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# **Great Western Operating Company, LLC**

## **SURFACE POST JOB REPORT**

Marcus LD 11-368HN 05-123-44036  
S:34 T:1N R:67W Weld CO

CallSheet #: 636  
Proposal #: 13048



**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,

**Oscar Medrano**

Technical Specialist-II | (307) 996-6222 | Oscar.Medrano@bjservices.com

**Field Office**      1716 East Allison Rd., Cheyenne WY, 82007  
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**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
Light Duty Pickups	3	Boyd, Brian	200
Bulk Trailer	508	Mathews, Travis	200
Bulk Trailer	509		

### 1.3 Timing

Event	Date/Time
Call Out	3/15/2017 23:00
Depart Facility	3/15/2017 23:30
On Location	3/16/2017 02:00
Rig Up Iron	3/16/2017 02:10
Job Started	3/16/2017 07:05
Job Completed	3/16/2017 09:16
Rig Down Iron	3/16/2017 09:25
Depart Location	3/16/2017 10:30

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	100 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	128 bbls
Actual Displacement	128 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	33 bbls

### 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	-	-	15

## 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	3/15/2017	23:00					Customer requested crew to be on location at 5:00
2	Depart Shop	3/15/2017	23:30					Crew departs shop
3	Arrive On Location	3/16/2017	02:00					Arrive on location and meet with customer and get numbers
4	Safety Meeting	3/16/2017	02:05					Meeting with BJ crew on spotting equipment and rigging up
5	Rig Up Iron	3/16/2017	02:10					Rig up iron and hoses
6	Waiting	3/16/2017	03:00					Waiting on rig to run casing
7	Rig Lands Casing	3/16/2017	06:30					Rig lands casing and circulates
8	Safety Meeting	3/16/2017	07:00					Safety meeting with BJ crew, company man and rig crew over job and hazards
9	Fill Lines	3/16/2017	07:05	8.33	2	3	30	Fill pumps and lines



10	Pressure Test	3/16/2017	07:08	8.33	0.5	0.5	3500	Pressure test iron and head to 3500 PSI
11	Pump Spacer	3/16/2017	07:11	8.33	2	20	125	Pump 20 bbls of spacer with red dye
12	Pump Cement	3/16/2017	07:20	14.5	6	188	340	Pump 188 bbls of 14.5 PPG primary cement (761 Sks, 1.39 Yield, 6.76 Gals/Sks, 14.5 PPG)
13	Shut Down	3/16/2017	08:01					Shut Down pumping, while shut down pump 1 bbls of water to clear line of cement to replace Kelly hose on floor that was getting gouged out. Discussed with company man about swapping out and pressure test line after landing the plug
14	Drop Plug	3/16/2017	08:14					Drop plug and verify with company man plug went down
15	Pump Displacement	3/16/2017	08:15	8.33	7	128	500	Pump 128 bbls of fresh water displacement
16	Cement To Surface	3/16/2017	08:40	14.5	7	95	780	At 100 bbls into displacement got 33 bbls of cement to surface
17	Slow Rate	3/16/2017	08:49	8.33	2.5	120	855	At 120 bbls away slow rate to 2.5 bpm
18	Land Plug	3/16/2017	08:54			128	1500	Land plug at 128 bbls FCP 855 PSI and bump up to 1500 PSI
19	Casing Test	3/16/2017	09:01	8.33	0.5	0.5	2500	Perform casing test, pressure up to 2500 PSI and hold for 15 mins
20	Check Floats	3/16/2017	09:16					Check floats and got 2 bbls back
21	Safety Meeting	3/16/2017	09:20					Safety meeting with BJ crew over rigging down iron
22	Rig Down Iron	3/16/2017	09:25					Rig down iron and hoses
23	Depart Location	3/16/2017	10:30					Crew departs from location

### 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

