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# **Great Western Operating Company, LLC**

## **SURFACE POST JOB REPORT**

**Marcus LD 11-363HN 05-123-43992**  
**S:34 T:1N R:67W Weld CO**

CallSheet #: 654  
Proposal #: 13055



**SURFACE Post Job Report**

**Attention:** Mr. Matt Mount | (303) 398-0373 | mmount@gwogco.com  
Great Western Operating Company, LLC  
1801 Broadway, Suite 500 | Denver, CO 80202

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Dear Mr. Mount,

Thank you for the opportunity to provide cementing services on this well. BJ Services strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact BJ Services at any time.

Sincerely,

**Nick Stille**

Technical Specialist - I | (307) 286-0815 | nick.stille@bjservices.com

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

**Sales Office**      475 17th St. Suite 460 Denver Co., 80202  
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## 1 Job Details & Summary

### 1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Open Hole	Outer	n/a	13.5	n/a	n/a	0	1700	25
Casing	Inner	9.625	8.921	36	n/a	0	1700	0

### 1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Cement Pump	105	Cook, John	200
Bulk Trailer	502	Hyde, Tyson	200
Bulk Trailer	506		200
Light Duty Pickups	3	Boyd, Brian	200
Plug Container	150521		200
Swage	150540		200

### 1.3 Timing

Event	Date/Time
Call Out	3/20/2017 17:00
Depart Facility	3/20/2017 18:00
On Location	3/20/2017 20:30
Rig Up Iron	3/20/2017 22:00
Job Started	3/21/2017 00:59
Job Completed	3/21/2017 03:00
Rig Down Iron	3/21/2017 03:10
Depart Location	3/21/2017 04:30

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	300 bbls
Rig Circulation Time	1 hours
Calculated Displacement	128 bbls
Actual Displacement	128 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	28 bbls
Well Topped Out	No

### 1.5 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	9 lb/gal
Well Fluid Density Out of Well	8.33 lb/gal

### 1.6 Job Details (cont.)

Metrics	Value
BHCT	88 °F
BHST	109 °F

### 1.7 Circulation

Lost Circulation Experienced
No



### 1.8 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)	Top (ft)
1	1	Water	Flush	8.33			42.00		20.00	0
1	2	ALTCem S100-22	Primary	14.50	1.39	6.76		761.00	188.17	0
1	3	Water	DisplacementFinal	8.33			42.00		129.00	0

### 1.9 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom	Start (gal)	End (gal)	Used (gal)
1	2	Primary	ALTCem S100-22	AC3-10	Cement	100.00	%			
1	2	Primary	ALTCem S100-22	ADF-20	Defoamer	0.03	gal/sk			10



## 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	Call Out	3/20/2017	17:00					Customer requested crew to be on location at 22:00
2	Depart Shop	3/20/2017	18:00					Crew departs shop
3	Arrive On Location	3/20/2017	20:30					Crew arrives on location and meets with customer to get numbers
4	Safety Meeting	3/20/2017	21:50					Safety meeting with BJ crew over spotting equipment and rigging up iron and hoses
5	Rig Up Iron	3/20/2017	22:00					Rig up iron and hoses
6	Waiting	3/20/2017	22:45					Waiting on rig to run casing
7	Rig Lands Casing	3/21/2017	00:30					Rig lands casing and circulates bottom ups
8	Safety Meeting	3/21/2017	00:45					Safety meeting with BJ, company man and rig crew over job and hazards
9	Fill Lines	3/21/2017	00:59	8.33	2	3	30	Fill pumps and lines
10	Pressure Test	3/21/2017	01:00	8.33	0.5	0.5	3500	Pressure test iron and head to 3500 PSI
11	Pump Spacer	3/21/2017	01:04	8.33	2	20	120	Pump 20 bbls of spacer with red dye
12	Pump Cement	3/21/2017	01:15	14.5	6	188	350	Pump 188 bbls of primary cement (761 Sks, 1.39 Yield, 6.76 Gals/sks, 14.5 PPG)
13	Shut Down	3/21/2017	02:22					Shut down pumping
14	Drop Plug	3/21/2017	02:27					Drop top plug and verify with company man plug went down hole
15	Pump Displacement	3/21/2017	02:30	8.33	7	128	230	Pump 128 bbls of fresh water displacement
16	Cement To Surface	3/21/2017	02:35	14.5	7	100	700	Got 28 bbls of cement back to surface
17	Slow Rate	3/21/2017	02:38	8.33	2.5	120	850	At 120 bbls away slow rate to 2.5 bpm
18	Land Plug	3/21/2017	02:42			128	1400	Landed plug at 128 bbls bump up to 1400 PSI
19	Casing Test	3/21/2017	02:45	8.33	0.5	0.5	2500	Pressure up to 2500 PSI and hold for 15 mins
20	Check Floats	3/21/2017	03:00					Bleed back and got 2 bbls back to pump
21	Safety Meeting	3/21/2017	03:05					Safety meeting with BJ crew over rigging down
22	Rig Down	3/21/2017	03:10					Rig down iron and hoses



23	Depart Location	3/21/2017	04:30					Crew departs from location
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### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	68 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	80	0-1000
Total Hardness	70 mg/L	0-500 mg/L
Carbonates	140 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	450 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

## 4 Pump Diagrams

