



Caerus

SURFACE POST JOB REPORT

Chevron 21B-17 05-045-23241
S:17 T:6S R:96W Garfield CO

CallSheet #: 933
Proposal #: 13414



SURFACE Post Job Report

Attention: Mr. Steve Schmitz | (720) 880-6412 | sschmitz@caerusoilandgas.com

Caerus

600 17th Street Suite 1600N | Denver, CO 80202

Dear Mr. Schmitz,

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

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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	100	700	10
Open Hole	Outer	n/a	13.5	n/a	n/a	700	1020	0
Open Hole	Outer	n/a	15.5	n/a	n/a	0	100	0
Casing	Inner	9.625	8.921	36	LTC	0	1002	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Bulk Trailer	501	Valenzuela, Yannick	60
Bulk Trailer	E535		60
Cement Pump	104	Groneman, Josh	60
Cement Chemical	401		60
Light Duty Pickups	3	Casciato, Luke	60

1.3 Timing

Event	Date/Time
Call Out	6/22/2017 15:00
Depart Facility	6/22/2017 17:00
On Location	6/22/2017 17:30
Rig Up Iron	6/22/2017 20:00
Job Started	6/23/2017 00:15
Job Completed	6/23/2017 01:41
Rig Down Iron	6/23/2017 02:00
Depart Location	6/23/2017 03:00

1.4 General Job Information

Metrics	Value
Well Fluid Density	9.4 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	80 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	74 bbls
Actual Displacement	74 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	20 bbls
Well Topped Out	No



1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	15
Yield Point	10
10 sec. SGS	4
10 min. SGS	11
30 min. SGS	28
Filtrate	1
Flow Line Temp.	92

1.6 Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	No
Flare at End of Job	No
Well Full Prior to Job	No
Well Fluid Density Into Well	9.4 lb/gal
Well Fluid Density Out of Well	9.4 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	86 °F
BHST	109 °F

1.8 Circulation

Lost Circulation Experienced
No

1.9 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft ³ /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sk)	Volume (bbl)	Top (ft)
1	1	Water	Flush	8.33			42.00		20.00	0
1	2	ALTCem S100-12	Lead	12.00	2.53	14.85		107.00	48.00	0
1	3	ALTCem S100-12	Tail	12.50	2.22	12.58		118.00	46.73	504
1	4	Water	DisplacementFinal	8.33			42.00		74.00	0
1	5	ALTCem S100-12	Topout	12.50	2.22	12.58		100.00	39.60	0



1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Lead	ALTCem S100-12	AC3-10	Cement	100.00	%
1	2	Lead	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	2	Lead	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	2	Lead	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	2	Lead	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	2	Lead	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk
1	3	Tail	ALTCem S100-12	AC3-10	Cement	100.00	%
1	3	Tail	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	3	Tail	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	3	Tail	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	3	Tail	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	3	Tail	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk
1	5	Topout	ALTCem S100-12	AC3-10	Cement	100.00	%
1	5	Topout	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	5	Topout	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	5	Topout	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	5	Topout	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	5	Topout	ALTCem S100-12	AXE-30	Extender	2.00	lb/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	6/22/2017	15:00					Crew was called out to Caerus 21B-17 Surface.
2	Pre-Convoy Safety Meeting	6/22/2017	16:30					Crew conducted Journey Management.
3	Depart Facility	6/22/2017	17:00					Crew departs facility, heads to Caerus location.
4	Arrive on Location	6/22/2017	17:30					Crew arrives on location.
5	Assess Location	6/22/2017	17:45					Crew conducts walk around of location in order to see how to spot equipment in.
6	Spot Equipment	6/22/2017	19:30					Crew spots in all equipment for surface job
7	Pre-Rig Up Safety Meeting	6/22/2017	19:45					Crew conducted STEACS prior to rig up
8	Rig Up	6/22/2017	20:00					Crew Rigs up all iron and fittings
9	Other	6/22/2017	23:30					Rig Landed 9.625", J55 36# casing at 23:30, circulated for 30 minutes for a total of 80 bbl. 5bpm 300psi.
10	Safety Meeting	6/22/2017	23:45					BJ Crew, Rig Crew, Costumer Representative conducted STEACS briefing, discussed job procedure.
11	Start Job	6/23/2017	00:15					Crew begins job.
12	Fill Lines	6/23/2017	00:22	8.33	2	2	50	Pumped 2 bbl of h2o in order to fill lines for pressure test.
13	Pressure Test	6/23/2017	00:25				3000	Pressure tested all lines to Plug container to 3000psi. Pressure held, bled back to truck
14	Pump Spacer	6/23/2017	00:31	8.33	2	20	70	pumped 20 bbl of h2o spacer at 2bpm in order to mix lead cmt. Full returns
15	Pump Lead	6/23/2017	00:37	12	5	48	150	Mixed and pumped 48bbl of lead cmt at 12ppg (107sks, 2.53yld, 14.85gl/sk), at 5bpm. Full returns
16	Pump Tail	6/23/2017	00:49	12.5	5	46.6	150	Mixed and pumped 46.6 bbl of tail cmt at 12.5ppg (118sks, 2.22yld, 12.58gl/sk), at 5bpm. Full Returns
17	Shutdown	6/23/2017	01:04					Shutdown in order to drop top plug
18	Drop Top Plug	6/23/2017	01:06					Dropped top plug
19	Begin Displacement	6/23/2017	01:07	8.33	3	10	50	Pumped 10 bbl of Displacement at 3bpm in order to wash tub.



20	Increase Rate	6/23/2017	01:11	8.33	5	54	350	Pumped 54 bbl of h2o at 5bpm, 350 psi. Full returns
21	Slow Rate	6/23/2017	01:24	8.33	2	10	250	Slowed rate to 2bpm in order to land top plug.
22	Land Plug	6/23/2017	01:26				1500	Landed plug at 300psi, bumped to 1500psi for 15min casing test. Received 20 bbl of cmt to surface.
23	Check Floats	6/23/2017	01:41					Floats held, .5 bbl in return.
24	Pre-Rig Down Safety Meeting	6/23/2017	01:50					Crew conducted STEACS briefing.
25	Rig Down	6/23/2017	02:00					Crew rigs down all iron and fittings
26	Pre-Convoy Safety Meeting	6/23/2017	02:45					Crew conducted Journey Management.
27	Depart Location	6/23/2017	03:00					Crew departs location, heads to facility.

3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	60 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	250	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	0 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

