



Caerus

SURFACE POST JOB REPORT

Puckett 25B-23 697 05-045-23394
S:23 T:6S R:97W Garfield CO

CallSheet #: 988
Proposal #: 13461



SURFACE Post Job Report

Attention: Mr. Steve Schmitz | (720) 880-6412 | sschmitz@caerusoilandgas.com
Caerus
1001 17th Street, Suite 1600 | 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,

Zen Keith

Technical Specialist-II | (307) 757-7178 | Zen.Keith@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	14.75	n/a	n/a	100	2000	25
Open Hole	Outer	n/a	14.75	n/a	n/a	2000	2550	0
Casing	Outer	20	19.5	53	n/a	0	120	0
Casing	Inner	9.625	8.921	36	LTC	0	2532	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Silo	651			40
Silo	S-25			40
Cement Pump	104	Boyd, Brian		40
Bulk Trailer	E949	Hamm, Robert		40
Cement Chemical	403	Gonzalez, Omar		40
Light Duty Pickups	#3	Helton, Shane	Henrie, Bambii	40

1.3 Timing

Event	Date/Time
Call Out	7/7/2017 15:40
Depart Facility	7/7/2017 16:35
On Location	7/7/2017 18:25
Rig Up Iron	7/7/2017 18:50
Job Started	7/8/2017 00:15
Job Completed	7/8/2017 03:20
Rig Down Iron	7/8/2017 10:00
Depart Location	7/8/2017 11:30

1.4 General Job Information

Metrics	Value
Well Fluid Density	8.34 lb/gal
Well Fluid Type	Water
Rig Circulation Vol	202 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	192.6 bbls
Actual Displacement	189.3 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	26 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	No
Well Fluid Density Into Well	8.34 lb/gal
Well Fluid Density Out of Well	0 lb/gal

1.6 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F



1.7 Circulation

Lost Circulation Experienced
Yes

Circulation Details:

While drilling surface they lost returns and never got them back. We had no return during our cement job.

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	Sodium Silicate	Flush	10.00			21.00		20.00	0
1	3	Water	Flush	8.33			42.00		20.00	0
1	4	ALTCem S100-12	Lead	12.00	2.53	14.85		703.00	316.33	0
1	5	ALTCem S100-12	Tail	12.50	2.22	12.58		162.00	64.15	2033
1	6	Water	DisplacementFinal	8.33			42.00		192.60	0
1	7	ALTCem S100-12	Topout	12.50	2.22	12.58		66.00	26.00	0

1.9 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Flush	Sodium Silicate	ASF-10	Extender	21.00	gal/bbl
1	4	Lead	ALTCem S100-12	AC3-10	Cement	100.00	%
1	4	Lead	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	4	Lead	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	4	Lead	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	4	Lead	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	4	Lead	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk
1	5	Tail	ALTCem S100-12	AC3-10	Cement	100.00	%
1	5	Tail	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	5	Tail	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	5	Tail	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	5	Tail	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	5	Tail	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk
1	7	Topout	ALTCem S100-12	AC3-10	Cement	100.00	%
1	7	Topout	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	7	Topout	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	7	Topout	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	7	Topout	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	7	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	7/7/2017	15:40					Call out
2	Journey Management	7/7/2017	16:20					Journey Management
3	Leave Facility	7/7/2017	16:35					Depart Facility
4	Arrive On Location	7/7/2017	18:25					Arrived on Location
5	Steac Briefing	7/7/2017	18:40					Steac Briefing before rig up
6	Rig Up Iron	7/7/2017	18:50					Rig up iron
7	Wait on Rig	7/7/2017	19:15					Wait on Rig
8	Casing on Bottom	7/7/2017	23:30					Casing landed
9	Steac Briefing	7/7/2017	23:50					Steac Briefing pre job
10	load line	7/8/2017	00:15	8.34	3	5	90	Load line
11	Pressure test	7/8/2017	00:18				3200	Pressure test to 3000 psi
12	Fresh Water Spacer	7/8/2017	00:23	8.34	5	15	90	Start Fresh water spacer
13	Sodium Silicate	7/8/2017	00:29	10	4	20	100	Start Sodium Silicate
14	Fresh Water Spacer	7/8/2017	00:34	8.34	5	20	109	Start Fresh water spacer
15	Lead Slurry	7/8/2017	00:42	12	5		150	Lead Slurry
16	Lead Slurry	7/8/2017	00:51	12	5	50	146	50 Bbls lead pumped
17	Lead Slurry	7/8/2017	01:01	12	5	100	160	100 Bbls Lead pumped
18	Lead Slurry	7/8/2017	01:11	12	5	150	150	150 Bbls lead pumped
19	Lead Slurry	7/8/2017	01:22	12	5	200	150	200 Bbls lead pumped
20	Lead Slurry	7/8/2017	01:33	12	5	250	190	250 Bbls lead pumped
21	Lead Slurry	7/8/2017	01:42	12	4	300	100	300 Bbls lead pumped
22	Lead Slurry	7/8/2017	01:47	12	4	315	100	315 Bbls lead pumped
23	Tail Slurry	7/8/2017	01:49	12.5	5		156	Tail Slurry 2032 Top of tail
24	Tail Slurry	7/8/2017	01:58	12.5	5	50	191	50 Bbls tail pumped
25	Tail Slurry	7/8/2017	02:02	12.5	4	64	170	64 Bbls tail pumped
26	Shut Down	7/8/2017	02:04					Shut down
27	Dropped Plug	7/8/2017	02:08					Drop plug
28	Displacement	7/8/2017	02:10	8.34	6		125	Start Displacement
29	Displacement	7/8/2017	02:16	8.34	6	50	150	50 Bbls pumped
30	Displacement	7/8/2017	02:30	8.34	6	130	164	130 Bbls pumped
31	Displacement	7/8/2017	02:39	8.34	6	180	175	180 Bbls pumped
32	Slow Rate	7/8/2017	02:39	8.34	2	189	143	189 Bbls pumped
33	Land plug	7/8/2017	02:43				1523	Landed Plug
34	Casing Test	7/8/2017	02:43				1523	Start casing test
35	Check Float	7/8/2017	02:53					Returned 1 Bbl
36	Pumped down Parasite	7/8/2017	03:13	8.34	2	10	885	Pumped 10 Bbls Sugar Water
37	Wait 4 hours to start	7/8/2017	03:30					Wait 4 hours to start topping out well
38	Rig up to backside	7/8/2017	07:15					Rig up backside and sodium silicate



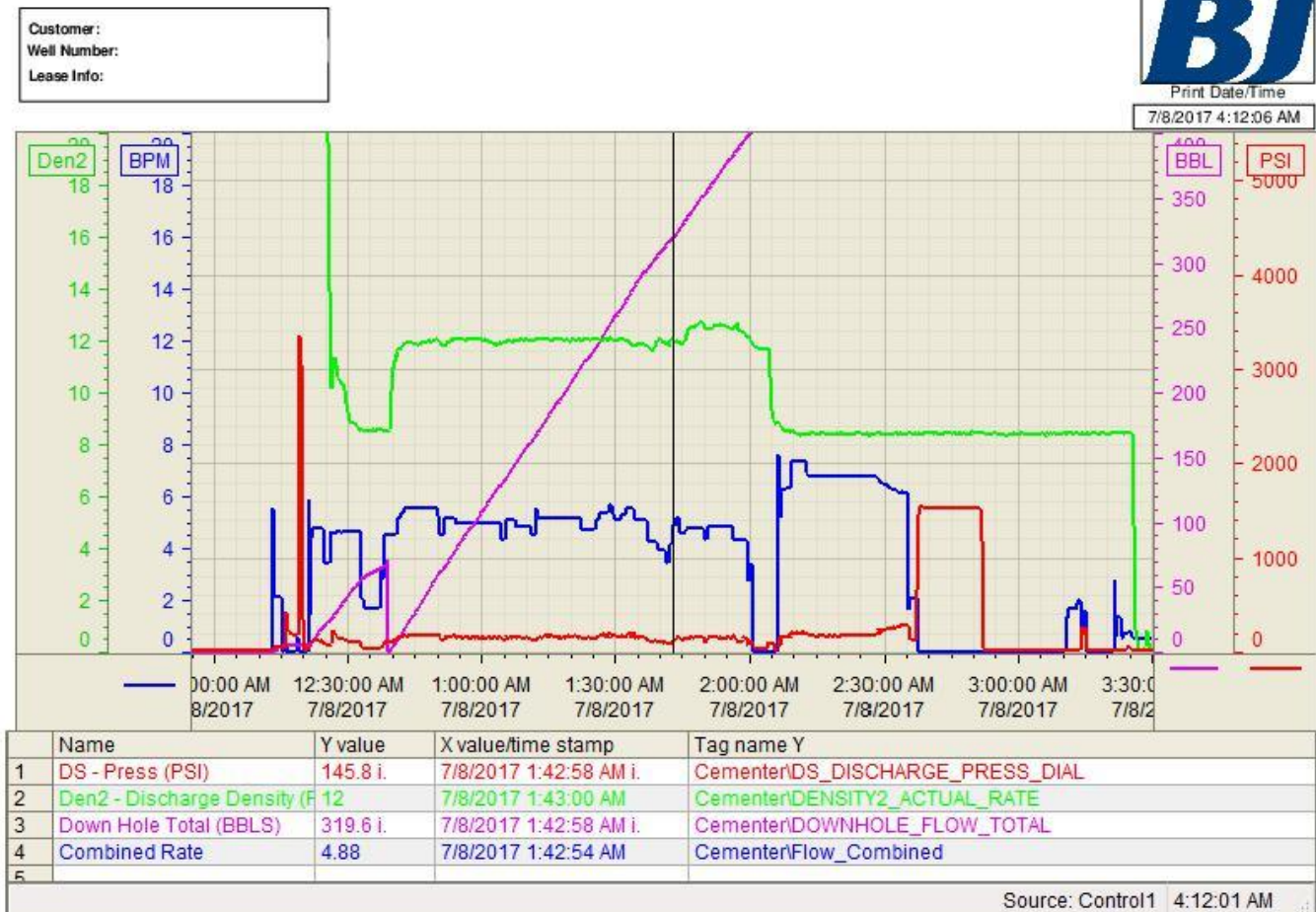
39	Calcium Chloride	7/8/2017	08:16	8.4	2	10	36	Started calcium chloride spacer
40	Fresh Water Spacer	7/8/2017	08:23	8.34	2	3	60	Started fresh water spacer
41	Batch up slurry	7/8/2017	08:30	12.5				Batch up top out slurry
42	Start top out slurry	7/8/2017	08:33	12.5	2	24	23	Pumped 66 sks cement to surface
43	Wait 1 hour	7/8/2017	08:40					Wait 1 hour
44	Job Complete	7/8/2017	09:40					Complete

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	0 mg/L	0-3000 mg/L
Total Alkalinity	120	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	n/a mg/L	0-100 mg/L
Sulfates	200 mg/L	0-1500 mg/L
Potassium	1500 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams

Job Chart





Top Out Chart

