



Great Western Operating Company, LLC

BASELINE LE 06-092HNX

API # 05-001-10375

Surface

December 20, 2019

Quote #: QUO-40174-B3X3R2

Execution #: EXC-23342-P2T7Q002



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	Nicholas Iverson	RIG	Ikon 12
DISTRICT	Cheyenne, WY	COUNTY	ADAMS
SERVICE	Cementing	STATE / PROVINCE	CO

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	1,788.00	1,787.00	30.00		
Casing	8.92	9.63	36.00	1,788.00	1,787.00		J-55	LTC

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	1,743.37
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)	1,743.37	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)	8.00	Flare Prior to / during the Cement Job	No
Circulation Volume (bbls)	300.00	Gas Present	No
Lost Circulation Prior to Cement Job	No		

TEMPERATURE

Ambient Temperature (°F)	24.00	Slurry Cement Temperature (°F)	60.00
Mix Water Temperature (°F)	60.00	Flow Line Temperature (°F)	60.00

Client: Great Western Operating Company, LLC

Well: BASELINE LE #06-092HNX

Well API: 05-001-10375

Start Date: 12/20/2019

End Date: 12/20/2019

Field Ticket #: FT-23342-P2T7Q00201-507537503



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	45.00
Calculated Displacement Vol (bbls)	130.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	130.00	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	0.50
Bump Plug Pressure (psi)	700.00	Total Volume Pumped (bbls)	350.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Yes	Lost Circulation During Cement Job	No

Client: Great Western Operating Company, LLC

Well: BASELINE LE #06-092HNX

Well API: 05-001-10375

Start Date: 12/20/2019

End Date: 12/20/2019

Field Ticket #: FT-23342-P2T7Q00201-507537503



BJ Cementing Event Log

Surface - Cheyenne, WY

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	12/20/2019 00:00	Callout					Crew called out requested on location at 0600 12/20/19
2	12/20/2019 03:00	STEACS Briefing					Steacs briefing
3	12/20/2019 03:30	Depart for Location					Depart for location
4	12/20/2019 03:40	Arrive on Location					Arrive on location
5	12/20/2019 06:00	STEACS Briefing					Steacs briefing
6	12/20/2019 06:20	Rig Up					Rig up
7	12/20/2019 06:30	Rig					Waiting on rig to finish casing
8	12/20/2019 07:30	STEACS Briefing					Steacs briefing with rig crew to go over job
9	12/20/2019 08:30	Equipment Issue					Started pumping cement job at 08:04. 17 bbls into cement the cement head blew apart shut down at 08:30 and tried to fix it we couldn't get it fixed so we called for a back up pump and a new cement head. Rolled the hole at 09:00 and then came back on line with the job at 11:19 total of 2.5 hours of npt.
10	12/20/2019 11:19	Prime Up	8.3300	3.00	3.00	50.00	Prime up line for pressure test
11	12/20/2019 11:21	Pressure Test	8.3300			3800.00	Pressure test iron
12	12/20/2019 11:24	Pump Spacer	8.3300	6.00	20.00	150.00	Pump h2o spacer with blue die
13	12/20/2019 11:28	Pump Tail Cement	14.5000	7.00	198.00	400.00	Pump tail cement 800 sks and 14.5 ppg, 1.3902 ft/sk,6.81 gal/sk
14	12/20/2019 12:04	Drop Top Plug					Drop top plug
15	12/20/2019 12:10	Pump Displacement	8.3300	6.00	20.00	300.00	Pump displacement
16	12/20/2019 12:20	Pump Displacement	8.3300	7.50	85.00	700.00	Spacer back to surface
17	12/20/2019 12:28	Pump Displacement	8.3300	3.00	110.00	500.00	Slow rate for the last 20 bbls
18	12/20/2019 12:34	Land Plug	8.3300		130.00	500.00	Land plug got 20 bbls of h2o with blue die back and 45 bbls of cement back fcp was 500 psi
19	12/20/2019 12:51	Check Floats			0.50	12000.00	Checked floats back to pump truck
20	12/20/2019 12:52	STEACS Briefing					15 min csg test: start 1276 psi, end 1289 psi
21	12/20/2019 12:56	Rig Down					Rig down equipment
22	12/20/2019 13:30	Leave Location					Crew leaves location to head back to yard

Client: Great Western Operating Company, LLC

Well Name / API: BASELINE LE #06-092HNX / 05-001-10375



Quote #: QUO-40174-B3X3R2

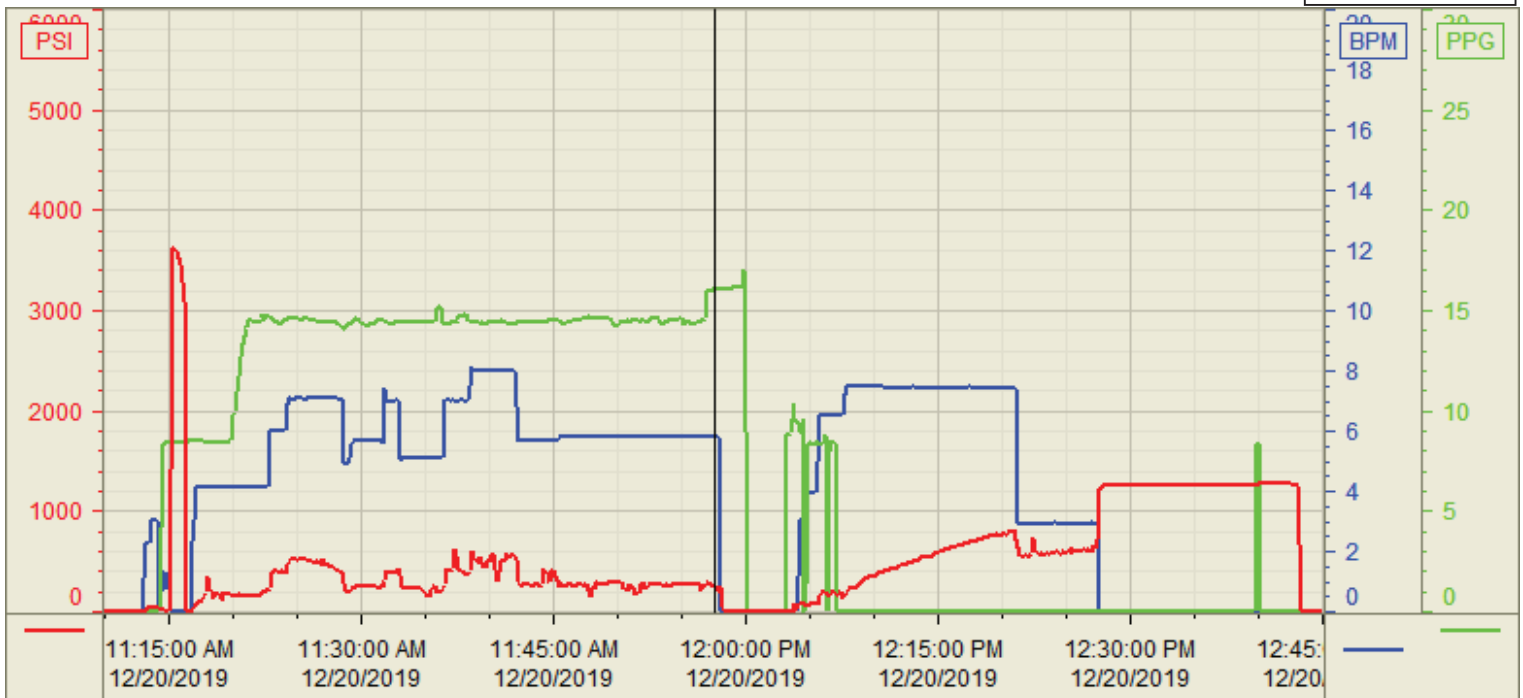
Plan #: ORD-23342-P2T7Q0

Execution #: EXC-23342-P2T7Q002

Customer: Great Western
 Well Number: 06-092HNX
 Lease Info: Baseline LE



Print Date/Time
 12/20/2019 1:16:04 PM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	255.6 i.	12/20/2019 11:57:32 AM i.	Cementer\DS_DISCHARGE_PRESS_DIAL
2	Recirc - Density (PPG)	16.03 i.	12/20/2019 11:57:32 AM i.	Cementer\DENSITY_ACTUAL_RATE
3	Combined Rate	5.82 i.	12/20/2019 11:57:32 AM i.	Cementer\Flow_Combined
4				
5				

Source: Control1 1:15:59 PM