



Great Western Operating Company, LLC

SURFACE POST JOB REPORT

JOB PURPOSE: PRIMARY

Tower LD 19-342HNX 05-001-10289
S:21 T:1S R:67W Adams CO

CallSheet #: 75439
Proposal #: 50637



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@americacementing.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	2003	40
Casing	Inner	9.625	8.921	36	0	2003	0

1.2 Equipment / People

Unit Type	Unit
Cement Pump	CPF-184
Light Duty Trailers	FIF-159
Pneumatic Trailer	CTF-021
Pneumatic Trailer	FUF-308
Field Storage Silo	CTS-454
Field Storage Silo	CTS-440

1.3 Timing

Event	Date/Time
Call Out	11/14/2020 10:00
Depart Facility	11/14/2020 12:00
On Location	11/14/2020 14:00
Rig Up Iron	11/14/2020 14:10
Job Started	11/14/2020 17:58
Job Completed	11/14/2020 20:22
Rig Down Iron	11/14/2020 20:30
Depart Location	11/14/2020 21:00

1.4 Casing Equipment

Type	Description	Qty	MD	TVD
Bow Spring Centralizers	9.625"	19		
Landing/Float Collar	9.625"	1	1959	1958
Float Shoe	9.625"	1	2003	2003

• 1.4.1 Casing Equipment-Centralizer Depths

Surface Centralizers, 41.13, 83.27, 165.66, 285, 405.25, 525.28, 645.86, 766.24, 890.74, 1015.12, 1135.79, 1262.26, 1388.65, 1513.2, 1635.87, 1756.54, 1876.95, 1917.17, 1986.8

1.5 General Job Information

Metrics	Value
Well Fluid Density	8.4 lb/gal
Well Fluid Type	Water
Rig Circulation Vol	428 bbls
Rig Circulation Time	12/30/1899 12:42:00 AM hours
Calculated Displacement	151.4 bbls
Actual Displacement	151.4 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	33 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	31 °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		151.40		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	11/14/2020	10:00					Crew called out, requested on location at 16:00
2	Safety Meeting	11/14/2020	11:55					Talked with the American Cementing Crew about the hazards of driving to location.
3	Depart For Location	11/14/2020	12:00					Crew departed for location
4	Arrive On Location	11/14/2020	14:00					Crew arrived on location and talked about the hazards of spotting in equipment.
5	Safety Meeting	11/14/2020	14:05					Talked with crew about the hazards of rigging up water bulk and iron lines.
6	Rig Up Iron	11/14/2020	14:10					Crew rigged up
7	Waiting	11/14/2020	15:00					Waited for rig to finish Running casing and to circulating the well. Pre-job temperature was 35 Degrees F.
8	Safety Meeting	11/14/2020	17:46					Talked with American Cementing Crew and rig Crews about the hazards of pumping the job.
9	Fill Lines	11/14/2020	17:58	8.33	5	5	150	Pump 5 bbls water ahead to fill lines for the pressure test.
10	Shutdown	11/14/2020	18:01	8.33			0	Shutdown to line out valves for pressure test
11	Pressure Test Lines	11/14/2020	18:02	8.33			2650	Pressure Test AC lines to 2500 PSI.
12	Pump Spacer	11/14/2020	18:12	8.33	5	20	190	Pump 20 bbls water spacer with blue dye
13	Shutdown	11/14/2020	18:18	14.5	5	0	0	Shut down to mix up cement tub.
14	Pump Cement	11/14/2020	18:20	14.5	5	0	230	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	11/14/2020	18:42	14.5	5	124	350	Switch to Silo 6 with 124 bbls away.
16	Shutdown	11/14/2020	19:09	14.5	0	248	0	Shutdown to drop top plug and line out valves for displacement.
17	Pump Displacement	11/14/2020	19:15	8.33	5	0	250	Pump 153.3 bbls water displacement with Biocide and O2 scavenger.
18	Pump Displacement	11/14/2020	19:27	8.33	7	50	400	50bbls away.
19	Pump Displacement	11/14/2020	19:34	8.33	7	90	650	Blue dye to surface
20	Pump Displacement	11/14/2020	19:40	8.33	7	118	850	Cement to surface
21	Slow Pump Rate	11/14/2020	19:45	8.33	3	141	950	Slow Rate to 3 bpm
22	Land Plug	11/14/2020	19:50	8.33	0	151.3	1710	Land plug, bring pressure up to psi for 30 min casing test. FCP was 980 psi
23	Test Casing	11/14/2020	20:00	8.33	0	151.3	1714	10 min into casing test.
24	Test Casing	11/14/2020	20:10	8.33	0	151.3	1705	20 min into casing test.
25	Test Casing	11/14/2020	20:20	8.33	0	151.3	1688	30 min into casing test.
26	Check Floats	11/14/2020	20:22					Floats held with 1 bbl back
27	Safety Meeting	11/14/2020	20:25					Talked with AC Crew about the hazards of rigging down.
28	Rig Down Iron	11/14/2020	20:30					Rig Down
29	Safety Meeting	11/14/2020	20:55					Talked with AC Crew about the hazards of driving back to the yard.
30	Depart Location	11/14/2020	21:00					Job Completed, no issues. Crew Departed Location.

3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	72 °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	25 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	10 mg/L	0-300 mg/L

4 Pump Diagrams

