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# **Great Western Operating Company, LLC**

## **SURFACE POST JOB REPORT**

### **JOB PURPOSE: PRIMARY**

**Tower LD 19-379HC 05-001-10303**  
**S:21 T:1S R:67W Adams CO**

CallSheet #: 75443  
Proposal #: 50638



**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	2021	40
Casing	Inner	9.625	8.921	36	0	2021	0

### 1.2 Equipment / People

Unit Type	Unit
Pneumatic Trailer	FTF-152
Pneumatic Trailer	FTF-031
Field Storage Silo	CTS-454
Field Storage Silo	CTS-440
Cement Pump	CPF-184
Light Duty Trailers	FIF-159

### 1.3 Timing

Event	Date/Time
Call Out	11/15/2020 09:00
Depart Facility	11/15/2020 10:00
On Location	11/15/2020 12:00
Rig Up Iron	11/15/2020 12:10
Job Started	11/15/2020 17:08
Job Completed	11/15/2020 19:42
Rig Down Iron	11/15/2020 19:50
Depart Location	11/15/2020 20:30

### 1.4 Casing Equipment

Type	Description	Qty	MD	TVD
Bow Spring Centralizers	9.625"	19		
Landing/Float Collar	9.625"	1	1977	1976
Float Shoe	9.625"	1	2021	2021

#### • 1.4.1 Casing Equipment-Centralizer Depths

Surface Centralizers, 38.47, 80.61, 162.77, 287.27, 413.03, 539.37, 665.76, 790.22, 916.02, 1037.58, 1158.29, 1278.82, 1399.26, 1519.63, 1644.15, 1768.52, 1894.93, 1935.18, 2004.8

## 1.5 General Job Information

Metrics	Value
Well Fluid Density	8.4 lb/gal
Well Fluid Type	Water
Rig Circulation Vol	476 bbls
Rig Circulation Time	40 hours
Calculated Displacement	152.8 bbls
Actual Displacement	152.8 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	32 bbls
Well Topped Out	No
Top Out Volume	0 bbls

## 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	49 °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		1000.00	247.62	1390	0
1	3	Fresh Water	Displacement Final	8.34			42.00		152.80		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	Callout	11/15/2020	09:00					Crew called out, requested on location at 14:00
2	Safety Meeting	11/15/2020	10:00					Talked with the American Cementing Crew about the hazards of driving to location.
3	Depart For Location	11/15/2020	10:05					Crew departed for location
4	Arrive On Location	11/15/2020	12:00					Crew arrived on location and talked about the hazards of spotting in equipment.
5	Safety Meeting	11/15/2020	12:05					Talked with crew about the hazards of rigging up water bulk and iron lines.
6	Rig Up Iron	11/15/2020	12:10					Crew rigged up
7	Waiting	11/15/2020	13:00					Waited for rig to finish Running casing and to circulating the well. Pre-job temperature was 50 Degrees F.
8	Safety Meeting	11/15/2020	16:50					Talked with American Cementing Crew and rig Crews about the hazards of pumping the job.
9	Fill Lines	11/15/2020	17:08	8.33	4	5	50	Pump 5 bbls water ahead to fill lines for the pressure test.
10	Shutdown	11/15/2020	17:09	8.33			0	Shutdown to line out valves for pressure test
11	Pressure Test Lines	11/15/2020	17:10	8.33			2650	Pressure Test AC lines to 2500 PSI. Bad test, the chicksan was not tight all the way and was leaking.
12	Pressure Test Lines	11/15/2020	17:20	8.33			2700	Pressure Test AC lines to 2500 PSI. Good test, no leaks.
13	Pump Spacer	11/15/2020	17:30	8.33	4	20	150	Pump 20 bbls water spacer with blue dye
14	Pump Cement	11/15/2020	17:37	14.5	5	0	350	Mix and Pump 1000 total sacks of ACem Cement at 14.5 lb/gal, 1.39 cuft/sk and 6.81 gals/sk from Silo 6 and 26
15	Pump Cement	11/15/2020	18:04	14.5	5	124	350	Switch to Silo 6 with 124 bbls away.
16	Shutdown	11/15/2020	18:29	14.5	0	248	0	Shutdown to drop top plug and line out valves for displacement.
17	Pump Displacement	11/15/2020	18:33	8.33	5	0	200	Pump 152.8 bbls water displacement with Biocide and O2 scavenger.
18	Pump Displacement	11/15/2020	18:46	8.33	5	50	400	50bbls away.
19	Pump Displacement	11/15/2020	18:55	8.33	5	90	650	Blue dye to surface
20	Pump Displacement	11/15/2020	19:00	8.33	5	118	900	Cement to surface
21	Slow Pump Rate	11/15/2020	19:05	8.33	3	141	950	Slow Rate to 3 bpm
22	Land Plug	11/15/2020	19:10	8.33	0	152.8	1750	Land plug, bring pressure up to psi for 30 min casing test. FCP was 950 psi
23	Test Casing	11/15/2020	19:20	8.33	0	152.8	1749	10 min into casing test.
24	Test Casing	11/15/2020	19:30	8.33	0	152.8	1731	20 min into casing test.
25	Test Casing	11/15/2020	19:40	8.33	0	152.8	1723	30 min into casing test.
26	Check Floats	11/15/2020	19:42					Floats held with 1 bbl back
27	Safety Meeting	11/15/2020	19:45					Talked with AC Crew about the hazards of rigging down.
28	Rig Down Iron	11/15/2020	19:50					Rig Down
29	Safety Meeting	11/15/2020	20:25					Talked with AC Crew about the hazards of driving back to the yard.



Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
30	Depart Location	11/15/2020	20:30					Job Completed, no issues. Crew Departed Location.

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	75 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	140	0-1000
Total Hardness	50 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	5 mg/L	0-300 mg/L



## 4 Pump Diagrams

