



Terra Energy Partners, LLC

LONG STRING POST JOB REPORT

FEDERAL PA 334-23 05-045-24307
Garfield CO

CallSheet #: 75059
Proposal #: 50132



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

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		0	1123	0
Open Hole	Outer		8.75			1100	8538	45
Casing	Inner	4.5	4	11.6		0	8528	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Mileage
Bulk Trailer	CTF-407	TRB-425	Kirchenwitz, Jacob	26
Cement Pump	CPF-011	TRH-957	Aden, Mark	26
Light Duty Trailers	LDV-3106		Diaz, Douglas	26

Timing

Event	Date/Time
Call Out	9/27/2020 15:00
Depart Facility	9/27/2020 16:15
On Location	9/27/2020 16:40
Rig Up Iron	9/27/2020 17:04
Job Started	9/27/2020 18:22
Job Completed	9/27/2020 19:53
Rig Down Iron	9/27/2020 19:57
Depart Location	9/27/2020 20:40

General Job Information

Metrics	Value
Well Fluid Density	12.8 lb/gal
Well Fluid Type	Water
Rig Circulation Vol	495 bbls
Rig Circulation Time	45 hours
Calculated Displacement	132 bbls
Actual Displacement	132 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 During Job	No
Flare at End of Job	No
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 ³ /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	3447
1	2	Mud Flush	Flush	8.45			40.86		20.00	3573
1	3	Water	Flush	8.34			42.00		10.00	3825
1	4	Primary Cement	Primary	14.20	1.72	8.08		1226.00	376.06	3951
1	5	Displacement	DisplacementFinal	8.34			42.00		132.00	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	9/27/2020	15:00					Yard call 1500 on location 1800
2	Depart For Location	9/27/2020	16:15					Leave Rifle yard for location
3	Arrive On Location	9/27/2020	16:40					Arrive on location, rig running casing
4	Spot Equipment	9/27/2020	16:40					Spot in all units
5	Rig Up Iron	9/27/2020	17:04					Pre rig up safety meeting, Rig in all equipment and lines to the stand pipe
6	Waiting	9/27/2020	17:40					Waiting on rig to finish circulation
7	Safety Meeting	9/27/2020	17:58					Pre job safety meeting with company man and rig crew
8	Waiting	9/27/2020	18:04					Waiting on rig to finish circulation
9	End Circulation	9/27/2020	18:15					Rig ended circulation, Circulated @ 11 BBLs/min for 45 mins total of 495 BBLs
10	Waiting	9/27/2020	18:15					Waiting on rig to rig down CRT
11	Rig Up Iron	9/27/2020	18:19					Rig up cement head and lines on the floor
12	Pump Spacer	9/27/2020	18:22	8.34	8	10	1360	Pumping fresh water spacer, returns
13	Pressure Test Lines	9/27/2020	18:26				5000	Pressure test

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
14	Pump Spacer	9/27/2020	18:29	8.34	8	20	1458	Pumping mud flush spacer
15	Pump Spacer	9/27/2020	18:31	8.34	8	10	1727	Pumping fresh water spacer
16	Pump Cement	9/27/2020	18:32	14.2	7.5	0	1711	Pumping Cement
17	Pump Cement	9/27/2020	18:41	14.2	8	50	2065	Pumping Cement
18	Pump Cement	9/27/2020	18:46	14.2	8	100	2020	Pumping Cement
19	Pump Cement	9/27/2020	18:56	14.2	6	150	905	Pumping Cement
20	Pump Cement	9/27/2020	19:00	14.2	8	200	1414	Pumping Cement
21	Pump Cement	9/27/2020	19:07	14.2	7	250	1481	Pumping Cement
22	Pump Cement	9/27/2020	19:13	14.2	8	300	1648	Pumping Cement
23	Pump Cement	9/27/2020	19:20	14.2	6	350	1459	Pumping Cement
24	Pump Cement	9/27/2020	19:24	14.2	6	376	534	Pumping Cement
25	Clean Pumps and Lines	9/27/2020	19:24					Wash pump and lines to the pit
26	Drop Top Plug	9/27/2020	19:34					Dropped top plug, verified by company man
27	Pump Displacement	9/27/2020	19:35	8.34	8	0	425	Pumping KCL displacement
28	Pump Displacement	9/27/2020	19:42	8.34	10	50	2561	Pumping KCL displacement
29	Pump Displacement	9/27/2020	19:47	8.34	10	100	3567	Pumping KCL displacement
30	Pump Displacement	9/27/2020	19:53	8.34	4	132	3104	Pumping KCL displacement
31	Land Plug	9/27/2020	19:53				4185	Land Plug, FCP 3104 PSI bumped to 4185 PSI
32	Check Floats	9/27/2020	19:57					Bled pressure, floats held 1.5 BBL bled back
33	Rig Down Iron	9/27/2020	19:57					Pre rig down safety meeting, rig down cement head and lines on the floor
34	Clean Pumps and Lines	9/27/2020	20:00					Wash pump and lines to the pit
35	Rig Down Iron	9/27/2020	20:20					Rig down all lines and equipment
36	Depart Location	9/27/2020	20:40					Leave location for Rifle yard

3 Water Analysis

Metrics	Value	Recommended
Water Source	Frac tank	
Temperature	67 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	240	0-1000
Total Hardness	425 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	0 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams

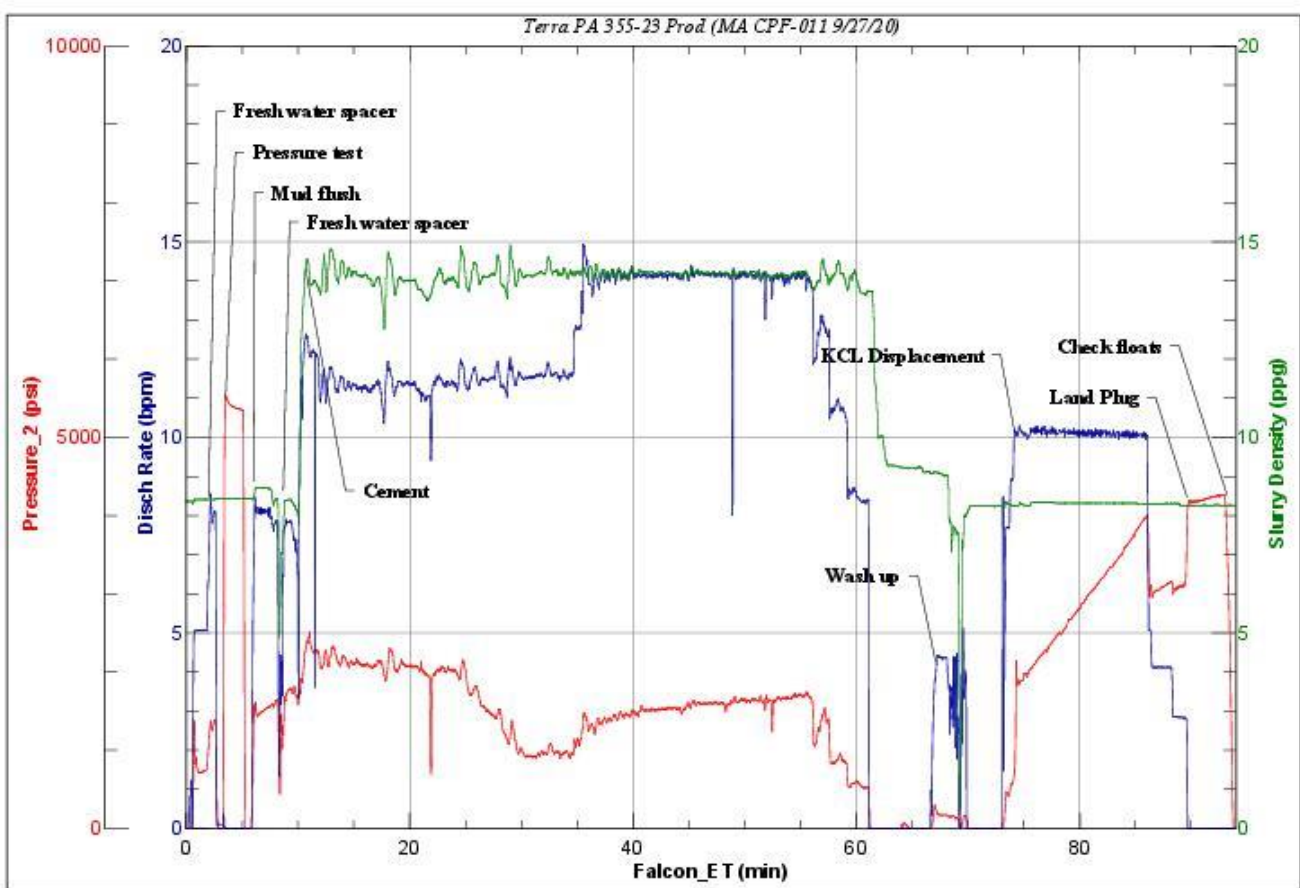


JobMaster Program Version 5.01C 1

Job Number: 75059

Customer: Terra

Well Name: PA 334-23



BJ Services

Job Start: Sunday, September 27, 2020