



# Laramie Energy

## End of Well Cement Report

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Nichols 0994-24-03E 05-077-10419

S:24 T:9S R:94W Mesa CO

Quote #: 04247/04258

I Execution #: 02252/02361

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# Laramie Energy

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Attention: Mr. Aaron Duncan | (303) 339-4913 | [aduncan@laramie-energy.com](mailto:aduncan@laramie-energy.com)

Laramie Energy | 1401 17th St, Suite 1400 | Denver, CO 80202

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Dear Mr. Duncan,

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](mailto: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

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# Cementing Treatment



<b>Start Date</b>	12/30/2017	<b>Well</b>	Nichols 0994-24-03E
<b>End Date</b>	2/28/2018	<b>County</b>	MESA
<b>Client</b>	LARAMIE ENERGY	<b>State/Province</b>	CO
<b>Client Field Rep</b>	MATT S	<b>API</b>	05-077-10419
<b>Service Supervisor</b>	PAUL LINN III	<b>Formation</b>	
<b>Field Ticket No.</b>	Surface	<b>Rig</b>	H&P 290
<b>District</b>	Rifle, CO	<b>Type of Job</b>	Surface

## WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	Excess(%)	Grade	Thread
Previous Casing	15.25	16.00	65.00	60.00	0.00		
Open Hole	11.00			1,562.00	75.00		
Casing	8.10	8.63	24.00	1,552.00		J-55	ST&C

**Shoe Length (ft):** 40

## HARDWARE

<b>Bottom Plug Used?</b>	Yes	<b>Tool Type</b>	Float Collar
<b>Bottom Plug Provided By</b>	Non BJ	<b>Tool Depth (ft)</b>	1,508.00
<b>Bottom Plug Size</b>	8.625	<b>Max Tubing Pressure - Rated (psi)</b>	
<b>Top Plug Used?</b>	Yes	<b>Max Tubing Pressure - Operated (psi)</b>	
<b>Top Plug Provided By</b>	Non BJ	<b>Max Casing Pressure - Rated (psi)</b>	2,950.00
<b>Top Plug Size</b>	8.625	<b>Max Casing Pressure - Operated (psi)</b>	2,360.00
<b>Centralizers Used</b>	Yes	<b>Pipe Movement</b>	None
<b>Centralizers Quantity</b>	19.00	<b>Job Pumped Through</b>	Manifold
<b>Centralizers Type</b>	Bow	<b>Top Connection Thread</b>	8 RND.
<b>Landing Collar Depth (ft)</b>	1,484	<b>Top Connection Size</b>	8.625

# 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	6.00
Circulation Time (min)	30.00	10 min SGS	42.00
Circulation Rate (bpm)	10.00	30 min SGS	69.00
Circulation Volume (bbls)	300.00	Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	No	Gas Present	No
Mud Density In (ppg)	9.10	Gas Units	0
Mud Density Out (ppg)	9.20		
PV Mud In	27		
PV Mud Out	27		
YP Mud In	25		
YP Mud Out	25		

## TEMPERATURE

Ambient Temperature (°F)	24.00	Slurry Cement Temperature (°F)	72.00
Mix Water Temperature (°F)	72.00	Flow Line Temperature (°F)	

## BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	Fresh Water	8.3300					40.0000
Lead Slurry	S100-12	12.0000	2.5329	14.89	191	480.0000	85.5000
Tail Slurry	S100-12	12.5000	2.2282	12.62	107	237.0000	42.1000
Displacement Final	Water	8.3300				0.0000	94.5000

# Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Lead Slurry	S100-12	CEMENT, ASTM TYPE III	100.00	PCT
Lead Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.00	BWOB
Lead Slurry	S100-12	IntegraSeal CELLO	0.13	LBS/SK
Lead Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.00	LBS/SK
Lead Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.00	LBS/SK
Lead Slurry	S100-12	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Tail Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.00	LBS/SK
Tail Slurry	S100-12	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Tail Slurry	S100-12	IntegraSeal CELLO	0.13	LBS/SK
Tail Slurry	S100-12	CEMENT, ASTM TYPE III	100.00	PCT
Tail Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.00	LBS/SK
Tail Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.00	BWOB

## TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Annulus Pressure (psi)	Comments
12/29/2017 11:24 PM	Fresh Water	5.00	40.00	293.00	293.00	
12/29/2017 11:32 PM	S100-12	4.50	86.06	351.00	351.00	
12/29/2017 11:50 PM	S100-12	5.00	42.10	218.00	218.00	
12/30/2017 12:03 AM	Water	3.50	95.87	93.00	93.00	

# Cementing Treatment



	Min	Max	Avg
Pressure (psi)	48.00	2,130.00	352.00
Rate (bpm)	2.00	6.00	4.00

## DISPLACEMENT AND END OF JOB SUMMARY

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Displaced By	BJ	Amount of Cement Returned/Reversed	35.00
Calculated Displacement Volume (bbls)	95.87	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	95.00	Amount of Spacer to Surface	40.00
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)	396.00	Total Volume Pumped (bbls)	254.60
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Full	Lost Circulation During Cement Job	No

Customer Name LARAMIE  
 Well Name NICHOLS 24-03E  
 Job Type Surface

District Rifle  
 Supervisor ANDREW LINN  
 Engineer ZEN K.



Seq No.	Start Date	Start Time	Event	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	12/29/2017	10:00	CALL OUT					CREW CALL OUT ON LOCATION TIME OF 1600
2	12/29/2017	10:00	ALREADY ON LOCATION					CREW WAS ALREADY ON LOCATION
3	12/29/2017	10:00	SITE ASSESSMENT					SITE ASSESSMENT
4	12/29/2017	10:20	SPOT EQUIPMENT					SPOT IN BULK TRUCK
5	12/29/2017	10:45	STEACS					PRE RIG UP SAFETY MEETING WITH ALL BJ SERVICES CEMENT CREW
6	12/29/2017	11:00	RIG UP					RIG UP ALL GROUND EQUIPMENT
7	12/29/2017	22:40	SAFETY MEETING					PRE JOB SAFETY MEETING WITH RIG CREW AND ALL BJ SERVICES CEMENT CREW.
8	12/29/2017	23:10	RIG UP					LOAD PLUGS IN PLUG CONTAINER, STAB PLUG CONTAINER, HOOK LINES TO PLUG CONTAINER
9	12/29/2017	23:18	FILL LINE	8.33	2	5	113	FILL LINES WITH 5 BBLs. FRESH WATER
10	12/29/2017	23:21	DROP PLUG					DROP BOTTOM PLUG
11	12/29/2017	23:22	PRESSURE TEST				3322	PRESSURE TEST TO 3701 PSI.
12	12/29/2017	23:24	SPACER	8.33	5	6	293	FRESH WATER SPACER
13	12/29/2017	23:32	SPACER	8.33	5	40	319	FRESH WATER SPACER
14	12/29/2017	23:32	LEAD CEMENT	12	4.5	3	351	LEAD CEMENT 12 PPG. 191 SKS. 2.53 CUFT./SK. 14.89 GAL./SK. FOR A TOTAL OF 86.06 BBLs. OF LEAD REQUIRING 67.71 BBLs. OF FRESH WATER. WEIGHT VERIFIED WITH MUD SCALES. CALCULATED TOP OF LEAD IS 0 FT. CALCULATED HEIGHT OF LEAD IS 676.5 FT.
15	12/29/2017	23:38	LEAD CEMENT	12	3.5	22	172	PUMPED LEAD CEMENT
16	12/29/2017	23:43	LEAD CEMENT	12	4.5	50	239	PUMPED LEAD CEMENT
17	12/29/2017	23:50	LEAD CEMENT	12	2	75.6	184	FINISHED PUMPING LEAD CEMENT WITH 75.6 BBLs. AWAY
18	12/29/2017	23:50	TAIL CEMENT	12.5	5	5	218	TAIL CEMENT 12.5 PPG. 107 SKS. 2.23 CUFT./SK. 12.62 GAL./SK. FOR A TOTAL OF 42.5 BBLs. OF TAIL REQUIRING 32.15 BBLs. OF FRESH WATER. WEIGHT VERIFIED WITH MUD SCALES. CALCULATED TOP OF TAIL IS 676.5 FT. CALCULATED HEIGHT OF TAIL IS 875.5 FT.
19	12/29/2017	23:58	TAIL CEMENT	12.5	5	38	379	PUMPED TAIL CEMENT
20	12/30/2017	0:00	TAIL CEMENT	12.5	3	44	370	FINISHED PUMPING TAIL CEMENT WITH 44 BBLs. AWAY
21	12/30/2017	0:00	SHUT DOWN					SHUT DOWN
22	12/30/2017	0:02	DROP PLUG					DROP TOP PLUG. VERIFIED BY DRILLER

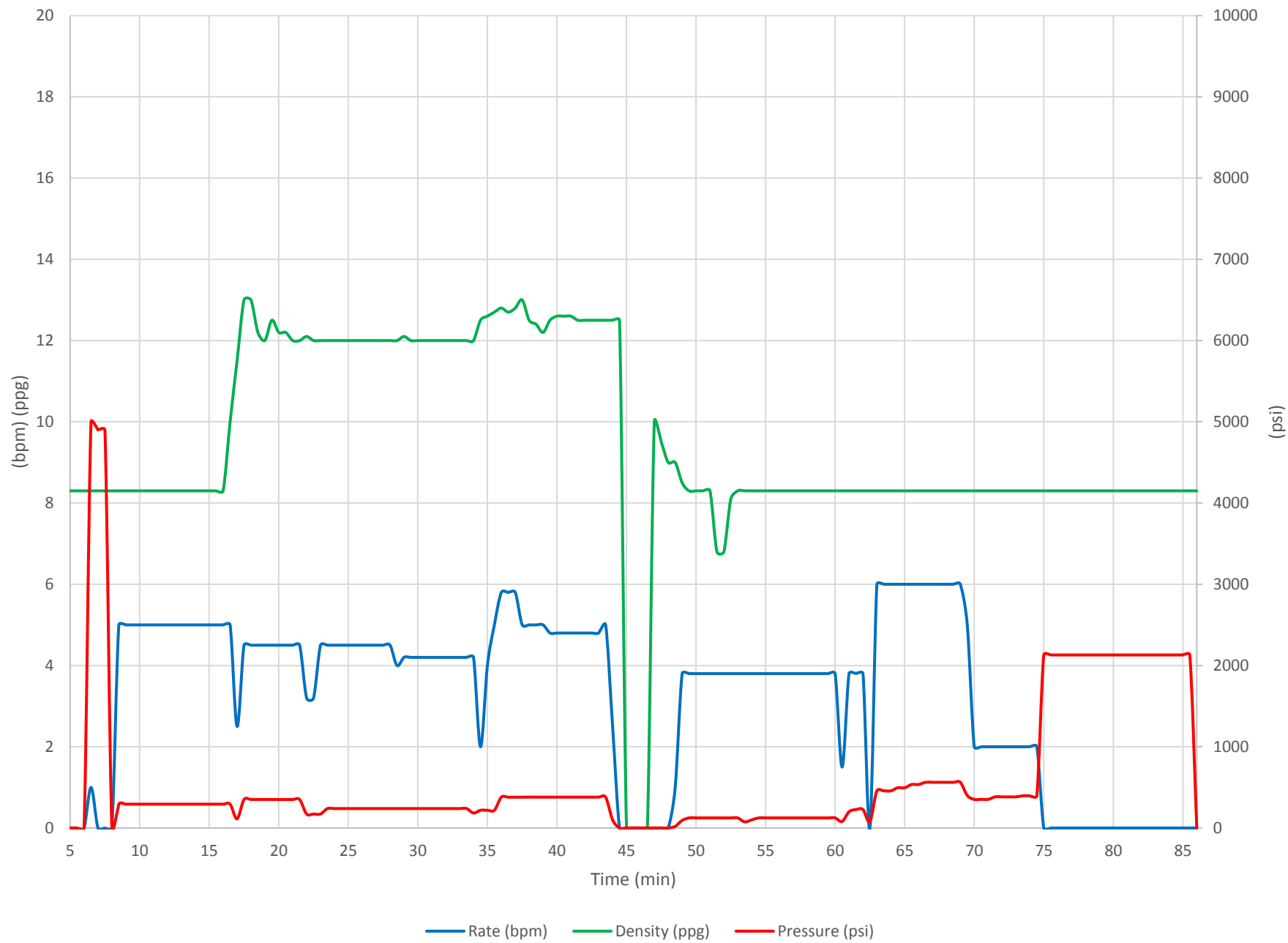
Customer Name LARAMIE  
 Well Name NICHOLS 24-03E  
 Job Type Surface

District Rifle  
 Supervisor ANDREW LINN  
 Engineer ZEN K.



Seq No.	Start Date	Start Time	Event	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
23	12/30/2017	0:03	DISPLACEMENT	8.33	3.5	10	93	FRESH WATER DISPLACEMENT WITH FIRST 10 BBLS. THREW MIX TUB
24	12/30/2017	0:10	DISPLACEMENT	8.33	4	20	124	FRESH WATER DISPLACEMENT
25	12/30/2017	0:19	DISPLACEMENT	8.33	6	50	457	FRESH WATER DISPLACEMENT
26	12/30/2017	0:25	DISPLACEMENT	8.33	6	85	582	FRESH WATER DISPLACEMENT
27	12/30/2017	0:20	CEMENT TO SURFACE					35 BBLS. OF CEMENT TO SURFACE VERIFIED BY COMPANY MAN
28	12/30/2017	0:25	DISPLACEMENT	8.33	2	86	357	FRESH WATER DISPLACEMENT
29	12/30/2017	0:29	DISPLACEMENT	8.33	2	95	396	FRESH WATER DISPLACEMENT
30	12/30/2017	0:30	LAND PLUG				2130	LANDED PLUG
31	12/30/2017	0:30	CASING TEST					10 MIN CASING TEST AT 2130 PSI.
32	12/30/2017	0:42	CHECK FLOATS					CHECK FLOATS FLOATS HELD 1/2 BBL. BACK
33	12/30/2017	0:50	SAFETY MEETING					PRE RIG DOWN SAFETY MEETING WITH RIG CREW
34	12/30/2017	1:08	RIG DOWN					BLEW DOWN LINES AND RIGGED DOWN THE RIG FLOOR
35	12/30/2017	1:08	WASH PUMPS AND LINES					WASH PUMPS AND LINES INTO CELLAR
36	12/30/2017	1:39	SAFETY MEETING					PRE RIG DOWN SAFETY MEETING WITH ALL BJ SERVICES CEMENT CREW
37	12/30/2017	1:52	RIG DOWN					RIGGED DOWN ALL EQUIPMENT
38	12/30/2017	1:55	AAR					AFTER ACTION REVIEW
39	12/30/2017	2:00	STEACS					PRE CONVOY SAFETY MEETING
40	12/30/2017	2:20	DEPART LOCATION					DEPART FROM LOCATION FOR RIFLE YARD. THANK YOU FOR USING BJ SERVICES, ANDREW LINN AND CREW.





# Cementing Treatment



<b>Start Date</b>	1/3/2018	<b>Well</b>	Nichols 0994-24-03E
<b>End Date</b>	1/3/2018	<b>County</b>	MESA
<b>Client</b>	LARAMIE ENERGY	<b>State/Province</b>	CO
<b>Client Field Rep</b>	Roger Foster	<b>API</b>	05-077-10419
<b>Service Supervisor</b>	Andrew Linn	<b>Formation</b>	-
<b>Field Ticket No.</b>	Production	<b>Rig</b>	H&P 290
<b>District</b>	Rifle, CO	<b>Type of Job</b>	Long String

## WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)	Grade	Thread
Open Hole	8.88			7,778.00	7,778.00	10.00		
Casing	4.00	4.50	11.60	7,768.00	7,768.00		L-80	LT&C
Previous Casing	8.10	8.63	24.00	1,552.00	1,552.00		J-55	ST&C

**Shoe Length (ft):** 78

## HARDWARE

<b>Bottom Plug Used?</b>	Yes	<b>Tool Type</b>	Float Collar
<b>Bottom Plug Provided By</b>	Non BJ	<b>Tool Depth (ft)</b>	7,690.00
<b>Bottom Plug Size</b>	4.500	<b>Max Tubing Pressure - Rated (psi)</b>	-
<b>Top Plug Used?</b>	Yes	<b>Max Tubing Pressure - Operated (psi)</b>	-
<b>Top Plug Provided By</b>	Non BJ	<b>Max Casing Pressure - Rated (psi)</b>	7,780.00
<b>Top Plug Size</b>	4.500	<b>Max Casing Pressure - Operated (psi)</b>	6,224.00
<b>Centralizers Used</b>	Yes	<b>Pipe Movement</b>	None
<b>Centralizers Quantity</b>	145.00	<b>Job Pumped Through</b>	Manifold
<b>Centralizers Type</b>	Bow	<b>Top Connection Thread</b>	8 RND
<b>Landing Collar Depth (ft)</b>	7,721	<b>Top Connection Size</b>	4.5

# 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	4.00
Circulation Time (min)	150.00	10 min SGS	26.00
Circulation Rate (bpm)	10.00	30 min SGS	49.00
Circulation Volume (bbls)	1,500.00	Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	No	Gas Present	Yes
Mud Density In (ppg)	9.50	Gas Units	1161
Mud Density Out (ppg)	9.50		
PV Mud In	22		
PV Mud Out	22		
YP Mud In	19		
YP Mud Out	19		

## TEMPERATURE

Ambient Temperature (°F)	18.00	Slurry Cement Temperature (°F)	50.00
Mix Water Temperature (°F)	80.00	Flow Line Temperature (°F)	77.00

## BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	CD Spacer	11.0000					60.0000
Lead Slurry	P100-X2	12.7000	1.9775	11.11	815	1,608.0000	286.3000
Tail Slurry	P70-X1	13.5000	1.8511	9.33	393	727.0000	129.4000
Displacement Final	Freshwater with Clay Stabilizer	8.3300				0.0000	120.0000

# Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	CD Spacer	GELLANT WATER, GW-86	0.80	PPB
Spacer / Pre Flush / Flush	CD Spacer	Spacer Surfactant, SS-247, (BJS Only)	0.80	GPB
Spacer / Pre Flush / Flush	CD Spacer	SAND, S-8, Silica Flour, 200 Mesh	179.97	PPB
Spacer / Pre Flush / Flush	CD Spacer	R-6 LOW TEMP RETARDER 50 LB BAG BJS	1.40	PPB
Lead Slurry	P100-X2	CEMENT, ASTM TYPE III	100.00	PCT
Lead Slurry	P100-X2	GELLANT WATER, GW-86	0.10	BWOB
Lead Slurry	P100-X2	BONDING AGENT, BA-60	0.30	BWOB
Lead Slurry	P100-X2	R-6 LOW TEMP RETARDER 50 LB BAG BJS	0.50	BWOB
Lead Slurry	P100-X2	DISPERSANT, CD-31	0.10	BWOB
Lead Slurry	P100-X2	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Tail Slurry	P70-X1	SAND, S-8, Silica Flour, 200 Mesh	25.00	BWOB
Tail Slurry	P70-X1	Flyash (Rockies)	20.00	PCT
Tail Slurry	P70-X1	BONDING AGENT, BA-60	0.20	BWOB
Tail Slurry	P70-X1	BONDING AGENT, BA-90	10.00	PCT
Tail Slurry	P70-X1	CEMENT, CLASS G	70.00	PCT
Tail Slurry	P70-X1	FLUID LOSS, FL-24, (BJS Only)	0.40	BWOB
Tail Slurry	P70-X1	R-6 LOW TEMP RETARDER 50 LB BAG BJS	0.20	BWOB
Tail Slurry	P70-X1	EXTENDER, BENTONITE	6.00	BWOB
Tail Slurry	P70-X1	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Displacement Final	Freshwater with Clay Stabilizer	CLAY STABILIZATION, ResCare CS	0.08	GPB

# Cementing Treatment



## TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)
1/3/2018 8:06 PM	CD Spacer	5.50	60.00	489.00
1/3/2018 8:16 PM	P100-X2	6.00	287.40	515.00
1/3/2018 9:04 PM	P70-X1	5.00	129.50	392.00
1/3/2018 9:42 PM	Freshwater with Clay Stabilizer	9.80	119.20	431.00

	Min	Max	Avg
Pressure (psi)	163.00	3,200.00	582.00
Rate (bpm)	2.00	9.80	5.00

## DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amount of Cement Returned/Reversed	0.00
Calculated Displacement Volume (bbls)	119.19	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	119.00	Amount of Spacer to Surface	12.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amount Bled Back After Job	1.75
Bump Plug Pressure (psi)	2,095.00	Total Volume Pumped (bbls)	575.50
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Partial	Lost Circulation During Cement Job	No

Customer Name LARAMIE District Rifle  
 Well Name NICHOLS 24-03E Supervisor ANDREW LINN  
 Job Type Long String Engineer GAGE PUTNAM



Seq No.	Start Date	Start Time	Event	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	1/3/2018	10:30	CALL OUT					CALL OUT. ON LOCATION TIME OF 15:00
2	1/3/2018	12:30	STEACS					PRE CONVOY SAFETY MEETING
3	1/3/2018	13:00	DEPART RIFLE YARD					DEPART FROM RIFLE YARD FOR H&P 290
4	1/3/2018	15:00	ARRIVE ON LOCATION					ARRIVE ON LOCATION. RIG WAS RUNNING CASING
5	1/3/2018	15:10	SITE ASSESSMENT					CREW DID A SITE ASSESSMENT
6	1/3/2018	15:20	SPOT EQUIPMENT					SPOTTED IN EQUIPMENT
7	1/3/2018	15:43	STEACS					PRE RIG UP SAFETY MEETING WITH ALL BJ CEMENT CREW
8	1/3/2018	16:01	RIG UP					RIG UP ALL GROUND EQUIPMENT
9	1/3/2018	19:22	SAFETY MEETING					PRE JOB SAFETY MEETING WITH RIG CREW AND ALL BJ CEMENT CREW
10	1/3/2018	19:40	RIG UP					LOAD BOTH PLUGS IN PLUG CONTAINER, STAB PLUG CONTAINER, HOOK LINES TO PLUG CONTAINER.
11	1/3/2018	19:53	FILL LINES	8.33	2	5	300	FILL LINES WITH 5 BBLs. OF FRESH WATER
12	1/3/2018	19:57	PRESSURE TEST				5500	PRESSURE TEST TO 5500 PSI.
13	1/3/2018	20:04	DROP PLUG					DROP BOTTOM PLUG
14	1/3/2018	20:06	WEIGHTED SPACER	11	5.5	5	489	11 PPG. WEIGHTED SPACER. 50 GAL SS-247
15	1/3/2018	20:08	WEIGHTED SPACER	11	6	18	538	11 PPG WEIGHTED SPACER
16	1/3/2018	20:15	WEIGHTED SPACER	11	6	50	461	11 PPG. WEIGHTED SPACER
17	1/3/2018	20:16	WEIGHTED SPACER	11	4	52.2	163	FINISHED PUMPING 11 PPG. WEIGHTED SPACER WITH 52.2 BBLs AWAY.
18	1/3/2018	20:16	LEAD CEMENT	12.7	6	5	515	LEAD CEMENT 12.7 PPG. 815 SKS. 1.98 CUFT./SK. 11.11 GAL./SK. FOR A TOTAL OF 287.04 BBLs OF LEAD CEMENT, REQUIRING 215.6 BBLs. OF WATER. WEIGHT VERIFIED WITH MUD SCALE. CALCULATED TOP OF LEAD IS 0 FT. WITH A HEIGHT OF 4607 FT.
19	1/3/2018	20:21	LEAD CEMENT	12.7	7	31	531	PUMPED LEAD CEMENT
20	1/3/2018	20:24	LEAD CEMENT	12.7	7	50	585	PUMPED LEAD CEMENT
21	1/3/2018	20:31	LEAD CEMENT	12.7	7	100	640	PUMPED LEAD CEMENT
22	1/3/2018	20:38	LEAD CEMENT	12.7	6	150	402	PUMPED LEAD CEMENT
23	1/3/2018	20:40	LEAD CEMENT	12.7	5	155	295	PUMPED LEAD CEMENT
24	1/3/2018	20:49	LEAD CEMENT	12.7	5	500	310	PUMPED LEAD CEMENT
25	1/3/2018	20:59	LEAD CEMENT	12.7	5	250	274	PUMPED LEAD CEMENT
26	1/3/2018	21:04	LEAD CEMENT	12.7	3.5	268.3	205	FINISHED PUMPING LEAD CEMENT WITH 268.3 BBLs. AWAY.
27	1/3/2018	21:04	TAIL CEMENT	13.5	5	10	392	TAIL CEMENT 13.5 PPG. 393 SKS. 1.85 CUFT./SK. 9.33 GAL./SK. FOR A TOTAL OF 129.41 BBLs OF TAIL CEMENT, REQUIRING 87.3 BBLs. OF WATER. WEIGHT VERIFIED WITH MUD SCALE. CALCULATED TOP OF TAIL IS 4607 FT. WITH A HEIGHT OF 3159.61 FT.
28	1/3/2018	21:13	TAIL CEMENT	13.5	5.5	50	691	PUMPED TAIL CEMENT
29	1/3/2018	21:20	TAIL CEMENT	13.5	4	84	313	PUMPED TAIL CEMENT
30	1/3/2018	21:26	TAIL CEMENT	13.5	4	100	285	PUMPED TAIL CEMENT
31	1/3/2018	21:34	TAIL CEMENT	13.5	2	131	119	FINISHED PUMPING TAIL CEMENT WITH 131 BBLs. AWAY.
32	1/3/2018	21:35	SHUT DOWN					SHUT DOWN
33	1/3/2018	21:35	WASH PUMPS AND LINES					WASH PUMPS AND LINES TO CELLAR
34	1/3/2018	21:40	DROP PLUG					DROP TOP PLUG VERIFIED BY DRILLER
35	1/3/2018	21:41	DISPLACEMENT	8.33	9.8	10	431	FRESH WATER DISPLACEMENT WITH 10 GALS. OF RESCARE
36	1/3/2018	21:46	DISPLACEMENT	8.33	9.5	50	1700	FRESH WATER DISPLACEMENT WITH 10 GALS. OF RESCARE
37	1/3/2018	21:50	DISPLACEMENT	8.33	8.5	80	1936	FRESH WATER DISPLACEMENT WITH 10 GALS. OF RESCARE
38	1/3/2018	21:52	SPACER TO SURFACE					12 BBLs. OF WEIGHTED SPACER TO SURFACE
39	1/3/2018	21:52	DISPLACEMENT	8.33	8	100	2150	FRESH WATER DISPLACEMENT WITH 10 GALS. OF RESCARE
40	1/3/2018	21:54	DISPLACEMENT	8.33	4	109	1800	FRESH WATER DISPLACEMENT WITH 10 GALS. OF RESCARE
41	1/3/2018	21:57	DISPLACEMENT	8.33	4	119	2095	FRESH WATER DISPLACEMENT WITH 10 GALS. OF RESCARE
42	1/3/2018	21:58	LAND PLUG				3200	LANDED THE PLUG FINAL CIRCULATING PRESSURE WAS 2095 PSI. TOOK TO 3200 PSI.
43	1/3/2018	21:59	CASING TEST					10 MIN CASING TEST AT 3200 PSI.
44	1/3/2018	22:10	CHECK FLOATS					CHECK FLOATS, FLOATS HELD 1 3/4 BBLs. BACK.
45	1/3/2018	22:15	SAFETY MEETING					PRE RIG DOWN SAFETY MEETING WITH RIG CREW
46	1/3/2018	22:25	RIG DOWN					RIG DOWN RIG FLOOR
47	1/3/2018	22:25	WASH PUMPS AND LINES					WASH PUMPS AND LINES TO CELLAR
48	1/3/2018	22:56	SAFETY MEETING					PRE RIG DOWN SAFETY MEETING WITH ALL BJ SERVICES CEMENT CREW
49	1/3/2018	23:06	RIG DOWN					RIG DOWN SOME IRON AND ALL BULK EQUIPMENT. SPOTTED PUMP OUT OF THE WAY.
50	1/3/2018	23:26	AAR					AFTER ACTION REVIEW

Customer Name LARAMIE District Rifle  
 Well Name NICHOLS 24-03E Supervisor ANDREW LINN  
 Job Type Long String Engineer GAGE PUTNAM



Seq No.	Start Date	Start Time	Event	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
51	1/3/2018	23:31	DIDN'T DEPART FROM LOCATION					CREW STAYED ON LOCATION FOR SURFACE JOB. THANK YOU FOR USING BJ SERVICES, ANDREW LINN AND CREW.

