



Laramie Energy

End of Well Cement Report

Bruton 19-06W 05-077-10426
S:19 T:9S R:93W Mesa CO

CallSheet #: 1440 (Surface), 1453 (Production)
Proposal #: 14049



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

Sales Office 999 18th St. Suite 1200 Denver, CO 80202
Phone: (281) 408-2361



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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	1559	75
Casing	Inner	8.625	8.097	24	STC	0	1559	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	Velazquez, Damien	60
Bulk Trailer	512		
Cement Pump	C156	Estep, Ken	60
Cement Chemical	403	Cose, Rhaun	60
Light Duty Pickups	2	Gilliam, Glen	60

1.3 Timing

Event	Date/Time
Call Out	9/29/2017 14:30
Depart Facility	9/29/2017 18:00
On Location	9/29/2017 19:30
Rig Up Iron	9/29/2017 19:45
Job Started	9/29/2017 23:10
Job Completed	9/30/2017 00:30
Rig Down Iron	9/30/2017 00:45
Depart Location	9/30/2017 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	96 bbls
Actual Displacement	96 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	15 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	10.2 lb/gal
Well Fluid Density Out of Well	10.2 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	CALL OUT	9/29/2017	14:30					RTS- 21:00
2	STEACS/JOURNEY	9/29/2017	17:30					STEACS/JOURNEY WITH CREW
3	BJ DEPARTS YARD	9/29/2017	18:00					BJ DEPARTS YARD
4	ON LOCATION	9/29/2017	19:30					BJ ARRIVES ON LOCATION
5	RIG UP MEETING	9/29/2017	19:40					RIG UP MEETING WITH CREW
6	RIG UP IRON	9/29/2017	19:45					BJ CREW RIGS UP EQUIPMENT
7	BJ CREW DOWN	9/29/2017	20:30					RIG RUNNING CASING
8	LANDING JOINT	9/29/2017	22:15					LANDING JOINT ON WRANGLER
9	PIPE ON BOTTOM	9/29/2017	22:45					RIG CIRCULATING
10	SAFETY MEETING	9/29/2017	23:00					SAFETY MEETING WITH RIG CREW
11	STAB HEAD	9/29/2017	23:10					BJ CREW STABS HEAD
12	BROKE CIRCULATION	9/29/2017	23:12	8.34	4	5	80	BROKE CIRCULATION FROM RIG
13	TEST LINES	9/29/2017	23:14					TEST LINES AT 3000 PSI
14	FRESH WATER SPACER	9/29/2017	23:18	8.34	7	35	245	FRESH WATER SPACER 35 BBLS
15	BATCH UP LEAD	9/29/2017	23:24	12				BATCH UP LEAD CEMENT AT 12 PPG
16	LEAD DOWN HOLE	9/29/2017	23:30	12	5.5		240	LEAD CEMENT DOWN HOLE 12 PPG
17	50 BBLS GONE	9/29/2017	23:40	12	4	50	122	50 BBLS LEAD CEMENT GONE
18	BATCH UP TAIL CEMENT	9/29/2017	23:44	12.5				BATCH UP TAIL CEMENT AT 12.5
19	TAIL DOWN HOLE	9/29/2017	23:45	12.5	5.5		257	TAIL CEMENT DOWN HOLE 12.5 PPG
20	SHUT DOWN	9/29/2017	23:55					SHUT DOWN, DROP PLUG
21	DROP PLUG	9/29/2017	23:57					DROP PLUG, START DISPLACEMENT
22	DISPLACEMENT	9/30/2017	00:00	8.34	8		250	DISPLACEMENT
23	50 BBLS GONE	9/30/2017	00:03	8.34	8	50	465	50 BBLS GONE DISPLACEMENT
24	BUMP PLUG	9/30/2017	00:12					FCP- 431 PSI, TOOK TO 2000 PSI
25	BLED PRESSURE	9/30/2017	00:22					FLOATS HELD .5 BBLS BACK, 15 BBLS OF CEMENT TO SURFACE
26	SAFETY MEETING	9/30/2017	00:30					RIG DOWN MEETING WITH CREW
27	RIG DOWN EQUIPMENT	9/30/2017	00:45					BJ CREW RIGS DOWN EQUIPMENT
28	STEACS/JOURNEY	9/30/2017	01:15					STEACS/ JOURNEY WITH CREW
29	BJ CREW DEPARTS	9/30/2017	01:30					BJ CREW DEPARTS LOCATION



3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	51 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	85	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 mg/L	0-300 mg/L



4 Pump Diagrams

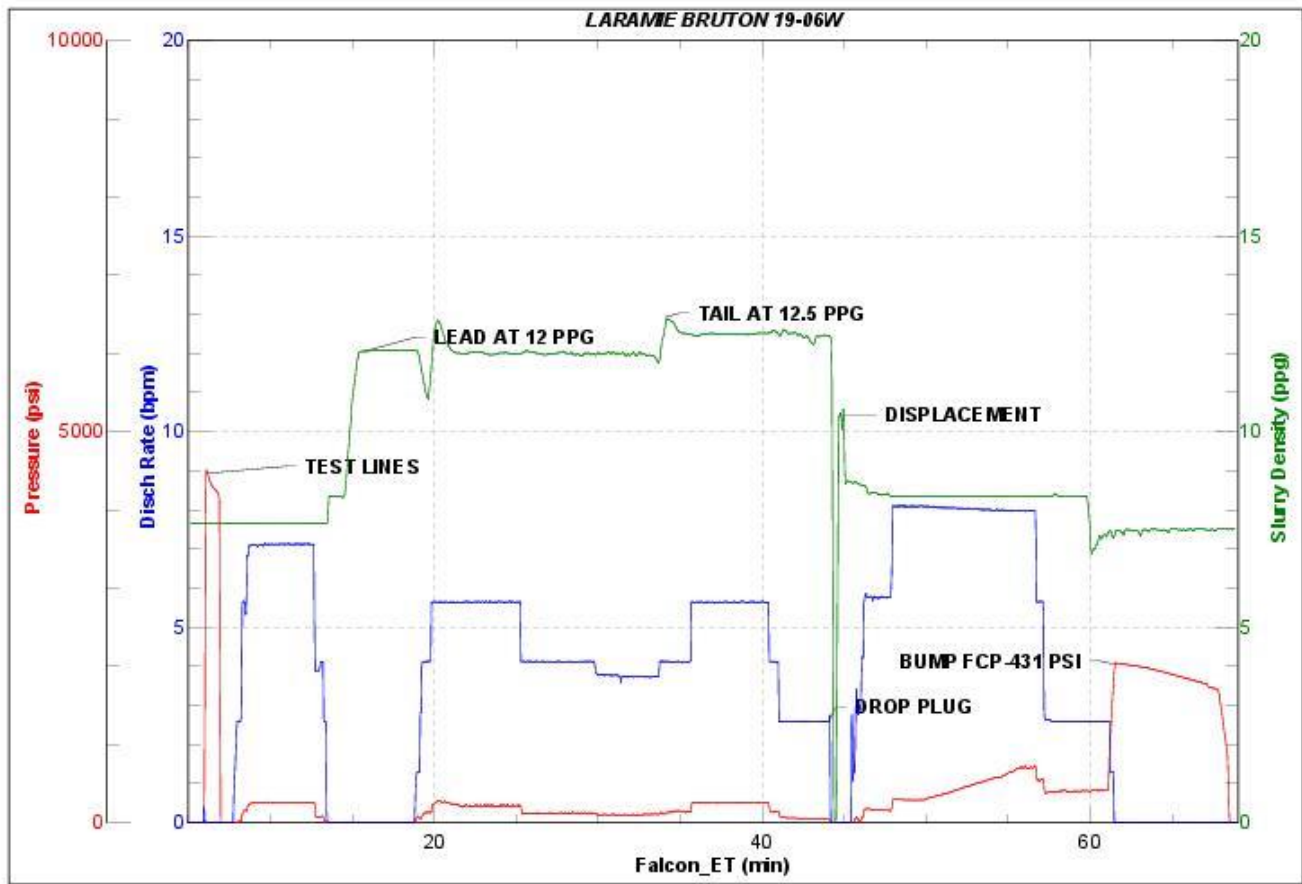


JobMaster Program Version 4.02C1

Job Number: 1440

Customer: LARAMIE

Well Name: BRUTON 19-06W



BJ Services

Job Start: Friday, September 29, 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	7733	0
Open Hole	Outer	n/a	8.88	n/a	n/a	1550	7743	10

1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Bulk Trailer	E491	Richey, Steven		140
Silo	6 (Silo)			
Silo	7 (silo)			
Cement Pump	C156	Youngberg, Wendell		140
Cement Chemical	402	Busheri, Hamza		140
Light Duty Pickups	4	Roush, James	Gonzalez, Omar	140

1.3 Timing

Event	Date/Time
Call Out	10/2/2017 23:00
Depart Facility	10/3/2017 01:30
On Location	10/3/2017 03:30
Rig Up Iron	10/3/2017 04:00
Job Started	10/3/2017 07:58
Job Completed	10/3/2017 10:08
Rig Down Iron	10/3/2017 10:20
Depart Location	10/3/2017 11:00

1.4 General Job Information

Metrics	Value
Well Fluid Density	9.6 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	200 bbls
Rig Circulation Time	0.75 hours
Calculated Displacement	119 bbls
Actual Displacement	118 bbls
Total Spacer to Surface	40 bbls
Total CMT to Surface	0 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	27
Yield Point	26
10 sec. SGS	8
10 min. SGS	34
30 min. SGS	69
Filtrate	7.8
Flow Line Temp.	105

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	9.6 lb/gal
Well Fluid Density Out of Well	9.6 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	175 °F
BHST	236 °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		783.00	275.18	1024
1	3	P70-X1	Tail	13.50	1.90	9.55		402.00	136.00	5586
1	4	Water w/ ASF-50	DisplacementFinal	8.33			41.92		119.00	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	CREW CALLOUT	10/2/2017	23:00					RTS OF 05:00 AM FOR PRODUCTION JOB
2	Safety Meeting	10/3/2017	01:15					J.M. MEETING WITH BJ CREW
3	DEPART FACILITY	10/3/2017	01:30					DEPART FACILITY
4	ARRIVE LOCATION	10/3/2017	03:30					BJ CREW ON LOCATION
5	Safety Meeting	10/3/2017	04:00					STEACS BRIEFING WITH BJ CREW
6	RIG UP ALL EQUIPMENT	10/3/2017	04:30					SPOT TRUCKS, RIG UP ALL EQUIPMENT
7	PIPE ON BOTTOM	10/3/2017	06:50					RIG LANDED CASING ON BOTTOM
8	SAFETY MEETING	10/3/2017	07:20					SAFETY MEETING WITH RIG CREW AND COMPANY MAN
9	RIG UP CEMENT HEAD	10/3/2017	07:56					RIG UP CEMENT HEAD TO CASING
10	BREAK CIRCULATION	10/3/2017	07:58	8.34	4	5	60	BREAK CIRCULATION
11	TEST LINES	10/3/2017	08:02					TEST LINES 5000 PSI
12	BATCH UP SPACER	10/3/2017	08:10	11				BATCH UP SPACER @ 11 PPG
13	SPACER DOWN HOLE	10/3/2017	08:19	11	4	60	80	SPACER @ 11 PPG
14	BATCH UP LEAD CEMENT	10/3/2017	08:32	12.7				BATCH UP LEAD SLURRY @ 12.7 PPG
15	LEAD SLURRY DOWN HOLE	10/3/2017	08:33	12.7	5.5	276	265	LEAD SLURRY DOWN HOLE
16	LEAD SLURRY	10/3/2017	08:41	12.7	5		240	50 BBLS GONE LEAD
17	LEAD SLURRY	10/3/2017	08:48	12.7	8		680	100 BBLS GONE LEAD
18	LEAD SLURRY	10/3/2017	08:54	12.7	8		615	150 BBLS GONE LEAD
19	LEAD SLURRY	10/3/2017	09:02	12.7	5.5		280	200 BBLS GONE LEAD
20	LEAD SLURRY	10/3/2017	09:10	12.7	4		145	250 BBLS GONE LEAD
21	BATCH UP TAIL SLURRY	10/3/2017	09:13	13.5				BATCH UP TAIL SLURRY @ 13.5 PPG
22	TAIL SLURRY	10/3/2017	09:14	13.5	5	136	395	TAIL SLURRY DOWN HOLE @ 13.5 PPG
23	TAIL SLURRY	10/3/2017	09:21	13.5	5.5		421	50 BBLS TAIL GONE
24	TAIL SLURRY	10/3/2017	09:31	13.5	5.5		395	100 BBLS TAIL GONE
25	WASH LINES	10/3/2017	09:43					SHUT DOWN WASH PUMPS AND LINES
26	DROP TOP PLUG	10/3/2017	09:48	8.34	6	118	200	DROP TOP PLUG START DISPLACEMENT
27	DISPLACEMENT	10/3/2017	09:54	8.34	10		1784	50 BBLS GONE DISPLACEMENT



28	DISPLACEMENT	10/3/2017	09:58	8.34	10		1975	100 BBLS GONE DISPLACEMENT
29	SLOW RATE	10/3/2017	10:02	8.34	2	10	1757	SLOW RATE TO BUMP PLUG
30	BUMP PLUG	10/3/2017	10:04					BUMP PLUG 3000 PSI, FCP 1757
31	BLEED PRESSURE	10/3/2017	10:12					BLEED PRESSURE, 1 BBL BACK
32	RIG DOWN MEETING	10/3/2017	10:20					RIG DOWN MEETING
33	RIG DOWN ALL EQUIPMENT	10/3/2017	10:30					RIG DOWN ALL EQUIPMENT
34	DEPART LOCATION	10/3/2017	11:30					DEPART LOCATION



3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	39 °F	50-80 °F
pH Level	6	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

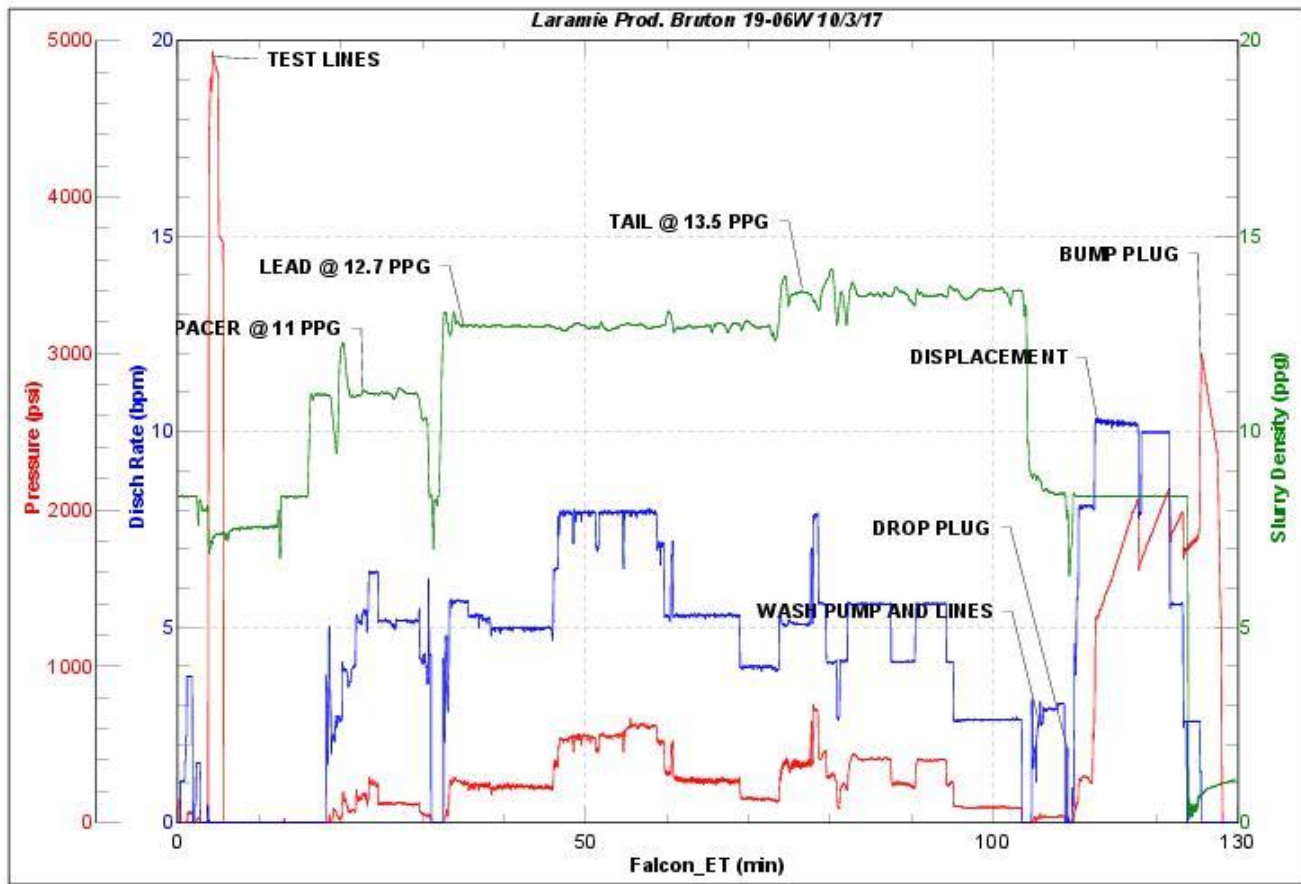


JobMaster Program Version 4.02C1

Job Number: 1453

Customer: LARAMIE ENERGY

Well Name: BRUTON 19-06W



BJ Services

Job Start: Tuesday, October 03, 2017