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# **Terra Energy Partners, LLC**

## **SURFACE POST JOB REPORT**

**FEDERAL RWF 22-8 05-045-24315**  
**S:8 T:6S R:94W Garfield CO**

CallSheet #: 75275  
Proposal #: 50490



**SURFACE 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

## Table of Contents

1 Job Details & Summary .....	3
Geometry.....	3
Equipment / People .....	3
Timing .....	3
Casing Equipment .....	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 (%)
Open Hole	Outer		13.5		0	500	16
Open Hole	Outer		13.5		500	1050	16
Casing	Inner	9.625	8.921	36	0	1040	0

### Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Mileage
Bulk Trailer	CTF-263	TRB-090	Rivas, Saul	27
Cement Pump	CPF-058	TRH-1140	Gonzales, Ivan	13.5
Light Duty Trailers	LDV-3106		Diaz, Douglas	27

### Timing

Event	Date/Time
Call Out	10/30/2020 07:00
Depart Facility	10/30/2020 07:41
On Location	10/30/2020 08:15
Rig Up Iron	10/30/2020 08:40
Job Started	10/30/2020 11:58
Job Completed	10/30/2020 12:31
Rig Down Iron	10/30/2020 12:33
Depart Location	10/30/2020 13:20

### Casing Equipment

Type	Description	Qty
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### General Job Information

Metrics	Value
Well Fluid Density	9.1 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	300 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	77 bbls
Actual Displacement	77 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	12 bbls
Well Topped Out	No

### 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	9.1 lb/gal
Well Fluid Density Out of Well	9.1 lb/gal

### Job Details (cont.)

Metrics	Value
BHCT	80 °F
BHST	97 °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		20.00	0
1	2	Lead Cement	Lead	12.30	2.34	13.42		122.00	50.82	0
1	3	Tail Cement	Tail	12.80	2.08	11.46		146.00	53.99	454
1	4	Water	DisplacementFinal	8.34			42.00		77.00	0

### Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Lead	Lead Cement	ASTM TYPE III	Cement	100.00	%
1	2	Lead	Lead Cement	A-10	Accelerator	5.00	%BWOB
1	2	Lead	Lead Cement	A-2	Accelerator	2.00	lb/sk
1	2	Lead	Lead Cement	A-7P	Accelerator	2.00	lb/sk
1	2	Lead	Lead Cement	FP-24	Defoamer	0.30	%BWOB
1	2	Lead	Lead Cement	IntegraSeal POLI	LostCirculation	0.25	lb/sk
1	3	Tail	Tail Cement	ASTM TYPE III	Cement	100.00	%
1	3	Tail	Tail Cement	A-10	Accelerator	5.00	%BWOB
1	3	Tail	Tail Cement	A-2	Accelerator	2.00	lb/sk
1	3	Tail	Tail Cement	A-7P	Accelerator	2.00	lb/sk
1	3	Tail	Tail Cement	FP-24	Defoamer	0.30	%BWOB
1	3	Tail	Tail Cement	IntegraSeal POLI	LostCirculation	0.25	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	Callout	10/30/2020	07:00					Yard call 0700 on location 0900
2	Depart For Location	10/30/2020	07:41					Leave Rifle yard for location
3	Arrive On Location	10/30/2020	08:15					Arrive on location, rig rigging up for casing
4	Spot Equipment	10/30/2020	08:15					Spot in all equipment
5	Rig Up Iron	10/30/2020	08:40					Pre rig up safety meeting, rig in all equipment and iron to the stand pipe
6	Waiting	10/30/2020	09:15					Waiting on rig to finish casing and circulate
7	End Circulation	10/30/2020	11:48					Rig ended circulation, circulated 30 mins @ 10 BBLs/ min total of 300 BBLs
8	Waiting	10/30/2020	11:48					Waiting on rig to lay down CRT and blow down
9	Rig Up Iron	10/30/2020	11:51					Rig up cement head and lines on the floor
10	Safety Meeting	10/30/2020	11:56					Pre job safety meeting with company man and rig crew
11	Pump Spacer	10/30/2020	11:58	8.34	5	10	264	Pumping fresh water spacer, returns
12	Pressure Test Lines	10/30/2020	12:00				3000	Pressure test lines
13	Pump Spacer	10/30/2020	12:02	8.34	8	10	533	Pumping fresh water spacer
14	Pump Lead Cement	10/30/2020	12:04	12.3	8	0	605	Pumping lead cement
15	Pump Lead Cement	10/30/2020	12:10	12.3	8	51	818	Pumping lead cement
16	Pump Tail Cement	10/30/2020	12:10	12.8	8	0	818	Pumping tail cement
17	Pump Tail Cement	10/30/2020	12:18	12.8	8	54	343	Pumping tail cement
18	Drop Top Plug	10/30/2020	12:18					Dropped top plug verified by company man
19	Pump Displacement	10/30/2020	12:19	8.34	10	0	750	Pumping fresh water displacement
20	Pump Displacement	10/30/2020	12:25	8.34	10	50	839	Pumping fresh water displacement, cement to surface 65 BBLs pumped. 12 BBLs cement to surface
21	Pump Displacement	10/30/2020	12:31	8.34	3	77	313	Pumping fresh water displacement
22	Land Plug	10/30/2020	12:31				1022	Land plug FCP 313 PSI bumped to 1022 PSI
23	Check Floats	10/30/2020	12:33					Bled pressure, floats held .5 BBL bled back
24	Rig Down Iron	10/30/2020	12:33					Pre rig down safety meeting, rigged down cement head and lines on the floor
25	Clean Pumps and Lines	10/30/2020	12:40					Washed and winterized pump and lines to cellar
26	Rig Down Iron	10/30/2020	13:00					Rig down all lines and equipment
27	Depart Location	10/30/2020	13:20					Leave location for Rifle shop

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	55 °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

