



## **Test Well for SWD Potential**

**Well: Cascade Creek 604-12-13**

**WELL INFORMATION:**

**Well:** Cascade Creek 604-12-13  
**API #:** 05-045-13465-00  
**Pad:** 604-12-13

**History:** 2005-October Drilled to 9320 TD  
2005-November Completed 5 stages in Cameo and WF  
2005-November Perforated and squeezed at 7210-7212  
2005-December Perforated and squeezed at 5920-5922  
2017-September Producing 59 MCFD

**Surface Hole:** 2804 FNL & 396 FWL SEC 4 T6S R97W  
**Bottom Hole:** 2843 FSL & 160 FWL SEC 4 T6S R97W

**Elevation:** RKB: 8653.5  
KB: 25.0  
GL: 8628.5

**PBTD:** 9252 MD / 9221 TVD (estimated)  
**TD:** 9320 MD / 9289 TVD (estimated)

**Casing:** Conductor: 16" @ 85  
Surface: 9-5/8" 36# K55 @ 3776 (TOC @ surface)  
Production: 5-1/2" 17# I80 @ 9298 (TOC @ 5702)

**Perforations:** Squeezes @ 5920-5922 and 7210-7212  
Completion @ 7468-8929

**Tubing:** 2-3/8" 4.7# @ 8316, grade unknown

**Geology:** Wasatch G 4676  
Fort Union 4942  
Ohio Creek 6193  
Williams Fork 6554  
Cameo 8748  
Rollins 9079

## **PROCEDURE:**

### **Abandon Williams Fork and Cameo Perforations**

1. Set BP @ 7100.
2. Place 100 linear feet Class G cement on CIBP.
3. Pressure test and chart 5-1/2" casing to 1500 psi for 15 minutes to verify well integrity.

### **Cement Squeeze to Isolate Ohio Creek from Fort Union**

4. Perforate 4 x 1/2" holes @ 6180.
5. Set drillable cement retainer @ 6150 +/-.
6. Squeeze 1.0 or more bbls class G cement through perforations.
7. Drill out retainer and cement.
8. Run CBL to verify cement placement.

### **Prepare Well for Ohio Creek and Upper Williams Fork Injection Testing**

9. Perforate the following intervals:
  - a. 6700-6702 – Williams Fork
  - b. 6548-6550 – Ohio Creek
  - c. 6494-6496 – Ohio Creek
  - d. 6408-6410 – Ohio Creek
  - e. 6344-6346 – Ohio Creek
  - f. 6288-6290 – Ohio Creek
10. Set packer @ 6250 +/- with memory pressure gauge in tubing tail.
11. Pressure test and chart 5-1/2" casing to 1500 psi for 15 minutes to verify well integrity.

### **Collect Proposed Injection Zone Water Samples for Analysis**

12. Swab well to collect 3 x 1 gallon samples of Ohio Creek formation water. (Recover 2 x the volume to the top perforation before collecting samples. Volume to top perforation = 25 bbls, so recover 50 bbls.)
13. Send water samples to lab for analysis.

### Pump Step Rate Test

14. Install memory pressure gauges on tubing and casing.

15. Pump Step Rate Test as follows:

Step Number	Step Time Duration (minutes)	Step Time Duration (hours)	Time Cumulative (minutes)	Time Cumulative (hours)	Pump Rate (BPM)	Step Volume (BBLs)	Volume Cumulative (BBLs)
1	60	1	60	1	0.00	0	0
2	60	1	120	2	0.40	24	24
3	60	1	180	3	0.70	42	66
4	60	1	240	4	1.00	60	126
5	60	1	300	5	1.33	80	206
6	60	1	360	6	1.67	100	306
7	60	1	420	7	2.00	120	426
8	60	1	480	8	2.50	150	576
9	60	1	540	9	3.00	180	756
10	60	1	600	10	4.00	240	996
11	60	1	660	11	5.00	300	1296
12	60	1	720	12	6.00	360	1656
13	60	1	780	13	7.00	420	2076
14	1440	24	2220	37	0.00	0	2076
<b>TOTAL</b>	<b>2220</b>	<b>37</b>	<b>2220</b>	<b>37</b>			<b>2076</b>

After pumping, shut in well upstream of the tubing pressure gauge. Continue collecting data for at least 1 full day even if surface tubing gauge indicates no pressure.

16. Recover all pressure gauges and send to Engineering.