



Caerus

SURFACE POST JOB REPORT

Puckett 21A-26-697 05-045-23359
S:26 T:6S R:97W Garfield CO

CallSheet #: 734
Proposal #: 13184



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 (%)
Casing	Inner	9.625	8.835	40	LTC	0	2505	0
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	2532	0
Casing	Outer	20	19.5	53	n/a	0	100	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Light Duty Pickups	5	Chambers, Andrew	800
Cement Pump	104	Casciato, Luke	800
Silo	651	Nepgen, AJ	800
Silo	650	Dent, Jerod	800

1.3 Timing

Event	Date/Time
Call Out	4/23/2017 01:00
Depart Facility	4/23/2017 02:00
On Location	4/23/2017 05:00
Rig Up Iron	4/23/2017 06:32
Job Started	4/23/2017 07:53
Job Completed	4/23/2017 10:32
Rig Down Iron	4/23/2017 13:12
Depart Location	4/23/2017 16:20

1.4 General Job Information

Metrics	Value
Well Fluid Density	9.6 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	184 bbls
Rig Circulation Time	0.37 hours
Calculated Displacement	187.8 bbls
Actual Displacement	187.8 bbls
Total Spacer to Surface	60 bbls
Total CMT to Surface	30 bbls
Well Topped Out	Yes
Top Out Volume	4 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	22
Yield Point	16
10 sec. SGS	15
10 min. SGS	32
30 min. SGS	68
Filtrate	12
Flow Line Temp.	75

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	Yes
Well Fluid Density Into Well	9.6 lb/gal
Well Fluid Density Out of Well	9.6 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F

1.8 Circulation

Lost Circulation Experienced	Losses into Spacer	Losses into Cement	Losses into Displacement
Yes	-	-	1

Circulation Details:

Lost circulation at beginning of displacement

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 (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		161.00	63.76	2000
1	6	Water	DisplacementFinal	8.33			42.00		187.80	0
1	7	ALTCem S100-12	Topout	12.50	2.22	12.58		10.00	99.00	0

1.10 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	9	Topout	ALTCem S100-12	AC3-10	Cement	100.00	%
1	9	Topout	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	9	Topout	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	9	Topout	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	9	Topout	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	9	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	CALL OUT	4/23/2017	01:00					CREW CALLED OUT
2	PRE CONVOY	4/23/2017	01:45					DISCUSSED HAZARDS OF DRIVING
3	LEAVE YARD	4/23/2017	02:00					CREW LEFT YARD
4	ARRIVE AT LOCATION	4/23/2017	05:00					ARRIVE AT LOCATION, MET WITH CUSTOMER WENT OVER JOB DETAILS
5	SAFETY MEETING	4/23/2017	05:20					TALKED ABOUT HAZARDS OF LOCATION
6	PRE RIG UP SAFETY MEETING	4/23/2017	06:15					TALKED ABOUT HAZARDS OF RIG UP
7	RIG UP IRON	4/23/2017	06:32					RIGGED UP LOCATION
8	SAFETY MEETING	4/23/2017	07:30					DISCUSSED DETAILS OF DOING JOB SAFELY
9	FILL LINES	4/23/2017	07:53	8.33	2	3		PUMPED 3 BBL FRESH WATER
10	PRESSURE TEST	4/23/2017	07:54	8.33			3000	TESTED LINES TO 3000 PSI
11	SPACER	4/23/2017	07:56	8.33	5	20	250	PUMPED 20 BBL FRESH WATER SPACER
12	PUMP SODIUM SILLOCATE	4/23/2017	08:00	11.8	5	20	400	PUMPED 20 BBL OF 50/50 ASF-10
13	SPACER	4/23/2017	08:04	8.33	5	20	150	20 BBL FRESH WATER SPACER
14	PUMP LEAD CEMENT	4/23/2017	08:10	12	5	316	250	PUMPED 316BBL OF 12/LB LEAD CEMENT (2.53 CU/FT/SK, 14.85GAL/SK)
15	PUMP TAIL CEMENT	4/23/2017	09:19	12.5	4	33.8	175	PUMPED 63BBL/161SKS OF 12.5/LB TAIL CEMENT (2.22 CU/FT/SK, 12.58GAL/SK)
16	SLOW RATE	4/23/2017	09:36	12.5	2	30	50	SLOWED TO 2BBL/MIN WHEN GOT CEMENT TO SURFACE UNEXPECTEDLY
17	CONTINUE MIXING	4/23/2017	09:40	12.5	2			FINISHED MIXING AND PUMPING CALCULATED TAIL CEMENT, BELIEVE HOLE SWELLED
18	DROP PLUG	4/23/2017	09:50					PLUG LEFT CEMENTING HEAD
19	DISPLACE	4/23/2017	09:54	8.33	7	175	250	STARTED PUMPING 187.8 BBLS OF FRESH WATER DISPLACEMENT
20	SLOW RATE	4/23/2017	10:28	8.33	2	12	410	SLOWED RATE TO 2 BBL/MIN AT 175 BBL
21	BUMP PLUG	4/23/2017	10:32					BUMPED PLUG AT CALCULATED OF 187.8
22	CASING TEST	4/23/2017	10:33					TESTED CASING TEST TO 1500 PSI FOR 15 MIN



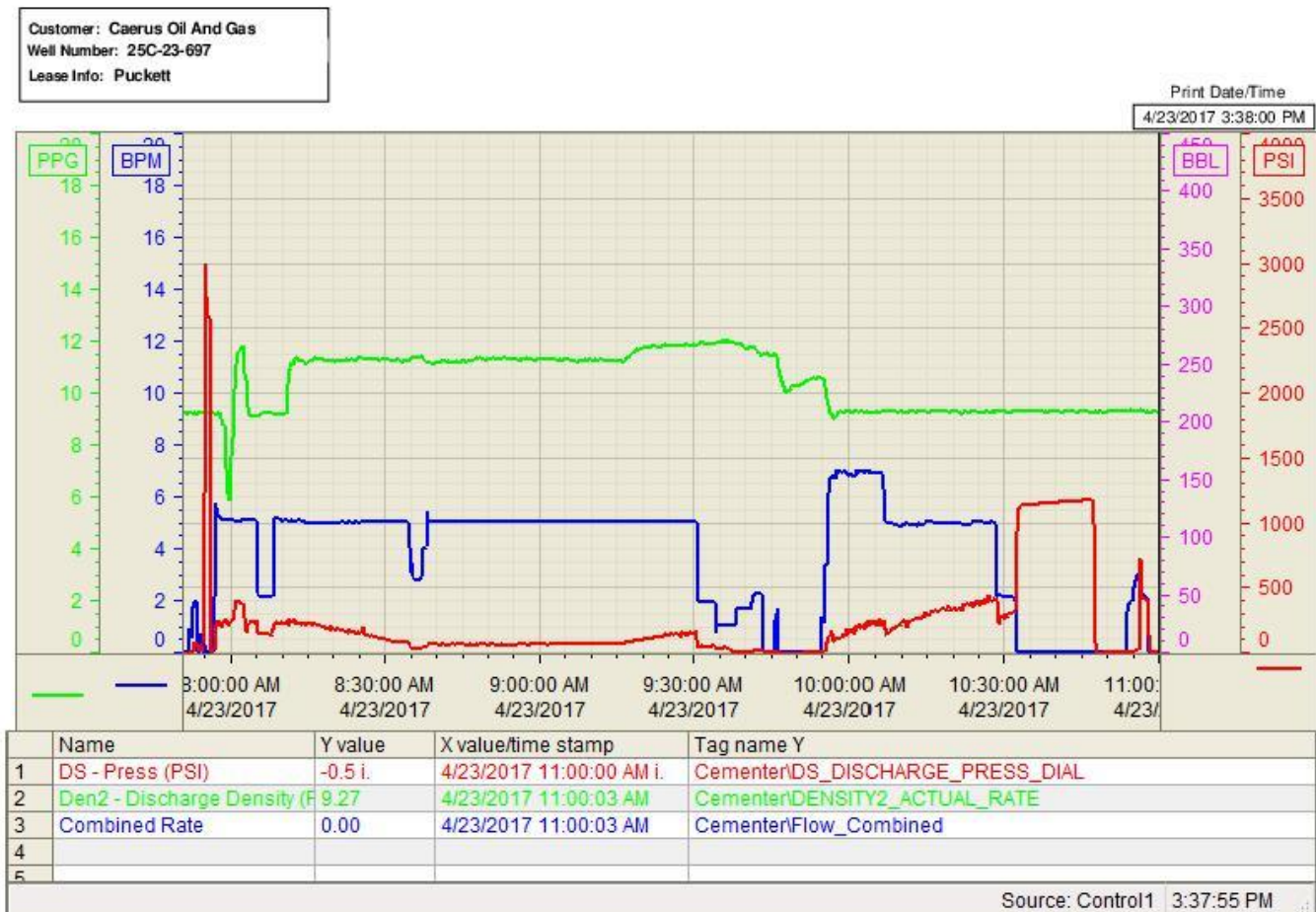
23	RELEASE PRESSURE	4/23/2017	10:48					RELEASED CASING TEST, TEST SUCCESSFUL
24	CHECK FLOATS	4/23/2017	10:49					FLOATS HELD 1 BBL BACK
25	PARASITE LINE	12/30/1899	10:53					PUMP 2 BBL SUGAR WATER LINE BROKE AT 1300 PSI WITH 6 BBL GONE CONTINUED PUMPING OTHER 4 BBL
26	SHUT DOWN	4/23/2017	10:57					WAIT 4 HOURS FOR TOP OUT
27	SAFETY MEETING	4/23/2017	14:00					DISCUSSED JOB DETAILS AND SAFETY
28	SPACER	4/23/2017	14:08	8.33	1.5	2.5		PUMPED 2.5 BBL OF CC WATER
29	SPACER	4/23/2017	14:11	10	1.5			PUMPED 15 GAL OF SODIUM SILLICATE
30	TOPOUT	4/23/2017	14:17	12.5	1.5	4.5	100	PUMPED 10SKS, 4.5BBL OF 12.5LB TOPOUT (2.22CUFT/FT12.58GAL/SK)
31	SAFETY MEETING	4/23/2017	14:45					DISCUSSED HAZARDS OF RIG DOWN
32	RIG DOWN	4/23/2017	14:55					RIGGED DOWN IRON
33	PRE CONVOY	4/23/2017	16:00					DISCUSSED HAZARDS OF DRIVING
34	DEPART LOCATION	4/23/2017	16:40					CREW DEPARTED LOCATION FOR SHOP

3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	72 °F	50-80 °F
pH Level	8	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	180	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	BELOW 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

Job Chart





Top Out

