



Caerus

PLUG AND ABANDON POST JOB REPORT

Puckett 25C-23-697 05-045-23365
S:26 T:6S R:97W Garfield CO

CallSheet #: 741
Proposal #: 13192



PLUG AND ABANDON 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,

Oscar Medrano

Technical Specialist-II | (307) 996-6222 | Oscar.Medrano@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 (%)
Casing	Outer	9.625	8.835	40	n/a	0	2500	0
Open Hole	Outer	n/a	8.75	n/a	n/a	2500	4845	20
DrillPipe	Inner	5	4.276	19.5	n/a	0	4500	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Bulk Trailer	506	Henderson, Ethan	Nepgen, AJ	800
Cement Pump	104	Casciato, Luke	Groneman, Josh	800
Light Duty Pickups	5	Dent, Jerod		800
Cement Chemical	401	Staples, Anthony		800

1.3 Timing

Event	Date/Time
Call Out	4/20/2017 00:00
Depart Facility	4/20/2017 18:30
On Location	4/20/2017 19:00
Rig Up Iron	4/20/2017 19:30
Job Started	4/21/2017 04:13
Job Completed	4/21/2017 14:00
Rig Down Iron	4/21/2017 14:20
Depart Location	4/21/2017 15:00

1.4 General Job Information

Metrics	Value
Well Fluid Density	9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	1200 bbls
Rig Circulation Time	4 hours
Calculated Displacement	60.2 bbls
Actual Displacement	60.2 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	2 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	17
Yield Point	12
10 sec. SGS	10
10 min. SGS	28
30 min. SGS	45
Filtrate	10.8
Flow Line Temp.	73

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 lb/gal
Well Fluid Density Out of Well	9 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	163 °F
BHST	110 °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)
1	1	Water	Flush	8.33			42.00
1	2	ALTCem PL100-X1	Primary	15.80	1.15	4.98	
1	3	Spacer Behind (Water)	Displacement	8.33			42.00
1	4	Drilling Mud	Displacement	9.50			42.00
1	5	Water	Flush	8.33			42.00
1	6	ALTCem PL100-X1	Primary	15.80	1.15	4.98	
1	7	Spacer Behind (Water)	Displacement	8.33			42.00
1	8	Drilling Mud	Displacement	9.50			42.00
1	9	Water	Flush	8.33			42.00
1	10	ALTCem PL100-X1	Primary	15.80	1.15	5.01	
1	11	Water	DisplacementFinal	8.33			42.00

1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Primary	ALTCem PL100-X1	ACG-10	Cement	100.00	%
1	6	Primary	ALTCem PL100-X1	ACG-10	Cement	100.00	%
1	10	Primary	ALTCem PL100-X1	ACG-10	Cement	100.00	%
1	10	Primary	ALTCem PL100-X1	ACL-10	Accelerator	1.00	%BWOW

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	4/20/2017	18:00					BJ services crew called to Caerus Puckett 25C-23-697 PTA.
2	Pre convoy meeting	4/20/2017	18:20					BJ crew discuss route and hazards associated with driving to location.
3	Depart facility	4/20/2017	18:30					BJ crew depart facility for location.
4	Arrive on location	4/20/2017	19:00					BJ crew arrive at Caerus PTA location.
5	Assess location	4/20/2017	19:10					BJ crew assess location and discuss hazards of spotting in and rigging up.
6	Rig up	4/20/2017	19:30					BJ crew rig up all ground fittings and equipment.
7	Safety meeting	4/21/2017	03:30					BJ crew, customer representative and rig personnel discuss job procedure and hazards associated with job such as communication, muster areas, emergency contacts, first aid, fire extinguisher, pinch points, trapped pressure, stop work authority and proper PPE etc;
8	Start job	4/21/2017	04:12					BJ crew begins first cement plug.
9	Fill lines	4/21/2017	04:13	8.33	2	2	100	Fill lines with 2 bbls water ahead.
10	Shutdown	4/21/2017	04:15					Shutdown to pressure test lines.
11	Pressure test	4/21/2017	04:16					Pressure test lines to 3,000 psi.
12	Release pressure	4/21/2017	04:18					Release pressure back to pump.
13	Pump spacer	4/21/2017	04:20	8.33	4	20	150	Pump 18 bbls of water ahead at 4 bbl/min for a total of 20 bbls water spacer.
14	Pump cement	4/21/2017	04:29	15.8	4	60.2	140	Mix and pump 195 sks of PL100-X1 primary cement at 15.8 ppg, 1.15 yield, 4.98 gal/sk for a total of 40.2 bbls slurry at 4 bbl/min.
15	Pump displacement	4/21/2017	04:44	8.33	5	6.2	100	Pump 6.2 bbls of fresh water displacement at 5 bbl/min.
16	Pump displacement	4/21/2017	04:46	9	5	60.2	80	Pump 54 bbls of WBM displacement at 5 bbl/min
17	Shutdown	4/21/2017	05:06					Shutdown pump
18	Release pressure	4/21/2017	05:07					Open return line and bleed pressure back to truck. No flow.
19	Pull stands	4/21/2017	05:10					Rig pulls 7 stands of drill pipe to 3,780'.
20	Circulate well	4/21/2017	05:40					Rig circulates well with WBM. 2 full circulations.



21	Tag cement	4/21/2017	09:07					Rig ran back in to 4,170' and tagged cement.
22	Rig pulls stands	4/21/2017	09:20					Rig pulls a total of 19 stands to set drill pipe at 2,615'.
23	Safety meeting	4/21/2017	10:00					BJ crew, customer representative and rig personnel discuss job procedure and hazards associated with job such as communication, muster areas, emergency contacts, first aid, fire extinguisher, pinch points, trapped pressure, stop work authority and proper PPE etc;
24	Start job	4/21/2017	10:34					Begin 2nd plug job.
25	Fill lines	4/21/2017	10:35	8.33	2	2	100	Fill lines with 2 bbls of water ahead.
26	Shutdown	4/21/2017	10:37					Shutdown to pressure test lines.
27	Pressure test	4/21/2017	10:39					Pressure test lines to 3,000 psi.
28	Release pressure	4/21/2017	10:41					Release pressure back to pump.
29	Pump spacer	4/21/2017	10:42	8.33	4	18	150	Pump 20 bbls of water spacer ahead.
30	Pump cement	4/21/2017	10:50	15.8	4	34.7	100	Mix and pump 82 sks of PL100-X1 primary cement at 15.8 ppg, 1.15 yld, 4.98 gal/sk for a total of 16.7 bbls slurry at 4 bbl/min.
31	Pump displacement	4/21/2017	10:57	8.33	4	5.8	100	Pump 5.8 bbls water displacement at 4 bbl/min
32	Pump displacement	4/21/2017	10:58	9	4	37	68	Pump 31.2 bbls of WBM displacement at 4 bbl/min.
33	Shutdown	4/21/2017	11:05					Shutdown pump
34	Release pressure	4/21/2017	11:06					Open up return line and bleed pressure back to truck. No flow.
35	Pull stands	4/21/2017	11:10					Pull 4 stands of drill pipe.
36	Circulate well	4/21/2017	11:25					Rig circulates well with 2 full circulations of WBM.
37	Pull stands	4/21/2017	12:15					Rig pulls stands to 60'.
38	Fill lines	4/21/2017	13:18	8.33	1	2	68	Fill lines with 2 bbls of water ahead.
39	shutdown	4/21/2017	13:21					shutdown to mix up tub of cement
40	pump cement	4/21/2017	13:22	15.8	1	5.5	60	mixed and pumped 27 sks of PL100-X1 primary cement at 15.8 ppg 1.15 yield 4.98 gl/sks for a total of 5.5 bbl of slurry
41	Shutdown	4/21/2017	13:26					shutdown to mix up tub of cement
42	pump cement	4/21/2017	13:30	15.8	1	4	60	mixed and pumped 20 sks of PL100-X1 primary cement at 15.8 ppg, 1.15 yield, 4.98 gl/sk for a total of 4 bbls of slurry
43	Shutdown	4/21/2017	13:34					shutdown, cement to surface, received 2 bbl of cement to surface
44	end job	4/21/2017	13:35					BJ crew ends CAERUS PTA job
45	rig down	4/21/2017	13:40					BJ crew rigs down all ground fittings and equipment



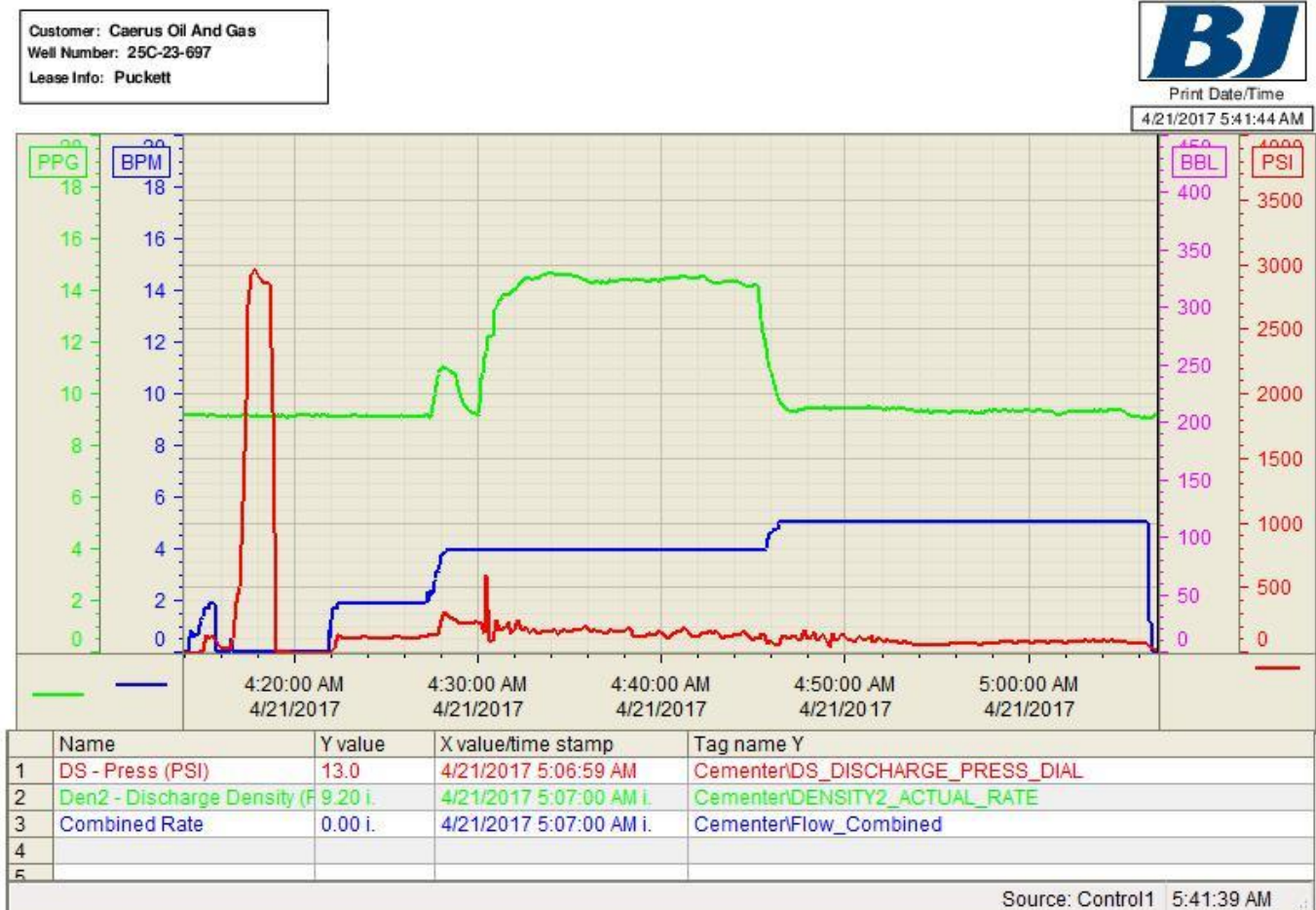
46	pre convoy meeting	4/21/2017	15:20					BJ crew discuss route and hazards associated with driving to facility.
47	depart location	4/21/2017	15:30					BJ crew departs location for facility

3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	75 °F	50-80 °F
pH Level	8	5.5-8.5
Chlorides	500 mg/L	0-3000 mg/L
Total Alkalinity	120	0-1000
Total Hardness	500 mg/L	0-500 mg/L
Carbonates	1500 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	1500 mg/L	0-3000 mg/L
Iron	0.15 mg/L	0-300 mg/L

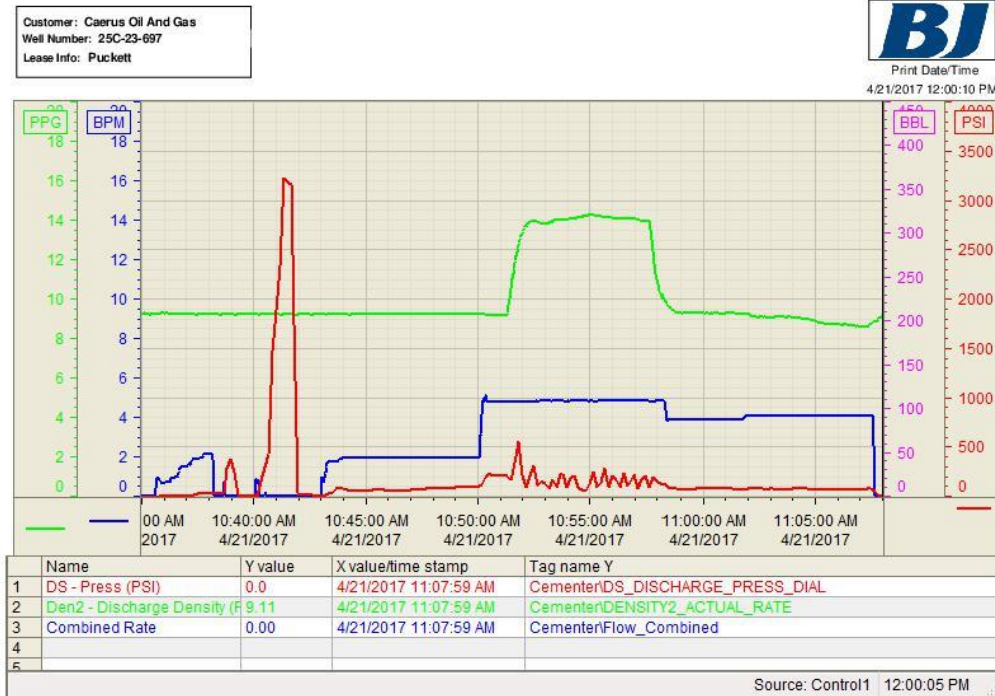
4 Pump Diagrams

Plug 1





Plug 2



Plug 3

