



Terra Energy Partners, LLC

LONG STRING POST JOB REPORT

FEDERAL WMC 431-20 05-045-24499
S:17 T:7S R:93W Garfield CO

CallSheet #: 85051
Proposal #: 65743



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

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	1132	0
Open Hole	Outer	n/a	8.75	n/a	n/a	1132	8807	85
Open Hole	Outer	n/a	8.75	n/a	n/a	8807	11019	50
Casing	Inner	4.5	4	11.6	n/a	0	11019	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1
Cement Trailer Float	CTF-246	TRB-421	Fleck, Jameson
Field Storage Silo	FSS-470		
Field Storage Silo	FSS-438		
Cement Pump Float	CPF-136	TRH-855	Bradbrook, Jeremy
Light Duty Vehicles	LDV-082		Kelsey, John

Timing

Event	Date/Time
Call Out	12/19/2022 20:00
Depart Facility	12/20/2022 01:15
On Location	12/20/2022 02:00
Rig Up Iron	12/20/2022 02:30
Job Started	12/20/2022 05:42
Job Completed	12/20/2022 08:42
Rig Down Iron	12/20/2022 09:00
Depart Location	12/20/2022 10:00

General Job Information

Metrics	Value
Well Fluid Density	8.6 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	700 bbls
Rig Circulation Time	1 hours
Calculated Displacement	170 bbls
Actual Displacement	170 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	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	196 °F
BHST	260 °F

Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	40 °F	50-80 °F
pH Level	6	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	80	0-1000
Total Hardness	400 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

NO RETURNS THROUGHOUT JOB FROM START, UNTIL 79 BBLS AWAY DISPLACEMENT. RECOVERED 91 BBLS MUD

Job Execution Information

Fluid	Product	Function	Density (lb/gal)	Yield (ft ³ /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	5606
2	Mud Flush	Flush	8.45			40.86		20.00	5705
3	Water	Flush	8.34			42.00		10.00	5903
4	Scavenger	Scavenger	11.00	3.08	18.84		92.00	50.39	6002
5	Lead Cement	Lead	12.70	2.00	10.99		656.00	233.95	6496
6	Tail Cement	Tail	13.50	1.85	8.97		589.00	193.61	8807
7	Displacement	DisplacementFinal	8.34			42.00		170.00	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	Scavenger	ASTM TYPE I/II	Cement	65.00	%
4	Scavenger	Scavenger	FLY ASH (POZZOLAN)	Extender	35.00	%
4	Scavenger	Scavenger	BENTONITE	Viscosifier	6.00	%BWOB
4	Scavenger	Scavenger	FP-24	Defoamer	0.30	%BWOB
4	Scavenger	Scavenger	GW-86	Viscosifier	0.10	%BWOB
4	Scavenger	Scavenger	IntegraSeal PHENO	LostCirculation	3.00	lb/sk
4	Scavenger	Scavenger	XCem-916	Retarder	0.45	%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	STATIC FREE	Other	0.01	lb/sk
5	Lead	Lead Cement	XCem-916	Retarder	0.45	%BWOB
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
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	S-8	StrengthRetrogression	25.00	%BWOB
6	Tail	Tail Cement	XCem-916	Retarder	0.35	%BWOB

Job Logs

Line	Event	Date (MM/DD/Y Y)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	CALLOUT	12/19/2022	20:00					CREW CALLED TO PREPARE FOR A PRODUCTION CEMENT JOB. RTS IS 00:00 ON 12-20-22.
2	SAFETY MEETING	12/20/2022	12:45					JOURNEY MANAGEMENT MEETING
3	DEPART YARD	12/20/2022	01:15					CREW DEPARTS YARD FOR LOCATION
4	ARRIVE ON LOCATION	12/20/2022	02:00					SUPERVISOR AND OPERATOR ARRIVE ON LOCATION, BULKER IS WAITING FOR TRUCK TO BE LOADED
5	SAFETY MEETING	12/20/2022	02:10					RIG UP MEETING
6	SPOT UNITS	12/20/2022	02:20					SPOT EQUIPMENT FOR RIG UP
7	RIG UP	12/20/2022	02:30					RIG UP EQUIPMENT
8	ARRIVE ON LOCATION	12/20/2022	03:30					BULK TRUCK ARRIVES ON LOCATION AND GETS SPOTTED AND RIGGED UP
9	STANDBY	12/20/2022	03:45					CREW ON STANDBY WHILE RIG CIRCULATES WELL
10	SAFETY MEETING	12/20/2022	04:45					PRE JOB MEETING WITH ALL CREWS INVOLVED
11	LOAD LINES	12/20/2022	05:42	8.34	4.2	10	130	LOAD LINES WITH 10 BBLS FRESH FLUSH FOR PSI TEST
12	PRESSURE TEST	12/20/2022	05:43	8.34	1	1	5120	PRESSURE TEST PUMP AND LINES TO CEMENT HEAD
13	MUD FLUSH	12/20/2022	05:50	8.4	5.6	20	210	20 BBLS MUD FLUSH WITH CHEMICALS
14	FRESH FLUSH	12/20/2022	05:53	8.34	5.6	10	220	10 BBLS FRESH FLUSH
15	SCAVENGER	12/20/2022	05:55	11	5.6	50	295	50.4 BBLS Scavenger CMT – 11 # 3.08 Y 18.8 MW 92 sks (42 H2O)
16	LEAD CEMENT	12/20/2022	06:00	12.7	5.6	10	391	234 BBLS Lead CMT – 12.7 # 2.0 Y 11 MW 656 sks (172 H2O) 10 BBLS AWAY
17	LEAD CEMENT	12/20/2022	06:27	12.7	7	40	380	50 BBLS AWAY
18	LEAD CEMENT	12/20/2022	06:41	12.7	5.3	50	670	100 BBLS AWAY
19	LEAD CEMENT	12/20/2022	06:51	12.7	5.4	50	430	150 BBLS AWAY
20	LEAD CEMENT	12/20/2022	06:59	12.7	4	50	370	200 BBLS AWAY
21	LEAD CEMENT	12/20/2022	07:13	12.7	4	34	177	234 BBLS AWAY SWAP TO TAIL CEMENT
22	TAIL CEMENT	12/20/2022	07:14	13.5	5.3	10	250	193.6 BBLS Tail CMT – 13.5 # 1.85 Y 9.0 MW 589 sks (127 H2O) 10 BBLS AWAY
23	TAIL CEMENT	12/20/2022	07:22	13.5	5.3	40	472	50 BBLS AWAY
24	TAIL CEMENT	12/20/2022	07:32	13.5	5.3	50	420	100 BBLS AWAY
25	TAIL CEMENT	12/20/2022	07:45	13.5	5.3	50	450	150 BBLS AWAY
26	TAIL CEMENT	12/20/2022	08:05	13.5	5.3	43.6	460	193.6 BBLS AWAY SHUTDOWN FOR WASHUP
27	WASHUP	12/20/2022	08:06					WASHUP PUMP AND LINES TO PIT, DROP PLUG
28	DISPLACEMENT	12/20/2022	08:10	8.34	5.6	10	180	SEND PLUG AND BEGIN DISPLACEMENT, 10 BBLS AWAY ADD CHEMICALS
29	DISPLACEMENT	12/20/2022	08:18	8.34	8	40	350	50 BBLS AWAY
30	DISPLACEMENT	12/20/2022	08:27	8.34	5.4	50	460	100 BBLS AWAY
31	DISPLACEMENT	12/20/2022	08:37	8.34	5.4	50	1180	150 BBLS AWAY SLOW AT 160 AWAY TO 4 BPM
32	LAND PLUG	12/20/2022	08:41	8.34	4	20	1300	170 BBLS AWAY LAND PLUG TO 2300 PSI
33	CHECK FLOATS	12/20/2022	08:42					1.5 BBLS BACK FLOATS HELD, BLOW DOWN LINES AND PICKLE PLUMBING
34	SAFETY MEETING	12/20/2022	08:50					RIG DOWN MEETING
35	RIG DOWN	12/20/2022	09:00					RIG DOWN ALL EQUIPMENT

Line	Event	Date (MM/DD/Y)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
36	SAFETY MEETING	12/20/2022	09:50					JOURNEY MANAGEMENT MEETING
37	DEPART LOCATION	12/20/2022	10:00					CREW DEPARTS LOCATION

Pump Diagrams

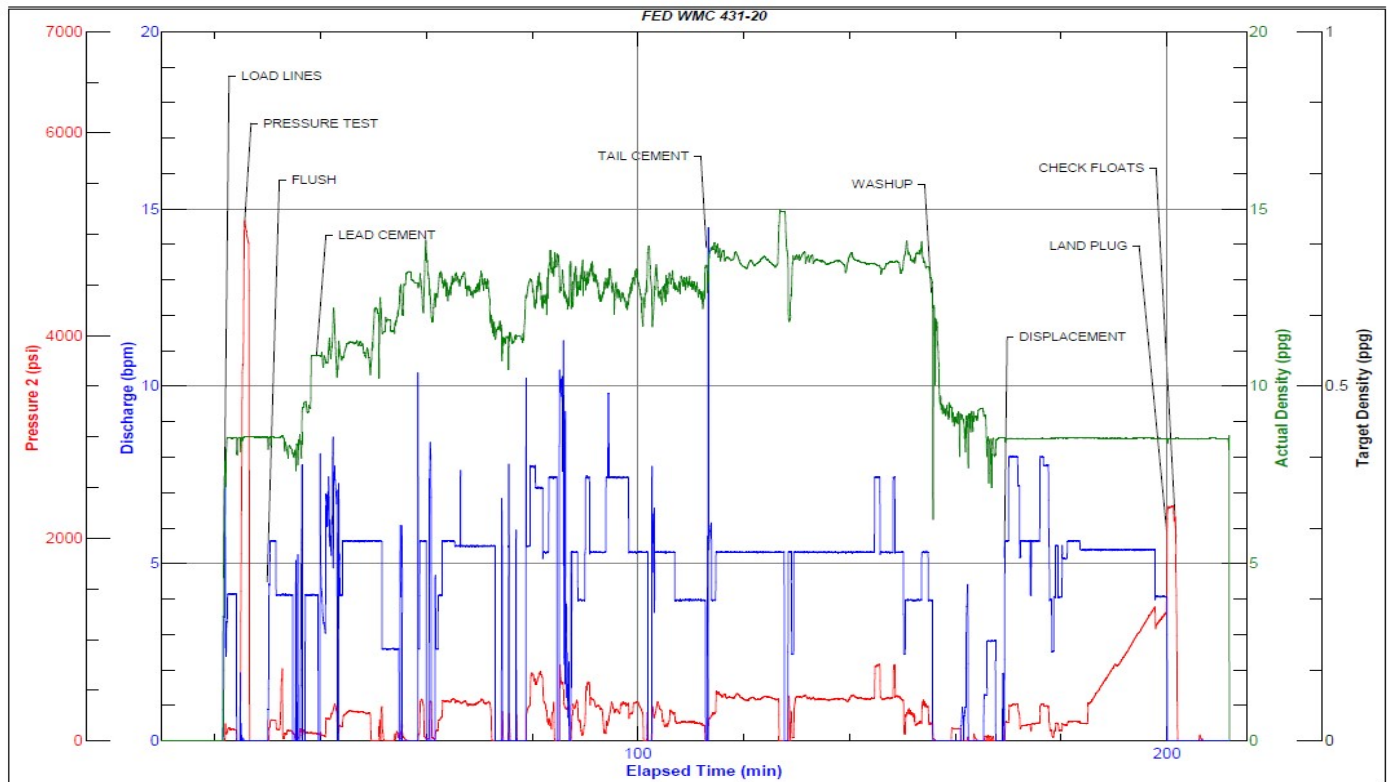


JobMaster Program Version 5.01C1

Job Number: 85051

Customer: Terra

Well Name: WMC 431-20



Job Start: Tuesday, December 20, 2022