



Terra Energy Partners, LLC

LONG STRING POST JOB REPORT

FEDERAL WMC 432-20 05-045-24490
S:17 T:7S R:93W Garfield CO

CallSheet #: 84821
Proposal #: 65423



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	1134	0
Open Hole	Outer	n/a	8.75	n/a	n/a	1134	9073	85
Open Hole	Outer	n/a	8.75	n/a	n/a	9073	11358	50
Casing	Inner	4.5	4	11.6	n/a	0	11358	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1
Cement Trailer Float	CTF-273	TRC-090	Dragon, Shane
Field Storage Silo	FSS-470		
Field Storage Silo	FSS-438		
Light Duty Vehicles	LDV-061		Woronovitch, Collin
Cement Pump Float	CPF-052	TRH-957	Brady, Shawn

Timing

Event	Date/Time
Call Out	12/6/2022 04:00
Depart Facility	12/6/2022 09:30
On Location	12/6/2022 11:00
Rig Up Iron	12/7/2022 00:00
Job Started	12/7/2022 01:25
Job Completed	12/7/2022 03:53
Rig Down Iron	12/7/2022 04:00
Depart Location	12/7/2022 05:15

General Job Information

Metrics	Value
Well Fluid Density	9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	740 bbls
Rig Circulation Time	1.5 hours
Calculated Displacement	175.4 bbls
Actual Displacement	175.4 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	9 lb/gal
Well Fluid Density Out of Well	9 lb/gal

Job Details (cont.)

Metrics	Value
BHCT	206 °F
BHST	270 °F

Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	55 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	80 mg/L	0-3000 mg/L
Total Alkalinity	120	0-1000
Total Hardness	60 mg/L	0-500 mg/L
Carbonates	NA mg/L	0-100 mg/L
Sulfates	200 mg/L	0-1500 mg/L
Potassium	400 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	65	30

Circulation Details

RETURNS 15 MINUTES INTO JOB FOR 50 BBLS RECOVERED, RETURNS DURING LEAD CEMENT 15 BBLS RECOVERED, RETURNS IN BEGINNING OF DISPLACEMENT 30 BBLS RECOVERED. 95 BBLS TOTAL RETURNS RECOVERED

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	5837
2	Mud Flush	Flush	8.45			40.86		20.00	5936
3	Water	Flush	8.34			42.00		10.00	6134
4	Scavenger	Scavenger	11.00	3.04	18.86		93.00	50.42	6233
5	Lead Cement	Lead	12.70	2.00	10.99		666.00	237.51	6727
6	Tail Cement	Tail	13.50	1.83	9.11		594.00	193.55	9073
7	Displacement	DisplacementFinal	8.34			42.00		175.40	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 POLI	LostCirculation	0.25	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 POLI	LostCirculation	0.25	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/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Callout	12/6/2022	04:00					CREW CALLED OUT FOR ON LOCATION TIME OF 11:00 12/6/22
2	Depart Location	12/6/2022	09:30					CREW DEPARTS RCO YARD FOR RIG LOCATION
3	Arrive On Location	12/6/2022	11:00					CREW ARRIVES ON LOCATION UNABLE TO SPOT EQUIPMENT DUE TO CEMENT NEEDING DELIVERED
4	Other	12/6/2022	11:15					WAITING ON RIG AND CEMENT DELIVERIES, CASING ON BOTTOM AT 20:30 FINAL DELIVERY OF CEMENT ARRIVED @ 23:15
5	Rig Up Iron	12/7/2022	00:00					RIG UP IRON HOSES AND EQUIPMENT
6	Safety Meeting	12/7/2022	01:25					PRE JOB SAFETY MEETING WITH CREW RIG CREW AND COMPANY MAN
7	Fill Lines	12/7/2022	01:51	8.34	5	5	475	FILL LINES WITH 5 BBLS OF FRESH WATER
8	Pressure Test Lines	12/7/2022	01:54	8.34			5316	PRESSURE TEST PUMP AND LINES TO 5000 PSI
9	Other	12/7/2022	01:56	8.34	5	10	570	PUMP 10 BBLS FRESHWATER SPACER
10	Other	12/7/2022	01:58	8.45	5	20	510	PUMP 20 BBLS MUD FLUSH + SURFACTANT
11	Other	12/7/2022	02:02	8.34	5	10	430	PUMP 10 BBLS FRESHWATER FLUSH
12	Pump Scavenger	12/7/2022	02:04	11	6.7	10	683	BEGIN PUMPING SCAVENGER 11.0 PPG
13	Pump Scavenger	12/7/2022	02:12	11	5	50	245	50 BBLS (92 SKS) SCAVENGER PUMPED RETURNS
14	Pump Lead Cement	12/7/2022	02:12	12.7	5	0	243	BEGIN PUMPING 12.7 PPG LEAD CEMENT, WEIGHT VERIFIED BY MUD SCALE
15	Pump Lead Cement	12/7/2022	02:19	12.7	7	50	513	50 BBLS LEAD CEMENT PUMPED RETURNS
16	Pump Lead Cement	12/7/2022	02:27	12.7	7	50	497	100 BBLS LEAD CEMENT PUMPED
17	Pump Lead Cement	12/7/2022	02:35	12.7	6.5	50	444	150 BBLS LEAD CEMENT PUMPED
18	Pump Lead Cement	12/7/2022	02:42	12.7	6.2	50	296	200 BBLS LEAD CEMENT PUMPED
19	Pump Lead Cement	12/7/2022	02:49	12.7	4.5	38	232	238 BBLS (666 SKS) LEAD CEMENT PUMPED SLURRY TEMP 53* MW TEMP 51*
20	Pump Tail Cement	12/7/2022	02:49	13.5	4.5	0	243	BEGIN PUMPING 13.5 PPG TAIL CEMENT, WEIGHT VERIFIED BY MUD SCALE
21	Pump Tail Cement	12/7/2022	02:57	13.5	6.5	50	595	50 BBLS TAIL CEMENT PUMPED
22	Pump Tail Cement	12/7/2022	03:05	13.5	6.5	50	568	100 BBLS TAIL CEMENT PUMPED
23	Pump Tail Cement	12/7/2022	03:13	13.5	6.5	50	597	150 BBLS TAIL CEMENT PUMPED
24	Pump Tail Cement	12/7/2022	03:20	13.5	4.6	44	334	194 BBLS (589 SKS) TAIL CEMENT PUMPED, 25 LBS OF LCM FIBER ADDED THROUGH TAIL
25	Clean Pumps and Lines	12/7/2022	03:21					BLOW RIG AIR TO CLEAR LINES, WASH UP PUMP AND LINES
26	Drop Top Plug	12/7/2022	03:28	8.34	5	2	300	DROP PLUG, WITNESSED BY CUSTOMER REP. BEGIN KCL DISPLACEMENT RETURNS FIRST 30 BBLS
27	Pump Displacement	12/7/2022	03:35	8.34	8.9	50	406	50 BBLS DISPLACEMENT PUMPED CAUGHT PRESSURE @ 68 BBLS DISPLACED
28	Pump Displacement	12/7/2022	03:40	8.34	8.9	50	1360	100 BBLS DISPLACEMENT PUMPED

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
29	Pump Displacement	12/7/2022	03:46	8.34	8.9	50	1974	150 BBLS DISPLACEMENT PUMPED
30	Pump Displacement	12/7/2022	03:50	8.34	4	25.4	1550	175.4 BBLS DISPLACEMENT PUMPED
31	Land Plug	12/7/2022	03:50				2615	PLUG LANDED FCP-1550 PSI BUMPED TO 2615 PSI
32	Check Floats	12/7/2022	03:53					BLEED OFF CHECK FLOATS, FLOATS HELD 2 BBLS BACK
33	Rig Down Iron	12/7/2022	04:00					RIG DOWN MEETING. PICKLE, BLOW DOWN IRON, RIG DOWN EQUIPMENT, IRON AND HOSES
34	Depart Location	12/7/2022	05:15					CREW DEPARTS LOCATION

Pump Diagrams

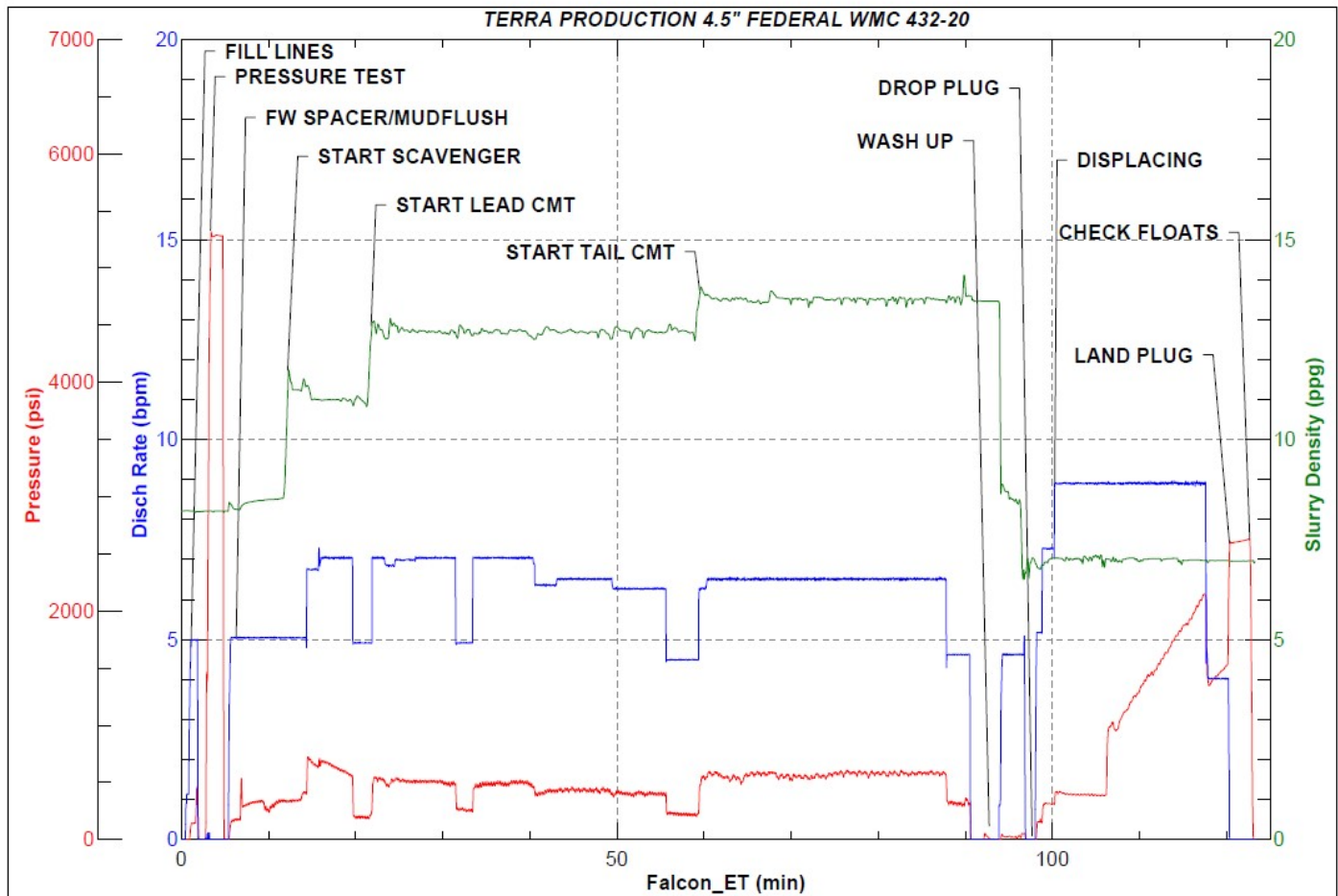


JobMaster Program Version 5.01C1

Job Number: 84821

Customer: TERRA

Well Name: FEDERAL WMC 432-20



Job Start: Wednesday, December 07, 2022