



# **Terra Energy Partners, LLC**

## **LONG STRING POST JOB REPORT**

Leverich SR 322-13 05-045-24554  
S:13 T:7S R:94W Garfield CO

CallSheet #: 88259  
Proposal #: 70896



**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

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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,

**Zen Keith**

SME North | (307) 757-7178 | zen.keith@americacementing.com

**Field Office**      28730 US-6, Rifle, CO 81650  
Phone: (970) 657-1187

## 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        | 1176        | 0          |
| Open Hole | Outer    | n/a     | 8.75    | n/a            | n/a    | 1138     | 7673        | 85         |
| Open Hole | Outer    | n/a     | 8.75    | n/a            | n/a    | 7673     | 10893       | 50         |
| Casing    | Inner    | 4.5     | 4       | 11.6           | n/a    | 0        | 10893       | 0          |

### Timing

| Event           | Date/Time       |
|-----------------|-----------------|
| ERTS            | 8/25/2023 23:00 |
| Call Out        | 8/25/2023 18:00 |
| Depart Facility | 8/25/2023 20:00 |
| On Location     | 8/25/2023 21:00 |
| Rig Up Iron     | 8/25/2023 21:20 |
| Job Started     | 8/26/2023 00:22 |
| Job Completed   | 8/26/2023 02:18 |
| Rig Down Iron   | 8/26/2023 02:30 |
| Depart Location | 8/26/2023 03:30 |

### Equipment / People

| Unit Type            | Unit    | Power Unit | Employee #1        |
|----------------------|---------|------------|--------------------|
| Cement Trailer Float | CTF-340 | TRC-201    | Michael Hutchinson |
| Field Storage Silo   | FSS-470 |            |                    |
| Field Storage Silo   | FSS-438 |            |                    |
| Light Duty Vehicles  | LDV-063 |            | Francisco Castillo |
| Light Duty Vehicles  | LDV-088 |            | Leopoldo Serna     |
| Cement Pump Float    | CPF-052 | TRH-957    | Ryan Bonin         |

### General Job Information

| Metrics                 | Value      |
|-------------------------|------------|
| Well Fluid Density      | 9.5 lb/gal |
| Well Fluid Type         | WBM        |
| Rig Circulation Vol     | 600 bbls   |
| Rig Circulation Time    | 1 hours    |
| Calculated Displacement | 168 bbls   |
| Actual Displacement     | 168 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   | 9.5 lb/gal |
| Well Fluid Density Out of Well | 9.5 lb/gal |

### Job Details (cont.)

| Metrics           | Value  |
|-------------------|--------|
| BHCT              | 172 °F |
| BHST              | 227 °F |
| Initial ISIP      | psi    |
| Final ISIP        | psi    |
| Skls in Formation | skls   |
| Injection #1      | bpm    |
| Injection #1      | psi    |
| Injection #2      | bpm    |
| Injection #2      | psi    |

### Water Analysis

| Metrics          | Value     | Recommended |
|------------------|-----------|-------------|
| Water Source     | Flat Tank |             |
| Temperature      | 73 °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  |

### Circulation

| Lost Circulation Experienced | Losses into Spacer | Losses into Cement | Losses into Displacement |
|------------------------------|--------------------|--------------------|--------------------------|
| Yes                          | N/A                | N/A                | N/A                      |

### Circulation Details

NO RETURNS THROUGH OUT THE JOB

### Job Execution Information

| Fluid | Product      | Function          | Density (lb/gal) | Yield (ft <sup>3</sup> /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        | 5800              |
| 2     | Mud Flush    | Flush             | 8.45             |                             |                    | 40.86               |              | 20.00        | 5899              |
| 3     | Water        | Flush             | 8.34             |                             |                    | 42.00               |              | 10.00        | 6097              |
| 4     | Lead         | Lead              | 12.50            | 2.21                        | 12.30              |                     | 352.00       | 138.42       | 6196              |
| 5     | Tail         | Tail              | 13.00            | 2.05                        | 10.26              |                     | 819.00       | 298.73       | 7560              |
| 6     | Displacement | DisplacementFinal | 8.34             |                             |                    | 42.00               |              | 168.00       | 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     | Lead  | Lead      | ASTM TYPE IL       | Cement              | 100.00 | %       |
| 4     | Lead  | Lead      | A-2                | Accelerator         | 0.20   | %BWOB   |
| 4     | Lead  | Lead      | FL-66              | FluidLoss           | 0.30   | %BWOB   |
| 4     | Lead  | Lead      | FP-24              | Defoamer            | 0.30   | %BWOB   |
| 4     | Lead  | Lead      | GW-86              | Viscosifier         | 0.10   | %BWOB   |
| 4     | Lead  | Lead      | R-3                | Retarder            | 0.50   | %BWOB   |
| 4     | Lead  | Lead      | R-7C               | Retarder            | 0.10   | %BWOB   |
| 4     | Lead  | Lead      | STATIC FREE        | Other               | 0.01   | lb/sk   |
| 4     | Lead  | Lead      | XCem-1009          | Extender            | 10.00  | lb/sk   |
| 5     | Tail  | Tail      | CLASS G            | Cement              | 50.00  | %       |
| 5     | Tail  | Tail      | FLY ASH (POZZOLAN) | Extender            | 50.00  | %       |
| 5     | Tail  | Tail      | BENTONITE          | Viscosifier         | 6.00   | %BWOB   |
| 5     | Tail  | Tail      | FL-66              | FluidLoss           | 0.40   | %BWOB   |
| 5     | Tail  | Tail      | FP-24              | Defoamer            | 0.30   | %BWOB   |
| 5     | Tail  | Tail      | GW-86              | Viscosifier         | 0.10   | %BWOB   |
| 5     | Tail  | Tail      | IntegraSeal PHENO  | LostCirculation     | 0.50   | lb/sk   |
| 5     | Tail  | Tail      | IntegraSeal POLI   | LostCirculation     | 0.25   | lb/sk   |
| 5     | Tail  | Tail      | S-8                | StrengthRetgression | 20.00  | %BWOB   |
| 5     | Tail  | Tail      | XCem-1009          | Extender            | 6.00   | lb/sk   |
| 5     | Tail  | Tail      | XCem-916           | Retarder            | 0.40   | %BWOB   |

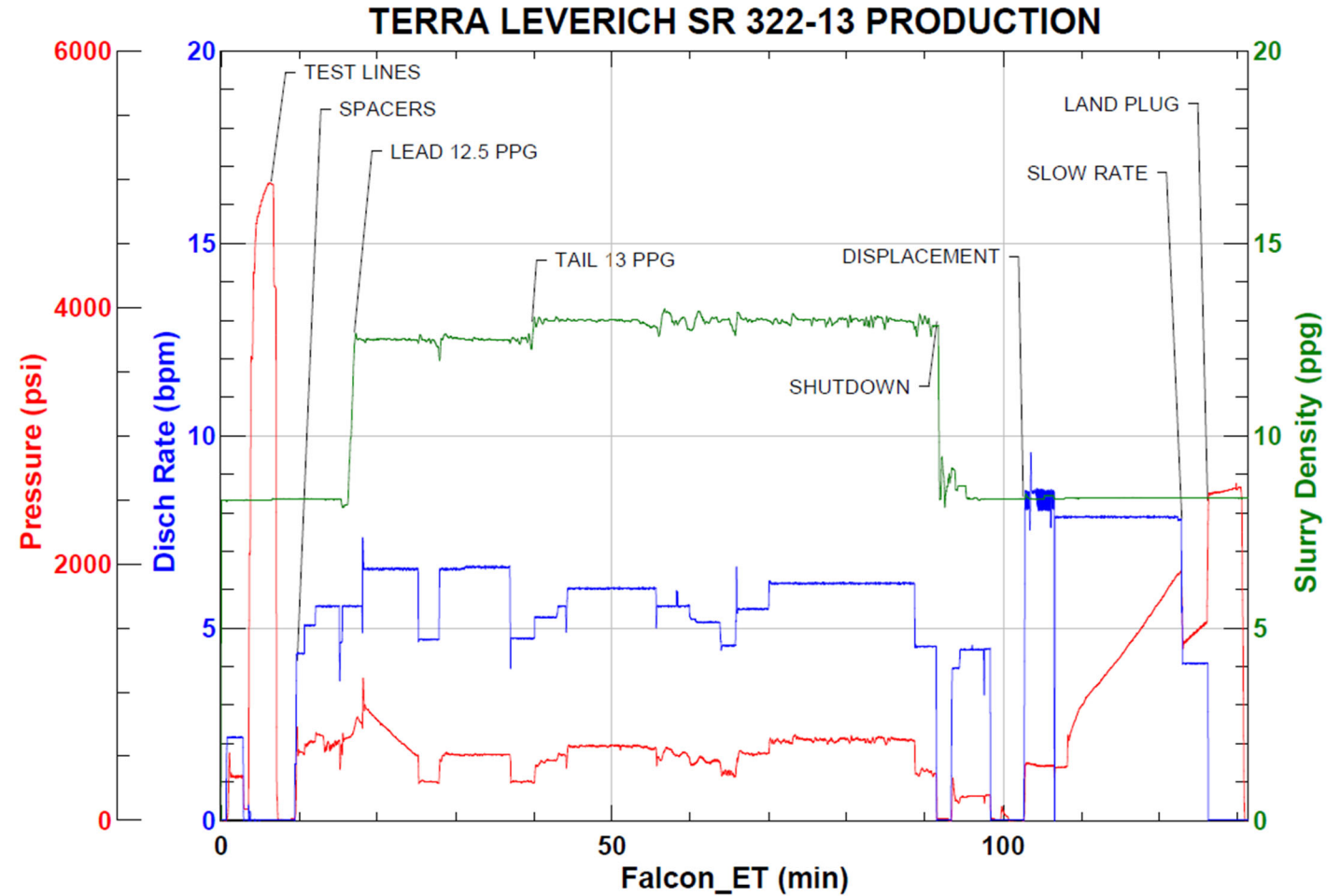
## Job Logs

| Line | Event          | Date (MM/DD/YY) | Time (HH:MM) | Density (lb/gal) | Pump Rate (bpm) | Pump Volume (bbls) | Pipe Pressure (psi) | Comment                           |
|------|----------------|-----------------|--------------|------------------|-----------------|--------------------|---------------------|-----------------------------------|
| 1    | CALLOUT        | 8/25/2023       | 18:00        |                  |                 |                    |                     | ON LOCATION 18:00 HRS             |
| 2    | LEAVE THE YARD | 8/25/2023       | 20:00        |                  |                 |                    |                     | CREW LEAVE THE YARD               |
| 3    | ON LOCATION    | 8/25/2023       | 21:00        |                  |                 |                    |                     | CREW ON LOCATION                  |
| 4    | RIG UP         | 8/25/2023       | 21:20        |                  |                 |                    |                     | RIG UP MEETING, RIG UP            |
| 5    | SAFETY MEETING | 8/25/2023       | 23:30        |                  |                 |                    |                     | PRE-JOB SAFETY MEETING            |
| 6    | PRESSURE TEST  | 8/26/2023       | 00:16        |                  |                 |                    | 5000                | PRESSURE TEST LINES               |
| 7    | WATER SPACER   | 8/26/2023       | 00:22        | 8.34             | 5               | 10                 | 585                 | WATER SPACER                      |
| 8    | MUD FLUSH      | 8/26/2023       | 00:24        | 9                | 5.5             | 20                 | 623                 | MUD FLUSH SPACER                  |
| 9    | WATER SPACER   | 8/26/2023       | 00:27        | 8.34             | 5.5             | 10                 | 621                 | WATER SPACER                      |
| 10   | LEAD CEMENT    | 8/26/2023       | 00:30        | 12.5             | 6.5             | 69.5               | 649                 | LEAD 352 SKS/139 BBLS AT 12.5 PPG |
| 11   | LEAD CEMENT    | 8/26/2023       | 00:41        | 12.5             | 6.5             | 69.5               | 515                 | 139 BBLS LEAD CEMENT PUMPED       |
| 12   | TAIL CEMENT    | 8/26/2023       | 00:52        | 13               | 6               | 50                 | 575                 | TAIL 819 SKS/299 BBLS AT 13 PPG   |
| 13   | TAIL CEMENT    | 8/26/2023       | 01:01        | 13               | 5.5             | 50                 | 557                 | 100 BBLS TAIL CEMENT PUMPED       |
| 14   | TAIL CEMENT    | 8/26/2023       | 01:10        | 13               | 5.5             | 50                 | 505                 | 150 BBLS TAIL CEMENT PUMPED       |
| 15   | TAIL CEMENT    | 8/26/2023       | 01:20        | 13               | 6               | 50                 | 635                 | 200 BBLS TAIL CEMENT PUMPED       |
| 16   | TAIL CEMENT    | 8/26/2023       | 01:28        | 13               | 6               | 50                 | 613                 | 250 BBLS TAIL CEMENT PUMPED       |
| 17   | TAIL CEMENT    | 8/26/2023       | 01:36        | 13               | 6               | 49                 | 625                 | 299 BBLS TAIL CEMENT PUMPED       |
| 18   | SHUTDOWN       | 8/26/2023       | 01:45        |                  |                 |                    |                     | WASH PUMP AND LINES               |
| 19   | DISPLACEMENT   | 8/26/2023       | 01:55        | 8.4              | 8               | 50                 | 759                 | DISPLACEMENT KCL WATER            |
| 20   | DISPLACEMENT   | 8/26/2023       | 02:01        | 8.4              | 8               | 50                 | 1357                | 100 BBLS DISPLACEMENT PUMPED      |
| 21   | DISPLACEMENT   | 8/26/2023       | 02:08        | 8.4              | 8               | 58                 | 1931                | 158 BBLS DISPLACEMENT PUMPED      |
| 22   | SLOW RATE      | 8/26/2023       | 02:15        | 8.4              | 4               | 10                 | 1534                | SLOW RATE                         |
| 23   | LAND PLUG      | 8/26/2023       | 02:18        |                  |                 |                    | 2551                | LADN PLUG, NO RETURNS             |
| 24   | CHECK FLOATS   | 8/26/2023       | 02:23        |                  |                 |                    |                     | FLOATS HELD, 1.5 BBLS FLOW BACK   |
| 25   | RIG DOWN       | 8/26/2023       | 02:30        |                  |                 |                    |                     | RIG DOWN MEETING, RIG DOWN        |
| 26   | LEAVE LOCATION | 8/26/2023       | 03:30        |                  |                 |                    |                     | CREW LEAVE LOCATION               |

## Pump Diagrams



JobMaster Program Version 5.01C1  
Job Number: 88259  
Customer: TERRA  
Well Name: LEVERICH SR 322-13



Job Start: Friday, August 25, 2023