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# Great Western Operating Company, LLC

## SURFACE POST JOB REPORT

Marcus LD 11-367HC 05-123-44038  
S:34 T:1N R:67W Weld CO

CallSheet #: 639  
Proposal #: 13049



**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,

**Zen Keith**

Technical Specialist-II | (307) 757-7178 | Zen.Keith@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	1716	25
Casing	Inner	9.625	8.921	36	n/a	0	1716	0

### 1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Cement Chemical	402	Fuentes, Orlando	172
Cement Pump	102	Cook, John	172
Bulk Trailer	502	Matthews, Travis	172
Bulk Trailer	501		172
Light Duty Pickups	7		172

### 1.3 Timing

Event	Date/Time
Call Out	3/17/2017 03:00
Depart Facility	3/17/2017 05:00
On Location	3/17/2017 08:00
Rig Up Iron	3/17/2017 08:30
Job Started	3/17/2017 10:30
Job Completed	3/17/2017 12:00
Rig Down Iron	3/17/2017 12:30
Depart Location	3/17/2017 14:00

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	8.6 lb/gal
Well Fluid Type	WBM
Calculated Displacement	127.9 bbls
Actual Displacement	128 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	35 bbls
Well Topped Out	No
Top Out Volume	0 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	8.6 lb/gal
Well Fluid Density Out of Well	8.6 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		128.00	0

### 1.9 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Primary	ALTCem S100-22	AC3-10	Cement	100.00	%
1	2	Primary	ALTCem S100-22	ADF-20	Defoamer	0.03	gal/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	3/17/2017	03:00					BJ Services Crew Gets Called Out
2	Depart Facility	3/17/2017	05:00					BJ Services Crew Departs Location
3	Arrive On Location	3/17/2017	08:00					BJ Services Crew Arrives On location
4	Pre Rig Up Meeting	3/17/2017	08:30					BJ Services Crew Had A Pre Rig Up Meeting
5	Rig Up	3/17/2017	08:30					BJ Services Crew Rigged Up Pump And Iron
6	Waiting	3/17/2017	09:00					Waiting On Safety Meeting
7	Safety Meeting	3/17/2017	10:00					BJ Services Crew Had A Safety Meeting With Rig Hands And Company Man - Went Over Job Procedure
8	Pressure Test	3/17/2017	10:32				3500	Pressure Test Lines To 3500 Psi
9	Pump Spacer	3/17/2017	10:36	8.33	4	20	69	Pumped 20 BBL Of Fresh Water W/Dye At 4 BPM W/69 PSI
10	Pump Cement	3/17/2017	10:40	14.5	6	189	82	Pumped 189 BBL ( 761 Sks 14.5 PPG 1.39 Yld 6.76 G/Sk ) Of Primary Cement At 6 BPM W/82 PSI
11	Shut Down	3/17/2017	11:17					Shut Down Pumping Cement
12	Drop Plug	3/17/2017	11:18					Dropped Top Plug With Company Man
13	Start Displacement	3/17/2017	11:19	8.33	7		338	Start H2o Displacement At 7 BPM W/338 PSI
14	Cement To Surface	3/17/2017	11:35	8.33	7	93	347	At 93 BBL Away Into Displacement Got Cement To Surface At 7 BPM W/347 PSI
15	Slow Down Rate	3/17/2017	11:38	8.33	2.5	120	451	At 120 BBL Away Into Displacement Slow Down Rate To 2.5 BPM W/451 PSI
16	Land Plug	3/17/2017	11:42	8.33	2.5	128	650	Land Plug At 128 BBL Away Final Circ Pressure Was 650 PSI Bumped Plug To 1150 PSI, 40 bbl cmt back.
17	Casing Test	3/17/2017	11:44				2426	Pressure Up Well To 2426 Psi For Casing Test Hold for 15 Min
18	Check Floats	3/17/2017	12:00				2440	Check Floats Final Pressure On Casing Test Was 2440 Psi Got 1 BBL Back
19	Pre Rig Down Meeting	3/17/2017	12:30					BJ Services Crew Had A Pre Rig Down Meeting
20	Rig Down	3/17/2017	12:30					BJ Services Crew Rigged Down Pump And Iron
21	Depart Location	3/17/2017	14:00					BJ Services Crew Departs Location

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	53 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	56 mg/L	0-3000 mg/L
Total Alkalinity	120	0-1000
Total Hardness	>375 mg/L	0-500 mg/L
Carbonates	140 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	250 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

### 4 Pump Diagrams

