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# **Terra Energy Partners, LLC**

## **LONG STRING POST JOB REPORT**

**CHEVRON GM 431-19 05-045-24349**  
**S:20 T:6S R:96W Garfield CO**

CallSheet #: 75800  
Proposal #: 50964



**LONG STRING 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) 657-1187

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## 1 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		0	1028	0
Open Hole	Outer		8.75			1000	7831	45
Casing	Inner	4.5	4	11.6		0	7821	0

### Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Mileage
Bulk Trailer	CTF-182	TRB-769	Rivas, Saul	56
Silo	Silo #25			
Cement Pump	CPF-011	TRH-957	Aden, Mark	56
Light Duty Trailers	LDV-3106		Diaz, Douglas	56

### Timing

Event	Date/Time
Call Out	1/3/2021 08:00
Depart Facility	1/3/2021 09:30
On Location	1/3/2021 11:50
Rig Up Iron	1/3/2021 11:56
Job Started	1/3/2021 14:47
Job Completed	1/3/2021 16:11
Rig Down Iron	1/3/2021 16:11
Depart Location	1/3/2021 17:15

### General Job Information

Metrics	Value
Well Fluid Density	10.8 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	660 bbls
Rig Circulation Time	1 hours
Calculated Displacement	121 bbls
Actual Displacement	121 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 During Job	No
Flare at End of Job	No
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	170 °F
BHST	230 °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		10.00	2347
1	2	Mud Flush	Flush	8.45			40.86		20.00	2530
1	3	Water	Flush	8.34			42.00		10.00	2897
1	4	Lead Cement	Lead	12.50	2.16	12.18		231.00	88.91	3080
1	5	Tail Cement	Tail	13.00	1.99	10.08		483.00	171.00	4707
1	6	Displacement	DisplacementFinal	8.34			42.00		121.00	0

## Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Flush	Mud Flush	SAPP	Surfactant	10.00	lb/bbl
1	2	Flush	Mud Flush	SS-201	Surfactant	0.50	gal/bbl
1	4	Lead	Lead Cement	ASTM TYPE III	Cement	100.00	%
1	4	Lead	Lead Cement	BA-90	BondEnhancer	5.00	lb/sk
1	4	Lead	Lead Cement	FL-66	FluidLoss	0.30	%BWOB
1	4	Lead	Lead Cement	FP-24	Defoamer	0.30	%BWOB
1	4	Lead	Lead Cement	GW-86	Viscosifier	0.10	%BWOB
1	4	Lead	Lead Cement	IntegraSeal POLI	LostCirculation	0.25	lb/sk
1	4	Lead	Lead Cement	R-3	Retarder	0.60	%BWOB
1	5	Tail	Tail Cement	CLASS G	Cement	50.00	%
1	5	Tail	Tail Cement	FLY ASH (POZZOLAN)	Extender	50.00	%
1	5	Tail	Tail Cement	BA-90	BondEnhancer	3.00	lb/sk
1	5	Tail	Tail Cement	BENTONITE	Viscosifier	6.00	%BWOB
1	5	Tail	Tail Cement	FL-66	FluidLoss	0.40	%BWOB
1	5	Tail	Tail Cement	FP-24	Defoamer	0.30	%BWOB
1	5	Tail	Tail Cement	GW-86	Viscosifier	0.10	%BWOB
1	5	Tail	Tail Cement	IntegraSeal POLI	LostCirculation	0.25	lb/sk
1	5	Tail	Tail Cement	R-3	Retarder	0.10	%BWOB
1	5	Tail	Tail Cement	S-8	StrengthRetrogression	20.00	%BWOB

## 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	1/3/2021	08:00					Yard call 0800 on location 1200, Crew temps D. Diaz 96.2, M. Aden 97.1, S. Rivas 96.6
2	Depart For Location	1/3/2021	09:30					Leave Rifle Shop for location
3	Arrive On Location	1/3/2021	11:50					Arrive on location rig running casing
4	Spot Equipment	1/3/2021	11:50					Spot in all equipment
5	Rig Up Iron	1/3/2021	11:56					Pre rig up safety meeting, rig in all equipment and lines to the stand pipe
6	Waiting	1/3/2021	12:30					Waiting on rig to finish casing and circulating
7	Safety Meeting	1/3/2021	14:15					Pre job safety meeting with company man and rig crew
8	Rig Ends Circulation	1/3/2021	14:28					Rig circulated 60 mins @ 11 BBLs/min, total of 660 BBLs
9	Waiting	1/3/2021	14:28					Waiting on rig to lay down CRT and blow down
10	Rig Up Iron	1/3/2021	14:42					Rig in cement head and lines on the floor
11	Pump Spacer	1/3/2021	14:47	8.34	5	10	533	Pumping fresh water spacer, Returns
12	Pressure Test Lines	1/3/2021	14:52				5000	Pressure test lines
13	Pump Spacer	1/3/2021	14:55	8.34	5	20	687	Pumping mud flush spacer
14	Pump Spacer	1/3/2021	14:58	8.34	5	10	967	Pumping fresh water spacer
15	Pump Lead Cement	1/3/2021	15:00	12.5	5	0	949	Pumping lead cement
16	Pump Lead Cement	1/3/2021	15:08	12.5	7	50	1364	Pumping lead cement
17	Pump Lead Cement	1/3/2021	15:13	12.5	6	89	844	Pumping lead cement
18	Pump Tail Cement	1/3/2021	15:13	13	6	0	844	Pumping tail cement
19	Pump Tail Cement	1/3/2021	15:20	13	7	50	1185	Pumping tail cement
20	Pump Tail Cement	1/3/2021	15:29	13	5	100	651	Pumping tail cement
21	Pump Tail Cement	1/3/2021	15:39	13	5	150	650	Pumping tail cement
22	Pump Tail Cement	1/3/2021	15:44	13	4	171	458	Pumping tail cement
23	Clean Pumps and Lines	1/3/2021	15:44					Clean pump and lines to high wall tank
24	Drop Top Plug	1/3/2021	15:53					Dropped top plug verified by company man
25	Pump Displacement	1/3/2021	15:54	8.34	10	0	974	Pumping KCL displacement
26	Pump Displacement	1/3/2021	16:00	8.34	10	50	1968	Pumping KCL displacement
27	Pump Displacement	1/3/2021	16:09	8.34	10	100	2799	Pumping KCL displacement
28	Pump Displacement	1/3/2021	16:09	8.34	4	121	1970	Pumping KCL displacement
29	Land Plug	1/3/2021	16:09				3629	Land plug, FCP 1970 PSI bumped to 3629 PSI
30	Check Floats	1/3/2021	16:11					Bled pressure floats held, 1.5 BBL bled back
31	Rig Down Iron	1/3/2021	16:11					Pre rig down safety meeting, rig down cement head and lines on the floor
32	Clean Pumps and Lines	1/3/2021	16:22					Wash and winterize pump and lines to high wall tank
33	Rig Down Iron	1/3/2021	16:45					Rig down lines and equipment
34	Depart Location	1/3/2021	17:15					Leave location for Rifle shop

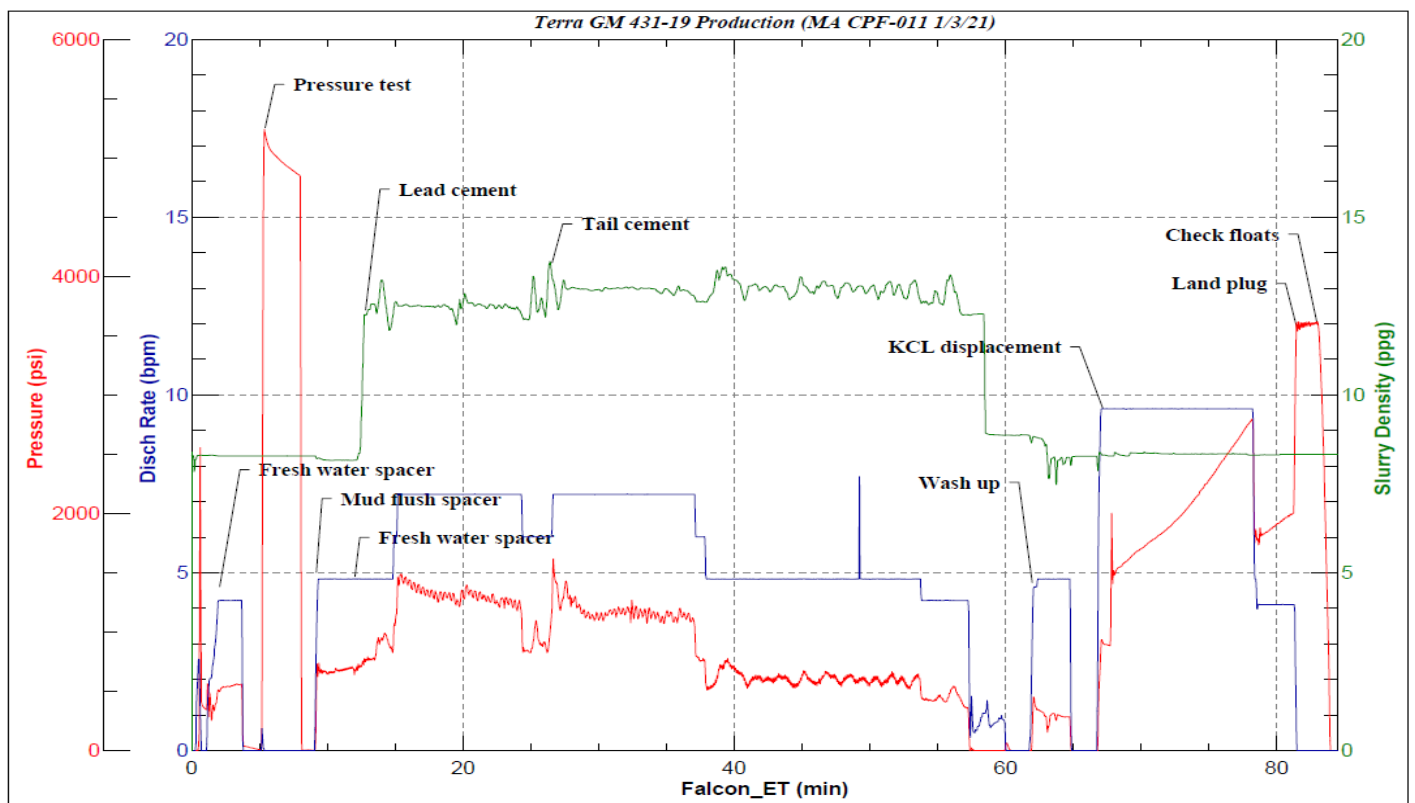
### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Frac Tank	
Temperature	84 °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



**JobMaster Program Version 5.01C1**  
Job Number: 75800  
Customer: Terra  
Well Name: GM 431-19



BJ Services

Job Start: Sunday, January 03, 2021