

**Well Information:**  
**Well:** Wieben 2-13 (M2SW)  
**PBTD:** 9,180' MD  
**TD:** 9,508' MD  
**TOC:** 1,370' MD  
**Perf Interval:** 7,533' - 9,016'

**Surf CSG:** 9.625" 36# J-55, set @ 1,193' MD  
**Production Csg:** 5.5" 17# P-110, set @ 9,507' MD  
**Tubing:** 2 3/8" 4.7# N-80 EUE, set @ 8,504' (269 jts )  
**F-Nipple:** 8,471' MD  
**EOT:** 8,504' MD

**Issue:**

Well has been identified as a potential injection well candidate for Mamm Creek field.

**Procedure:**

- 1 MIRU Workover Rig
- 2 ND Wellhead, NU BOP, Pressure Test BOP
- 3 Kill well by pumping produced water if necessary
- 4 POOH w/ 269 jts 2 3/8" 4.7# L80 EUE Tbg
- 5 MIRU W/L Company
- 6 RIH and set 5.5" CIBP @ ~7,475' MD (or within 100' of top perf at 7,533' MD).
- 7 Dump bail 2 sxs of class G cement on top of CIBP.
- 8 Pressure test wellbore to 2,500 psi for 15 mins to confirm plug is properly set.  
(Chart test and notify engineer in event there is >10% leak off.)
- 9 RIH w/ perforating gun and perforate 4 spf, 90° phasing, 0.38" EHD, in following intervals in Wasatch:

Perf Interval (ft)			SPF	Perfs
Top	Bottom	Net		
3730	3748	18	4	72
3782	3790	8	4	32
3910	3918	8	4	32
3980	4002	22	4	88
4054	4066	12	4	48
4094	4102	8	4	32
4350	4362	12	4	48
4564	4590	26	4	104
4664	4674	10	4	40
4814	4822	8	4	32
5136	5146	10	4	40
5300	5320	20	4	80
5352	5374	22	4	88
5430	5446	16	4	64
5614	5630	16	4	64
5670	5696	26	4	104
5768	5780	12	4	48
5810	5818	8	4	32
5894	5910	16	4	64

**Total Net:** 278      **Total Perfs:** 1112  
**Total Gross:** 2180

- 10 RDMO W/L Company.

11 RIH w/ Packer & 2 3/8" 4.7# J-55 tubing. Set packer @ ~3,630' MD (100' above top perf). Fill casing with 2% KCl water and pressure up to 1,200 psi to ensure packer is set properly.

12 ND BOPs, NU WH, RDMO Workover Rig

Water sample will not be obtained on this well, Encana intends to submit sample obtained from the MCU Disposal #2 since proposed well is within close proximity.

13 MIRU pumping services company and prepare to break down/acidize Wasatch perms. Pump 8,000 gals 15% HCl acid w/ Gelled Brine/Rock Salt diversion stages (see schedule below).

Stage	Fluid	Rate (bpm)	Volume (gals)	Diverter	Diverter Conc (ppg)	Diverter Volume (lbs)
1 (Load Hole)	Claytreat Water	20	1000			
2	Claytreat Water	20	2000	Rock Salt	0.25	500
3	15% HCl	20	1750			
4	Gelled Brine*	20	200	Rock Salt	1	200
5	15% HCl	20	1250			
6	Gelled Brine*	20	200	Rock Salt	1	200
7	15% HCl	20	1250			
8	Gelled Brine*	20	200	Rock Salt	1	200
9	15% HCl	20	1250			
10	Gelled Brine*	20	200	Rock Salt	1	200
11	15% HCl	20	1250			
12	Gelled Brine*	20	200	Rock Salt	1	200
13	15% HCl	20	1250			
14 (Flush)	Claytreat Water	20	5000			

Totals	Claytreat Water	8000	gal
	Gelled Brine*	1000	gal
	15% HCl	8000	gal
	Rock Salt	1500	lbs

\*Biosealers (75 per diversion stage) will also be added during the Gelled Brine/Rock Salt diversion stages.

\*\*\* Note: Monitor & record bradenhead pressure during all stages of the injection. Also, monitor bradenhead pressure on the offset well on this pad (HMU 10-1). If there are any bradenhead pressure increases, shut down fracture stimulation immediately.

14 Report pre- & post-job ISIP's and max injection pressure to State

15 Pump water for 10 days or 10,000 bbls, whichever comes first (do not exceed maximum injection pressure)

**Procedure: Prep for Injection**

1 MIRU Workover Rig

2 ND Wellhead, NU BOP, Pressure Test BOP

3 POOH w/ packer & work string. RIH with Nickle plated packer and 3-1/2" 9.2# N-80 FL4S coated tbg and set @ 3,700' (30' above top perf).

4 Perform MIT to maximum injection pressure, hold pressure for 15 minutes. (Chart test and notify all nessessary regulatory agencies.)

5 ND BOPs, NU WH, RDMO Workover Rig

For questions regards to this procedure contact:

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