



Great Western Operating Company, LLC

SURFACE POST JOB REPORT

Marcus LD 11-365HC 05-123-43993
S:34 T:1N R:67W Weld CO

CallSheet #: 648
Proposal #: 13053



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

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

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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
Bulk Trailer	502		180
Cement Pump	103	Montoya, Hector	180
Light Duty Pickups	8	Hyde, Andrew	180
Bulk Trailer	506		180

1.3 Timing

Event	Date/Time
Call Out	3/19/2017 06:00
Depart Facility	3/19/2017 08:00
On Location	3/19/2017 09:30
Rig Up Iron	3/19/2017 11:00
Job Started	3/19/2017 16:30
Job Completed	3/19/2017 17:48
Rig Down Iron	3/19/2017 18:00
Depart Location	3/19/2017 18:45

1.4 General Job Information

Metrics	Value
Well Fluid Density	8.8 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	28 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	8.8 lb/gal
Well Fluid Density Out of Well	8.8 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 ³ /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
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	Call Out	3/19/2017	06:00					BJ crew got called out requested on location at 12:00
2	Arrive on Location	3/19/2017	09:30					Arrive on location
3	Safety Meeting	3/19/2017	10:30					BJ crew talked about the hazards of spotting in equipment and rigging up
4	Rig Up	3/19/2017	11:00					Rig up
5	Waiting	3/19/2017	12:00					Wait for rig crew to finish running casing
6	Safety Meeting	3/19/2017	16:00					BJ and rig crew talked about the hazards of pumping the job
7	Fill Lines	3/19/2017	16:30	8.33	2	3	50	Pump 3 bbls to fill lines
8	Pressure Test	3/19/2017	16:32					Pressure test pumps and lines to 3000 psi
9	Pump Spacer	3/19/2017	16:34	8.33	2	20		Pump 20 bbls of red dye water spacer
10	Pump Cement	3/19/2017	16:40	14.5	7	188	300	Mix up and pump 761 sks of S100-22 primary cement at 14.5 ppg, yield 1.39, 6.76 gal/sk, 188 bbls
11	Shutdown	3/19/2017	17:09					Shutdown to line out manifold to drop top plug
12	Drop Top Plug	3/19/2017	17:10					Drop Top Plug, company man witness plug leave manifold
13	Pump Displacement	3/19/2017	17:12	8.33	7	118	450	Pump 128 bbls of water displacement with biocide
14	Slow Rate	3/19/2017	17:31	8.33	2	10	750	Slow rate the last 10 bbls to 2 bpm
15	Bump Plug	3/19/2017	17:32					Bump plug at 750 psi, took it up to 1310 psi
16	Casing Test	3/19/2017	17:34					Pressure up to 2400 psi for 15 min
17	Check Floats	3/19/2017	17:48					Got 1 bbls back to the truck
18	Safety Meeting	3/19/2017	17:50					BJ crew talked about the hazards of rigging down
19	Rig Down	3/19/2017	18:00					Rig down
20	Depart Location	3/19/2017	18:44					Depart location
21	Other	3/19/2017	18:45					Got 28 bbls cement to surface

3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	60 °F	50-80 °F
pH Level	6	5.5-8.5
Chlorides	56 mg/L	0-3000 mg/L
Total Alkalinity	120	0-1000
Total Hardness	>250 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	6 mg/L	0-300 mg/L

4 Pump Diagrams

