

## DISTRICT I

1825 N. French Dr., Hobbs, NM 88240

## DISTRICT II

1801 W. Grand Avenue, Artesia, NM 88210

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

## DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Form C-102

Revised July 16, 2010

Submit one copy to appropriate  
District Office

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☒ AMENDED REPORT

|                            |                                              |                                   |
|----------------------------|----------------------------------------------|-----------------------------------|
| API Number<br>30-015-39344 | Pool Code<br>96403                           | Pool Name<br>Wildcat; Bone Spring |
| Property Code<br>38760     | Property Name<br>PLU BIG SINKS 2 25 30 STATE | Well Number<br>1H                 |
| OGRD No.<br>147179         | Operator Name<br>CHESAPEAKE OPERATING CO.    | Elevation<br>3353'                |

## Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| 0             | 2       | 25 S     | 30 E  |         | 350           | SOUTH            | 1980          | EAST           | EDDY   |

## Bottom Hole Location if Different From Surface

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| 2             | 2       | 25 S     | 30 E  |         | 100           | NORTH            | 1971          | EAST           | EDDY   |

|                           |                 |                    |                       |
|---------------------------|-----------------|--------------------|-----------------------|
| Dedicated Acres<br>160.50 | Joint or Infill | Consolidation Code | Order No.<br>NSL-6473 |
|---------------------------|-----------------|--------------------|-----------------------|

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

|                                                                                                                                                                                                               |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>ACTUAL BOTTOM HOLE LOCATION</b><br/>         Lot - N 32.16685029°<br/>         Long - W 103.8493046°<br/>         NMSPCE- N 424771.947<br/>         E 691109.069<br/>         (NAD-83)</p>              | <p>1971</p> <p>100'</p> <p>489.3'</p> <p>350'</p> <p>1980'</p> | <p><b>OPERATOR CERTIFICATION</b><br/>         I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Bryan Arrant</i> 12/09/2011<br/>         Signature Date<br/>         Bryan Arrant<br/>         Printed Name<br/>         bryan.arrant@chk.com<br/>         Email Address</p> |
| <p><b>PENETRATION POINT &amp; SURFACE LOCATION</b><br/>         Lot - N 32.15340489°<br/>         Long - W 103.8494179°<br/>         NMSPCE- N 419880.580<br/>         E 691095.992<br/>         (NAD-83)</p> | <p>Project Area</p> <p>Producing Area</p>                      | <p><b>SURVEYOR CERTIFICATION</b><br/>         I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.</p> <p><i>Gary L. Jones</i><br/>         Date Surveyed<br/>         Signature &amp; Seal of Professional Surveyor<br/>         W.C. PROFESSIONAL LAND SURVEYOR</p> <p>Certificate No. Gary L. Jones 7977<br/>         BASIN SURVEYS 25149</p>                                                                                                                                                                                                                                     |



Regulatory Department

Completion 1/30/11  
Out 3/2/12

VIA UPS

December 9, 2011

RE: Chesapeake Operating, Inc.  
PLU BIG SINKS 2 25 30 STATE 1H  
Sec. 2, T-25-S R-30-E  
350' FSL & 1980' FEL (SHL)  
Eddy Co., NM  
API # 30-015-39344

Dears Sirs/Madams:

Chesapeake Operating, Inc. request that the electric logs and completion report submitted be held confidential for the maximum period of time in accordance with NMOCD's Rule 19.15.7.16 (C).

Respectfully yours,

A handwritten signature in black ink, appearing to read "Bryan G. Arrant".

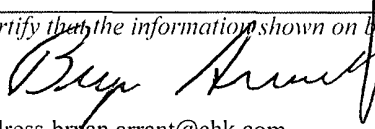
Bryan G. Arrant  
Chesapeake Energy Corp.  
Senior Regulatory Compliance Specialist

Attachments:

- NMOCD's C-102 "As Drilled" Land Plat
- NMOCD's C-104 Request for Allowable & Authorization to Transport
- NMOCD'S C-105 (Completion Report)
- Final Directional Survey
- Electric logs
- NSL-6473

Chesapeake Energy Corporation

P.O. Box 18496 • Oklahoma City, OK 73154-0496 • 6100 N. Western Avenue • Oklahoma City, OK 73118  
405.848.8000

|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------|------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------|------------------------|---------------|-------------------------------------------|
| Submit To Appropriate District Office<br>Two Copies<br><u>District I</u><br>1625 N. French Dr., Hobbs, NM 88240<br><u>District II</u><br>811 S. First St., Artesia, NM 88210<br><u>District III</u><br>1000 Rio Brazos Rd., Aztec, NM 87410<br><u>District IV</u><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 August 1, 2011                                                                                    |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       | 1. WELL API NO. <b>30-015-39344</b>                                                                                            |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       | 2. Type of Lease<br><input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/> FED/INDIAN |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       | 3. State Oil & Gas Lease No.                                                                                                   |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
| <b>WELL COMPLETION OR RECOMPLETION REPORT AND LOG</b>                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
| 4. Reason for filing:<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>PLU BIG SINKS 2 25 30 ST.</b>                                                       |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
| 7. Type of Completion:<br><input checked="" type="checkbox"/> NEW WELL <input type="checkbox"/> WORKOVER <input type="checkbox"/> DEEPENING <input type="checkbox"/> PLUGBACK <input type="checkbox"/> DIFFERENT RESERVOIR <input type="checkbox"/> OTHER                                                                                                                             |                                                                                                                                                                                       | 6. Well Number.<br><br><b>1H</b>                                                                                               |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
| 8. Name of Operator<br><b>Chesapeake Operating, Inc.</b>                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                       | 9. OGRID<br><b>147179</b>                                                                                                      |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
| 10. Address of Operator<br><b>P.O. Box 18496 Oklahoma City, OK 73154-0496</b>                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                       | 11. Pool name or Wildcat<br><b>Wildcat; Bone Spring</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>O</b>                                                                                                                                                                              | <b>2</b>                                                                                                                       | <b>25S</b>                                    | <b>30E</b>    |                                                            | <b>350'</b>                                     | <b>S</b>                                        | <b>1980'</b>                                                           | <b>E</b>               | <b>EDDY</b>   |                                           |
| <b>BII:</b>                                                                                                                                                                                                                                                                                                                                                                           | <b>2</b>                                                                                                                                                                              | <b>2</b>                                                                                                                       | <b>25S</b>                                    | <b>30E</b>    |                                                            | <b>100'</b>                                     | <b>N</b>                                        | <b>1971'</b>                                                           | <b>E</b>               | <b>EDDY</b>   |                                           |
| 13. Date Spudded<br><b>09/24/2011</b>                                                                                                                                                                                                                                                                                                                                                 | 14. Date T.D. Reached<br><b>10/17/2011</b>                                                                                                                                            |                                                                                                                                | 15. Date Rig Released<br><b>10/19/2011</b>    |               | 16. Date Completed (Ready to Produce)<br><b>11/30/2011</b> |                                                 |                                                 | 17. Elevations (DI and RKB, RT, GR, etc ) <b>3353' GR</b>              |                        |               |                                           |
| 18. Total Measured Depth of Well<br><b>13811'</b>                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                       |                                                                                                                                | 19. Plug Back Measured Depth<br><b>13811'</b> |               |                                                            | 20. Was Directional Survey Made?<br><b>Yes</b>  |                                                 | 21. Type Electric and Other Logs Run<br><b>Laterolog/Induction Log</b> |                        |               |                                           |
| 22. Producing Interval(s), of this completion - Top, Bottom, Name<br><b>9400'-13785' (OA) Bone Spring</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 |                                           |
| <b>13 3/8"</b>                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                       | <b>48#</b>                                                                                                                     |                                               | <b>756'</b>   |                                                            | <b>17 1/2"</b>                                  |                                                 | <b>850 sxs</b>                                                         |                        |               |                                           |
| <b>8 5/8"</b>                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                       | <b>32#</b>                                                                                                                     |                                               | <b>3995'</b>  |                                                            | <b>11'</b>                                      |                                                 | <b>1550 sxs</b>                                                        |                        |               |                                           |
| <b>5 1/2"</b>                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                       | <b>20#</b>                                                                                                                     |                                               | <b>13811'</b> |                                                            | <b>7 7/8"</b>                                   |                                                 | <b>1148 sxs</b>                                                        |                        |               |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
| 24. LINER RECORD                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            | 25. TUBING RECORD                               |                                                 |                                                                        |                        |               |                                           |
| SIZE                                                                                                                                                                                                                                                                                                                                                                                  | TOP                                                                                                                                                                                   | BOTTOM                                                                                                                         | SACKS CEMENT                                  | SCREEN        |                                                            | SIZE                                            | DEPTH SET                                       | PACKER SET                                                             |                        |               |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            | <b>2 7/8"</b>                                   | <b>8642'</b>                                    | <b>8631'</b>                                                           |                        |               |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
| 26. Perforation record (interval, size, and number)<br><b>9400'-13811' (OA) 6 spf</b>                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            | 27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. |                                                 |                                                                        |                        |               |                                           |
| <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>RECEIVED</b><br/> <b>DEC 12 2011</b><br/> <b>Accepted for record</b><br/> <b>NMOCD</b> </div>                                                                                                                                                                                                          |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            | DEPTH INTERVAL                                  |                                                 |                                                                        |                        |               | AMOUNT AND KIND MATERIAL USED             |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            | <b>9400'-13811'</b>                             |                                                 |                                                                        |                        |               | <b>4,019,257 lbs sand</b>                 |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               | <b>3,609,732 bbls fresh water</b>         |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               | <b>25,000 gals 10% &amp; 15% Hcl Acid</b> |
| 28. <b>NMOCD ARTESIAN PRODUCTION</b>                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
| Date First Production                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                       | Production Method (Flowing, gas lift, pumping - Size and type pump)                                                            |                                               |               |                                                            |                                                 | Well Status (Prod or Shut-in)<br><b>Shut-In</b> |                                                                        |                        |               |                                           |
| Date of Test                                                                                                                                                                                                                                                                                                                                                                          | Hours Tested                                                                                                                                                                          | Choke Size                                                                                                                     | Prod'n For Test Period                        | Oil - Bbl     | Gas - MCF                                                  | Water - Bbl.                                    | Gas - Oil Ratio                                 |                                                                        |                        |               |                                           |
| Flow Tubing Press.                                                                                                                                                                                                                                                                                                                                                                    | Casing Pressure                                                                                                                                                                       | Calculated 24-Hour Rate                                                                                                        | Oil - Bbl.                                    | Gas - MCF     | Water - Bbl.                                               | Oil Gravity - API - (Corr )                     |                                                 |                                                                        |                        |               |                                           |
| 29. Disposition of Gas (Sold, used for fuel, vented, etc )                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 | 30. Test Witnessed By                           |                                                                        |                        |               |                                           |
| 31. List Attachments <b>C-104, Electric Logs, Letter Requesting Confidentiality</b>                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
| 32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
| 33. If an on-site burial was used at the well, report the exact location of the on-site burial:                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               |               |                                                            |                                                 |                                                 |                                                                        |                        |               |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                       |                                                                                                                                |                                               | Latitude      | Longitude                                                  |                                                 |                                                 | NAD 1927 1983                                                          |                        |               |                                           |
| 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                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                       |                                                                                                                                | Printed Name <b>Bryan Arrant</b>              |               |                                                            | Title <b>Sr. Regulatory Compl. Sp.</b>          |                                                 |                                                                        | Date <b>12/09/2011</b> |               |                                           |
| E-mail Address <b>bryan.arrant@chk.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                 | 975  | T. Canyon            | T. Ojo Alamo            | T. Penn A"       |
| T. Salt                 | 1046 | T. Strawn            | T. Kirtland             | T. Penn. "B"     |
| B. Salt                 | 4027 | 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           |      | T. Simpson           | T. Mancos               | T. McCracken     |
| T. Glorieta             |      | T. McKee             | T. Gallup               | T. Ignacio Otzte |
| T. Paddock              |      | T. Ellenburger       | Base Greenhorn          | T. Granite       |
| T. Blinbry              |      | T. Gr. Wash          | T. Dakota               |                  |
| T. Tubb                 |      | T. Delaware Sand     | T. Morrison             |                  |
| T. Drinkard             |      | T. Bone Springs 7850 | T. Todilto              |                  |
| T. Abo                  |      | T. B Canyon 4054     | T. Entrada              |                  |
| T. Wolfcamp             |      | T. C Canyon 4953     | T. Wingate              |                  |
| T. Penn                 |      | T. By Canyon 6196    | 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 |
|------|----|----------------------|-----------|
|      |    |                      |           |

PLU Big Sinks 2-25-30 State 1H  
350' FSL & 1980' FEL  
Section 2, T-25-S, R-30-E  
30015393440000

| TOP                         | DEPTH |
|-----------------------------|-------|
| Rustler                     | 975   |
| Top of Salt                 | 1046  |
| Base of Salt                | 4027  |
| Bell Canyon                 | 4054  |
| Cherry Canyon               | 4953  |
| Brushy Canyon               | 6196  |
| First Bone Spring Carbonate | 7850  |
| First Bone Spring Sand      | 8792  |



3D-015-39344

## **Ryan Energy Directional Drilling Report**

**Field:** Eddy Co, NM NAD 83  
**Site:** Big Sinks 2-25-30 State 1H  
**Well:** 2-25-30 State 1H  
**Wellpath:** OH

Prepared For:

***Chesapeake Operating, Inc.***



**Ryan Energy Technology**

19510 Oil Center Blvd  
Houston, TX 77073  
Ph: 281-443-1414  
Fx 281-443-1676

[www.ryanenergy.com](http://www.ryanenergy.com)



# Chesapeake Operating, Inc.

Field: Eddy Co, NM NAD 83  
 Site: Big Sinks 2-25-30 State 1H  
 Well: 2-25-30 State 1H  
 Wellpath: OH



Azimuths to Grid North  
 True North -0.25°  
 Magnetic North 7.42°  
 Magnetic Field  
 Strength 48542nT  
 Dip Angle 60.07°  
 Date 9/19/2011  
 Model IGRF2010

## WELLPATH DETAILS

|                 |              |                   |                   |
|-----------------|--------------|-------------------|-------------------|
|                 | OH           |                   |                   |
| Rig Ref         | Datum        | Patterson 62 SITE | 3378.00ft         |
| V Section Angle | Origin +N/-S | Origin +E/-W      | Starting From TVD |
| 0 15°           | 0 00         | 0.00              | 0 00              |

## SITE DETAILS

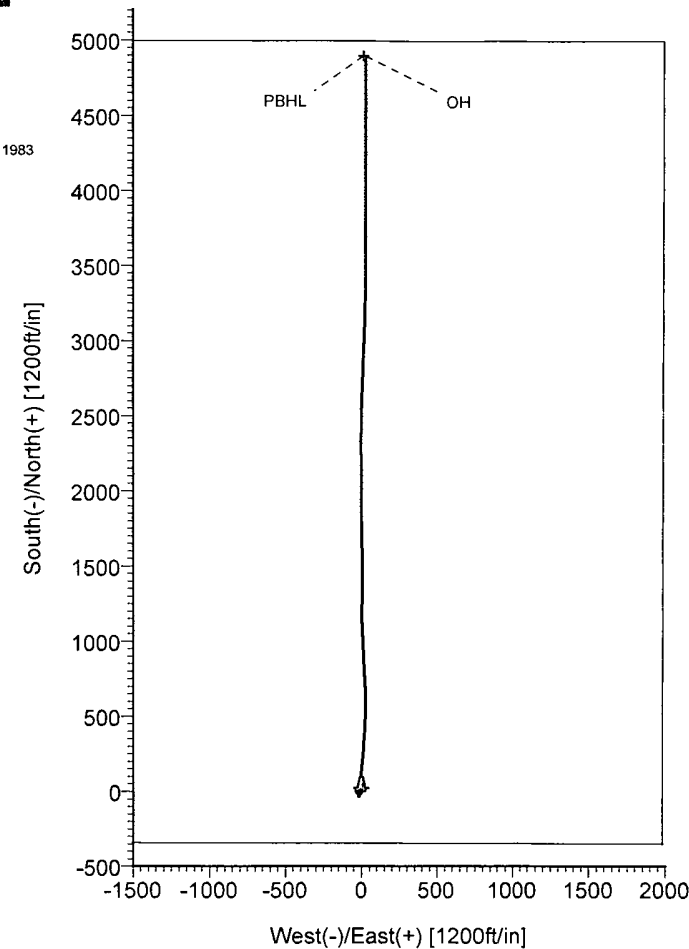
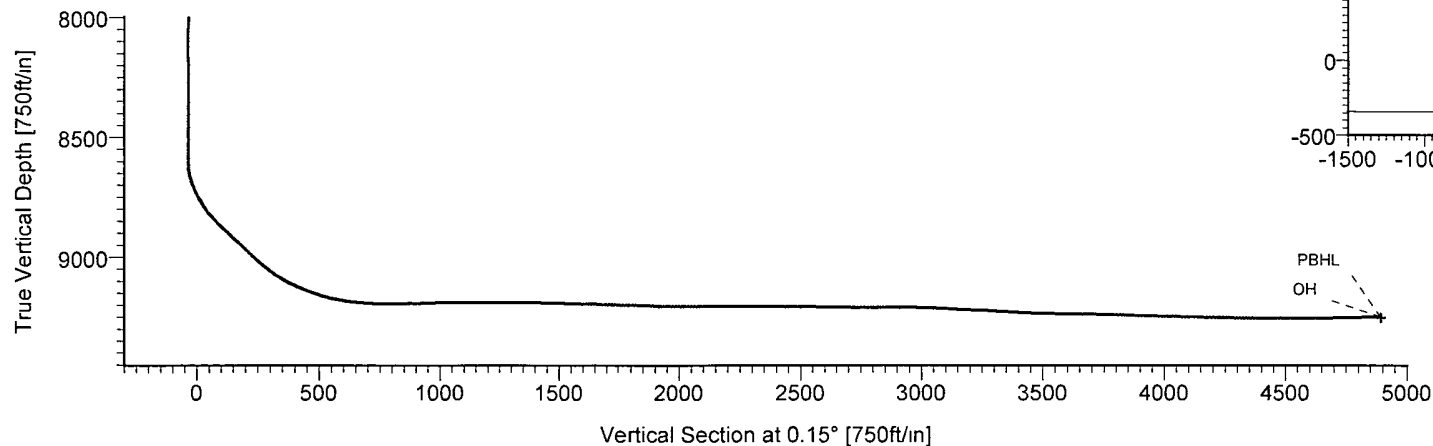
| Big Sinks 2-25-30 State 1H<br>Eddy Co., NM |           |
|--------------------------------------------|-----------|
| Site Centre Northing                       | 419880.58 |
| Easting                                    | 691095.99 |
| Ground Level                               | 3353.00   |
| Positional Uncertainty                     | 2.00      |
| Convergence                                | 0.26      |

## FIELD DETAILS

| Eddy Co, NM NAD 83<br>USA |                                       |
|---------------------------|---------------------------------------|
| Geodetic System           | US State Plane Coordinate System 1983 |
| Ellipsoid                 | GRS 1980                              |
| Zone                      | New Mexico, Eastern Zone              |
| Magnetic Model            | IGRF2010                              |
| System Datum              | Mean Sea Level                        |
| Local North               | Grid North                            |

## TARGET DETAILS

| Name | TVD     | +N/-S   | +E/-W | Northing  | Easting   | Latitude      | Longitude      | Shape |
|------|---------|---------|-------|-----------|-----------|---------------|----------------|-------|
| PBHL | 9252.69 | 4891.37 | 13.08 | 424771.95 | 691109.07 | 32°10'00.653N | 103°50'57.513W | Point |



Ryan Energy Technologies  
 19510 Oil Center Blvd  
 Houston, TX 77073  
 Ph 281-443-1414  
 Fx 281-443-1676



Wellbore (2-25-30 State 1H0H)  
 Created By Erik De La Fe Date 10/16/2011  
 Checked \_\_\_\_\_ Date \_\_\_\_\_  
 Reviewed \_\_\_\_\_ Date \_\_\_\_\_  
 Approved \_\_\_\_\_ Date \_\_\_\_\_



# Ryan Energy Technologies Survey Report



|           |                            |                            |                                  |       |          |       |   |
|-----------|----------------------------|----------------------------|----------------------------------|-------|----------|-------|---|
| Company:  | Chesapeake Operating, Inc. | Date:                      | 10/19/2011                       | Time: | 14:15:39 | Page: | 1 |
| Field:    | Eddy Co, NM NAD 83         | Co-ordinate(NE) Reference: | Site: Big Sinks 2-25-30 State 1H |       |          |       |   |
| Site:     | Big Sinks 2-25-30 State 1H | Vertical (TVD) Reference:  | SITE 3378.0                      |       |          |       |   |
| Well:     | 2-25-30 State 1H           | Section (VS) Reference:    | Well (0.00N, 0.00E, 0.15Azi)     |       |          |       |   |
| Wellpath: | OH                         | Survey Calculation Method: | Minimum Curvature                | Db:   | Sybase   |       |   |

Field: Eddy Co, NM NAD 83

USA

Map System: US State Plane Coordinate System 1983

Geo Datum: GRS 1980

Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone

Coordinate System:

Geomagnetic Model: IGRF2010

Site: Big Sinks 2-25-30 State 1H

Eddy Co, NM

Site Position: Northing: 419880.58 ft

From: Map Easting: 691095.99 ft

Position Uncertainty: 2.00 ft

Ground Level: 3353.00 ft

Latitude: 32 9 12.249 N

Longitude: 103 50 57.921 W

North Reference: Grid

Grid Convergence: 0.26 deg

Well: 2-25-30 State 1H

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 419880.58 ft

+E/-W 0.00 ft Easting: 691095.99 ft

Position Uncertainty: 0.00 ft

Latitude: 32 9 12.249 N

Longitude: 103 50 57.921 W

Wellpath: OH

Drilled From: Surface

Current Datum: SITE Height 3378.00 ft

Magnetic Data: 9/19/2011

Field Strength: 48542 nT

Vertical Section: Depth From (TVD) +N/-S

ft ft

Tie-on Depth: 0.00 ft

Above System Datum: Mean Sea Level

Declination: 7.68 deg

Mag Dip Angle: 60.07 deg

+E/-W Direction

ft deg

0.00 0.00 0.00 0.15

Survey Program for Definitive Wellpath

Date: 10/19/2011 Validated: No

Version: 2

Actual From To Survey

Toolcode

Tool Name

ft ft

198.00 13754.00 Survey #1 (198.00-13754.00)

Ryan MWD

Ryan MWD

13811.00 13811.00 Survey #2 (13811.00-13811.00)

Projection

Projection

Survey

| MD      | Incl | Azim   | TVD     | +N/-S  | +E/-W  | VS     | DLS       | Build     | Turn      | Tool/Comment |
|---------|------|--------|---------|--------|--------|--------|-----------|-----------|-----------|--------------|
| ft      | deg  | deg    | ft      | ft     | ft     | ft     | deg/100ft | deg/100ft | deg/100ft |              |
| 0.00    | 0.00 | 0.00   | 0.00    | 0.00   | 0.00   | 0.00   | 0.00      | 0.00      | 0.00      | TIE LINE     |
| 198.00  | 0.30 | 117.60 | 198.00  | -0.24  | 0.46   | -0.24  | 0.15      | 0.15      | 0.00      | Ryan MWD     |
| 386.00  | 0.80 | 124.50 | 385.99  | -1.21  | 1.98   | -1.21  | 0.27      | 0.27      | 3.67      | Ryan MWD     |
| 586.00  | 0.40 | 102.80 | 585.98  | -2.16  | 3.81   | -2.15  | 0.23      | -0.20     | -10.85    | Ryan MWD     |
| 680.00  | 0.90 | 29.30  | 679.97  | -1.59  | 4.49   | -1.57  | 0.93      | 0.53      | -78.19    | Ryan MWD     |
| 859.00  | 1.40 | 36.30  | 858.94  | 1.40   | 6.47   | 1.42   | 0.29      | 0.28      | 3.91      | Ryan MWD     |
| 954.00  | 2.20 | 43.40  | 953.89  | 3.66   | 8.41   | 3.68   | 0.87      | 0.84      | 7.47      | Ryan MWD     |
| 1144.00 | 2.20 | 38.20  | 1143.75 | 9.18   | 13.17  | 9.21   | 0.11      | 0.00      | -2.74     | Ryan MWD     |
| 1334.00 | 2.50 | 57.80  | 1333.59 | 14.25  | 18.94  | 14.30  | 0.45      | 0.16      | 10.32     | Ryan MWD     |
| 1524.00 | 1.40 | 25.40  | 1523.49 | 18.56  | 23.44  | 18.62  | 0.80      | -0.58     | -17.05    | Ryan MWD     |
| 1714.00 | 1.60 | 252.60 | 1713.46 | 19.86  | 21.90  | 19.92  | 1.45      | 0.11      | -69.89    | Ryan MWD     |
| 1904.00 | 2.50 | 252.20 | 1903.33 | 17.80  | 15.42  | 17.84  | 0.47      | 0.47      | -0.21     | Ryan MWD     |
| 2093.00 | 2.50 | 267.40 | 2092.15 | 16.35  | 7.38   | 16.37  | 0.35      | 0.00      | 8.04      | Ryan MWD     |
| 2283.00 | 2.30 | 260.90 | 2281.99 | 15.56  | -0.52  | 15.56  | 0.18      | -0.11     | -3.42     | Ryan MWD     |
| 2473.00 | 2.30 | 261.30 | 2471.84 | 14.38  | -8.06  | 14.36  | 0.01      | 0.00      | 0.21      | Ryan MWD     |
| 2663.00 | 3.50 | 255.80 | 2661.59 | 12.38  | -17.45 | 12.34  | 0.65      | 0.63      | -2.89     | Ryan MWD     |
| 2853.00 | 3.20 | 249.10 | 2851.26 | 9.07   | -28.02 | 9.00   | 0.26      | -0.16     | -3.53     | Ryan MWD     |
| 3043.00 | 2.60 | 218.50 | 3041.03 | 3.80   | -35.66 | 3.71   | 0.86      | -0.32     | -16.11    | Ryan MWD     |
| 3233.00 | 1.60 | 157.00 | 3230.92 | -2.01  | -37.31 | -2.11  | 1.22      | -0.53     | -32.37    | Ryan MWD     |
| 3423.00 | 2.90 | 146.50 | 3420.77 | -8.46  | -33.62 | -8.55  | 0.71      | 0.68      | -5.53     | Ryan MWD     |
| 3613.00 | 3.30 | 110.90 | 3610.51 | -14.42 | -25.86 | -14.49 | 1.02      | 0.21      | -18.74    | Ryan MWD     |
| 3803.00 | 2.90 | 105.80 | 3800.23 | -17.68 | -16.12 | -17.72 | 0.26      | -0.21     | -2.68     | Ryan MWD     |





# Ryan Energy Technologies Survey Report



Company: Chesapeake Operating, Inc.  
Field: Eddy Co, NM NAD 83  
Site: Big Sinks 2-25-30 State 1H  
Well: 2-25-30 State 1H  
Wellpath: OH

Date: 10/19/2011 Time: 14:15:39 Page: 2  
Co-ordinate(N/E) Reference: Site: Big Sinks 2-25-30 State 1H  
Vertical (TVD) Reference: SITE 3378.0  
Section (VS) Reference: Well (0.00N, 0.00E, 0.15Azi)  
Survey Calculation Method: Minimum Curvature Db: Sybase

## Survey

| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | +N/-S<br>ft | +E/-W<br>ft | VS<br>ft | DLS<br>deg/100ft | Build<br>deg/100ft | Turn<br>deg/100ft | Tool/Comment |
|----------|-------------|-------------|-----------|-------------|-------------|----------|------------------|--------------------|-------------------|--------------|
| 3927.00  | 1.20        | 87.90       | 3924.15   | -18.49      | -11.81      | -18.52   | 1.45             | -1.37              | -14.44            | Ryan MWD     |
| 4013.00  | 0.90        | 84.50       | 4010.14   | -18.39      | -10.23      | -18.41   | 0.36             | -0.35              | -3.95             | Ryan MWD     |
| 4203.00  | 0.70        | 59.70       | 4200.12   | -17.66      | -7.75       | -17.68   | 0.21             | -0.11              | -13.05            | Ryan MWD     |
| 4393.00  | 0.40        | 44.30       | 4390.11   | -16.60      | -6.28       | -16.62   | 0.17             | -0.16              | -8.11             | Ryan MWD     |
| 4583.00  | 0.10        | 76.00       | 4580.11   | -16.08      | -5.66       | -16.10   | 0.17             | -0.16              | 16.68             | Ryan MWD     |
| 4773.00  | 0.20        | 330.40      | 4770.11   | -15.76      | -5.66       | -15.77   | 0.13             | 0.05               | -55.58            | Ryan MWD     |
| 4963.00  | 0.30        | 29.50       | 4960.11   | -15.03      | -5.58       | -15.05   | 0.14             | 0.05               | 31.11             | Ryan MWD     |
| 5153.00  | 0.40        | 349.20      | 5150.10   | -13.95      | -5.46       | -13.96   | 0.14             | 0.05               | -21.21            | Ryan MWD     |
| 5343.00  | 0.30        | 330.20      | 5340.10   | -12.87      | -5.83       | -12.88   | 0.08             | -0.05              | -10.00            | Ryan MWD     |
| 5533.00  | 0.20        | 11.00       | 5530.10   | -12.11      | -6.01       | -12.13   | 0.10             | -0.05              | 21.47             | Ryan MWD     |
| 5723.00  | 0.00        | 246.00      | 5720.10   | -11.78      | -5.95       | -11.80   | 0.11             | -0.11              | 0.00              | Ryan MWD     |
| 5913.00  | 0.30        | 228.50      | 5910.10   | -12.11      | -6.32       | -12.13   | 0.16             | 0.16               | -0.00             | Ryan MWD     |
| 6103.00  | 0.50        | 196.60      | 6100.09   | -13.24      | -6.93       | -13.26   | 0.15             | 0.11               | -16.79            | Ryan MWD     |
| 6293.00  | 0.20        | 233.60      | 6290.09   | -14.23      | -7.44       | -14.25   | 0.19             | -0.16              | 19.47             | Ryan MWD     |
| 6484.00  | 0.20        | 213.10      | 6481.09   | -14.71      | -7.89       | -14.73   | 0.04             | 0.00               | -10.73            | Ryan MWD     |
| 6675.00  | 0.60        | 214.60      | 6672.08   | -15.81      | -8.64       | -15.83   | 0.21             | 0.21               | 0.79              | Ryan MWD     |
| 6865.00  | 0.80        | 231.40      | 6862.07   | -17.46      | -10.24      | -17.48   | 0.15             | 0.11               | 8.84              | Ryan MWD     |
| 7056.00  | 1.00        | 220.60      | 7053.04   | -19.55      | -12.36      | -19.59   | 0.14             | 0.10               | -5.65             | Ryan MWD     |
| 7247.00  | 0.90        | 208.90      | 7244.02   | -22.13      | -14.17      | -22.17   | 0.11             | -0.05              | -6.13             | Ryan MWD     |
| 7437.00  | 1.00        | 192.80      | 7433.99   | -25.05      | -15.26      | -25.09   | 0.15             | 0.05               | -8.47             | Ryan MWD     |
| 7595.00  | 1.10        | 188.30      | 7591.97   | -27.90      | -15.79      | -27.94   | 0.08             | 0.06               | -2.85             | Ryan MWD     |
| 7841.00  | 1.50        | 189.40      | 7837.90   | -33.41      | -16.65      | -33.46   | 0.16             | 0.16               | 0.45              | Ryan MWD     |
| 8031.00  | 0.30        | 233.40      | 8027.88   | -36.16      | -17.46      | -36.21   | 0.68             | -0.63              | 23.16             | Ryan MWD     |
| 8222.00  | 0.40        | 320.00      | 8218.87   | -35.95      | -18.29      | -36.00   | 0.25             | 0.05               | 45.34             | Ryan MWD     |
| 8412.00  | 0.30        | 280.40      | 8408.87   | -35.35      | -19.20      | -35.40   | 0.13             | -0.05              | -20.84            | Ryan MWD     |
| 8508.00  | 0.50        | 233.70      | 8504.87   | -35.56      | -19.79      | -35.61   | 0.38             | 0.21               | -48.65            | Ryan MWD     |
| 8571.00  | 0.50        | 229.90      | 8567.87   | -35.90      | -20.22      | -35.95   | 0.05             | 0.00               | -6.03             | Ryan MWD     |
| 8603.00  | 0.30        | 327.20      | 8599.86   | -35.91      | -20.37      | -35.97   | 1.92             | -0.62              | 304.06            | Ryan MWD     |
| 8635.00  | 6.50        | 7.20        | 8631.79   | -34.05      | -20.19      | -34.10   | 19.60            | 19.37              | 125.00            | Ryan MWD     |
| 8666.00  | 13.80       | 7.80        | 8662.29   | -28.63      | -19.47      | -28.69   | 23.55            | 23.55              | 1.94              | Ryan MWD     |
| 8698.00  | 20.30       | 5.80        | 8692.87   | -19.32      | -18.39      | -19.37   | 20.39            | 20.31              | -6.25             | Ryan MWD     |
| 8730.00  | 26.00       | 7.70        | 8722.28   | -6.84       | -16.89      | -6.88    | 17.96            | 17.81              | 5.94              | Ryan MWD     |
| 8762.00  | 28.00       | 8.60        | 8750.79   | 7.54        | -14.82      | 7.50     | 6.38             | 6.25               | 2.81              | Ryan MWD     |
| 8793.00  | 32.00       | 7.80        | 8777.63   | 22.88       | -12.62      | 22.85    | -12.97           | 12.90              | -2.58             | Ryan MWD     |
| 8825.00  | 37.00       | 7.00        | 8803.99   | 40.85       | -10.29      | 40.82    | 15.69            | 15.62              | -2.50             | Ryan MWD     |
| 8857.00  | 41.90       | 6.00        | 8828.70   | 61.05       | -8.00       | 61.03    | 15.44            | 15.31              | -3.12             | Ryan MWD     |
| 8889.00  | 44.30       | 5.80        | 8852.06   | 82.79       | -5.76       | 82.78    | 7.51             | 7.50               | -0.62             | Ryan MWD     |
| 8921.00  | 46.90       | 5.40        | 8874.45   | 105.55      | -3.53       | 105.54   | 8.17             | 8.12               | -1.25             | Ryan MWD     |
| 8952.00  | 46.80       | 5.70        | 8895.65   | 128.06      | -1.34       | 128.05   | 0.78             | -0.32              | 0.97              | Ryan MWD     |
| 8984.00  | 46.20       | 6.00        | 8917.67   | 151.15      | 1.03        | 151.15   | 1.99             | -1.87              | 0.94              | Ryan MWD     |
| 9016.00  | 46.00       | 5.70        | 8939.86   | 174.09      | 3.38        | 174.09   | 0.92             | -0.62              | -0.94             | Ryan MWD     |
| 9048.00  | 45.50       | 5.10        | 8962.19   | 196.91      | 5.53        | 196.92   | 2.06             | -1.56              | -1.87             | Ryan MWD     |
| 9079.00  | 44.90       | 5.00        | 8984.04   | 218.82      | 7.47        | 218.84   | 1.95             | -1.94              | -0.32             | Ryan MWD     |
| 9111.00  | 46.10       | 4.00        | 9006.47   | 241.57      | 9.26        | 241.59   | 4.36             | 3.75               | -3.12             | Ryan MWD     |
| 9143.00  | 48.70       | 3.40        | 9028.12   | 265.07      | 10.78       | 265.10   | 8.24             | 8.12               | -1.87             | Ryan MWD     |
| 9175.00  | 51.60       | 3.60        | 9048.63   | 289.59      | 12.28       | 289.62   | 9.08             | 9.06               | 0.62              | Ryan MWD     |
| 9206.00  | 54.80       | 3.40        | 9067.19   | 314.37      | 13.79       | 314.40   | 10.34            | 10.32              | -0.65             | Ryan MWD     |
| 9238.00  | 57.80       | 3.50        | 9084.95   | 340.94      | 15.39       | 340.98   | 9.38             | 9.37               | 0.31              | Ryan MWD     |
| 9270.00  | 61.00       | 2.80        | 9101.23   | 368.43      | 16.90       | 368.48   | 10.18            | 10.00              | -2.19             | Ryan MWD     |
| 9302.00  | 64.00       | 2.80        | 9116.01   | 396.78      | 18.29       | 396.83   | 9.37             | 9.37               | 0.00              | Ryan MWD     |
| 9334.00  | 67.60       | 3.60        | 9129.12   | 425.92      | 19.92       | 425.97   | 11.48            | 11.25              | 2.50              | Ryan MWD     |
| 9365.00  | 69.30       | 3.50        | 9140.51   | 454.70      | 21.71       | 454.75   | 5.49             | 5.48               | -0.32             | Ryan MWD     |
| 9397.00  | 69.40       | 3.50        | 9151.80   | 484.58      | 23.54       | 484.64   | 0.31             | 0.31               | 0.00              | Ryan MWD     |



# Ryan Energy Technologies Survey Report



Company: Chesapeake Operating, Inc. Date: 10/19/2011 Time: 14:15:39 Page: 3  
Field: Eddy Co. NM NAD 83 Co-ordinate(NE) Reference: Site: Big Sinks 2-25-30 State 1H  
Site: Big Sinks 2-25-30 State 1H Vertical (TVD) Reference: SITE 3378.0  
Well: 2-25-30 State 1H Section (VS) Reference: Well (0.00N 0.00E 0.15Azi)  
Wellpath: OH Survey Calculation Method: Minimum Curvature Db: Sybase

## Survey

| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | +N/-S<br>ft | +E/-W<br>ft | VS<br>ft | DLS<br>deg/100ft | Build<br>deg/100ft | Turn<br>deg/100ft | Tool/Comment    |
|----------|-------------|-------------|-----------|-------------|-------------|----------|------------------|--------------------|-------------------|-----------------|
| 9428.00  | 73.60       | 2.70        | 9161.63   | 513.93      | 25.12       | 514.00   | 13.77            | 13.55              | -2.58             | Ryan MWD        |
| 9460.00  | 75.50       | 0.30        | 9170.16   | 544.76      | 25.93       | 544.83   | 9.35             | 5.94               | -7.50             | Ryan MWD        |
| 9492.00  | 78.40       | 359.30      | 9177.38   | 575.93      | 25.82       | 576.00   | 9.56             | 9.06               | -3.13             | Ryan MWD        |
| 9524.00  | 80.80       | 359.20      | 9183.16   | 607.40      | 25.40       | 607.46   | 7.51             | 7.50               | -0.31             | Ryan MWD        |
| 9555.00  | 83.80       | 358.30      | 9187.31   | 638.11      | 24.73       | 638.17   | 10.10            | 9.68               | -2.90             | Ryan MWD        |
| 9587.00  | 85.40       | 357.10      | 9190.32   | 669.94      | 23.45       | 670.00   | 6.24             | 5.00               | -3.75             | Ryan MWD        |
| 9651.00  | 87.00       | 356.60      | 9194.56   | 733.70      | 19.95       | 733.75   | 2.62             | 2.50               | -0.78             | Ryan MWD        |
| 9746.00  | 92.10       | 357.50      | 9195.31   | 828.54      | 15.06       | 828.58   | 5.45             | 5.37               | 0.95              | Ryan MWD        |
| 9841.00  | 92.60       | 357.60      | 9191.41   | 923.37      | 11.00       | 923.40   | 0.54             | 0.53               | 0.11              | Ryan MWD        |
| 9936.00  | 91.60       | 357.40      | 9187.93   | 1018.22     | 6.86        | 1018.23  | 1.07             | -1.05              | -0.21             | Ryan MWD        |
| 10031.00 | 90.20       | 357.30      | 9186.44   | 1113.10     | 2.47        | 1113.10  | 1.48             | -1.47              | -0.11             | Ryan MWD        |
| 10127.00 | 89.90       | 1.40        | 9186.36   | 1209.07     | 1.38        | 1209.07  | 4.28             | -0.31              | 4.27              | Ryan MWD        |
| 10222.00 | 89.30       | 1.00        | 9187.02   | 1304.05     | 3.37        | 1304.06  | 0.76             | -0.63              | -0.42             | Ryan MWD        |
| 10317.00 | 89.00       | 360.00      | 9188.43   | 1399.04     | 4.20        | 1399.04  | 1.10             | -0.32              | -1.05             | Ryan MWD        |
| 10412.00 | 88.40       | 359.70      | 9190.58   | 1494.01     | 3.95        | 1494.02  | 0.71             | -0.63              | -0.32             | Ryan MWD        |
| 10507.00 | 87.60       | 358.80      | 9193.90   | 1588.94     | 2.71        | 1588.94  | 1.27             | -0.84              | -0.95             | Ryan MWD        |
| 10603.00 | 88.70       | 359.10      | 9197.00   | 1684.87     | 0.95        | 1684.87  | 1.19             | 1.15               | 0.31              | Ryan MWD        |
| 10698.00 | 88.00       | 358.00      | 9199.73   | 1779.80     | -1.45       | 1779.79  | 1.37             | -0.74              | -1.16             | Ryan MWD        |
| 10793.00 | 88.00       | 0.30        | 9203.05   | 1874.73     | -2.86       | 1874.71  | 2.42             | 0.00               | 2.42              | Ryan MWD        |
| 10889.00 | 90.10       | 0.20        | 9204.64   | 1970.71     | -2.44       | 1970.70  | 2.19             | 2.19               | -0.10             | Ryan MWD        |
| 10984.00 | 89.80       | 359.50      | 9204.72   | 2065.71     | -2.69       | 2065.69  | 0.80             | -0.32              | -0.74             | Ryan MWD        |
| 11079.00 | 90.30       | 359.00      | 9204.64   | 2160.70     | -3.94       | 2160.68  | 0.74             | 0.53               | -0.53             | Ryan MWD        |
| 11174.00 | 90.50       | 358.50      | 9203.98   | 2255.67     | -6.01       | 2255.65  | 0.57             | 0.21               | -0.53             | Ryan MWD        |
| 11269.00 | 89.50       | 1.10        | 9203.98   | 2350.66     | -6.34       | 2350.64  | 2.93             | -1.05              | 2.74              | Ryan MWD        |
| 11364.00 | 90.00       | 0.90        | 9204.39   | 2445.65     | -4.68       | 2445.63  | 0.57             | 0.53               | -0.21             | Ryan MWD        |
| 11459.00 | 88.40       | 1.90        | 9205.72   | 2540.61     | -2.36       | 2540.59  | 1.99             | -1.68              | 1.05              | Ryan MWD        |
| 11554.00 | 89.00       | 2.30        | 9207.87   | 2635.52     | 1.12        | 2635.51  | 0.76             | 0.63               | 0.42              | Ryan MWD        |
| 11649.00 | 89.20       | 2.00        | 9209.37   | 2730.44     | 4.68        | 2730.44  | 0.38             | 0.21               | -0.32             | Ryan MWD        |
| 11745.00 | 89.60       | 2.10        | 9210.37   | 2826.37     | 8.12        | 2826.38  | 0.43             | -0.42              | -0.10             | Ryan MWD        |
| 11840.00 | 90.20       | 2.10        | 9210.54   | 2921.31     | 11.60       | 2921.33  | 0.63             | 0.63               | 0.00              | Ryan MWD        |
| 11935.00 | 87.20       | 2.40        | 9212.69   | 3016.20     | 15.33       | 3016.23  | 3.17             | -3.16              | 0.32              | Ryan MWD        |
| 12030.00 | 87.30       | 2.30        | 9217.25   | 3111.01     | 19.22       | 3111.05  | 0.15             | 0.11               | -0.11             | Ryan MWD        |
| 12126.00 | 87.60       | 0.60        | 9221.52   | 3206.88     | 21.64       | 3206.93  | 1.80             | 0.31               | -1.77             | Ryan MWD        |
| 12221.00 | 87.20       | 0.60        | 9225.83   | 3301.78     | 22.64       | 3301.82  | 0.42             | -0.42              | 0.00              | Ryan MWD        |
| 12316.00 | 86.50       | 0.50        | 9231.05   | 3396.63     | 23.55       | 3396.68  | 0.74             | -0.74              | -0.11             | Ryan MWD        |
| 12411.00 | 88.60       | 360.00      | 9235.11   | 3491.54     | 23.96       | 3491.59  | 2.27             | 2.21               | -0.53             | Ryan MWD        |
| 12507.00 | 88.40       | 0.20        | 9237.63   | 3587.50     | 24.13       | 3587.55  | 0.29             | -0.21              | 0.21              | Ryan MWD        |
| 12602.00 | 88.80       | 0.30        | 9239.95   | 3682.47     | 24.54       | 3682.52  | 0.43             | 0.42               | 0.11              | Ryan MWD        |
| 12677.00 | 88.80       | 0.10        | 9241.52   | 3757.46     | 24.80       | 3757.51  | 0.27             | 0.00               | -0.27             | Ryan MWD        |
| 12793.00 | 88.90       | 360.00      | 9243.85   | 3873.43     | 24.91       | 3873.48  | 0.12             | 0.09               | -0.09             | Ryan MWD        |
| 12888.00 | 88.10       | 0.40        | 9246.33   | 3968.40     | 25.24       | 3968.45  | 0.94             | -0.84              | 0.42              | Ryan MWD        |
| 12983.00 | 88.40       | 0.00        | 9249.23   | 4063.35     | 25.57       | 4063.41  | 0.53             | 0.32               | -0.42             | Ryan MWD        |
| 13078.00 | 88.70       | 0.00        | 9251.64   | 4158.32     | 25.57       | 4158.37  | 0.32             | 0.32               | 0.00              | Ryan MWD        |
| 13173.00 | 89.10       | 360.00      | 9253.46   | 4253.30     | 25.57       | 4253.36  | 0.42             | 0.42               | 0.00              | Ryan MWD        |
| 13269.00 | 90.00       | 359.90      | 9254.22   | 4349.30     | 25.48       | 4349.35  | 0.94             | 0.94               | -0.10             | Ryan MWD        |
| 13364.00 | 89.70       | 359.90      | 9254.46   | 4444.30     | 25.32       | 4444.35  | 0.32             | -0.32              | 0.00              | Ryan MWD        |
| 13459.00 | 89.70       | 359.80      | 9254.96   | 4539.30     | 25.07       | 4539.35  | 0.11             | 0.00               | -0.11             | Ryan MWD        |
| 13554.00 | 90.60       | 0.00        | 9254.71   | 4634.30     | 24.90       | 4634.35  | 0.97             | 0.95               | 0.21              | Ryan MWD        |
| 13650.00 | 91.30       | 359.70      | 9253.12   | 4730.28     | 24.65       | 4730.33  | 0.79             | 0.73               | -0.31             | Ryan MWD        |
| 13745.00 | 91.10       | 359.00      | 9251.13   | 4825.26     | 23.58       | 4825.30  | 0.77             | -0.21              | -0.74             | Ryan MWD        |
| 13754.00 | 91.00       | 358.90      | 9250.97   | 4834.25     | 23.41       | 4834.30  | 1.57             | -1.11              | -1.11             | Ryan MWD        |
| 13811.00 | 91.00       | 358.90      | 9249.97   | 4891.23     | 22.32       | 4891.27  | 0.00             | 0.00               | 0.00              | PROJECTED to TD |



# Ryan Energy Technologies COMPLETION REPORT



Company: Chesapeake Operating, Inc. Date: 10/19/2011 Time: 14:18:15 Page: 1  
Field: Eddy Co. NM NAD 83 Co-ordinate(NE) Reference: Site: Big Sinks 2-25-30 State 1H  
Site: Big Sinks 2-25-30 State 1H Vertical (TVD) Reference: SITE 3378.0  
Well: 2-25-30 State 1H Section (VS) Reference: Well (0.00N 0.00E 0.15Azi)  
Wellpath: OH Survey Calculation Method: Minimum Curvature Db: Sybase

Field: Eddy Co. NM NAD 83

USA

Map System: US State Plane Coordinate System 1983

Geo Datum: GRS 1980

Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone

Coordinate System: Site Centre

Geomagnetic Model: IGRF2010

Site: Big Sinks 2-25-30 State 1H

Eddy Co., NM

Site Position: Northing: 419880.58 ft

From: Map Easting: 691095.99 ft

Position Uncertainty: 2.00 ft

Ground Level: 3353.00 ft

Latitude: 32 9 12.249 N

Longitude: 103 50 57.921 W

North Reference: Grid

Grid Convergence: 0.26 deg

Well: 2-25-30 State 1H

Slot Name:

Well Position: +N/-S 0.00 ft

+E/-W 0.00 ft

Position Uncertainty: 0.00 ft

Northing: 419880.58 ft

Easting: 691095.99 ft

Latitude: 32 9 12.249 N

Longitude: 103 50 57.921 W

Wellpath: OH

Drilled From: Surface

Current Datum: SITE

Height 3378.00 ft

Tie-on Depth: 0.00 ft

Above System Datum: Mean Sea Level

Magnetic Data: 9/19/2011

Field Strength: 48542 nT

Declination: 7.68 deg

Mag Dip Angle: 60.07 deg

Vertical Section: Depth From (TVD)

+N/-S

+E/-W

Direction

0.00

0.00

0.00

0.15

## Survey

| MD      | Incl  | TVD     | VS     | Azim   | N/S    | E/W    | Clsr Dist | Clsr Azi | DLS       | Tool     |
|---------|-------|---------|--------|--------|--------|--------|-----------|----------|-----------|----------|
| ft      | deg   | ft      | ft     | deg    | ft     | ft     | ft        | deg      | deg/100ft |          |
| 0.00    | 0.00  | 0.00    | 0.00   | 0.00   | 0.00   | 0.00   | 0.00      | 0.00     | 0.00      | TIE LINE |
| 198.00  | 0.30  | 198.00  | -0.24  | 117.60 | -0.24  | 0.46   | 0.52      | 117.60   | 0.15      | Ryan MWD |
| 386.00  | 0.80  | 385.99  | -1.21  | 124.50 | -1.21  | 1.98   | 2.32      | 121.50   | 0.27      | Ryan MWD |
| 586.00  | 0.40  | 585.98  | -2.15  | 102.80 | -2.16  | 3.81   | 4.38      | 119.53   | 0.23      | Ryan MWD |
| 680.00  | 0.90  | 679.97  | -1.57  | 29.30  | -1.59  | 4.49   | 4.76      | 109.45   | 0.93      | Ryan MWD |
| 859.00  | 1.40  | 858.94  | 1.42   | 36.30  | 1.40   | 6.47   | 6.62      | 77.78    | 0.29      | Ryan MWD |
| 954.00  | 2.20  | 953.89  | 3.68   | 43.40  | 3.66   | 8.41   | 9.18      | 66.47    | 0.87      | Ryan MWD |
| 1144.00 | 2.20  | 1143.75 | 9.21   | 38.20  | 9.18   | 13.17  | 16.06     | 55.13    | 0.11      | Ryan MWD |
| 1334.00 | 2.50  | 1333.59 | 14.30  | 57.80  | 14.25  | 18.94  | 23.70     | 53.03    | 0.45      | Ryan MWD |
| 1524.00 | 1.40  | 1523.49 | 18.62  | 25.40  | 18.56  | 23.44  | 29.89     | 51.63    | 0.80      | Ryan MWD |
| 1714.00 | 1.60  | 1713.46 | 19.92  | 252.60 | 19.86  | 21.90  | 29.57     | 47.80    | 1.45      | Ryan MWD |
| 1904.00 | 2.50  | 1903.33 | 17.84  | 252.20 | 17.80  | 15.42  | 23.55     | 40.91    | 0.47      | Ryan MWD |
| 2093.00 | 2.50  | 2092.15 | 16.37  | 267.40 | 16.35  | 7.38   | 17.94     | 24.29    | 0.35      | Ryan MWD |
| 2283.00 | 2.30  | 2281.99 | 15.56  | 260.90 | 15.56  | -0.52  | 15.57     | 358.08   | 0.18      | Ryan MWD |
| 2473.00 | 2.30  | 2471.84 | 14.36  | 261.30 | 14.38  | -8.06  | 16.49     | 330.75   | 0.01      | Ryan MWD |
| 2663.00 | 3.50  | 2661.59 | 12.34  | 255.80 | 12.38  | -17.45 | 21.39     | 305.37   | 0.65      | Ryan MWD |
| 2853.00 | 3.20  | 2851.26 | 9.00   | 249.10 | 9.07   | -28.02 | 29.45     | 287.93   | 0.26      | Ryan MWD |
| 3043.00 | -2.60 | 3041.03 | 3.71   | 218.50 | 3.80   | -35.66 | 35.86     | 276.09   | 0.86      | Ryan MWD |
| 3233.00 | -1.60 | 3230.92 | -2.11  | 157.00 | -2.01  | -37.31 | 37.36     | 266.92   | 1.22      | Ryan MWD |
| 3423.00 | 2.90  | 3420.77 | -8.55  | 146.50 | -8.46  | -33.62 | 34.67     | 255.87   | 0.71      | Ryan MWD |
| 3613.00 | 3.30  | 3610.51 | -14.49 | 110.90 | -14.42 | -25.86 | 29.60     | 240.85   | 1.02      | Ryan MWD |
| 3803.00 | 2.90  | 3800.23 | -17.72 | 105.80 | -17.68 | -16.12 | 23.93     | 222.36   | 0.26      | Ryan MWD |
| 3927.00 | 1.20  | 3924.15 | -18.52 | 87.90  | -18.49 | -11.81 | 21.93     | 212.56   | 1.45      | Ryan MWD |
| 4013.00 | 0.90  | 4010.14 | -18.41 | 84.50  | -18.39 | -10.23 | 21.04     | 209.10   | 0.36      | Ryan MWD |
| 4203.00 | 0.70  | 4200.12 | -17.68 | 59.70  | -17.66 | -7.75  | 19.28     | 203.68   | 0.21      | Ryan MWD |
| 4393.00 | 0.40  | 4390.11 | -16.62 | 44.30  | -16.60 | -6.28  | 17.75     | 200.73   | 0.17      | Ryan MWD |
| 4583.00 | 0.10  | 4580.11 | -16.10 | 76.00  | -16.08 | -5.66  | 17.05     | 199.38   | 0.17      | Ryan MWD |
| 4773.00 | -0.20 | 4770.11 | -15.77 | 330.40 | -15.76 | -5.66  | 16.74     | 199.76   | 0.13      | Ryan MWD |



New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez  
Governor

John H. Bemis  
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.  
Deputy Cabinet Secretary

Jami Bailey  
Division Director  
Oil Conservation Division



September 20, 2011

Chesapeake Operating, Inc.  
c/o Holland & Hart, LLP  
Attn: Ms. Ocean Munds-Dry

Administrative Order NSL-6473  
Administrative Application Reference No. pTWG11-23750878

Chesapeake Operating, Inc.  
OGRID 147179  
PLU Big Sinks 2 25 30 State Well No. 1H  
API No. 30-015-39344

**Proposed Location:**

|                   | Footages                 | Unit     | Sec. | Twsp | Range | County |
|-------------------|--------------------------|----------|------|------|-------|--------|
| Surface           | 350 FSL & 1980 FEL       | O        | 2    | 25S  | 30E   | Eddy   |
| Penetration Point | same as surface location |          |      |      |       |        |
| Terminus          | 100 FNL & 1980 FEL       | B(Lot 2) | 2    | 25S  | 30E   | Eddy   |

**Proposed Project Area:**

| Description       | Acres | Pool                | Pool Code |
|-------------------|-------|---------------------|-----------|
| W/2 E/2 Section 2 | 160.5 | Wildcat Bone Spring | 96403     |

Reference is made to your application received on August 25, 2011.

You have requested to drill this horizontal well at an unorthodox oil well location described above in the referenced pool or formation. This location is governed by statewide Rule 15.9.A [19.15.15.9.A NMAC], which provides for 40-acre units, with wells located at least 330 feet from a unit outer boundary, and Rule 15.16.14.B(2) [19.15.16.14.B(2) NMAC] concerning directional wells in designated project areas. This location is unorthodox because a portion of the proposed producing interval is less than 330 feet from an outer boundary of the project area.

Your application has been duly filed under the provisions of Division Rules 15.13 [19.15.15.13 NMAC] and 4.12.A(2) [19.15.4.12.A(2) NMAC].

Oil Conservation Division  
1220 South St. Francis Drive • Santa Fe, New Mexico 87505  
Phone (505) 476-3440 • Fax (505) 476-3462 • [www.emnrd.state.nm.us/OCD](http://www.emnrd.state.nm.us/OCD)



It is our understanding that you are seeking this location for engineering reasons to maximize penetration of the target zone by the wellbore lateral.

It is also understood that you have given due notice of this application to all operators or owners who are "affected persons," as defined in Rule 4.12.A(2), in all adjoining units towards which the proposed location encroaches.

Pursuant to the authority conferred by Division Rule 15.13.B, the above-described unorthodox location is hereby approved.

This approval is subject to your being in compliance with all other applicable Division rules, including, but not limited to Division Rule 5.9 [19.15.5.9 NMAC].

Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

Sincerely,

A handwritten signature in black ink, appearing to read "Jami Bailey". The signature is fluid and cursive, with the first name "Jami" and last name "Bailey" clearly distinguishable.

Jami Bailey  
Director

JB/db

cc: New Mexico Oil Conservation Division – Artesia  
New Mexico State Land Office