

BJ Cementing Treatment Report

SERVICE SUPERVISOR	Brian Boyd	CLIENT FIELD REPRESENTATIVE	Red
DISTRICT	Cheyenne, WY	COUNTY	WELD
SERVICE	Cementing	STATE / PROVINCE	CO

WELL GEOMETRY

TYPE	ID (in)	OD (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)	GRADE	THREAD
Casing	10.05	10.75	40.50	1,255.00	1,255.00		J-55	BTC
Open Hole	13.50	0.00	0.00	1,275.00	1,275.00	30.00		
Previous Casing	15.50	16.00	42.05	105.00	105.00			

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	1,210.00
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	3130.00
Top Plug Size	10.750	Max Casing Pressure - Operated (psi)	1100.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	15.00	Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	BTC
Landing Collar Depth (ft)	1,210	Top Connection Size	10.75

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	PV Mud In	4
Circulation Prior to Job	Yes	YP Mud In	2
Circulation Time (min)	140.00	Solids Present at End of Circulation	No
Circulation Rate (bpm)	6.00	10 sec SGS	2
Circulation Volume (bbls)	300.00	10 min SGS	3
Lost Circulation Prior to Cement Job	No	Flare Prior to / during the Cement Job	No
Mud Density In (ppg)	8.80	Gas Present	No

TEMPERATURE

Ambient Temperature (°F)	70.00	Slurry Cement Temperature (°F)	73.00
Mix Water Temperature (°F)	61.00	Flow Line Temperature (°F)	91.00

Client Name: NGL Energy Partners LP Well: ROY SWD #5 Well API: 05-123-49501

Start Date: 4/20/2019 End Date: 4/20/2019



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
Lead Slurry	BJCem S100.3.1C	12.5000	2.2256	12.59	0.00	700.00	159	353.0000	62.8000
Tail Slurry	BJCem S100.3.1C	13.0000	1.9869	10.80	614.00	500.00	131	260.0000	46.2000
Displacement Final	Water	8.3300			0.00			0.0000	113.6000

FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
Lead Slurry	BJCem S100.3.1C	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem S100.3.1C	FOAM PREVENTER, FP-25	0.3000	BWOB
Lead Slurry	BJCem S100.3.1C	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Lead Slurry	BJCem S100.3.1C	IntegraSeal POLI	0.1300	LBS/SK
Lead Slurry	BJCem S100.3.1C	Cement Additive, Sodium Metasilicate A-2	2.0000	LBS/SK
Lead Slurry	BJCem S100.3.1C	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Tail Slurry	BJCem S100.3.1C	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Tail Slurry	BJCem S100.3.1C	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Tail Slurry	BJCem S100.3.1C	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	BJCem S100.3.1C	Cement Additive, Sodium Metasilicate A-2	2.0000	LBS/SK
Tail Slurry	BJCem S100.3.1C	IntegraSeal POLI	0.1300	LBS/SK
Tail Slurry	BJCem S100.3.1C	FOAM PREVENTER, FP-25	0.3000	BWOB

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amt of Cement Returned / Reversed	27.00
Calculated Displacement Vol (bbls)	119.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	117.00	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)	900.00	Total Volume Pumped (bbls)	246.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Full	Lost Circulation During Cement Job	No

Client Name: NGL Energy Partners LP

Well: ROY SWD #5

Well API: 05-123-49501

Start Date: 4/20/2019

End Date: 4/20/2019



BJ Cementing Event Log

Surface - Cheyenne, WY - Brian Boyd

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	04/20/2019 04:30	Callout					Customer requested crew to be on location at 10:00
2	04/20/2019 07:30	Arrive on Location					BJ crew has journey management and departs from shop, BJ crew arrives on location and meet with customer
3	04/20/2019 10:00	STEACS Briefing					BJ crew has steacs over rigging up iron and hoses
4	04/20/2019 10:05	Rig Up					BJ crew rigs up iron and hoses
5	04/20/2019 10:55	STEACS Briefing					Steacs briefing with BJ crew, rig crew and company man over job and hazards
6	04/20/2019 11:11	Prime Up	8.3300	3.00	3.00	30.00	Fill pumps and lines
7	04/20/2019 11:13	Pressure Test	8.3300	0.50	0.50	3300.00	Pressure test iron and hoses
8	04/20/2019 11:15	Pump Spacer	8.3300	4.00	20.00	30.00	Pump 20 bbls of fresh water ahead
9	04/20/2019 11:21	Pump Lead Cement	12.5000	6.00	63.00	170.00	Pump 63 bbls of 12.5 PPG lead cement (159 Sks, 2.22 Yield, 12.59 Gals/Sks)
10	04/20/2019 11:35	Pump Tail Cement	13.0000	6.00	46.00	100.00	Pump 46 bbls of 13 PPG tail cement (131 Sks, 1.98 Yield, 10.80 Gals/Sks)
11	04/20/2019 11:47	End Pumping					Shut down pumping
12	04/20/2019 11:50	Drop Top Plug					Drop top plug with company man to verify plug went down hole
13	04/20/2019 11:50	Pump Displacement	8.3300	7.00		100.00	Pump 117 bbls of fresh water displacement
14	04/20/2019 12:05	Cement Back-to-Surface	8.3300	7.00	90.00	300.00	90 bbls in displacement got cement to surface for total of 27 bbls of cement to surface
15	04/20/2019 12:07	Pump Displacement	8.3300	3.00	100.00	300.00	Last 17 bbls of displacement slow rate to 3 bpm
16	04/20/2019 12:12	Land Plug			117.00	900.00	Bump plug to 900 PSI, FCP of 300 PSI total displacement of 117 bbls
17	04/20/2019 12:15	Check Floats					Hold for 3 mins and check floats got .5 bbl back to truck
18	04/20/2019 12:17	STEACS Briefing					BJ crew has steacs over rigging down iron and hoses
19	04/20/2019 12:20	Rig Down					BJ crew rigs down iron and hoses
20	04/20/2019 13:00	Leave Location					BJ crew has journey management and departs from location



JobMaster Program Version 4.02C1

Job Number:

Customer: NGL

Well Name: ROY SWD 5

