



Laramie Energy

End of Well Cement Report

Nichols Federal 0994-24-17E 05-077-10394

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

Quote #: 09143/09145

I Execution #: 05715/05932



Laramie Energy

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

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

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,

Gage Putnam
Field Engineer I | (307) 887-4243 | Gage.Putnam@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	4/17/2018	Well	Nichols Federal 0994-24-17E
End Date	4/17/2018	County	MESA
Client	LARAMIE ENERGY	State/Province	CO
Client Field Rep	Matt Settles	API	05-077-10394
Service Supervisor	Andrew Linn	Formation	-
Field Ticket No.	Surface	Rig	H&P 290
District	Rifle, CO	Type of Job	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			1,030.00	48.00		
Open Hole	11.00			1,564.00	75.00		
Casing	8.02	8.63	28.00	1,554.00		J-55	ST&C

Shoe Length (ft): 43

HARDWARE

Bottom Plug Used?	Yes	Tool Type	Float Collar
Bottom Plug Provided By	Non BJ	Tool Depth (ft)	1,508.00
Bottom Plug Size	8.625	Max Tubing Pressure - Rated (psi)	-
Top Plug Used?	Yes	Max Tubing Pressure - Operated (psi)	-
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	2,470.00
Top Plug Size	8.625	Max Casing Pressure - Operated (psi)	1,976.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	18.00	Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	8 rnd
Landing Collar Depth (ft)	1,508	Top Connection Size	8.625

Cementing Treatment



CIRCULATION PRIOR TO JOB

Well Circulated By	BJ	Solids Present at End of Circulation	No
Circulation Prior to Job	Yes	10 sec SGS	2.00
Circulation Time (min)	90.00	10 min SGS	2.00
Circulation Rate (bpm)	6.00	30 min SGS	3.00
Circulation Volume (bbls)	540.00	Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	Yes	Gas Present	No
Mud Density In (ppg)	9.20	Gas Units	0
Mud Density Out (ppg)	-		
PV Mud In	7		
PV Mud Out	-		
YP Mud In	5		
YP Mud Out	-		

TEMPERATURE

Ambient Temperature (°F)	36.00	Slurry Cement Temperature (°F)	96.80
Mix Water Temperature (°F)	86.20	Flow Line Temperature (°F)	-

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	Fresh Water	8.33			0.00				40.00
Lead Slurry	BJCem S100.3.01D	12.00	2.5329	14.89	0.00	1,030.00	170	417.00	74.20
Tail Slurry	BJCem S100.3.01D	12.50	2.2282	12.62	1,030.00	500.00	107	237.00	42.10
Displacement Final	Water	8.33			0.00			0.00	93.00

Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Lead Slurry	BJCem S100.3.01D	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem S100.3.01D	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Lead Slurry	BJCem S100.3.01D	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Lead Slurry	BJCem S100.3.01D	Foam Preventer, FP-25	0.3000	BWOB
Lead Slurry	BJCem S100.3.01D	CEMENT EXTENDER,SODIUM METASILICATE A-2 ANHYDROUS	2.0000	LBS/SK
Lead Slurry	BJCem S100.3.01D	IntegraSeal CELLO	0.1300	LBS/SK
Tail Slurry	BJCem S100.3.01D	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Tail Slurry	BJCem S100.3.01D	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Tail Slurry	BJCem S100.3.01D	Foam Preventer, FP-25	0.3000	BWOB
Tail Slurry	BJCem S100.3.01D	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	BJCem S100.3.01D	CEMENT EXTENDER,SODIUM METASILICATE A-2 ANHYDROUS	2.0000	LBS/SK
Tail Slurry	BJCem S100.3.01D	IntegraSeal CELLO	0.1300	LBS/SK

TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)
4/17/2018 11:51 AM	Fresh Water	5.00	40.00	291.00
4/17/2018 12:04 PM	BJCem S100.3.01D	4.00	76.60	298.00
4/17/2018 12:22 PM	BJCem S100.3.01D	4.50	42.50	177.00
4/17/2018 12:36 PM	Water	4.50	95.94	162.00

	Min	Max	Avg
Pressure (psi)	67.00	702.00	298.00
Rate (bpm)	2.00	7.50	4.50

Cementing Treatment



DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amount of Cement Returned/Reversed	25.00
Calculated Displacement Volume (bbls)	95.94	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	96.00	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)	537.00	Total Volume Pumped (bbls)	248.00
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 24-17E
Job Type Surface

District Rifle
Supervisor ANDREW LINN
Engineer GAGE PUTNAM



Seq No.	Start Date	Start Time	Event	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	4/17/2018	3:30	CALL OUT					CREW CALL OUT ON LOCATION TIME OF 10:00
2	4/17/2018	5:32	STEACS					PRE CONVOY SAFETY MEETING
3	4/17/2018	9:22	ARRIVE ON LOCATION					CREW ARRIVED ON LOCATION RIG WAS RUNING CASING
4	4/17/2018	9:28	SITE ASSESSMENT					SITE ASSESSMENT
5	4/17/2018	9:32	SPOT EQUIPMENT					SPOT IN BULK TRUCK
6	4/17/2018	9:42	STEACS					PRE RIG UP SAFETY MEETING WITH ALL BJ SERVICES CEMENT CREW
7	4/17/2018	9:50	RIG UP					RIG UP ALL GROUND EQUIPMENT
8	4/17/2018	11:15	SAFETY MEETING					PRE JOB SAFETY MEETING WITH RIG CREW AND ALL BJ SERVICES CEMENT CREW.
9	4/17/2018	11:22	RIG UP					LOAD PLUGS IN PLUG CONTAINER, STAB PLUG CONTAINER, HOOK LINES TO PLUG CONTAINER
10	4/17/2018	11:35	FILL LINE	8.33	2	5	36	FILL LINES WITH 5 BBLS. FRESH WATER
11	4/17/2018	11:37	DROP PLUG					DROP BOTTOM PLUG
12	4/17/2018	11:43	PRESSURE TEST				4516	PRESSURE TEST TO 4516 PSI.
13	4/17/2018	11:51	SPACER	8.33	5	6	291	FRESH WATER SPACER
14	4/17/2018	11:58	SPACER	8.33	5	40	335	FRESH WATER SPACER
15	4/17/2018	12:04	LEAD CEMENT	12	4	5	298	LEAD CEMENT 12 PPG 170 SKS 2.53 CUFT/SK 14.89 GAL/SK FOR A TOTAL OF 76.6 BBLS OF LEAD REQUIRING 60.27 BBLS OF FRESH WATER. WEIGHT VERIFIED WITH MUD SCALES. CALCULATED TOP OF LEAD IS 0 FT CALCULATED HEIGHT OF LEAD IS 676.3 FT.
16	4/17/2018	12:14	LEAD CEMENT	12	3	40	91	PUMPED LEAD CEMENT
17	4/17/2018	12:17	LEAD CEMENT	12	3	50	76	PUMPED LEAD CEMENT
18	4/17/2018	12:20	LEAD CEMENT	12	3	68	67	FINISHED PUMPING LEAD CEMENT WITH 68 BBLS. AWAY
19	4/17/2018	12:22	TAIL CEMENT	12.5	4.5	5	177	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 676.3 FT CALCULATED HEIGHT OF TAIL IS 877.7 FT.
20	4/17/2018	12:27	TAIL CEMENT	12.5	3	30	81	PUMPED TAIL CEMENT
21	4/17/2018	12:32	TAIL CEMENT	12.5	3	44.5	87	FINISHED PUMPING TAIL CEMENT WITH 44.5 BBLS. AWAY
22	4/17/2018	12:32	SHUT DOWN					SHUT DOWN
23	4/17/2018	12:34	DROP PLUG					DROP TOP PLUG. VERIFIED BY DRILLER
24	4/17/2018	12:36	DISPLACEMENT	8.33	4.5	10	162	FRESH WATER DISPLACEMENT WITH FIRST 10 BBLS. THREW MIX TUB
25	4/17/2018	12:39	DISPLACEMENT	8.33	7.5	20	379	FRESH WATER DISPLACEMENT
26	4/17/2018	12:43	DISPLACEMENT	8.33	7.5	50	590	FRESH WATER DISPLACEMENT
27	4/17/2018	12:47	DISPLACEMENT	8.33	5	80	616	FRESH WATER DISPLACEMENT
28	4/17/2018	12:45	CEMENT TO SURFACE					25 BBLS OF CEMENT TO SURFACE VERIFIED BY COMPANY MAN
29	4/17/2018	12:48	DISPLACEMENT	8.33	2	86	471	FRESH WATER DISPLACEMENT
30	4/17/2018	12:54	DISPLACEMENT	8.33	2	95	537	FRESH WATER DISPLACEMENT
31	4/17/2018	12:54	LAND PLUG				1038	LANDED PLUG AT 537 PSI TOOK TO 1038 PSI.
32	4/17/2018	12:56	CHECK FLOATS					CHECK FLOATS FLOATS HELD 1/2 BBL BACK
33	4/17/2018	13:00	SAFETY MEETING					PRE RIG DOWN SAFETY MEETING WITH RIG CREW
34	4/17/2018	13:15	RIG DOWN					RIG DOWN THE RIG FLOOR
35	4/17/2018	13:15	WASH PUMPS AND LINES					WASH PUMPS AND LINES INTO CELLAR
36	4/17/2018	13:38	SAFETY MEETING					PRE RIG DOWN SAFETY MEETING WITH ALL BJ SERVICES CEMENT CREW
37	4/17/2018	13:44	RIG DOWN					RIGGED DOWN ALL EQUIPMENT
38	4/17/2018	14:02	AAR					AFTER ACTION REVIEW
39	4/17/2018	14:08	STEACS					PRE CONVOY SAFETY MEETING
40	4/17/2018	14:20	DEPART LOCATION					DEPART FROM LOCATION FOR RIFLE YARD. THANK YOU FOR USING BJ SERVICES, ANDREW LINN AND CREW.

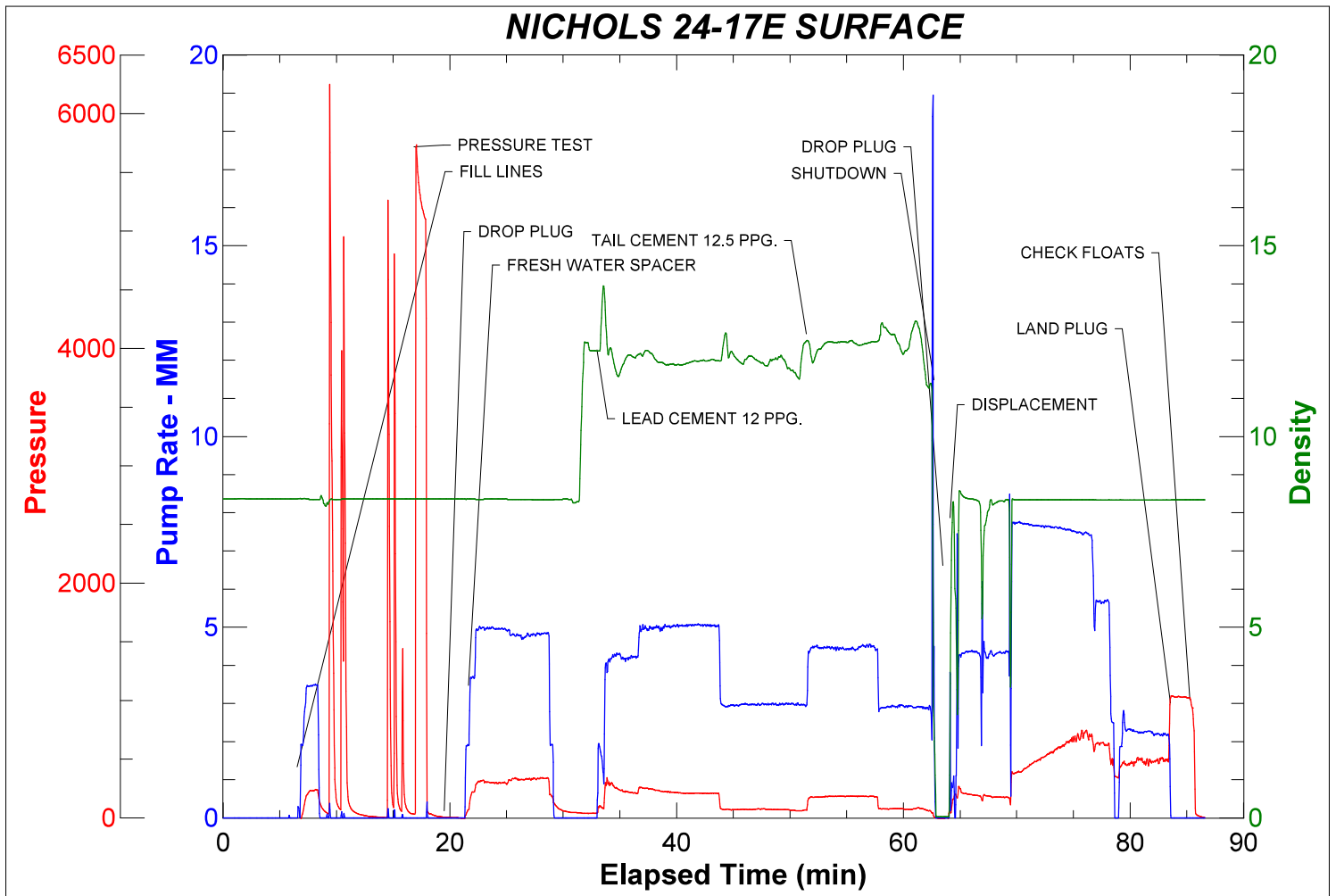


JobMaster Program Version 4.02C1

Job Number: 4654

Customer: LARAMIE

Well Name: NICHOLS 24-17E



Cementing Treatment



Start Date	4/20/2018	Well	Nichols Federal 0994-24-17E
End Date	4/20/2018	County	MESA
Client	LARAMIE ENERGY	State/Province	CO
Client Field Rep	Matt Settles	API	05-077-10394
Service Supervisor	Jerod Dent	Formation	
Field Ticket No.	Production	Rig	H&P 290
District	Rifle, CO	Type of Job	Long String

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	Excess(%)	Grade	Thread
Previous Casing	8.10	8.63	24.00	1,530.00		J-55	ST&C
Open Hole	8.88			7,898.00	10.00		
Casing	4.00	4.50	11.60	7,888.00		L-80	LT&C
Open Hole	8.88			5,875.00	19.00		

Shoe Length (ft): 80

HARDWARE

Bottom Plug Used?	Yes	Tool Type	Float Collar
Bottom Plug Provided By	Non BJ	Tool Depth (ft)	7,888.00
Bottom Plug Size	4.500	Max Casing Pressure - Rated (psi)	7,560.00
Top Plug Used?	Yes	Max Casing Pressure - Operated (psi)	6,048.00
Top Plug Provided By	Non BJ	Pipe Movement	None
Top Plug Size	4.500	Job Pumped Through	Manifold
Centralizers Used	Yes	Top Connection Thread	8 RD
Centralizers Quantity	111.00	Top Connection Size	4.5
Centralizers Type	Bow		
Landing Collar Depth (ft)	7,845		

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	12.00
Circulation Time (min)	1.50	10 min SGS	31.00
Circulation Rate (bpm)	10.00	30 min SGS	58.00
Circulation Volume (bbls)	900.00	Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	No	Gas Present	Yes
Mud Density In (ppg)	10.40	Gas Units	1708
Mud Density Out (ppg)	10.40		
PV Mud In	17		
YP Mud In	20		

TEMPERATURE

Ambient Temperature (°F)	44.00	Slurry Cement Temperature (°F)	56.00
Mix Water Temperature (°F)	55.00	Flow Line Temperature (°F)	94.00

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	IntegraGuard EZ Spacer	11.0000			0.00				60.0000
Lead Slurry	BJCem P100.3.01R	12.7000	1.9849	11.10	1,030.00	4,845.00	898	1,774.0000	315.9000
Tail Slurry	BJCem P70.6.01R	13.5000	1.8561	9.31	5,875.00	2,050.00	392	727.0000	129.4000
Displacement Final	Water + ResCare +Biocide	8.3300			0.00			0.0000	121.9000

Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	GELLANT WATER, GW-86	0.8000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	RETARDER, R-3	1.4000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	SAND, S-8, Silica Flour, 200 Mesh	168.8967	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	RETARDER, R-7C	0.3000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	EXTENDER, BENTONITE	10.0000	PPB
Lead Slurry	BJCem P100.3.01R	BONDING AGENT, BA-60	0.3000	BWOB
Lead Slurry	BJCem P100.3.01R	GELLANT WATER, GW-86	0.1000	BWOB
Lead Slurry	BJCem P100.3.01R	DISPERSANT, CD-31	0.1000	BWOB
Lead Slurry	BJCem P100.3.01R	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem P100.3.01R	RETARDER, R-3	0.5000	BWOB
Lead Slurry	BJCem P100.3.01R	IntegraSeal PHENO	0.5000	LBS/SK
Lead Slurry	BJCem P100.3.01R	Foam Preventer, FP-25	0.3000	BWOB
Lead Slurry	BJCem P100.3.01R	IntegraSeal CELLO	0.2500	LBS/SK
Tail Slurry	BJCem P70.6.01R	CEMENT, CLASS G	70.0000	PCT
Tail Slurry	BJCem P70.6.01R	FLUID LOSS, FL-24	0.4000	BWOB
Tail Slurry	BJCem P70.6.01R	EXTENDER, BENTONITE	6.0000	BWOB
Tail Slurry	BJCem P70.6.01R	BONDING AGENT, BA-60	0.2000	BWOB
Tail Slurry	BJCem P70.6.01R	BONDING AGENT, BA-90	10.0000	PCT
Tail Slurry	BJCem P70.6.01R	Flyash (Rockies)	20.0000	PCT
Tail Slurry	BJCem P70.6.01R	IntegraSeal PHENO	0.5000	LBS/SK
Tail Slurry	BJCem P70.6.01R	SAND, S-8, Silica Flour, 200 Mesh	25.0000	BWOB
Tail Slurry	BJCem P70.6.01R	Foam Preventer, FP-25	0.3000	BWOB
Tail Slurry	BJCem P70.6.01R	RETARDER, R-3	0.2000	BWOB
Tail Slurry	BJCem P70.6.01R	IntegraSeal CELLO	0.2500	LBS/SK
Displacement Final	Water + ResCare +Biocide	CLAY STABILIZER ResCare CS	0.0800	GPB

Cementing Treatment



TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Annulus Pressure (psi)	Comments
4/20/2018 11:02 AM	IntegraGuard EZ Spacer	5.00	60.00	480.00		
4/20/2018 11:21 AM	BJCem P100.3.01R	5.50	315.90	345.00		
4/20/2018 12:35 PM	BJCem P70.6.01R	5.50	129.40	360.00		
4/20/2018 01:26 PM	Water + ResCare +Biocide	10.00	121.90	2,280.00		

	Min	Max	Avg
Pressure (psi)	100.00	3,009.00	488.00
Rate (bpm)	0.50	10.00	6.00

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amount of Cement Returned/Reversed	80.00
Calculated Displacement Volume (bbls)	121.00	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	120.90	Amount of Spacer to Surface	60.00
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)	1,899.00	Total Volume Pumped (bbls)	632.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Full	Lost Circulation During Cement Job	No

EVENT LOG



Service Line Cementing
Client LARAMIE ENERGY
District Rifle, CO

Quotes: QUO-09145-Q6Y9F1
Plans: ORD-05932-C1H9H5
Executions: EXC-05932-C1H9H502
Well Nichols Federal 0994-24-17E
Job Type Production
BJ Sup. Jerod Dent
BJ Eng. Gage Putnam

Seq.	Start Dt./Time	End Dt./Time	Duration	Category	Event	Density (ppg)	Pump Rate(bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
1	04/20/2018 02:00:00	04/20/2018 03:00:00	1.00	Mobilization	Callout	0.0000	0.00	0.00	0.00	Crew called out to Laramie 24-17 production. RTS at 08:00 hrs.
2	04/20/2018 03:45:00	04/20/2018 04:00:00	0.25	Mobilization	Leave Location	0.0000	0.00	0.00	0.00	BJ services crew conduct journey management STEACS and depart facility for location
3	04/20/2018 06:00:00	04/20/2018 06:10:00	0.17	Mobilization	Arrive on Location	0.0000	0.00	0.00	0.00	BJ services crew arrive on location.
4	04/20/2018 06:10:00	04/20/2018 06:10:00		Operational	Rig Up	0.0000	0.00	0.00	0.00	BJ services crew conduct rig up STEACS and begin rig up of production cement job..
5	04/20/2018 06:10:00	04/20/2018 07:00:00	0.83	Operational	Other (See comment)	0.0000	0.00	0.00	0.00	BJ crew rigged up and waiting on rig to run casing. 7,888' of 4.5", 11.6 #, P-110 casing on bottom at 9:00. Circulating at bbl/min, psi with units of gas for a total of bbls.

EVENT LOG

Service Line Cementing
Client LARAMIE ENERGY
District Rifle, CO



6	04/20/2018 10:00:00	04/20/2018 10:50:00	0.83	Operational	Safety Meeting	0.0000	0.00	0.00	0.00	BJ crew, customer representative and rig crew conduct safety meeting. Discuss job procedures, hazards, muster area, red zones, emergency numbers etc.
7	04/20/2018 10:50:00	04/20/2018 10:52:00	0.03	Operational	Drop Bottom Plug	0.0000	0.00	0.00	0.00	Bottom plug away
8	04/20/2018 10:52:00	04/20/2018 10:53:00	0.02	Operational	Start Pumping	8.3300	2.00	5.00	488.00	Fill lines with 5 bbls water ahead
9	04/20/2018 10:53:00	04/20/2018 10:54:00	0.02	Operational	Other (See comment)	0.0000	0.00	0.00	0.00	Shutdown to pressure test lines
10	04/20/2018 10:54:00	04/20/2018 10:55:00	0.02	Operational	Pressure Test	0.0000	0.00	0.00	0.00	Pressure test lines to 5,000 psi.
11	04/20/2018 11:02:00	04/20/2018 11:18:00	0.27	Operational	Pump Spacer	11.0000	0.00	60.00	0.00	Mix and pump 60 bbls EZ spacer ahead at 11 ppg
12	04/20/2018 11:19:00	04/20/2018 11:21:00	0.03	Operational	Other (See comment)	12.7000	0.00	0.00	0.00	Batch up Lead cement
13	04/20/2018 11:21:00	04/20/2018 11:22:00	0.02	Operational	Pump Lead Cement	12.7000	5.50	50.00	340.00	Mix and pump Lead cement at 12.7 ppg
14	04/20/2018 11:22:00	04/20/2018 11:31:00	0.15	Operational	Pump Lead Cement	12.7000	5.50	100.00	345.00	50 bbls lead away
15	04/20/2018 11:31:00	04/20/2018 11:41:00	0.17	Operational	Pump Lead Cement	12.7000	5.50	150.00	296.00	100 bbls lead away
16	04/20/2018 11:41:00	04/20/2018 11:51:00	0.17	Operational	Pump Lead Cement	12.7000	5.50	200.00	288.00	150 bbls lead away
17	04/20/2018 11:51:00	04/20/2018 12:00:00	0.15	Operational	Pump Lead Cement	12.7000	5.50	250.00	309.00	200 bbls lead away
18	04/20/2018 12:00:00	04/20/2018 12:09:00	0.15	Operational	Pump Lead Cement	12.7000	5.50	300.00	317.00	250 bbls lead away
19	04/20/2018 12:09:00	04/20/2018 12:19:00	0.17	Operational	Pump Lead Cement	12.7000	5.50	316.70	200.00	316.7 bbls lead away (898 sks of BJ Cem P-100 lead cement at 12.7 ppg, 1.98 yld, 11.1 gal/sk. Total of 316.7 bbls cement.)

EVENT LOG

Service Line Cementing
Client LARAMIE ENERGY
District Rifle, CO



20	04/20/2018 12:19:00	04/20/2018 12:20:00	0.02	Operational	Other (See comment)	0.0000	0.00	0.00	0.00	Shutdown/lost water while switching to tail cement.
21	04/20/2018 12:20:00	04/20/2018 12:35:00	0.25	Operational	Pump Tail Cement	13.5000	5.50		219.00	Mix and pump tail cement at 13.5 ppg
22	04/20/2018 12:35:00	04/20/2018 12:47:00	0.20	Operational	Pump Tail Cement	13.5000	5.50	50.00	360.00	50 bbls tail away
23	04/20/2018 12:47:00	04/20/2018 12:58:00	0.18	Operational	Pump Tail Cement	13.5000	5.50	100.00	325.00	100 bbls tail away
24	04/20/2018 12:58:00	04/20/2018 13:10:00	0.20	Operational	Pump Tail Cement	13.5000	5.50	129.20	325.00	129.2 bbls tail away (392 sks of BJ Cem P-70 tail cement at 13.5 ppg, 1.85 yld, 9.31 gal/sk. Total of 129.2 bbls cement.)
25	04/20/2018 13:11:00	04/20/2018 13:11:00		Operational	Other (See comment)	0.0000	0.00	0.00	0.00	Shutdown / Wash lines
26	04/20/2018 13:12:00	04/20/2018 13:26:00	0.23	Operational	Drop Top Plug	0.0000	0.00	0.00	0.00	Drop top plug
27	04/20/2018 13:26:00	04/20/2018 13:34:00	0.13	Operational	Pump Displacement	8.3300	10.00		1278.00	Begin pumping displacement with REScare and biocide.
28	04/20/2018 13:34:00	04/20/2018 13:39:00	0.08	Operational	Pump Displacement	8.3300	10.00	50.00	1629.00	50 bbls displacement away
29	04/20/2018 13:40:00	04/20/2018 13:43:00	0.05	Operational	Pump Displacement	8.3300	4.00	110.00	2280.00	110 bbls displacement away / Slow rate to 4 bbl/min
30	04/20/2018 13:43:00	04/20/2018 13:48:00	0.08	Operational	Land Plug	8.3300	4.00	121.00	1899.00	Land plug with 121 bbls displacement away. Final circulating pressure: 1899 psi and bumped plug to 3,009 psi.
31	04/20/2018 13:48:00	04/20/2018 13:58:00	0.17	Operational	Pressure Test	0.0000	0.00	0.00	3009.00	Perform casing pressure test to 3,000 psi for 10 minutes per customer request.
32	04/20/2018 13:58:00	04/20/2018 13:58:00		Operational	Check Floats	0.0000	0.00	0.00	0.00	Floats held with 1 bbl fluid back to truck.
33	04/20/2018 13:58:00	04/20/2018 13:58:00		Operational	Other (See comment)	0.0000	0.00	0.00	0.00	End cement job. 80 bbls cement to surface,. Full returns throughout the job.

