



Great Western Operating Company, LLC

SURFACE POST JOB REPORT

JOB PURPOSE: PRIMARY

Tower LD 19-302HN 05-001-10312
S:21 T:1S R:67W Adams CO

CallSheet #: 75428
Proposal #: 50636



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

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

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

Table of Contents

1 Job Details & Summary	3
1.1 Geometry	3
1.2 Equipment / People	3
1.3 Timing	3
1.4 Casing Equipment	3
• 1.4.1 Casing Equipment-Centralizer Depths	3
1.5 General Job Information	4
1.6 Job Details	4
1.7 Job Details (cont.)	4
1.8 Circulation	4
1.9 Job Execution Information	4
1.10 Job Fluid Details	4
2 Job Logs	5
3 Water Analysis	6
4 Pump Diagrams	7

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	2026	40
Casing	Inner	9.625	8.921	36	0	2026	0

1.2 Equipment / People

Unit Type	Unit
Field Storage Silo	CTS-454
Field Storage Silo	CTS-446
Pneumatic Trailer	FUF-308
Pneumatic Trailer	CTF-021

1.3 Timing

Event	Date/Time
Call Out	11/13/2020 13:00
Depart Facility	11/13/2020 15:05
On Location	11/13/2020 17:00
Rig Up Iron	11/13/2020 17:10
Job Started	11/13/2020 19:56
Job Completed	11/13/2020 22:17
Rig Down Iron	11/13/2020 22:25
Depart Location	11/13/2020 23:00

1.4 Casing Equipment

Type	Description	Qty	MD	TVD
Bow Spring Centralizers	9.625"	19		
Landing/Float Collar	9.625"	1	1982	1981
Float Shoe	9.625"	1	2026	2026

1.4.1 Casing Equipment-Centralizer Depths

Surface Centralizers, 40.84, 83, 162.69, 282.43, 402.99, 522.84, 643.13, 763.22, 887.71, 1014.1, 1140.48, 1266.88, 1393.29, 1519.02, 1645.39, 1771.68, 1898.05, 1940.18, 2009.8

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	30 hours
Calculated Displacement	153.3 bbls
Actual Displacement	153.3 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	40 bbls
Well Topped Out	N/A
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	46 °F

1.8 Circulation

Lost Circulation Experienced
No

1.9 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft ³ /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		153.20		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	11/13/2020	13:00					Crew called out, requested on location at 18:00
2	Safety Meeting	11/13/2020	15:00					Talked with the American Cementing Crew about the hazards of driving to location.
3	Depart For Location	11/13/2020	15:05					Crew departed for location
4	Arrive On Location	11/13/2020	17:00					Crew arrived on location and talked about the hazards of spotting in equipment.
5	Safety Meeting	11/13/2020	17:05					Talked with crew about the hazards of rigging up water bulk and iron lines.
6	Rig Up Iron	11/13/2020	17:10					Crew rigged up
7	Waiting	11/13/2020	18:00					Waited for rig to finish Running casing and to circulating the well.
8	Safety Meeting	11/13/2020	19:30					Talked with American Cementing Crew and rig Crews about the hazards of pumping the job.
9	Fill Lines	11/13/2020	19:56	8.33	5	5	200	Pump 5 bbls water ahead to fill lines for the pressure test.
10	Shutdown	11/13/2020	19:58	8.33			0	Shutdown to line out valves for pressure test
11	Pressure Test Lines	11/13/2020	19:59	8.33			2600	Pressure Test AC lines to 2500 PSI.
12	Pump Spacer	11/13/2020	20:10	8.33	5	20	160	Pump 20 bbls water spacer with blue dye
13	Pump Cement	11/13/2020	20:14	14.5	5	0	197	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
14	Pump Cement	11/13/2020	20:42	14.5	5	124	178	Switch to Silo 6 with 124 bbls away.
15	Shutdown	11/13/2020	21:03	14.5	0	248	0	Shutdown to drop top plug and line out valves for displacement.
16	Pump Displacement	11/13/2020	21:09	8.33	5	0	125	Pump 153.3 bbls water displacement with Biocide and O2 scavenger.
17	Pump Displacement	11/13/2020	21:22	8.33	7	50	400	50bbls away.
18	Pump Displacement	11/13/2020	21:30	8.33	7	90	600	Blue dye to surface
19	Pump Displacement	11/13/2020	21:35	8.33	7	113	750	Cement to surface
20	Slow Pump Rate	11/13/2020	21:40	8.33	3	143	800	Slow Rate to 3 bpm
21	Land Plug	11/13/2020	21:45	8.33	0	153.2	1632	Land plug, bring pressure up to psi for 30 min casing test. FCP was 945 psi
22	Test Casing	11/13/2020	21:55	8.33	0	153.2	1636	10 min into casing test.
23	Test Casing	11/13/2020	22:05	8.33	0	153.2	1606	20 min into casing test.
24	Test Casing	11/13/2020	22:15	8.33	0	153.2	1593	30 min into casing test.
25	Check Floats	11/13/2020	22:17					Floats held with 1 bbl back
26	Safety Meeting	11/13/2020	22:20					Talked with AC Crew about the hazards of rigging down.
27	Rig Down Iron	11/13/2020	22:25					Rig Down
28	Safety Meeting	11/13/2020	22:55					Talked with AC Crew about the hazards of driving back to the yard.
29	Depart Location	11/13/2020	23:00					Job Completed, no issues. Crew Departed Location.

3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	77 °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	0 mg/L	0-300 mg/L

4 Pump Diagrams

