

|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------------------------|-----------------------------------------------------------|----------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------|-------------|----------------|
| Submit To Appropriate District Office<br>Two Copies<br><b>District I</b><br>1625 N. French Dr., Hobbs, NM 88240<br><b>District II</b><br>811 S. First St., Artesia, NM 88210<br><b>District III</b><br>1000 Rio Brazos Rd., Aztec, NM 87410<br><b>District IV</b><br>1220 S. St. Francis Dr., Santa Fe, NM 87505                                                                          | <b>State of New Mexico</b><br><b>Energy, Minerals and Natural Resources</b><br><br><b>Oil Conservation Division</b><br><b>1220 South St. Francis Dr.</b><br><b>Santa Fe, NM 87505</b> | <b>Form C-105</b><br>Revised April 3, 2017<br><br>1. WELL API NO. <b>30-021-20572</b><br><br>2. Type of Lease<br><input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/> FED/INDIAN<br>3. State Oil & Gas Lease No. |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| <b>WELL COMPLETION OR RECOMPLETION REPORT AND LOG</b>                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| 4. Reason for filing:<br><br><input checked="" type="checkbox"/> <b>COMPLETION REPORT</b> (Fill in boxes #1 through #31 for State and Fee wells only)<br><br><input type="checkbox"/> <b>C-144 CLOSURE ATTACHMENT</b> (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC) |                                                                                                                                                                                       | 5. Lease Name or Unit Agreement Name<br><b>Libby Minerals LLC 2023</b><br><br>6. Well Number:<br><br><b>081</b>                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| 7. Type of Completion:<br><input type="checkbox"/> NEW WELL <input type="checkbox"/> WORKOVER <input type="checkbox"/> DEEPENING <input type="checkbox"/> PLUGBACK <input type="checkbox"/> DIFFERENT RESERVOIR <input checked="" type="checkbox"/> OTHER <b>Completion</b>                                                                                                               |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| 8. Name of Operator<br><b>Breitburn Operating LP</b>                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                       | 9. OGRID <b>370080</b>                                                                                                                                                                                                                                      |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| 10. Address of Operator<br><b>1111 Bagby Street, Suite 1600 Houston, TX 77002</b>                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                       | 11. Pool name or Wildcat<br><b>Bravo Dome</b>                                                                                                                                                                                                               |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| 12. Location                                                                                                                                                                                                                                                                                                                                                                              | Unit Ltr                                                                                                                                                                              | Section                                                                                                                                                                                                                                                     | Township                                     | Range                              | Lot                                                       | Feet from the                                      | N/S Line                                         | Feet from the                                                              | E/W Line    | County         |
| <b>Surface:</b>                                                                                                                                                                                                                                                                                                                                                                           | <b>J</b>                                                                                                                                                                              | <b>08</b>                                                                                                                                                                                                                                                   | <b>20N</b>                                   | <b>32E</b>                         |                                                           | <b>1655</b>                                        | <b>FSL</b>                                       | <b>1655</b>                                                                | <b>East</b> | <b>Harding</b> |
| <b>BH:</b>                                                                                                                                                                                                                                                                                                                                                                                | <b>J</b>                                                                                                                                                                              | <b>08</b>                                                                                                                                                                                                                                                   | <b>20N</b>                                   | <b>32E</b>                         |                                                           | <b>1655</b>                                        | <b>FSL</b>                                       | <b>1655</b>                                                                | <b>East</b> | <b>Harding</b> |
| 13. Date Spudded<br><b>9-19-2015</b>                                                                                                                                                                                                                                                                                                                                                      | 14. Date T.D. Reached<br><b>9-24-2015</b>                                                                                                                                             |                                                                                                                                                                                                                                                             | 15. Date Rig Released<br><b>9-24-2015</b>    |                                    | 16. Date Completed (Ready to Produce)<br><b>2-20-2019</b> |                                                    |                                                  | 17. Elevations (DF and RKB, RT, GR, etc.) <b>4753' GR</b>                  |             |                |
| 18. Total Measured Depth of Well<br><b>2450"</b>                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             | 19. Plug Back Measured Depth<br><b>2830'</b> |                                    |                                                           | 20. Was Directional Survey Made?<br><b>no</b>      |                                                  | 21. Type Electric and Other Logs Run<br><b>Ind; Caliper; Den/Neu; Res;</b> |             |                |
| 22. Producing Interval(s), of this completion - Top, Bottom, Name<br><b>2134-2144 Bravo Dome</b>                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| <b>23. CASING RECORD (Report all strings set in well)</b>                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| CASING SIZE                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                       | WEIGHT LB./FT.                                                                                                                                                                                                                                              |                                              | DEPTH SET                          |                                                           | HOLE SIZE                                          |                                                  | CEMENTING RECORD                                                           |             | AMOUNT PULLED  |
| 8 5/8                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                       | 32#                                                                                                                                                                                                                                                         |                                              | 742'                               |                                                           | 12 1/4                                             |                                                  | 390 sks                                                                    |             |                |
| 4 1/2                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                       | 15#                                                                                                                                                                                                                                                         |                                              | 2450'                              |                                                           | 7 7/8                                              |                                                  | 310 sks                                                                    |             |                |
|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| <b>24. LINER RECORD</b>                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| SIZE                                                                                                                                                                                                                                                                                                                                                                                      | TOP                                                                                                                                                                                   | BOTTOM                                                                                                                                                                                                                                                      | SACKS CEMENT                                 | SCREEN                             | <b>25. TUBING RECORD</b>                                  |                                                    |                                                  |                                                                            |             |                |
|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    | SIZE                                                      | DEPTH SET                                          | PACKER SET                                       |                                                                            |             |                |
|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    | <b>2 3/8</b>                                              | <b>2074</b>                                        | <b>2074</b>                                      |                                                                            |             |                |
| 26. Perforation record (interval, size, and number)<br><b>2134-2144 (6spf)</b>                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    | 27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.           |                                                    |                                                  |                                                                            |             |                |
|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    | DEPTH INTERVAL                                            |                                                    | AMOUNT AND KIND MATERIAL USED                    |                                                                            |             |                |
|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    | <b>2134-2144</b>                                          |                                                    | <b>10,500 lbs of resin coated Sand</b>           |                                                                            |             |                |
|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| <b>28. PRODUCTION</b>                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| Date First Production<br><b>2-29-2019</b>                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                       | Production Method (Flowing, gas lift, pumping - Size and type pump)<br><b>Flowing</b>                                                                                                                                                                       |                                              |                                    |                                                           | Well Status (Prod. or Shut-in)<br><b>Producing</b> |                                                  |                                                                            |             |                |
| Date of Test<br><b>2-27-2019</b>                                                                                                                                                                                                                                                                                                                                                          | Hours Tested<br><b>48</b>                                                                                                                                                             | Choke Size<br><b>1/2</b>                                                                                                                                                                                                                                    | Prod'n For Test Period                       | Oil - Bbl<br><b>0</b>              | Gas - MCF<br><b>400 MCF</b>                               | Water - Bbl.<br><b>0</b>                           | Gas - Oil Ratio<br><b>N/a</b>                    |                                                                            |             |                |
| Flow Tubing Press.<br><b>0</b>                                                                                                                                                                                                                                                                                                                                                            | Casing Pressure<br><b>0</b>                                                                                                                                                           | Calculated 24-Hour Rate                                                                                                                                                                                                                                     | Oil - Bbl.<br><b>0</b>                       | Gas - MCF<br><b>400 MCF</b>        | Water - Bbl.<br><b>0</b>                                  | Oil Gravity - API - (Corr.)<br><b>N/A</b>          |                                                  |                                                                            |             |                |
| 29. Disposition of Gas (Sold, used for fuel, vented, etc.)<br><b>N/A</b>                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    | 30. Test Witnessed By<br><b>Edward Pollister</b> |                                                                            |             |                |
| 31. List Attachments<br><b>C-102, C-103 &amp; C-104</b>                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| 32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    | 33. Rig Release Date: <b>2-20-2019</b>           |                                                                            |             |                |
| 34. If an on-site burial was used at the well, report the exact location of the on-site burial:                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| Latitude                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             | Longitude                                    |                                    |                                                           | NAD83                                              |                                                  |                                                                            |             |                |
| I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief                                                                                                                                                                                                                                                        |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |
| Signature<br><b>Charlotte Nash</b>                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                       | Printed Name<br><b>Charlotte Nash</b>                                                                                                                                                                                                                       |                                              | Title<br><b>Regulatory Analyst</b> |                                                           |                                                    |                                                  | Date<br><b>3-18-2019</b>                                                   |             |                |
| E-mail Address <b>charlotte.nash@mavresources.com</b>                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                              |                                    |                                                           |                                                    |                                                  |                                                                            |             |                |

## INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

| Southeastern New Mexico       |                  | Northwestern New Mexico |                           |
|-------------------------------|------------------|-------------------------|---------------------------|
| T. Anhy                       | T. Canyon        | T. Ojo Alamo            | T. Penn A"                |
| T. Salt                       | T. Strawn        | T. Kirtland             | T. Penn. "B"              |
| B. Salt                       | T. Atoka         | T. Fruitland            | T. Penn. "C"              |
| T. Yates                      | T. Miss          | T. Pictured Cliffs      | T. Penn. "D"              |
| T. 7 Rivers                   | T. Devonian      | T. Cliff House          | T. Leadville              |
| T. Queen                      | T. Silurian      | T. Menefee              | T. Madison                |
| T. Grayburg                   | T. Montoya       | T. Point Lookout        | T. Elbert                 |
| T. San Andres <sup>1258</sup> | T. Simpson       | T. Mancos               | T. McCracken              |
| T. Glorieta <sup>1655</sup>   | T. McKee         | T. Gallup               | T. Ignacio Otzte          |
| T. Paddock                    | T. Ellenburger   | Base Greenhorn          | T.Granite <sup>2334</sup> |
| T. Blinebry                   | T. Gr. Wash      | T. Dakota               |                           |
| T.Tubb <sup>2129</sup>        | T. Delaware Sand | T. Morrison             |                           |
| T. Drinkard                   | T. Bone Springs  | T.Todilto               |                           |
| T. Abo                        | T.               | T. Entrada              |                           |
| T. Wolfcamp                   | T.               | T. Wingate              |                           |
| T. Penn                       | T.               | T. Chinle               |                           |
| T. Cisco (Bough C)            | T.               | T. Permian              |                           |

## OIL OR GAS SANDS OR ZONES

No. 1, from.....to.....  
No. 2, from.....to.....

No. 3, from.....to.....  
No. 4, from.....to.....

## IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....  
No. 2, from.....to.....feet.....  
No. 3, from.....to.....feet.....

## LITHOLOGY RECORD (Attach additional sheet if necessary)

| From | To | Thickness<br>In Feet | Lithology |
|------|----|----------------------|-----------|
|      |    |                      |           |



C&J Energy Services



FEBRUARY 11, 2019  
FRACTURING  
**FINAL POST JOB REPORT**

SUBMITTED FOR

BreitBurn Energy Partners, L.P.  
Miguel Loya  
Libby 2032 81J  
Harding County, NM  
12 bpm/ 20# Purestim Z- CO<sub>2</sub> Job

SUBMITTED BY

Daniel Morales  
4460 US-77 Hwy  
Robstown, TX 78380  
Daniel.Morales@cjes.com  
Cell: (361) 877-6096  
Office: (361) 362-8906

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|                                     |   |
|-------------------------------------|---|
| Stage 1 Summary.....                | 3 |
| Stage 1 Post Treatment Report ..... | 4 |
| QA QC.....                          | 8 |
| Field Pre-QA .....                  | 9 |

## Stage 1 Summary

|               |          |     |     |     |           |                       |       |        |
|---------------|----------|-----|-----|-----|-----------|-----------------------|-------|--------|
| Open Well:    | 10:18 AM | hrs | 19  | psi |           | TVD:                  | 2,139 | ft     |
| Shut-In Well: | 10:41 AM | hrs | 671 | psi |           | Hydrostatic Pressure: | 927   | psi    |
| AVG Rate:     | 5.9      | bpm |     |     |           | Final Frac Gradient:  | 0.93  | psi/ft |
| AVG PSI:      | 1,524    | psi |     |     | MIN Rate: | 5.1                   | bpm   |        |
| MAX Rate:     | 8.1      | bpm |     |     | MIN PSI:  | 752                   | psi   |        |
| MAX PSI:      | 2,023    | psi |     |     |           |                       |       |        |
| AVG HHP:      | 222      |     |     |     |           |                       |       |        |

Breakover: 8 bpm Min 588.5 psi Max 1,363 psi Break 774 psi

|        |       |     |
|--------|-------|-----|
| ISIP   | 1,068 | psi |
| 5 MIN  | 749   | psi |
| 10 MIN | 693   | psi |
| 15 MIN | 674   | psi |

### Proppants

| Proppant        | Lbs Placed | % Placed | Min / Max Avg Prop Conc | Fluid Laden |
|-----------------|------------|----------|-------------------------|-------------|
| 20/40 Coolset   | 10,000 lbs | 95%      | 2.35 ppa to 6.21 ppa    | 2,783 gal   |
| TOTAL PROPPANT: | 10,000 lbs | 95%      | TOTAL FLUID LADEN:      | 2,783 gal   |
| Max Prop Conc.: | 5.21 ppa   |          |                         |             |

### Fluid Systems

| Fluid Description  | Pumped Volumes |       | Fluid Type | Pumped Volumes |                  |      |       |       |      |
|--------------------|----------------|-------|------------|----------------|------------------|------|-------|-------|------|
| Slickwater #1      | 49.3           | bbbls | 2,069      | gals           | Slickwater       | 49.3 | bbbls | 2,069 | gals |
| 20# Purestim Z     | 77.4           | bbbls | 3,251      | gals           |                  |      |       |       |      |
| 8# Linear Gel      | 16.2           | bbbls | 682        | gals           | Cross-Linked Gel | 77.4 | bbbls | 3,251 | gals |
| Total Clean Fluid  | 142.9          | bbbls | 6,002      | gals           |                  |      |       |       |      |
| Total Slurry Fluid | 152.9          | bbbls | 6,422      | gals           |                  |      |       |       |      |
| Flush              | 16.2           | bbbls | 682        | gals           |                  |      |       |       |      |

### Notes

Well went into a vacuum when opened. Designed was modified as per customer. CO<sub>2</sub> quality was reduced from 65% to 50%. Stage pumped to design and to completion.

## Stage 1 Post Treatment Report

Date: Wednesday, February 11, 2019  
Well Name: Libby 2032 81J  
Location: Harding, NM  
Formation: Tubb Formation

Table 1: Actual Treatment Schedule - Bottomhole Goals

| Stage # | Elapsed Time min:sec | Fluid Type     | Btm CO <sub>2</sub> Qual (%) | Btm Clean Foam Vol (gal) | Btm Prop Conc (ppg) | Stage Prop. (klbs) | Btm Slurry Foam Rate (bpm) | Proppant Type |
|---------|----------------------|----------------|------------------------------|--------------------------|---------------------|--------------------|----------------------------|---------------|
| 1       | 45:24                | 20# Purestim Z | 0.0                          | 2133                     | 0.00                | 0.0                | 7.17                       |               |
| 2       | 46:09                | 20# Purestim Z | 38.6                         | 491                      | 0.00                | 0.0                | 15.53                      |               |
| 3       | 49:18                | 20# Purestim Z | 48.3                         | 1641                     | 0.00                | 0.0                | 12.43                      |               |
| 4       | 53:39                | 20# Purestim Z | 49.2                         | 2026                     | 0.61                | 1.2                | 11.42                      | 20/40 Coolset |
| 5       | 57:18                | 20# Purestim Z | 51.7                         | 1483                     | 2.05                | 3.0                | 10.61                      | 20/40 Coolset |
| 6       | 59:11                | 20# Purestim Z | 50.4                         | 718                      | 2.29                | 1.6                | 10.09                      | 20/40 Coolset |
| 7       | 61:31                | 8# Linear Gel  | 51.8                         | 1215                     | 1.36                | 1.7                | 13.17                      | 20/40 Coolset |
| 8       | 63:15                | SHUT-IN        | 0.0                          | 0                        | 0.00                | 0.0                | 0.00                       |               |

Table 2: Actual Treatment Schedule - Surface Pumping Requirements

| Stage # | Stage Length | Clean Volume (gal) | Stage Prop. (klbs) | Prop Conc (ppg) | Stage CO <sub>2</sub> (klbs) |
|---------|--------------|--------------------|--------------------|-----------------|------------------------------|
| 1       | 7:04         | 2133               | 0.0                | 0.00            | 0.00                         |
| 2       | 0:45         | 301                | 0.0                | 0.00            | 1.69                         |
| 3       | 3:08         | 849                | 0.0                | 0.00            | 7.06                         |
| 4       | 4:20         | 1029               | 1.2                | 1.20            | 8.90                         |
| 5       | 3:39         | 716                | 3.0                | 4.24            | 6.84                         |
| 6       | 1:52         | 356                | 1.6                | 4.62            | 3.23                         |
| 7       | 2:20         | 586                | 1.7                | 2.83            | 5.61                         |
| 8       | 1:43         | 0                  | 0.0                | 0.00            | 0.00                         |

|                                 |        |                                    |       |
|---------------------------------|--------|------------------------------------|-------|
| Total Clean Fluid Pumped (bbls) | 142.9  | Actual proppant pumped (klbs)      | 10.00 |
| Total Slurry Pumped (bbls)      | 152.9  | Actual proppant in fracture (klbs) | 10.00 |
| Model run time (min)            | 261.32 | Avg. Proppant Concentration (ppg)  | 3.10  |



**Libby 2032-81J**  
**Post Job Report**  
**CO<sub>2</sub> -1 Stage Vertical**

**Table 3: Design Treatment Schedule - Bottomhole Goals**

| Stage # | Elapsed Time min:sec | Fluid Type     | Btm CO <sub>2</sub> Qual (%) | Btm Clean Foam Vol (gal) | Btm Prop Conc (ppg) | Stage Prop. (klbs) | Btm Slurry Foam Rate (bpm) | Proppant Type |
|---------|----------------------|----------------|------------------------------|--------------------------|---------------------|--------------------|----------------------------|---------------|
| 1       | 39:19                | Slickwater     | 0.0                          | 500                      | 0.00                | 0.0                | 12.00                      |               |
| 2       | 40:15                | 20# Purestim Z | 50.0                         | 468                      | 0.00                | 0.0                | 12.00                      |               |
| 3       | 45:49                | 20# Purestim Z | 50.0                         | 2808                     | 0.00                | 0.0                | 12.00                      |               |
| 4       | 49:23                | 20# Purestim Z | 50.0                         | 1718                     | 1.00                | 1.7                | 12.00                      | 20/40 Coolset |
| 5       | 53:17                | 20# Purestim Z | 50.0                         | 1793                     | 2.00                | 3.6                | 12.00                      | 20/40 Coolset |
| 6       | 56:27                | 20# Purestim Z | 50.0                         | 1394                     | 3.00                | 4.2                | 12.00                      | 20/40 Coolset |
| 7       | 59:02                | 8# Linear Gel  | 50.0                         | 1302                     | 0.00                | 0.0                | 12.00                      |               |
| 8       | 59:02                | SHUT-IN        | 0.0                          | 0                        | 0.00                | 0.0                | 0.00                       |               |

**Table 4: Design Treatment Schedule - Surface Pumping Requirements**

| Stage # | Stage Length | Clean Volume (gal) | Stage Prop. (klbs) | Prop Conc (ppg) | Stage Slurry (gal) | Slurry Rate (bpm) | Stage CO <sub>2</sub> (klbs) | CO <sub>2</sub> Rate (bpm) |
|---------|--------------|--------------------|--------------------|-----------------|--------------------|-------------------|------------------------------|----------------------------|
| 1       | 0:59         | 500                | 0.0                | 0.00            | 500                | 12.00             | 0.00                         | 0.00                       |
| 2       | 0:55         | 234                | 0.0                | 0.00            | 234                | 6.00              | 2.09                         | 6.24                       |
| 3       | 5:34         | 1404               | 0.0                | 0.00            | 1404               | 6.00              | 12.52                        | 6.24                       |
| 4       | 3:34         | 859                | 1.7                | 2.00            | 941                | 6.27              | 7.66                         | 5.95                       |
| 5       | 3:53         | 896                | 3.6                | 4.00            | 1068               | 6.52              | 7.99                         | 5.69                       |
| 6       | 3:09         | 697                | 4.2                | 6.00            | 897                | 6.75              | 6.22                         | 5.45                       |
| 7       | 2:35         | 651                | 0.0                | 0.00            | 651                | 6.00              | 5.81                         | 6.24                       |
| 8       | 0:00         | 0                  | 0.0                | 0.00            | 0                  | 0.00              | 0.00                         | 0.00                       |

Design Schedule totals may not correspond to actual job totals.

Table 5: Proppant and Fluid

| Material        | Quantity | Units |
|-----------------|----------|-------|
| Slickwater      | 49.3     | bbls  |
| 8# Linear Gel   | 16.2     | bbls  |
| 20# Purestim Z  | 77.4     | bbls  |
| 20/40 Coolset   | 10.00    | klbs  |
| CO <sub>2</sub> | 42.00    | klbs  |

Table 6: Casing Configuration

| Length (ft) | Segment Type    | Casing ID (in) | Casing OD (in) | Weight (lb/ft) | Grade |
|-------------|-----------------|----------------|----------------|----------------|-------|
| 2830        | Cemented Casing | 4.000          | 4.500          | 11.600         | J-55  |

Total frac string volume (bbls) 33.2  
Pumping down Casing

Table 7: Perforated Intervals

|                           | Interval #1 |
|---------------------------|-------------|
| Top of Perfs - TVD (ft)   | 2134        |
| Bot of Perfs - TVD (ft)   | 2144        |
| Top of Perfs - MD (ft)    | 2134        |
| Bot of Perfs - MD (ft)    | 2144        |
| Perforation Diameter (in) | 0.340       |
| # of Perforations         | 84          |

Table 8: Path Summary

| Segment Type | Length (ft) | MD (ft) | TVD (ft) | Pipe ID (in) |
|--------------|-------------|---------|----------|--------------|
| Casing       | 2134        | 2134    | 2134     | 4.000        |

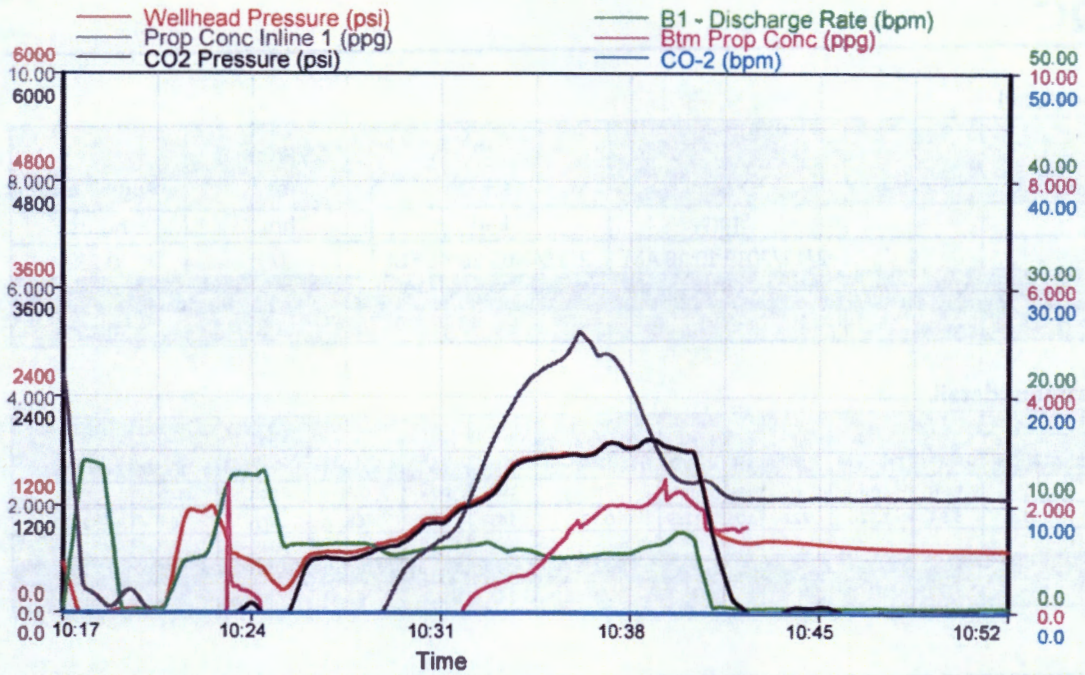


Figure 1 Treatment Plot (Customer) for Libby 2032 81J, Stage 1, 02/08/2019

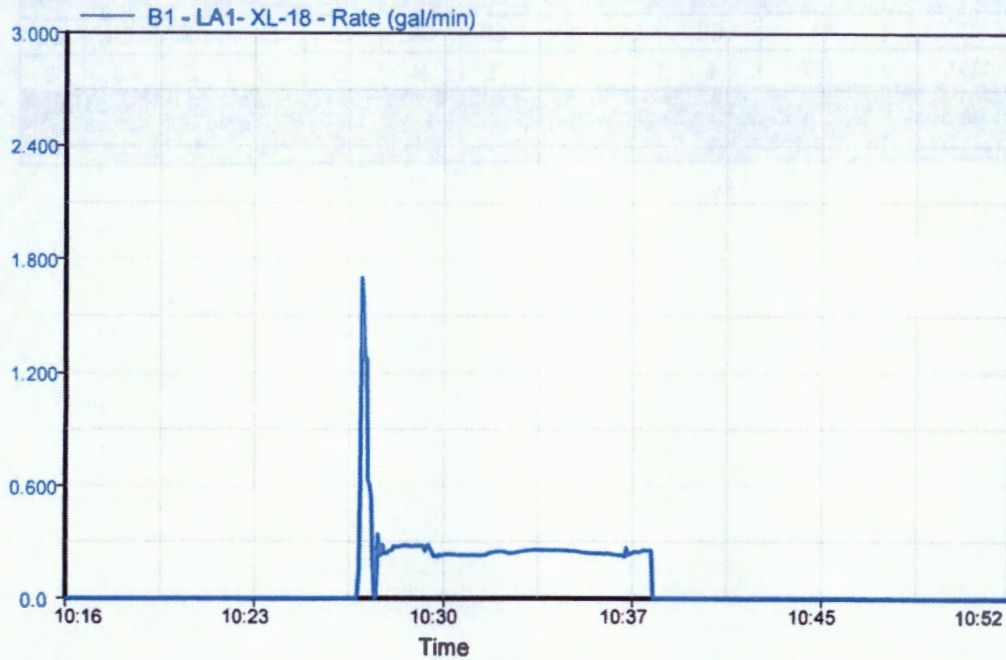


Figure 2 Blender Chemicals for Libby 2032 81J, Stage 1, 02/08/2019



**Libby 2032-81J**  
**Post Job Report**  
**CO<sub>2</sub> -1 Stage Vertical**

## QA QC

### Stage time detail

| Well Name     | Stage # | Frac               | Frac               | CJES Prime & Test | Pump Time   |
|---------------|---------|--------------------|--------------------|-------------------|-------------|
|               |         | Start              | End                | hrs               | hours       |
| 81J           | 1       | 2/11/2019 10:18 AM | 2/11/2019 10:41 AM | 0                 | 0.25        |
| <b>Totals</b> |         |                    |                    | <b>0</b>          | <b>0.25</b> |

### Stage treatment detail

| Well Name | Stage # | Rate | Pressure | HHP | ISIP | TVD  | Frac. Gradient | CV    | SV    | Slickwater | Linear Gel | Max Rate | Max Pressure |
|-----------|---------|------|----------|-----|------|------|----------------|-------|-------|------------|------------|----------|--------------|
|           |         | bpm  | psi      |     | psi  | psi  | ft             | bbbls | bbbls | bbbls      | bbbls      | bpm      | psi          |
| 81J       | 1       | 5.94 | 1,524    | 222 | 1068 | 2139 | 0.93           | 143   | 153   | 66         | 77         | 8        | 2023         |
| 81J       |         |      |          |     |      |      |                |       |       |            |            |          |              |
|           |         |      |          |     |      |      |                | 143   | 153   | 66         | 77         |          |              |

### Chemical

| Stage # | 20/40 Coolset | Total Proppant | SU-2 | B-445-10 | CS-5 | SI-6 | GA-2 | BR-2 | XL-18 | BR-1 | BC-1 | PH-25 |
|---------|---------------|----------------|------|----------|------|------|------|------|-------|------|------|-------|
|         | lbs           | lbs            | GAL  | GAL      | GAL  | GAL  | GAL  | LB   | GAL   | LB   | GAL  | GAL   |
| 1       | 10,000        | 10,000         | 6    | 2        | 6    | 3    | 34   | 25   | 12    | 25   | 8    | 3     |
|         | 10,000        | 10,000         | 6    | 2        | 6    | 3    | 34   | 25   | 12    | 25   | 8    | 3     |



Libby 2032-81J  
Post Job Report  
CO<sub>2</sub> -1 Stage Vertical

## Field Pre-QA

| C&J Energy Services                                  |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
|------------------------------------------------------|--------------|-------------------|------------------------|-------------------|-------------------------------|------------------------|----------|---------------------------|------------------------|----------|---------|
| Company Name: <b>BreitBurn Energy Partners, L.P.</b> |              |                   |                        |                   | Job Type: <b>Foam</b>         |                        |          |                           |                        |          |         |
| Lease: <b>24-1-K</b>                                 |              |                   |                        |                   | Frac Crew: <b>STX-SCS</b>     |                        |          |                           |                        |          |         |
| Service Location: <b>Harding County, NM</b>          |              |                   |                        |                   | Date: <b>February 7, 2019</b> |                        |          |                           |                        |          |         |
|                                                      |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| Pilot Testing                                        |              |                   |                        |                   |                               |                        |          | Gel & XL Testing          |                        |          |         |
| Additive                                             | Loading      | Additive          | Loading                | Additive          | Loading                       | Additive               | Loading  | 40# Hydration Test        |                        |          |         |
| SLU-2                                                | 1.00         |                   |                        |                   |                               |                        |          | Time (mm:ss)              | Viscosity (cP)         |          |         |
| B-445-19                                             | 0.25         |                   |                        |                   |                               |                        |          | 1:00                      | 10                     |          |         |
| CS-5                                                 | 1.25         |                   |                        |                   |                               |                        |          | 2:00                      | 12                     |          |         |
| SI-6                                                 | 0.50         |                   |                        |                   |                               |                        |          | 3:00                      | 16                     |          |         |
| GA-2                                                 | 5.00         |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| BR-2                                                 | 2.00         |                   |                        |                   |                               |                        |          | Time (mm:ss)              | Viscosity (cP)         |          |         |
| XL-18                                                | 1.25         |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| BR-1                                                 | 5.00         |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| BC-1                                                 | 2.00         |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| BU-4                                                 |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| PH-25                                                | 1.25         |                   |                        |                   |                               |                        |          | Time (mm:ss)              | Viscosity (cP)         |          |         |
| HC-15                                                |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| XL-17                                                |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| XL-20                                                |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| ICA-1                                                |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| GA-7F                                                |              |                   |                        |                   |                               |                        |          | Time (mm:ss)              | Viscosity (cP)         |          |         |
| CL-7                                                 |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| FR-21                                                |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| Test Number 1                                        |              | Test Number 2     |                        | Test Number 3     |                               | Test Number 4          |          |                           |                        |          |         |
| Base Visc (cp):                                      | 16           | Base Visc (cp):   | 9                      | Base Visc (cp):   |                               | Base Visc (cp):        |          | Time (mm:ss)              | Viscosity (cP)         |          |         |
| Sample Temp. (F):                                    | 43           | Sample Temp. (F): | 78                     | Sample Temp. (F): |                               | Sample Temp. (F):      |          |                           |                        |          |         |
| Pre-XL pH:                                           | 6.91         | Pre-XL pH:        | 6.89                   | Pre-XL pH:        |                               | Pre-XL pH:             |          |                           |                        |          |         |
| XL pH:                                               | 10.51        | XL pH:            | 10.45                  | XL pH:            |                               | XL pH:                 |          |                           |                        |          |         |
| Closure Time:                                        | 0:45         | Closure Time:     | 0:30                   | Closure Time:     |                               | Closure Time:          |          |                           |                        |          |         |
| Crown Time:                                          | 1:35         | Crown Time:       | 0:45                   | Crown Time:       |                               | Crown Time:            |          |                           |                        |          |         |
| Lip Time:                                            | 1:45         | Lip Time:         | 1:05                   | Lip Time:         |                               | Lip Time:              |          |                           |                        |          |         |
|                                                      |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| Sand Sieves                                          |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| 20/40 Coolset                                        |              |                   | 20/40 Coolset          |                   |                               | 20/40 Coolset          |          |                           | 20/40 Coolset          |          |         |
| Specific Gravity: 2.65                               |              |                   | Specific Gravity: 2.65 |                   |                               | Specific Gravity: 2.65 |          |                           | Specific Gravity: 2.65 |          |         |
| Sieve #                                              | Retained     | Percent           | Sieve #                | Retained          | Percent                       | Sieve #                | Retained | Percent                   | Sieve #                | Retained | Percent |
| 6                                                    | -            | 0.00%             | 6                      | -                 | 0.00%                         | 30                     | -        | #DIV/0!                   | 30                     | -        | #DIV/0! |
| 20                                                   | 0.16         | 0.65%             | 20                     | 0.08              | 0.38%                         | 40                     | -        | #DIV/0!                   | 40                     | -        | #DIV/0! |
| 30                                                   | 21.61        | 87.17%            | 30                     | 19.51             | 91.64%                        | 45                     | -        | #DIV/0!                   | 45                     | -        | #DIV/0! |
| 35                                                   | 2.72         | 10.97%            | 35                     | 1.54              | 7.23%                         | 50                     | -        | #DIV/0!                   | 50                     | -        | #DIV/0! |
| 40                                                   | 0.21         | 0.85%             | 40                     | 0.14              | 0.66%                         | 60                     | -        | #DIV/0!                   | 60                     | -        | #DIV/0! |
| 50                                                   | 0.04         | 0.16%             | 50                     | 0.02              | 0.09%                         | 70                     | -        | #DIV/0!                   | 70                     | -        | #DIV/0! |
|                                                      | 0.04         | 0.16%             |                        | -                 | 0.00%                         | 100                    | -        | #DIV/0!                   | 100                    | -        | #DIV/0! |
| Pan                                                  | 0.01         | 0.04%             | Pan                    | -                 | 0.00%                         | PAN                    | -        | #DIV/0!                   | PAN                    | -        | #DIV/0! |
| Total                                                | 24.79        | % to Spec: 99.6%  | Total                  | 21.29             | % to Spec: 99.6%              | Total                  | -        | #DIV/0!                   | Total                  | -        | #DIV/0! |
|                                                      |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| Water Tank Straps                                    |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| Tank 1                                               | Tank 2       | Tank 3            | Tank 4                 | Tank 5            | Tank 6                        | Tank 7                 | Tank 8   | Tank 9                    | Tank 10                |          |         |
| 400 bbl                                              | N/A bbl      | N/A bbl           | N/A bbl                | N/A bbl           | N/A bbl                       | N/A bbl                | N/A bbl  | N/A bbl                   | N/A bbl                |          |         |
|                                                      |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| Field Composite Water Analysis                       |              |                   |                        |                   |                               |                        |          | Laboratory Water Analysis |                        |          |         |
| pH                                                   | Sp. Gr.      | Fluid Density     | Temp.                  | Conductivity      | Calcium Hardness              | Magnesium Hardness     | Boron    | Bacteria                  | Silica                 |          |         |
| 8.53                                                 | 1.020        | 8.34              | 39                     | N/A               | 174                           | N/A                    | N/A      | N/A                       | N/A                    |          |         |
| Iron                                                 | Ferrous Iron | Carbonates        | Bicarbonates           | Chlorides         | Sulfates                      | Barium                 | N/A      | N/A                       | N/A                    |          |         |
| 0.02                                                 | N/A          | N/A               | 264                    | 2700              | N/A                           | N/A                    |          |                           |                        |          |         |
|                                                      |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| Acid Strength                                        |              |                   |                        |                   |                               |                        |          |                           |                        |          |         |
| Tank #1                                              |              | Tank #2           |                        | Tank #3           |                               |                        |          |                           |                        |          |         |
| Sp. Gr.                                              | N/A          | Sp. Gr.           |                        | Sp. Gr.           |                               |                        |          |                           |                        |          |         |
| %HCl                                                 | N/A          | %HCl              |                        | %HCl              |                               |                        |          |                           |                        |          |         |