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# **Terra Energy Partners, LLC**

## **LONG STRING POST JOB REPORT**

**FEDERAL WMC 32-20 05-045-24497**  
**S:17 T:7S R:93W Garfield CO**

CallSheet #: 84470  
Proposal #: 64895



**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,

**Holly Mbugua**

Field Engineer II | (720) 505-1300 | holly.mbugua@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	1134	0
Open Hole	Outer	n/a	8.75	n/a	n/a	1135	8924	85
Open Hole	Outer	n/a	8.75	n/a	n/a	8924	11208	50
Casing	Inner	4.5	4	11.6	n/a	0	11208	0

### Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Employee #2
Cement Trailer Float	CTF-273	TRC-424	Ridgeway, Danny	Hansen, James
Cement Trailer Float	CTF-579	TRC-054	Hutchinson, Michael	
Cement Trailer Float	CTF-161	TRH-769	Burton, Devin	Morales, Adrian
AS Cement Trailer Float	CTF-9898	TRC-054	Hutchinson, Michael	
Field Storage Silo	FSS-470			
Field Storage Silo	FSS-438			
Light Duty Vehicles	LDV-061		Woronovitch, Collin	Billman, Robert
Cement Pump Float	CPF-058	TRH-959	Hale, Jason	Mendoza, Victor

### Timing

Event	Date/Time
Call Out	11/20/2022 13:00
Depart Facility	11/20/2022 20:00
On Location	11/21/2022 00:00
Rig Up Iron	11/23/2022 17:30
Job Started	11/23/2022 21:05
Job Completed	11/23/2022 23:20
Rig Down Iron	11/23/2022 23:45
Depart Location	11/24/2022 01:00

### General Job Information

Metrics	Value
Well Fluid Density	8.6 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	720 bbls
Rig Circulation Time	1.5 hours
Calculated Displacement	173 bbls
Actual Displacement	173 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	No

## Job Details

Metrics	Value
Flare Prior to Job	No
Flare Prior to Job	0 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	8.6 lb/gal
Well Fluid Density Out of Well	8.6 lb/gal

## Job Details (cont.)

Metrics	Value
BHCT	206 °F
BHST	270 °F

## Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	55 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	500 mg/L	0-3000 mg/L
Total Alkalinity	140	0-1000
Total Hardness	200 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

## Circulation

Lost Circulation Experienced	Losses into Spacer	Losses into Cement	Losses into Displacement
Yes	0	0	0

### Circulation Details

RIG HAD NO RETURNS WHEN CIRCULATING, NO RETURNS DURING JOB

## 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	5705
2	Mud Flush	Flush	8.45			40.86		20.00	5804
3	Water	Flush	8.34			42.00		10.00	6002
4	Prod Scav	Scavenger	11.00	3.07	18.84		92.00	50.38	6101
5	Lead Cement	Lead	12.70	2.00	10.99		661.00	235.73	6595
6	Tail Cement	Tail	13.50	1.85	8.97		584.00	191.94	8924
7	Displacement	DisplacementFinal	8.34			42.00		173.00	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	Scavenger	Prod Scav	ASTM TYPE I/II	Cement	65.00	%
4	Scavenger	Prod Scav	FLY ASH (POZZOLAN)	Extender	35.00	%
4	Scavenger	Prod Scav	BENTONITE	Viscosifier	6.00	%BWOB
4	Scavenger	Prod Scav	FP-24	Defoamer	0.30	%BWOB
4	Scavenger	Prod Scav	GW-86	Viscosifier	0.10	%BWOB
4	Scavenger	Prod Scav	IntegraSeal PHENO	LostCirculation	3.00	lb/sk
4	Scavenger	Prod Scav	R-3	Retarder	0.40	%BWOB
5	Lead	Lead Cement	ASTM TYPE I/II	Cement	100.00	%
5	Lead	Lead Cement	BA-90	BondEnhancer	3.00	lb/sk
5	Lead	Lead Cement	FL-66	FluidLoss	0.50	%BWOB
5	Lead	Lead Cement	FP-24	Defoamer	0.30	%BWOB
5	Lead	Lead Cement	GW-86	Viscosifier	0.10	%BWOB
5	Lead	Lead Cement	IntegraSeal POLI	LostCirculation	0.25	lb/sk
5	Lead	Lead Cement	R-3	Retarder	0.45	%BWOB
5	Lead	Lead Cement	STATIC FREE	Other	0.01	lb/sk
6	Tail	Tail Cement	BA-90	BondEnhancer	10.00	%
6	Tail	Tail Cement	CLASS G	Cement	70.00	%
6	Tail	Tail Cement	FLY ASH (POZZOLAN)	Extender	20.00	%
6	Tail	Tail Cement	BENTONITE	Viscosifier	6.00	%BWOB



Fluid	Type	Fluid	Product	Function	Conc.	Uom
6	Tail	Tail Cement	FL-24	FluidLoss	0.40	%BWOB
6	Tail	Tail Cement	FP-24	Defoamer	0.30	%BWOB
6	Tail	Tail Cement	IntegraSeal PHENO	LostCirculation	3.00	lb/sk
6	Tail	Tail Cement	R-3	Retarder	0.30	%BWOB
6	Tail	Tail Cement	S-8	StrengthRetrogression	25.00	%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	Call Out	11/20/2022	13:00					CALLED OUT FOR A YARD TIME OF 16:00 ON LOCATION TIME 11/21/22 00:00
2	Saftey meeting	11/20/2022	19:30					PRE-CONVOY SAFETY MEETING AND JOURNEY MANAGEMENT MEETING.
3	Depart Yard	11/20/2022	20:00					DEPART YARD FOR LOCATION
4	Arrive At Location	11/21/2022	00:00					REQUESTED ON LOCATION @ 00:00 11/21/22 RIG COULDN'T GET TO BOTTOM RELEASED CREW 11/21 @ 08:00 JOB CALLED BACK IN 11/23 WITH LOCATION TIME OF 17:00 ARRIVED ON LOCATION 17:00
5	Saftey meeting	11/23/2022	17:15					PRE-RIG UP SAFTEY MEETING
6	Rig - Up Equipment	11/23/2022	17:30					RIG UP EQUIPMENT
7	Standby	11/23/2022	18:00					WAITING ON RIG TO FINISH RUNNING CASING
8	Other	11/23/2022	19:30					RIG CIRCULATED FOR 1.5 HOURS @ 8.3 BPM
9	Saftey meeting	11/23/2022	20:30					PRE JOB SAFTEY-MEETING W/ RIG CREW AND COMPANY MAN.
10	Start Job	11/23/2022	21:05	8.3	4	5	210	FILL LINES WITH 5 BBLs OF FW.
11	Pressure Test	11/23/2022	21:11	8.3			5200	TEST TO 5000 PSI
12	Pump Spacer	11/23/2022	21:17	8.3	6.5	10	215	10 BBL FW SPACER PUMPED NO RETURNS
13	Pump Mud Flush	11/23/2022	21:19	8.5	6.5	20	491	20 BBL MUD FLUSH PUMPED SAPP+SS-201
14	Pump Spacer	11/23/2022	21:22	8.3	6.5	10	464	10 BBL FW SPACER PUMPED
15	Pump Scavenger	11/23/2022	21:25	11	6.5	5	460	START SCAVENGER 5 BBLs PUMPED NO RETURNS
16	Pump Scavenger	11/23/2022	21:33	11	6.5	50	450	50 BBLs OF SCAVENGER PUMPED
17	Pump Lead Cement	11/23/2022	21:34	12.7	6.5	5	420	START LEAD CEMENT 5 BBLs PUMPED 12.7# WEIGHT VERIFIED ON MUD SCALE
18	Pump Lead Cement	11/23/2022	21:57	12.7	6.5	150	432	150 BBLs OF LEAD CEMENT PUMPED NO RETURNS
19	Pump Lead Cement	11/23/2022	22:11	12.7	3	235	150	235 BBLs TOTAL LEAD CEMENT PUMPED ESTIMATED HEIGHT OF LEAD 3410'
20	Pump Tail Cement	11/23/2022	22:12	13.5	5	5	303	START TAIL CEMENT 5 BBLs PUMPED 13.5# WEIGHT VERIFIED ON MUD SCALE
21	Pump Tail Cement	11/23/2022	22:29	13.5	6.5	100	533	100 BBLs OF TAIL CEMENT PUMPED NO RETURNS
22	Pump Tail Cement	11/23/2022	22:44	13.5	3.7	192	140	192 BBLs TOTAL TAIL CEMENT PUMPED
23	Wash Up	11/23/2022	22:45					SHUTDOWN BLOW AIR FROM RIG TO CLEAR LINES. WASH UP EQUIPMENT TO PIT
24	Drop Plug	11/23/2022	22:52					WEATHERFORD PLUG
25	Pump Displacement	11/23/2022	22:52	8.3	8	2	300	173 BBLs CALCULATED DISPLACEMENT 2 BBLs GONE
26	Displacement	11/23/2022	22:54	8.3	8	10	370	10 BBLs GONE 8BBL/MIN 370PSI
27	Displacement	11/23/2022	23:00	8.3	8	50	350	50 BBLs GONE 8BBL/MIN 350PSI NO RETURNS
28	Displacement	11/23/2022	23:06	8.3	8	100	840	100 BBLs GONE 8BBL/MIN 840PSI CAUGHT PRESSURE @86BBLs DISPLACED
29	Displacement	11/23/2022	23:13	8.3	8	150	1487	150 BBLs GONE 8BBL/MIN
30	Displacement	11/23/2022	23:16	8.3	4	173	1510	LAND PLUG CALCULATED DISPLACEMENT 173 BBLs PUMPED

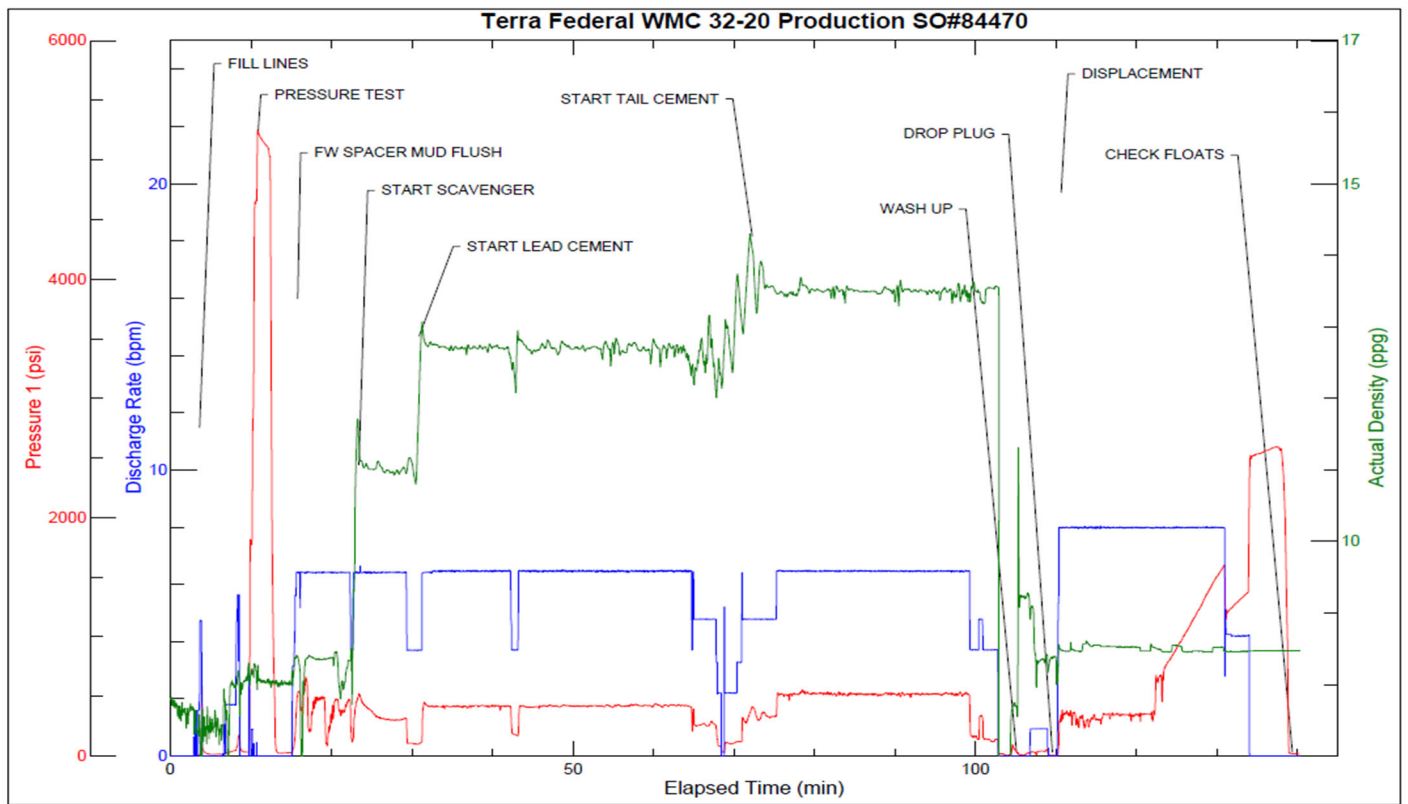


Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
31	Land Plug	11/23/2022	23:16	8.3	4	173	2520	FCP- 1510PSI BUMP- 2520
32	Check Floats	11/23/2022	23:20					BLED BACK 2 BBLS FLOATS HOLDING
33	Safety meeting	11/23/2022	23:30					PRE-RIG DOWN SAFETY MEETING
34	Rig Down Equipment	11/23/2022	23:45					RIG DOWN EQUIPMENT PICKLE/BLOWDOWN
35	Depart Location	11/24/2022	01:00					DEPART LOCATION

## Pump Diagrams



JobMaster Program Version 5.01C1  
Job Number: 84470  
Customer: Terra  
Well Name: Federal WMC 32-20



Job Start: Wednesday, November 23, 2022