



Terra Energy Partners, LLC

LONG STRING POST JOB REPORT

RG 443-18-297 05-103-12461
S:18 T:2S R:97W Rio Blanco CO

CallSheet #: 76488
Proposal #: 52256



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

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) 657-1157

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	3282	0
Open Hole	Outer	n/a	8.75	n/a	n/a	3282	12297	45
Casing	Inner	4.5	4	11.6	LTC	0	12297	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1
Field Storage Silo	CTS-438		
Field Storage Silo	CTS-470		
Bulk Trailer	CTF-182		
Bulk Trailer	CTF-249		Toole, Brittain
Cement Pump	CPF-011	TRH-887	Gonzales, Ivan
Light Duty Pickups	LDV-062		Linn, Paul

Timing

Event	Date/Time
Call Out	3/31/2021 23:36
Depart Facility	4/1/2021 05:05
On Location	4/1/2021 06:18
Rig Up Iron	4/1/2021 06:35
Job Started	4/1/2021 19:03
Job Completed	4/1/2021 22:48
Rig Down Iron	4/1/2021 23:11
Depart Location	4/2/2021 00:12

General Job Information

Metrics	Value
Well Fluid Density	10.1 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	650 bbls
Rig Circulation Time	1 hours
Calculated Displacement	189.97 bbls
Actual Displacement	190 bbls
Total Spacer to Surface	100 bbls
Total CMT to Surface	10 bbls
Well Topped Out	N/A

Job Details

Metrics	Value
Flare Prior to Job	No
Flare Prior to Job	410 units
Flare During Job	No
Flare During Job	148 units
Flare at End of Job	No
Well Full Prior to Job	Yes
Well Fluid Density Into Well	10.1 lb/gal
Well Fluid Density Out of Well	10.1 lb/gal

Job Details (cont.)

Metrics	Value
BHCT	191 °F
BHST	249 °F
Initial ISIP	psi
Final ISIP	psi
Sks in Formation	sks
Injection #1	bpm
Injection #1	psi
Injection #2	bpm
Injection #2	psi

Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	68.3 °F	50-80 °F
pH Level	8	5.5-8.5
Chlorides	450 mg/L	0-3000 mg/L
Total Alkalinity	0	0-1000
Total Hardness	120 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	320 mg/L	0-1500 mg/L
Potassium	440 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

Circulation

Lost Circulation Experienced
No

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		100.00	1270
2	Scav Cement	Scavenger	11.00	3.07	18.83		548.00	299.99	3005
3	Lead Cement	Lead	12.70	2.00	10.97		257.00	91.51	6863
4	Tail Cement	Tail	13.50	1.85	8.97		1036.00	340.49	8014
5	Displacement	DisplacementFinal	8.34			42.00		191.00	0

Job Fluid Details

Fluid	Type	Fluid	Product	Function	Conc.	Uom
2	Scavenger	Scav Cement	ASTM TYPE III	Cement	65.00	%
2	Scavenger	Scav Cement	FLY ASH (POZZOLAN)	Extender	35.00	%
2	Scavenger	Scav Cement	BENTONITE	Viscosifier	6.00	%BWOB
2	Scavenger	Scav Cement	FP-24	Defoamer	0.30	%BWOB
2	Scavenger	Scav Cement	GW-86	Viscosifier	0.10	%BWOB
2	Scavenger	Scav Cement	IntegraSeal PHENO	LostCirculation	3.00	lb/sk
2	Scavenger	Scav Cement	R-3	Retarder	0.30	%BWOB
3	Lead	Lead Cement	ASTM TYPE III	Cement	100.00	%
3	Lead	Lead Cement	CD-31	Dispersant	0.10	%BWOB
3	Lead	Lead Cement	FL-66	FluidLoss	0.50	%BWOB
3	Lead	Lead Cement	FP-24	Defoamer	0.30	%BWOB
3	Lead	Lead Cement	GW-86	Viscosifier	0.10	%BWOB
3	Lead	Lead Cement	IntegraSeal PHENO	LostCirculation	3.00	lb/sk
3	Lead	Lead Cement	R-3	Retarder	0.50	%BWOB
4	Tail	Tail Cement	BA-90	BondEnhancer	10.00	%
4	Tail	Tail Cement	CLASS G	Cement	70.00	%
4	Tail	Tail Cement	FLY ASH (POZZOLAN)	Extender	20.00	%
4	Tail	Tail Cement	BENTONITE	Viscosifier	6.00	%BWOB
4	Tail	Tail Cement	FL-24	FluidLoss	0.40	%BWOB
4	Tail	Tail Cement	FP-24	Defoamer	0.30	%BWOB
4	Tail	Tail Cement	IntegraSeal PHENO	LostCirculation	3.00	lb/sk
4	Tail	Tail Cement	R-3	Retarder	0.30	%BWOB
4	Tail	Tail Cement	S-8	StrengthRetrogression	25.00	%BWOB

Job Logs

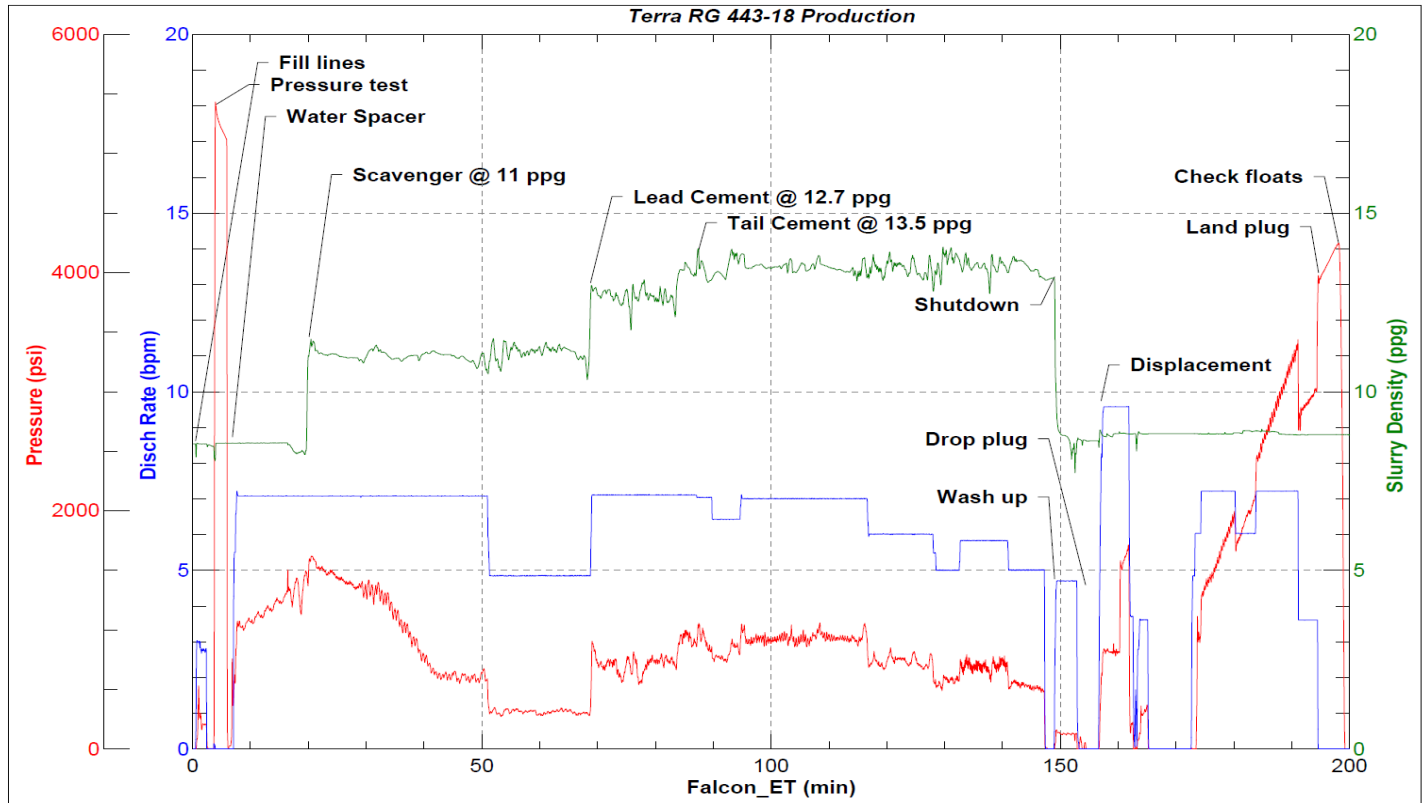
Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Annular Pressure (psi)	Comment
1	Callout	3/31/2021	23:36						Callout, on location time of 07:00 on 4/1/2021
2	Safety Meeting	4/1/2021	04:35						Pre-Convoy Safety meeting
3	Depart Location	4/1/2021	05:05						Depart Rifle yard for H&P 329
4	Arrive On Location	4/1/2021	06:18						Arrive on location, rig was running casign
5	Safety Meeting	4/1/2021	06:24						Pre-Rig Up safety meeting
6	Rig Up Iron	4/1/2021	06:35						Rig up all ground equipment
7	Safety Meeting	4/1/2021	18:20						Pre-Job safety meeting with rig crew, company man, and all American Cementing crew
8	Rig Up Iron	4/1/2021	18:48						Load plug in plug container (verified by company man), stab plug container, and hook up lines
9	Fill Lines	4/1/2021	19:03	8.4	3	5	411		Fill lines with 5 bbls of fresh water
10	Pressure Test Lines	4/1/2021	19:04				5456		Pressure test to 5456 psi
11	Pump Spacer	4/1/2021	19:08	8.4	7	6	1025		Pump Water Spacer
12	Pump Spacer	4/1/2021	19:15	8.4	7	50	1169		Pump Water Spacer
13	Pump Spacer	4/1/2021	19:20	8.4	7	100	1372		Pump Water Spacer
14	Pump Scavenger	4/1/2021	19:21	11	7	5	1604		Pump Scavenger @ 11 ppg
15	Pump Scavenger	4/1/2021	19:29	11	7	50	1415		Pump Scavenger
16	Pump Scavenger	4/1/2021	19:36	11	7	100	1248		Pump Scavenger
17	Pump Scavenger	4/1/2021	19:42	11	7	150	768		Pump Scavenger
18	Pump Scavenger	4/1/2021	19:49	11	7	200	581		Pump Scavenger
19	Pump Scavenger	4/1/2021	19:53	11	5	225	308		Pump Scavenger
20	Pump Scavenger	4/1/2021	20:09	11	5	300	306		Pump Scavenger
21	Pump Scavenger	4/1/2021	20:10	11	5	305	283		Pump Scavenger
22	Pump Lead Cement	4/1/2021	20:11	12.7	7	5	913		Pump Lead Cement @ 12.7 ppg
23	Pump Lead Cement	4/1/2021	20:18	12.7	7	50	623		Pump Lead Cement
24	Pump Lead Cement	4/1/2021	20:25	12.7	7	100	787		Pump Lead Cement
25	Pump Lead Cement	4/1/2021	20:25	12.7	7	109	704		Pump Lead Cement
26	Pump Tail Cement	4/1/2021	20:27	13.5	7	5	856		Pump Tail Cement @ 13.5 ppg
27	Pump Tail Cement	4/1/2021	20:32	13.5	6.5	50	806		Pump Tail Cement
28	Pump Tail Cement	4/1/2021	20:39	13.5	7	100	924		Pump Tail Cement
29	Pump Tail Cement	4/1/2021	20:46	13.5	7	150	899		Pump Tail Cement
30	Pump Tail Cement	4/1/2021	20:55	13.5	7	200	929		Pump Tail Cement
31	Pump Tail Cement	4/1/2021	21:02	13.5	6	250	773		Pump Tail Cement
32	Pump Tail Cement	4/1/2021	21:12	13.5	5	300	619		Pump Tail Cement
33	Pump Tail Cement	4/1/2021	21:20	13.5	6	350	725		Pump Tail Cement
34	Pump Tail Cement	4/1/2021	21:29	13.5	5	400	524		Pump Tail Cement
35	Shutdown	4/1/2021	21:29						Shutdown with 400 bbls of Tail Cement away
36	Clean Pumps and Lines	4/1/2021	21:31						Clean pumps & lines to pit
37	Drop Top Plug	4/1/2021	21:39						Drop plug, verified by company man
38	Pump Displacement	4/1/2021	21:40	8.4	9.5	10	836		Pump KCL Water displacement

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Annular Pressure (psi)	Comment
39	Pump Displacement	4/1/2021	21:46	8.4	6	50	910		Pump KCL Water displacement. Shut down due to running out of water supply
40	Pump Displacement	4/1/2021	22:02	8.4	7	100	1910		Pump KCL Water displacement
41	Pump Displacement	4/1/2021	22:09	8.4	7	150	2919		Pump KCL Water displacement
42	Pump Displacement	4/1/2021	21:13	8.4	7	178	3437		Pump KCL Water displacement
43	Cement Back to Surface	4/1/2021	22:13						10 bbls of Scavenger to surface
44	Pump Displacement	4/1/2021	22:16	8.4	3.5	189	3065		Pump KCL Water displacement
45	Land Plug	4/1/2021	22:16				3951		Land the plug @ 3065 psi took to 3951
46	Check Floats	4/1/2021	22:20						Check floats, floats didn't hold 2 bbls back
47	Land Plug	4/1/2021	22:31				3846		Pressure back up to 3846 psi
48	Check Floats	4/1/2021	22:48						Check floats, floats held 2 bbls back
49	Safety Meeting	4/1/2021	22:51						Pre-Rig down safety meeting with rig crew
50	Rig Down Iron	4/1/2021	22:57						Rig down rig floor
51	Safety Meeting	4/1/2021	23:05						Pre-Rig down safety meeting with American Cementing crew
52	Rig Down Iron	4/1/2021	23:11						Rig down all equipment
53	Safety Meeting	4/2/2021	00:03						Pre-Convoy safety meeting
54	Depart Location	4/2/2021	00:12						Depart from location for Rifle yard. Thank you for using American Cementing, Andrew Linn, and crew

Pump Diagrams



JobMaster Program Version 5.01C1
Job Number:
Customer:
Well Name:



BJ Services

Job Start: Thursday, April 01, 2021