

| | | |
|--|--|---|
| FORM NO. 22 R 10/09 SUBMIT IN QUADRUPLICATE TO: MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE, BILLINGS, MONTANA 59102 | ARM 36.22.307 ARM 36.22.601 | Lease Name: Tolksdorf Lease Type (Private/State/Federal): Private Well Number: 3-12H Field Name or Wildcat: Wildcat Unit Name (if applicable): Objective Formation(s): Middle Bakken Township, Range, and Section: Sec 13-26N-53E County: Richland Elevation (indicate elevation in feet): 2332' GL |
| Application for Permit To: Drill <input checked="" type="checkbox"/> Deepen <input type="checkbox"/> Re-enter <input type="checkbox"/> Oil <input checked="" type="checkbox"/> Gas <input type="checkbox"/> Other <input type="checkbox"/> | | |
| Operator: Continental Resources, Inc. Address: P. O. Box 268870 City: Oklahoma City State: OK Zip: 73126 Telephone Number: (405) 234-9000 | | |
| Surface Location of Well (quarter-quarter and footage measurements): 265' FNL, 1690' FEL; NWNE Sec 13-26N-53E | | |
| Proposed Total Depth and Bottom-hole Location(s) if directional or horizontal well: 200' FNL, 968' FEL; NENE Sec 36-27N-53E 25223' MD, 9451' TVD | | |
| Size and description of drilling/spacing unit and applicable order, if any: N-R53E & Sec 36 T27N-R53E, 1920 acres; Spacing Case No. 96-2 | Formation at total depth: Middle Bakken | Anticipated Spud Date: 10/18/2019 |

| Hole Size | Casing Size | Weight / Foot | Grade (API) | Depth | Sacks of Cement | Type of Cement |
|-----------|-------------|---------------|-------------|-------|-----------------|----------------------------|
| 20" | 16" | 94# | J-55 | 80' | 48 | Grout |
| 13 1/2" | 9 5/8" | 40# | J-55 | 1300' | 490 | 35/65 Pox/Class C, 3% CaCl |
| 8 3/4" | 7" | 32# | P-110 IC | 9865' | 786 | 35/65 Pox/Class G, 3% KCl |

Describe Proposed Operations:
 Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program.
 Plans are to drill a vertical wellbore to the Lodgepole, then build angle at 12°/100 to land 7" casing in the Bakken formation @ approximately 90°. A 6" horizontal wellbore will be drilled in the Bakken formation. The lateral will be fracture stimulated via an uncemented liner. See attached diagram of BOP, Mud, and Casing program. Plans are to use a closed pit system for this well in place of using a reserve pit. Drilling fluids will be recycled and used on future wells. Cuttings will be solidified with fly ash and buried onsite in cuttings pit.

| | | |
|---|---|---|
| BOARD USE ONLY | | The undersigned hereby certifies that the information contained on this application is true and correct: Signed (Agent) <u>Christi Scatfield</u> Title <u>Regulatory Compliance Specialist</u> Date <u>10/8/2019</u> Telephone Number <u>(405) 234-9257</u> |
| Approved (date) <u>OCT 24 2019</u> | Permit Fee <u>\$150.00</u> | |
| By <u>[Signature]</u> | Check Number <u>229494</u> | |
| Title <u>Petroleum Engineer</u> | Permit Expires <u>APR 24 2020</u> Permit Number <u>32476</u> | |
| THIS PERMIT IS SUBJECT TO THE CONDITIONS OF APPROVAL STATED ON THE BACK API Number: 25 - <u>083</u> - <u>23374</u> | | |

Samples Required: NONE ALL _____ FROM _____ feet to _____ feet
 Core chips to address below, full cores to USGS, Core Laboratory, Arvada, CO. Required samples must be **washed, dried** and delivered prepaid to:
 Montana Board of Oil and Gas Conservation
 2535 St. Johns Avenue
 Billings, MT 59102

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Client: Continental Resources, Inc
 Well: Pre-job Design Disclosure
 Basin/Field:
 State: Montana
 County/Parish: Richland County
 Case:
 Disclosure Type: Pre-Job
 Well Completed:
 Date Prepared: 8/16/2019 3:28 PM
 Report ID: RPT-62889

| Fluid Name & Volume | Additive | Additive Description | Concentration | Volume |
|--|----------|--------------------------------------|-----------------------|----------------|
| Slickwater, HCl 15% 10,579,712 Gal | A264A | Corrosion Inhibitor A264A | 0.01 Gal / 1000 Gal | 130.0 Gal |
| | B526 † | Non-Emulsifying Agent B526 | 0.5 Gal / 1000 Gal | 5,239.0 Gal |
| | H015 | Acid | 2.5 Gal / 1000 Gal | 26,000.0 Gal |
| | J475 | Breaker | 0.5 Lb / 1000 Gal | 5,277.0 Lb |
| | J627 | Friction Reducer J627 | 0.3 Gal / 1000 Gal | 3,081.0 Gal |
| | J694 | High Viscosity Friction Reducer J694 | 0.7 Gal / 1000 Gal | 7,613.0 Gal |
| | L058 | Iron Control Agent L058 | 0.01 Lb / 1000 Gal | 130.0 Lb |
| | M300 | Myacide GA 25 | 0.3 Gal / 1000 Gal | 3,166.0 Gal |
| | S013 | Fracturing Sand S013 | varied concentrations | 7,612,780.0 Lb |
| | S013-100 | 100 - Mesh Premium Sand S013 | varied concentrations | 1,903,200.0 Lb |

The total volume listed in the tables above represents the summation of water and additives. Water is supplied by client.

† Proprietary Technology

| CAS Number | Chemical Name | Mass Fraction |
|---------------------|---|---------------|
| - | Water (Including Mix Water Supplied by Client)* | ~ 90 % |
| 14808-60-7 | Quartz, Crystalline Silica | ~ 10 % |
| 7647-01-0 | Hydrochloric acid | < 0.1 % |
| 53845-65-1 | 2-Propenoic acid, sodium salt (1:1), polymer with 2-propenamide and sodium 2-methyl-2-[(1-oxo-2-propen-1-yl)amino]-1-propanesulfonate (1:1) | < 0.1 % |
| 64742-47-8 | Distillates, petroleum, hydrotreated light | < 0.1 % |
| 111-30-8 | Glutaraldehyde | < 0.01 % |
| 26100-47-0 | Acrylamide/ammonium acrylate copolymer | < 0.01 % |
| 67-63-0 | Isopropyl alcohol | < 0.01 % |
| 12125-02-9 | Ammonium chloride | < 0.01 % |
| 7727-54-0 | Diammonium peroxodisulphate | < 0.01 % |
| CAS # Not Available | Polymer of fatty acid | < 0.01 % |
| 78330-21-9 | Alcohols, C11-14-iso, C13-rich, ethoxylated | < 0.01 % |
| 9005-65-6 | Sorbitan monooleate, ethoxylated | < 0.01 % |
| 1338-43-8 | Sorbitan, mono-(9Z)-9-octadecenoate | < 0.01 % |
| 25038-72-6 | Vinylidene chloride/methylacrylate copolymer | < 0.001 % |
| 9004-96-0 | Ethoxylated oleic acid | < 0.001 % |
| 67-56-1 | Methanol | < 0.001 % |
| 7783-18-8 | Ammonium thiosulfate | < 0.001 % |
| 61723-83-9 | Sorbitol Tetraoleate | < 0.001 % |
| 68002-97-1 | Alcohols, C10-16, ethoxylated | < 0.001 % |
| 224635-63-6 | Reaction product of: acetophenone, formaldehyde, cyclohexylamine, methanol and acetic acid | < 0.001 % |
| 540-72-7 | Sodium thiocyanate | < 0.001 % |
| 10604-69-0 | 2-Propenoic acid, ammonium salt | < 0.001 % |
| 1310-73-2 | Sodium hydroxide | < 0.001 % |
| 6381-77-7 | Sodium erythorbate | < 0.001 % |
| 68439-50-9 | Alcohols, C12-C14, ethoxylated | < 0.001 % |
| 84133-50-6 | C14 alpha olefin ethoxylate | < 0.001 % |
| 68551-12-2 | Alcohols, C12-C16, ethoxylated | < 0.001 % |
| 104-55-2 | Cinnamaldehyde | < 0.001 % |
| 68439-46-3 | Alcohol, C9-C11, Ethoxylated | < 0.0001 % |
| 79-06-1 | 2-Propenamid (impurity) | < 0.0001 % |
| 14807-96-6 | Magnesium silicate hydrate (talc) | < 0.0001 % |
| 64-19-7 | Acetic acid (impurity) | < 0.0001 % |
| 98-86-2 | Acetophenone | < 0.0001 % |
| 61791-26-2 | Amines, tallow alkyl, ethoxylated | < 0.0001 % |
| 9002-84-0 | poly(tetrafluoroethylene) | < 0.0001 % |
| 50-00-0 | Formaldehyde (impurity) | < 0.0001 % |
| Total | | 100% |

* The evaluation of attached document is performed based on the composition of the identified products to the extent that such compositional information was known to GRC-Chemicals as of the date of the document was produced. Any new updates will not be reflected in this document.



Client: Continental Resources, Inc
Well: Pre-job Design Disclosure
Basin/Field:
State: Montana
County/Parish: Richland County
Case:
Disclosure Type: Pre-Job
Well Completed:
Date Prepared: 8/16/2019 3:24 PM
Report ID: RPT-62888

** Mix water is supplied by the client. OneStim has performed no analysis of the water and cannot provide a breakdown of components that may have been added to the water by third-parties.*

** The evaluation of attached document is performed based on the composition of the identified products to the extent that such compositional information was known to GRC-Chemicals as of the date of the document was produced. Any new updates will not be reflected in this document.*

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Proposal # 127242

Stimulation

| | |
|-----------------------|------------------------------|
| Company | CONTINENTAL RESOURCES INC |
| Well Name | Well 1 |
| Surface Location | |
| UWI Number | |
| Formation | |
| Objective | Stimulation in Middle Bakken |
| Service From District | Williston |
| Date | 8/15/2019 |
| Primary Contact | Tito Abiseid |

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Pumping Schedule

3 Mile Stages 1-54

Stage:

1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52

| Clean Fluid Totals | |
|--------------------|-------------|
| HCl 15% | 500 gal |
| Slick Water | 118,506 gal |
| HVFR 1.5gpt | 45,000 gal |
| HVFR 2.0 gpt | 39,450 gal |

| Proppant Totals | |
|------------------|---------------|
| White Sand 100M | 36,600.0 lbm |
| White Sand 40/70 | 146,400.0 lbm |

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| Bottom Hole Pumping Schedule | | | | | | | | | | | | |
|------------------------------|--------------|------------------------|------------------------|------------------|-----------------------|-----------------------|---------------------|-------------------------|-----------------------|----------------|-----------------------|------------------------|
| Stage | Fluid Type | Clean Fluid Vol gal | Cum Clean Fluid gal | Prop Type | B.H. Prop Conc PPA | Prop Per Stage lbm | Cum Prop Amt lbm | Stage Slurry Vol bbl | Cum Slurry Vol bbl | Pump Time h | Clean Rate bbl/min | Slurry Rate bbl/min |
| Acid | HCl 15% | 500 | 500 | | 0.0 | 0.0 | 0.0 | 11.9 | 11.9 | 0.04 | 5.0 | 5.0 |
| Pad | Slick Water | 8,000 | 8,500 | | 0.0 | 0.0 | 0.0 | 190.5 | 202.4 | 0.11 | 30.0 | 30.0 |
| 0.25 PPA 100M | Slick Water | 10,000 | 18,500 | White Sand 100M | 0.3 | 2,500.0 | 2,500.0 | 240.8 | 443.2 | 0.05 | 79.1 | 80.0 |
| 0.50 PPA 100M | Slick Water | 10,000 | 28,500 | White Sand 100M | 0.5 | 5,000.0 | 7,500.0 | 243.5 | 686.6 | 0.05 | 78.2 | 80.0 |
| 1.00 PPA 100M | Slick Water | 4,700 | 33,200 | White Sand 100M | 1.0 | 4,700.0 | 12,200.0 | 117.0 | 803.6 | 0.02 | 76.5 | 80.0 |
| 1.50 PPA 4070 | HVFR 1.5gpt | 15,000 | 48,200 | White Sand 40/70 | 1.5 | 22,500.0 | 34,700.0 | 381.6 | 1,185.3 | 0.08 | 74.9 | 80.0 |
| 2.00 PPA 4070 | HVFR 2.0 gpt | 13,150 | 61,350 | White Sand 40/70 | 2.0 | 26,300.0 | 61,000.0 | 341.7 | 1,527.0 | 0.07 | 73.3 | 80.0 |
| Spacer | Slick Water | 2,100 | 63,450 | | 0.0 | 0.0 | 61,000.0 | 50.0 | 1,577.0 | 0.01 | 80.0 | 80.0 |
| Diverter | Slick Water | 2,100 | 65,550 | | 0.0 | 0.0 | 61,000.0 | 50.0 | 1,627.0 | 0.01 | 80.0 | 80.0 |
| Sweep | Slick Water | 12,500 | 78,050 | | 0.0 | 0.0 | 61,000.0 | 297.6 | 1,924.6 | 0.06 | 80.0 | 80.0 |
| 0.50 PPA 100M | Slick Water | 10,000 | 88,050 | White Sand 100M | 0.5 | 5,000.0 | 66,000.0 | 243.5 | 2,168.1 | 0.05 | 78.2 | 80.0 |
| 1.00 PPA 100M | Slick Water | 7,200 | 95,250 | White Sand 100M | 1.0 | 7,200.0 | 73,200.0 | 179.2 | 2,347.3 | 0.04 | 76.5 | 80.0 |
| 1.50 PPA 4070 | HVFR 1.5gpt | 15,000 | 110,250 | White Sand 40/70 | 1.5 | 22,500.0 | 95,700.0 | 381.6 | 2,728.9 | 0.08 | 74.9 | 80.0 |
| 2.00 PPA 4070 | HVFR 2.0 gpt | 13,150 | 123,400 | White Sand 40/70 | 2.0 | 26,300.0 | 122,000.0 | 341.7 | 3,070.7 | 0.07 | 73.3 | 80.0 |
| Spacer | Slick Water | 2,100 | 125,500 | | 0.0 | 0.0 | 122,000.0 | 50.0 | 3,120.7 | 0.01 | 80.0 | 80.0 |
| Diverter | Slick Water | 2,100 | 127,600 | | 0.0 | 0.0 | 122,000.0 | 50.0 | 3,170.7 | 0.01 | 80.0 | 80.0 |
| Sweep | Slick Water | 12,500 | 140,100 | | 0.0 | 0.0 | 122,000.0 | 297.6 | 3,468.3 | 0.06 | 80.0 | 80.0 |
| 0.50 PPA 100M | Slick Water | 10,000 | 150,100 | White Sand 100M | 0.5 | 5,000.0 | 127,000.0 | 243.5 | 3,711.7 | 0.05 | 78.2 | 80.0 |
| 1.00 PPA | Slick Water | 7,200 | 157,300 | White Sand 100M | 1.0 | 7,200.0 | 134,200.0 | 179.2 | 3,890.9 | 0.04 | 76.5 | 80.0 |



Bottom Hole Pumping Schedule

| Stage | Fluid Type | Clean Fluid Vol gal | Cum Clean Fluid gal | Prop Type | B.H. Prop Conc PPA | Prop Per Stage lbm | Cum Prop Amt lbm | Stage Slurry Vol bbl | Cum Slurry Vol bbl | Pump Time h | Clean Rate bbl/min | Slurry Rate bbl/min |
|------------------|--------------|------------------------|------------------------|------------------|-----------------------|-----------------------|---------------------|-------------------------|-----------------------|----------------|-----------------------|------------------------|
| 100M | | | | | | | | | | | | |
| 1.50 PPA 4070 | HVFR 1.5gpt | 15,000 | 172,300 | White Sand 40/70 | 1.5 | 22,500.0 | 156,700.0 | 381.6 | 4,272.6 | 0.08 | 74.9 | 80.0 |
| 2.00 PPA 4070 | HVFR 2.0 gpt | 13,150 | 185,450 | White Sand 40/70 | 2.0 | 26,300.0 | 183,000.0 | 341.7 | 4,614.3 | 0.07 | 73.3 | 80.0 |
| PreFlush | Slick Water | 1,500 | 186,950 | | 0.0 | 0.0 | 183,000.0 | 35.7 | 4,650.0 | 0.01 | 80.0 | 80.0 |
| Flush | Slick Water | 16,506 | 203,456 | | 0.0 | 0.0 | 183,000.0 | 393.0 | 5,043.0 | 0.08 | 80.0 | 80.0 |
| Totals: | | 203,456 | | | | 183,000.0 | | 5,043.0 | | 1.15 | | |

Pad 8,000 gal
 Frac 143,550 gal
 Pad% 5.3 %

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Material Summary

| Fluid Summary | | | |
|-------------------|-------|------------------------------|---------------|
| Fluid Description | | Additives | |
| HCl 15% | A264A | Corrosion Inhibitor | 5.00 Gal/mGal |
| | B526 | Non-Emulsifying Agent B526 | 2.00 Gal/mGal |
| | L058 | Iron Control/Reducing | 5.000 lb/mGal |
| Slick Water | B526 | Non-Emulsifier | 0.50 Gal/mGal |
| | J475 | Breaker Encapsulated | 0.500 lb/mGal |
| | J627 | Friction Reducer | 0.50 Gal/mGal |
| | M300 | Biocide | 0.30 Gal/mGal |
| HVFR 1.5gpt | B526 | Non-Emulsifier | 0.50 Gal/mGal |
| | J475 | Breaker Encapsulated | 0.500 lb/mGal |
| | J694 | Non SLB Liquid Additive J694 | 1.50 Gal/mGal |
| | M300 | Biocide | 0.30 Gal/mGal |
| HVFR 2.0 gpt | B526 | Non-Emulsifier | 0.50 Gal/mGal |
| | J475 | Breaker Encapsulated | 0.500 lb/mGal |
| | J694 | Non SLB Liquid Additive J694 | 2.00 Gal/mGal |
| | M300 | Biocide | 0.30 Gal/mGal |

| Totals By Stage | | | | | |
|-----------------|--------------|--------------------|------------------|---------------|-----------|
| Stage | Fluids | Clean Fluid Volume | Proppants | Proppant Mass | Pump Time |
| 1 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 2 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 3 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 4 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 5 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 6 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 7 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 8 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 9 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 10 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 11 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |



| Totals By Stage | | | | | |
|-----------------|--------------|--------------------|------------------|---------------|-----------|
| Stage | Fluids | Clean Fluid Volume | Proppants | Proppant Mass | Pump Time |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 12 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 13 | HVFR 2.0 gpt | 39,450 gal | | | |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| 14 | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| 15 | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 16 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 17 | HVFR 2.0 gpt | 39,450 gal | | | |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| 18 | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| 19 | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 20 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 21 | HVFR 2.0 gpt | 39,450 gal | | | |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| 22 | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| 23 | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 24 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 25 | HVFR 2.0 gpt | 39,450 gal | | | |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| 26 | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |



Totals By Stage

| Stage | Fluids | Clean Fluid Volume | Proppants | Proppant Mass | Pump Time |
|-------|--------------|--------------------|------------------|---------------|-----------|
| 27 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 28 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 29 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 30 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 31 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 32 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 33 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 34 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 35 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 36 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 37 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 38 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 39 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 40 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 41 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| | HVFR 2.0 gpt | 39,450 gal | | | |
| 42 | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | 1.15 h |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |



Totals By Stage

| Stage | Fluids | Clean Fluid Volume | Proppants | Proppant Mass | Pump Time |
|-------|--------------|--------------------|------------------|---------------|-----------|
| 43 | HVFR 2.0 gpt | 39,450 gal | | | 1.15 h |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 44 | HVFR 2.0 gpt | 39,450 gal | | | 1.15 h |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 45 | HVFR 2.0 gpt | 39,450 gal | | | 1.15 h |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 46 | HVFR 2.0 gpt | 39,450 gal | | | 1.15 h |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 47 | HVFR 2.0 gpt | 39,450 gal | | | 1.15 h |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 48 | HVFR 2.0 gpt | 39,450 gal | | | 1.15 h |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 49 | HVFR 2.0 gpt | 39,450 gal | | | 1.15 h |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 50 | HVFR 2.0 gpt | 39,450 gal | | | 1.15 h |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 51 | HVFR 2.0 gpt | 39,450 gal | | | 1.15 h |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |
| 52 | HVFR 2.0 gpt | 39,450 gal | | | 1.15 h |
| | HCl 15% | 500 gal | White Sand 100M | 36,600.0 lbm | |
| | Slick Water | 118,506 gal | White Sand 40/70 | 146,400.0 lbm | |
| | HVFR 1.5gpt | 45,000 gal | | | |

Job Totals

| Fluids | Clean Fluid Volume | Proppants | Proppant Mass | Pump Time |
|--------------|--------------------|------------------|-----------------|-----------|
| HCl 15% | 26,000 gal | White Sand 100M | 1,903,199.5 lbm | 60.01 h |
| Slick Water | 6,162,312 gal | White Sand 40/70 | 7,612,797.9 lbm | |
| HVFR 1.5gpt | 2,340,000 gal | | | |
| HVFR 2.0 gpt | 2,051,400 gal | | | |

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MONTANA BOARD OF OIL & GAS CONSERVATION • BILLINGS



Load Out Summary

| Fluid/Material Type | Code | Loadout Quantity |
|------------------------------|-----------|------------------|
| Corrosion Inhibitor | A264A | 130.0 gal |
| Non-Emulsifying Agent B526 | B526 | 5,328.9 gal |
| Breaker Encapsulated | J475 | 5,276.9 lbm |
| Friction Reducer | J627 | 3,081.2 gal |
| Non SLB Liquid Additive J694 | J694 | 7,612.8 gal |
| Iron Control/Reducing | L058 | 130.0 lbm |
| Biocide | M300 | 3,166.1 gal |
| White Sand 100M | S013-100 | 1,903,199.5 lbm |
| White Sand 40/70 | S013-4070 | 7,612,797.9 lbm |

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OCT 10 2019

**MONTANA BOARD OF OIL &
GAS CONSERVATION • BILLINGS**

Jones, Benjamin

From: Bob Sandbo <Bob.Sandbo@clr.com>
Sent: Tuesday, October 22, 2019 2:18 PM
To: Jones, Benjamin
Subject: [EXTERNAL] RE: [Ext] FW: Devin/Tolksdorf Chemical Disclosure

Ben,

The completion engineer said the pressure would be ~7200 psi. Let me know if you need anything else.

Thank you,

Bob Sandbo
Regulatory Compliance Supervisor

Continental Resources, Inc.
20 N. Broadway
OKC, OK 73102
P: 405-234-9020
F: 405-774-5297
C: 405-708-0691
robert.sandbo@clr.com [clr.com]
www.clr.com [clr.com]

Mailing
P.O. Box 268870
OKC, OK 73126

From: Jones, Benjamin <BJones@mt.gov>
Sent: Monday, October 21, 2019 3:21 PM
To: Bob Sandbo <Bob.Sandbo@clr.com>
Subject: {EXTERNAL}- RE: [Ext] FW: Devin/Tolksdorf Chemical Disclosure

External email – beware of links and attachments

I guess one thing I am still not seeing for the frac is the anticipated treating pressure. Could you please let me know what that is when you get a chance?

Thanks,

Ben

From: Bob Sandbo <Bob.Sandbo@clr.com>
Sent: Monday, October 21, 2019 11:25 AM
To: Jones, Benjamin <BJones@mt.gov>
Subject: [EXTERNAL] FW: [Ext] FW: Devin/Tolksdorf Chemical Disclosure

Ben,