



# **Great Western Operating Company LLC LONG STRING POST JOB REPORT**

**SELTZER LD 09-376HN 05-001-10197  
S:4 T:1S R:67W Adams CO**

CallSheet #: 77523  
Proposal #: 53771



## LONG STRING Post Job Report

**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,

**Scott Pollard**

Sr. Account Manager | (303) 249-6761 | [scott.pollard@americacementing.com](mailto:scott.pollard@americacementing.com)

**Field Office**      1716 E Allison Rd, Cheyenne, WY 82007  
Phone: (307) 414-0049

## Job Details & Summary

### Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Top (ft)	Bottom (ft)	Excess (%)
Casing	Outer	9.625	8.921	36	0	2052	0
Open Hole	Outer	n/a	8.5	n/a	2052	2500	0
Open Hole	Outer	n/a	8.5	n/a	2500	18175	7
Casing	Inner	5.5	4.778	20	0	18175	0

### Equipment / People

Unit Type	Unit
Field Storage Silo	FSS(CTS)-436
Field Storage Silo	FSS(CTS)-440
Field Storage Silo	FSS(CTS)-442
Field Storage Silo	FSS(CTS)-458
AS Cement Trailer Float	CTF(FUF)-308
AS Cement Trailer Float	CTF-9309
Cement Trailer Float	CTF-278
AS Cement Trailer Float	CTF-018
AS Cement Trailer Float	CTF-7145
Cement Trailer Float	CTF-193
Cement Trailer Float	CTF-202
Cement Pump Float	CPF-183
Cement Pump Float	CPF-184
Cement Utility Float	CUF(FIF)-163
Cement Trailer Float	CTF-003
Cement Utility Float	CUF(FIF)-159

### Timing

Event	Date/Time
Call Out	7/14/2021 17:00
Depart Facility	7/14/2021 19:00
On Location	7/14/2021 22:00
Rig Up Iron	7/14/2021 22:30
Job Started	7/15/2021 03:19
Job Completed	7/15/2021 05:33
Rig Down Iron	7/15/2021 05:40
Depart Location	7/15/2021 07:30

### General Job Information

Metrics	Value
Well Fluid Density	11 lb/gal
Well Fluid Type	OBM
Rig Circulation Vol	1500 bbls
Rig Circulation Time	2.5 hours
Calculated Displacement	403 bbls
Actual Displacement	403 bbls
Total Spacer to Surface	63 bbls

### Casing Equipment

Type	Description	Qty	MD	TVD
Centralizers		147		
Landing/Float Collar	5.5"		18,170	7,704
Float Shoe	5.5"		18,175	7,704

- **Casing Equipment-Centralizer Depths**

Production Centralizer Depths: 2022.76, 2068.01, 2111.61, 2156.88, 2202.16, 2247.41, 2292.65, 2337.64, 2383.17, 2428.44, 2473.46, 2518.71, 2564, 2609.26, 2654.5, 2699.82, 2745.07, 2790.33, 2835.61, 2880.85, 2926.11, 2971.37, 3016.64, 3061.9, 3107.2, 3152.17, 3197.07, 3242.36, 3287.6, 3332.9, 3378.15, 3423.45, 3468.73, 3513.99, 3559.24, 3604.5, 3649.72, 3687.93, 3733.23, 3778.49, 3823.77, 3869.06, 3914.36, 3959.63, 4004.64, 4049.92, 4095.2, 4139.86, 4185.15, 4230.43, 4268.65, 4313.93, 4359.21, 4397.43, 4442.73, 4488.04, 4533.34, 4578.65, 4623.91, 4668.9, 4714.21, 4759.46, 4804.76, 4850.04, 4895.33, 4940.64, 4985.86, 5031.16, 5076.46, 5121.74, 5166.98, 5211.84, 5255.32,
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5300.56, 5387.41, 5432.6, 5477.85, 5523.14, 5568.37, 5613.62, 5658.88, 5704.12, 5749.37, 5794.67, 5839.92, 5885.17, 5930.45, 5975.73, 6021.02, 6066.27, 6110.38, 6153.88, 6199.1, 6244.34, 6289.63, 6334.89, 6380.11, 6425.38, 6470.66, 6515.95, 6561.21, 6606.48, 6651.75, 6697.06, 6742.37, 6787.64, 6832.93, 6878.22, 6923.11, 6968.37, 7013.6, 7058.85, 7104.16, 7149.43, 7194.69, 7239.95, 7296.49, 7341.78, 7387, 7432.29, 7477.59, 7522.9, 7568.19, 7613.46, 7658.76, 7704.03, 7749.26, 7794.57, 7839.77, 7885.07, 7930.35, 7975.59, 8020.87, 8066.17, 8111.47, 8156.7, 8201.99, 8247.2, 8292.49, 8337.75, 8394.37, 8439.69, 8484.89, 8530.19, 8575.49, 8620.79, 8696.4

### Job Details

Metrics	Value
Flare Prior to Job	Yes
Flare Prior to Job	4051 units
Flare During Job	Yes
Flare During Job	1967 units
Flare at End of Job	No
Well Full Prior to Job	Yes
Well Fluid Density Into Well	11 lb/gal
Well Fluid Density Out of Well	11 lb/gal

### Job Details (cont.)

Metrics	Value
BHCT	190 °F
BHST	210 °F
Ambient Temperature	66 °F

### Circulation

Lost Circulation Experienced
No

### Job Execution Information

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 (cuft)	Designed Top (ft)
1	WBM Spacer	Spacer	12.0			41.20		120.00		0
2	Fresh Water	Spacer	8.34			42.00		40.00		1599
3	ACem P50.6.02C	Tail	14.50	1.48	6.66		2625.00	692.41	3885.00	2500
4	Retarded Water	Displacement	8.34			41.90		20.00		17328
5	3% KCL with Chems	DisplacementFinal	8.34			42.00		384.00		0

### Job Fluid Details

Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	Flush	WBM Spacer	Surfactant, S-801c	Surfactant	0.80	gal/bbl
3	Tail	ACem P50.6.02C	CLASS G	Cement	50.00	%
3	Tail	ACem P50.6.02C	FLY ASH (ROCKIES)	Extender	50.00	%
3	Tail	ACem P50.6.02C	EC-2	BondEnhancer	3.00	%BWOB
3	Tail	ACem P50.6.02C	FL-24	FluidLoss	0.30	%BWOB
3	Tail	ACem P50.6.02C	FL-66	FluidLoss	0.30	%BWOB
3	Tail	ACem P50.6.02C	FP-24	Defoamer	0.30	%BWOB
3	Tail	ACem P50.6.02C	GW-86	Viscosifier	0.05	%BWOB
3	Tail	ACem P50.6.02C	S-8	StrengthRetroggression	20.00	%BWOB
3	Tail	ACem P50.6.02C	SR-20	Retarder	0.05	%BWOB
3	Tail	ACem P50.6.02C	STATIC FREE	Other	0.01	lb/sk
4	Displacement	Retarded Water	SR-61L	Retarder	0.10	gal/bbl

## Job Logs

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Cumulative Pump Volume (bbls)	Pipe Pressure (psi)	Annular Pressure (psi)	Comment
1	Call Out	7/14/2021	17:00						AC Crew Called Out/ On Location Time of 23:00
2	Depart for Location	7/14/2021	19:00						AC Crew Left Yard For Location
3	Arrive On Location	7/14/2021	22:00						Crew Arrived on Location/ Checked and verified mix water and cement
4	Safety Meeting	7/14/2021	22:10						Pre Rig Up Safety Meeting with Crew
5	Rig Up	7/14/2021	22:15						Crew Rigged up Treating equipment and lines.
6	Waiting	7/15/2021	01:20						Crew Waiting on Rig to circulate
7	Safety Meeting	7/15/2021	02:20						Safety Meeting with Rig Crew, and Company Representatives
8	Rig Pump Diesel	7/15/2021	02:39		10	40	1615		Rig Pump 40 bbl. Diesel
9	Rig Pump Spacer	7/15/2021	02:43	12	8	120	1140		Rig Pump 120 bbl. Spacer
10	Rig Pump Water	7/15/2021	02:58	8.33	8	40	940		Rig Pump 40 bbl. Water
11	Rig up	7/15/2021	03:03						Rigged up AC Lines to well/ Drop Top Plug
12	Prime Up	7/15/2021	03:19	8.33	8	10	800		Prime Pump and Lines
13	Pressure Test	7/15/2021	03:21	8.33	0.5		5130		Pressure Test to 5130 psi
14	Pump Cement	7/15/2021	03:24	14.5	10	10	1800		Pump First 10 bbl. Of Cement/ Wet and Dry Sample Taken and verified/ Pump 184- silo 440, Pump 183-silo 436
15	Pump Cement	7/15/2021	03:34	14.5	10	100	1200		Pumped 100 bbl. Of Cement away/ Full Returns
16	Pump Cement	7/15/2021	03:44	14.5	10	200	600		Pumped 200 bbl. Of Cement away/ Full Returns/ getting 1700 units of gas back at 200 bbl. Of cmt pumped
17	Pump Cement	7/15/2021	03:54	14.5	10	300	600		Pumped 300 bbl. Of Cement away/ Full Returns/ Wet Sample Taken and verified/ getting 1900 units of gas
18	Silo Change	7/15/2021	03:55	14.5	10	312	600		Pump 184 changed to silo-458, Pump 183 changed to silo-442
19	Pump Cement	7/15/2021	04:04	14.5	10	400	700		Pumped 400 bbl. Of Cement away/ full Returns/ getting 1954 units of gas
20	Shear Bottom Plug	7/15/2021	04:06	14.5	10	412	700		Sheared Bottom Plug at 412 bbl. Pumped/ Pressure was 700 psi and sheared at 2100 psi/ Pressure dropped back to 800 psi
21	Pump Cement	7/15/2021	04:14	14.5	10	500	800		Pumped 500 bbl. Of Cement away/ Full Returns/ getting 1967 units of gas



Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Cumulative Pump Volume (bbls)	Pipe Pressure (psi)	Annular Pressure (psi)	Comment
22	Pump Cement	7/15/2021	04:24		10	600	900		Pumped 600 bbl. Of Cement away/ Full Returns
23	Rate Change	7/15/2021	04:28	14.5	6	640			Pump 183 shutdown at 640 away/ rate changed to 6 bpm/ 183 washing up to pit
24	Shutdown	7/15/2021	04:37			692.41			Pumped a total of 692.41 bbl. Of tail cement @ 14.5 ppg/ 2625 sks, yield 1.48, 6.66 gal/sk, 416 mx wtr/ Est. top of cmt 1332'/ wash pump 184 to pit
25	Pump Displacement	7/15/2021	04:45	8.4	10	20	600		Pump First 20 bbl. Of Fresh water Displacement with SR-61L / Full Returns
26	Pump Displacement	7/15/2021	04:56	8.4	10	100	2000		Pumped 100 bbl. Of KCL Displacement with Chemical throughout/ Full Returns
27	Pump Displacement	7/15/2021	05:06	8.4	10	200	3000		Pumped 200 bbl. Of KCL Displacement with Chemical throughout/ Full Returns
28	Pump Displacement	7/15/2021	05:17	8.4	10	300	3300		Pumped 300 bbl. Of KCL Displacement with Chemicals throughout / Full Returns
29	Spacer to Surface	7/15/2021	05:21		10	340	3500		Spacer to Surface at 340 bbl. Of Displacement pumped/ 63 bbl. Of spacer to surface
30	Rate Change	7/15/2021	05:25		5	380	2700		Slowed Rate to 5 bpm to land Plug
31	Land Plug	7/15/2021	05:29		5	404	2700		Land Plug at 404 bbl. Of Displacement pumped/ mFCP was 2700 psi and took to 3500 psi
32	Check Floats	7/15/2021	05:33						bleed back to 2700 psi to truck, got 1.5 bbl back/ bleed rest to trip tank, got 3.1 bbl back
33	Rig Down	7/15/2021	05:40						Crew Rigged Down Treating Lines and Equipment
34	Depart Location	7/15/2021	07:30						Crew Departed Location

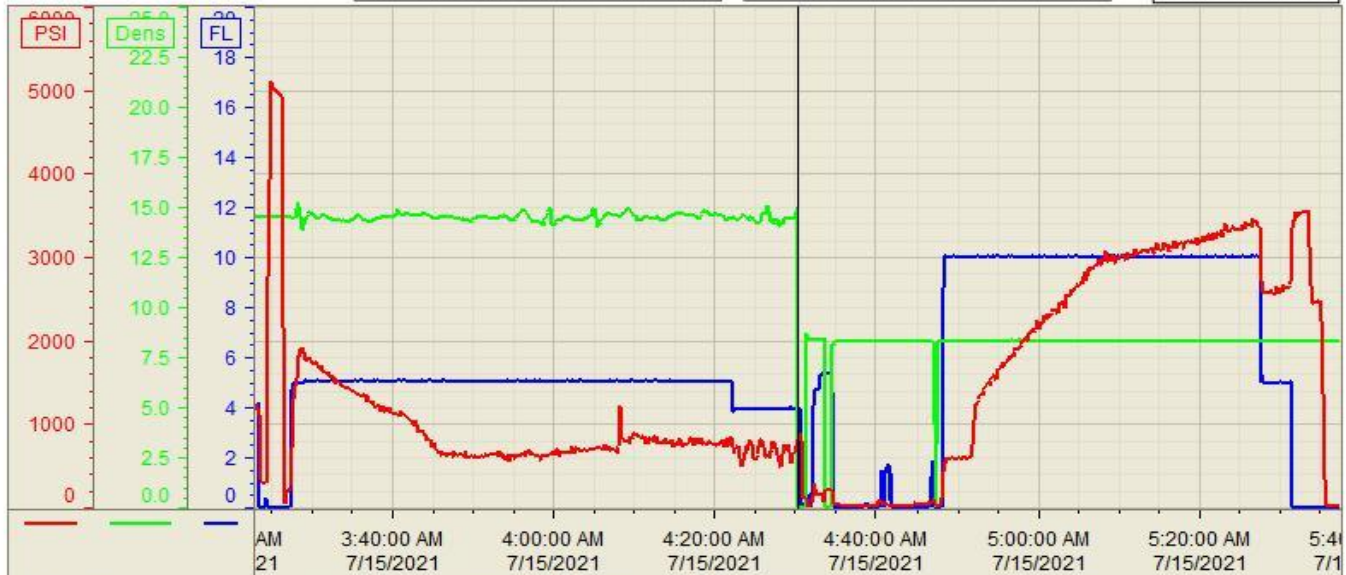
# Pump Diagrams

Pump 183

Customer: Great western  
Well Number: 09-376HN  
Lease Info: Seltzer LD

Stage	Sacks (sacks)	Water (gal/sack)	Slurry (cu.ft/sack)	Density (ppg)	Total (bbls)	Stage	Sacks (sacks)	Water (gal/sack)	Slurry	Density (ppg)	Total (bbls)
1	0.0	0.0	0.0	0.0	4000.0	6	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	7	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	8	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	9	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0						

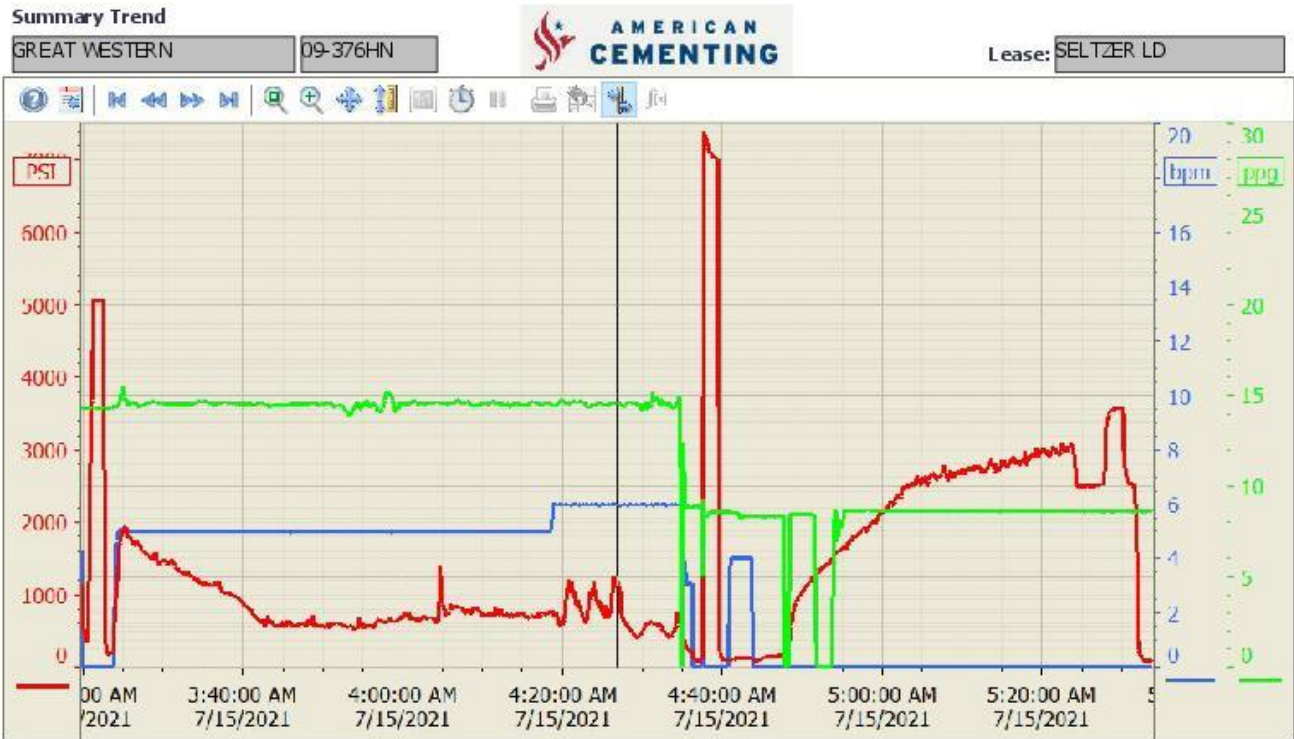
Print Date/Time  
7/15/2021 6:02:58 AM



Name	Y value	X value/time stamp	Tag name Y
1 DS - Press (PSI)	760.9 i.	7/15/2021 4:30:18 AM i.	CementerDS_DISCHARGE_PRESS_DIAL
2 Den - Density (PPG)	14.98	7/15/2021 4:30:19 AM	CementerDENSITY_ACTUAL_RATE
3 Pump Rate	3.94	7/15/2021 4:30:21 AM	CementerFlow_Combined
4			
5			

Source: Control1 6:02:58 AM

Pump 184



7/15/2021 6:05:44 AM

