



Caerus

Surface Post Job Report

NPR 23C-10-596 05-045-23781

S:10 T:5S R:96W Garfield CO

Quote #:

10029

I Execution #:

06783



Caerus

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,

Gage Putnam
Field Engineer I | (970) 632-2006 | Gage.Putnam@BJServices.com

Field Office 28730 US-6, Rifle, CO 81650
Phone: (970) 632-2412

Sales Office 999 18th St. Suite 1200 Denver, CO 80202
Phone: (281) 408-2361

Cementing Treatment



Start Date	5/16/2018	Field Ticket#	FT-06783-H2P9B50202-04831
End Date	5/16/2018	Well	NPR 23C-10-596
Client	CAERUS OPERATING, LLC	API#	05-045-23781
Client Field Rep.	Boyd Cottam	Well Classification	-
Service Sup.	Jerod Dent	County	GARFIELD
District	Rifle, CO	State/Province	CO
Type of Job	Surface	Formation	-
Execution ID	EXC-06783-H2P9B502	Rig	H&P 273
Project ID	PRJ1006813		

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	Excess(%)	Grade	Thread
Previous Casing	19.50	20.00	52.73	100.00			
Open Hole	13.50			2,992.00			
Casing	8.92	9.63	36.00	2,972.00		J-55	LTC

Shoe Length (ft): 40

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Bottom Plug Provided By	-	Tool Depth (ft)	2,927.50
Bottom Plug Size	-	Max Tubing Pressure - Rated (psi)	-
Top Plug Used?	Yes	Max Tubing Pressure - Operated (psi)	-
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	3,520.00
Top Plug Size	9.625	Max Casing Pressure - Operated (psi)	2,816.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity		Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	8 RD
Landing Collar Depth (ft)	2,960	Top Connection Size	9.625

Cementing Treatment



CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Solids Present at End of Circulation	No
Circulation Prior to Job	Yes	10 sec SGS	4.00
Circulation Time (min)	60.00	10 min SGS	12.00
Circulation Rate (bpm)	6.00	30 min SGS	17.00
Circulation Volume (bbls)	360.00	Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	No	Gas Present	No
Mud Density In (ppg)	10.10	Gas Units	0
Mud Density Out (ppg)	-		
PV Mud In	8		
PV Mud Out	-		
YP Mud In	7		
YP Mud Out	-		

TEMPERATURE

Ambient Temperature (°F)	65.00	Slurry Cement Temperature (°F)	62.00
Mix Water Temperature (°F)	59.00	Flow Line Temperature (°F)	80.00

BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Planned Top of Fluid (Ft)	Length (Ft)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	Fresh Water	8.330			0.00				20.00
Spacer / Pre Flush / Flush	Sodium Silicate	10.00			0.00				20.00
Spacer / Pre Flush / Flush	Fresh Water	8.33			0.00				20.00
Lead Slurry	BJCem S100.3.01D	12.00	2.5298	14.86	0.00	2,500.00	708	1,791.00	318.90
Tail Slurry	BJCem S100.3.01D	12.50	2.2256	12.59	2,500.00	500.00	161	358.00	63.70
Displacement Final	Displacement	8.33			0.00			0.00	228.80

Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	Sodium Silicate	SILICATE, SODIUM, A-3L	21.0000	GPB
Lead Slurry	BJCem S100.3.01D	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Lead Slurry	BJCem S100.3.01D	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Lead Slurry	BJCem S100.3.01D	CEMENT EXTENDER, SODIUM METASILICATE A-2 ANHYDROUS	2.0000	LBS/SK
Lead Slurry	BJCem S100.3.01D	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem S100.3.01D	Foam Preventer, FP-25	0.3000	BWOB
Lead Slurry	BJCem S100.3.01D	IntegraSeal CELLO	0.1300	LBS/SK
Tail Slurry	BJCem S100.3.01D	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	BJCem S100.3.01D	IntegraSeal CELLO	0.1300	LBS/SK
Tail Slurry	BJCem S100.3.01D	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Tail Slurry	BJCem S100.3.01D	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Tail Slurry	BJCem S100.3.01D	Foam Preventer, FP-25	0.3000	BWOB
Tail Slurry	BJCem S100.3.01D	CEMENT EXTENDER, SODIUM METASILICATE A-2 ANHYDROUS	2.0000	LBS/SK

TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)
5/16/2018 11:29 AM	Fresh Water	5.00	20.00	164.00
5/16/2018 11:39 AM	Sodium Silicate	5.00	20.00	486.00
5/16/2018 11:43 AM	Fresh Water	5.00	20.00	654.00
5/16/2018 11:49 AM	BJCem S100.3.01D	5.00	318.90	366.00
5/16/2018 1:05 PM	BJCem S100.3.01D	5.00	63.70	227.00
5/16/2018 1:31 PM	Displacement	10.00	228.80	959.00
	Min	Max	Avg	
Pressure (psi)	164.00	959.00	500.00	
Rate (bpm)	0.50	5.50	5.00	

Cementing Treatment



DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amount of Cement Returned/Reversed	170.00
Calculated Displacement Volume (bbls)	226.90	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	190.00	Amount of Spacer to Surface	60.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	No	Amount Bled Back After Job	0.50
Bump Plug Pressure (psi)		Total Volume Pumped (bbls)	633.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Full	Lost Circulation During Cement Job	No

Customer Name Caerus District Rifle
 Well Name NPR 23C-10 Supervisor Jerod Dent
 Job Type Surface Engineer Gage Putnam



Seq No.	Start Date	Start Time	Event	Equipment	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	5/13/2018	12:30	Callout						BJ crew called to Caerus NPR 23C-10 Surface
2	5/13/2018	2:30	Depart Facility						BJ crew depart for location
3	5/13/2018	4:00	Arrive on location						BJ crew arrive at location.
4	5/13/2018	4:15	Safety meeting						Discuss spotting in equipment and hazards on location
5	5/13/2018	4:20	Spot equipment						Spot in all equipment
6	5/13/2018	4:30	Rig up						Rig up all equipment
7	5/13/2018	5:00	Waiting						Wait on rig to run casing
8	5/13/2018	9:30	Rig up						Rig up floor and remaining ground fittings
									BJ crew, customer representative and rig crew discuss job procedures and safety concerns such as muster point, emergency contacts, fire ext, first aid, pinch points, red zones, SSE, pressure etc.
9	5/16/2018	10:00	Safety meeting						
10	5/16/2018	11:29	Start job						BJ crew start cement job
11	5/16/2018	11:30	Fill lines					164	Fill lines with 2 bbls water ahead
12	5/16/2018	11:32	Pressure test						Pressure test lines to 3,000 psi
13	5/16/2018	11:36	Pump Spacer		8.33	5	20	246	Pump 20 bbls fresh water spacer ahead
14	5/16/2018	11:39	Pump Spacer		10	5	20	486	Pump 20 bbls 50/50 sodium Silicate/water spacer
15	5/16/2018	11:43	Pump Spacer		8.33	5	20	654	Pump 20 bbls fresh water spacer behind
									Begin to mix and pump 708 sks of BJ Cem S100 lead cement at 12 ppg, 2.53 yld, 14.86 gal/sk (Total 319 bbls cement)
16	5/16/2018	11:49	Pump Lead		12	5	0	366	
17	5/16/2018	12:00	Pump Lead		12	5	50	420	50 bbls Lead away
18	5/16/2018	12:22	Pump Lead		12	3	100	310	100 bbls Lead away
19	5/16/2018	12:26	Shutdown						Shutdown due to rig cellar pump not keeping up with returns
20	5/16/2018	12:37	Pump Lead		12	3	150	112	150 bbls Lead away
21	5/16/2018	12:40	Shutdown						Shutdown due to rig cellar pump not keeping up with returns
22	5/16/2018	12:51	Pump Lead		12	5	200	206	200 bbls Lead away
23	5/16/2018	13:00	Pump Lead		12	5	250	122	250 bbls Lead away
24	5/16/2018	13:09	Pump Lead		12	5	300	118	300 bbls Lead away
25	5/16/2018	13:12	Pump Lead		12	5	319	115	319 bbls Lead away
									Mix and pump 161 sks of BJ Cem S100 tail cement at 12.5 ppg, 2.23 yld, 12.59 gal/sk (Total 63.8 bbls cement)
26	5/16/2018	13:13	Pump Tail		12.5	5	0	227	
27	5/16/2018	13:25	Pump Tail		12.5	5	50	185	50 bbls Tail away
28	5/16/2018	13:28	Pump Tail		12.5	5	63.8	194	63.8 bbls Tail away
29	5/16/2018	13:29	Shutdown						Shutdown
30	5/16/2018	13:30	Drop top plug						Drop top plug
31	5/16/2018	13:31	Pump Displacement		8.33	5	0	465	Pump Water displacement
32	5/16/2018	13:40	Pump Displacement		8.33	5	50	404	50 bbls displacement away
33	5/16/2018	13:49	Pump Displacement		8.33	5	100	650	100 bbls displacement away
34	5/16/2018	13:58	Pump Displacement		8.33	5	150	846	150 bbls displacement away
35	5/16/2018	14:03	Pump Displacement		8.33	5	180	870	Slow rate with 180 bbls displacement away
36	5/16/2018	14:07	Shutdown		8.33	2	190	959	Shutdown with 190 bbls total displacement away per customer request, final circulating pressure was 959
37	5/16/2018	14:09	Check Floats						Check floats
38	5/16/2018	14:10	End Job						Floats held with .5 bbls back to truck
39	5/16/2018	14:20	Rig Down						Rig down all equipment
40	5/16/2018	16:00	Depart Location						Depart location for facility
									Est top of tail is 2,278.3'. Cut displacement short by 36 bbls leaving est 466' of cement in casing due to receiving cement to surface before planned volumes had been pumped. Est 120.7 bbls of cement to surface and actually got 170 bbls cement to surface. Full returns throughout the job, floats held with .5 bbl back to pump truck.
41	5/16/2018	16:01	Other						



JobMaster Program Version 4.02C1

Job Number: 5508

Customer: Caerus

Well Name: NPR 23C-10

