



Great Western Operating Company, LLC

Seltzer LD 21-031HC

API # 05-001-10199

Surface Cement

September 30, 2018

Quote #: QUO-20244

Execution #: EXC-11599



Great Western Operating Company, LLC

Great Western | 1001 17th Street, Suite 2000 | Denver, CO 80202

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	9/30/2018	Field Ticket#	FT-11599-G5Y5G20202-60608
End Date	9/30/2018	Well	Seltzer LD 21-031HC
Client	GREAT WESTERN OPERATING COMPANY, LLC	API#	05-001-10199
Client Field Rep.	Jason Haines	Well Classification	
Service Sup.	Paul Linn III	County	Adams
District	Rifle, CO	State/Province	CO
Type of Job	Surface	Formation	
Execution ID	EXC-11599-G5Y5G202	Rig	
Project ID	PRJ1011262		

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	Excess(%)	Grade	Thread
Open Hole	13.50	0.00	0.00	1,739.00	25.00		
Casing	8.92	9.63	36.00	1,739.00		J-55	LTC

Shoe Length (ft): 44.10

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	1,694.90
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	15.00	Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	8 RND
Landing Collar Depth (ft)	1,739	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	Flare Prior to/during the Cement Job	No
Circulation Time (min)	30.00	Gas Present	No
Circulation Rate (bpm)	6.00		
Circulation Volume (bbls)	180.00		
Lost Circulation Prior to Cement Job	No		
Mud Density In (ppg)	8.33		
Mud Density Out (ppg)	8.45		

TEMPERATURE

Ambient Temperature (°F)	44.00	Slurry Cement Temperature (°F)	68.50
Mix Water Temperature (°F)	55.00		

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	8.3300			0.00				20.0000
Tail Slurry	BJCem S100.3.XC	14.5000	1.3902	6.80	0.00	1700	760	1,056.0000	188.0000
Displacement Final	Water	8.3300			0.00			0.0000	128.2000

Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Tail Slurry	BJCem S100.3.XC	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	BJCem S100.3.XC	FOAM PREVENTER, FP-13L	0.0060	GALS/SK

TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)
9/30/2018 10:24:00 AM	Water	4.00	20.00	119.00
9/30/2018 10:31:00 AM	BJCem S100.3.XC	4.50	188.00	181.00
9/30/2018 11:18:00 AM	Water	7.00	129.86	153.00

	Min	Max	Avg
Pressure (psi)	68.00	683.00	181.00
Rate (bpm)	2.00	7.00	4.50

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amount of Cement Returned/Reversed	20.00
Calculated Displacement Volume (bbls)	129.86	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	130.00	Amount of Spacer to Surface	20.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amount Bled Back After Job	1.00
Bump Plug Pressure (psi)	610.00	Total Volume Pumped (bbls)	335.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Yes	Lost Circulation During Cement Job	No

EVENT LOG



Customer Name: GREAT WESTERN OPERATING COMPANY, LLC

Well Name: Seltzer LD 21-031HC

Job Type: Surface

Quote ID: QUO-20244-F7C1T4

Plan ID: ORD-11599-G5Y5G2

Execution ID: EXC-11599-G5Y5G202

District: Rifle, CO

BJ Supervisor: Paul Linn III

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
1	09/30/2018 00:00	Callout					CALL OUT ON LOCATION TIME OF 08:00
2	09/30/2018 03:30	Safety Meeting					PRE-CONVOY SAFETY MEETING WITH ALL BJ SERVICES CEMENT CREW, AND DEPART FROM RIFLE YARD FOR LOCATION
3	09/30/2018 07:30	Arrive on Location					ARRIVE ON LOCATION, RIG CREW WAS RUNNING CASING
4	09/30/2018 07:33	Spot Units					DID A SITE ASSESMENT, CONDUCTED A ROCK DRILL, AND SPOTTED IN ALL EQUIPMENT
5	09/30/2018 07:50	Safety Meeting					PRE-RIG UP SAFETY MEETING WITH ALL BJ SERVICES CEMENT CREW
6	09/30/2018 08:00	Rig Up					RIG UP ALL EQUIPMENT
7	09/30/2018 09:00	Customer					WAIT ON RIG TO FINISH RUNNING CASING
8	09/30/2018 09:47	Safety Meeting					PRE-JOB SAFETY MEETING WITH RIG CREW, COMPANY MAN, AND ALL BJ SERVICES CEMENT CREW
9	09/30/2018 10:00	Rig Up					LOAD PLUG IN PLUG CONTAINER, STAB PLUG CONTAINER, HOOK UP LINES

EVENT LOG



Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
10	09/30/2018 10:16	Prime Up	8.3300	2.00	5.00	68.00	FILL LINES WITH 5 BBLS OF FRESH WATER
11	09/30/2018 10:18	Pressure Test				2,903.00	PRESSURE TEST TO 2903 PSI.
12	09/30/2018 10:24	Pump Spacer	8.3300	4.00	20.00	138.00	FRESH WATER SPACER
13	09/30/2018 10:29	Pump Tail Cement	14.5000	4.50	100.00	181.00	PUMPED TAIL CEMENT 14.5 PPG 760 SKS 1.39 CUFT/SK 6.81 GALS/SK FOR A TOTAL OF 188.14 BBLS OF TAIL CEMENT REQUIRING 123.23 BBLS OF MIX WATER. WEIGHT VERIFIED WITH MUD SCALES, CALCULATED HEIGHT OF TAIL CEMENT IS 1724 FT WITH A TOP OF 0 FT.
14	09/30/2018 11:00	Pump Tail Cement	14.5000	4.00	185.00	168.00	FINISHED PUMPING TAIL CEMENT WITH 185 BBLS AWAY.
15	09/30/2018 11:11	Drop Top Plug					DROP TOP PLUG, VERIFIED BY COMPANY MAN
16	09/30/2018 11:16	Pump Displacement	8.3300	7.00	118.00	683.00	PUMPED FRESH WATER DISPLACEMENT
17	09/30/2018 11:37	Cement Back to Surface					20 BBL OF CEMENT TO SURFACE
18	09/30/2018 11:37	Pump Displacement	8.3300	2.50	130.00	610.00	PUMPED FRESH WATER DISPLACEMENT
19	09/30/2018 11:42	Land Plug				1,176.00	LANDED THE PLUG AT 610 PSI TOOK TO 1176 PSI
20	09/30/2018 11:44	Check Floats					CHECK FLOATS, FLOATS HELD 1 BBL BACK
21	09/30/2018 11:45	Other (See comment)				1,054.00	15 MIN CASING TEST STARTED AT 1054 PSI FELL TO 1018 PSI
22	09/30/2018 12:00	Safety Meeting					PRE-RIG DOWN SAFETY MEETING WITH RIG CREW
23	09/30/2018 12:11	Clean Pumps and Lines					WASH PUMPS AND LINES INTO CELLAR
24	09/30/2018 12:25	Safety Meeting					PRE-RIG DOWN SAFETY MEETING WITH ALL BJ SERVICES CEMENT CREW
25	09/30/2018 12:36	Rig Down					RIG DOWN ALL EQUIPMENT
26	09/30/2018 13:00	Leave Location					DEPART FROM LOCATION. THANK YOU FOR USING BJ SERVICES, ANDREW LINN AND CREW

