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# **Terra Energy Partners, LLC**

## **LONG STRING POST JOB REPORT**

Leverich WMC 412-18-793 05-045-24556  
S:13 T:7S R:94W Garfield CO

CallSheet #: 88408  
Proposal #: 71136



**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,

**Lyndon Chandarjit**

Field Engineer II | (281) 690-3840 | lyndon.chandarjit@americacementing.com

**Field Office**      28730 US-6, Rifle, CO 81650  
Phone: (970) 657-1187

## 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	1176	0
Open Hole	Outer	n/a	8.75	n/a	n/a	1176	7637	85
Open Hole	Outer	n/a	8.75	n/a	n/a	7637	10849	50
Casing	Inner	4.5	4	11.6	n/a	0	10849	0

### Equipment / People

Unit Type	Unit	Power Unit	Employee #1
Cement Trailer Float	CTF-579	TRC-054	Michael Hutchinson
Field Storage Silo	FSS-438		
Cement Pump Float	CPF-012	TRH-677	Shawn Brady
Light Duty Vehicles	LDV-083		Stephen Lancaster

### Timing

Event	Date/Time
ERTS	09/07/2023 00:00
Call Out	9/6/2023 18:00
Depart Facility	9/6/2023 19:30
On Location	9/6/2023 20:28
Rig Up Iron	9/6/2023 20:35
Job Started	9/7/2023 02:17
Job Completed	9/7/2023 04:45
Rig Down Iron	9/7/2023 05:12
Depart Location	9/7/2023 06:31

### General Job Information

Metrics	Value
Well Fluid Density	9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	892 bbls
Rig Circulation Time	1 hours
Calculated Displacement	167 bbls
Actual Displacement	167 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	N/A

### Job Details

Metrics	Value
Well Full Prior to Job	Yes
Well Fluid Density Into Well	9 lb/gal
Well Fluid Density Out of Well	9 lb/gal

### Job Details (cont.)

Metrics	Value
BHCT	173 °F
BHST	230 °F

### Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	65 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	170	0-1000
Total Hardness	300 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
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	5940
2	Mud Flush	Flush	8.45			40.86		20.00	6039
3	Water	Flush	8.34			42.00		10.00	6237
4	Lead	Lead	12.50	2.21	12.30		335.00	131.74	6336
5	Tail	Tail	13.00	2.05	10.26		786.00	286.69	7637
6	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	Lead	Lead	ASTM TYPE IL	Cement	100.00	%
4	Lead	Lead	A-2	Accelerator	0.20	%BWOB
4	Lead	Lead	FL-66	FluidLoss	0.30	%BWOB
4	Lead	Lead	FP-24	Defoamer	0.30	%BWOB
4	Lead	Lead	GW-86	Viscosifier	0.10	%BWOB
4	Lead	Lead	R-3	Retarder	0.50	%BWOB
4	Lead	Lead	R-7C	Retarder	0.10	%BWOB
4	Lead	Lead	STATIC FREE	Other	0.01	lb/sk
4	Lead	Lead	XCem-1009	Extender	10.00	lb/sk
5	Tail	Tail	CLASS G	Cement	50.00	%
5	Tail	Tail	FLY ASH (POZZOLAN)	Extender	50.00	%
5	Tail	Tail	BENTONITE	Viscosifier	6.00	%BWOB
5	Tail	Tail	FL-66	FluidLoss	0.40	%BWOB
5	Tail	Tail	FP-24	Defoamer	0.30	%BWOB
5	Tail	Tail	GW-86	Viscosifier	0.10	%BWOB
5	Tail	Tail	IntegraSeal PHENO	LostCirculation	0.50	lb/sk
5	Tail	Tail	IntegraSeal POLI	LostCirculation	0.25	lb/sk
5	Tail	Tail	S-8	StrengthRetgression	20.00	%BWOB
5	Tail	Tail	XCem-1009	Extender	6.00	lb/sk
5	Tail	Tail	XCem-916	Retarder	0.40	%BWOB

## Job Logs

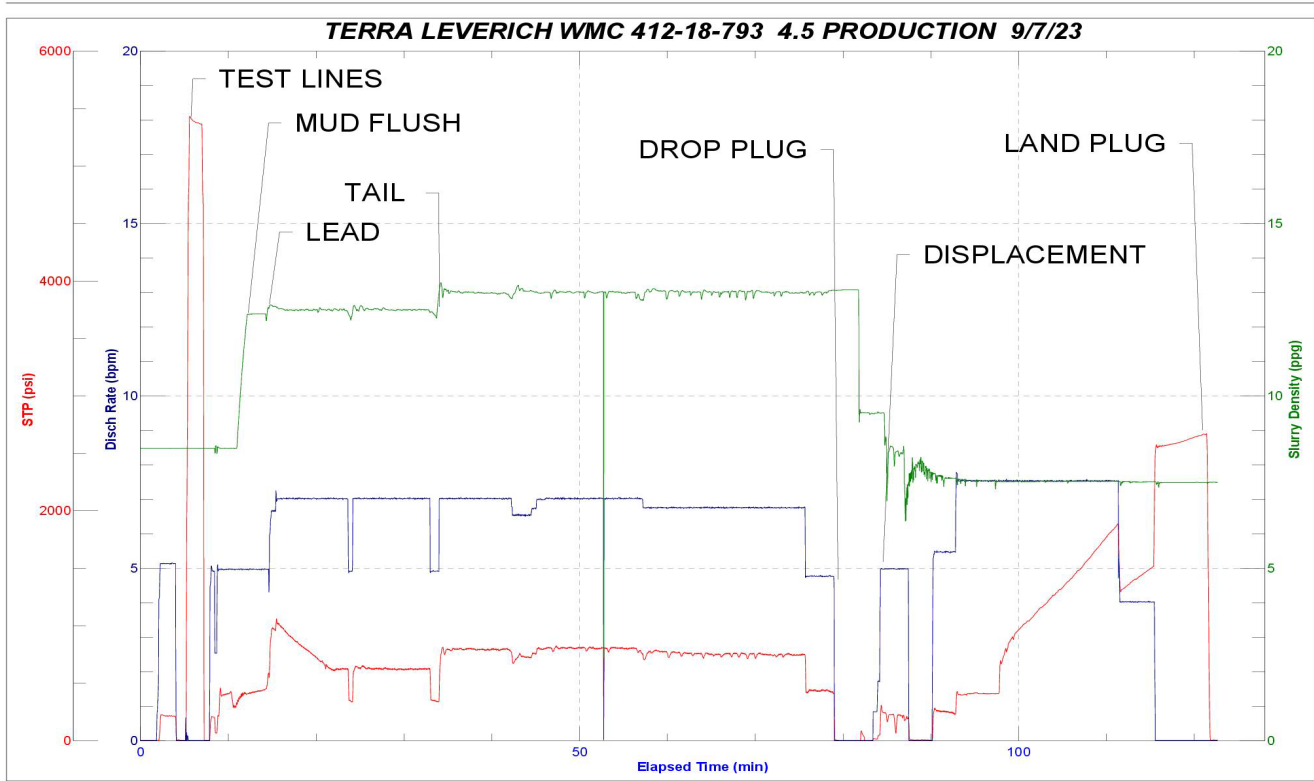
Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Callout	9/6/2023	18:00					CREW CALLED OUT FOR ON LOCATION TIME OF 9/7/23 00:01
2	Depart RCO	9/6/2023	19:30					DEPART RCO YARD FOR LOCATION
3	Arrive On Location	9/6/2023	20:28					ARRIVE ON LOCATION
4	Safety Meeting	9/6/2023	20:30					DISCUSS HOW TO SPOT AND RIG UP , SAFTEY CONCERNS
5	Rig Up Iron	9/6/2023	20:35					RIG UP 90% OF OUR IRON AND HOSES. DONE @ 21:48, STANDBY WHILE RIG RUNS CASING
6	Safety Meeting	9/7/2023	02:17					JSA SAFETY MEETING WITH AC CREW, RIG HANDS, AND CUSTOMER REP
7	Fill Lines	9/7/2023	02:54	8.34	2	10	230	BLEW AIR THROUGH LINES TO THE PIT AND TO THE TRUCK , PUMP DOWNHOLE 10 BBLs
8	Pressure Test Lines	9/7/2023	02:56	8.34	1		5200	PRESSURE TEST PUMP AND LINES TO 5000 PSI
9	Pump mudflush	9/7/2023	03:02	8.45	5	20	318	PUMP MUD FLUSH + SURFACTANT
10	Pump FW flush	9/7/2023	03:04	8.34	5	10	408	PUMP FRESH WATER FLUSH
11	Pump Lead Cement	9/7/2023	03:05	12.5	5	5	429	START LEAD CEMENT
12	Pump Lead Cement	9/7/2023	03:11	12.5	7	35	728	35 BBLs LEAD CEMENT PUMPED ( no returns )
13	Pump Lead Cement	9/7/2023	03:13	12.5	7	50	703	150 BBLs LEAD CEMENT PUMPED
14	Pump Lead Cement	9/7/2023	03:21	12.5	7	100	643	100 BBLs LEAD CEMENT PUMPED
15	Pump Lead Cement	9/7/2023	03:25	12.5	7	132	644	132 BBLs LEAD CEMENT PUMPED
16	Pump Tail Cement	9/7/2023	03:26	13	5	5	345	BEGIN PUMPING TAIL CEMENT. DENSITY VERIFIED WITH MUD SCALE
17	Pump Tail Cement	9/7/2023	03:33	13	6.5	50	749	50 BBLs TAIL CEMENT PUMPED, ( no returns )
18	Pump Tail Cement	9/7/2023	03:40	13	7	100	823	100 BBLs TAIL CEMENT PUMPED
19	Pump Tail Cement	9/7/2023	03:47	13	7	150	826	150 BBLs TAIL CEMENT PUMPED
20	Pump Tail Cement	9/7/2023	03:53	13	6.8	200	773	200 BBLs TAIL CEMENT PUMPED. ( no returns )
21	Pump Tail Cement	9/7/2023	04:10	13	4.8	287	436	287 BBLs TAIL CEMENT PUMPED
22	Clean Pumps and Lines	9/7/2023	04:15					BLOW DOWN STANDPIPE, WASH UP PUMP AND LINES TO PIT
23	Drop Top Plug	9/7/2023	04:21	8.34	4	5	231	DROP PLUG, VERIFIED BY CUSTOMER REP. BEGIN KCL DISPLACEMENT
24	Pump Displacement	9/7/2023	04:29	8.34	7.5	50	408	50 BBLs KCL DISPLACEMENT PUMPED ( no returns )
25	Pump Displacement	9/7/2023	04:36	8.34	7.5	100	1289	100 BBLs KCL DISPLACEMENT PUMPED, CAUGHT CEMENT AT 54 BBLs PUMPED 692 PSI ( partial returns @ 120 bbls pumped )
26	Pump Displacement	9/7/2023	04:43	8.34	7.5	150	1891	150 BBLs KCL DISPLACEMENT PUMPED
27	Pump Displacement	9/7/2023	04:45	8.34	4	167	1430	167 BBLs KCL DISPLACEMENT PUMPED



Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
28	Land Plug	9/7/2023	04:45	8.34	4	167	2510	LAND PLUG. FCP - 1430 PSI, BUMPED TO 2510 PSI
29	Check Floats	9/7/2023	04:53					CHECK FLOATS. FLOATS HELD, 1.5 BBLS BACK
30	Blowdown lines	9/7/2023	04:59					BLOW DOWN IRON TO THE HALFROUND AND BACK TO THE TRUCK
31	Rig Down Iron	9/7/2023	05:12					RIG DOWN IRON AND HOSES
32	Depart Location	9/7/2023	06:31					LEAVE LOCATION FOR AC RCO

# Pump Diagrams

JobMaster Program Version 5.01C1  
Job Number: 88408  
Customer: TERRA  
Well Name: LEVERICH WMC 412-18-793



Job Start: Thursday, September 07, 2023