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# **Great Western Operating Company, LLC**

## **SURFACE POST JOB REPORT**

### **JOB PURPOSE: PRIMARY**

Tower LD 19-302HC 05-001-10292  
S:21 T:1S R:67W Adams CO

CallSheet #: 75413  
Proposal #: 50635



**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	2031	40
Casing	Inner	9.625	8.921	36	0	2031	0

## 1.2 Equipment / People

Unit Type	Unit
Field Storage Silo	CTS-454
Pneumatic Trailer	CTF-021
Pneumatic Trailer	FUF-308
Field Storage Silo	CTS-442
Cement Pump	CPF-184
Light Duty Trailers	FIF-159

## 1.3 Timing

Event	Date/Time
Call Out	11/12/2020 16:00
Depart Facility	11/12/2020 17:00
On Location	11/12/2020 18:30
Rig Up Iron	11/12/2020 18:50
Job Started	11/12/2020 21:00
Job Completed	11/12/2020 23:55
Rig Down Iron	11/13/2020 00:00
Depart Location	11/13/2020 01:00

## 1.4 Casing Equipment

Type	Description	Qty	MD	TVD
Bow Spring Centralizers	9.625"	19		
Landing/Float Collar	9.625"	1	1987	1986
Float Shoe	9.625"	1	2031	2030

### • 1.4.1 Casing Equipment-Centralizer Depths

Surface Centralizers, 40.81, 82.92, 163.37, 284.03, 404.76, 525.47, 647.95, 772.11, 897.87, 1023.06, 1147.48, 1273.1, 1399.48, 1523.96, 1650.32, 1776.7, 1903.09, 1945.22, 2014.8

## 1.5 General Job Information

Metrics	Value
Well Fluid Density	8.4 lb/gal
Well Fluid Type	Water
Rig Circulation Vol	357 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	153.5 bbls
Actual Displacement	153.5 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	49 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	28 °F

## 1.8 Circulation

<b>Lost Circulation Experienced</b>
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		153.50		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	11/12/2020	16:00					Customer calls with an O/L time of 20:00 on 11/12/20
2	Leave Yard	11/12/2020	17:00					Leave yard to travel to location
3	Arrive On Location	11/12/2020	18:30					Arrive on location, rig is running casing
4	Safety Meeting	11/12/2020	18:35					Pre-rig up safety meeting, before spotting trucks
5	Spot Trucks	11/12/2020	18:45					Spot trucks on location
6	Rig Up	11/12/2020	18:50					Rig up bulk, water, and high-pressure line
7	Waiting	11/12/2020	20:00					Waiting on rig to finish running casing (Job time temp 25 deg)
8	Safety Meeting	11/12/2020	20:40					Pre-job safety meeting with AC crew, rig crew, and company man
9	Rig Up	11/12/2020	20:50					Rig up cement head
10	Fill Lines	11/12/2020	21:00	8.34	5	5	130	Load pumps and lines
11	Pressure Test	11/12/2020	21:03	8.34	0	0	2900	Test pumps and lines
12	Pump Spacer	11/12/2020	21:15	8.34	5	20	156	Pump 20 bbls of fresh water + Dye ahead of cement
13	Pump Cement	11/12/2020	21:20	14.5	5	247	250	Pump 1,000 sks of cement @14.5 ppg (247 bbls) Yield: 1.39 Mix Water: 6.81 (Silo CTS-453, and Silo CTS-6)
14	Drop Top Plug	11/12/2020	22:13					Shut down and drop top plug
15	Pump Displacement	11/12/2020	22:21	8.34	5	0	170	Send plug start freshwater displacement + Chems (provided by customer)
16	Pump Displacement	11/12/2020	22:32	8.34	5	50	350	Fresh water + Chems displacement
17	Dye To Surface	11/12/2020	22:36	8.34	5	70	450	Start getting dye to surface
18	Cement To Surface	11/12/2020	22:43	8.34	5	104	900	Getting good cement to surface (49 bbls of cement to surface)
19	Pump Displacement	11/12/2020	22:48	8.34	3	130	900	Drop rate to land the plug
20	Shut Down	11/12/2020	22:56	8.34	3	153.5	642	Shut down at 153.5 bbls away, did not land the plug, Company man wants to bleed off pressure, pump back what we get back, plus another 1 bbl if needed
21	Bleed Off	11/12/2020	22:58	8.34	0	0		Bleed off pressure, 1 bbl back
22	Pumping	11/12/2020	22:59	8.34	3	1	825	start pumping again to land plug, Plug landed as soon as we pumped the 1 bbl we got back (153.5 bbls pumped)
23	Land Plug	11/12/2020	23:00	8.34	0	0	1736	30 min into casing test
24	Bleed Off Pressure	11/12/2020	23:06	8.34	0	0	0	Crossover from the cement head to the casing is leaking, bleed off pressure and rig up circulating swedge for the casing test
25	Test Casing	11/12/2020	23:16	8.34	0.5	1	1400	Pressure up for casing test
26	Shut down	11/12/2020	23:19	8.34	0	0	0	Shut down, bleed off pressure, small leak on the circulating swedge
27	Test Casing	11/12/2020	23:21	8.34	0.5	1	1701	Pressure back up after fixing the leak, start casing test
28	Test Casing	11/12/2020	23:31	8.34	0	0	1667	10 min into casing test
29	Test Casing	11/12/2020	23:41	8.34	0	0	1666	20 min into casing test
30	Test Casing	11/12/2020	23:51	8.34	0	0	1671	30 min into casing test
31	Check Floats	11/12/2020	23:52	8.34	0	0	0	Floats held (1 bbl back)



Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
32	Safety Meeting	11/13/2020	00:00					Pre-rig down safety meeting
33	Rig Down	11/13/2020	00:05					Rig down
34	Leave Location	11/13/2020	01:15					Leave Location to travel back to yard

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	76 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	500 mg/L	0-3000 mg/L
Total Alkalinity	100	0-1000
Total Hardness	0 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	250 mg/L	0-1500 mg/L
Potassium	0 mg/L	0-3000 mg/L
Iron	50 mg/L	0-300 mg/L



## 4 Pump Diagrams

