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# **Terra Energy Partners, LLC**

## **LONG STRING POST JOB REPORT**

**FEDERAL RWF 322-8 05-045-24319**  
**S:8 T:6S R:94W Garfield CO**

CallSheet #: 75229  
Proposal #: 50457



**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)	Top (ft)	Bottom (ft)	Excess (%)
Casing	Outer	9.625	8.921	36	0	1041	0
Open Hole	Outer		8.75		1000	9575	30
Casing	Inner	4.5	4	11.6	0	9565	0

## Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Mileage
Bulk Trailer	CTF-254	TRB-412	Rivas, Saul	27
Silo	Silo #25			
Cement Pump	CPF-058	TRH-1140	Gonzales, Ivan	13.5
Light Duty Trailers	LDV-3106		Diaz, Douglas	27

## Timing

Event	Date/Time
Call Out	10/29/2020 06:30
Depart Facility	10/29/2020 07:38
On Location	10/29/2020 08:33
Rig Up Iron	10/29/2020 08:57
Job Started	10/29/2020 13:34
Job Completed	10/29/2020 15:29
Rig Down Iron	10/29/2020 15:31
Depart Location	10/29/2020 14:10

## General Job Information

Metrics	Value
Well Fluid Density	11.8 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	630 bbls
Rig Circulation Time	60 hours
Calculated Displacement	148 bbls
Actual Displacement	148 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	11.8 lb/gal
Well Fluid Density Out of Well	11.8 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 <sup>3</sup> /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	4251
1	2	Mud Flush	Flush	8.45			40.86		20.00	4392
1	3	Water	Flush	8.34			42.00		10.00	4673
1	4	Primary Cement	Primary	14.20	1.72	8.08		1116.00	342.32	4814
1	5	Displacement	DisplacementFinal	8.34			42.00		148.00	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	10/29/2020	06:30					Yard call 0630 on location 0930
2	Depart For Location	10/29/2020	07:38					Leave Rifle yard for location
3	Arrive On Location	10/29/2020	08:33					Arrive on location, rig running casing
4	Spot Equipment	10/29/2020	08:33					Spot in equipment
5	Rig Up Iron	10/29/2020	08:57					Pre rig up safety meeting, rig in all equipment and lines to the floor
6	Waiting	10/29/2020	09:20					Waiting on rig to finish casing and circulate
7	Safety Meeting	10/29/2020	13:15					Pre job safety meeting with rig crew and company man
8	Waiting	10/29/2020	13:23					Rig ended circulation, circulated 60 mins @ 10.5 BBLs/min total of 630 BBLs
9	Waiting	10/29/2020	13:23					Waiting on rig to lay dow CRT and blow down
10	Rig Up Iron	10/29/2020	13:25					Rig in cement head and lines on the floor
11	Pump Spacer	10/29/2020	13:34	8.34	5	10	640	Pumping fresh water spacer, returns
12	Pressure Test Lines	10/29/2020	13:36				5000	Pressure test
13	Pump Spacer	10/29/2020	13:50	8.34	5	20	769	Pumping mud flush spacer
14	Pump Spacer	10/29/2020	13:58	8.34	7.5	10	1358	Pumping fresh water spacer
15	Pump Cement	10/29/2020	14:01	14.2	5.5	0	1059	Pumping cement, weight verified by pressurized mud scale
16	Pump Cement	10/29/2020	14:11	14.2	5.5	50	1147	Pumping cement
17	Pump Cement	10/29/2020	14:18	14.2	7.5	100	1277	Pumping cement
18	Pump Cement	10/29/2020	14:26	14.2	7.5	150	961	Pumping cement
19	Pump Cement	10/29/2020	14:33	14.2	8	200	905	Pumping cement
20	Pump Cement	10/29/2020	14:39	14.2	5.5	250	471	Pumping cement
21	Pump Cement	10/29/2020	14:49	14.2	5.5	300	657	Pumping cement
22	Pump Cement	10/29/2020	15:00	14.2		342		Pumping cement
23	Clean Pumps and Lines	10/29/2020	15:00					Clean pump and lines to cellar
24	Drop Top Plug	10/29/2020	15:07					Drop top plug verified by company man
25	Pump Displacement	10/29/2020	15:08	8.34	5	0	254	Pumping KCL displacement
26	Pump Displacement	10/29/2020	15:14	8.34	10	50	2030	Pumping KCL displacement
27	Pump Displacement	10/29/2020	15:19	8.34	10	100	2710	Pumping KCL displacement
28	Pump Displacement	10/29/2020	15:26	8.34	4	148	2465	Pumping KCL displacement
29	Land Plug	10/29/2020	15:26				3300	Land plug, FCP 2465 PSI bumped to 3300 PSI
30	Check Floats	10/29/2020	15:29					Bled pressure, floats held. 1.5 BBL bled back
31	Rig Down Iron	10/29/2020	15:31					Pre rig down safety meeting, rig down cement head and lines on the floor
32	Clean Pumps and Lines	10/29/2020	15:44					Wash and winterize pump and lines to cellar
33	Rig Down Iron	10/29/2020	14:00					Rig down all lines and equipment
34	Depart Location	10/29/2020	14:10					Leave location for Rifle Shop

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	77 °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

