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# **Great Western Operating Company, LLC**

## **SURFACE POST JOB REPORT**

### **JOB PURPOSE: PRIMARY**

**Tower LD 19-179HN 05-001-10302**  
**S:21 T:1S R:67W Adams CO**

CallSheet #: 75369  
Proposal #: 50628



**Attention:** Great Western Operating Company LLC,  
Great Western Operating Company, LLC  
1001 17TH STREET, SUITE 2000 | DENVER, CO 80202

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Dear Great Western Operating Company LLC,

Thank you for the opportunity to provide cementing services on this well. American Cementing strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact American Cementing at any time.

Sincerely,

**Jason Creel**

Field Engineer | (307) 256-0306 | [Jason.creel@americancementing.com](mailto:Jason.creel@americancementing.com)

**Field Office**      1716 E Allison Rd, Cheyenne, WY 82007  
Phone: (307) 638-5585

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## 1 Job Details & Summary

### 1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Top (ft)	Bottom (ft)	Excess (%)
Open Hole	Outer	n/a	13.5	n/a	0	2006	40
Casing	Inner	9.625	8.921	36	0	2006	0

### 1.2 Equipment / People

Unit Type	Unit
Field Storage Silo	CTS-454
Light Duty Trailers	FIF-161
Cement Pump	CPF-184
Pneumatic Trailer	FUF-308
Pneumatic Trailer	FTF-031

### 1.3 Timing

Event	Date/Time
Call Out	11/5/2020 18:30
Depart Facility	11/5/2020 19:30
On Location	11/5/2020 20:00
Rig Up Iron	11/5/2020 20:30
Job Started	11/6/2020 02:55
Job Completed	11/6/2020 05:13
Rig Down Iron	11/6/2020 05:30
Depart Location	11/6/2020 06:30

### 1.4 Casing Equipment

Type	Description	Qty	MD	TVD
Bow Spring Centralizers	9.625"	19		
Landing/Float Collar	9.625"	1	1962	1962
Float Shoe	9.625"	1	2006	2006

#### • 1.4.1 Casing Equipment-Centralizer Depths

Surface Centralizers, 37.81, 79.35, 199.95, 320.57, 439.34, 558.03, 676.97, 797.55, 917.93, 1038.47, 1158.98, 1278.51, 1398.53, 1518.56, 1638.78, 1758.71, 1878.58, 1920.12, 1989.8

## 1.5 General Job Information

Metrics	Value
Well Fluid Density	8.4 lb/gal
Well Fluid Type	Water
Rig Circulation Vol	300 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	151.7 bbls
Actual Displacement	151.7 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	44 bbls
Well Topped Out	No

## 1.6 Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	No
Flare at End of Job	No
Well Full Prior to Job	Yes
Well Fluid Density Into Well	8.4 lb/gal
Well Fluid Density Out of Well	8.4 lb/gal

## 1.7 Job Details (cont.)

Metrics	Value
BHCT	86 °F
BHST	110 °F
Ambient Temperature	86 °F

## 1.8 Circulation

Lost Circulation Experienced
No

## 1.9 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft <sup>3</sup> /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sks)	Volume (bbl)	Volume (cu.ft)	Top (ft)
1	1	Fresh Water	Spacer	8.34			42.00		20.00		0
1	2	ACem S100.3.XC	Primary	14.50	1.39	6.81		986.00	244.00	1370.54	0
1	3	Fresh Water	Displacement Final	8.34			42.00		151.70		0

## 1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Primary	ACem S100.3.XC	ASTM TYPE III	Cement	100.00	%
1	2	Primary	ACem S100.3.XC	STATIC FREE	Other	0.01	lb/sk

## 2 Job Logs

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Arrive On Location	11/5/2020	20:00					Crew Arrived on Location/ Checked and verified mix water and cement.
2	Safety Meeting	11/5/2020	20:20					Pre Rig Up Safety Meeting with Crew
3	Rig Up	11/5/2020	20:30					Crew Rigged up Treating equipment and lines.
4	Safety Meeting	11/6/2020	02:40					Safety Meeting with Rig Crew, and Company Representative
5	Prime Up	11/6/2020	02:55	8.34	4	5	113	Prime up Pump and Lines
6	Pressure Test	11/6/2020	02:58	8.34	0.5	0.5	3000	Pressure Test Lines to 2500 psi
7	Pump Spacer	11/6/2020	03:05	8.34	4	20	113	Pump 20 bbls of Fresh Water with Blue Dye/ Full Returns
8	Pump Cement	11/6/2020	03:10	14.5	5	244	260	Pump 244 bbls Primary Cement @ 14.5 ppg/ (1.39 Yield, 6.8 gps, 159.69 Mix Water.)/Full Returns.
9	Pump Cement	11/6/2020	03:18	14.5	5	50	230	50 bbls Pumped Away of Cement/Wet Sample Taken and Verified/ Full Returns
10	Pump Cement	11/6/2020	03:27	14.5	5	100	260	100 bbls of Cement Pumped Away/wet Sample Taken and Verified/Full Returns
11	Pump Cement	11/6/2020	03:37	14.5	5	150	308	150 bbls of Cement Pumped Away/wet Sample Taken and Verified/ Full Returns
12	Pump Cement	11/6/2020	04:47	14.5	5	200	315	200 bbls of Cement Pumped Away/Full returns
13	Shut Down	11/6/2020	04:04					Shut down to Drop Top Plug/ Wash Up on Top of the Plug
14	Pump Displacement	11/6/2020	04:07	8.34	5	10	240	Pump First 10 bbls of Displacement/ Full Returns
15	Pump Displacement	11/6/2020	04:17	8.34	5	50	500	Pumped 50 bbls of Displacement away/ Full returns
16	Spacer to Surface	11/6/2020	04:23	8.34	5	80	700	Blue Dye Spacer Back to Surface
17	Pump Displacement	11/6/2020	04:29	8.34	5	100	900	Pumped 100 bbls of Displacement away/ Full returns
18	Cement to Surface	11/6/2020	04:30	8.34	5	108	900	Cement Back To Surface/ 108 bbls of Displacement Away
19	Slow Rate	11/6/2020	04:33	8.34	4	120	850	Slowed Rate to Reduce Pressure/ Pressure went from 1000 psi to 850 psi/ Full Returns
20	Slow Rate	11/6/2020	04:38	8.34	3	140	900	Slowed Rate to Land the Plug/ 140 bbls of Displacement Away/ Full Returns
21	Land Plug	11/6/2020	04:41	8.34	3	151.7	950	Land the Plug/ FCP 950 psi and took to 1597 psi
22	Casing Test	11/6/2020	04:42				1597	30 min Casing Test/ Starting Pressure 1597 psi
23	Casing Test	11/6/2020	04:52				1605	10 min check pressure was 1606 psi
24	Casing Test	11/6/2020	05:02				1584	20 min check, Pressure was 1584 psi
25	Casing Test	11/6/2020	05:12				1571	30 min check, Pressure was 1571 psi
26	Check Floats	11/6/2020	05:13					Check Floats/ 3/4 bbl back
27	Safety Meeting	11/6/2020	05:15					Pre Rig down Safety Meeting with Crew
28	Rig Down	11/6/2020	05:30					Crew rigged Down Treating Lines and Equipment
29	Depart Location	11/6/2020	06:30					Crew Departed Location

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	62 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	180	0-1000
Total Hardness	120 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	0 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

## 4 Pump Diagrams

