



Terra Energy Partners, LLC

LONG STRING POST JOB REPORT

FEDERAL RWF 521-8 05-045-24317
S:8 T:6S R:94W Garfield CO

CallSheet #: 75318
Proposal #: 50550



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

Table of Contents

1 Job Details & Summary	3
Geometry.....	3
Equipment / People	3
Timing	3
General Job Information.....	3
Job Details.....	3
Job Details (cont.)	3
Circulation.....	3
Job Execution Information.....	4
Job Fluid Details	4
2 Job Logs	5
3 Water Analysis	6
4 Pump Diagrams	6

1 Job Details & Summary

Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Top (ft)	Bottom (ft)	Excess (%)
Casing	Outer	9.625	8.921	36	0	1040	0
Open Hole	Outer	n/a	8.75	n/a	1000	9794	30
Casing	Inner	4.5	4	11.6	0	9784	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Mileage
Bulk Trailer	CTF-254	TRB-425	Rivas, Saul	29
Silo	Silo #25			
Cement Pump	CPF-058	TRH-1140	Aden, Mark	14.5
Light Duty Trailers	LDV-3106		Diaz, Douglas	29

Timing

Event	Date/Time
Call Out	11/8/2020 06:00
Depart Facility	11/8/2020 07:30
On Location	11/8/2020 10:30
Rig Up Iron	11/8/2020 10:55
Job Started	11/8/2020 14:05
Job Completed	11/8/2020 15:57
Rig Down Iron	11/8/2020 16:00
Depart Location	11/8/2020 17:00

General Job Information

Metrics	Value
Well Fluid Density	11.7 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	660 bbls
Rig Circulation Time	60 hours
Calculated Displacement	151 bbls
Actual Displacement	151 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	11.7 lb/gal
Well Fluid Density Out of Well	11.7 lb/gal

Job Details (cont.)

Metrics	Value
BHCT	164 °F
BHST	234 °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 (sk)	Volume (bbl)	Top (ft)
1	1	Water	Flush	8.34			42.00		10.00	2717
1	2	Mud Flush	Flush	8.45			40.86		20.00	2900
1	3	Water	Flush	8.34			42.00		10.00	3266
1	4	Primary Cement	Primary	14.20	1.72	8.08		1132.00	347.23	3449
1	5	Displacement	DisplacementFinal	8.34			42.00		151.00	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	11/8/2020	06:00					Yard call 0600 on location 0900
2	Depart For Location	11/8/2020	07:30					Leave Rifle Shop for location, Pump had to be pulled to location do to road conditions
3	Arrive On Location	11/8/2020	10:30					Arrive on location rig running casing
4	Spot Equipment	11/8/2020	10:30					Spot in all equipment
5	Rig Up Iron	11/8/2020	10:55					Pre rig up safety meeting, rig in all equipment and lines to the stand pipe
6	Waiting	11/8/2020	11:30					Waiting on rig to finish casing and circulating
7	Safety Meeting	11/8/2020	13:29					Pre job safety meeting with company man and rig crew
8	Waiting	11/8/2020	13:37					Waiting on rig to finish circulating
9	Rig Ends Circulation	11/8/2020	13:50					Rig circulated 60 mins @ 11 BBLs/min, total of 660 BBLs
10	Waiting	11/8/2020	13:50					Waiting on rig to lay down CRT and blow down
11	Rig Up Iron	11/8/2020	14:00					Rig in cement head and lines on the floor
12	Pump Spacer	11/8/2020	14:05	8.34	7	10	1016	Pumping fresh water spacer, Returns
13	Pressure Test Lines	11/8/2020	14:08				5000	Pressure test lines
14	Pump Spacer	11/8/2020	14:11	8.34	7	20	1165	Pumping mud flush spacer
15	Pump Spacer	11/8/2020	14:14	8.34	6.5	10	1251	Pumping fresh water spacer
16	Pump Cement	11/8/2020	14:16	14.2	7	0	1294	Pumping primary cement
17	Pump Cement	11/8/2020	14:27	14.2	4	50	726	Pumping primary cement
18	Pump Cement	11/8/2020	14:47	14.2	7.5	100	1278	Pumping primary cement
19	Pump Cement	11/8/2020	14:45	14.2	7	150	885	Pumping primary cement
20	Pump Cement	11/8/2020	15:02	14.2	7	200	780	Pumping primary cement
21	Pump Cement	11/8/2020	15:09	14.2	7	250	874	Pumping primary cement
22	Pump Cement	11/8/2020	15:16	14.2	7	300	895	Pumping primary cement
23	Pump Cement	11/8/2020	15:24	14.2	4	347	314	Pumping primary cement
24	Clean Pumps and Lines	11/8/2020	15:24					Clean pump and lines to the cellar
25	Drop Top Plug	11/8/2020	15:34					Dropped top plug verified by company man
26	Pump Displacement	11/8/2020	15:35	8.34	10	0	835	Pumping KCL displacement
27	Pump Displacement	11/8/2020	15:40	8.34	10	50	1910	Pumping KCL displacement
28	Pump Displacement	11/8/2020	15:45	8.34	10	100	2505	Pumping KCL displacement
29	Pump Displacement	11/8/2020	15:52	8.34	4	151	2526	Pumping KCL displacement
30	Land Plug	11/8/2020	15:52				3550	Land plug, FCP 2526 PSI bumped to 3550 PSI
31	Check Floats	11/8/2020	15:57					Bled pressure floats held, 2 BBLs bled back
32	Rig Down Iron	11/8/2020	16:00					Pre rig down safety meeting, rig down cement head and lines on the floor
33	Clean Pumps and Lines	11/8/2020	16:10					Wash and winterize pump and lines to the cellar
34	Rig Down Iron	11/8/2020	16:40					Rig down lines and equipment
35	Depart Location	11/8/2020	17:00					Leave location for Rifle shop

3 Water Analysis

Metrics	Value	Recommended
Water Source	Frac Tank	
Temperature	80 °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

