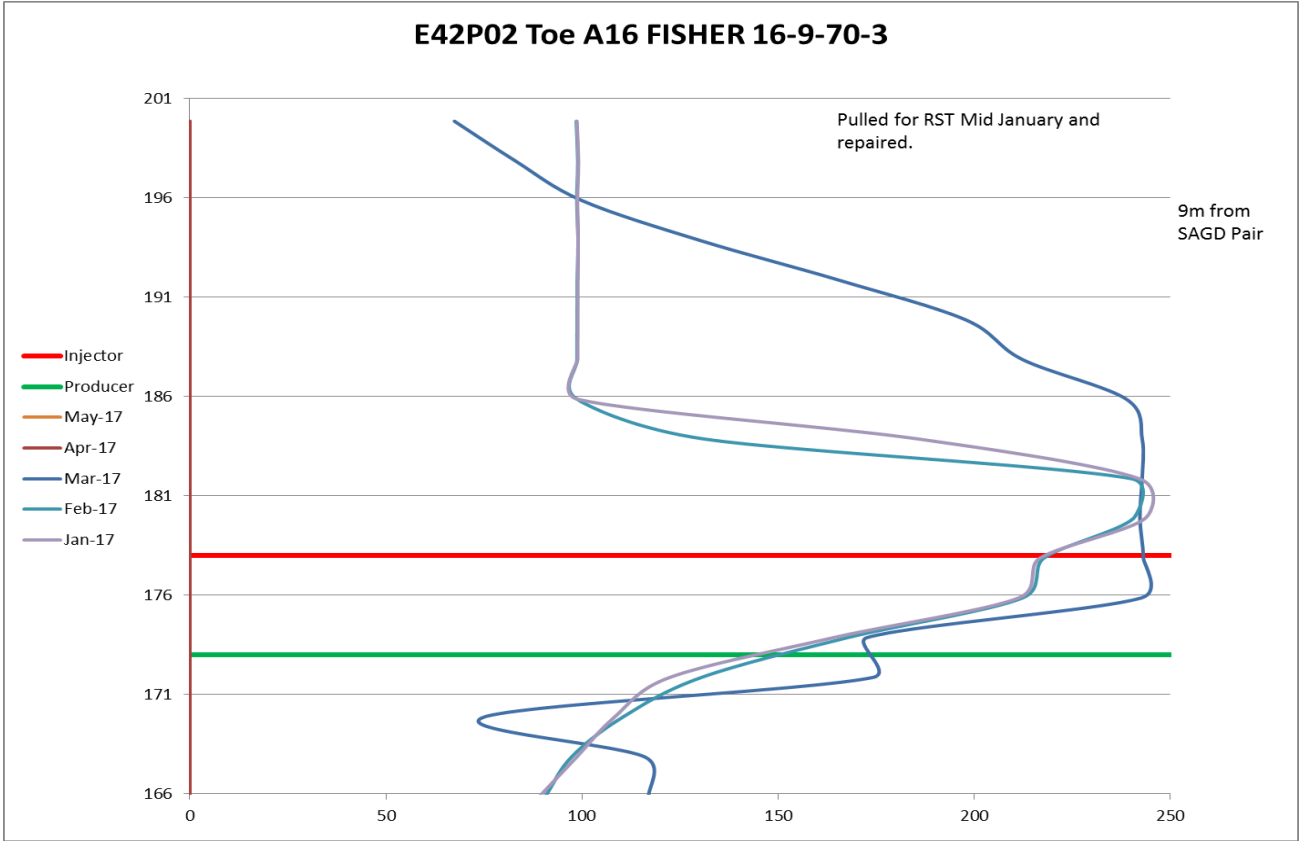
Cold Reservoir Conditions

Cold Reservoir Conditions

E42 Pad, CVE FCCL A16 FISHER 16-9-70-3 (2016)



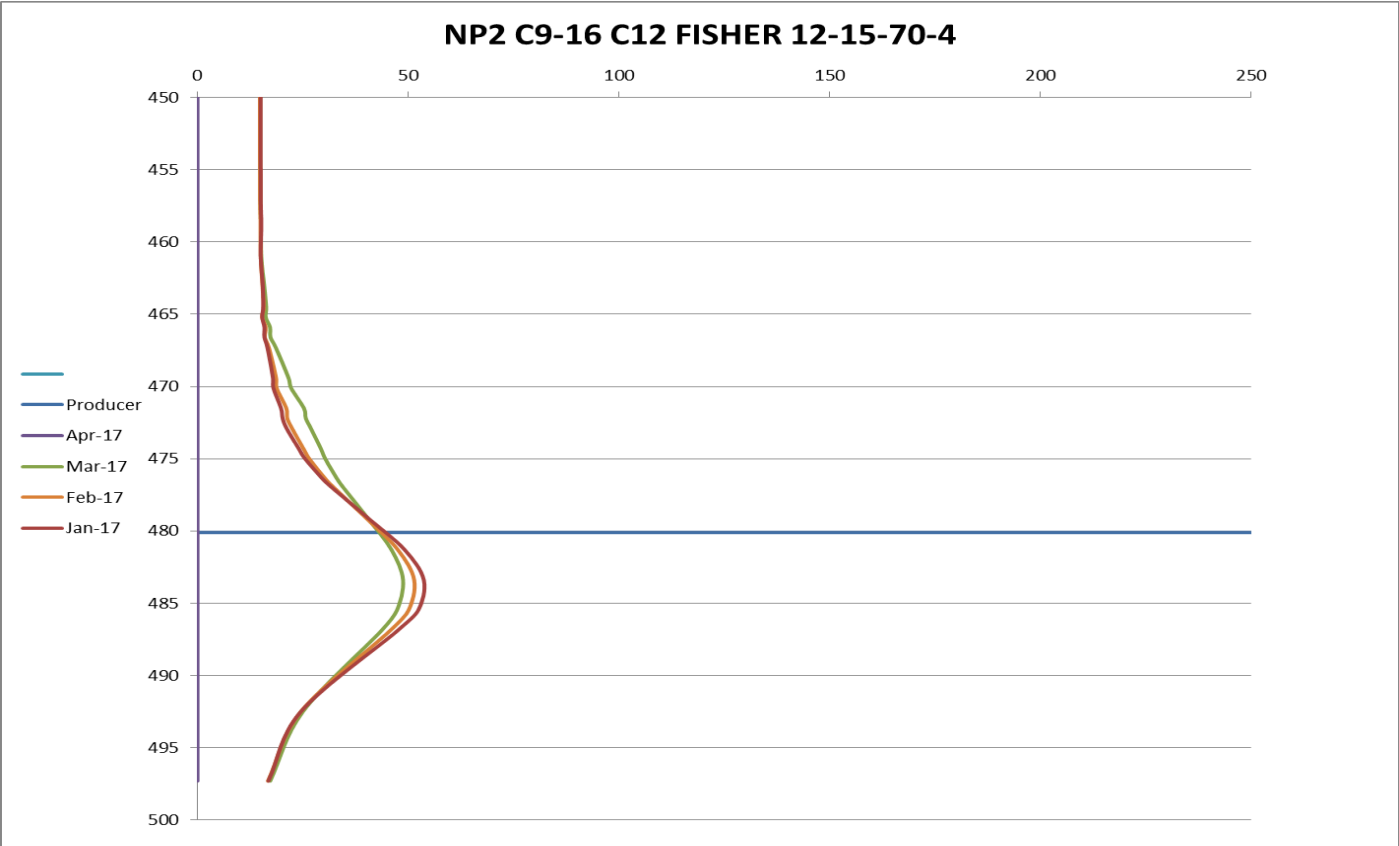
E42 Pad, CVE FCCL A16 FISHER 16-9-70-3 (2017)



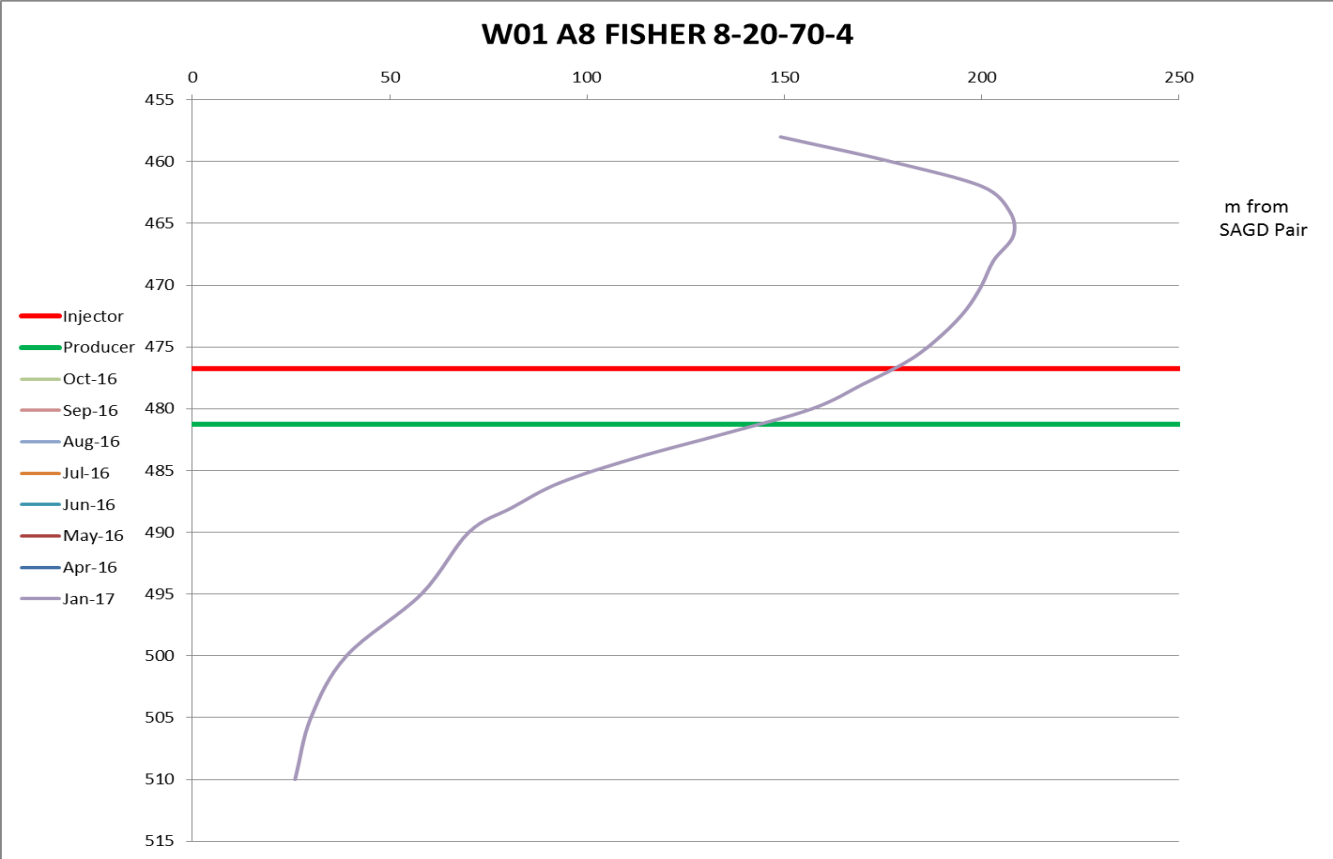
Cold Reservoir Conditions

Cold Reservoir Conditions

N Pad, CVE FCCL C9-16 C12 FISHER 12-15-70-4

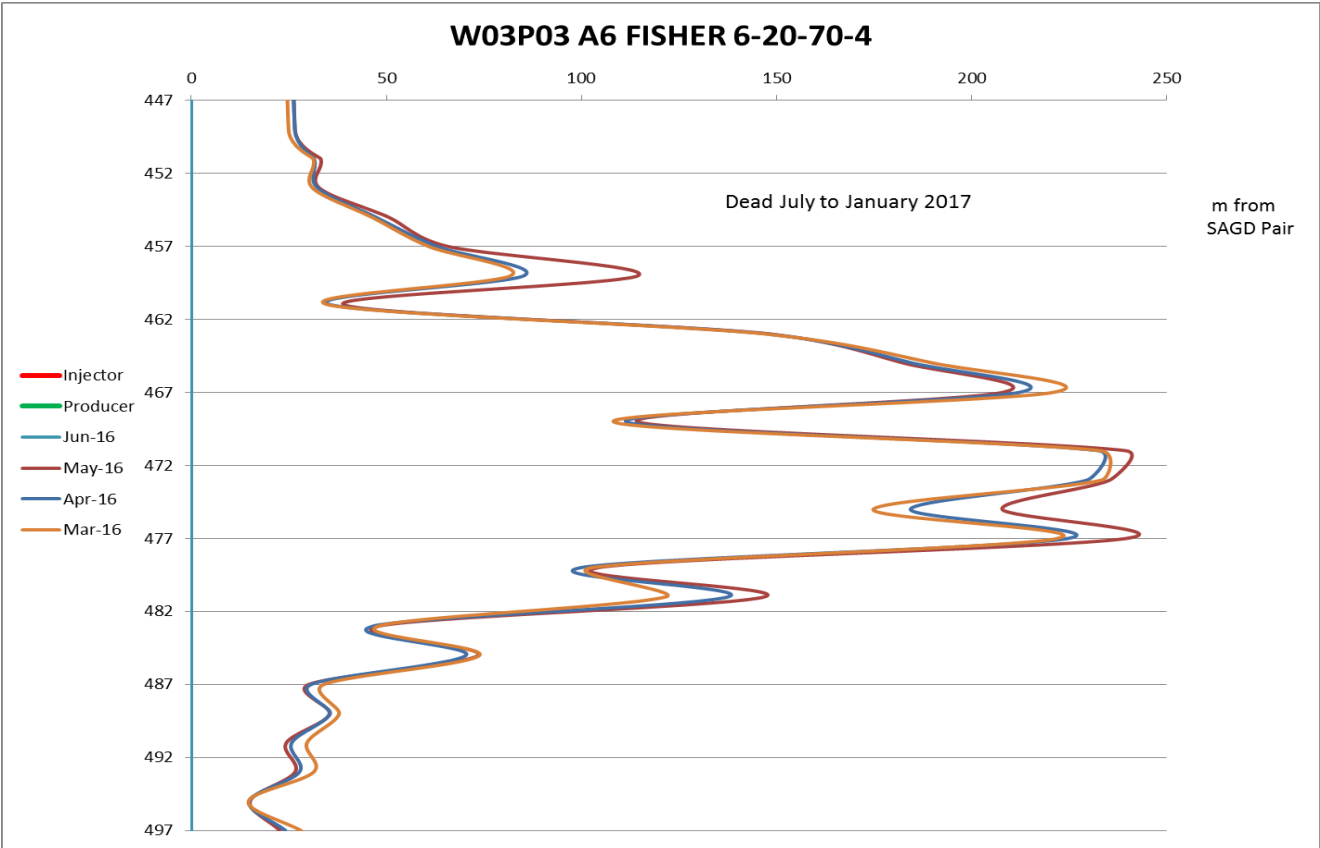


W01 Pad, CVE FCCL A8 FISHER 8-20-70-4

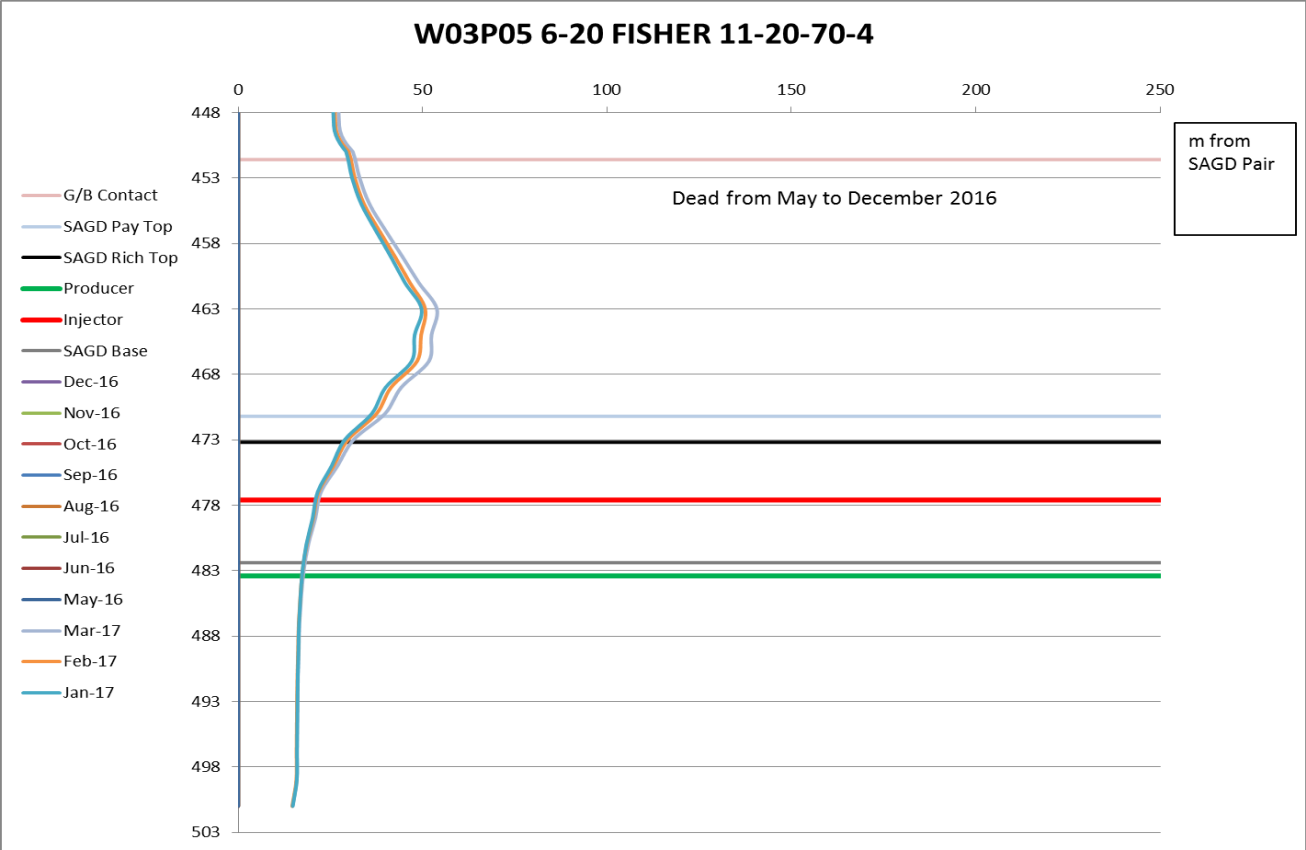


Cold Reservoir Conditions

W03 Pad, CVE FCCL A6 FISHER 6-20-70-4



W03 Pad, CVE FCCL 6-20 FISHER 11-20-70-4

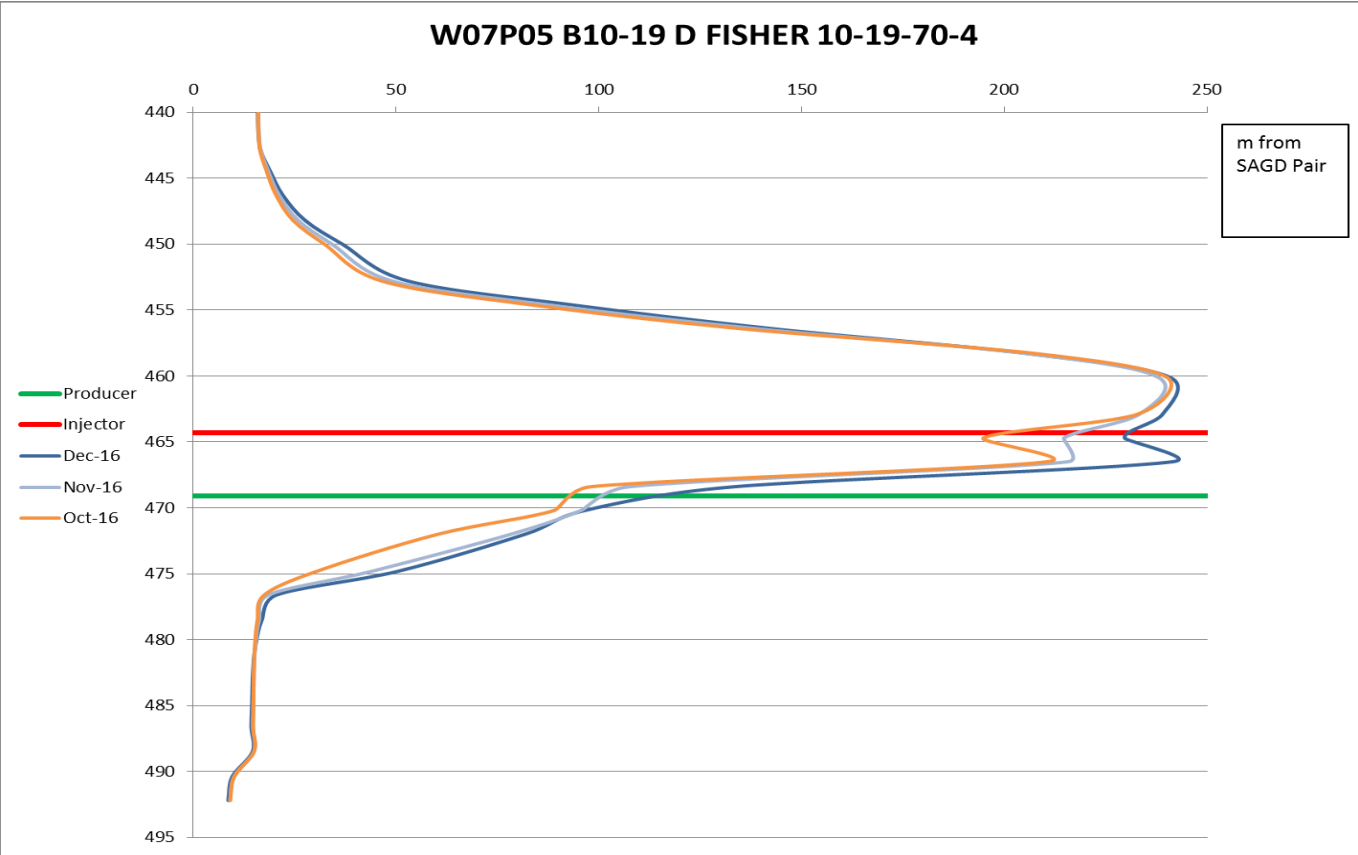


Cold Reservoir Conditions

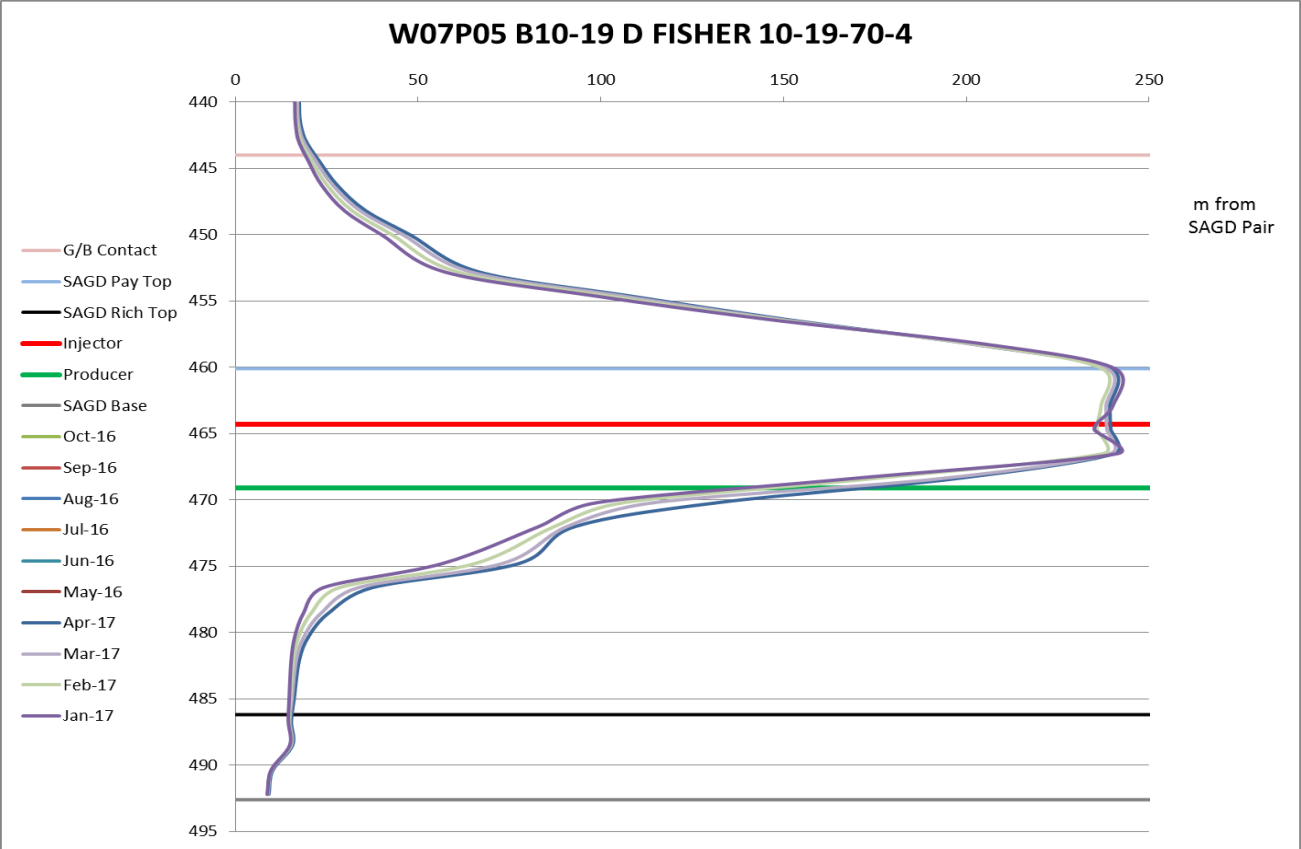
Cold Reservoir Conditions

Cold Reservoir Conditions

W07 Pad, CVE FCCL B10-19 D FISHER 10-19-70-4 (2016)

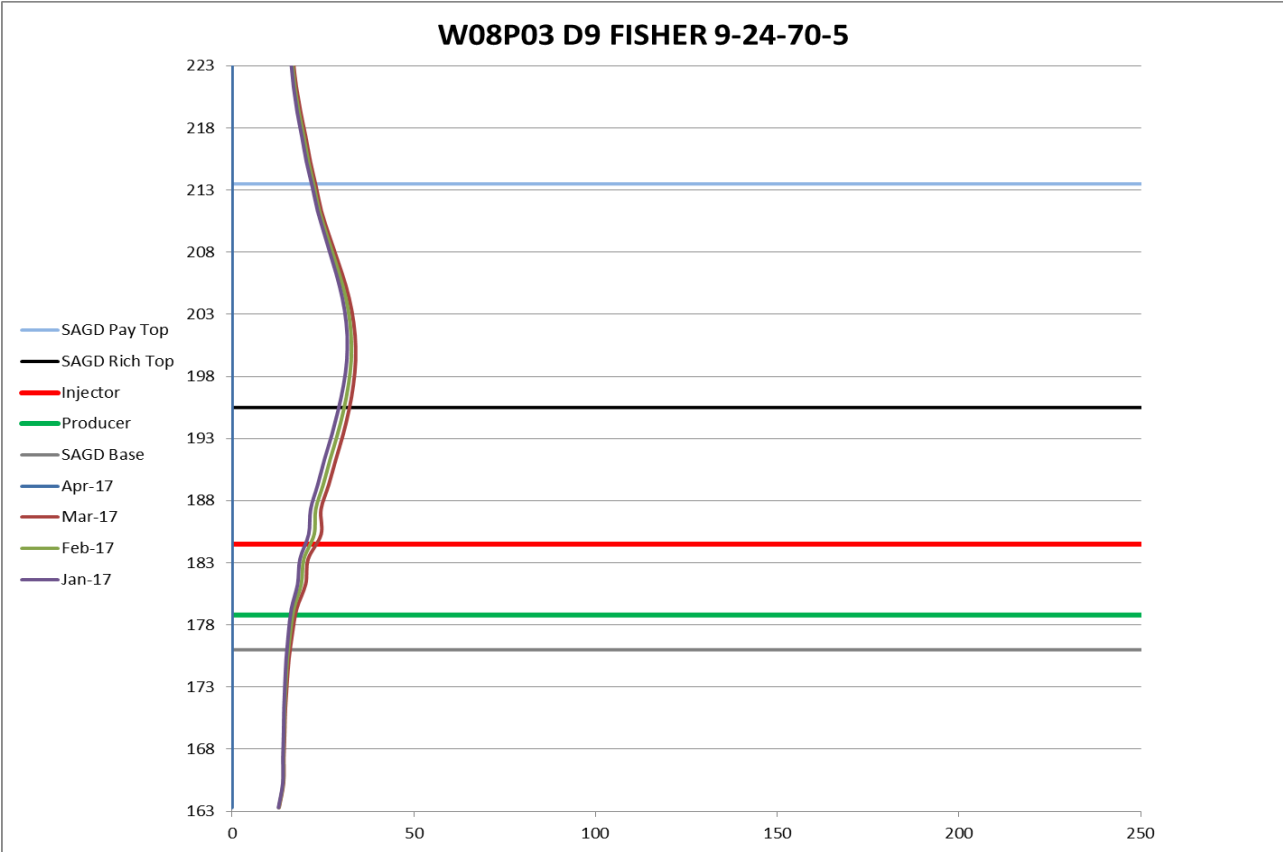


W07 Pad, CVE FCCL B10-19 D FISHER 10-19-70-4 (2017)

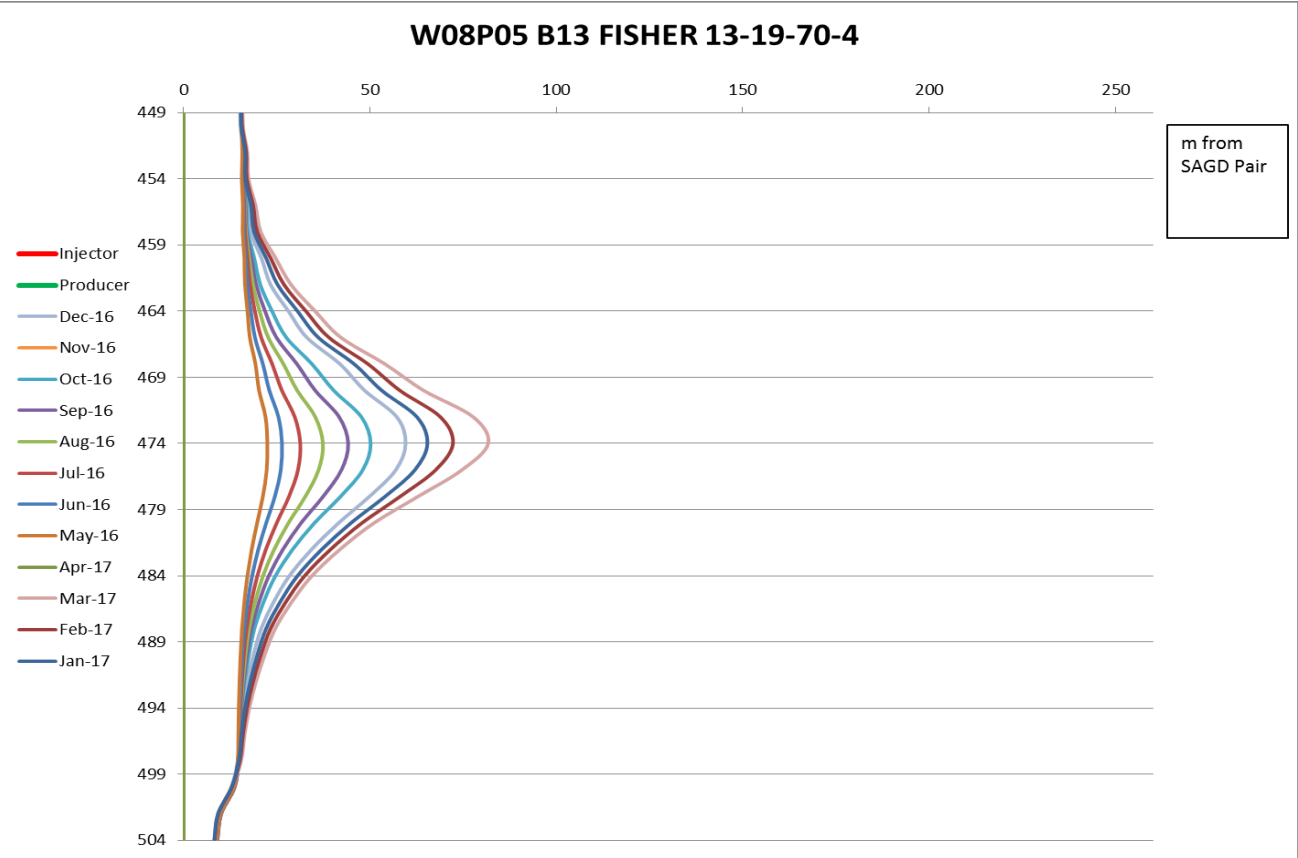


Cold Reservoir Conditions

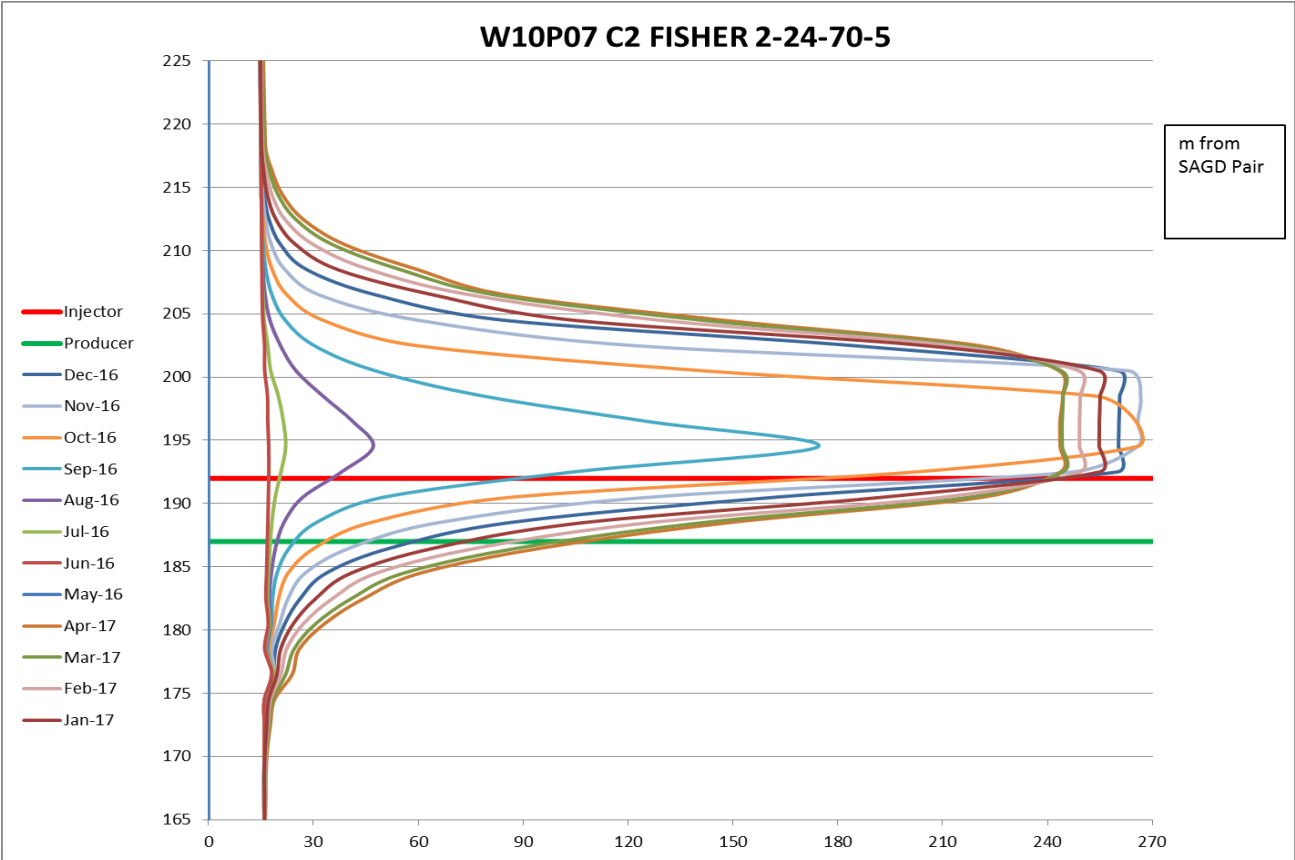
W08 Pad, CVE FCCL D9 FISHER 9-24-70-5



W08 Pad, CVE FCCL B13 FISHER 13-19-70-4



W10 Pad, CVE FCCL C2 FISHER 2-24-70-5



Cold Reservoir Conditions

Cold Reservoir Conditions

Cold Reservoir Conditions

Cold Reservoir Conditions

Cold Reservoir Conditions

Cold Reservoir Conditions