



Caerus

Surface Post Job Report

NPR 12A-10-596 05-045-23757

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

Quote #:

Execution #:



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,

Zen Keith
Field Engineer III | (307) 757-7178 | Zen.Keith@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	8/11/2018	Field Ticket#	FT-09790-H6R8J60202-88534
End Date	8/12/2018	Well	NPR 12A-10-596
Client	CAERUS OPERATING, LLC	API#	05-045-23757
Client Field Rep.	LEONARD STOMLEY	Well Classification	
Service Sup.	Francisco Castillo	County	GARFIELD
District	Rifle, CO	State/Province	CO
Type of Job	Surface	Formation	
Execution ID	EXC-09790-H6R8J602	Rig	H&P 273
Project ID	PRJ1009589		

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	Excess(%)	Grade	Thread
Previous Casing	15.50	16.00	42.05	120.00			
Open Hole	13.50	0.00	0.00	2,399.00			
Casing	8.92	9.63	36.00	2,383.00		J-55	LTC

Shoe Length (ft): 43.48

HARDWARE

Bottom Plug Used?	No	Max Casing Pressure - Rated (psi)	3,520.00
Top Plug Used?	Yes	Max Casing Pressure - Operated (psi)	2,816.00
Top Plug Provided By	Non BJ	Pipe Movement	None
Top Plug Size	9.625	Job Pumped Through	Manifold
Centralizers Used	Yes	Top Connection Thread	8RD
Centralizers Type	Bow	Top Connection Size	9.625
Landing Collar Depth (ft)	2,340		

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	10.00
Circulation Time (min)	31.00	10 min SGS	22.00
Circulation Rate (bpm)	8.50	30 min SGS	36.00
Circulation Volume (bbls)	264.00	Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	No	Gas Present	No
Mud Density In (ppg)	9.70		
PV Mud In	17		
YP Mud In	20		

TEMPERATURE

Ambient Temperature (°F)	72.00	Slurry Cement Temperature (°F)	75.00
Mix Water Temperature (°F)	70.00	Flow Line Temperature (°F)	112.00

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	Water 1	8.3300			0.00				20.0000
Spacer / Pre Flush / Flush	Sodium Silicate	10.0000			0.00				20.0000
Spacer / Pre Flush / Flush	Water 2	8.3300			0.00				20.0000
Lead Slurry	BJCem S100.3.01D	12.0000	2.5298	14.86	0.00	1900	380	960.0000	170.8000
Tail Slurry	BJCem S100.3.01D	12.5000	2.2256	12.59	1,900.00	500	118	262.0000	46.6000
Displacement Final	Displacement	8.3300			0.00			0.0000	181.0000

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	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem S100.3.01D	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Lead Slurry	BJCem S100.3.01D	Cement Additive, Sodium Metasilicate A-2	2.0000	LBS/SK
Lead Slurry	BJCem S100.3.01D	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
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	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, GYPSUM, A-10	5.0000	BWOB
Tail Slurry	BJCem S100.3.01D	Cement Additive, Sodium Metasilicate A-2	2.0000	LBS/SK
Tail Slurry	BJCem S100.3.01D	IntegraSeal CELLO	0.1300	LBS/SK

TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Annulus Pressure (psi)	Comments
8/12/2018 12:50:00 AM	Water 1	5.00	20.00	281.00		SPACER
8/12/2018 12:54:00 AM	Sodium Silicate	5.00	20.00	305.00		SPACER
8/12/2018 12:58:00 AM	Water 2	5.00	20.00	303.00		SPACER
8/12/2018 1:05:00 AM	BJCem S100.3.01D	5.00	171.00	375.00		LEAD CEMENT
8/12/2018 1:38:00 AM	BJCem S100.3.01D	5.00	46.60	243.00		TAIL CEMENT
8/12/2018 1:50:00 AM	Displacement	5.00	181.00	1,080.00		DISPLACEMENT

	Min	Max	Avg
Pressure (psi)	243.00	1,080.00	431.17
Rate (bpm)	5.00	5.00	5.00

Cementing Treatment



DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amount of Cement Returned/Reversed	60.00
Calculated Displacement Volume (bbls)	181.00	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	181.00	Amount of Spacer to Surface	60.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amount Bled Back After Job	0.50
Bump Plug Pressure (psi)	1,380.00	Total Volume Pumped (bbls)	458.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Full	Lost Circulation During Cement Job	No

EVENT LOG



Customer Name: CAERUS OPERATING, LLC

Well Name: NPR 12A-10-596

Job Type: Surface

Quote ID: QUO-14094-R4Y0G7

Plan ID: ORD-09790-H6R8J6

Execution ID: EXC-09790-H6R8J602

District: Rifle, CO

BJ Supervisor: Francisco Castillo

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
1	08/11/2018 17:00	Callout					ON LOCATION AT 22:00 HRS
2	08/11/2018 18:00	Other (See comment)					BJ CREW LEAVE THE YARD
3	08/11/2018 19:00	Arrive on Location					BJ CREW ARRIVE ON LOCATION, RIG RUNNING CASING
4	08/11/2018 19:30	Rig Up					RIG UP BJ EQUIPMENT
5	08/11/2018 20:30	Rig Up					RIG UP COMPLETE
6	08/11/2018 23:30	Other (See comment)					RIG LAND CASING, CIRCULATE WELL AT 8.5 BPM FOR 31 MINUTES
7	08/12/2018 00:05	Safety Meeting					PRE-JOB SAFETY MEETING WITH RIG CREW
8	08/12/2018 00:47	Pressure Test				4,500.00	PRESSURE TEST LINES
9	08/12/2018 00:50	Pump Spacer	8.3400	5.00	20.00	281.00	WATER SPACER
10	08/12/2018 00:54	Pump Spacer	11.0000	5.00	20.00	305.00	SODIUM SILICATE SPACER
11	08/12/2018 00:58	Pump Spacer	8.3400	5.00	20.00	303.00	WATER SPACER
12	08/12/2018 01:05	Pump Lead Cement	12.0000				BEGIN LEAD 380 SKS/171 BBLS AT 12.0 PPG, 2.53 YIELD, 14.86 GAL/SK

EVENT LOG



Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
13	08/12/2018 01:14	Pump Lead Cement	12.0000	5.50	50.00	375.00	50 BBLS PUMPED LEAD CEMENT
14	08/12/2018 01:23	Pump Lead Cement	12.0000	4.00	50.00	103.00	100 BBLS PUMPED LEAD CEMENT
15	08/12/2018 01:35	Pump Lead Cement	12.0000	4.00	71.00	123.00	171 BBLS PUMPED LEAD CEMENT
16	08/12/2018 01:38	Pump Tail Cement	12.5000	5.00	46.00	243.00	TAIL CEMENT 12.5 PPG, 2.22 YIELD, 12.59 GAL/SK
17	08/12/2018 01:48	End Pumping					SHUTDOWN WITH 2 BBLS OF CEMENT IN MIXING TUB
18	08/12/2018 01:50	Pump Displacement					BEGIN DISPLACEMENT WITH 2 BBLS CEMENT ON TOP OF PLUG
19	08/12/2018 02:00	Pump Displacement	8.3400	5.00	50.00	313.00	50 BBLS DISPLACEMENT PUMPED
20	08/12/2018 02:10	Pump Displacement	8.3400	5.70	50.00	397.00	100 BBLS DISPLACEMENT PUMPED
21	08/12/2018 02:20	Pump Displacement	8.3400	5.00	71.00	810.00	171 BBLS DISPLACEMENT PUMPED
22	08/12/2018 02:23	Pump Displacement	8.3400	2.00	10.00	1,080.00	SLOW RATE TO 2 BPM LAST 10 BBLS OF DISPLACEMENT
23	08/12/2018 02:29	Land Plug				1,380.00	BUMP PLUG, CIRCULATING THROUGH OUT ENTIRE JOB
24	08/12/2018 02:32	Check Floats					FLOATS HELD, 0.5 BBLS FLOW BACK
25	08/12/2018 02:35	Rig Down					RIG DOWN BJ EQUIPMENT
26	08/12/2018 03:30	Other (See comment)					RIG DOWN COMPLETE
27	08/12/2018 03:45	Leave Location					BJ CREW LEAVE LOCATION
28	08/12/2018 03:47	Other (See comment)					CALCULATED TOP OF TAIL 1,889', GOT 60 BBLS OF CEMENT TO SURFACE
29	08/12/2018 03:49	Other (See comment)					THANK YOU FOR YOUR BUSINESS FROM JAVIER AND CREW



CAERUS 9 5/8 SURFACE

