

201606



## AUTHORITY FOR EXPENDITURE STAGHORN PETROLEUM, LLC

One West Third Street, Suite 1000 Tulsa, Oklahoma 74103 (918) 584-2558

| 10   | ame and Number: Mule 18-06-11 #1H   | Operator: Staghorn Petroleum, LLC              |  |   |   |
|--|---|--|--|---|---|
| _egal D  | Description: Section 11-18N-6Ww   | TD & Formation                                 | n:   |   | 0' TVD Mis  |
| County,  | , Otale.  | Date Prepared                                  | By:  | 8-4-  | 16 Northcu  |
| Scope o  | of Work: Drill, Complete & Equip a 12,600' Horizontal   | Oil Well                                       |  |   |   |
| ACCT.  | DESCRIPTION OF EXPENDITURE  |  | SS COST EST  |   |   |
| ODE  | INTANGIBLES   | DRILL (1562)                                   | COMP (1563)  |   | TOTAL   |
| 01   | Damages, Permits, Surveys, Right of Way, etc.   | \$ 35,000                                      |  | \$  | 35,00   |
| 02   | Location and Roads  | 80,000   |  | \$  | 80,00   |
| 03   | Drilling Rig:   | 325,000  | <b>美国企为6</b> 条。  | \$  | 325,00  |
| 03   | Completion Rig:   |  | 35,000   | \$  | 35,00   |
| 04   | Mobilize, RU, RD, Demobilize  | 60,000   |  | \$  | 60,00   |
| 05   | Fuel & Power  | 42,500   | 5,000  | \$  | 47,50   |
| 06   | Drilling Water and Completion Fluids  | 5,000  | 70,000   | \$  | 75,00   |
| 07   | Contract Labor, Welding, Casing Crews   | 45,000   | 25,000   | \$  | 70,00   |
| 08   | Bits  | 32,000   | 5,000  | \$  | 37,00   |
| 09   | Drilling Fluids - Oil Based   |  | <b>5</b> 素2年17年15年   |   |   |
| 10   | Drilling Fluids - Water-Based   | 65,000   | Andreas Andreas (Andreas (Andr | \$  | 65,00   |
| 11   | Formation Testing   | 1  | 20,000   | \$  | 20,00   |
| 12   | Openhole Logging and Surveys  | 50,000   |  | \$  | 50,00   |
| 13   | Cementing and Cement Services   | 75,000   |  | \$  | 75,00   |
| 14   | Downhole Rentals and Services   | 7,500  | 5,000  | \$  | 12,50   |
| 15   | Casedhole Logging, Perforating and Other Wireline Services  |  | 170,000  | \$  | 170,00  |
| 16   | Stimulation and Services  |  | 1,350,000  | \$  | 1,350,00  |
| 17   | Supplies, Materials, Misc.  | 1,000  | 1,000  | \$  | 2,00  |
| 18   | Geological Services, Mudlogging, Other Professional Services  | 20,000   | A NEW HOLDS  | \$  | 20,00   |
| 19   | Wellsite Supervision  | 67,500   | 37,500   | \$  | 105,00  |
| 20   | Abandonment Expenses and Location Reclamation   | 15,000   | <b>建</b> 等的用户的基础的  | \$  | 15,00   |
| 21   | Installation Services (through wellhead)  | 12,000   | 8,000  | \$  | 20,00   |
| 22   | Trucking, Hauling, Other Transportation Services  | 6,000  | 6,000  | \$  | 12,00   |
| 23   | Surface Rentals   | 75,000   | 20,000   | \$  | 95,00   |
| 24   | Directional Drilling Tools and Services   | 115,000  |  | \$  | 115,00  |
| 25   | Closed Mud System Rentals and Services  | 50,000   |  | \$  | 50,00   |
| 26   | Fishing Tools and Services  |  |  |   |   |
| 27   | Lost or Damaged Tools and Equipment   |  |  |   |   |
| 80   | Title Opinion and DOTO  |  |  |   |   |
| 90   | Overhead  | 6,000  | 6,000  | \$  | 12,00   |
| 92   | Insurance   | 25,000   | 20,000   | _   | 45,00   |
| 95   | Contingency 5%  | 60,700   | 89,200   | _   | 149,90  |
|  | TOTAL INTANGIBLE COSTS  | \$ 1,275,200                                   |  |   | 3,147,90  |
| 50 4 0/480.<br>Call 10 000   | TANGIBLES   | DRILL (1572)                                   | COMP (1573)  | ТО  | TAL   |
| <b>学生</b>  | Conductor Casing: 20" Pre-Set   | 7 500  |  | 1-  | 7,50  |
| 01   |   | 7,500  | THE RESIDENCE TO SELECT STREET, STREET | \$  |   |
| 01   |   | 7,500<br>6,000                                 |  | \$  | 6,00  |
| 02   | Surface Casing: 9.625", 40#, J55, LTC @ 400'  | 6,000<br>115,600                               |  | -   |   |
| 02   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500'  | 6,000<br>115,600                               |  | \$  | 6,00<br>115,60  |
| 02<br>03<br>04   | Surface Casing:       9.625", 40#, J55, LTC @ 400'         Intermediate Casing:       7", 29#, P110, Mod BTC @ 7500'         Production Csg/Liner:       4.5", 13.5#, P110, Mod BTC @12,600'  | 6,000  | 28,400   | \$ \$   | 6,00<br>115,60<br>40,30   |
| 02<br>03<br>04<br>05   | Surface Casing:       9.625", 40#, J55, LTC @ 400'         Intermediate Casing:       7", 29#, P110, Mod BTC @ 7500'         Production Csg/Liner:       4.5", 13.5#, P110, Mod BTC @12,600'         Tubing:       2.875", 6.5#, N80, EUE @ 7000'   | 6,000<br>115,600                               | 28,400   | \$ \$   | 6,00<br>115,60<br>40,30   |
| 02<br>03<br>04<br>05<br>06   | Surface Casing:       9.625", 40#, J55, LTC @ 400'         Intermediate Casing:       7", 29#, P110, Mod BTC @ 7500'         Production Csg/Liner:       4.5", 13.5#, P110, Mod BTC @12,600'         Tubing:       2.875", 6.5#, N80, EUE @ 7000'         Sucker Rods   | 6,000<br>115,600<br>40,300                     | 28,400   | \$ \$   | 6,00<br>115,60<br>40,30   |
| 02<br>03<br>04<br>05<br>06<br>07   | Surface Casing:       9.625", 40#, J55, LTC @ 400'         Intermediate Casing:       7", 29#, P110, Mod BTC @ 7500'         Production Csg/Liner:       4.5", 13.5#, P110, Mod BTC @12,600'         Tubing:       2.875", 6.5#, N80, EUE @ 7000'         Sucker Rods         Downhole Pump, Gas Lift, Tubing Anchor, etc.  | 6,000<br>115,600                               | 28,400   | \$ \$   | 6,00<br>115,60<br>40,30<br>28,40  |
| 02<br>03<br>04<br>05<br>06<br>07   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment   | 6,000<br>115,600<br>40,300                     |  | \$ \$   | 6,00<br>115,60<br>40,30<br>28,40<br>23,00   |
| 02<br>03<br>04<br>05<br>06<br>07<br>08   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment   | 6,000<br>115,600<br>40,300                     | 10,000   | \$ \$   | 6,00<br>115,60<br>40,30<br>28,40<br>23,00<br>15,00  |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools  | 6,000<br>115,600<br>40,300<br>13,000           | 10,000   | \$ \$ \$  | 6,00<br>115,60<br>40,30<br>28,40<br>23,00<br>15,00<br>52,00   |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs   | 6,000<br>115,600<br>40,300<br>13,000           | 10,000<br>15,000   | \$<br>\$<br>\$<br>\$<br>\$<br>\$                            | 6,00<br>115,60<br>40,30<br>28,40<br>23,00<br>15,00<br>52,00   |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG   | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000   | \$ \$ \$ \$ \$ \$ \$ \$ \$                                  | 23,00<br>15,00<br>28,40<br>23,00<br>15,00<br>20,00<br>60,00   |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor   | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000   | \$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$                      | 23,00<br>15,00<br>28,40<br>23,00<br>15,00<br>20,00<br>60,00<br>25,00  |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12<br>13   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor Heater Treater  | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000<br>25,000   | \$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$                      | 23,00<br>15,00<br>28,40<br>23,00<br>15,00<br>20,00<br>60,00<br>25,00  |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12<br>13<br>14   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor Heater Treater Electrical Systems and Lines   | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000<br>25,000   | \$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$                      | 23,00<br>15,00<br>28,40<br>23,00<br>15,00<br>20,00<br>60,00<br>25,00  |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12<br>13<br>14<br>15                                     | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor Heater Treater Electrical Systems and Lines Lease Lines   | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000<br>25,000   | \$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$                | 6,00<br>115,60<br>40,30<br>28,40<br>23,00<br>15,00<br>52,00<br>20,00<br>60,00<br>25,00  |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12<br>13<br>14<br>15<br>16                               | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor Heater Treater Electrical Systems and Lines Lease Lines Controllable Valves and Fittings  | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000<br>25,000<br>15,000   | \$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$                | 6,00<br>115,60<br>40,30<br>28,40<br>23,00<br>15,00<br>52,00<br>20,00<br>60,00<br>25,00  |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17                         | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor Heater Treater Electrical Systems and Lines Lease Lines Controllable Valves and Fittings Other Equipment  | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000<br>25,000<br>15,000   | \$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$                | 6,00<br>115,60<br>40,30<br>28,40<br>23,00<br>15,00<br>52,00<br>20,00<br>60,00<br>25,00  |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18                   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor Heater Treater Electrical Systems and Lines Lease Lines Controllable Valves and Fittings Other Equipment Non-Controllable Lease Materials   | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000<br>25,000<br>15,000   | \$ | 6,00<br>115,60<br>40,30<br>28,40<br>23,00<br>15,00<br>20,00<br>60,00<br>25,00<br>15,00  |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18                   | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor Heater Treater Electrical Systems and Lines Lease Lines Controllable Valves and Fittings Other Equipment Non-Controllable Lease Materials Installation Costs                              | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000<br>25,000<br>15,000   | \$ | 6,00<br>115,60<br>40,30<br>28,40<br>23,00<br>15,00<br>20,00<br>60,00<br>25,00<br>15,00  |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18<br>19<br>20       | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor Heater Treater Electrical Systems and Lines Lease Lines Controllable Valves and Fittings Other Equipment Non-Controllable Lease Materials Installation Costs Line Pipe                    | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000<br>25,000<br>15,000   | \$ | 6,00  |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18<br>19<br>20<br>21 | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor Heater Treater Electrical Systems and Lines Lease Lines Controllable Valves and Fittings Other Equipment Non-Controllable Lease Materials Installation Costs Line Pipe Metering Equipment | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000<br>25,000<br>15,000<br>20,000<br>5,000<br>17,000  | \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$       | 6,00<br>115,60<br>40,30<br>28,40<br>15,00<br>52,00<br>60,00<br>25,00<br>15,00<br>20,00<br>5,00<br>17,00<br>10,00                    |
| 02<br>03<br>04<br>05<br>06<br>07<br>08<br>09<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18<br>19<br>20       | Surface Casing: 9.625", 40#, J55, LTC @ 400' Intermediate Casing: 7", 29#, P110, Mod BTC @ 7500' Production Csg/Liner: 4.5", 13.5#, P110, Mod BTC @12,600' Tubing: 2.875", 6.5#, N80, EUE @ 7000' Sucker Rods Downhole Pump, Gas Lift, Tubing Anchor, etc. Wellhead Equipment Artificial Lift Equipment Packers and Subsurface Tools Installation Costs Tanks and Accessories 3 x 300 bbls ST, 3 x 300 bbl FG Production Unit, Dehydrator, Compressor Heater Treater Electrical Systems and Lines Lease Lines Controllable Valves and Fittings Other Equipment Non-Controllable Lease Materials Installation Costs Line Pipe Metering Equipment | 6,000<br>115,600<br>40,300<br>13,000<br>52,000 | 10,000<br>15,000<br>20,000<br>60,000<br>25,000<br>15,000<br>20,000<br>5,000<br>17,000<br>10,000<br>11,300  | \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$       | 6,00<br>115,60<br>40,30<br>28,40<br>23,00<br>15,00<br>20,00<br>60,00<br>25,00<br>15,00<br>20,00<br>52,00<br>15,00<br>15,00<br>15,00 |

EXHIBIT ON C.S.R. P. C.S.R

This AFE is only an estimate. By returning a signed copy, you agree to pay your proportionate share of actual costs incurred.

| W.I. OWNER APPROVAL: | Company:      |        |
|----------------------|---------------|--------|
| 11.1. OTT 12.1.      | Bv:           | Title: |
|                      | Name (Print): | Date:  |