



Laramie Energy End of Well Cement Report

**Bruton 19-07E 05-077-10436
S:19 T:9S R:93W Mesa CO**

CallSheet #: 1414 (Surface), 1417 (Production)
Proposal #: 14026



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

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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	1550	75
Casing	Inner	8.625	8.097	24	STC	0	1550	0
Casing	Outer	16	15.25	65	n/a	0	60	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Bulk Trailer	E529	Busheri, Hamza	130
Bulk Trailer	512		
Cement Chemical	403	Salaz, Eddie	130
Light Duty Pickups	4	Roush, James	130
Cement Pump	C156	Youngberg, Wendell	130

1.3 Timing

Event	Date/Time
Call Out	9/25/2017 15:00
Depart Facility	9/25/2017 16:00
On Location	9/25/2017 17:45
Rig Up Iron	9/25/2017 17:55
Job Started	9/25/2017 19:28
Job Completed	9/25/2017 20:28
Rig Down Iron	9/25/2017 20:45
Depart Location	9/25/2017 21:30

1.4 General Job Information

Metrics	Value
Well Fluid Density	9.1 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	320 bbls
Rig Circulation Time	0.45 hours
Calculated Displacement	96 bbls
Actual Displacement	96 bbls
Total Spacer to Surface	40 bbls
Total CMT to Surface	16 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	9.1 lb/gal
Well Fluid Density Out of Well	9.1 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	S100-12	Lead	12.00	2.53	14.85		168.00	75.59	0
1	3	S100-12	Tail	12.50	2.22	12.58		120.00	47.52	1050
1	4	Water	DisplacementFinal	8.33			42.00		97.00	0

1.9 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Lead	S100-12	AC3-10	Cement	100.00	%
1	2	Lead	S100-12	ACL-10	Accelerator	2.00	lb/sk
1	2	Lead	S100-12	ACL-20	Accelerator	5.00	%BWOB
1	2	Lead	S100-12	ADF-11	Defoamer	0.30	%BWOB
1	2	Lead	S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	2	Lead	S100-12	AXE-30	Extender	2.00	lb/sk
1	3	Tail	S100-12	AC3-10	Cement	100.00	%
1	3	Tail	S100-12	ACL-10	Accelerator	2.00	lb/sk
1	3	Tail	S100-12	ACL-20	Accelerator	5.00	%BWOB
1	3	Tail	S100-12	ADF-11	Defoamer	0.30	%BWOB
1	3	Tail	S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	3	Tail	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	CREW CALLOUT	9/25/2017	15:00					RTS OF 18:00 FOR LARAMIE SURFACE
2	JOURNEY MANAGEMENT	9/25/2017	15:50					BJ CREW J.M. MEETING
3	BJ DEPART FACILITY	9/25/2017	16:05					DEPART FACILITY
4	ARRIVE LOCATION	9/25/2017	17:45					ARRIVE LOCATION
5	Safety Meeting	9/25/2017	17:55					STEACS BRIEFING
6	SPOT EQUIPMENT, RIG UP	9/25/2017	18:10					SPOT TRUCKS AND RIG UP EQUIPMENT
7	P.O.B.	9/25/2017	18:30					LAND CASING ON BOTTOM
8	SAFETY MEETING	9/25/2017	19:10					SAFETY MEETING WITH RIG CREW AND COMPANY MAN
9	RIG UP CEMENT HEAD	9/25/2017	19:20					RIG UP CEMENT HEAD TO CASING
10	BREAK CIRCULATION	9/25/2017	19:28	8.34	3	5	50	BREAK CIRCULATION DROP BOTTOM PLUG
11	TEST LINES	9/25/2017	19:30					TEST LINES 3000 PSI
12	FRESH WATER SPACER	9/25/2017	19:32	8.34	5.5	35	186	FRESH WATER SPACER AHEAD
13	BATCH UP LEAD SLURRY	9/25/2017	19:41	12				BATCH UP LEAD SLURRY @ 12.0 PPG
14	LEAD SLURRY	9/25/2017	19:45	12	5.5	76	282	LEAD SLURRY DOWN HOLE
15	LEAD SLURRY	9/25/2017	19:52	12	5.5		242	LEAD SLURRY 50 BBLS GONE
16	BATCH UP TAIL SLURRY	9/25/2017	19:58	12.5				TAIL SLURRY @ 12.5 PPG
17	TAIL SLURRY	9/25/2017	19:59	12.5	5.5	47.5	272	TAIL SLURRY @ 12.5 PPG DOWN HOLE
18	SHUT DOWN DROP PLUG	9/25/2017	20:08					DROP TOP PLUG
19	START DISPLACEMENT	9/25/2017	20:09	8.34	8	86	135	START DISPLACEMENT
20	DISPLACEMENT	9/25/2017	20:16	8.34	8		495	50 BBLS GONE DISPLACEMENT
21	SLOW RATE	9/25/2017	20:20	8.34	2.5	10	391	SLOW RATE TO BUMP
22	BUMP PLUG	9/25/2017	20:25					BUMP PLUG. F.C.P. 496 PSI, BUMP PLUG 1027 PSI
23	BLEED PRESSURE	9/25/2017	20:28					BLEED PRESSURE, CHECK FLOATS 0.5 BBLS BACK
24	RIG DOWN MEETING	9/25/2017	20:35					RIG DOWN MEETING WITH BJ CREW
25	RIG DOWN	9/25/2017	20:45					RIG DOWN ALL EQUIPMENT
26	DEPART LOCATION	9/25/2017	21:30					DEPART LOCATION



3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	58 °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

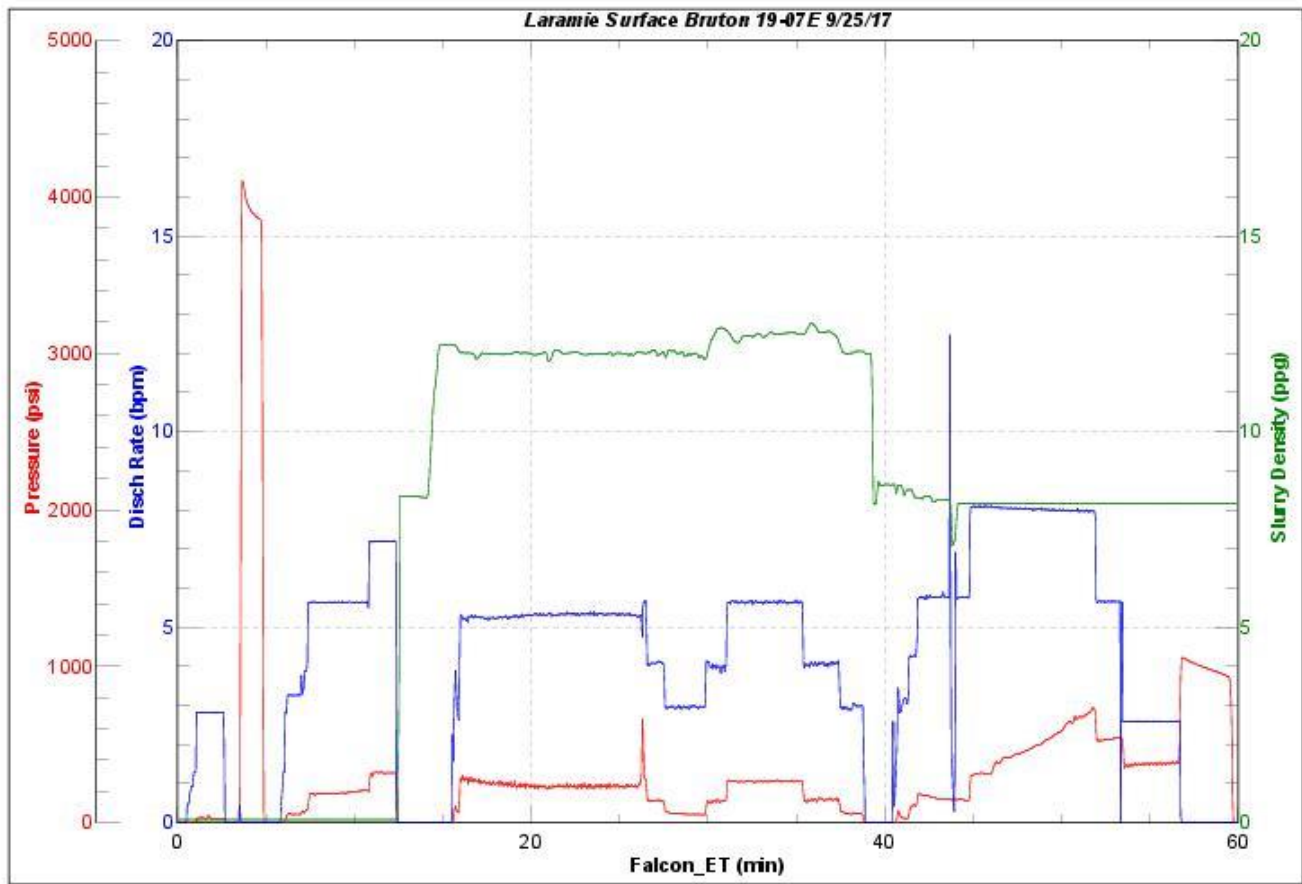


JobMaster Program Version 4.02C1

Job Number: 1414

Customer: Laramie Energy

Well Name: Bruton 19-07E



BJ Services

Job Start: Monday, September 25, 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	1550	0
Casing	Inner	4.5	4	11.6	LTC	0	8214	0
Open Hole	Outer	n/a	8.88	n/a	n/a	1550	8214	10

1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Silo	6 (Silo)			
Silo	7 (silo)			
Cement Pump	PPC11250	McNeal, Lawrence	Velazquez, Damien	60
Plug Container	150505			
Light Duty Pickups	2	Gilliam, Glen		60
Bulk Trailer	PPC41405	Cose, Rhaun		60

1.3 Timing

Event	Date/Time
Call Out	9/28/2017 12:40
Depart Facility	9/28/2017 15:00
On Location	9/28/2017 17:00
Rig Up Iron	9/28/2017 17:30
Job Started	9/28/2017 21:30
Job Completed	9/29/2017 00:30
Rig Down Iron	9/29/2017 00:15
Depart Location	9/29/2017 01:30

1.4 General Job Information

Metrics	Value
Well Fluid Density	10.2 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	300 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	126 bbls
Actual Displacement	126 bbls
Total Spacer to Surface	26 bbls
Total CMT to Surface	0 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	25
Yield Point	23
10 sec. SGS	5
10 min. SGS	24
30 min. SGS	56
Filtrate	7.9
Flow Line Temp.	89

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	10.2 lb/gal
Well Fluid Density Out of Well	10.2 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	176 °F
BHST	237 °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			32.84		60.00	0
1	2	P100-X2	Lead	12.70	1.97	11.07		868.00	305.05	1024
1	3	P70-X1	Tail	13.50	1.90	9.55		402.00	136.00	6060
1	4	Water w/ ASF- 50	DisplacementFinal	8.33			41.92		127.00	0

1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	1	Spacer	CD Spacer	ASR-20	StrengthRetrogression	179.97	lb/bbl
1	1	Spacer	CD Spacer	AR-10	Retarder	1.40	lb/bbl
1	1	Spacer	CD Spacer	ASF-20	Surfactant	0.80	gal/bbl
1	1	Spacer	CD Spacer	AVS-10	Viscosifier	0.80	lb/bbl
1	2	Lead	P100-X2	AC3-10	Cement	100.00	%
1	2	Lead	P100-X2	ABX-30	BondEnhancer	0.30	%BWOB
1	2	Lead	P100-X2	ADF-11	Defoamer	0.30	%BWOB
1	2	Lead	P100-X2	ADS-10	Dispersant	0.10	%BWOB
1	2	Lead	P100-X2	AR-10	Retarder	0.50	%BWOB
1	2	Lead	P100-X2	AVS-10	Viscosifier	0.10	%BWOB
1	3	Tail	P70-X1	ACG-10	Cement	70.00	%
1	3	Tail	P70-X1	AFA-10	Extender	20.00	%
1	3	Tail	P70-X1	AXE-20	Extender	10.00	%
1	3	Tail	P70-X1	ABX-30	BondEnhancer	0.20	%BWOB
1	3	Tail	P70-X1	ADF-11	Defoamer	0.30	%BWOB
1	3	Tail	P70-X1	AFL-10	FluidLoss	0.40	%BWOB
1	3	Tail	P70-X1	AR-10	Retarder	0.30	%BWOB
1	3	Tail	P70-X1	ASR-20	StrengthRetrogression	25.00	%BWOB
1	3	Tail	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	BJ CREW CALLED OUT	9/28/2017	12:40					RTS-1900
2	STEACS/JOURNEY	9/28/2017	14:45					STEACS MEETING WITH BJ CREW
3	BJ CREW DEPARTS YARD	9/28/2017	15:00					BJ CREW DEPARTS YARD
4	BJ ARRIVES ON LOCATION	9/28/2017	17:00					BJ ARRIVES ON LOCATION
5	RIG UP MEETING	9/28/2017	17:15					RIG UP MEETING WITH BJ CREW
6	RIG UP EQUIPMENT	9/28/2017	17:30					BJ CREW RIGS UP EQUIPMENT
7	BJ CREW DOWN	9/28/2017	18:00					RIG RUNNING CASING
8	PIPE ON BOTTOM	9/28/2017	20:40					PIPE ON BOTTOM, CIRCULATED 30 MINS
9	SAFETY MEETING	9/28/2017	21:00					SAFETY MEETING WITH RIG CREW
10	STAB HEAD	9/28/2017	21:30					BJ STABS HEAD
11	BROKE CIRCULATION	9/28/2017	21:36	8.34	4		103	BROKE CIRCULATION FROM RIG
12	TEST LINES	9/28/2017	21:45					TEST LINES AT 5000 PSI
13	BATCH UP SPACER	9/28/2017	21:46	11				BATCH UP SPACER AT 11 PPG
14	SPACER DOWN HOLE	9/28/2017	21:47	11	5		366	SPACER DOWN HOLE
15	50 BBLS GONE	9/28/2017	22:00	11	3	50	35	50 BBLS SPACER GONE
16	BATCH UP LEAD	9/28/2017	22:04	12.7				BATCH UP LEAD CEMENT AT 12.7 PPG
17	LEAD DOWN HOLE	9/28/2017	22:05	12.7	5		300	LEAD CEMENT DOWN HOLE
18	50 BBLS GONE	9/28/2017	22:15	12.7	7	50	461	50 BBLS LEAD CEMENT GONE
19	100 BBLS GONE	9/28/2017	22:27	12.7	7	100	452	100 BBLS LEAD CEMENT GONE
20	150 BBLS GONE	9/28/2017	22:34	12.7	7	150	437	150 BBLS LEAD CEMENT GONE
21	200 BBLS GONE	9/28/2017	22:47	12.7	5.7	200	306	200 BBLS LEAD CEMENT GONE
22	250 BBLS GONE	9/28/2017	22:56	12.7	4	250	150	250 BBLS LEAD CEMENT GONE
23	BATCH UP TAIL	9/28/2017	22:58	13.5				BATCH UP TAIL CEMENT AT 13.5 PPG
24	TAIL DOWN HOLE	9/28/2017	22:59	13.5	3		60	TAIL CEMENT DOWN HOLE
25	50 BBLS GONE	9/28/2017	23:07	13.5	5	50	380	50 BBLS TAIL CEMENT GONE
26	100 BBLS GONE	9/28/2017	23:20	13.5	5.5	100	392	100 BBLS TAIL CEMENT GONE
27	SHUT DOWN	9/28/2017	23:26					SHUT DOWN WASH LINES
28	DROP TOP PLUG	9/28/2017	23:31	8.34	8		1304	DROP PLUG, START DISPLACEMENT
29	50 BBLS GONE	9/28/2017	23:37	8.34	10	50	1780	50 BBLS GONE DISPLACEMENT
30	100 BBLS GONE	9/28/2017	23:43	8.34	10	100	2175	100 BBLS GONE DISPLACEMENT
31	BUMP PLUG	9/28/2017	23:48				1735	FCP- 1735 TOOK TO 3015 PSI



32	BLED PRESSURE	9/28/2017	23:55					BLED PRESSURE, FLOATS HELD, .5 BBLS BACK
33	RIG DOWN MEETING	9/29/2017	00:00					RIG DOWN MEETING WITH BJ CREW
34	RIG DOWN EQUIPMENT	9/29/2017	00:15					BJ CREW RIGS DOWN EQUIPMENT
35	JOB COMPLETE	9/29/2017	00:30					JOB COMPLETE
36	STEACS/JOURNEY	9/29/2017	00:45					JOURNEY MEETING WITH BJ CREW
37	BJ DEPARTS LOCATION	9/29/2017	01:30					BJ CREW DEPARTS LOCATION
38	**MISC**	9/29/2017	00:00					BUMP PLUG, FCP- 1735 PSI TOOK TO 3015 PSI, HELD FOR 8 MINS, BLED PRESSURE-FLOATS HELD .5 BBLS BACK. 26 BBLS OF SPACER BACK TO SURFACE.



3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	53 °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	<250 mg/L	0-1500 mg/L
Potassium	450 mg/L	0-3000 mg/L
Iron	0.02 mg/L	0-300 mg/L



4 Pump Diagrams

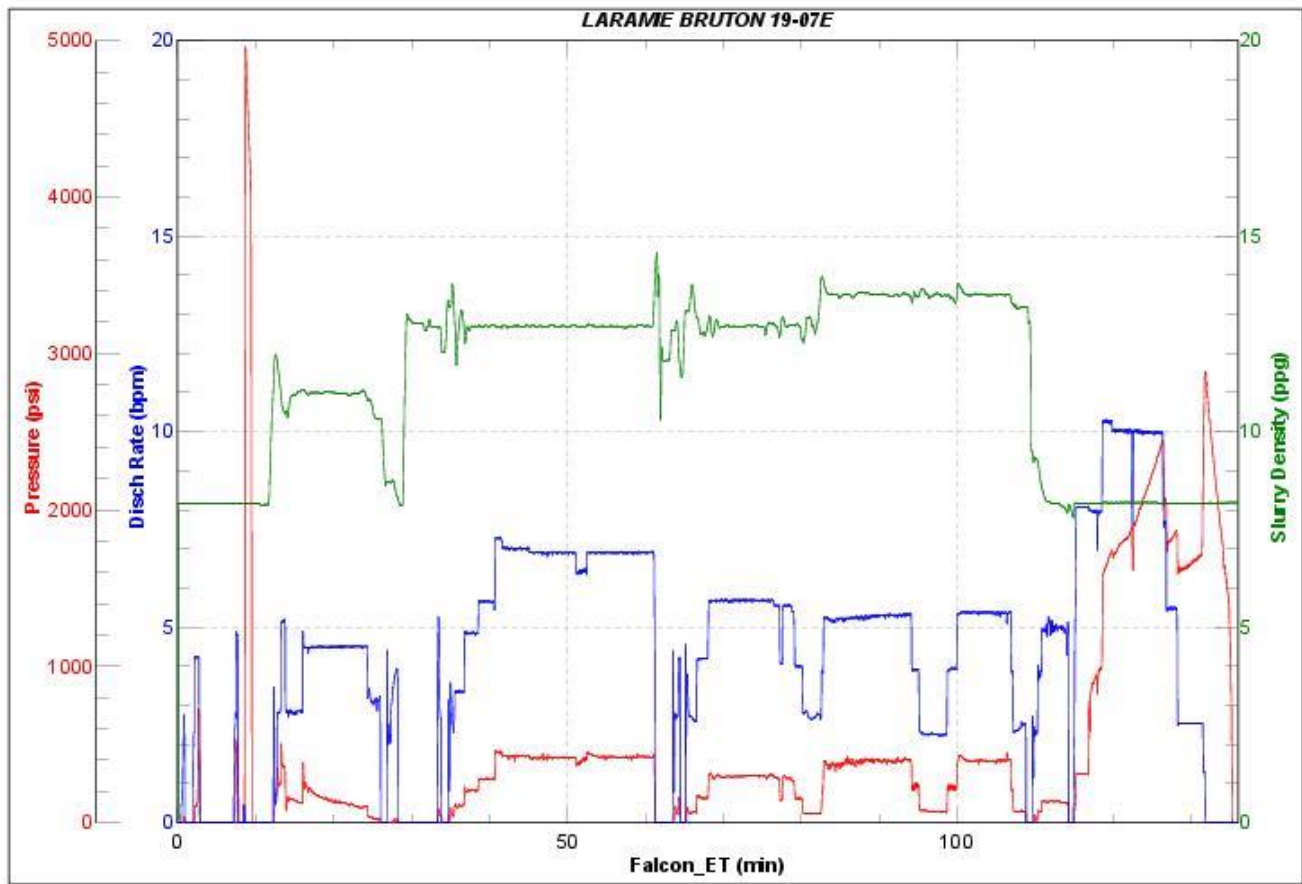


JobMaster Program Version 4.02C1

Job Number: 1417

Customer: LARAMIE

Well Name: BRUTON 19-07E



BJ Services

Job Start: Thursday, September 28, 2017