

## CHESAPEAKE OPERATING, INC.

## AUTHORIZATION FOR EXPENDITURE

Field: Kingfisher  
Well Name: Vivian 13-18-6 1H  
Operator: Chesapeake Operating, LLC  
AFE #: 0001000785  
Legal Desc: Section 13-18N-6W  
County, State: Kingfisher, Oklahoma

Date: 7/6/2016  
Vertical Depth: 6,300  
Vertical Section: 4,800  
Total Depth: 11,100  
Formation: Oswego  
Property: 656955

| Code               | Work Description                                   | PreDrill   | Drilling     | Completion | TIL        | TOTAL        |
|--------------------|--|------------|--------------|------------|------------|--------------|
| 233400             | INT-Lse Roads, Location, Pits                      | 90,500.00  | 0.00         | 12,000.00  | 0.00       | 102,500.00   |
| 233401             | INT-Damages/Row                                    | 25,000.00  | 0.00         | 0.00       | 0.00       | 25,000.00    |
| 233402             | INT-Governmental Filings                           | 3,000.00   | 0.00         | 0.00       | 0.00       | 3,000.00     |
| 233403             | INT-Title Opinions                                 | 33,000.00  | 0.00         | 0.00       | 0.00       | 33,000.00    |
| 233405             | INT-Reclamation                                    | 0.00       | 60,000.00    | 0.00       | 0.00       | 60,000.00    |
| 233409             | INT-Fuel   | 0.00       | 17,000.00    | 0.00       | 0.00       | 17,000.00    |
| 233410             | INT-Drilling Contractor                            | 0.00       | 245,000.00   | 0.00       | 0.00       | 245,000.00   |
| 233411             | INT-Directional Services                           | 0.00       | 124,000.00   | 0.00       | 0.00       | 124,000.00   |
| 233413             | INT-Rig Mob/Demobilization                         | 0.00       | 150,000.00   | 0.00       | 0.00       | 150,000.00   |
| 233415             | INT-Bits   | 0.00       | 57,500.00    | 0.00       | 0.00       | 57,500.00    |
| 233416             | INT-Supplies & Utilities                           | 0.00       | 5,500.00     | 1,000.00   | 0.00       | 6,500.00     |
| 233418             | INT-Mud Logging                                    | 0.00       | 4,000.00     | 0.00       | 0.00       | 4,000.00     |
| 233419             | INT-Drilling/Completion Fluids, Mud, Chem          | 0.00       | 70,000.00    | 40,850.00  | 0.00       | 110,850.00   |
| 233428             | INT-Downhole Rental Equipment                      | 0.00       | 30,000.00    | 0.00       | 0.00       | 30,000.00    |
| 233430             | INT-Workover/Completion Unit                       | 0.00       | 0.00         | 10,000.00  | 0.00       | 10,000.00    |
| 233434             | INT-Formation Treatment                            | 0.00       | 0.00         | 205,800.00 | 0.00       | 205,800.00   |
| 233435             | INT-Direct Labor                                   | 0.00       | 4,000.00     | 0.00       | 0.00       | 4,000.00     |
| 233438             | INT-Tubular Hauling/Inspection                     | 0.00       | 6,500.00     | 5,000.00   | 0.00       | 11,500.00    |
| 233439             | INT-Technical Labor                                | 0.00       | 5,000.00     | 0.00       | 0.00       | 5,000.00     |
| 233440             | INT-Flowback Hauloff                               | 0.00       | 0.00         | 0.00       | 18,000.00  | 18,000.00    |
| 233441             | INT-Flow Crew & Equipment                          | 0.00       | 0.00         | 3,600.00   | 21,000.00  | 24,600.00    |
| 233443             | INT-Supervision                                    | 0.00       | 4,000.00     | 0.00       | 0.00       | 4,000.00     |
| 233444             | INT-Consultants                                    | 0.00       | 34,000.00    | 13,100.00  | 0.00       | 47,100.00    |
| 233446             | INT-Overhead                                       | 0.00       | 6,000.00     | 0.00       | 12,890.00  | 18,890.00    |
| 233447             | INT-Insurance                                      | 0.00       | 10,000.00    | 0.00       | 0.00       | 10,000.00    |
| 233448             | Contingencies                                      | 0.00       | 0.00         | 0.00       | 0.00       | 0.00         |
| 233454             | INT-Operations Support Center                      | 0.00       | 1,100.00     | 0.00       | 0.00       | 1,100.00     |
| 233461             | INT-Contract Labor-EHS                             | 1,700.00   | 0.00         | 4,000.00   | 4,000.00   | 9,700.00     |
| 233462             | INT-Contract Labor-Camp Services                   | 0.00       | 5,500.00     | 7,000.00   | 0.00       | 12,500.00    |
| 233464             | INT-Contract Labor-BOP/Wellhead Services           | 0.00       | 17,000.00    | 20,000.00  | 0.00       | 37,000.00    |
| 233465             | INT-Contract Labor-Operational Services            | 0.00       | 21,200.00    | 15,000.00  | 0.00       | 36,200.00    |
| 233467             | INT-Contract Labor-Pipe Handling Services          | 0.00       | 41,000.00    | 0.00       | 0.00       | 41,000.00    |
| 233468             | INT-Contract Labor-Transportation                  | 0.00       | 10,000.00    | 0.00       | 1,630.00   | 11,630.00    |
| 233474             | INT-8-9 5/8" Cement                                | 0.00       | 15,000.00    | 0.00       | 0.00       | 15,000.00    |
| 233475             | INT-7-7 3/4" Cement                                | 0.00       | 12,000.00    | 0.00       | 0.00       | 12,000.00    |
| 233476             | INT-3 1/2-5 1/2" Cement/Squeeze                    | 0.00       | 15,000.00    | 0.00       | 0.00       | 15,000.00    |
| 233481             | INT-Surface Rental-EHS                             | 0.00       | 3,675.00     | 3,500.00   | 0.00       | 7,175.00     |
| 233482             | INT-Surface Rental-Camp Equipment                  | 0.00       | 10,500.00    | 7,000.00   | 0.00       | 17,500.00    |
| 233484             | INT-Surface Rental-BOP/Wellhead/Well Control       | 0.00       | 8,400.00     | 2,000.00   | 0.00       | 10,400.00    |
| 233485             | INT-Surface Rental-Operational Equipment           | 0.00       | 8,400.00     | 39,000.00  | 0.00       | 47,400.00    |
| 233486             | INT-Surface Rental-Electronics & Communication     | 0.00       | 11,288.00    | 0.00       | 0.00       | 11,288.00    |
| 233487             | INT-Surface Rental-Fluid Management Equipment      | 0.00       | 18,375.00    | 5,000.00   | 4,970.00   | 28,345.00    |
| Total Intangibles: |  | 153,200.00 | 1,030,938.00 | 393,850.00 | 62,490.00  | 1,640,478.00 |
| 230104             | TAN-Float Equipment                                | 0.00       | 8,000.00     | 0.00       | 0.00       | 8,000.00     |
| 230105             | TAN-Tubing -- 2-7/8" 5,000'                        | 0.00       | 0.00         | 35,000.00  | 0.00       | 35,000.00    |
| 230106             | TAN-Wellhead Equipment                             | 0.00       | 13,600.00    | 24,000.00  | 0.00       | 37,600.00    |
| 230107             | TAN-Downhole Equipment                             | 0.00       | 6,800.00     | 12,500.00  | 0.00       | 19,300.00    |
| 230113             | TAN-Production Equipment                           | 0.00       | 0.00         | 0.00       | 202,350.00 | 202,350.00   |
| 230117             | TAN-ESP  | 0.00       | 0.00         | 0.00       | 208,000.00 | 208,000.00   |
| 230140             | TAN-Production Equipment-Tanks                     | 0.00       | 0.00         | 0.00       | 61,230.00  | 61,230.00    |
| 230141             | TAN-Production Equipment-Vessels                   | 0.00       | 0.00         | 0.00       | 116,470.00 | 116,470.00   |
| 230143             | TAN-Production Equipment-Electrical Infrastructure | 0.00       | 0.00         | 0.00       | 24,240.00  | 24,240.00    |
| 230174             | TAN-8-9 5/8" Casing -- 9-5/8" 1,300'               | 0.00       | 44,000.00    | 0.00       | 0.00       | 44,000.00    |
| 230175             | TAN-7-7 3/4" Casing/Liner -- 7" 6,600'             | 0.00       | 163,000.00   | 0.00       | 0.00       | 163,000.00   |
| 230176             | TAN-3 1/2-5 1/2" Casing/Liner -- 4-1/2" 4,675'     | 0.00       | 52,000.00    | 0.00       | 0.00       | 52,000.00    |
| 230401             | TAN-Telemetry Equipment                            | 0.00       | 0.00         | 0.00       | 40,650.00  | 40,650.00    |
| 233448             | Contingencies                                      | 0.00       | 0.00         | 0.00       | 0.00       | 0.00         |
| Total Tangibles:   |  | 0.00       | 287,400.00   | 71,500.00  | 652,940.00 | 1,011,840.00 |
| TOTAL COSTS        |  | 153,200.00 | 1,318,338.00 | 465,350.00 | 715,430.00 | 2,652,318.00 |

Prepared By: Buddy Manuel

Prepared By: Keeley Bergman

Approved By: Jason Ashmun

Non-Operator's Approval: \_\_\_\_\_

Date: \_\_\_\_\_

AUG 10 2016

CA 20100 1663

The costs on this AFE are estimates only and may not be construed as ceilings on any specific item or the total cost of the project. Tubing installation approved under the AFE may be delayed up to a year after the well has been completed. In executing this AFE, the Participant agrees to pay its proportionate share of actual costs incurred, including legal, curative, regulatory, brokerage, and well costs under the term of the applicable joint operating agreement, regulatory order or other agreement covering this well, as modified by the following Accounting Procedure Exception: On title examination and regulatory work, operator may use in-house attorneys and support staff and charge the Joint Account at a rate not to exceed average commercial rates currently prevailing in the immediate area. The operator may contract with an affiliated entity to drill the well at prevailing rates in the area. Participant shall be covered by and billed proportionately for operator's well control and general liability insurance unless participant provides Operator a certificate evidencing its own insurance in amounts acceptable to the Operator by the date of spud.