



Terra Energy Partners

Well Name: STRAIT BOTTOM RANCH SG 422-22

API #: 05-045-24010

Job Type: Surface

Date Job Completed: 3/31/2020

Quote #: QUO-44118

Execution #: EXC-25464



Terra Energy Partners

Attention: Mr. Lynn Cass | (970) 263-2716 | LCass@terraep.com

Terra Energy Partners | 4828 Loop Central Dr., Suite 900 | Houston, TX 77081

Dear Mr. Cass,

Thank you for the opportunity to provide cementing services on this well. BJ Services strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact BJ Services at any time.

Sincerely,

Devon Hanson
Field Engineer | (701) 590-5946 | devon.hanson@bjsservices.com

Field Office 28730 US-6, Rifle, CO 81650
Phone: (970) 632-2412

Sales Office 999 18th St. Suite 1200 Denver, CO 80202
Phone: (281) 408-2361

BJ Cementing Treatment Report

| | | | |
|------------------------------------|--------------------|-------------------------|----------|
| SERVICE SUPERVISOR | Douglas Diaz | FORMATION | |
| CLIENT FIELD REPRESENTATIVE | Darrell Leatherman | RIG | H&P 318 |
| DISTRICT | Rifle, CO | COUNTY | GARFIELD |
| SERVICE | Cementing | STATE / PROVINCE | CO |

WELL GEOMETRY

| TYPE | ID (in) | OD (in) | WEIGHT (lb/ft) | MD (ft) | TVD (ft) | EXCESS (%) | GRADE | THREAD |
|-----------|---------|---------|----------------|----------|----------|------------|-------|--------|
| Casing | 9.00 | 9.63 | 32.30 | 1,004.00 | 971.00 | | H-40 | ST&C |
| Open Hole | 13.50 | 0.00 | 0.00 | 1,014.00 | 971.00 | 18.00 | | |

HARDWARE

| | | | |
|----------------------------------|--------|---|--------------|
| Bottom Plug Used? | No | Tool Type | Float Collar |
| Top Plug Used? | Yes | Tool Depth (ft) | 963.00 |
| Top Plug Provided By | Non BJ | Max Casing Pressure - Rated (psi) | 3520.00 |
| Top Plug Size | 9.630 | Max Casing Pressure - Operated (psi) | 2816.00 |
| Centralizers Used | No | Pipe Movement | None |
| Landing Collar Depth (ft) | 963 | Job Pumped Through | Manifold |
| Top Connection Size | 9.63 | Top Connection Thread | 8RND |

CIRCULATION PRIOR TO JOB

| | | | |
|----------------------------------|--------|---|------|
| Well Circulated By | Rig | Flare Prior to / during the Cement Job | No |
| Circulation Prior to Job | Yes | Gas Present | No |
| Circulation Time (min) | 30.00 | Solids Present at End of Circulation | No |
| Circulation Rate (bpm) | 10.00 | Lost Circulation Prior to Cement Job | No |
| Circulation Volume (bbls) | 300.00 | Mud Density In (ppg) | 9.55 |

TEMPERATURE

| | | | |
|-----------------------------------|-------|---------------------------------------|-------|
| Ambient Temperature (°F) | 37.00 | Slurry Cement Temperature (°F) | 58.00 |
| Mix Water Temperature (°F) | 46.00 | | |

FLUID DETAILS

| FLUID TYPE | FLUID NAME | DENSITY (ppg) | YIELD (Cu Ft/sk) | H ₂ O REQ (gals/sk) | PLN TOP FLD (ft) | LENGTH (ft) | VOL (sk) | VOL (Cu Ft) | VOL (bbls) |
|----------------------------|--------------|---------------|------------------|--------------------------------|------------------|-------------|----------|-------------|------------|
| Spacer / Pre Flush / Flush | Water | 8.30 | | | 0.00 | | | | 20.00 |
| Lead Slurry | BJCem S100 | 12.30 | 2.3380 | 13.43 | 0.00 | 500.00 | 124 | 289.00 | 51.40 |
| Tail Slurry | BJCem S100 | 12.80 | 2.0761 | 11.47 | 500.00 | 500.00 | 149 | 308.00 | 54.80 |
| Displacement Final | Displacement | 8.30 | | | 0.00 | | | 0.00 | 75.20 |

| FLUID TYPE | FLUID NAME | COMPONENT | CONCENTRATION | UOM |
|-------------|------------|---|---------------|--------|
| Lead Slurry | BJCem S100 | CEMENT EXTENDER, GYPSUM, A-10 | 5.0000 | BWOB |
| Lead Slurry | BJCem S100 | Cement Additive, Sodium Metasilicate A-2 | 2.0000 | LBS/SK |
| Lead Slurry | BJCem S100 | IntegraSeal POLI | 0.1300 | LBS/SK |
| Lead Slurry | BJCem S100 | ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS | 2.0000 | LBS/SK |
| Lead Slurry | BJCem S100 | FOAM PREVENTER, FP-25 | 0.3000 | BWOB |
| Lead Slurry | BJCem S100 | CEMENT, ASTM TYPE III | 100.0000 | PCT |
| Tail Slurry | BJCem S100 | CEMENT EXTENDER, GYPSUM, A-10 | 5.0000 | BWOB |
| Tail Slurry | BJCem S100 | ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS | 2.0000 | LBS/SK |
| Tail Slurry | BJCem S100 | FOAM PREVENTER, FP-25 | 0.3000 | BWOB |
| Tail Slurry | BJCem S100 | Cement Additive, Sodium Metasilicate A-2 | 2.0000 | LBS/SK |
| Tail Slurry | BJCem S100 | CEMENT, ASTM TYPE III | 100.0000 | PCT |
| Tail Slurry | BJCem S100 | IntegraSeal POLI | 0.1300 | LBS/SK |

TREATMENT SUMMARY

| TIME | FLUID | RATE (bpm) | FLUID VOL (bbls) | PIPE PRESS (psi) |
|----------------------|--------------|------------|------------------|------------------|
| 3/31/2020 4:00:00 AM | Water | 7.00 | 20.00 | 481.00 |
| 3/31/2020 4:02:00 AM | BJCem S100 | 7.00 | 51.00 | 942.00 |
| 3/31/2020 4:09:00 AM | BJCem S100 | 7.00 | 55.00 | 887.00 |
| 3/31/2020 4:18:00 AM | Displacement | 8.00 | 74.00 | 1005.00 |

MIN / MAX / AVG PRESSURE AND RATES

| | MIN | MAX | AVG |
|----------------|--------|---------|--------|
| Pressure (psi) | 481.00 | 1005.00 | 828.75 |
| Rate (bpm) | 7.00 | 8.00 | 7.25 |

DISPLACEMENT AND END OF JOB SUMMARY

| | | | |
|------------------------------------|--------|------------------------------------|--------|
| Displaced By | BJ | Amt of Cement Returned / Reversed | 24.00 |
| Calculated Displacement Vol (bbls) | 74.00 | Method Used to Verify Returns | Visual |
| Actual Displacement Vol (bbls) | 74.00 | Amt of Spacer to Surface | 20.00 |
| Did Float Hold? | Yes | Pressure Left on Casing (psi) | 0.00 |
| Bump Plug | Yes | Amt Bled Back After Job | 1.00 |
| Bump Plug Pressure (psi) | 977.00 | Total Volume Pumped (bbls) | 200.00 |
| Were Returns Planned at Surface | Yes | Top Out Cement Spotted | No |
| Cement Returns During Job | Full | Lost Circulation During Cement Job | No |



BJ Cementing Event Log

Surface - Rifle, CO - Douglas Diaz

| SEQ | START DATE / TIME | EVENT | DENSITY (ppg) | PUMP RATE (bpm) | PUMP VOL (bbls) | PIPE PRESSURE (psi) | COMMENTS |
|-----|-------------------|---------------------|---------------|-----------------|-----------------|---------------------|--|
| 1 | 03/31/2020 00:00 | Callout | | | | | Yard call 0000 on location 0200 |
| 2 | 03/31/2020 00:28 | Depart for Location | | | | | Leave Rifle shop for location |
| 3 | 03/31/2020 01:28 | Arrive on Location | | | | | Arrive on location, rig rigging up casing crew |
| 4 | 03/31/2020 01:28 | Spot Units | | | | | Spot in all equipment |
| 5 | 03/31/2020 01:52 | Rig Up | | | | | Pre job safety meeting, rig in all equipment and lines on the ground |
| 6 | 03/31/2020 02:19 | Rig | | | | | Waiting on rig to run casing and circulate |
| 7 | 03/31/2020 03:30 | STEACS Briefing | | | | | Pre job safety meeting with company man and rig crew |
| 8 | 03/31/2020 03:39 | Rig | | | | | Rig ended circulation, circulated 30 mins @ 10BBLs/min total of 300 BBLs |
| 9 | 03/31/2020 03:39 | Rig | | | | | Waiting on rig to lay down CRT and blow down |
| 10 | 03/31/2020 03:47 | Rig Up | | | | | Rig up cement head and lines on the floor |
| 11 | 03/31/2020 03:52 | Prime Up | 8.3400 | 7.00 | 5.00 | 693.00 | Prime up pump and lines, Returns |
| 12 | 03/31/2020 03:57 | Pressure Test | | | | 3000.00 | Pressure test |
| 13 | 03/31/2020 04:00 | Pump Spacer | 8.3400 | 7.00 | 15.00 | 481.00 | Pumping fresh water spacer |
| 14 | 03/31/2020 04:02 | Pump Lead Cement | 12.3000 | 7.00 | 0.00 | 942.00 | Pumping lead cement |
| 15 | 03/31/2020 04:02 | Pump Lead Cement | 12.3000 | 7.00 | 51.00 | 887.00 | Pumping lead cement |
| 16 | 03/31/2020 04:09 | Pump Tail Cement | 12.8000 | 7.00 | 0.00 | 887.00 | Pumping tail cement |
| 17 | 03/31/2020 04:09 | Pump Tail Cement | 12.8000 | 7.00 | 55.00 | 849.00 | Pumping tail cement |
| 18 | 03/31/2020 04:16 | Drop Top Plug | | | | | Dropped top plug, verified by company man |
| 19 | 03/31/2020 04:18 | Pump Displacement | 8.3400 | 7.00 | 0.00 | 600.00 | Pumping fresh water displacement |

Client: Terra Energy Partners

Well Name / API: STRAIT BOTTOM RANCH SG 422-22 / 05-045-24010

Well MD: 1000



Quote #: QUO-44118-S8J7S5

Plan #: ORD-25464-G3Q1Z8

Execution #: EXC-25464-G3Q1Z802

| SEQ | START DATE / TIME | EVENT | DENSITY (ppg) | PUMP RATE (bpm) | PUMP VOL (bbls) | PIPE PRESSURE (psi) | COMMENTS |
|-----|-------------------|----------------------|---------------|-----------------|-----------------|---------------------|--|
| 20 | 03/31/2020 04:18 | Pump Displacement | 8.3400 | 8.00 | 50.00 | 962.00 | Pumping fresh water displacement cement to surface @ 50 BBLs away, 24 BBLs cement to surface |
| 21 | 03/31/2020 04:26 | Pump Displacement | 8.3400 | 3.00 | 74.00 | 383.00 | Pumping fresh water displacement |
| 22 | 03/31/2020 04:30 | Land Plug | | | | 977.00 | Land plug, FCP 383 PSI bumped to 977 PSI |
| 23 | 03/31/2020 04:30 | Check Floats | | | | | Bled pressure, floats held 1BBL bled back |
| 24 | 03/31/2020 04:34 | Rig Down | | | | | Pre rig down safety meeting, rigged down cement head and lines on the floor |
| 25 | 03/31/2020 04:48 | Wash Pumps and Lines | | | | | Wash and winterize pump and lines to pit |
| 26 | 03/31/2020 05:20 | Rig Down | | | | | Rig down all lines and equipment |
| 27 | 03/31/2020 05:45 | Leave Location | | | | | Leave location for Rifle shop |

