



# **Terra Energy Partners, LLC**

## **LONG STRING POST JOB REPORT**

**FEDERAL NR 444-36 05-045-24478**  
**S:3 T:6S R:94W Garfield CO**

CallSheet #: 82509  
Proposal #: 61614



**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,

**Krystal Schell**

Field Engineer I | (719) 992-1830 | krystal.schell@americacementing.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	1133	0
Open Hole	Outer	n/a	8.75	n/a	n/a	1133	8622	45
Open Hole	Outer	n/a	8.75	n/a	n/a	8622	11313	45
Casing	Inner	4.5	4	11.6	n/a	0	11313	0

### Equipment / People

Unit Type	Unit	Power Unit	Employee #1
Field Storage Silo	FSS(CTS)-470		
Field Storage Silo	FSS(CTS)-438		
AS Cement Trailer Float	CTF-901	TRC(TRB)-201	Schweitzer, Casey
AS Cement Trailer Float	CTF-019	TRC(TRB)-201	Schweitzer, Casey
AS Cement Trailer Float	CTF-138	TRC(TRB)-112	Barber, Tonya
Cement Trailer Float	CTF-246	TRC(TRB)-090	Hutchinson, Michael
Cement Pump Float	CPF-053	TRH-1140	Gonzales, Ivan
Light Duty Vehicles	LDV-083		Putnam, Gage

### Timing

Event	Date/Time
Call Out	7/21/2022 11:30
Depart Facility	7/21/2022 18:50
On Location	7/21/2022 19:30
Rig Up Iron	7/21/2022 19:45
Job Started	7/22/2022 00:47
Job Completed	7/22/2022 03:14
Rig Down Iron	7/22/2022 03:30
Depart Location	7/22/2022 04:30

### General Job Information

Metrics	Value
Well Fluid Density	11 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	910 bbls
Rig Circulation Time	1.5 hours
Calculated Displacement	174.6 bbls
Actual Displacement	174.6 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 Prior to Job	2870 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	11 lb/gal
Well Fluid Density Out of Well	11 lb/gal

### Job Details (cont.)

Metrics	Value
BHCT	193 °F
BHST	255 °F

### Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	80 °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	5886
2	Mud Flush	Flush	8.45			40.86		20.00	6012
3	Water	Flush	8.34			42.00		10.00	6264
4	12.7 Lead	Lead	12.70	2.00	10.99		407.00	145.15	6390
5	14.2 Tail	Tail	14.20	1.72	8.09		813.00	249.25	8219
6	Displacement	DisplacementFinal	8.34			42.00		174.60	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	StrengthRetgression	27.00	%BWOB

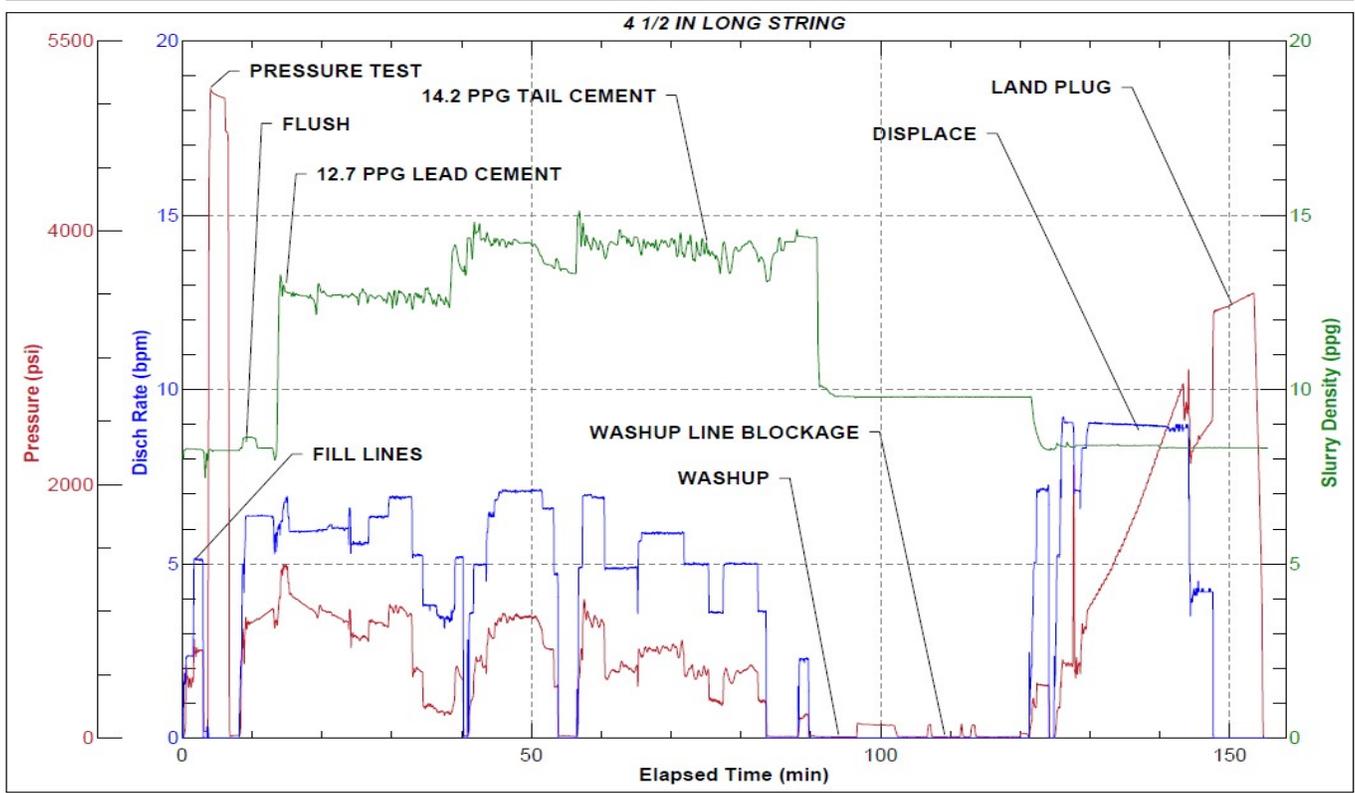
## Job Logs

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Callout	7/21/2022	11:30					CREW CALLED OUT FOR ON LOCATION TIME OF 22:00 7/21/22
2	Depart Location	7/21/2022	18:50					DEPART RCO YARD FOR LOCATION
3	Arrive On Location	7/21/2022	19:30					ARRIVE ON CUSTOMER SITE
4	Rig Up Iron	7/21/2022	19:45					RIG UP IRON AND HOSES
5	Waiting	7/21/2022	22:00					WAITING ON RIG TO RUN CASING
6	Safety Meeting	7/22/2022	00:00					JSA SAFETY MEETING WITH AC CREW, RIG HANDS, AND CUSTOMER REP
7	Fill Lines	7/22/2022	00:47	8.34	5	10	707	FILL LINES WITH FRESH WATER
8	Pressure Test Lines	7/22/2022	00:50	8.34			5152	PRESSURE TEST PUMP AND LINES TO 5000 PSI
9	Other	7/22/2022	00:54	8.45	6	20	957	PUMP MUD FLUSH + SURFACTANT
10	Other	7/22/2022	00:58	8.34	6	10	970	PUMP FRESH WATER FLUSH
11	Pump Lead Cement	7/22/2022	01:00	12.7	6	0	1090	BEGIN PUMPING LEAD CEMENT. DENSITY VERIFIED WITH MUD SCALE
12	Pump Lead Cement	7/22/2022	01:08	12.7	6	50	962	50 BBLS LEAD CEMENT PUMPED
13	Pump Lead Cement	7/22/2022	01:16	12.7	6.9	50	1002	100 BBLS LEAD CEMENT PUMPED
14	Pump Lead Cement	7/22/2022	01:25	12.7	3.8	45.2	226	145.2 BBLS LEAD CEMENT PUMPED
15	Pump Tail Cement	7/22/2022	01:25	14.2	3.6	0	288	BEGIN PUMPING TAIL CEMENT. DENSITY VERIFIED WITH MUD SCALE
16	Pump Tail Cement	7/22/2022	01:34	14.2	7	50	942	50 BBLS TAIL CEMENT PUMPED
17	Pump Tail Cement	7/22/2022	01:44	14.2	7	50	900	100 BBLS TAIL CEMENT PUMPED, SHUT DOWN AT 88 BBLS AWAY TO FIX STUCK KNIFEGATE
18	Pump Tail Cement	7/22/2022	01:54	14.2	5.9	50	700	150 BBLS TAIL CEMENT PUMPED
19	Pump Tail Cement	7/22/2022	02:04	14.2	3.6	50	300	200 BBLS TAIL CEMENT PUMPED
20	Pump Tail Cement	7/22/2022	02:16	14.2	3	49.3	281	249.3 BBLS TAIL CEMENT PUMPED
21	Shutdown	7/22/2022	02:16					SHUT DOWN
22	Other	7/22/2022	02:18					UNABLE TO BLOW DOWN AND WASHUP THROUGH WASHUP LINE DUE TO BLOCKAGE. REPLACED PROBLEM HOSE
23	Clean Pumps and Lines	7/22/2022	02:45					BLOW DOWN STANDPIPE, WASH UP PUMP AND LINES
24	Drop Top Plug	7/22/2022	02:51	8.34	5	0	216	DROP PLUG, VERIFIED BY CUSTOMER REP. BEGIN KCL DISPLACEMENT
25	Pump Displacement	7/22/2022	02:57	8.34	9	50	1187	50 BBLS KCL DISPLACEMENT PUMPED
26	Pump Displacement	7/22/2022	03:03	8.34	9	50	1894	100 BBLS KCL DISPLACEMENT PUMPED
27	Pump Displacement	7/22/2022	03:09	8.34	9	50	2795	150 BBLS KCL DISPLACEMENT PUMPED
28	Pump Displacement	7/22/2022	03:14	8.34	4.2	24.6	2540	174.6 BBLS KCL DISPLACEMENT PUMPED, SLOWED RATE LAST 10 BBLS TO 4 BPM
29	Land Plug	7/22/2022	03:14				3390	LAND PLUG. FCP - 2540 PSI, BUMPED TO 3390 PSI
30	Check Floats	7/22/2022	03:18					CHECK FLOATS. FLOATS HELD, 2 BBLS BACK
31	Rig Down Iron	7/22/2022	03:30					RIG DOWN IRON AND HOSES
32	Depart Location	7/22/2022	04:30					DEPART LOCATION FOR RCO YARD

# Pump Diagrams



JobMaster Program Version 5.01C1  
Job Number: 82509  
Customer: Terra  
Well Name: NR Federal 444-36



Job Start: Friday, July 22, 2022