



Terra Energy Partners, LLC

TWO-STAGE/MULTI-STAGE CEMENT POST JOB REPORT

RG 444-7-297 05-103-12469
S:18 T:2S R:97W Rio Blanco CO

CallSheet #: 76012
Proposal #: 51535



TWO-STAGE/MULTI-STAGE CEMENT 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) 657-1187

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1 Job Details & Summary

Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)	New	Burst	Collapse
Open Hole	Outer	n/a	14.75	n/a	n/a	0	1564	70			
Open Hole	Outer	n/a	14.75	n/a	n/a	1564	3330	40			
Casing	Inner	9.625	8.921	36	STC	0	3323.57	0			

Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Mileage
Silo	Silo #25			
Field Storage Silo	CTS-471			
Bulk Trailer	CTF-242	TRB-190	Richey, Steven	100
Cement Pump	CPF-011	TRH-957	Mcneal, Lawrence	100
Light Duty Pickups	LDV-5429		Castillo, Francisco	100

Timing

Event	Date/Time
Call Out	2/6/2021 04:00
Depart Facility	2/6/2021 06:15
On Location	2/6/2021 09:00
Rig Up Iron	2/6/2021 09:30
Job Started	2/6/2021 18:14
Job Completed	2/7/2021 02:21
Rig Down Iron	2/7/2021 03:00
Depart Location	2/7/2021 04:30

General Job Information

Metrics	Value
Well Fluid Density	8.8 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	300 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	254 bbls
Actual Displacement	254 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes

Well Fluid Details

Metrics	Value
Plastic Viscosity	3
Yield Point	1
10 sec. SGS	2
10 min. SGS	3
30 min. SGS	3
Filtrate	20
Flow Line Temp.	0

Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	No
Flare at End of Job	No
Well Full Prior to Job	No
Well Fluid Density Into Well	8.8 lb/gal
Well Fluid Density Out of Well	0 lb/gal

Job Details (cont.)

Metrics	Value
BHCT	87 °F
BHST	118 °F

Circulation

Lost Circulation Experienced	Losses into Spacer	Losses into Cement	Losses into Displacement
Yes	ALL	ALL	ALL

Circulation Details:

NO CIRCULATION THROUGH OUT THE ENTIRE JOB

Job Execution Information

Stage	Fluid	Product	Function	Density (lb/gal)	Yield (ft ³ /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sk)	Volume (bbl)	Top (ft)
1	1	Stage-1 Water	Flush	8.34			42.00		40.00	1370
1	2	Stage-1 Lead	Lead	12.30	2.33	13.20		521.00	216.46	1564
1	3	Stage-1 Tail	Tail	12.80	2.10	11.34		237.00	88.52	2837
1	4	Stage-1 Displacement	DisplacementFinal	8.34			42.00		251.00	0
2	1	Stage-2 Water	Flush	8.34			42.00		40.00	0
2	2	Stage-2 Cement	Primary	12.30	2.34	13.42		775.00	322.80	0
2	3	Stage-2 Displacement	DisplacementFinal	8.34			42.00		115.00	0

Job Fluid Details

Stage	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Lead	Stage-1 Lead	ASTM TYPE III	Cement	100.00	%
1	2	Lead	Stage-1 Lead	A-10	Accelerator	5.00	%BWOB
1	2	Lead	Stage-1 Lead	A-2	Accelerator	2.00	lb/sk
1	2	Lead	Stage-1 Lead	FP-24	Defoamer	0.30	%BWOB
1	2	Lead	Stage-1 Lead	IntegraSeal PHENO	LostCirculation	3.00	lb/sk
1	2	Lead	Stage-1 Lead	IntegraSeal POLI	LostCirculation	0.25	lb/sk
1	2	Lead	Stage-1 Lead	R-7C	Retarder	0.30	%BWOB
1	3	Tail	Stage-1 Tail	ASTM TYPE III	Cement	100.00	%
1	3	Tail	Stage-1 Tail	A-10	Accelerator	5.00	%BWOB
1	3	Tail	Stage-1 Tail	A-2	Accelerator	2.00	lb/sk
1	3	Tail	Stage-1 Tail	A-7P	Accelerator	2.00	lb/sk
1	3	Tail	Stage-1 Tail	FP-24	Defoamer	0.30	%BWOB
1	3	Tail	Stage-1 Tail	IntegraSeal PHENO	LostCirculation	3.00	lb/sk
1	3	Tail	Stage-1 Tail	IntegraSeal POLI	LostCirculation	0.25	lb/sk
1	2	Primary	Stage-2 Cement	ASTM TYPE III	Cement	100.00	%
1	2	Primary	Stage-2 Cement	A-10	Accelerator	5.00	%BWOB
1	2	Primary	Stage-2 Cement	A-2	Accelerator	2.00	lb/sk
1	2	Primary	Stage-2 Cement	A-7P	Accelerator	2.00	lb/sk
1	2	Primary	Stage-2 Cement	FP-24	Defoamer	0.30	%BWOB
1	2	Primary	Stage-2 Cement	IntegraSeal POLI	LostCirculation	0.25	lb/sk

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	2/6/2021	04:00					ON LOCATION 10:00 HRS, CREW TEMPS, JAVI-98.1, LONNY-98.3, STEVE-98.5
2	LEAVE YARD	2/6/2021	06:15					CREW LEAVE THE YARD
3	ARRIVE ON LOCATION	2/6/2021	09:00					ARRIVE ON LOCATION, RIG GETTING READY TO RUN CASING
4	RIG UP	2/6/2021	09:30					RIG UP MEETING, RIG UP
5	SAFETY MEETING	2/6/2021	17:50					PRE-JOB SAFETY MEETING
6	PRESSURE TEST	2/6/2021	18:11				3755	PRESSURE TEST LINES
7	PUMP SPACER	2/6/2021	18:14	8.34	6	40	277	WATER SPACER, STG-1
8	LEAD CEMENT	2/6/2021	18:23	12.3	6	50	375	LEAD 521 SKS/216 BBLS AT 12.3 PPG
9	LEAD CEMENT	2/6/2021	18:32	12.3	6	50	365	100 BBLS LEAD CEMENT PUMPED
10	LEAD CEMENT	2/6/2021	18:40	12.3	6	50	359	150 BBLS LEAD CEMENT PUMPED
11	LEAD CEMENT	2/6/2021	18:49	12.3	6	66	375	216 BBLS LEAD CEMENT PUMPED
12	TAIL CEMENT	2/6/2021	19:01	12.8	4	89	271	TAIL 237 SKS / 89 BBLS AT 12.8 PPG, UNABLE TO GET WATER FOR A FEW MINUTES
13	SHUTDOWN	2/6/2021	19:59					SHUTDOWN DROP PLUG
14	DISPLACEMENT	2/6/2021	20:05	8.34	4	50	77	DISPLACEMENT WATER
15	DISPLACEMENT	2/6/2021	20:16	8.34	4	50	81	100 BBLS DISPLACEMENT PUMPED
16	DISPLACEMENT	2/6/2021	20:28	8.34	4	50	85	150 BBLS DISPLACEMENT PUMPED
17	DISPLACEMENT	2/6/2021	20:43	8.34	4	50	213	200 BBLS DISPLACEMENT PUMPED
18	DISPLACEMENT	2/6/2021	20:56	8.34	4	44	335	244 BBLS DISPLACEMENT PUMPED
19	DISPLACEMENT	2/6/2021	21:06	8.34	3	10	287	SLOW RATE
20	LAND PLUG	2/6/2021	21:08				847	LAND PLUG, NO RETURNS
21	CHECK FLOATS	2/6/2021	21:15					FLOATS HELD, 0.5 BBL FLOW BACK
22	OTHER	2/6/2021	21:23					DROP DV TOOL OPENING DEVICE
23	OTHER	2/6/2021	21:36				891	OPEN DV TOOL
24	CIRCULATE	2/6/2021	21:38	8.8	0.9		0	CIRCULATE WELL WITH MUD
53	SAFETY MEETING	2/7/2021	00:08					PRE-JOB SAFETY MEETING, STG-2
54	PUMP SPACER	2/7/2021	00:16	8.34	4	40	91	WATER SPACER
55	PUMP CEMENT	2/7/2021	00:30	12.3	4	50	137	775 SKS / 323 BBLS AT 12.3 PPG
56	PUMP CEMENT	2/7/2021	00:41	12.3	4	50	81	100 BBL CEMENT PUMPED
57	PUMP CEMENT	2/7/2021	00:54	12.3	4	50	79	150 BBLS CEMENT PUMPED
58	PUMP CEMENT	2/7/2021	01:06	12.3	4	50	77	200 BBLS CEMENT PUMPED
59	PUMP CEMENT	2/7/2021	01:18	12.3	4	50	73	250 BBLS CEMENT PUMPED
60	PUMP CEMENT	2/7/2021	01:31	12.3	4	73	75	323 BBLS CEMENT PUMPED
61	SHUTDOWN	2/7/2021	02:00					SHUTDOWN, DROP CLOSING PLUG
62	DISPLACEMENT	2/7/2021	02:03	8.34	8	50	390	DISPLACEMENT WATER
63	DISPLACEMENT	2/7/2021	02:09	8.34	8	55	375	105 BBLS DISPLACEMENT PUMPED
64	DISPLACEMENT	2/7/2021	02:18	8.34	4	10	101	SLOW RATE
65	LAND PLUG	2/7/2021	02:21				1393	LAND PLUG, NO RETURNS
66	CHECK FLOATS	2/7/2021	02:33					DV TOOL CLOSED, 0.75 BBL FLOW BACK
67	RIG DOWN	2/7/2021	03:00					RIG DOWN MEETING, RIG DOWN
68	LEAVE LOCATION	2/7/2021	04:30					CREW LEAVE LOCATION

3 Water Analysis

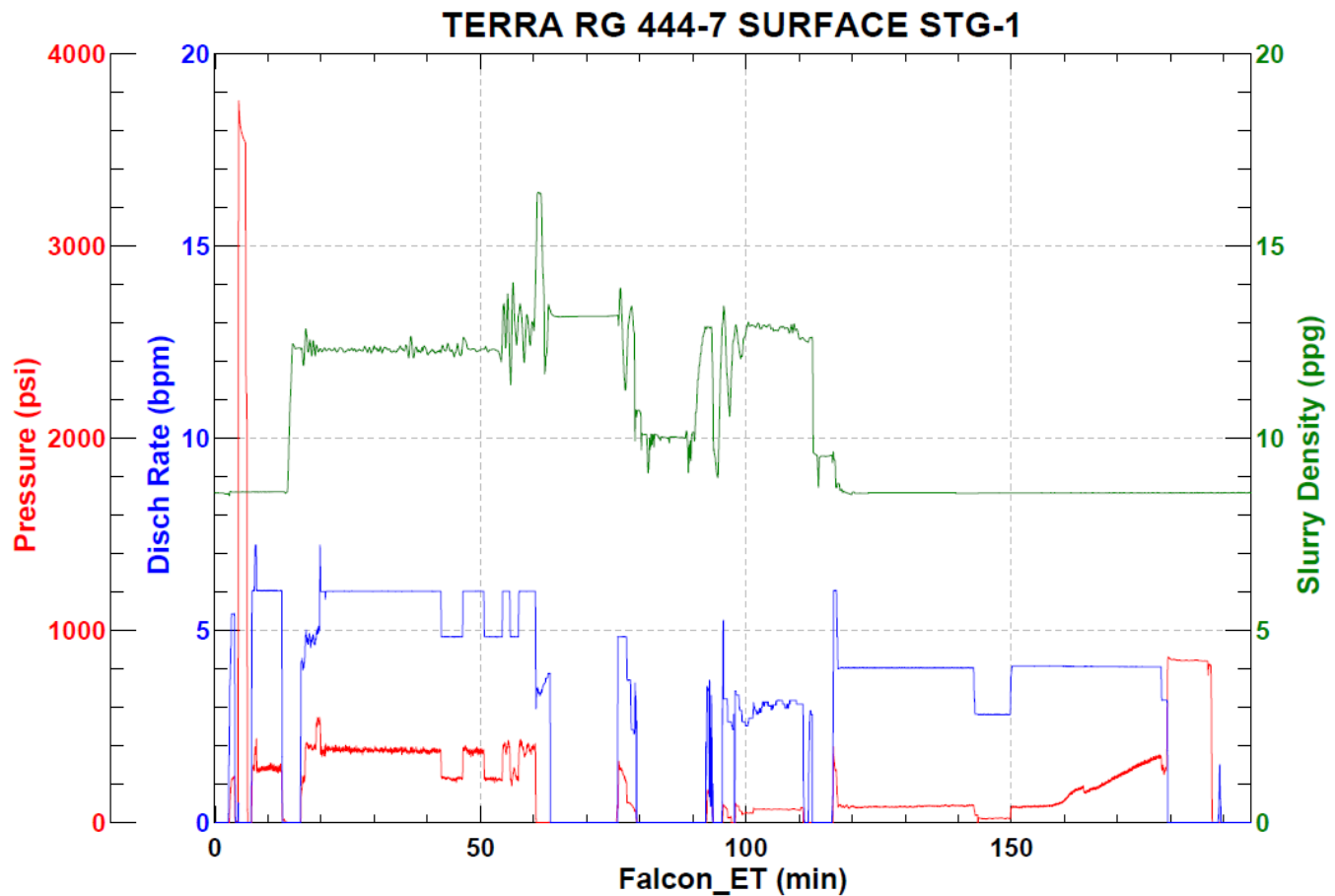
Metrics	Value	Recommended
Water Source	None	
Temperature	61 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	240	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	200 mg/L	0-1500 mg/L
Potassium	250 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams

Stage-1



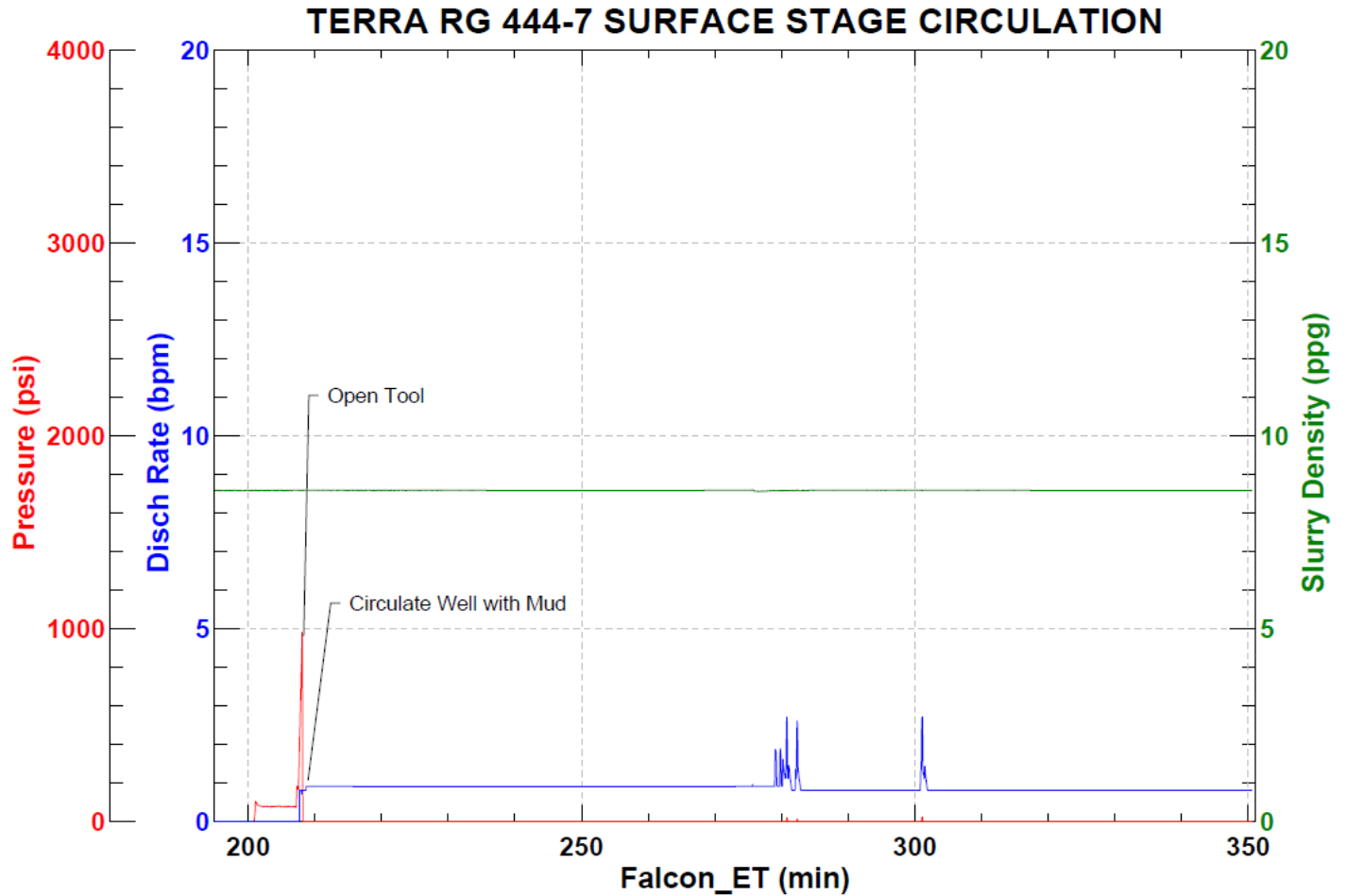
JobMaster Program Version 5.01C1
Job Number: 76012
Customer: TERRA
Well Name: RG 444-7



Circulation Between Stages



JobMaster Program Version 5.01C1
Job Number: 76012
Customer: TERRA
Well Name: RG 444-7

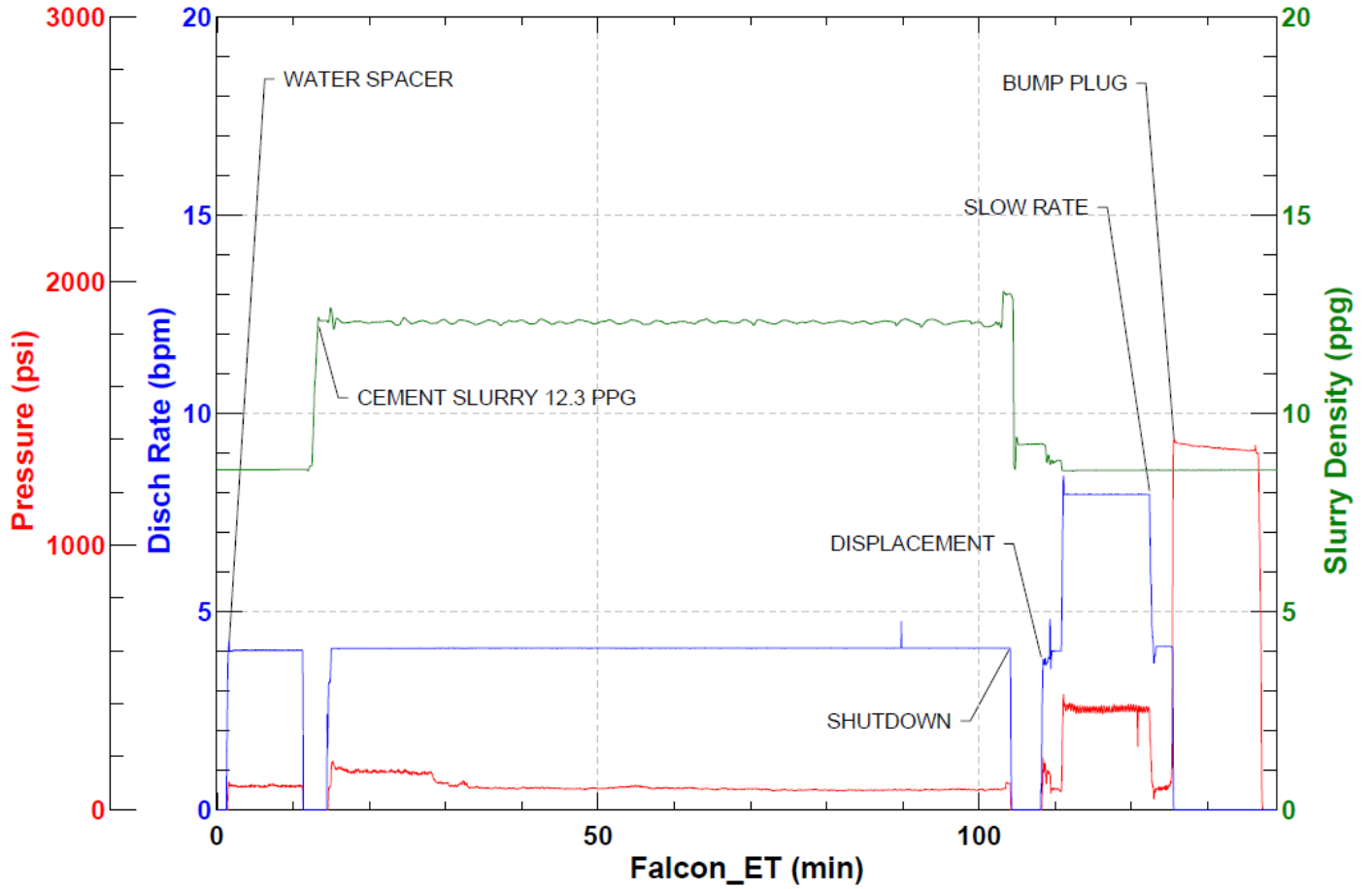


Stage-2



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

TERRA RG 444-7 SURFACE STG-2



BJ Services

Job Start: Sunday, February 07, 2021