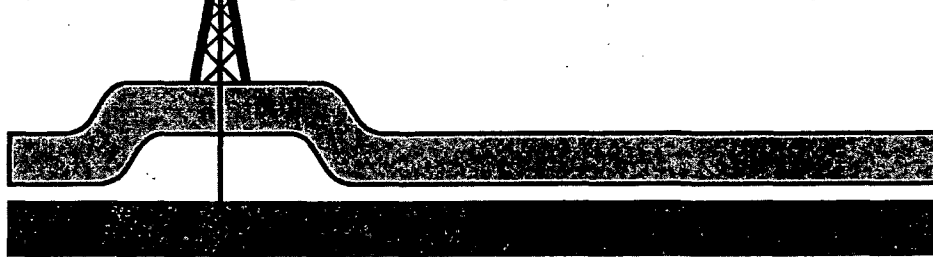


# ULTRA TECH FRAC SERVICES LLC



FRACTURING ■ ACIDIZING ■ ENGINEERING

## Stimulation Proposal

Mack Energy

Cockburn A #5

Lea County, NM

Prepared for:  
Mr. Lee Livingston

Prepared by:  
David Barringer

July 17, 2012

10131DKB

Oil Conservation

Case No. \_\_\_\_\_

Exhibit No. 28

**ULTRA TECH FRAC SERVICES LLC**

Mack Energy  
Cockburn A #5  
Lea County, NM  
17-Jul-12

## Well Data

Abo

|                           |                |                          |       |
|---------------------------|----------------|--------------------------|-------|
| Formation                 | Abo            |                          |       |
| Injection String          | Casing         |                          |       |
| Top Perforation (MD)      | 8644           | Top Perforation (TVD)    | 8644  |
| Bottom Perforation (MD)   | 8914           | Bottom Perforation (TVD) | 8914  |
| Mid Perf (MD)             | 8779           | Mid Perf (TVD)           | 8779  |
| Frac Gradient (psi/ft)    | 0.85           |                          |       |
| BHFP (psi)                | 7462           |                          |       |
| Reservoir Temperature (°) | 162            |                          |       |
| Number of Perforations    | 82             |                          |       |
| Perforation Diameter (in) | 0.4            |                          |       |
| Perforated Interval (ft)  | 270            |                          |       |
| Casing                    | 5.5", 17 lb/ft | Casing I.D. (in)         | 4.892 |



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## Fluid Specifications

Abo

25# Linear Gel                      1,500 gal 25# Linear Gel, consisting of, per 1,000 gallons,

6.25 gal    LGC-25, Guar Gelling Agent  
1 gal        NE-6, Non-emulsifier  
1 lb         GB-1, Breaker  
0.25 gal    IDB-80, Bactericide  
1 gal        KS-1, KCl Substitute

UT Gel 225                        122,300 gal UT Gel 225, consisting of, per 1,000 gallons,

6.25 gal    LGC-25, Guar Gelling Agent  
1 gal        XL-20, Borate Crosslinker  
1 gal        NE-6, Non-emulsifier  
0.5 lb       GB-1, Breaker (in Pad thru 3# prop stages)  
1 lb         GB-1, Breaker (in final 3 prop stages)  
0.25 gal    IDB-80, Bactericide  
1 gal        KS-1, KCl Substitute  
5 gal        Superset-W, 330 gal tote (in RC stage only)

Proppant                            215,500 lb Sand, White, 20/40 mesh  
                                          31,200 lb Super LC, 20/40 mesh

NOTE: Breaker loadings and/or type(s) will be adjusted based on fluid testing with location water.

Proppant type may change based on availability

## Pump Schedule

Abo

| Stage | Fluid            | Description | Volume, Clean (gals) | Volume, Slurry (bbls) | Volume, Slurry Cum (bbls) | Rate (BPM) | Prop Conc. (lb/gal) | Proppant Type           | Proppant Stage (lb) | Proppant Cum (lb) |
|-------|------------------|-------------|----------------------|-----------------------|---------------------------|------------|---------------------|-------------------------|---------------------|-------------------|
| 1     | Misc             | Load/Test   | 2000                 | 47.6                  | 47.6                      | 30         |                     |                         |                     |                   |
| 2     | 25# Linear Gel   | Breakdown   | 1500                 | 35.7                  | 83.3                      | 30         |                     |                         |                     |                   |
| 3     | UT Gel 225       | Pad         | 20000                | 476.2                 | 559.5                     | 80         |                     |                         |                     |                   |
| 4     | UT Gel 225       | Prop-Laden  | 6000                 | 144.5                 | 704                       | 80         | 0.25                | Sand, White, 20/40 mesh | 1500                | 1500              |
| 5     | UT Gel 225       | Prop-Laden  | 9000                 | 219.1                 | 923.1                     | 80         | 0.50                | Sand, White, 20/40 mesh | 4500                | 6000              |
| 6     | UT Gel 225       | Prop-Laden  | 9500                 | 236.4                 | 1159.5                    | 80         | 1.00                | Sand, White, 20/40 mesh | 9500                | 15500             |
| 7     | UT Gel 225       | Prop-Laden  | 10000                | 254.2                 | 1413.7                    | 80         | 1.50                | Sand, White, 20/40 mesh | 15000               | 30500             |
| 8     | UT Gel 225       | Prop-Laden  | 10500                | 272.5                 | 1686.2                    | 80         | 2.00                | Sand, White, 20/40 mesh | 21000               | 51500             |
| 9     | UT Gel 225       | Prop-Laden  | 11000                | 291.4                 | 1977.6                    | 80         | 2.50                | Sand, White, 20/40 mesh | 27500               | 79000             |
| 10    | UT Gel 225       | Prop-Laden  | 11500                | 310.8                 | 2288.4                    | 80         | 3.00                | Sand, White, 20/40 mesh | 34500               | 113500            |
| 11    | UT Gel 225       | Prop-Laden  | 12000                | 330.7                 | 2619.1                    | 80         | 3.50                | Sand, White, 20/40 mesh | 42000               | 155500            |
| 12    | UT Gel 225       | Prop-Laden  | 15000                | 421.4                 | 3040.5                    | 80         | 4.00                | Sand, White, 20/40 mesh | 60000               | 215500            |
| 13    | UT Gel 225       | Prop-Laden  | 7800                 | 219.9                 | 3260.4                    | 80         | 4.00                | Super LC, 20/40 mesh    | 31200               | 246700            |
| 14    | Linear Gel Fluid | Flush       | 8381                 | 199.5                 | 3459.9                    | 80         |                     |                         |                     | 246700            |
|       |                  |             | 134181               | 3459.9                | 3459.9                    |            |                     |                         | 246700              | 246700            |

| Stg | Fluid            | Surface Treating Pressure (psi) | Slurry Rate (BPM) | Clean Rate (BPM) | Slurry Stage (bbls) | Prop Conc (ppa) | Prop Rate (lb/min) | Proppant Stage (lb) | Proppant Cum (lb) | Stg Time (min) | Cum. Time (min) | Time to EOJ (min) |
|-----|------------------|---------------------------------|-------------------|------------------|---------------------|-----------------|--------------------|---------------------|-------------------|----------------|-----------------|-------------------|
| 1   | Misc             | 3756                            | 30                | 30.0             | 47.6                |                 |                    |                     |                   | 1.6            | 1.6             | 45.0              |
| 2   | 25# Linear Gel   | 3741                            | 30                | 30.0             | 35.7                |                 |                    |                     |                   | 1.2            | 2.8             | 40.9              |
| 3   | UT Gel 225       | 5450                            | 80                | 80.0             | 476.2               |                 |                    |                     |                   | 6.0            | 8.7             | 39.7              |
| 4   | UT Gel 225       | 4904                            | 80                | 79.1             | 144.5               | 0.25            | 829                | 1500                | 1500              | 1.8            | 10.5            | 33.8              |
| 5   | UT Gel 225       | 5310                            | 80                | 78.2             | 219.1               | 0.50            | 1639               | 4500                | 6000              | 2.7            | 13.3            | 32.0              |
| 6   | UT Gel 225       | 5177                            | 80                | 76.5             | 236.4               | 1.00            | 3208               | 9500                | 15500             | 3.0            | 16.2            | 29.2              |
| 7   | UT Gel 225       | 5049                            | 80                | 74.9             | 254.2               | 1.50            | 4709               | 15000               | 30500             | 3.2            | 19.4            | 26.3              |
| 8   | UT Gel 225       | 4926                            | 80                | 73.4             | 272.5               | 2.00            | 6149               | 21000               | 51500             | 3.4            | 22.8            | 23.1              |
| 9   | UT Gel 225       | 4809                            | 80                | 71.9             | 291.4               | 2.50            | 7530               | 27500               | 79000             | 3.6            | 26.5            | 19.7              |
| 10  | UT Gel 225       | 4696                            | 80                | 70.4             | 310.8               | 3.00            | 8857               | 34500               | 113500            | 3.9            | 30.3            | 16.0              |
| 11  | UT Gel 225       | 4587                            | 80                | 69.1             | 330.7               | 3.50            | 10131              | 42000               | 155500            | 4.1            | 34.5            | 12.2              |
| 12  | UT Gel 225       | 4313                            | 80                | 67.8             | 421.4               | 4.00            | 11357              | 60000               | 215500            | 5.3            | 39.7            | 8.0               |
| 13  | UT Gel 225       | 3574                            | 80                | 67.8             | 219.9               | 4.00            | 11357              | 60000               | 215500            | 2.7            | 42.5            | 2.7               |
| 14  | Linear Gel Fluid | 3447                            | 80                | 67.8             | 199.5               | 4.00            | 11357              | 31200               | 246700            | 2.5            | 45.0            | 5.2               |

25# Linear Gel  
UT Gel 225

1,500 gal  
122,300 gal

Average  
Rate  
82

Average  
Pressure  
4,638

Average  
HHP  
9,055

Proppant1  
Proppant2

215,500 lb Sand, White, 20/40 mesh  
31,200 lb Super LC, 20/40 mesh



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## Cost Estimate

### Materials

| Ref#                       | Quantity | UOM | Description                | Unit Price | Gross Price       | % Disc. | Net Price            |
|----------------------------|----------|-----|----------------------------|------------|-------------------|---------|----------------------|
| 52725                      | 135      | gal | NE-6, Non-emulsifier       | 32.00      | 4,320.00          | 60%     | 1,728.00             |
| 52021                      | 867      | gal | LGC-25, Guar Gelling Agent | 70.00      | 60,690.00         | 35%     | 39,448.50            |
| 52210                      | 131      | gal | XL-20, Borate Crosslinker  | 33.75      | 4,421.25          | 60%     | 1,768.50             |
| 52415                      | 94       | lb  | GB-1, Breaker              | 8.55       | 803.70            | 60%     | 321.48               |
| 53050                      | 135      | gal | KS-1, KCl Substitute       | 33.53      | 4,526.55          | 60%     | 1,810.62             |
| 52905                      | 34       | gal | IDB-80, Bactericide        | 45.00      | 1,530.00          | 60%     | 612.00               |
| 64070                      | 39       | gal | Superset-W, 330 gal tote   | 63.00      | 2,457.00          | 60%     | 982.80               |
| 60230                      | 2,155    | cwt | Sand, White, 20/40 mesh    | 50.75      | 109,366.25        | 60%     | 43,746.50            |
| 60720                      | 31,200   | lb  | Super LC, 20/40 mesh       | 1.00       | 31,200.00         | 60%     | 12,480.00            |
| <b>Materials Subtotal:</b> |          |     |                            | <b>\$</b>  | <b>219,314.75</b> |         | <b>\$ 102,898.40</b> |

### Equipment

|                            | Quantity | UOM      | Description                                        | Unit Price | Gross Price       | % Disc. | Net Price            |
|----------------------------|----------|----------|----------------------------------------------------|------------|-------------------|---------|----------------------|
| 20300                      | 7        | 1st 4hrs | Minimum Pump Charge, initial 4 hrs, per pump       | 6500.00    | 45,500.00         | 60%     | 18,200.00            |
| 43000                      | 1        | job      | FRACDAQ Data Unit, Fracturing                      | 4500.00    | 4,500.00          | 60%     | 1,800.00             |
| 43110                      | 1        | job      | Densimeter                                         | 900.00     | 900.00            | 60%     | 360.00               |
| 33010                      | 3,640    | mi       | Heavy Equip. Mileage                               | 7.00       | 25,480.00         | 60%     | 10,192.00            |
| 33020                      | 780      | mi       | Lt Duty Equip. Mileage                             | 4.80       | 3,744.00          | 60%     | 1,497.60             |
| 41500                      | 1        | job      | Continuous Mix Package for crosslinked gels        | 5500.00    | 5,500.00          | 60%     | 2,200.00             |
| 35010                      | 246,700  | lb       | Prop. Pumping Charge, > 10 cp fluid                | 0.01       | 2,467.00          | 60%     | 986.80               |
| 41700                      | 1        | day      | Prop Master, greater than 300,000 lb capacity      | 2000.00    | 2,000.00          | 60%     | 800.00               |
| 40550                      | 1        | day      | Lab Technician, daily charge                       | 500.00     | 500.00            | 60%     | 200.00               |
| 30170                      | 1        | 1st 4hrs | Blender, 71 to 80 BPM                              | 10200.00   | 10,200.00         | 60%     | 4,080.00             |
| 34010                      | 2,168    | T-mi     | Bulk Delivery Service Charge, one way              | 2.80       | 6,070.61          | 60%     | 2,428.24             |
| 40520                      | 15       | day      | Personnel Subsistence, Remote Location, per persor | 300.00     | 4,500.00          | 50%     | 2,250.00             |
| <b>Equipment Subtotal:</b> |          |          |                                                    | <b>\$</b>  | <b>111,361.61</b> |         | <b>\$ 44,994.64</b>  |
| <b>TOTAL:</b>              |          |          |                                                    | <b>\$</b>  | <b>330,676.36</b> |         | <b>\$ 147,893.04</b> |

The cost shown above assumes that the above scheduled stage will be performed in a single day. Any deviation from this schedule could result in additional costs. Please note also that the pricing for the gel has been adjusted to account for the escalation in prices seen recently due to the shortage of product.

The pricing shown is an estimate only and is based on the best information available at the time of the writing.

Pricing does not include any state, federal, or local taxes.

The price shown will be subject to review after thirty (30) days from the date of writing.

## PRODUCT DESCRIPTIONS

|                   |                                                                                                                                                    |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GB-1</b>       | An oxidizing breaker, used as a fast-acting breaker for low temperature applications or wells where forced closure is customarily employed         |
| <b>XL-20</b>      | An instantaneous /self-buffering borate crosslinker for use in lower temperature wells where pipe residence times require a quick cross-link.      |
| <b>LGC-25</b>     | A suspension of guar polymer in mineral oil                                                                                                        |
| <b>CI-200</b>     | Acid corrosion inhibitor for moderate temperature applications                                                                                     |
| <b>NE-6</b>       | Economical non-ionic surfactant/nonemulsifier with broad range application.                                                                        |
| <b>UT Gel 200</b> | A borate gel system suitable for low to moderate temperature reservoirs, utilizing a high quality guar polymer and fast-acting borate crosslinker. |