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# **Terra Energy Partners, LLC**

## **LONG STRING POST JOB REPORT**

**Fed PA 314-23 05-045-24302**  
**S:1 T:1N R:1W Garfield CO**

CallSheet #: 75018  
Proposal #: 50030



**LONG STRING Post Job Report**

**Attention:** Mr. Lynn Cass | (970) 263-2716 | lcass@terraep.com  
Terra Energy Partners, LLC  
4828 Loop Central Dr., Suite 900 | Houston, TX 77081

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Dear Mr. Lynn Cass,

Thank you for the opportunity to provide cementing services on this well. American Cementing strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact American Cementing at any time.

Sincerely,

**Zen Keith**

Field Engineer | (307) 757-7178 | zen.keith@americancementing.com

**Field Office**      28730 US-6, Rifle, CO 81650  
Phone: (970) 305-4888

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## 1 Job Details & Summary

### Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Casing	Outer	9.625	8.921	36	n/a	0	1100	0
Open Hole	Outer	n/a	8.75	n/a	n/a	1100	9208	45
Casing	Inner	4.5	4	11.6	n/a	0	9208	0

### Equipment / People

Unit Type	Unit
Pneumatic Trailer	CTF-019
Pneumatic Trailer	CTF-020
Bulk Trailer	CTF-254
Silo	Silo #25

### Timing

Event	Date/Time
Call Out	9/23/2020 23:00
Depart Facility	9/24/2020 03:25
On Location	9/24/2020 03:52
Rig Up Iron	9/24/2020 04:02
Job Started	9/24/2020 06:54
Job Completed	9/24/2020 08:38
Rig Down Iron	9/24/2020 08:58
Depart Location	9/24/2020 09:37

### General Job Information

Metrics	Value
Well Fluid Density	12.8 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	10.75 bbls
Rig Circulation Time	1 hours
Calculated Displacement	139.73 bbls
Actual Displacement	140 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	N/A

### Job Details

Metrics	Value
Flare Prior to Job	No
Flare Prior to Job	0 units
Flare During Job	No
Flare During Job	0 units
Flare at End of Job	No
Flare at End of Job	0 units
Well Full Prior to Job	Yes
Well Fluid Density Into Well	12.8 lb/gal
Well Fluid Density Out of Well	12.8 lb/gal

### Job Details (cont.)

Metrics	Value
BHCT	155 °F
BHST	225 °F

## Circulation

Lost Circulation Experienced
No

## Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft <sup>3</sup> /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sks)	Volume (bbl)	Top (ft)
1	1	Water	Flush	8.34			42.00		10.00	3855
1	2	Mud Flush	Flush	8.45			40.86		20.00	3981
1	3	Water	Flush	8.34			42.00		10.00	4233
1	4	Primary Cement	Primary	14.20	1.72	8.08		1256.00	385.26	4359
1	5	Water	DisplacementFinal	8.34			42.00		139.73	0

## Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Flush	Mud Flush	SAPP	Surfactant	10.00	lb/bbl
1	2	Flush	Mud Flush	SS-201	Surfactant	0.50	gal/bbl
1	4	Primary	Primary Cement	CLASS G	Cement	80.00	%
1	4	Primary	Primary Cement	FLY ASH (POZZOLAN)	Extender	20.00	%
1	4	Primary	Primary Cement	FL-66	FluidLoss	0.40	%BWOB
1	4	Primary	Primary Cement	FP-24	Defoamer	0.30	%BWOB
1	4	Primary	Primary Cement	GW-86	Viscosifier	0.10	%BWOB
1	4	Primary	Primary Cement	IntegraSeal POLI	LostCirculation	0.25	lb/sk
1	4	Primary	Primary Cement	R-3	Retarder	0.30	%BWOB
1	4	Primary	Primary Cement	S-8	StrengthRetrogression	27.00	%BWOB

## 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	Callout	9/23/2020	23:00					Callout, on location time of 05:00 9/24/2020
2	Safety Meeting	9/24/2020	03:16					Pre-Convoy Safety Meeting
3	Depart Location	9/24/2020	03:41					Depart from Rifle yard for H&P 318
4	Arrive On Location	9/24/2020	03:52					Arrive on location, rig was running casing
5	Safety Meeting	9/24/2020	03:56					Pre-Rig Up Safety meeting
6	Rig Up Iron	9/24/2020	04:02					Rig up all ground equipment
7	Safety Meeting	9/24/2020						Pre-Job Safety meeting with rig crew, company man, and all American Cementing crew
8	Rig Up Iron	9/24/2020						Load plug in plug container (verified by company man), stab plug container, hook up lines
9	Fill Lines	9/24/2020	06:54	8.4	2	5	645	Fill lines with 5 bbls of fresh water
10	Pressure Test Lines	9/24/2020	06:58				5159	Pressure test to 5159 psi
11	Pump Spacer	9/24/2020	07:01	8.4	5	10	863	Pump Fresh water spacer
12	Pump Spacer	9/24/2020	07:05	8.5	6.5	20	1109	Pump Mud Flush
13	Pump Spacer	9/24/2020	07:08	8.4	6.5	10	1049	Pump Fresh water spacer
14	Pump Tail Cement	9/24/2020	07:09	14.2	6.5	5	1579	Pump Tail Cement @ 14.2 ppg 1257 sks 1.72 cuft/sk 8.08 gals/sk. For a total of 385.06 bbls of Tail cement requiring 241.82 bbls of mix water. Weight verified with mud scales
15	Pump Tail Cement	9/24/2020	07:15	14.2	6.5	50	1534	Pump Tail Cement
16	Pump Tail Cement	9/24/2020	07:23	14.2	5.5	100	1239	Pump Tail Cement
17	Pump Tail Cement	9/24/2020	07:32	14.2	7.5	150	1090	Pump Tail Cement
18	Pump Tail Cement	9/24/2020	07:40	14.2	7.5	200	1021	Pump Tail Cement
19	Pump Tail Cement	9/24/2020	07:46	14.2	7.5	250	1001	Pump Tail Cement
20	Pump Tail Cement	9/24/2020	07:53	14.2	7.5	300	1134	Pump Tail Cement
21	Pump Tail Cement	9/24/2020	08:01	14.2	5	350	408	Pump Tail Cement
22	Pump Tail Cement	9/24/2020	08:14	14.2	4	386	401	Pump Tail Cement
23	Shutdown	9/24/2020	08:15					Shutdown with 386 bbls of Tail Cement away
24	Wash Pumps & Lines	9/24/2020	08:16					Wash pumps & lines to pit
25	Drop Top Plug	9/24/2020	08:21					Drop Plug verified by company man
26	Pump Displacement	9/24/2020	08:22	8.4	10	10	1783	Pump KCL Water Displacement
27	Pump Displacement	9/24/2020	08:26	8.4	10	50	2183	Pump KCL Water Displacement
28	Pump Displacement	9/24/2020	08:31	8.4	10	100	2863	Pump KCL Water Displacement
29	Pump Displacement	9/24/2020	08:34	8.4	10	129	3264	Pump KCL Water Displacement
30	Pump Displacement	9/24/2020	08:37	8.4	4	140	2589	Pump KCL Water Displacement
31	Land Plug	9/24/2020	08:37				3577	Landed the plug @ 2589 psi took to 3577 psi
32	Check Floats	9/24/2020	08:39					Check floats, floats Held 1 1/2 bbls back
33	Safety Meeting	9/25/2020	08:42					Pre-Rig down Safety meeting

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
34	Rig Down Iron	9/26/2020	08:50					Rig Down rig floor
35	Wash Pumps & Lines	9/27/2020	08:52					Wash pumps & lines to pit
36	Safety Meeting	9/28/2020	09:00					Pre-Rig Down Safety meeting
37	Rig Down Iron	9/29/2020	09:10					Rig Down all Equipment
38	Safety Meeting	9/30/2020	09:44					Pre-Convoy Safety Meeting
39	Depart Location	10/1/2020	10:03					Depart from location for Rifle yard. Thank you for using American Cementing, Andrew Linn, and crew

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	61.3 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	320 mg/L	0-3000 mg/L
Total Alkalinity	100	0-1000
Total Hardness	0 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	250 mg/L	0-1500 mg/L
Potassium	> 200 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

## 4 Pump Diagrams

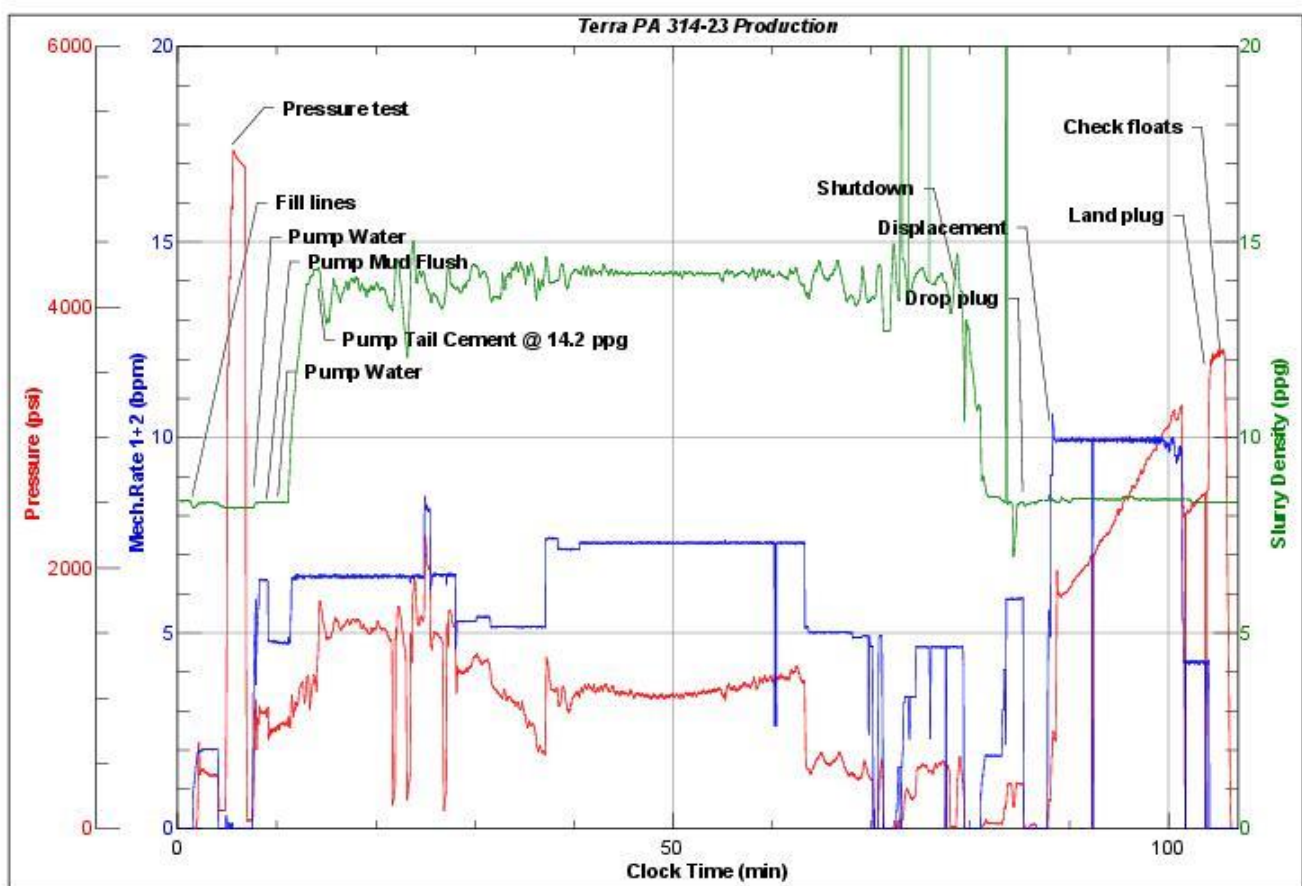


JobMaster Program Version 5.01C 1

Job Number:

Customer:

Well Name:



BJ Services

Job Start: Thursday, September 24, 2020