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# **Terra Energy Partners, LLC**

## **LONG STRING POST JOB REPORT**

**FEDERAL NR 541-3 05-045-24470**  
**S:3 T:6S R:94W Garfield CO**

CallSheet #: 81217  
Proposal #: 59400



**LONG STRING Post Job Report**

**Attention:** Mr. Dustin Childers | (936) 524-8828 | dchilders@terraep.com  
Terra Energy Partners, LLC  
4828 Loop Central Dr., Suite 900 | Houston, TX 77081

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Dear Mr. Dustin Childers,

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**

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

**Field Office**      28730 US-6, Rifle, CO 81650  
Phone: (970) 657-1157

## 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	1119	0
Open Hole	Outer	n/a	8.75	n/a	n/a	1119	8347	45
Open Hole	Outer	n/a	8.75	n/a	n/a	8347	11060	45
Casing	Inner	4.5	4	11.6	n/a	0	11060	0

### Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Employee #2
Field Storage Silo	FSS(CTS)-438			
Field Storage Silo	FSS(CTS)-470			
Cement Trailer Float	CTF-286		Balint, Daniel	Kirchenwitz, Jacob
AS Cement Trailer Float	CTF-9299			
AS Cement Trailer Float	CTF-7145			
AS Cement Trailer Float	CTF(FTF)-148			
Cement Pump Float	CPF-012	TRH-964	Gonzales, Ivan	
Light Duty Vehicles	LDV-083		Putnam, Gage	

### Timing

Event	Date/Time
Call Out	4/30/2022 12:00
Depart Facility	4/30/2022 16:30
On Location	4/30/2022 17:30
Rig Up Iron	4/30/2022 17:45
Job Started	4/30/2022 22:20
Job Completed	5/1/2022 00:46
Rig Down Iron	5/1/2022 01:00
Depart Location	5/1/2022 02:30

### General Job Information

Metrics	Value
Well Fluid Density	10.8 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	480 bbls
Rig Circulation Time	1 hours
Calculated Displacement	170.8 bbls
Actual Displacement	170.8 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	Yes
Flare Prior to Job	2116 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	10.8 lb/gal
Well Fluid Density Out of Well	10.8 lb/gal

### Job Details (cont.)

Metrics	Value
BHCT	192 °F
BHST	253 °F

### Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	70 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	72 mg/L	0-3000 mg/L
Total Alkalinity	120	0-1000
Total Hardness	80 mg/L	0-500 mg/L
Carbonates	NA mg/L	0-100 mg/L
Sulfates	200 mg/L	0-1500 mg/L
Potassium	450 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

## Circulation

Lost Circulation Experienced
No

## Job Execution Information

Fluid	Product	Function	Density (lb/gal)	Yield (ft <sup>3</sup> /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sks)	Volume (bbl)	Designed Top (ft)
1	Water	Flush	8.34			42.00		10.00	5785
2	Mud Flush	Flush	8.45			40.86		20.00	5911
3	Water	Flush	8.34			42.00		10.00	6163
4	12.7 Lead	Lead	12.70	2.00	10.99		458.00	163.33	6289
5	14.2 Tail	Tail	14.20	1.72	8.09		722.00	221.35	8347
6	Displacement	DisplacementFinal	8.34			42.00		171.00	0

## Job Fluid Details

Fluid	Type	Fluid	Product	Function	Conc.	Uom
2	Flush	Mud Flush	SAPP	Surfactant	10.00	lb/bbl
2	Flush	Mud Flush	SS-201	Surfactant	0.50	gal/bbl
4	Lead	12.7 Lead	ASTM TYPE I/II	Cement	100.00	%
4	Lead	12.7 Lead	BA-90	BondEnhancer	3.00	lb/sk
4	Lead	12.7 Lead	FL-66	FluidLoss	0.50	%BWOB
4	Lead	12.7 Lead	FP-24	Defoamer	0.30	%BWOB
4	Lead	12.7 Lead	GW-86	Viscosifier	0.10	%BWOB
4	Lead	12.7 Lead	IntegraSeal POLI	LostCirculation	0.25	lb/sk
4	Lead	12.7 Lead	R-3	Retarder	0.45	%BWOB
4	Lead	12.7 Lead	STATIC FREE	Other	0.01	lb/sk
5	Tail	14.2 Tail	CLASS G	Cement	80.00	%
5	Tail	14.2 Tail	FLY ASH (POZZOLAN)	Extender	20.00	%
5	Tail	14.2 Tail	FL-66	FluidLoss	0.40	%BWOB
5	Tail	14.2 Tail	FP-24	Defoamer	0.30	%BWOB
5	Tail	14.2 Tail	GW-86	Viscosifier	0.10	%BWOB
5	Tail	14.2 Tail	IntegraSeal POLI	LostCirculation	0.25	lb/sk
5	Tail	14.2 Tail	R-3	Retarder	0.15	%BWOB
5	Tail	14.2 Tail	S-8	StrengthRetrogression	27.00	%BWOB

## 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	4/30/2022	12:00					CREW CALLED OUT FOR ON LOCATION TIME OF 22:00 4/30/22
2	Depart Location	4/30/2022	16:30					DEPART RCO YARD FOR LOCATION
3	Arrive On Location	4/30/2022	17:30					ARRIVE ON CUSTOMER SITE
4	Rig Up Iron	4/30/2022	17:45					RIG UP IRON AND HOSES
5	Safety Meeting	4/30/2022	21:25					JSA SAFETY MEETING WITH AC CREW, RIG HANDS, AND CUSTOMER REP
6	Fill Lines	4/30/2022	22:20	8.34	5	10	711	FILL LINES WITH FRESH WATER
7	Pressure Test Lines	4/30/2022	22:25	8.34			5100	PRESSURE TEST PUMP AND LINES TO 5000 PSI
8	Other	4/30/2022	22:29	8.45	5	20	639	PUMP MUD FLUSH + SURFACTANT
9	Other	4/30/2022	22:34	8.34	3	10	480	PUMP FRESH WATER FLUSH
10	Pump Lead Cement	4/30/2022	22:43	12.7	6.7	0	1180	BEGIN PUMPING LEAD CEMENT. DENSITY VERIFIED WITH MUD SCALE
11	Pump Lead Cement	4/30/2022	22:50	12.7	6.7	50	1276	50 BBLS LEAD CEMENT PUMPED
12	Pump Lead Cement	4/30/2022	22:58	12.7	6.7	50	1108	100 BBLS LEAD CEMENT PUMPED
13	Pump Lead Cement	4/30/2022	23:10	12.7	3	63.3	238	163.3 BBLS LEAD CEMENT PUMPED
14	Pump Tail Cement	4/30/2022	23:10	14.2	5	0	676	BEGIN PUMPING TAIL CEMENT. DENSITY VERIFIED WITH MUD SCALE
15	Pump Tail Cement	4/30/2022	23:27	14.2	3.5	50	415	50 BBLS TAIL CEMENT PUMPED
16	Pump Tail Cement	4/30/2022	23:39	14.2	4.7	50	694	100 BBLS TAIL CEMENT PUMPED
17	Pump Tail Cement	4/30/2022	23:50	14.2	3.5	50	386	150 BBLS TAIL CEMENT PUMPED
18	Pump Tail Cement	5/1/2022	00:03	14.2	3.5	50	344	200 BBLS TAIL CEMENT PUMPED
19	Pump Tail Cement	5/1/2022	00:08	14.2	3.5	21.4	341	221.4 BBLS TAIL CEMENT PUMPED
20	Clean Pumps and Lines	5/1/2022	00:08					SHUT DOWN, WASH UP PUMP AND LINES
21	Drop Top Plug	5/1/2022	00:22	8.34	4	0	388	DROP PLUG, VERIFIED BY CUSTOMER REP. BEGIN KCL DISPLACEMENT
22	Pump Displacement	5/1/2022	00:29	8.34	8	50	1155	50 BBLS KCL DISPLACEMENT PUMPED
23	Pump Displacement	5/1/2022	00:35	8.34	8	50	2008	100 BBLS KCL DISPLACEMENT PUMPED
24	Pump Displacement	5/1/2022	00:42	8.34	7	50	2694	150 BBLS KCL DISPLACEMENT PUMPED, KNIFEGATE STUCK AT 130 BBLS, SHUT DOWN AND FIXED KNIFEGATE
25	Pump Displacement	5/1/2022	00:46	8.34	2.5	20.8	2592	170.8 BBLS KCL DISPLACEMENT PUMPED, SLOWED RATE LAST 10 BBLS TO 4 BPM
26	Land Plug	5/1/2022	00:46				3425	LAND PLUG. FCP - 2592 PSI, BUMPED TO 3425 PSI
27	Check Floats	5/1/2022	00:51					CHECK FLOATS. FLOATS HELD, 2 BBLS BACK
28	Rig Down Iron	5/1/2022	01:00					RIG DOWN IRON AND HOSES
29	Depart Location	5/1/2022	02:30					DEPART LOCATION FOR RCO YARD

## Pump Diagrams

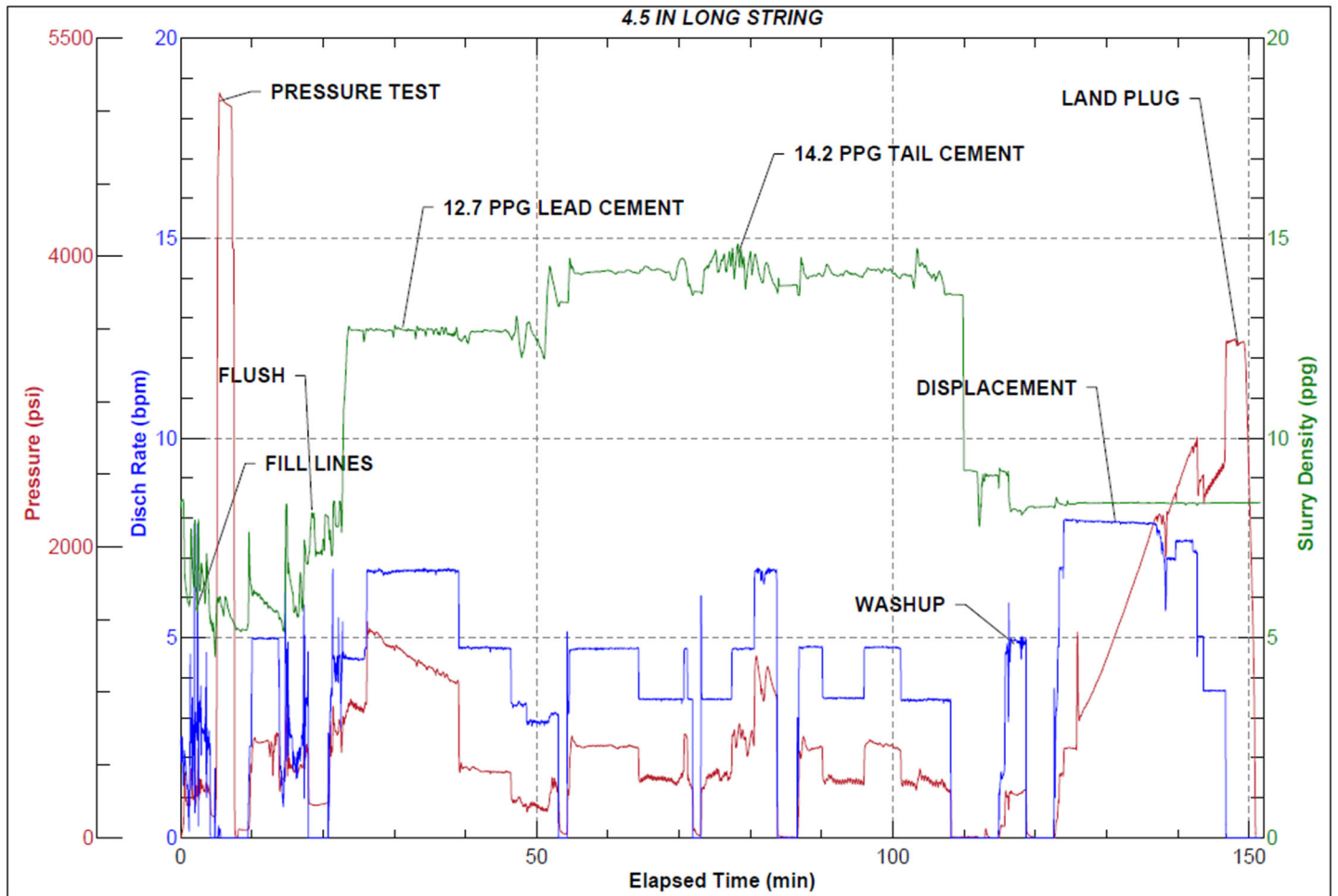


JobMaster Program Version 5.01C1

Job Number: 81217

Customer: Terra

Well Name: Federal NR 541-3



Job Start: Saturday, April 30, 2022