



Laramie Energy

End of Well Cement Report

Bruton 19-13E 05-077-10366
S:30 T:9S R:93W Mesa CO

CallSheet #: 1146 (Surface) 1155 (Production)
Proposal #: 13504



Attention: Mr. Chuck Mallary | (303) 859-3634 | cmallary@laramie-energy.com
Laramie Energy
1401 17th St, Suite 1400 | Denver, CO 80202

Dear Mr. Mallary,

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

Technical Specialist-II | (307) 757-7178 | Zen.Keith@bjservices.com

Field Office 28730 US-6, Rifle, CO 81650
Phone: (307) 360-3062

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Phone: (303) 296-1158



Table of Contents

Surface Post Job Report	3
1 Job Details & Summary.....	3
1.1 Geometry	3
1.2 Equipment / People	3
1.3 Timing.....	3
1.4 General Job Information	3
1.5 Job Details	3
1.6 Job Details (cont.).....	3
1.7 Circulation	4
1.8 Job Execution Information	4
1.9 Job Fluid Details	4
2 Job Logs.....	5
3 Water Analysis	6
4 Pump Diagrams.....	7
Production Post Job Report	8
1 Job Details & Summary.....	8
1.1 Geometry	8
1.2 Equipment / People	8
1.3 Timing.....	8
1.4 General Job Information	8
1.5 Well Fluid Details	8
1.6 Job Details	8
1.7 Job Details (cont.).....	8
1.8 Circulation	8
1.9 Job Execution Information	9
1.10 Job Fluid Details	9
2 Job Logs.....	10
3 Water Analysis	11
4 Pump Diagrams.....	12

Surface Post Job Report

1 Job Details & Summary

1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Open Hole	Outer	n/a	11	n/a	n/a	60	1559	75
Casing	Inner	8.625	8.097	24	STC	0	1549	0
Casing	Outer	16	15.25	65	n/a	0	60	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Bulk Trailer	512			
Bulk Trailer	E491	Rhaun Cose		120
Cement Chemical	403	Johnson, Brandon		120
Cement Pump	PPC11250	McClure, Christian		120
Light Duty Pickups	4	Helton, Shane		120
Light Duty Pickups	2	Allen Tippetts	Andrew Linn	120

1.3 Timing

Event	Date/Time
Call Out	8/6/2017 05:45
Depart Facility	8/6/2017 07:15
On Location	8/6/2017 09:00
Rig Up Iron	8/6/2017 09:20
Job Started	8/6/2017 15:10
Job Completed	8/6/2017 16:30
Rig Down Iron	8/6/2017 16:35
Depart Location	8/6/2017 17:45

1.4 General Job Information

Metrics	Value
Well Fluid Density	8.4 lb/gal
Well Fluid Type	Water
Rig Circulation Vol	500 bbls
Rig Circulation Time	0.75 hours
Calculated Displacement	95.67 bbls
Actual Displacement	93.5 bbls
Total Spacer to Surface	40 bbls
Total CMT to Surface	25 bbls
Well Topped Out	No

1.5 Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	No
Flare at End of Job	No
Well Full Prior to Job	Yes
Well Fluid Density Into Well	8.4 lb/gal
Well Fluid Density Out of Well	8.4 lb/gal

1.6 Job Details (cont.)

Metrics	Value
BHCT	82 °F
BHST	106 °F



1.7 Circulation

Lost Circulation Experienced
No

1.8 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft ³ /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sks)	Volume (bbl)	Top (ft)
1	1	Water	Flush	8.33			42.00		40.00	0
1	2	ALTCem S100-12	Lead	12.00	2.53	14.85		191.00	85.94	0
1	3	ALTCem S100-12	Tail	12.50	2.22	12.58		124.00	49.10	1024
1	4	Water	DisplacementFinal	8.33			42.00		95.00	0

1.9 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Lead	ALTCem S100-12	AC3-10	Cement	100.00	%
1	2	Lead	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	2	Lead	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	2	Lead	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	2	Lead	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	2	Lead	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk
1	3	Tail	ALTCem S100-12	AC3-10	Cement	100.00	%
1	3	Tail	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	3	Tail	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	3	Tail	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	3	Tail	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	3	Tail	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk



2 Job Logs

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Customer Requested	8/6/2017	11:00					Requested Location Time
2	Yard Call	8/6/2017	06:30					Yard Call
3	Journey Management	8/6/2017	07:00					Journey Management
4	Depart Facility	8/6/2017	07:15					Depart Facility
5	Arrived On Location	8/6/2017	09:00					Arrived On Location
6	Steacs Briefing	8/6/2017	09:15					Steacs Briefing
7	Rig Up Equipment	8/6/2017	09:20					Rig Up Equipment
8	WOR	8/6/2017	09:30					Wor
9	Casing on Bottom	8/6/2017	14:45					Casing On Bottom
10	Rig Circulated	8/6/2017	15:10					Rig Circulated
11	Steacs Briefing	8/6/2017	15:05					Steacs Briefing
12	Rig Up Cement Head	8/6/2017	15:10					Rig Up Cement Head
13	Load Line	8/6/2017	15:15	8.34		5	40	Load Line
14	Pressure Test	8/6/2017	15:17				3000	Pressure Test
15	Fresh Water Spacer	8/6/2017	15:19	8.34	5	35	82	Fresh Water Spacer
16	Start Lead Slurry	8/6/2017	15:26	12	5		134	Start Lead Cement
17	Lead Slurry	8/6/2017	15:35	12	5	50	204	50 Bbls Lead Cement
18	Slow Rate	8/6/2017	15:40	12	3	85	187	Slow Rate
19	Start Tail Slurry	8/6/2017	15:44	12.5	4.9		187	Start Tail Cement
20	Tail Slurry	8/6/2017	15:53	12.5	3	49	185	Slow Rate
21	Shut Down	8/6/2017	15:55					Shut Down
22	Drop Plug	8/6/2017	15:55					Drop Plug
23	Start Displacement	8/6/2017	15:58	8.34			126	Start Displacement
24	Displacement	8/6/2017	16:09	8.34	5.3	50	275	50 Bbls Displacement
25	Displacement	8/6/2017	16:15	8.34	3	85	381	85 Bbls Displacement
26	Slow Rate	8/6/2017	16:17	8.34		93.5		Slow Rate
27	Land Plug	8/6/2017	16:20				2046	Land Plug & Start Casing Test
28	Check Float	8/6/2017	16:30					Check Float Good



3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	81 °F	50-80 °F
pH Level	6	5.5-8.5
Chlorides	29 mg/L	0-3000 mg/L
Total Alkalinity	120	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	N/A mg/L	0-100 mg/L
Sulfates	200 mg/L	0-1500 mg/L
Potassium	1500 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L



4 Pump Diagrams

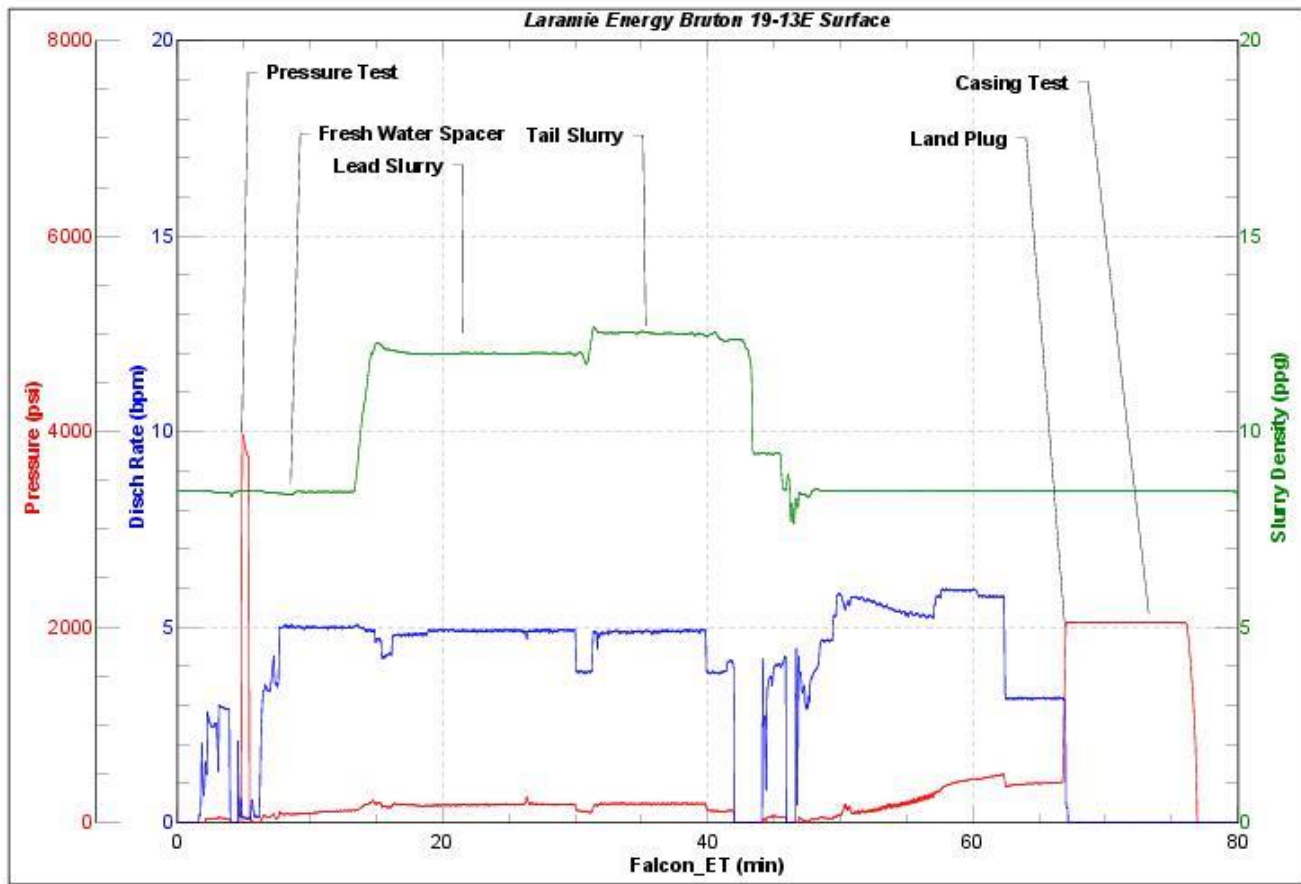


JobMaster Program Version 4.02C1

Job Number: 1146

Customer: Laramie Energy

Well Name: Bruton 19-13E



BJ Services

Job Start: Sunday, August 06, 2017

Production Post Job Report

1 Job Details & Summary

1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Casing	Outer	8.625	8.097	24	STC	0	1524	0
Casing	Inner	4.5	4	11.6	LTC	0	8217	0
Open Hole	Outer	n/a	8.88	n/a	n/a	1524	8223	10

1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Bulk Trailer	E466	Richey, Steven		130
Silo	6 (Silo)			
Silo	7 (silo)			
Bulk Trailer	E496	McNeal, Lawrence		130
Cement Pump	PPC11250	Youngberg, Wendell		130
Cement Chemical	401	Busheri, Hamza		130
Light Duty Pickups	4	Roush, James	Gilliam, Glen	130

1.3 Timing

Event	Date/Time
Call Out	8/9/2017 08:30
Depart Facility	8/9/2017 11:30
On Location	8/9/2017 13:30
Rig Up Iron	8/9/2017 13:45
Job Started	8/9/2017 15:45
Job Completed	8/9/2017 18:34
Rig Down Iron	8/9/2017 18:55
Depart Location	8/9/2017 20:30

1.4 General Job Information

Metrics	Value
Well Fluid Density	9.7 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	400 bbls
Rig Circulation Time	1.25 hours
Calculated Displacement	126 bbls
Actual Displacement	126 bbls
Total Spacer to Surface	5 bbls
Total CMT to Surface	0 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	24
Yield Point	21
10 sec. SGS	5
10 min. SGS	22
30 min. SGS	42
Filtrate	0.32
Flow Line Temp.	91

1.6 Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	No
Flare at End of Job	No
Well Full Prior to Job	Yes
Well Fluid Density Into Well	9.7 lb/gal
Well Fluid Density Out of Well	9.7 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	178 °F
BHST	240 °F

1.8 Circulation

Lost Circulation Experienced
No

1.9 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft ³ /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sks)	Volume (bbl)	Top (ft)
1	1	CD Spacer	Spacer	11.00			33.15		40.00	115
1	2	ALTCem P100-X2	Lead	12.70	1.97	11.07		879.00	308.92	1024
1	3	ALTCem P70-X1	Tail	13.50	1.90	9.55		401.00	135.66	6106
1	4	Water w/ ASF-50	DisplacementFinal	8.33			41.92		128.00	0

1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	1	Spacer	CD Spacer	ASR-20	StrengthRetrogression	179.73	lb/bbl
1	1	Spacer	CD Spacer	AR-10	Retarder	1.40	lb/bbl
1	1	Spacer	CD Spacer	ASF-20	Surfactant	0.50	gal/bbl
1	1	Spacer	CD Spacer	AVS-10	Viscosifier	0.80	lb/bbl
1	2	Lead	ALTCem P100-X2	AC3-10	Cement	100.00	%
1	2	Lead	ALTCem P100-X2	ABX-30	BondEnhancer	0.30	%BWOB
1	2	Lead	ALTCem P100-X2	ADF-11	Defoamer	0.30	%BWOB
1	2	Lead	ALTCem P100-X2	ADS-10	Dispersant	0.10	%BWOB
1	2	Lead	ALTCem P100-X2	AR-10	Retarder	0.50	%BWOB
1	2	Lead	ALTCem P100-X2	AVS-10	Viscosifier	0.10	%BWOB
1	3	Tail	ALTCem P70-X1	ACG-10	Cement	70.00	%
1	3	Tail	ALTCem P70-X1	AFA-10	Extender	20.00	%
1	3	Tail	ALTCem P70-X1	AXE-20	Extender	10.00	%
1	3	Tail	ALTCem P70-X1	ABX-30	BondEnhancer	0.20	%BWOB
1	3	Tail	ALTCem P70-X1	ADF-11	Defoamer	0.30	%BWOB
1	3	Tail	ALTCem P70-X1	AFL-10	FluidLoss	0.40	%BWOB
1	3	Tail	ALTCem P70-X1	AR-10	Retarder	0.30	%BWOB
1	3	Tail	ALTCem P70-X1	ASR-20	StrengthRetrogression	25.00	%BWOB
1	3	Tail	ALTCem P70-X1	AVS-50	Viscosifier	6.00	%BWOB
1	4	DisplacementFinal	Water w/ ASF-50	ASF-50	ClayProtection	0.08	gal/bbl



2 Job Logs

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	CREW CALLED OUT	8/9/2017	08:30					CALLED OUT WITH RTS 15:00
2	JOURNEY MANAGEMENT	8/9/2017	11:20					JOURNEY MANAGEMENT MEETING WITH CREW
3	DEPART YARD	8/9/2017	11:30					BJ CREW DEPART YARD
4	ON LOCATION	8/9/2017	13:30					BJ ARRIVES AT LOCATION
5	STEACS BRIEFING	8/9/2017	13:40					STEACS BRIEFING WITH BJ
6	RIG UP IRON,WATER,BULK	8/9/2017	13:50					BJ CREW RIGS UP IRON,WATER, BULK
7	PRIME UP PUMP	8/9/2017	14:20					PRIME UP PUMP TRUCK
8	SAFETY MEETING WITH RIG	8/9/2017	15:30					SAFETY MEETING WITH RIG, BJ CREW
9	STAB HEAD	8/9/2017	15:45					STAB HEAD ON RIG FLOOR
10	BREAK CIRCULATION	8/9/2017	15:50	8.34	3	5	500	BREAK CIRCULATION FROM RIG
11	TEST LINES	8/9/2017	15:55					TEST LINES AT 5000 PSI
12	BATCH UP SPACER	8/9/2017	16:00	11				BATCH SPACER AT 11 PPG
13	DOWN HOLE SPACER	8/9/2017	16:01	11	7	40	680	PUMP DOWN HOLE SPACER AT 11 PPG
14	BATCH UP LEAD	8/9/2017	16:10	12.7				BATCH LEAD AT 12.7 PPG
15	DOWN HOLE LEAD	8/9/2017	16:15	12.7	6	308	380	DOWN HOLE LEAD AT 12.7 PPG
16	BATCH UP TAIL	8/9/2017	17:20	13.5				BATCH UP TAIL AT 13.5 PPG
17	DOWN HOLE TAIL	8/9/2017	17:21	13.5	6	136	411	DOWN HOLE TAIL AT 13.5 PPG
18	SHUT DOWN	8/9/2017	17:50	8.34	3	10	100	SHUT DOWN WASH LINES
19	DROP TOP PLUG	8/9/2017	18:00					DROP TOP PLUG
20	DISPLACEMENT	8/9/2017	18:05	8.34	7	116	110	START DISPLACEMENT
21	DISPLACEMENT	8/9/2017	18:07	8.34	7.5		1150	50 BBLS DISPLACEMENT
22	DISPLACEMENT	8/9/2017	18:13	8.34	5.5		1550	100 BBLS DISPLACEMENT
23	SLOW RATE	8/9/2017	18:18	8.34	2	10	1640	SLOW RATE TO 2 BPM
24	LANDED PLUG	8/9/2017	18:21				1800	LANDED PLUG (F.C.P. 1800)
25	CASING TEST	8/9/2017	18:22				3015	CASING TEST 3000 PSI HOLD 10 MIN
26	BLEED PRESSURE	8/9/2017	18:32				3122	BLEED PRESSURE CHECK FLOATS 1.5 BBLS BACK
27	RIG DOWN MEETING	8/9/2017	18:40					RIG DOWN MEETING WITH CREW
28	RIG DOWN	8/9/2017	18:50					RIG DOWN ALL EQUIPMENT
29	CONVOY MEETING	8/9/2017	19:45					CONVOY MEETING WITH CREW
30	DEPART LOCATION	8/9/2017	20:00					BJ DEPARTS LOCATION



3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	68 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	80	0-1000
Total Hardness	70 mg/L	0-500 mg/L
Carbonates	140 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	450 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L



4 Pump Diagrams

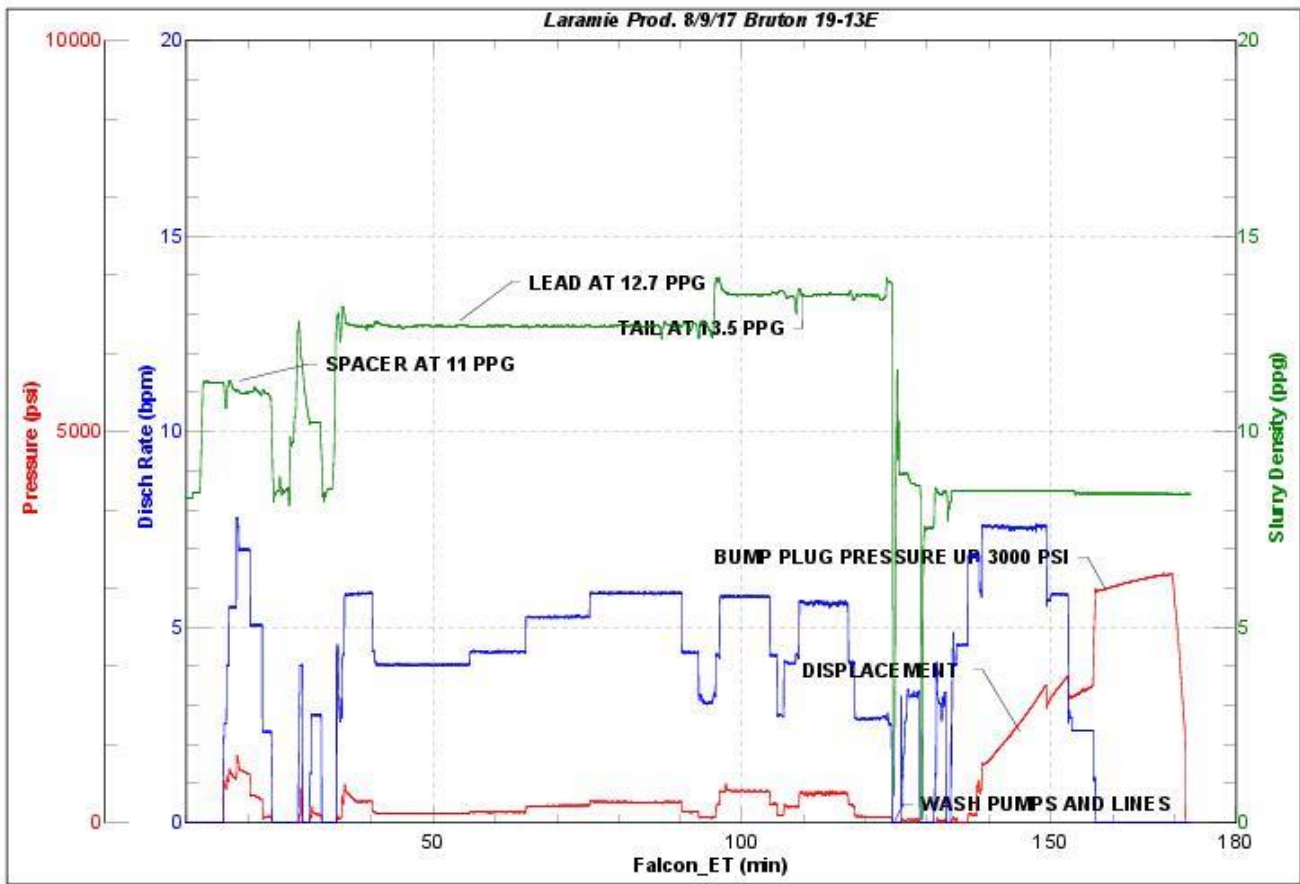


JobMaster Program Version 4.02C1

Job Number: 1155

Customer: LARAMIE

Well Name: BRUTON 19-13E



BJ Services

Job Start: Wednesday, August 09, 2017