



Great Western Operating Company, LLC

BRANT LE 08-162HNX

API # 05-001-10336

Surface

December 08, 2019

Quote #: QUO-39495-K0C1W6

Execution #: EXC-23042-W9C3Q102



Great Western Operating Company, LLC

Great Western Operating Company, LLC | 1801 Broadway, Suite 500 | Denver, CO 80202

Dear Great Western Operating Company, LLC,

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,
Jason Creel
Field Engineer I | (307) 256-0306 | Jason.Creel@BJServices.com

Field Office
1716 East Allison Rd., Cheyenne WY. 82007 | (307) 638-5585

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

BJ Cementing Treatment Report

SERVICE SUPERVISOR	Gregory Black	RIG	Ikon 12
CLIENT FIELD REPRESENTATIVE	Kyle Hibbert	COUNTY	ADAMS
DISTRICT	Cheyenne, WY	STATE / PROVINCE	CO
SERVICE	Cementing		

WELL GEOMETRY

TYPE	ID (in)	OD (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)	GRADE	THREAD
Open Hole	13.50	0.00	0.00	1,797.00	1,797.00	30.00		
Casing	8.92	9.63	36.00	1,797.00	1,797.00		J-55	LTC

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	1,758.30
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	3012.00
Top Plug Size	9.625	Max Casing Pressure - Operated (psi)	2020.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	17.00	Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	LTC
Landing Collar Depth (ft)	1,758.30	Top Connection Size	9.625

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Mud Density In (ppg)	8.40
Circulation Prior to Job	Yes	Mud Density Out (ppg)	8.40
Circulation Time (min)	30.00	Solids Present at End of Circulation	No
Circulation Rate (bpm)	6.00	Flare Prior to / during the Cement Job	No
Circulation Volume (bbls)	180.00	Gas Present	No
Lost Circulation Prior to Cement Job	No		

TEMPERATURE

Ambient Temperature (°F)	57.00	Slurry Cement Temperature (°F)	60.00
Mix Water Temperature (°F)	60.00		

Client: Great Western Operating Company, LLC

Well: BRANT LE #08-162HNX

Well API: 05-001-10336

Start Date: 12/7/2019

End Date: 12/8/2019



FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H ₂ O REQ (gals/sk)	PLN TOP FLD (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	6.81	0.00	1,725.00	800	1113.0000	198.1000
Displacement Final	Water	8.3300			0.00			0.0000	130.1000

FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
Tail Slurry	BJCem S100.3.XC	CEMENT, ASTM TYPE III	100.0000	PCT

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amt of Cement Returned / Reversed	34.00
Calculated Displacement Vol (bbls)	134.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	134.00	Amt of Spacer to Surface	20.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amt Bled Back After Job	1.00
Bump Plug Pressure (psi)	1520.00	Total Volume Pumped (bbls)	345.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Yes	Lost Circulation During Cement Job	No

BJ Cementing Event Log

Surface - Cheyenne, WY - Gregory Black

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	12/07/2019 13:00	Callout					Crew called out with a RTS of 19:00
2	12/07/2019 18:00	Arrive on Location					Crew arrives on location.
3	12/07/2019 18:00	STEACS Briefing					Crew holds a rig up safety meeting.
4	12/07/2019 18:05	Rig Up					Crew rigs up.
5	12/07/2019 19:00	Rig					Crew waiting on rig to finish running casing and circulating.
6	12/07/2019 22:55	STEACS Briefing					Crew holds a rig up safety meeting.
7	12/07/2019 23:16	Prime Up	8.3400	2.50	2.00	100.00	Crew primes up treating line for pressure test.
8	12/07/2019 23:19	Pressure Test	8.3400				Crew performs pressure test.
9	12/07/2019 23:21	Pump Spacer	8.3400	4.00	20.00	260.00	Crew pumps water spacer with blue dye.
10	12/07/2019 23:26	Pump Tail Cement	14.5000	5.50	90.00	450.00	Crew pumps 800 SKS; YIELD: 1.39; GPS: 6.81.
11	12/07/2019 23:45	Other (See comment)					Shutdown trying to fix pump issues. Pump tub suction went closed during cementing.
12	12/08/2019 00:14	Other (See comment)					Rolled the hole waited for another pump,
13	12/08/2019 05:48	Prime Up	8.3400	2.50	2.00	90.00	pressure test
14	12/08/2019 05:51	Pressure Test	8.3400				Crew performs pressure test.
15	12/08/2019 05:56	Pump Spacer	8.3400	3.60	20.00	500.00	crew pumps water spacer with blue dye. Good returns
16	12/08/2019 06:00	Pump Tail Cement	14.5000	3.60	50.00	600.00	Crew pumps total of 800 SKS; YIELD: 1.39; GPS: 6.81. Good returns.
17	12/08/2019 06:20	Pump Tail Cement	14.5000	5.50	10.00	700.00	Crew pumps total of 800 SKS; YIELD: 1.39; GPS: 6.81. Picked up rate to try to lift casing off bottom. Good returns
18	12/08/2019 06:23	Pump Tail Cement	14.5000	5.50	130.00	250.00	Crew pumps total of 800 SKS; YIELD: 1.39; GPS: 6.81. slowed back down once pressure broke off. Good returns
19	12/08/2019 06:55	Drop Top Plug					Plug dropped with company man verification.
20	12/08/2019 06:58	Pump Displacement	8.3400	2.00	20.00	176.00	Crew washes on the plug and displaces.
21	12/08/2019 07:06	Pump Displacement	8.3400	6.50	193.00	800.00	Crew pumps displacement with good returns.
22	12/08/2019 07:22	Spacer Back-to-Surface					Spacer to surface @ 80 bbls away 20 total bbls back.

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Well MD:



Quote #: QUO-39495-K0C1W6

Plan #: ORD-23042-W9C3Q1

Execution #: EXC-23042-W9C3Q102

23	12/08/2019 07:22	Cement Back-to-Surface					Cement to surface @ 100 bbls away 34 total bbls back.
24	12/08/2019 07:22	Pump Displacement	8.3400	2.80	20.00	650.00	Crew slowing rate to land plug.
25	12/08/2019 07:33	Land Plug					Plug landed with 134 total bbls pumped. 780 final circulating psi. was psi. took to 1520 psi.
26	12/08/2019 07:33	Pressure Test					30 min csg test: start 1520 psi, end 1514 psi.
27	12/08/2019 08:04	Check Floats					Floats held 1 bbls back.
28	12/08/2019 08:05	STEACS Briefing					Rig down safety meeting.
29	12/08/2019 08:10	Rig Down					Crew rigs down.
30	12/08/2019 08:45	STEACS Briefing					Return journey safety meeting.
31	12/08/2019 08:55	Leave Location					Crew leaves location.

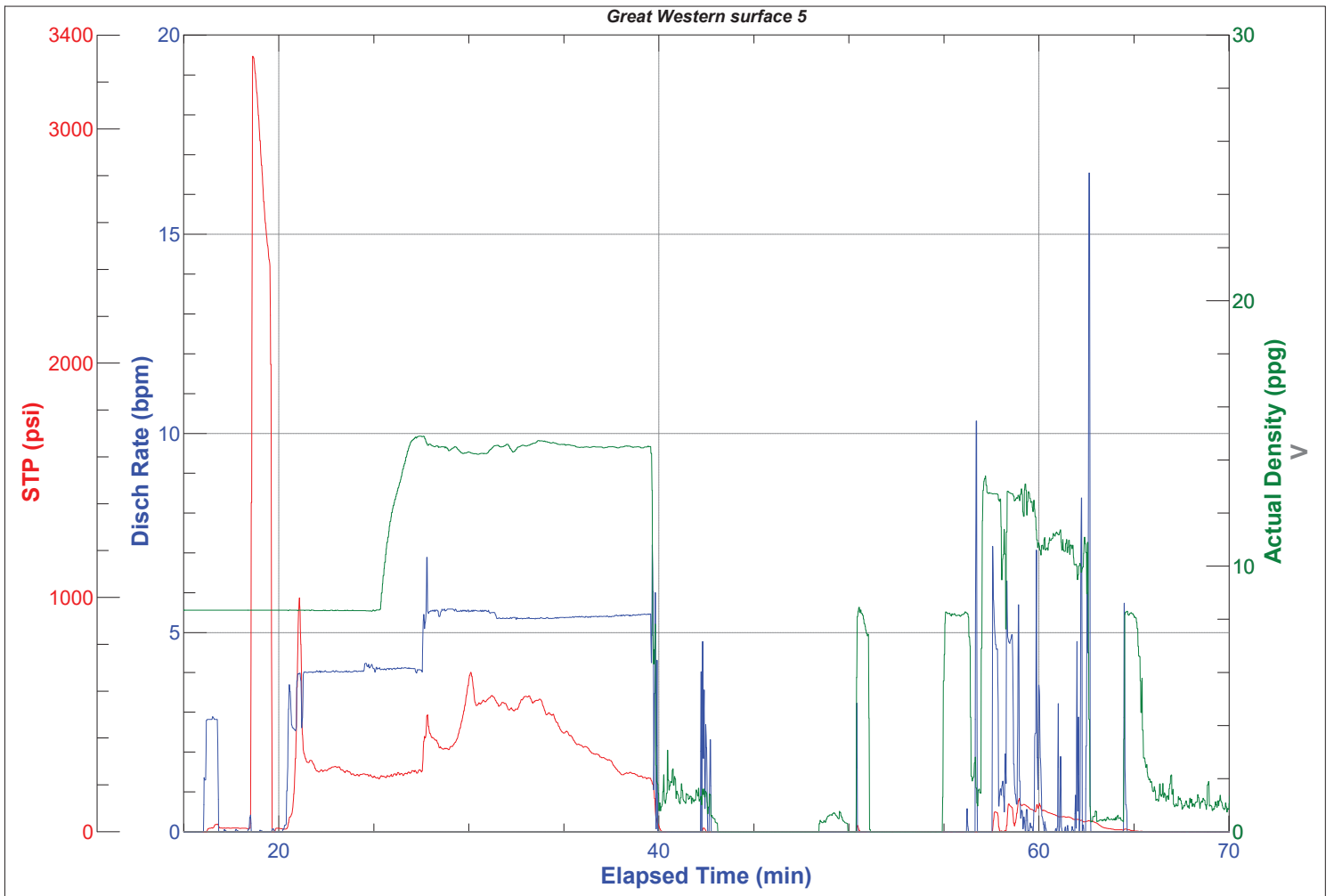


JobMaster Program Version 4.02C1

Job Number:

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