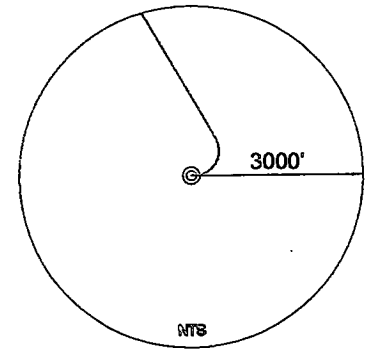
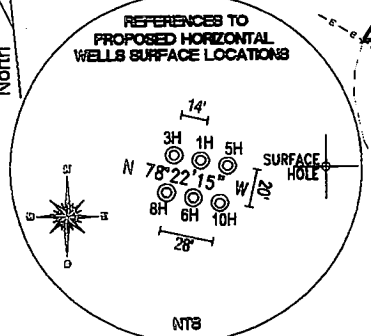
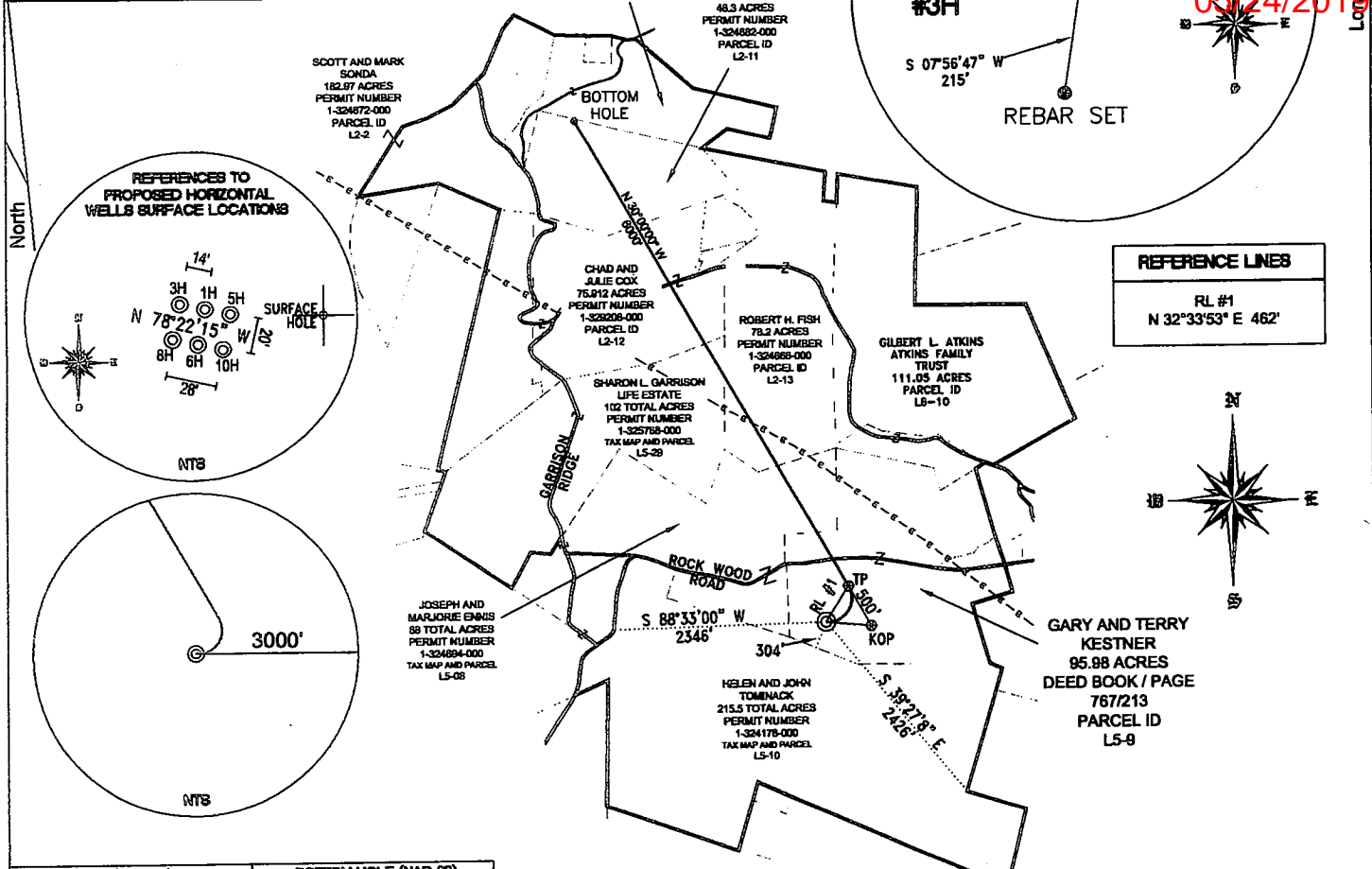


|   |  |
|---|--|
| <b>TOP HOLE (NAD 83)</b><br>N) 602196.3<br>E) 1677411.8<br>LAT.) 40°08'55.2"<br>LONG.) 80°32'28.7"<br>DEC. LAT.) 40.148666<br>DEC. LONG.) 80.541299 | <b>KOP (NAD 83)</b><br>N) 602153.3<br>E) 1677910.9<br>LAT.) 40°08'54.8"<br>LONG.) 80°32'22.2"<br>DEC. LAT.) 40.148564<br>DEC. LONG.) 80.539512 |
| <b>TOP HOLE (NAD 27)</b><br>N) 602159.2<br>E) 1708846.0<br>LAT.) 40°08'54.9"<br>LONG.) 80°32'29.4"<br>DEC. LAT.) 40.148593<br>DEC. LONG.) 80.541506 | <b>KOP (NAD 27)</b><br>N) 602116.2<br>E) 1709345.1<br>LAT.) 40°08'54.6"<br>LONG.) 80°32'23.0"<br>DEC. LAT.) 40.148491<br>DEC. LONG.) 80.539719 |



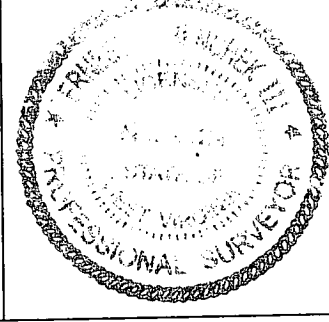
|                             |
|-----------------------------|
| <b>REFERENCE LINES</b>      |
| RL #1<br>N 32°33'53" E 462' |

**REFERENCE NOTES**  
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records OHIO County, West Virginia FEBRUARY 2011  
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS  
Drafted by: E.A.M.

|   |  |
|---|--|
| <b>TP (NAD 83)</b><br>N) 602586.3<br>E) 1677660.9<br>LAT.) 40°08'59.1"<br>LONG.) 80°32'25.5"<br>DEC. LAT.) 40.149744<br>DEC. LONG.) 80.540424 | <b>BOTTOM HOLE (NAD 83)</b><br>N) 607782.5<br>E) 1674660.9<br>LAT.) 40°09'50.1"<br>LONG.) 80°33'04.9"<br>DEC. LAT.) 40.163911<br>DEC. LONG.) 80.551373 |
| <b>TP (NAD 27)</b><br>N) 602549.2<br>E) 1709095.1<br>LAT.) 40°08'58.8"<br>LONG.) 80°32'26.3"<br>DEC. LAT.) 40.149672<br>DEC. LONG.) 80.540631 | <b>BOTTOM HOLE (NAD 27)</b><br>N) 607745.4<br>E) 1706095.2<br>LAT.) 40°09'49.8"<br>LONG.) 80°33'05.7"<br>DEC. LAT.) 40.163839<br>DEC. LONG.) 80.551579 |

FILE #: CHE 049  
DRAWING #: 1590  
SCALE: 1" = 2000'  
MINIMUM DEGREE OF ACCURACY: 1/200  
PROVEN SOURCE: SUBMETER MAPPING GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.  
Signed: *[Signature]*  
L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
WVDEP  
OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25304

Well Type:  Oil  Waste Diposal  Production  Deep  Gas  Liquid Injection  Storage  Shallow

WATERSHED: UPPER OHIO SOUTH  
COUNTY/DISTRICT: OHIO / LIBERTY  
SURFACE OWNER: GARY AND TERRY KESTNER  
OIL & GAS ROYALTY OWNER: GARY AND TERRY KESTNER  
LEASE NUMBERS:

DATE: APRIL 27, 2011  
OPERATOR'S WELL #: GARY KESTNER 3H  
API WELL #: 47 69  
STATE COUNTY PERMIT 00081H

ELEVATION: 1,300'  
QUADRANGLE: BETHANY, WV  
ACREAGE: 95.98 +/-  
ACREAGE: 486.22 +/-

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
PLUG OFF FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON   
CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY): TVP 6400'

TARGET FORMATION: MARCELLUS  
ESTIMATED DEPTH: 12,476' TMD  
WELL OPERATOR: CHESAPEAKE APPALACHIA, LLC.  
DESIGNATED AGENT: ERIC GILLESPIE  
ADDRESS: PO BOX 18496  
ADDRESS: PO BOX 6070  
CITY: OKLAHOMA CITY STATE: OK ZIP CODE: 73154-0496  
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

Form IR-11A

State of West Virginia  
Office of Oil and Gas

# INSPECTORS REPORT

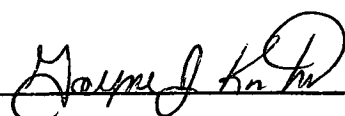
Operator: Chesapeake

API Number: 69-00081

## Findings:

Inspect access road and well pad. There are no  
soil erosion or sediment control issues

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

  
Oil & Gas Inspector

1/9/2013  
Date

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Discharge Monitoring Report  
Oil and Gas General Permit

Company Name: Chesapeake Appalachia, L.L.C.  
API No: 47-06900081 County: Ohio  
District: Liberty Well No: Gary Kestner 3H 833341  
Farm Name: Kestner, Gary & Terry  
Discharge Date/s From:(MMDDYY) N/A - No discharges To: (MMDDYY) N/A  
Discharge Times From: N/A To: N/A

Total Volume to be Disposed from this facility (gallons):  
Disposal Option(s) Utilized (write volumes in gallons):

- (1) Land Application: \_\_\_\_\_ (Include a topographical map of the Area.)
- (2) UIC: \_\_\_\_\_ Permit No. \_\_\_\_\_
- (3) Offsite Disposal: \_\_\_\_\_ Site Location: \_\_\_\_\_
- (4) Reuse: \_\_\_\_\_ Alternate Permit Number: \_\_\_\_\_
- (5) Centralized Facility: \_\_\_\_\_ Permit No. \_\_\_\_\_
- (6) Other method: \_\_\_\_\_ (Include an explanation)

Follow Instructions below to determine your treatment category:

- Optional Pretreatment test: \_\_\_\_\_ Cl- mg/l \_\_\_\_\_ DO mg/l
1. Do you have permission to use expedited treatment from the Director or his representative?  
(Y/N) \_\_\_\_\_ If yes, who? \_\_\_\_\_ and place a four (4) on line 7.  
If not go to line 2
  2. Was Frac Fluid or flowback put into the pit? (Y/N) \_\_\_\_\_ If yes, go to line 5. If not, go to line 3.
  3. Do you have a chloride value pretreatment (see above)? (Y/N) \_\_\_\_\_ If yes, go to line 4  
If not, go to line 5.
  4. Is the Chloride level less than 5000 mg/l? (Y/N) \_\_\_\_\_ If yes, then enter a one (1) on line 7.
  5. Do you have a pretreatment value for DO? (See above) (Y/N) \_\_\_\_\_ If yes, go to line 6  
If not, enter a three (3) in line 7.
  6. Is the DO level greater than 2.5 mg/l?(Y/N) \_\_\_\_\_ If yes, enter a two (2) on line 7. If not, enter a three (3) on line 7.
  7. \_\_\_\_\_ is the category of your pit. Use the Appropriate section.
  8. Comments on Pit condition: CLOSED LOOP SYSTEM

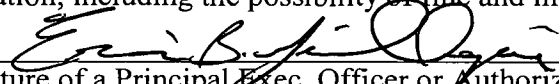
**RECEIVED**  
**Office of Oil & Gas**

DEC 14 2012

Name of Principal Exec. Officer Eric B. Gillespie  
Title of Officer: Designated Agent  
Date Completed: December 11, 2012

**WV Department of  
Environmental Protection**

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

  
Signature of a Principal Exec. Officer or Authorized agent.

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

DATE: 2-21-2012 **05/24/2019**  
API #: 47-069-00081

Farm name: Gary Kestner 3H Operator Well No.: 833341

LOCATION: Elevation: 1290' Quadrangle: Bethany, WV

District: Liberty County: Ohio  
Latitude: 9880 Feet South of 40 Deg. 10 Min. 00 Sec.  
Longitude 5620 Feet West of 80 Deg. 30 Min. 00 Sec.

Company: Chesapeake Appalachia, L.L.C.

| Address:   | Casing & Tubing | Used in drilling | Left in well | Cement fill up Cu. Ft. |
|--|-----------------|------------------|--------------|------------------------|
| P.O. Box 18496<br>Oklahoma City, OK 73154-0496   | 20"             | 100'             | 100'         | Driven                 |
| Agent: Eric Gillespie  | 13 3/8"         | 696'             | 696'         | 680 Cu. Ft.            |
| Inspector: <b>Bill Hendershot</b>  | 9 5/8"          | 2167'            | 2167'        | 1018 Cu. Ft.           |
| Date Permit Issued: 5/5/2011   | 5 1/2"          | 12495'           | 12495'       | 11135 Cu. Ft.          |
| Date Well Work Commenced: 6/7/2011   |                 |                  |              |                        |
| Date Well Work Completed: 2/6/2012   |                 |                  |              |                        |
| Verbal Plugging:   |                 |                  |              |                        |
| Date Permission granted on:  |                 |                  |              |                        |
| Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/> |                 |                  |              |                        |
| Total Vertical Depth (ft): 6,423'  |                 |                  |              |                        |
| Total Measured Depth (ft): 12,495'   |                 |                  |              |                        |
| Fresh Water Depth (ft.): 30'   |                 |                  |              |                        |
| Salt Water Depth (ft.): 1035'  |                 |                  |              |                        |
| Is coal being mined in area (N/Y)? <u>N</u>  |                 |                  |              |                        |
| Coal Depths (ft.): 658'  |                 |                  |              |                        |
| Void(s) encountered (N/Y) Depth(s) <u>N</u>  |                 |                  |              |                        |

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 6,743'-12,350'  
Gas: Initial open flow 0 MCF/d Oil: Initial open flow 0 Bbl/d  
Final open flow 1,121 MCF/d Final open flow 126 Bbl/d  
Time of open flow between initial and final tests 64 Hours  
Static rock Pressure 4,148 psig (surface pressure) after      Hours

Second producing formation      Pay zone depth (ft)       
Gas: Initial open flow      MCF/d Oil: Initial open flow      Bbl/d  
Final open flow      MCF/d Final open flow      Bbl/d  
Time of open flow between initial and final tests      Hours  
Static rock Pressure      psig (surface pressure) after      Hours

RECEIVED  
Office of Oil & Gas  
JUL 31 2012  
WV Department of Environmental Protection

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marlene Williams  
Signature

7-30-2012  
Date

Were core samples taken? Yes \_\_\_\_\_ No

Were cuttings caught during drilling? Yes  No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list induction, GR, density, neutron

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

(See Attached)

Plug Back Details Including Plug Type and Depth(s):

| <u>Formations Encountered:</u> | <u>Top Depth</u> | <u>/</u> | <u>Bottom Depth</u> |
|--------------------------------|------------------|----------|---------------------|
| <u>Surface:</u>                |                  |          |                     |

(See Attached)

REGISTRATION  
BUREAU OF OIL & GAS

JUL 31 2012

NV Department of  
Environmental Protection

PERFORATION RECORD ATTACHMENT

Well Name and Number: Gary Kestner 3H (833341)

| PERFORATION RECORD |                     |        | STIMULATION RECORD |                  |        |         |        |                |         |                   |
|--------------------|---------------------|--------|--------------------|------------------|--------|---------|--------|----------------|---------|-------------------|
| Date               | Interval Perforated |        | Date               | Interval Treated |        | Fluid   |        | Propping Agent |         | Average Injection |
|                    | From                | To     |                    | Type             | Amount | Type    | Amount |                |         |                   |
| 2/5/2012           | 11,968              | 12,350 | 2/5/2012           | 11,968           | 12,350 | Slk Wtr | 13,654 | Sand           | 731,678 | 85.0              |
| 2/7/2012           | 11,493              | 11,875 | 2/7/2012           | 11,493           | 11,875 | Slk Wtr | 13,688 | Sand           | 710,954 | 86.0              |
| 2/7/2012           | 11,018              | 11,400 | 2/7/2012           | 11,018           | 11,400 | Slk Wtr | 13,645 | Sand           | 715,941 | 86.0              |
| 2/8/2012           | 10,543              | 10,925 | 2/8/2012           | 10,543           | 10,925 | Slk Wtr | 13,682 | Sand           | 712,450 | 85.0              |
| 2/8/2012           | 10,068              | 10,450 | 2/8/2012           | 10,068           | 10,450 | Slk Wtr | 13,696 | Sand           | 680,000 | 87.0              |
| 2/9/2012           | 9,593               | 9,975  | 2/9/2012           | 9,593            | 9,975  | Slk Wtr | 13,860 | Sand           | 701,200 | 85.0              |
| 2/9/2012           | 9,118               | 9,500  | 2/9/2012           | 9,118            | 9,500  | Slk Wtr | 14,468 | Sand           | 708,700 | 87.0              |
| 2/10/2012          | 8,643               | 9,025  | 2/10/2012          | 8,643            | 9,025  | Slk Wtr | 13,723 | Sand           | 710,000 | 85.0              |
| 2/10/2012          | 8,168               | 8,545  | 2/10/2012          | 8,168            | 8,545  | Slk Wtr | 13,993 | Sand           | 712,400 | 86.0              |
| 2/11/2012          | 7,693               | 8,075  | 2/11/2012          | 7,693            | 8,075  | Slk Wtr | 13,593 | Sand           | 710,700 | 85.0              |
| 2/13/2012          | 7,218               | 7,600  | 2/13/2012          | 7,218            | 7,600  | Slk Wtr | 14,063 | Sand           | 721,500 | 85.0              |
| 2/13/2012          | 6,743               | 7,125  | 2/13/2012          | 6,743            | 7,125  | Slk Wtr | 13,670 | Sand           | 689,900 | 84.0              |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |
|                    |                     |        |                    |                  |        |         |        |                |         |                   |

RECEIVED  
Office of Oil & Gas

JUL 31 2012

WV Department of  
Environmental Protection

05/24/2019

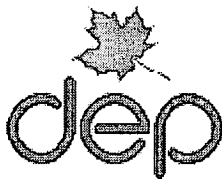
| <b>LATERAL SIDETRACK WELLBORE (no pilot hole associated with this pad)</b> |                             |                     |                       |                        |
|--|-----------------------------|---------------------|-----------------------|------------------------|
| <b>Maximum TVD of wellbore:</b>  | 6438.47 ft TVD @ 6738 ft MD |                     |                       |                        |
|  |                             |                     |                       |                        |
| Formation/Lithology  | Top Depth, MD (ft)          | Top Depth, TVD (ft) | Bottom Depth, MD (ft) | Bottom Depth, TVD (ft) |
| LS / SHALE   | 0                           | 0                   | 250                   | 250                    |
| SS/SHALE   | 250                         | 250                 | 500                   | 500                    |
| LS / SHALE   | 500                         | 500                 | 658                   | 658                    |
| PITTSBURGH COAL  | 658                         | 658                 | 670                   | 670                    |
| SS   | 670                         | 670                 | 1723                  | 1723                   |
| BIG INJUN  | 1723                        | 1723                | 1987                  | 1987                   |
| SHALE  | 1987                        | 1987                | 3350                  | 3350                   |
| SHALE / SS   | 3350                        | 3350                | 3380                  | 3380                   |
| SHALE  | 3380                        | 3380                | 6267                  | 6246                   |
| GENESEO  | 6267                        | 6246                | 6290                  | 6265                   |
| TULLY  | 6290                        | 6265                | 6340                  | 6303                   |
| HAMILTON   | 6340                        | 6303                | 6605                  | 6423                   |
| MARCELLUS  | 6605                        | 6423                |                       |                        |
| END OF WELL  |                             |                     | 12494                 | 6383                   |

RECEIVED  
Office of Oil & Gas

JUL 31 2012

WV Department of  
Environmental Protection

05/24/2019



---

**west virginia** department of environmental protection

---

Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
(304) 926-0450  
(304) 926-0452 fax

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
www.dep.wv.gov

May 05, 2011

**WELL WORK PERMIT**

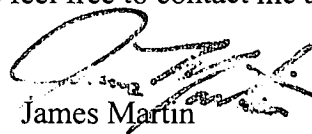
**Horizontal Well**

This permit, API Well Number: 47-6900081, issued to CHESAPEAKE APPALACHIA, L.L.C., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin  
Chief

Operator's Well No: GARY KESTNER 3H  
Farm Name: KESTNER, GARY & TERRY

**API Well Number: 47-6900081**

**Permit Type: Horizontal Well**

Date Issued: 05/05/2011

**Promoting a healthy environment.**



18

05/24/2019

69-00081H

WW - 2B  
(Rev. 8/10)

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**WELL WORK PERMIT APPLICATION**

1) Well Operator Chesapeake Appalachia, LLC  
Operator ID 494477557 County 69-Ohio District 3-Liberty Quadrangle 247-Bethany

2) Operator's Well Number: Gary Kestner 3H 3) Elevation: 1300' ✓

4) Well Type: (a) Oil \_\_\_\_\_ or Gas XX  
(b) If Gas: Production XX / Underground Storage \_\_\_\_\_  
Deep \_\_\_\_\_ / Shallow XX

5) Proposed Target Formation(s): Marcellus Proposed Target Depth: 6400'

6) Proposed Total Depth: 12900' Feet Formation at Proposed Total Depth: Marcellus

7) Approximate fresh water strata depths: 30'

8) Approximate salt water depths: 1035'

9) Approximate coal seam depths: 668'

10) Approximate void depths, (coal, Karst, other): None that we are aware of.

11) Does land contain coal seams tributary to active mine? No

12) Describe proposed well work in detail Drill and stimulate any potential producing zones between and including the Benson to the Marcellus.

**13) CASING AND TUBING PROGRAM**

|                     | TYPE   | SPECIFICATIONS |               | FOOTAGE INTERVALS |              | CEMENT                |
|---------------------|--------|----------------|---------------|-------------------|--------------|-----------------------|
|                     | Size   | Grade          | Weight per ft | For Drilling      | Left in Well | Fill -up (Cu. Ft.)    |
| Conductor           | 20"    | LS             |               | 100'              | 100'         | CTS ✓                 |
| Fresh Water         | 13 3/8 | J-55           | 54.5#         | 718'              | 718'         | CTS ✓                 |
| Coal / Intermediate | 9 5/8  | J-55           | 40#           | 2170'             | 2170'        | CTS ✓                 |
| Intermediate        | 7      | P-110          | 29#           | If Needed         | If Needed    | If Needed / as needed |
| Production          | 5 1/2  | P-110          | 20#           | 12900'            | 12900' /     | as needed             |
| Tubing              |        |                |               |                   |              |                       |
| Liners              |        |                |               |                   |              |                       |

*REC*  
*4/22/11*  
*wst*  
*3/29/11*

Packers: Kind  
1464723 Sizes  
550 Depths Set

**RECEIVED**  
**Office of Oil & Gas**  
MAR 31 2011  
WV Department of  
Environmental Protection

05/24/2019

WW-2A  
(Rev. 6-07)

1.) Date: March 29, 2011  
2.) Operator's Well Number Gary Kestner 3H  
State          County          Permit           
3.) API Well No.: 47-69-Ohio - 00081H

**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE AND APPLICATION FOR A WELL WORK PERMIT**

4) Surface Owner(s) to be served: (a) Name Gary & Terry Kestner Address 1787 Rockwoods Road Valley Grove, WV 26060 (b) Name Joseph E & Marjorie G Ennis Address 370 E. Burdick Rd Chesterton, IN 46304 (c) Name          Address           
5) (a) Coal Operator Name          Address          (b) Coal Owner(s) with Declaration Name Windsor Coal Company Address 1000 Consol Energy Drive Canonsburg, PA 15317 (c) Coal Lessee with Declaration Name          Address           
6) Inspector Bill Hendershot Address 403 James Street Mannington, WV 26582 Telephone (304) 206-7750

**TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:**

         Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas  
**OR**

xx Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)  
I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through          on the above named parties by:

- Personal Service (Affidavit attached)
- xx Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

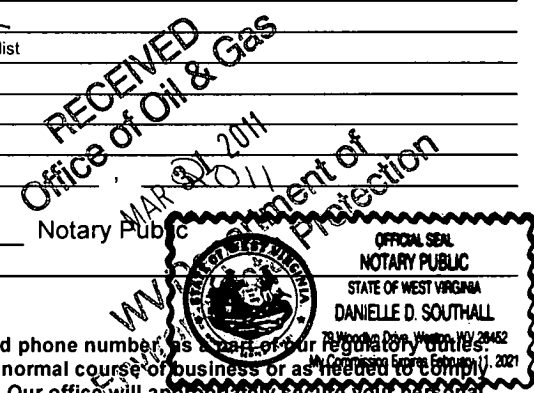
I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator Chesapeake Appalachia, L.L.C.  
By: Dee Swiger  
Its: Regulatory compliance Specialist  
Address P.O. Box 1300 Jane Lew, WV 26378  
Telephone 304-517-1416 ext. 86017

Subscribed and sworn before me this 30<sup>th</sup> day of March



My Commission Expires Feb. 11, 2021

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as required by law with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at [depprivacyoffier@wv.gov](mailto:depprivacyoffier@wv.gov).

WW-2A1  
(Rev. 8/02)

Operator's Well Number Gary Kestner 3H

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6, Section 8(d)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

| Grantor, lessor, etc.       | Grantee, lessee, etc.                                     | Royalty | Book/Page |
|-----------------------------|---|---------|-----------|
| Gary & Terry Kestner        | Chesapeake Appalachia, LLC                                | 1/8     | 767@213   |
| Joseph & Marjorie Ennis     | Great lakes Partners, LLC to Chesapeake Appalachia, LLC   | 1/8     | 771@748   |
| Sharon Garrison-Life Estate | Chesapeake Appalachia, LLC                                | 1/8     | 813@627   |
| Robert H Fish               | Great Lakes Energy Partners to Chesapeake Appalachia, LLC | 1/8     | 770@411   |
| Chad & Julie Cox            | Chesapeake Appalachia, LLC                                | 1/8     | 814@555   |
| Michael Breilinger          | Great lakes Partners, LLC to Chesapeake Appalachia, LLC   | 1/8     | 771@284   |

Well Operator: Chesapeake Appalachia, L.L.C.

By: Dee Swiger  
Regulatory Compliance Specialist

RECEIVED  
Office of Oil & Gas  
MAR 31 2011  
WV Department of  
Environmental Protection



69-0008174 05/24/2019

Monty C. Mayfield  
Landman

March 30, 2011

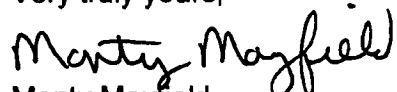
Ms. Laura Adkins  
WV DEP Office of Oil & Gas  
601 57<sup>th</sup> St., SE  
Charleston, WV 25304

Re: Chesapeake's Proposed Well Gary Kestner 3H right to drill under Co. Hwy 12  
in Ohio County, West Virginia

Dear Ms. Adkins:

Chesapeake Appalachia, L.L.C. ("CHK") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to CHK's right to drill under Co. Hwy 12. Please be advised that CHK has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Very truly yours,

  
Monty Mayfield

Chesapeake Appalachia, LLC

RECEIVED  
Office of Oil & Gas

MAR 31 2011

WV Department of  
Environmental Protection

MM/dds

05/24/2019  
69-0008111



Monty C. Mayfield  
Landman

February 23, 2011

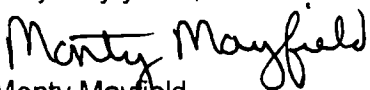
Ms. Laura Adkins  
WV DEP Office of Oil & Gas  
601 57<sup>th</sup> St., SE  
Charleston, WV 25304

Re: Chesapeake's Proposed Well Gary Kestner 3H right to drill under Rock Wood Road  
in Ohio County, West Virginia

Dear Ms. Adkins:

Chesapeake Appalachia, L.L.C. ("CHK") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to CHK's right to drill under Rock Wood Road. Please be advised that CHK has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Very truly yours,

  
Monty Mayfield

Chesapeake Appalachia, LLC

MM/dds

RECEIVED  
Office of Oil & Gas  
MAR 31 2011  
WV Department of  
Environmental Protection



Operator: Chesapeake Appalachia, LLC

Operator's Well #: Gary Kestner 3H

API Well #: 047 69 00081H  
State County Permit

West Virginia Department of Environmental Protection  
Office of Oil and Gas

SURFACE OWNERS WITH WATER SOURCES WITHIN 1000 FEET

Name Robt H & E L Fish  
Address RR 2 Box 203  
City Wheeling State WV Zip Code 26003

Name Gilbert L & P L Atkinson  
Address 11514 Dove Lane  
City St Clairsville State OH Zip Code 43950

Name Jeff Eisenhauer  
Address 1159 Castleman Run  
City Valley Grove State WV Zip Code 26060

Name Richard & Jeanette Kelley  
Address 2285 Rock Woods Rd  
City Valley Grove State WV Zip Code 26060

Name Timothy Ryan  
Address 1587 Washington Pike  
City Wellsburg State OH Zip Code 26070

Name Greg Mormanis  
Address PO Box 192  
City Valley Grove State WV Zip Code 26060

Name Chad Hixenbaugh  
Address 3993 Grimes Ridge Rd  
City Valley Grove State WV Zip Code 26060

Name Arthur Pickens  
Address 1959 Castleman  
City Valley Grove State WV Zip Code 26060

Name Joyce Ann Strauss  
Address 2233 Castlemans Run Rd  
City Valley Grove State WV Zip Code 26060

Name Helen & John Tominack  
Address 2878 Battle Run Rd  
City Wheeling State WV Zip Code 26003

Name Robert Gear  
Address 3904 Grimes Ridge Rd  
City Valley Grove State WV Zip Code 26060

Name Richard & Cheryl Cowan  
Address 2049 Rock Woods Rd  
City Valley Grove State WV Zip Code 26060

Name Dolores Ambrister  
Address 2355 Rock Woods Rd  
City Valley Grove State WV Zip Code 26060

Name George F Smith  
Address RR 2 Box 197  
City Wheeling State WV Zip Code 26003

RECEIVED  
Office of Oil & Gas  
MAR 31 2011  
WV Department of  
Environmental Protection

Operator: Chesapeake Appalachia, LLC

Operator's Well #: Gary Kestner 3H

API Well #: 047 69 00081H  
State County Permit

West Virginia Department of Environmental Protection  
Office of Oil and Gas

SURFACE OWNERS WITH WATER SOURCES WITHIN 1000 FEET

Name Sharon Garrison (Life Estate)/Thelma & Timothy Hays  
Address RR 2 Box 207A  
City Wheeling State WV Zip Code 26003

Name Marjorie & Joseph Ennis  
Address 370 E Burdick Rd  
City Wheeling State WV Zip Code 26003

Name Donald F & J L Dolence  
Address PO Box 233  
City Wheeling State WV Zip Code 26003

Name Lynn McElvany  
Address RR 2 Box 251  
City Valley Grove State WV Zip Code 26060

Name Tunnel Ridge  
Address 2596 Battle Run Rd  
City Wheeling State WV Zip Code 26003

Name Gary & Terry Kestner  
Address RR 2 Box 200  
City Wheeling State WV Zip Code 26003

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

RECEIVED  
Office of Oil & Gas  
MAR 31 2011  
WV Department of  
Environmental Protection



STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM  
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name Chesapeake Appalachia, L.L.C. OP Code 494477557

Watershed Upper Ohio South Quadrangle 247-Bethany

Elevation 1300' County 69-Ohio District 3-Liberty

Description of anticipated Pit Waste: Closed loop system in place at this time - cuttings will be taken to a permitted landfill.

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes XX No \_\_\_\_\_

Will a synthetic liner be used in the pit? No \_\_\_\_\_ . If so, what ml.? \_\_\_\_\_

Proposed Disposal Method For Treated Pit Wastes:

- \_\_\_\_\_ Land Application
- XX \_\_\_\_\_ Underground Injection ( UIC Permit Number 2D0072539/2D0413175/2D0610306/2D0610317 )
- XX \_\_\_\_\_ Reuse (at API Number at next anticipated well, API# will be included with the WR34/DDMR &/or permit addendum )
- \_\_\_\_\_ Off Site Disposal (Supply form WW-9 for disposal location)
- XX \_\_\_\_\_ Other (Explain Flow back fluids will be put in steel tanks and reused or taken to a permitted disposal facility. )

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air and salt saturate mud

-If oil based, what type? Synthetic, petroleum, etc. Synthetic Base

Additives to be used? \_\_\_\_\_

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

-If left in pit and plan to solidify what medium will be used? Cement, lime, sawdust

-Landfill or offsite name/permit number? Meadowfill #0109193 or S&S Grading #0109151 or Waste Management Parkersburg 0109193

\*\*Republic Services/Allied Waste Short Creek Wheeling PA. SWF-1034/WV0109517/Republic Services/Allied Waste Carbon Limestone Landfill CID28726  
Waste Management Arden Landfill PA SWF-100172/Waste Management Shade Landfill PA SWF-101421/Republic Allied waste Greentidge PA SWF-100281

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature [Signature]

Company Official (Typed Name) Dee Swiger

Company Official Title Regulatory Compliance Specialist

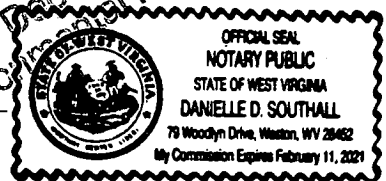
Subscribed and sworn before me this 30th day of March, 20 11

[Signature] Notary Public

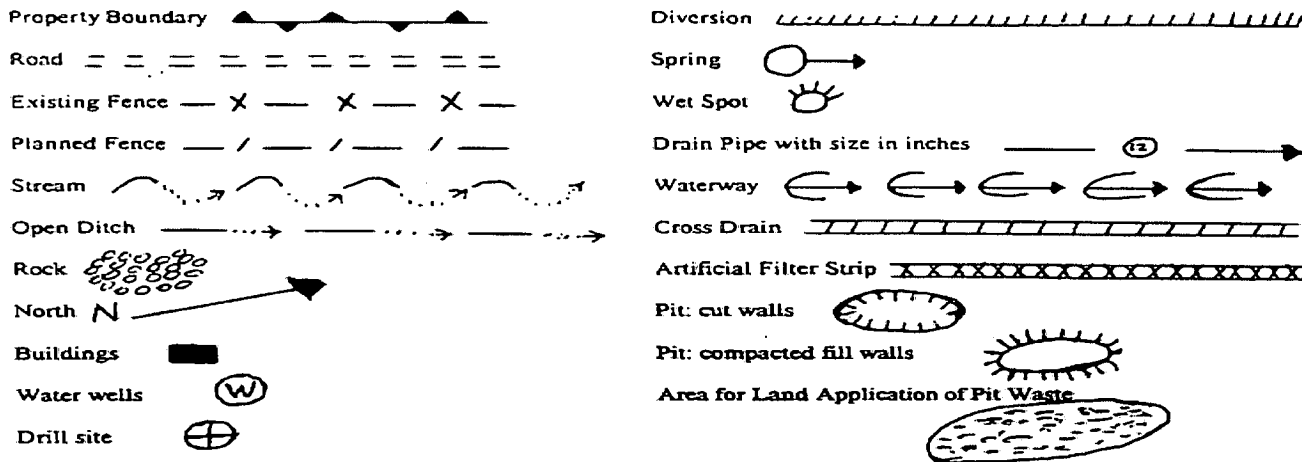
My commission expires Feb. 11, 2021

RECEIVED  
Office of Oil & Gas  
MAR 31 2011

WV Department of  
Environmental Protection



LEGEND



Proposed Revegetation Treatment: Acres Disturbed 10 +/- Prevegetation pH           

Lime as determined by pH test min. 2            Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch Hay/Straw 2 Tons/acre

Seed Mixtures

| Seed Type          | Area I<br>lbs/acre | Seed Type          | Area II<br>lbs/acre |
|--------------------|--------------------|--------------------|---------------------|
| Kentucky Bluegrass | 20                 | Kentucky Bluegrass | 20                  |
| Red Top            | 15                 | Red Top            | 15                  |
| White Clover       | 15                 | White Clover       | 15                  |

Attach:  
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *William Chelsky* *JC 3/29/11*

Comments: \_\_\_\_\_

Title: Oil & Gas State Inspector

Date: 3/29/11

Field Reviewed?  Yes     No

RECEIVED  
Office of Oil & Gas  
MAR 31 2011  
Department of  
Environmental Protection

69-00081H  
05/24/2011

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas

**Well Work Permit Application Addendum**

(To be completed when fluid volumes used or disposed may be greater than 5000 barrels)

1) Well Operator: Chesapeake Appalachia, LLC

2) Operator ID Number: 494477557

3) Operator's Well Number: Gary Kestiner 3H

4) County: Ohio

5) Approximate Amount of Water to be Used (bbls.): 120,000

6) Fracture/Drilling Water Source (estimate % of each source to be used)

40% Surface Water \_\_\_ Groundwater 40% Purchased Water 20% Reused Water

7) Location of Surface Water Source (if applicable)

a) County: Brooke

Water Source Name: Ohio River

Latitude (d/m/s): N40° 13' 36.8"

Longitude (d/m/s): W80° 39' 32.3"

NAD 83  or NAD 27

b) Anticipated month(s) of water withdrawals: September – October 2011

8) Location of Groundwater Source (if applicable)

a) County:

Water Source Name/ID:

Latitude (d/m/s):

Longitude (d/m/s):

NAD 83  or NAD 27

b) Anticipated month(s) of water withdrawals:

9) Location of Purchased Water Source (if applicable)

Public/Private Water System Name: Ohio Co. PSD/ Valley Grove PSD/PA Am. Water

10) Location of Reused Water (if applicable)

County: Marshall

Well/Facility ID: Consolidation Coal Co.

RECEIVED  
Office of Oil & Gas  
MAR 31 2011  
WV Department of  
Environmental Protection

11) Will Centralized Pits/Ponds Be Utilized yes no

Location (if applicable)

Latitude (d/m/s): N40° 08' 52.98" Longitude (d/m/s): W80° 32' 23.80"

Dimensions in Feet (if applicable)

Length: 300' Width: 100' Depth: 15'

NAD 83  or NAD 27

12) Water Disposal Method (estimate % each facility is to receive)

Land Application:

30% UIC—provide UIC permit number(s): 2D0072539, 2D0413175, 2D0610306, 2D06910317


POTW—provide facility name:

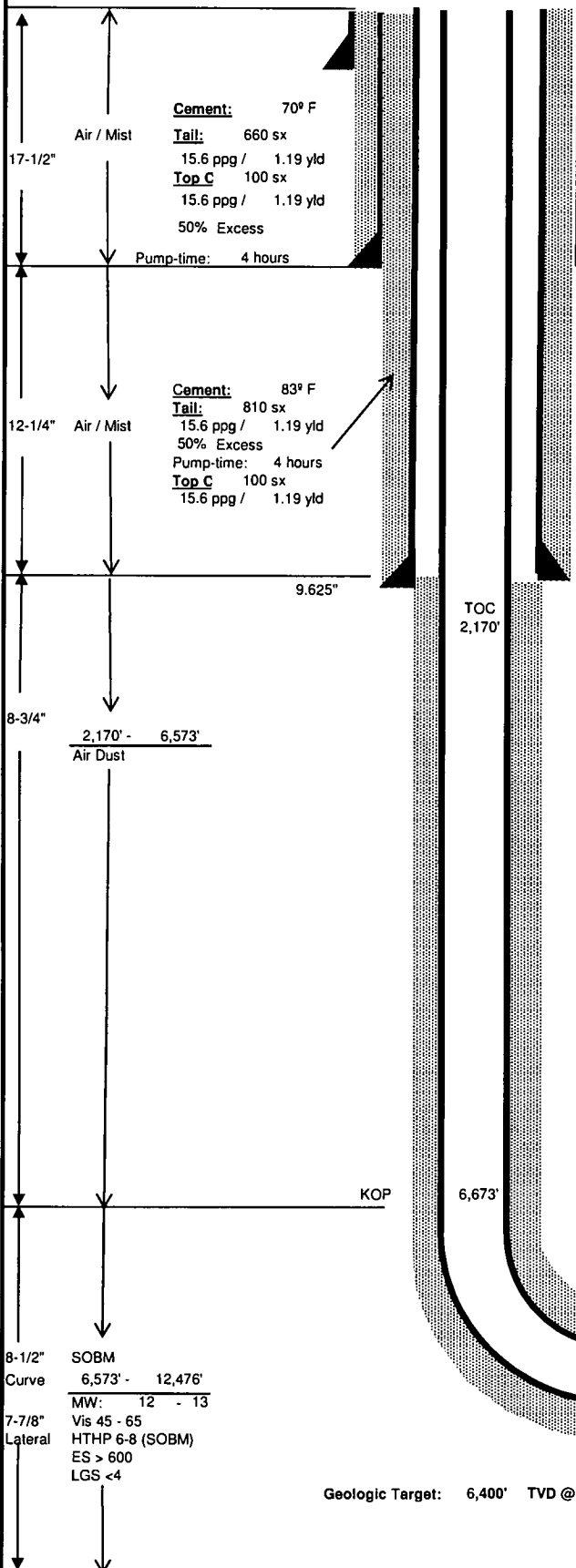
NPDES—provide permit number:

70% Other: Reuse

RECEIVED  
Office of Oil & Gas  
MAR 31 2011  
WV Department of  
Environmental Protection

69-000814

|  |                                    |                                      |                                |
|--|------------------------------------|--------------------------------------|--------------------------------|
|  |                                    | <b>Well Name:</b> GARY KESTNER 3H    | <b>Drilling Rig:</b> N/A       |
| <b>Drilling Engineer:</b> Lacey Sharp  | <b>Formation:</b> Marcellus        | <b>Directional Drilling:</b> N/A     | <b>Drilling Mud:</b> N/A       |
| <b>Superintendent:</b> N/A   | <b>County, State:</b> Ohio, WV     | <b>Cement Surface:</b> N/A           | <b>Cement Longstrings:</b> N/A |
| <b>Asset Manager:</b> N/A  | <b>Surface Latitude:</b> 40.148593 | <b>Surface Longitude:</b> -80.541506 | <b>Wellhead:</b> N/A           |
| <b>Geologist:</b> N/A  | <b>BH Latitude:</b> 40.163839      | <b>BH Longitude:</b> -80.551579      | <b>AFE #:</b> N/A              |
| <b>Land:</b> N/A   | <b>KB Elevation:</b> 1320'         | <b>Ground Elevation:</b> 1300'       |                                |



| Wellhead Equipment |                        |
|--------------------|------------------------|
| Tree Description   | Blanking Cap           |
| Tubing Head **     | 11" x 5M x 7-1/16" 10M |
| 'B' Section        | 9-5/8" SOW x 11" 5M    |
| 'A' Section        |                        |

\*\* Space out such that Blanking Cap is no more than 30" above grade.

| Casing Detail |        |        |       |       |       |         |
|---------------|--------|--------|-------|-------|-------|---------|
|               | Size   | Wt     | Grd   | Conn. | From: | To:     |
| Surface       | 13.375 | 54.5 # | J-55  | STC   | 0'    | 718'    |
| Interm        | 9.625  | 40 #   | J-55  | LTC   | 0'    | 2,170'  |
| Prod          | 5.5    | 20 #   | P-110 | GBCD  | 0'    | 12,476' |

| Casing Design |        |        |       |       |      |         |
|---------------|--------|--------|-------|-------|------|---------|
|               | Size   | ID     | Coll  | Burst | Tens | MU torq |
| Surface       | 13.375 | 12.615 | 1130  | 2740  | 514  | 5140    |
| Interm        | 9.625  | 8.835  | 2570  | 3950  | 520  | 5200    |
| Prod          | 5.5    | 4.778  | 12200 | 12360 | 641  | 8530    |

Surface Nudge for Anti-Collision purposes.

| Directional Drilling Details |         |       |         |        |       |       |                     |           |
|------------------------------|---------|-------|---------|--------|-------|-------|---------------------|-----------|
| Section                      | TMD     | Inc.  | Azimuth | TVD    | BUR   | DLS   | +N-S                | +E-W      |
| Surface                      | 0.00'   | 0.00  | 0.00    | 0.00'  | 0.00  | 0.00  | 0.0'                | 0.0'      |
| Surface                      | 180'    | 0.00  | 0.00    | 180'   | 0.00  | 0.00  | 0.0'                | 0.0'      |
| Surface                      | 190'    | 0.00  | 0.00    | 190'   | 0.00  | 0.00  | 0.0'                | 0.0'      |
| Surf Csg                     | 718'    | 0.00  | 0.00    | 718'   | 0.00  | 0.00  | 0.0'                | 0.0'      |
| Interm Csg                   | 2,170'  | 0.00  | 0.00    | 2,170' | 0.00  | 0.00  | 0.0'                | 0.0'      |
| Hold                         | 2,300'  | 0.00  | 0.00    | 2,300' | 0.00  | 0.00  | 0.0'                | 0.0'      |
| KOP2                         | 5,923'  | 0.00  | 0.00    | 5,923' | 0.00  | 0.00  | 0.0'                | 0.0'      |
| Landing Pt                   | 6,673'  | 90.00 | 352.87  | 6,400' | 12.00 | 12.00 | 473.8'              | -59.3'    |
| Nudge                        | 7,816'  | 90.00 | 330.00  | 6,400' | 0.00  | 2.00  | 1,550.6'            | -420.9'   |
| TD                           | 12,476' | 90.00 | 330.00  | 6,400' | 0.00  | 0.00  | 5,586.2'            | -2,750.9' |
| VS Plane                     | 330.00  |       |         |        |       |       | VS Length 6,213.21' |           |

Lateral Length ==> 5,803.40'

| Logging Program |          |          |
|-----------------|----------|----------|
| Run             | Log Type | Interval |
| 1               | TBD      | TBD      |
| 2               | TBD      | TBD      |

Mudlogger operational at Surface

| Formation Depths (TVD) |        |
|------------------------|--------|
| BASE BIG INJUN         | 2,020' |
| GENESEO                | 6,204' |
| TULLY                  | 6,226' |
| HAMILTON               | 6,266' |
| MARCELLUS              | 6,369' |
| ONONDAGA               | 6,430' |

**Cement:** 120° F  
**Lead:** 820 sx  
 15.2 ppg / 1.30 yld  
**Tail:** 1,070 sx  
 15.5 ppg / 1.30 yld  
 15% Excess  
 Pump-time: 5 hours

Geologic Target: 6,400' TVD @ 0° VS w/ 0.00 degrees/100 ft Up-dip

PBHL 5.5"  
 TMD: 12,476'  
 TVD: 6,400'  
 Inclination: 90.00 deg

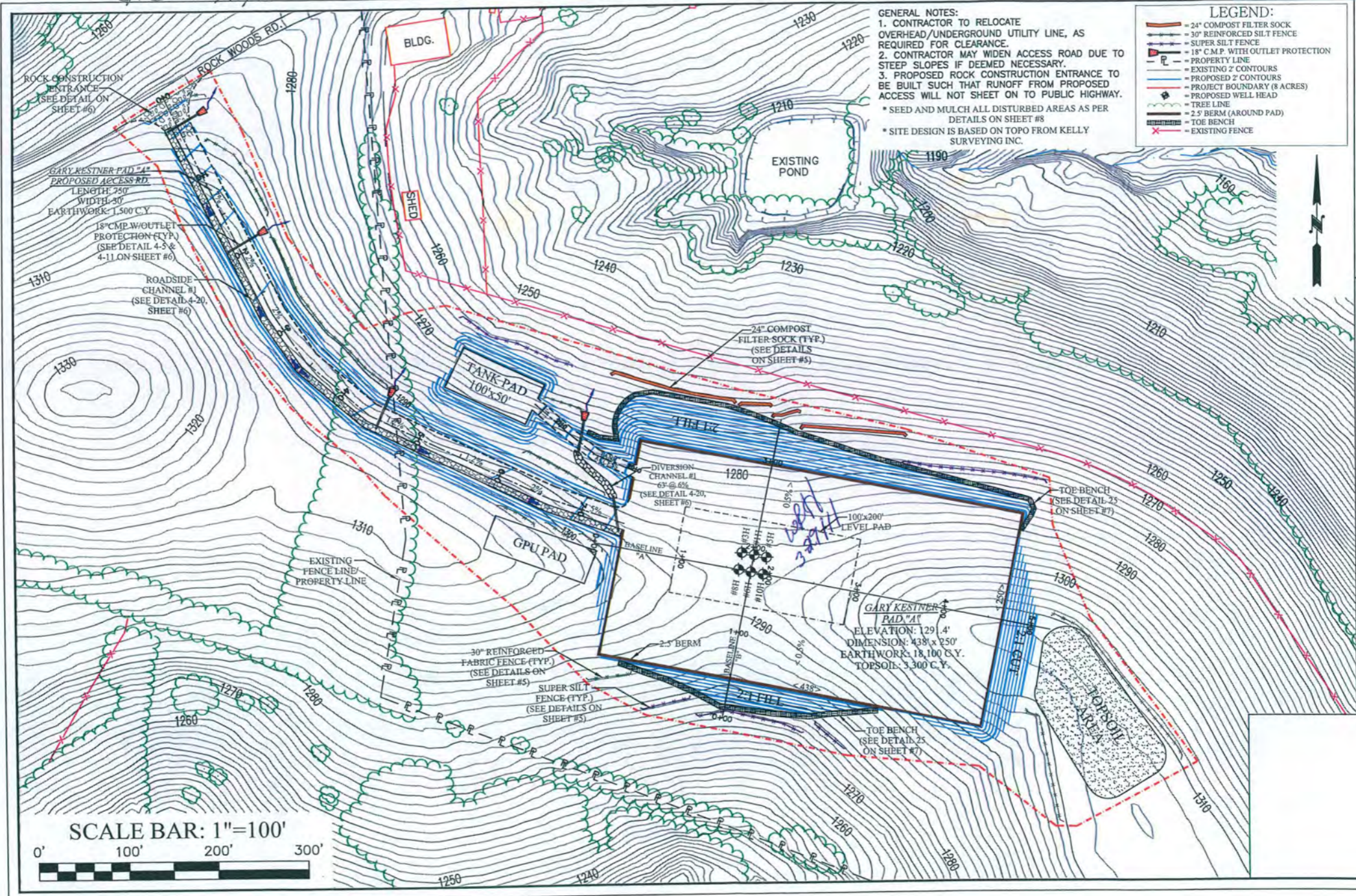
Gyro the 1st well on the pad at KOP.  
 Ensure all Surveys are referenced to Grid North!!

Drawn by: Lacey Sharp  
 Date: 2/16/2011

RECEIVED  
 Office of Oil & Gas  
 MAR 31 2011  
 W. Va. Department of Environmental Protection

1800081H

BR 2/29/11



**BOARD, BENCHEK and ASSOC., INC.**  
 Engineering, Surveying, Construction,  
 and Mining Services  
 Southpointe, PA 15317 Phone: 724-825-0421

**E&S CONTROL AND  
 SITE PLAN**  
 THIS DOCUMENT WAS PREPARED BY:  
 BOARD, BENCHEK AND ASSOC., INC.  
 FOR: CHESAPEAKE APPALACHIA, LLC.

DATE: 1/2011  
 GARY KESTNER  
 PAD "A"  
 LIBERTY DISTRICT,  
 OHIO COUNTY, WV  
 SCALE: 1"=100'

SHEET #2

WELL: GARY KESTNER 3H  
QUAD: BETHANY NORTH, WV

05/24/2019



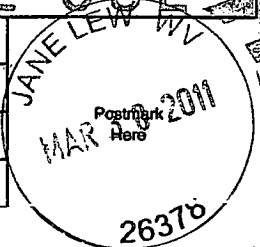
70 0000 6924 6016

**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

|   |         |
|---|---------|
| Postage   | \$ 1.32 |
| Certified Fee                                     | 2.80    |
| Return Receipt Fee<br>(Endorsement Required)      | 2.30    |
| Restricted Delivery Fee<br>(Endorsement Required) |         |



Joseph E. & Marjorie G. Ennis  
370 E. Burdick Rd  
Chesterton, IN 46304

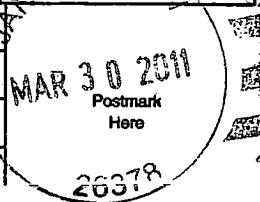
0 0000 6924 6223

**U.S. Postal Service™**  
**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

|   |         |
|---|---------|
| Postage   | \$ 1.32 |
| Certified Fee                                     | 2.80    |
| Return Receipt Fee<br>(Endorsement Required)      | 2.30    |
| Restricted Delivery Fee<br>(Endorsement Required) |         |



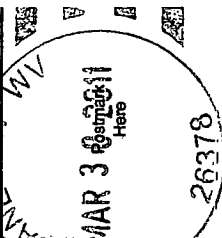
Windsor Coal Company  
1000 Consol Energy Drive  
Canonsburg, PA 15317

**U.S. Postal Service™**  
**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

|   |         |
|---|---------|
| Postage   | \$ 1.32 |
| Certified Fee                                     | 2.80    |
| Return Receipt Fee<br>(Endorsement Required)      | 2.30    |
| Restricted Delivery Fee<br>(Endorsement Required) |         |



Gary & Terry Kestner  
1787 Rockwoods Road  
Valley Grove, WV 26060

9729 4269 0000 02

RECEIVED  
Office of Oil & Gas  
MAR 31 2011  
WV Department of Environmental Protection



05/24/2019

**Adkins, Laura L**

---

**From:** Adkins, Laura L  
**Sent:** Monday, May 02, 2011 11:04 AM  
**To:** 'Dee Eubank-Swiger'; Smith, Gene C  
**Subject:** RE: Bucket list again

Dee,

Please find my responses below in purple ☺

---

**From:** Dee Eubank-Swiger [<mailto:dee.swiger@chk.com>]  
**Sent:** Friday, April 29, 2011 11:39 AM  
**To:** Adkins, Laura L; Smith, Gene C  
**Subject:** FW: Bucket list again

Good Morning~

Below please find my updated buck list. If you are missing anything or need additional information please let me know. I will do whatever you need to help the process flow as smoothly as possible. We are getting close to lot of deadlines and are in jeopardy of losing leases.

Thanks!

Dee

---

**From:** Dee Eubank-Swiger  
**Sent:** Friday, April 15, 2011 3:25 PM  
**To:** 'Adkins, Laura L'; 'Smith, Gene C'  
**Subject:** Bucket list again

Below please find my priority list ☺ I know Monday afternoon I will be ask when they can expect permits.....

Gary Kestner API# 069-00081 at state 30days Need mylar, we received paper plat on 4-27 and it is not to scale, it's showing still a little bit too far to the North

Esther Clark 3H api # 061-01623 at state 75 days Deep, Cindy gave it deep well approval this morning, I have to complete OOG's review now.

Dellslow API# 077-00571 at state 73 days (let me know if the lease information provided will suffice) Jody is reviewing revised lease info that was received on 4-27

Barry Greathouse A 10H API# 009-0093 at state 40 days ( requested casing revision was sent) We are researching the freshwater depths on these, it appears to be around 400' at this time not 55', will know more later today.

Edward Nichols API# 069-00077 at state 74 days (revised access road with both inspectors also at state) This is the one that the Rec plan arrived while I was in the field Thursday, I issued it when I came in this morning.

05/24/2019

626842 OE Burge API# 051-01291 (modification request sent twice but I still do not see where it is showing up on web page) been at state 43 days (modification sent originally on 03/17/2011 and then again because it is not showing up on web page) This was the third modification request on this permit, I issued the modification this morning.

The remainder applications on your list have been here less than 30 days, please allow at least 30 to 45 days for review to be complete and add some time for deficiencies to be corrected.

Fork Ridge 10H API# 051-01457 at state 18 days

Fork Ridge 5H API# 051- 01458 at state 16 days

Roy Riggle 8H API #069-00084 at state 18 days

Mark Hickman API# 069-00082 at state 18 days

Mason Cottrell A8H API# 069-00083 at state 18 days

Thanks and Have a good weekend!

*Dee Swiger*  
*Regulatory Compliance Specialist*  
*304.517.1416 ext. 86017*

---

This email (and attachments if any) is intended only for the use of the individual or entity to which it is addressed, and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this email is not the intended recipient, or the employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately by return email and destroy all copies of the email (and attachments if any).

05/24/2019

**Dee Eubank-Swiger**

---

**From:** Danielle Southall  
**Sent:** Wednesday, March 30, 2011 1:21 PM  
**To:** Dee Eubank-Swiger

**Comments-----**

Geo-pick should be okay, no mining in the area, active mine permit is 650' to the east and 1100' to the south, abandoned mine is 550' to the west and 700' to the north.

RECEIVED  
Office of Oil & Gas  
MAR 31 2011  
WV Department of  
Environmental Protection

Thelma  
Haley  
05/24/2019

**Adkins, Laura L**

**From:** Dee Eubank-Swiger [dee.swiger@chk.com]  
**Sent:** Friday, April 29, 2011 11:39 AM  
**To:** Adkins, Laura L; Smith, Gene C  
**Subject:** FW: Bucket list again

Good Morning~

Below please find my updated buck list. If you are missing anything or need additional information please let me know. I will do whatever you need to help the process flow as smoothly as possible. We are getting close to lot of deadlines and are in jeopardy of losing leases.

Thanks!

Dee

**From:** Dee Eubank-Swiger  
**Sent:** Friday, April 15, 2011 3:25 PM  
**To:** 'Adkins, Laura L'; 'Smith, Gene C'  
**Subject:** Bucket list again

Below please find my priority list ☺ I know Monday afternoon I will be ask when they can expect permits.....

Gary Kestner API# 069-00081 at state 30days 3/31 4/18 - Waiting for Mylar - sent Paper copy 4-27

2 ✓ Esther Clark 3H api # 061-01623 at state 75 days DEEP 2/16

✓ Dellslow API# 077-00571 at state 73 days (let me know if the lease information provided will suffice) 2/18 Desk?   
 ↑ Rec'd Paperwork 4-27   
 ✓ godel

✓ Barry Greathouse A 10H API# 009-0093 at state 40 days ( requested casing revision was sent) 3/23

✓ Edward Nichols API# 069-00077 at state 74 days (revised access road with both inspectors also at state) 2/18 I got Thurs.   
 ↑ Rec'd Thurs

✓ 626842 OE Burge API# 051-01291 (modification request sent twice but I still do not see where it is showing up on web page) been at state 43 days (modification sent originally on 03/17/2011 and then again because it is not showing up on web page)   
 NOV 3rd Time I

Fork Ridge 10H API# 051-01457 at state 18 days 4-11 4/27  
Fork Ridge 5H API# 051- 01458 at state 16 days 4-13 4/29 Way less than 30 days  
Roy Riggle 8H API #069-00084 at state 18 days 4-11 4/27  
Mark Hickman API# 069-00082 at state 18 days 4-11 4/27  
Mason Cottrell A8H API# 069-00083 at state 18 days 4-11 4/27

Thanks and Have a good weekend!

Inteq 05/24/2019

U.S. Land - Northeast  
370 Westec Drive  
Mt. Pleasant, PA 15666  
Tel: 724-696-6769  
Fax: 724-696-6766  
www.bakerhughes.com



12/12/2011

West Virginia Department of Environmental Protection  
Attn: Gene Smith  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

Chesapeake Appalachia, L.L.C  
Attn: Tal Oden, Mgr. Regulatory Eastern Div.  
6100 N Western Ave  
Oklahoma City, OK 73118

RECEIVED  
Office of Oil & Gas

DEC 15 2011

WV Department of  
Environmental Protection

**TRANSMITTAL LETTER**

RE: End of Well Directional Survey Report  
Chesapeake Appalachia Job # 3924674  
Gary Kestner 3H

Enclosed please find the End of Well directional survey for the above mentioned well.

# CHESAPEAKE APPALACHIA, LLC

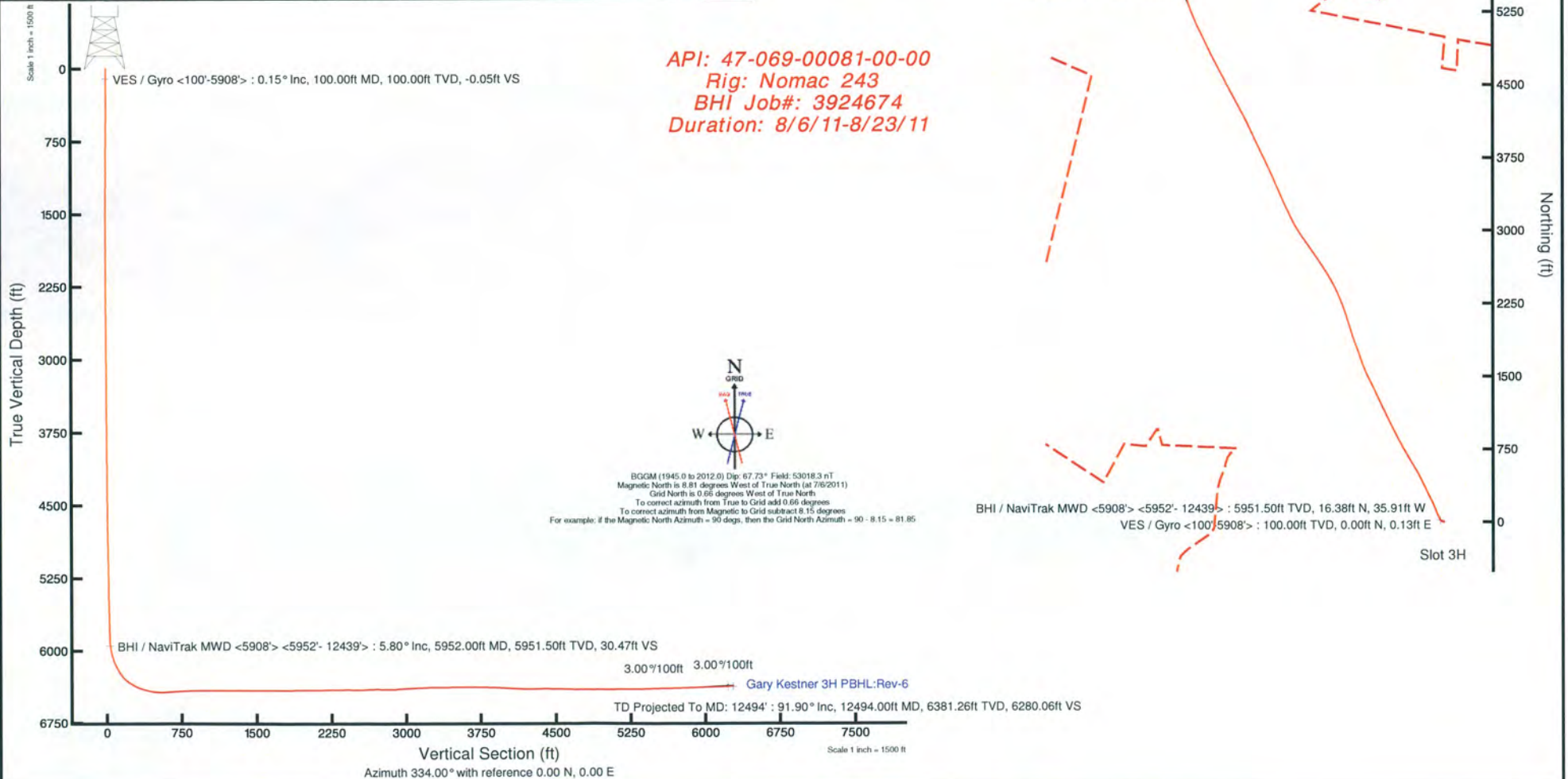
Location: Ohio County, WV  
Field: Ohio  
Facility: Gary Kestner

Slot: Slot 3H  
Well: Gary Kestner 3H  
Wellbore: Gary Kestner 3H (PWB)

## Location Information

| Facility Name                                      |              | Grid East (US ft) | Grid North (US ft) | Latitude           | Longitude      |                |
|--|--------------|-------------------|--------------------|--------------------|----------------|----------------|
| Gary Kestner                                       |              | 1708846.000       | 602159.200         | 40°08'54.936"N     | 80°32'29.422"W |                |
| Slot   | Local N (ft) | Local E (ft)      | Grid East (US ft)  | Grid North (US ft) | Latitude       | Longitude      |
| Slot 3H  | 0.00         | 0.00              | 1708846.000        | 602159.200         | 40°08'54.936"N | 80°32'29.422"W |
| Rig on Slot 3H (RT) to Mud line (At Slot: Slot 3H) |              |                   |                    | 16ft               |                |                |
| Mean Sea Level to Mud line (At Slot: Slot 3H)      |              |                   |                    | -1130ft            |                |                |
| Rig on Slot 3H (RT) to Mean Sea Level              |              |                   |                    | 1146ft             |                |                |

|  |  |
|--|--|
| Plot reference wellpath is Rev-F.0                         |  |
| True vertical depths are referenced to Rig on Slot 3H (RT) | Grid System: NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet |
| Measured depths are referenced to Rig on Slot 3H (RT)      | North Reference: Grid north  |
| Rig on Slot 3H (RT) to Mean Sea Level: 1146 feet           | Scale: True distance   |
| Mean Sea Level to Mud line (At Slot: Slot 3H): -1130 feet  | Depths are in feet   |
| Coordinates are in feet referenced to Slot                 |  |
| Created by: alvayes on 8/25/2011                           |  |





# Actual Wellpath Report

Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494'  
Page 1 of 10



| REFERENCE WELLPATH IDENTIFICATION |                            |          |                       |
|-----------------------------------|----------------------------|----------|-----------------------|
| Operator                          | CHESAPEAKE APPALACHIA, LLC | Slot     | Slot 3H               |
| Area                              | Ohio County, WV            | Well     | Gary Kestner 3H       |
| Field                             | Ohio                       | Wellbore | Gary Kestner 3H (AWB) |
| Facility                          | Gary Kestner               |          |                       |

| REPORT SETUP INFORMATION |   |                      |                                       |
|--------------------------|---|----------------------|---------------------------------------|
| Projection System        | NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet | Software System      | WellArchitect® 3.0.0                  |
| North Reference          | Grid  | User                 | Alvayes                               |
| Scale                    | 0.999982  | Report Generated     | 8/25/2011 at 5:11:16 PM               |
| Convergence at slot      | 0.66° West  | Database/Source file | WA_EasternUS/Gary_Kestner_3H_AWB_.xml |

| WELLPATH LOCATION     |                   |          |                  |                 |                        |                |
|-----------------------|-------------------|----------|------------------|-----------------|------------------------|----------------|
|                       | Local coordinates |          | Grid coordinates |                 | Geographic coordinates |                |
|                       | North[ft]         | East[ft] | Easting[US ft]   | Northing[US ft] | Latitude               | Longitude      |
| Slot Location         | 0.00              | 0.00     | 1708846.00       | 602159.20       | 40°08'54.936"N         | 80°32'29.422"W |
| Facility Reference Pt |                   |          | 1708846.00       | 602159.20       | 40°08'54.936"N         | 80°32'29.422"W |
| Field Reference Pt    |                   |          | 0.00             | 0.00            | 38°17'12.460"N         | 86°28'23.077"W |

| WELLPATH DATUM           |                     |   |                   |
|--------------------------|---------------------|---|-------------------|
| Calculation method       | Minimum curvature   | Rig on Slot 3H (RT) to Facility Vertical Datum    | 16.00ft           |
| Horizontal Reference Pt  | Slot                | Rig on Slot 3H (RT) to Mean Sea Level             | 1146.00ft         |
| Vertical Reference Pt    | Rig on Slot 3H (RT) | Rig on Slot 3H (RT) to Mud Line at Slot (Slot 3H) | 16.00ft           |
| MD Reference Pt          | Rig on Slot 3H (RT) | Section Origin                                    | N 0.00, E 0.00 ft |
| Field Vertical Reference | Mean Sea Level      | Section Azimuth                                   | 334.00°           |



# Actual Wellpath Report

Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494'  
Page 2 of 10



| REFERENCE WELLPATH IDENTIFICATION |                            |          |                       |
|-----------------------------------|----------------------------|----------|-----------------------|
| Operator                          | CHESAPEAKE APPALACHIA, LLC | Slot     | Slot 3H               |
| Area                              | Ohio County, WV            | Well     | Gary Kestner 3H       |
| Field                             | Ohio                       | Wellbore | Gary Kestner 3H (AWB) |
| Facility                          | Gary Kestner               |          |                       |

| WELLPATH DATA (204 stations) |                 |             |          |                |            |           |                   |                    |                |                |                   |                 |               |                      |                     |
|------------------------------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|----------------|----------------|-------------------|-----------------|---------------|----------------------|---------------------|
| MD [ft]                      | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude       | Longitude      | Closure Dist [ft] | Closure Dir [°] | DLS [°/100ft] | Build Rate [°/100ft] | Turn Rate [°/100ft] |
| 0.00                         | 0.000           | 89.160      | 0.00     | 0.00           | 0.00       | 0.00      | 1708846.00        | 602159.20          | 40°08'54.936"N | 80°32'29.422"W | 0.00              | 0.000           | 0.00          | 0.00                 | 0.00                |
| 108.00                       | 0.160           | 89.160      | 108.00   | -0.06          | 0.00       | 0.15      | 1708846.15        | 602159.20          | 40°08'54.936"N | 80°32'29.420"W | 0.15              | 89.160          | 0.15          | 0.15                 | 0.00                |
| 208.00                       | 0.130           | 280.160     | 208.00   | -0.06          | 0.02       | 0.18      | 1708846.18        | 602159.22          | 40°08'54.936"N | 80°32'29.419"W | 0.18              | 82.267          | 0.29          | -0.03                | -169.00             |
| 308.00                       | 0.120           | 109.570     | 308.00   | -0.06          | 0.01       | 0.17      | 1708846.17        | 602159.21          | 40°08'54.936"N | 80°32'29.420"W | 0.17              | 86.821          | 0.25          | -0.01                | -170.59             |
| 408.00                       | 0.300           | 130.180     | 408.00   | -0.38          | -0.19      | 0.46      | 1708846.46        | 602159.01          | 40°08'54.934"N | 80°32'29.416"W | 0.50              | 112.754         | 0.19          | -0.18                | -20.61              |
| 508.00                       | 0.690           | 131.490     | 508.00   | -1.17          | -0.76      | 1.12      | 1708847.12        | 602158.44          | 40°08'54.928"N | 80°32'29.407"W | 1.35              | 124.359         | 0.39          | 0.39                 | 1.31                |
| 608.00                       | 0.590           | 138.160     | 607.99   | -2.23          | -1.55      | 1.91      | 1708847.91        | 602157.65          | 40°08'54.921"N | 80°32'29.397"W | 2.46              | 128.972         | 0.12          | -0.10                | 6.67                |
| 708.00                       | 0.590           | 119.950     | 707.98   | -3.15          | -2.19      | 2.70      | 1708848.70        | 602157.01          | 40°08'54.915"N | 80°32'29.387"W | 3.47              | 128.996         | 0.19          | 0.00                 | -18.21              |
| 808.00                       | 0.600           | 128.140     | 807.98   | -4.05          | -2.77      | 3.56      | 1708849.56        | 602156.43          | 40°08'54.909"N | 80°32'29.376"W | 4.51              | 127.867         | 0.09          | 0.01                 | 8.19                |
| 908.00                       | 0.480           | 112.450     | 907.97   | -4.83          | -3.25      | 4.36      | 1708850.36        | 602155.95          | 40°08'54.904"N | 80°32'29.365"W | 5.43              | 126.719         | 0.19          | -0.12                | -15.69              |
| 1008.00                      | 0.390           | 141.570     | 1007.97  | -5.48          | -3.68      | 4.96      | 1708850.95        | 602155.52          | 40°08'54.900"N | 80°32'29.357"W | 6.17              | 126.571         | 0.24          | -0.09                | 29.12               |
| 1108.00                      | 0.290           | 166.930     | 1107.97  | -6.06          | -4.19      | 5.22      | 1708851.22        | 602155.01          | 40°08'54.895"N | 80°32'29.354"W | 6.70              | 128.727         | 0.18          | -0.10                | 25.36               |
| 1208.00                      | 0.310           | 196.580     | 1207.97  | -6.50          | -4.69      | 5.20      | 1708851.20        | 602154.51          | 40°08'54.890"N | 80°32'29.354"W | 7.01              | 132.057         | 0.15          | 0.02                 | 29.65               |
| 1308.00                      | 0.330           | 189.060     | 1307.97  | -6.94          | -5.24      | 5.08      | 1708851.08        | 602153.96          | 40°08'54.885"N | 80°32'29.356"W | 7.30              | 135.873         | 0.05          | 0.02                 | -7.52               |
| 1408.00                      | 0.090           | 187.230     | 1407.97  | -7.24          | -5.60      | 5.03      | 1708851.03        | 602153.60          | 40°08'54.881"N | 80°32'29.356"W | 7.53              | 138.096         | 0.24          | -0.24                | -1.83               |
| 1508.00                      | 0.090           | 109.950     | 1507.97  | -7.36          | -5.71      | 5.09      | 1708851.09        | 602153.49          | 40°08'54.880"N | 80°32'29.355"W | 7.65              | 138.264         | 0.11          | 0.00                 | -77.28              |
| 1608.00                      | 0.040           | 170.160     | 1607.97  | -7.45          | -5.77      | 5.17      | 1708851.17        | 602153.43          | 40°08'54.879"N | 80°32'29.354"W | 7.74              | 138.124         | 0.08          | -0.05                | 60.21               |
| 1708.00                      | 0.040           | 311.330     | 1707.97  | -7.45          | -5.78      | 5.15      | 1708851.15        | 602153.42          | 40°08'54.879"N | 80°32'29.355"W | 7.74              | 138.292         | 0.08          | 0.00                 | 141.17              |
| 1808.00                      | 0.160           | 158.430     | 1807.97  | -7.56          | -5.88      | 5.17      | 1708851.17        | 602153.32          | 40°08'54.878"N | 80°32'29.354"W | 7.84              | 138.675         | 0.20          | 0.12                 | -152.90             |
| 1908.00                      | 0.140           | 173.620     | 1907.97  | -7.81          | -6.14      | 5.24      | 1708851.24        | 602153.06          | 40°08'54.876"N | 80°32'29.353"W | 8.07              | 139.507         | 0.04          | -0.02                | -15.19              |
| 2008.00                      | 0.110           | 222.460     | 2007.96  | -7.96          | -6.33      | 5.19      | 1708851.19        | 602152.87          | 40°08'54.874"N | 80°32'29.354"W | 8.18              | 140.653         | 0.11          | -0.03                | 48.84               |
| 2108.00                      | 0.330           | 254.840     | 2107.96  | -7.94          | -6.47      | 4.85      | 1708850.85        | 602152.73          | 40°08'54.872"N | 80°32'29.358"W | 8.09              | 143.189         | 0.24          | 0.22                 | 32.38               |
| 2208.00                      | 0.240           | 274.000     | 2207.96  | -7.78          | -6.54      | 4.36      | 1708850.36        | 602152.66          | 40°08'54.872"N | 80°32'29.365"W | 7.86              | 146.299         | 0.13          | -0.09                | 19.16               |
| 2308.00                      | 0.460           | 271.830     | 2307.96  | -7.49          | -6.51      | 3.75      | 1708849.75        | 602152.69          | 40°08'54.872"N | 80°32'29.373"W | 7.51              | 150.058         | 0.22          | 0.22                 | -2.17               |
| 2408.00                      | 0.540           | 259.880     | 2407.96  | -7.18          | -6.58      | 2.88      | 1708848.88        | 602152.62          | 40°08'54.871"N | 80°32'29.384"W | 7.18              | 156.329         | 0.13          | 0.08                 | -11.95              |
| 2508.00                      | 0.510           | 284.670     | 2507.95  | -6.76          | -6.55      | 1.99      | 1708847.99        | 602152.65          | 40°08'54.871"N | 80°32'29.395"W | 6.84              | 163.103         | 0.23          | -0.03                | 24.79               |
| 2608.00                      | 0.460           | 281.090     | 2607.95  | -6.22          | -6.36      | 1.16      | 1708847.16        | 602152.84          | 40°08'54.873"N | 80°32'29.406"W | 6.46              | 169.621         | 0.06          | -0.05                | -3.58               |
| 2708.00                      | 0.310           | 301.160     | 2707.95  | -5.76          | -6.14      | 0.54      | 1708846.54        | 602153.06          | 40°08'54.875"N | 80°32'29.414"W | 6.16              | 174.983         | 0.20          | -0.15                | 20.07               |
| 2808.00                      | 0.470           | 289.100     | 2807.94  | -5.24          | -5.87      | -0.08     | 1708845.92        | 602153.33          | 40°08'54.878"N | 80°32'29.422"W | 5.87              | 180.781         | 0.18          | 0.16                 | -12.06              |
| 2908.00                      | 0.430           | 287.050     | 2907.94  | -4.69          | -5.62      | -0.83     | 1708845.17        | 602153.58          | 40°08'54.880"N | 80°32'29.432"W | 5.68              | 188.361         | 0.04          | -0.04                | -2.05               |





# Actual Wellpath Report

Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494'  
Page 3 of 10



### REFERENCE WELLPATH IDENTIFICATION

|          |                            |          |                       |
|----------|----------------------------|----------|-----------------------|
| Operator | CHESAPEAKE APPALACHIA, LLC | Slot     | Slot 3H               |
| Area     | Ohio County, WV            | Well     | Gary Kestner 3H       |
| Field    | Ohio                       | Wellbore | Gary Kestner 3H (AWB) |
| Facility | Gary Kestner               |          |                       |

### WELLPATH DATA (204 stations)

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude       | Longitude      | Closure Dist [ft] | Closure Dir [°] | DLS [°/100ft] | Build Rate [°/100ft] | Turn Rate [°/100ft] |
|---------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|----------------|----------------|-------------------|-----------------|---------------|----------------------|---------------------|
| 3008.00 | 0.240           | 322.340     | 3007.94  | -4.23          | -5.35      | -1.31     | 1708844.69        | 602153.85          | 40°08'54.883"N | 80°32'29.438"W | 5.51              | 193.798         | 0.27          | -0.19                | 35.29               |
| 3108.00 | 0.290           | 322.060     | 3107.94  | -3.78          | -4.98      | -1.60     | 1708844.40        | 602154.22          | 40°08'54.886"N | 80°32'29.442"W | 5.23              | 197.772         | 0.05          | 0.05                 | -0.28               |
| 3208.00 | 0.200           | 329.340     | 3207.94  | -3.36          | -4.63      | -1.84     | 1708844.16        | 602154.57          | 40°08'54.890"N | 80°32'29.445"W | 4.98              | 201.680         | 0.10          | -0.09                | 7.28                |
| 3308.00 | 0.280           | 295.700     | 3307.94  | -2.99          | -4.38      | -2.15     | 1708843.85        | 602154.82          | 40°08'54.892"N | 80°32'29.449"W | 4.88              | 206.173         | 0.16          | 0.08                 | -33.64              |
| 3408.00 | 0.330           | 290.600     | 3407.94  | -2.59          | -4.17      | -2.64     | 1708843.36        | 602155.03          | 40°08'54.894"N | 80°32'29.455"W | 4.93              | 212.351         | 0.06          | 0.05                 | -5.10               |
| 3508.00 | 0.270           | 280.480     | 3507.93  | -2.24          | -4.02      | -3.14     | 1708842.86        | 602155.18          | 40°08'54.896"N | 80°32'29.462"W | 5.10              | 217.978         | 0.08          | -0.06                | -10.12              |
| 3608.00 | 0.370           | 290.670     | 3607.93  | -1.86          | -3.87      | -3.68     | 1708842.32        | 602155.33          | 40°08'54.897"N | 80°32'29.469"W | 5.33              | 223.542         | 0.11          | 0.10                 | 10.19               |
| 3708.00 | 0.390           | 293.780     | 3707.93  | -1.37          | -3.62      | -4.29     | 1708841.71        | 602155.58          | 40°08'54.900"N | 80°32'29.476"W | 5.61              | 229.865         | 0.03          | 0.02                 | 3.11                |
| 3808.00 | 0.360           | 292.740     | 3807.93  | -0.87          | -3.36      | -4.89     | 1708841.11        | 602155.84          | 40°08'54.902"N | 80°32'29.484"W | 5.93              | 235.528         | 0.03          | -0.03                | -1.04               |
| 3908.00 | 0.560           | 284.750     | 3907.93  | -0.32          | -3.11      | -5.65     | 1708840.35        | 602156.09          | 40°08'54.904"N | 80°32'29.494"W | 6.45              | 241.169         | 0.21          | 0.20                 | -7.99               |
| 4008.00 | 0.650           | 290.170     | 4007.92  | 0.41           | -2.79      | -6.66     | 1708839.34        | 602156.41          | 40°08'54.907"N | 80°32'29.507"W | 7.22              | 247.252         | 0.11          | 0.09                 | 5.42                |
| 4108.00 | 0.690           | 279.120     | 4107.91  | 1.17           | -2.50      | -7.78     | 1708838.22        | 602156.70          | 40°08'54.910"N | 80°32'29.522"W | 8.18              | 252.193         | 0.14          | 0.04                 | -11.05              |
| 4208.00 | 0.760           | 264.990     | 4207.91  | 1.75           | -2.46      | -9.04     | 1708836.96        | 602156.74          | 40°08'54.910"N | 80°32'29.538"W | 9.37              | 254.760         | 0.19          | 0.07                 | -14.13              |
| 4308.00 | 0.640           | 287.510     | 4307.90  | 2.37           | -2.35      | -10.23    | 1708835.77        | 602156.85          | 40°08'54.911"N | 80°32'29.553"W | 10.50             | 257.052         | 0.30          | -0.12                | 22.52               |
| 4408.00 | 0.550           | 279.390     | 4407.89  | 3.03           | -2.11      | -11.24    | 1708834.76        | 602157.09          | 40°08'54.914"N | 80°32'29.566"W | 11.43             | 259.385         | 0.12          | -0.09                | -8.12               |
| 4508.00 | 0.450           | 295.190     | 4507.89  | 3.62           | -1.86      | -12.07    | 1708833.93        | 602157.34          | 40°08'54.916"N | 80°32'29.577"W | 12.21             | 261.234         | 0.17          | -0.10                | 15.80               |
| 4608.00 | 0.590           | 273.390     | 4607.88  | 4.18           | -1.66      | -12.94    | 1708833.06        | 602157.54          | 40°08'54.918"N | 80°32'29.588"W | 13.04             | 262.674         | 0.24          | 0.14                 | -21.80              |
| 4708.00 | 1.050           | 283.680     | 4707.87  | 5.01           | -1.42      | -14.34    | 1708831.66        | 602157.78          | 40°08'54.920"N | 80°32'29.606"W | 14.41             | 264.361         | 0.48          | 0.46                 | 10.29               |
| 4808.00 | 1.320           | 299.910     | 4807.85  | 6.55           | -0.63      | -16.23    | 1708829.77        | 602158.57          | 40°08'54.928"N | 80°32'29.631"W | 16.24             | 267.794         | 0.43          | 0.27                 | 16.23               |
| 4908.00 | 1.260           | 295.710     | 4907.83  | 8.37           | 0.43       | -18.22    | 1708827.78        | 602159.63          | 40°08'54.938"N | 80°32'29.656"W | 18.22             | 271.340         | 0.11          | -0.06                | -4.20               |
| 5008.00 | 1.070           | 294.950     | 5007.81  | 9.96           | 1.30       | -20.06    | 1708825.94        | 602160.50          | 40°08'54.946"N | 80°32'29.680"W | 20.10             | 273.700         | 0.19          | -0.19                | -0.76               |
| 5108.00 | 1.120           | 297.190     | 5107.79  | 11.47          | 2.14       | -21.77    | 1708824.23        | 602161.34          | 40°08'54.954"N | 80°32'29.702"W | 21.88             | 275.607         | 0.07          | 0.05                 | 2.24                |
| 5208.00 | 1.090           | 303.010     | 5207.77  | 13.06          | 3.10       | -23.44    | 1708822.56        | 602162.30          | 40°08'54.964"N | 80°32'29.724"W | 23.64             | 277.540         | 0.12          | -0.03                | 5.82                |
| 5308.00 | 1.170           | 307.850     | 5307.75  | 14.80          | 4.25       | -25.04    | 1708820.96        | 602163.45          | 40°08'54.975"N | 80°32'29.745"W | 25.40             | 279.625         | 0.12          | 0.08                 | 4.84                |
| 5408.00 | 1.200           | 315.660     | 5407.73  | 16.71          | 5.62       | -26.58    | 1708819.42        | 602164.82          | 40°08'54.988"N | 80°32'29.765"W | 27.17             | 281.943         | 0.16          | 0.03                 | -7.81               |
| 5508.00 | 1.180           | 307.720     | 5507.71  | 18.62          | 7.00       | -28.13    | 1708817.87        | 602166.20          | 40°08'55.002"N | 80°32'29.785"W | 28.99             | 283.977         | 0.17          | -0.02                | -7.94               |
| 5608.00 | 1.430           | 311.870     | 5607.68  | 20.70          | 8.46       | -29.87    | 1708816.13        | 602167.66          | 40°08'55.016"N | 80°32'29.808"W | 31.05             | 285.820         | 0.27          | 0.25                 | 4.15                |
| 5708.00 | 1.440           | 316.730     | 5707.65  | 23.06          | 10.21      | -31.66    | 1708814.34        | 602169.41          | 40°08'55.033"N | 80°32'29.831"W | 33.27             | 287.876         | 0.12          | 0.01                 | 4.86                |
| 5808.00 | 1.260           | 321.230     | 5807.62  | 25.33          | 11.98      | -33.21    | 1708812.79        | 602171.18          | 40°08'55.050"N | 80°32'29.851"W | 35.31             | 289.841         | 0.21          | -0.18                | 4.50                |
| 5908.00 | 1.470           | 330.870     | 5907.59  | 27.68          | 13.96      | -34.52    | 1708811.48        | 602173.16          | 40°08'55.070"N | 80°32'29.868"W | 37.24             | 292.018         | 0.31          | 0.21                 | 9.64                |



# Actual Wellpath Report

Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494'  
Page 4 of 10



| REFERENCE WELLPATH IDENTIFICATION |                            |          |                       |
|-----------------------------------|----------------------------|----------|-----------------------|
| Operator                          | CHESAPEAKE APPALACHIA, LLC | Slot     | Slot 3H               |
| Area                              | Ohio County, WV            | Well     | Gary Kestner 3H       |
| Field                             | Ohio                       | Wellbore | Gary Kestner 3H (AWB) |
| Facility                          | Gary Kestner               |          |                       |

| WELLPATH DATA (204 stations) |                 |             |          |                |            |           |                   |                    |                |                |                   |                 |               |                      |                     |
|------------------------------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|----------------|----------------|-------------------|-----------------|---------------|----------------------|---------------------|
| MD [ft]                      | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude       | Longitude      | Closure Dist [ft] | Closure Dir [°] | DLS [°/100ft] | Build Rate [°/100ft] | Turn Rate [°/100ft] |
| 5952.00                      | 5.800           | 330.000     | 5951.50  | 30.47          | 16.38      | -35.91    | 1708810.09        | 602175.58          | 40°08'55.094"N | 80°32'29.887"W | 39.47             | 294.520         | 9.84          | 9.84                 | -1.98               |
| 5995.00                      | 9.600           | 332.400     | 5994.10  | 36.22          | 21.44      | -38.66    | 1708807.34        | 602180.64          | 40°08'55.143"N | 80°32'29.923"W | 44.21             | 299.014         | 8.87          | 8.84                 | 5.58                |
| 6039.00                      | 13.200          | 334.400     | 6037.23  | 44.91          | 29.23      | -42.53    | 1708803.47        | 602188.43          | 40°08'55.220"N | 80°32'29.974"W | 51.60             | 304.496         | 8.23          | 8.18                 | 4.55                |
| 6083.00                      | 16.900          | 334.000     | 6079.71  | 56.34          | 39.51      | -47.51    | 1708798.49        | 602198.71          | 40°08'55.321"N | 80°32'30.039"W | 61.79             | 309.748         | 8.41          | 8.41                 | -0.91               |
| 6126.00                      | 20.800          | 334.400     | 6120.39  | 70.23          | 52.02      | -53.55    | 1708792.45        | 602211.22          | 40°08'55.444"N | 80°32'30.119"W | 74.65             | 314.169         | 9.07          | 9.07                 | 0.93                |
| 6169.00                      | 24.600          | 335.600     | 6160.06  | 86.81          | 67.06      | -60.55    | 1708785.45        | 602226.26          | 40°08'55.592"N | 80°32'30.211"W | 90.35             | 317.921         | 8.90          | 8.84                 | 2.79                |
| 6213.00                      | 27.400          | 338.200     | 6199.60  | 106.07         | 84.80      | -68.09    | 1708777.91        | 602244.00          | 40°08'55.766"N | 80°32'30.311"W | 108.76            | 321.238         | 6.87          | 6.36                 | 5.91                |
| 6260.00                      | 32.800          | 338.000     | 6240.25  | 129.57         | 106.66     | -76.88    | 1708769.12        | 602265.86          | 40°08'55.981"N | 80°32'30.428"W | 131.48            | 324.216         | 11.49         | 11.49                | -0.43               |
| 6304.00                      | 39.200          | 339.400     | 6275.83  | 155.33         | 130.75     | -86.25    | 1708759.75        | 602289.95          | 40°08'56.218"N | 80°32'30.552"W | 156.64            | 326.590         | 14.66         | 14.55                | 3.18                |
| 6347.00                      | 46.200          | 336.900     | 6307.41  | 184.40         | 157.78     | -97.13    | 1708748.87        | 602316.98          | 40°08'56.484"N | 80°32'30.696"W | 185.28            | 328.383         | 16.75         | 16.28                | 5.81                |
| 6391.00                      | 53.300          | 335.300     | 6335.82  | 217.93         | 188.45     | -110.75   | 1708735.25        | 602347.65          | 40°08'56.785"N | 80°32'30.876"W | 218.59            | 329.558         | 16.37         | 16.14                | -3.64               |
| 6434.00                      | 58.900          | 333.300     | 6359.80  | 253.61         | 220.59     | -126.24   | 1708719.76        | 602379.79          | 40°08'57.101"N | 80°32'31.080"W | 254.16            | 330.218         | 13.58         | 13.02                | -4.65               |
| 6477.00                      | 63.600          | 334.300     | 6380.48  | 291.29         | 254.41     | -142.87   | 1708703.13        | 602413.60          | 40°08'57.433"N | 80°32'31.299"W | 291.78            | 330.682         | 11.12         | 10.93                | 2.33                |
| 6521.00                      | 68.700          | 335.100     | 6398.26  | 331.52         | 290.78     | -160.06   | 1708685.94        | 602449.98          | 40°08'57.791"N | 80°32'31.526"W | 331.92            | 331.169         | 11.71         | 11.59                | 1.82                |
| 6564.00                      | 72.900          | 334.600     | 6412.40  | 372.11         | 327.53     | -177.32   | 1708668.69        | 602486.72          | 40°08'58.152"N | 80°32'31.754"W | 372.45            | 331.570         | 9.83          | 9.77                 | 1.16                |
| 6608.00                      | 77.000          | 334.000     | 6423.82  | 414.59         | 365.81     | -195.74   | 1708650.26        | 602525.00          | 40°08'58.528"N | 80°32'31.997"W | 414.89            | 331.849         | 9.41          | 9.32                 | -1.36               |
| 6651.00                      | 81.400          | 334.100     | 6431.88  | 456.82         | 403.78     | -214.22   | 1708631.78        | 602562.97          | 40°08'58.901"N | 80°32'32.240"W | 457.09            | 332.052         | 10.24         | 10.23                | 0.23                |
| 6694.00                      | 85.600          | 334.400     | 6436.74  | 499.54         | 442.25     | -232.78   | 1708613.23        | 602601.44          | 40°08'59.279"N | 80°32'32.485"W | 499.77            | 332.240         | 9.79          | 9.77                 | 0.70                |
| 6738.00                      | 89.900          | 331.500     | 6438.47  | 543.48         | 481.39     | -252.76   | 1708593.24        | 602640.59          | 40°08'59.664"N | 80°32'32.748"W | 543.72            | 332.298         | 11.78         | 9.77                 | -6.59               |
| 6781.00                      | 93.400          | 330.600     | 6437.23  | 586.40         | 519.00     | -273.57   | 1708572.44        | 602678.19          | 40°09'00.033"N | 80°32'33.022"W | 586.69            | 332.206         | 8.40          | 8.14                 | 2.09                |
| 6824.00                      | 93.500          | 330.300     | 6434.65  | 629.24         | 556.34     | -294.73   | 1708551.27        | 602715.53          | 40°09'00.400"N | 80°32'33.300"W | 629.59            | 332.086         | 0.73          | 0.23                 | -0.70               |
| 6867.00                      | 92.800          | 328.700     | 6432.28  | 672.04         | 593.33     | -316.53   | 1708529.48        | 602752.52          | 40°09'00.763"N | 80°32'33.586"W | 672.48            | 331.921         | 4.06          | -1.63                | -3.72               |
| 6911.00                      | 93.700          | 329.300     | 6429.79  | 715.80         | 630.99     | -339.15   | 1708506.86        | 602790.17          | 40°09'01.132"N | 80°32'33.883"W | 716.36            | 331.742         | 2.46          | 2.05                 | 1.36                |
| 6954.00                      | 93.100          | 330.300     | 6427.24  | 758.61         | 668.08     | -360.74   | 1708485.27        | 602827.27          | 40°09'01.496"N | 80°32'34.167"W | 759.26            | 331.633         | 2.71          | -1.40                | 2.33                |
| 6997.00                      | 92.200          | 330.900     | 6425.25  | 801.49         | 705.50     | -381.83   | 1708464.18        | 602864.69          | 40°09'01.864"N | 80°32'34.444"W | 802.20            | 331.577         | 2.51          | 2.09                 | 1.40                |
| 7041.00                      | 91.100          | 331.500     | 6423.98  | 845.41         | 744.05     | -403.02   | 1708442.99        | 602903.23          | 40°09'02.242"N | 80°32'34.722"W | 846.18            | 331.558         | 2.85          | -2.50                | 1.36                |
| 7084.00                      | 90.500          | 332.100     | 6423.38  | 888.38         | 781.94     | -423.33   | 1708422.68        | 602941.12          | 40°09'02.614"N | 80°32'34.990"W | 889.18            | 331.569         | 1.97          | -1.40                | 1.40                |
| 7128.00                      | 90.600          | 332.000     | 6422.96  | 932.35         | 820.80     | -443.95   | 1708402.05        | 602979.99          | 40°09'02.996"N | 80°32'35.261"W | 933.17            | 331.592         | 0.32          | 0.23                 | -0.23               |
| 7171.00                      | 89.800          | 332.700     | 6422.81  | 975.33         | 858.89     | -463.91   | 1708382.10        | 603018.08          | 40°09'03.370"N | 80°32'35.524"W | 976.17            | 331.625         | 2.47          | -1.86                | 1.63                |
| 7215.00                      | 90.100          | 333.000     | 6422.85  | 1019.32        | 898.04     | -483.99   | 1708362.02        | 603057.23          | 40°09'03.754"N | 80°32'35.788"W | 1020.16           | 331.678         | 0.96          | 0.68                 | 0.68                |



# Actual Wellpath Report

Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494'  
Page 5 of 10



| REFERENCE WELLPATH IDENTIFICATION |                            |          |                       |
|-----------------------------------|----------------------------|----------|-----------------------|
| Operator                          | CHESAPEAKE APPALACHIA, LLC | Slot     | Slot 3H               |
| Area                              | Ohio County, WV            | Well     | Gary Kestner 3H       |
| Field                             | Ohio                       | Wellbore | Gary Kestner 3H (AWB) |
| Facility                          | Gary Kestner               |          |                       |

| WELLPATH DATA (204 stations) |                 |             |          |                |            |           |                   |                    |                |                |                   |                 |               |                      |                     |
|------------------------------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|----------------|----------------|-------------------|-----------------|---------------|----------------------|---------------------|
| MD [ft]                      | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude       | Longitude      | Closure Dist [ft] | Closure Dir [°] | DLS [°/100ft] | Build Rate [°/100ft] | Turn Rate [°/100ft] |
| 7258.00                      | 90.400          | 333.700     | 6422.66  | 1062.32        | 936.48     | -503.27   | 1708342.74        | 603095.66          | 40°09'04.132"N | 80°32'36.042"W | 1063.14           | 331.746         | 1.77          | 0.70                 | 1.63                |
| 7301.00                      | 90.400          | 333.200     | 6422.36  | 1105.32        | 974.94     | -522.49   | 1708323.52        | 603134.12          | 40°09'04.510"N | 80°32'36.295"W | 1106.12           | 331.812         | 1.16          | 0.00                 | -1.16               |
| 7345.00                      | 89.300          | 334.300     | 6422.48  | 1149.31        | 1014.40    | -541.95   | 1708304.06        | 603173.58          | 40°09'04.898"N | 80°32'36.552"W | 1150.10           | 331.886         | 3.54          | -2.50                | 2.50                |
| 7388.00                      | 89.300          | 334.900     | 6423.00  | 1192.31        | 1053.24    | -560.40   | 1708285.61        | 603212.42          | 40°09'05.279"N | 80°32'36.795"W | 1193.05           | 331.984         | 1.40          | 0.00                 | 1.40                |
| 7432.00                      | 89.300          | 334.800     | 6423.54  | 1236.30        | 1093.07    | -579.09   | 1708266.92        | 603252.25          | 40°09'05.671"N | 80°32'37.042"W | 1236.99           | 332.086         | 0.23          | 0.00                 | -0.23               |
| 7475.00                      | 89.500          | 334.300     | 6423.99  | 1279.30        | 1131.89    | -597.57   | 1708248.44        | 603291.07          | 40°09'06.052"N | 80°32'37.286"W | 1279.95           | 332.169         | 1.25          | 0.47                 | -1.16               |
| 7519.00                      | 89.600          | 334.800     | 6424.33  | 1323.29        | 1171.62    | -616.48   | 1708229.53        | 603330.80          | 40°09'06.443"N | 80°32'37.535"W | 1323.91           | 332.248         | 1.16          | 0.23                 | 1.14                |
| 7562.00                      | 90.300          | 335.000     | 6424.37  | 1366.29        | 1210.56    | -634.72   | 1708211.29        | 603369.74          | 40°09'06.825"N | 80°32'37.776"W | 1366.87           | 332.331         | 1.69          | 1.63                 | 0.47                |
| 7605.00                      | 91.100          | 335.700     | 6423.85  | 1409.27        | 1249.64    | -652.65   | 1708193.36        | 603408.81          | 40°09'07.209"N | 80°32'38.013"W | 1409.80           | 332.423         | 2.47          | 1.86                 | 1.63                |
| 7649.00                      | 91.400          | 335.300     | 6422.89  | 1453.25        | 1289.67    | -670.89   | 1708175.12        | 603448.84          | 40°09'07.603"N | 80°32'38.253"W | 1453.73           | 332.516         | 1.14          | 0.68                 | -0.91               |
| 7692.00                      | 91.400          | 335.400     | 6421.84  | 1496.22        | 1328.74    | -688.82   | 1708157.19        | 603487.91          | 40°09'07.987"N | 80°32'38.490"W | 1496.67           | 332.598         | 0.23          | 0.00                 | 0.23                |
| 7736.00                      | 91.500          | 333.900     | 6420.72  | 1540.20        | 1368.49    | -707.65   | 1708138.36        | 603527.66          | 40°09'08.377"N | 80°32'38.739"W | 1540.63           | 332.656         | 3.42          | 0.23                 | -3.41               |
| 7779.00                      | 89.600          | 334.000     | 6420.31  | 1583.20        | 1407.11    | -726.54   | 1708119.48        | 603566.29          | 40°09'08.757"N | 80°32'38.988"W | 1583.61           | 332.691         | 4.42          | -4.42                | 0.23                |
| 7823.00                      | 88.500          | 333.100     | 6421.04  | 1627.19        | 1446.50    | -746.13   | 1708099.88        | 603605.67          | 40°09'09.144"N | 80°32'39.246"W | 1627.60           | 332.714         | 3.23          | -2.50                | -2.05               |
| 7866.00                      | 88.800          | 334.400     | 6422.05  | 1670.18        | 1485.06    | -765.14   | 1708080.87        | 603644.23          | 40°09'09.523"N | 80°32'39.496"W | 1670.58           | 332.741         | 3.10          | 0.70                 | 3.02                |
| 7909.00                      | 90.400          | 336.900     | 6422.35  | 1713.15        | 1524.23    | -782.87   | 1708063.14        | 603683.40          | 40°09'09.908"N | 80°32'39.730"W | 1713.52           | 332.814         | 6.90          | 3.72                 | 5.81                |
| 7953.00                      | 91.800          | 338.400     | 6421.51  | 1757.05        | 1564.91    | -799.60   | 1708046.42        | 603724.08          | 40°09'10.308"N | 80°32'39.952"W | 1757.36           | 332.935         | 4.66          | 3.18                 | 3.41                |
| 7996.00                      | 90.700          | 338.700     | 6420.57  | 1799.91        | 1604.92    | -815.32   | 1708030.70        | 603764.09          | 40°09'10.701"N | 80°32'40.160"W | 1800.14           | 333.069         | 2.65          | -2.56                | 0.70                |
| 8039.00                      | 89.900          | 340.000     | 6420.35  | 1842.72        | 1645.16    | -830.48   | 1708015.53        | 603804.32          | 40°09'11.097"N | 80°32'40.362"W | 1842.89           | 333.215         | 3.55          | -1.86                | 3.02                |
| 8083.00                      | 91.200          | 341.400     | 6419.92  | 1886.41        | 1686.68    | -845.02   | 1708000.99        | 603845.85          | 40°09'11.506"N | 80°32'40.555"W | 1886.52           | 333.389         | 4.34          | 2.95                 | 3.18                |
| 8126.00                      | 90.200          | 341.100     | 6419.40  | 1929.07        | 1727.39    | -858.85   | 1707987.17        | 603886.56          | 40°09'11.907"N | 80°32'40.739"W | 1929.12           | 333.564         | 2.43          | -2.33                | -0.70               |
| 8170.00                      | 89.600          | 340.600     | 6419.47  | 1972.75        | 1768.96    | -873.28   | 1707972.74        | 603928.12          | 40°09'12.316"N | 80°32'40.931"W | 1972.77           | 333.726         | 1.78          | -1.36                | -1.14               |
| 8213.00                      | 90.300          | 339.600     | 6419.51  | 2015.51        | 1809.39    | -887.92   | 1707958.10        | 603968.56          | 40°09'12.714"N | 80°32'41.126"W | 2015.51           | 333.862         | 2.84          | 1.63                 | -2.33               |
| 8256.00                      | 91.100          | 339.700     | 6418.99  | 2058.29        | 1849.70    | -902.87   | 1707943.15        | 604008.87          | 40°09'13.110"N | 80°32'41.324"W | 2058.29           | 333.982         | 1.87          | 1.86                 | 0.23                |
| 8300.00                      | 90.600          | 341.100     | 6418.33  | 2102.01        | 1891.15    | -917.63   | 1707928.39        | 604050.31          | 40°09'13.518"N | 80°32'41.521"W | 2102.02           | 334.116         | 3.38          | 1.14                 | 3.18                |
| 8343.00                      | 90.800          | 343.500     | 6417.81  | 2144.56        | 1932.11    | -930.70   | 1707915.32        | 604091.27          | 40°09'13.921"N | 80°32'41.695"W | 2144.58           | 334.280         | 5.60          | 0.47                 | 5.58                |
| 8387.00                      | 90.300          | 343.300     | 6417.39  | 2187.96        | 1974.27    | -943.27   | 1707902.75        | 604133.43          | 40°09'14.336"N | 80°32'41.863"W | 2188.04           | 334.462         | 1.22          | -1.14                | -0.45               |
| 8430.00                      | 90.300          | 342.800     | 6417.16  | 2230.43        | 2015.40    | -955.80   | 1707890.22        | 604174.56          | 40°09'14.741"N | 80°32'42.031"W | 2230.56           | 334.627         | 1.16          | 0.00                 | -1.16               |
| 8473.00                      | 89.600          | 342.500     | 6417.20  | 2272.94        | 2056.45    | -968.62   | 1707877.39        | 604215.61          | 40°09'15.146"N | 80°32'42.202"W | 2273.15           | 334.779         | 1.77          | -1.63                | -0.70               |
| 8517.00                      | 91.200          | 343.100     | 6416.89  | 2316.42        | 2098.48    | -981.64   | 1707864.38        | 604257.63          | 40°09'15.559"N | 80°32'42.376"W | 2316.72           | 334.931         | 3.88          | 3.64                 | 1.36                |



# Actual Wellpath Report

Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494'  
Page 6 of 10



| REFERENCE WELLPATH IDENTIFICATION |                            |          |                       |
|-----------------------------------|----------------------------|----------|-----------------------|
| Operator                          | CHESAPEAKE APPALACHIA, LLC | Slot     | Slot 3H               |
| Area                              | Ohio County, WV            | Well     | Gary Kestner 3H       |
| Field                             | Ohio                       | Wellbore | Gary Kestner 3H (AWB) |
| Facility                          | Gary Kestner               |          |                       |

| WELLPATH DATA (204 stations) |                 |             |          |                |            |           |                   |                    |                |                |                   |                 |               |                      |                     |
|------------------------------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|----------------|----------------|-------------------|-----------------|---------------|----------------------|---------------------|
| MD [ft]                      | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude       | Longitude      | Closure Dist [ft] | Closure Dir [°] | DLS [°/100ft] | Build Rate [°/100ft] | Turn Rate [°/100ft] |
| 8560.00                      | 92.000          | 342.300     | 6415.69  | 2358.91        | 2139.51    | -994.42   | 1707851.60        | 604298.67          | 40°09'15.963"N | 80°32'42.547"W | 2359.32           | 335.072         | 2.63          | 1.86                 | -1.86               |
| 8604.00                      | 90.300          | 340.700     | 6414.81  | 2402.52        | 2181.23    | -1008.37  | 1707837.64        | 604340.39          | 40°09'16.374"N | 80°32'42.733"W | 2403.04           | 335.189         | 5.31          | -3.86                | -3.64               |
| 8647.00                      | 88.600          | 339.100     | 6415.22  | 2445.29        | 2221.61    | -1023.15  | 1707822.87        | 604380.76          | 40°09'16.771"N | 80°32'42.929"W | 2445.89           | 335.272         | 5.43          | -3.95                | -3.72               |
| 8690.00                      | 88.900          | 338.000     | 6416.16  | 2488.14        | 2261.62    | -1038.87  | 1707807.15        | 604420.77          | 40°09'17.165"N | 80°32'43.138"W | 2488.81           | 335.328         | 2.65          | 0.70                 | -2.56               |
| 8734.00                      | 90.000          | 337.900     | 6416.58  | 2532.03        | 2302.40    | -1055.39  | 1707790.63        | 604461.55          | 40°09'17.566"N | 80°32'43.356"W | 2532.76           | 335.374         | 2.51          | 2.50                 | -0.23               |
| 8777.00                      | 93.100          | 337.100     | 6415.42  | 2574.93        | 2342.10    | -1071.84  | 1707774.19        | 604501.26          | 40°09'17.956"N | 80°32'43.574"W | 2575.71           | 335.409         | 7.45          | 7.21                 | -1.86               |
| 8820.00                      | 93.800          | 334.500     | 6412.83  | 2617.83        | 2381.25    | -1089.43  | 1707756.59        | 604540.40          | 40°09'18.341"N | 80°32'43.807"W | 2618.63           | 335.416         | 6.25          | 1.63                 | -6.05               |
| 8864.00                      | 92.200          | 333.500     | 6410.53  | 2661.76        | 2420.74    | -1108.69  | 1707737.33        | 604579.89          | 40°09'18.729"N | 80°32'44.060"W | 2662.55           | 335.392         | 4.29          | -3.64                | -2.27               |
| 8907.00                      | 89.700          | 332.100     | 6409.81  | 2704.74        | 2458.98    | -1128.34  | 1707717.68        | 604618.13          | 40°09'19.105"N | 80°32'44.319"W | 2705.50           | 335.351         | 6.66          | -5.81                | -3.26               |
| 8951.00                      | 88.700          | 331.000     | 6410.43  | 2748.70        | 2497.66    | -1149.30  | 1707696.72        | 604656.81          | 40°09'19.485"N | 80°32'44.595"W | 2749.40           | 335.290         | 3.38          | 2.27                 | -2.50               |
| 8994.00                      | 88.700          | 329.100     | 6411.40  | 2791.58        | 2534.90    | -1170.76  | 1707675.26        | 604694.05          | 40°09'19.850"N | 80°32'44.877"W | 2792.21           | 335.210         | 4.42          | 0.00                 | -4.42               |
| 9037.00                      | 89.800          | 327.600     | 6411.97  | 2834.37        | 2571.50    | -1193.32  | 1707652.70        | 604730.65          | 40°09'20.209"N | 80°32'45.173"W | 2834.90           | 335.106         | 4.33          | 2.56                 | -3.49               |
| 9081.00                      | 92.700          | 327.400     | 6411.01  | 2878.07        | 2608.60    | -1216.95  | 1707629.07        | 604767.75          | 40°09'20.573"N | 80°32'45.483"W | 2878.50           | 334.990         | 6.61          | 6.59                 | -0.45               |
| 9124.00                      | 93.900          | 327.200     | 6408.53  | 2920.71        | 2644.72    | -1240.14  | 1707605.88        | 604803.87          | 40°09'20.927"N | 80°32'45.787"W | 2921.05           | 334.878         | 2.83          | 2.79                 | -0.47               |
| 9167.00                      | 94.000          | 326.700     | 6405.57  | 2963.28        | 2680.68    | -1263.54  | 1707582.49        | 604839.83          | 40°09'21.280"N | 80°32'46.094"W | 2963.54           | 334.763         | 1.18          | 0.23                 | -1.16               |
| 9211.00                      | 93.500          | 325.800     | 6402.69  | 3006.78        | 2717.19    | -1287.93  | 1707558.09        | 604876.33          | 40°09'21.638"N | 80°32'46.413"W | 3006.97           | 334.639         | 2.34          | -1.14                | -2.05               |
| 9254.00                      | 93.100          | 325.800     | 6400.22  | 3049.27        | 2752.69    | -1312.06  | 1707533.96        | 604911.84          | 40°09'21.986"N | 80°32'46.729"W | 3049.40           | 334.515         | 0.93          | -0.93                | 0.00                |
| 9297.00                      | 92.900          | 325.700     | 6397.97  | 3091.77        | 2788.19    | -1336.23  | 1707509.80        | 604947.33          | 40°09'22.334"N | 80°32'47.046"W | 3091.84           | 334.394         | 0.52          | -0.47                | -0.23               |
| 9341.00                      | 92.600          | 325.300     | 6395.86  | 3135.24        | 2824.41    | -1361.12  | 1707484.90        | 604983.55          | 40°09'22.689"N | 80°32'47.372"W | 3135.27           | 334.270         | 1.14          | -0.68                | -0.91               |
| 9384.00                      | 92.300          | 325.100     | 6394.02  | 3177.69        | 2859.68    | -1385.64  | 1707460.39        | 605018.83          | 40°09'23.035"N | 80°32'47.693"W | 3177.70           | 334.148         | 0.84          | -0.70                | -0.47               |
| 9428.00                      | 92.400          | 324.900     | 6392.21  | 3221.11        | 2895.70    | -1410.86  | 1707435.17        | 605054.84          | 40°09'23.388"N | 80°32'48.023"W | 3221.11           | 334.023         | 0.51          | 0.23                 | -0.45               |
| 9471.00                      | 91.300          | 326.100     | 6390.82  | 3263.62        | 2931.11    | -1435.20  | 1707410.83        | 605090.26          | 40°09'23.735"N | 80°32'48.342"W | 3263.62           | 333.912         | 3.78          | -2.56                | 2.79                |
| 9514.00                      | 89.300          | 326.500     | 6390.60  | 3306.23        | 2966.89    | -1459.06  | 1707386.97        | 605126.03          | 40°09'24.086"N | 80°32'48.654"W | 3306.24           | 333.813         | 4.74          | -4.65                | 0.93                |
| 9558.00                      | 89.900          | 328.500     | 6390.91  | 3349.94        | 3003.99    | -1482.69  | 1707363.33        | 605163.13          | 40°09'24.450"N | 80°32'48.964"W | 3349.98           | 333.730         | 4.75          | 1.36                 | 4.55                |
| 9601.00                      | 90.800          | 330.100     | 6390.64  | 3392.79        | 3040.96    | -1504.65  | 1707341.38        | 605200.10          | 40°09'24.812"N | 80°32'49.253"W | 3392.85           | 333.674         | 4.27          | 2.09                 | 3.72                |
| 9644.00                      | 90.700          | 332.100     | 6390.08  | 3435.73        | 3078.60    | -1525.42  | 1707320.61        | 605237.74          | 40°09'25.182"N | 80°32'49.526"W | 3435.80           | 333.642         | 4.66          | -0.23                | 4.65                |
| 9688.00                      | 90.300          | 334.500     | 6389.70  | 3479.72        | 3117.91    | -1545.19  | 1707300.84        | 605277.05          | 40°09'25.568"N | 80°32'49.786"W | 3479.79           | 333.638         | 5.53          | -0.91                | 5.45                |
| 9731.00                      | 90.000          | 335.300     | 6389.58  | 3522.72        | 3156.85    | -1563.43  | 1707282.60        | 605315.98          | 40°09'25.951"N | 80°32'50.027"W | 3522.78           | 333.653         | 1.99          | -0.70                | 1.86                |
| 9774.00                      | 89.800          | 334.500     | 6389.66  | 3565.71        | 3195.78    | -1581.67  | 1707264.36        | 605354.92          | 40°09'26.333"N | 80°32'50.268"W | 3565.77           | 333.668         | 1.92          | -0.47                | -1.86               |
| 9818.00                      | 90.800          | 334.800     | 6389.43  | 3609.71        | 3235.55    | -1600.51  | 1707245.52        | 605394.68          | 40°09'26.724"N | 80°32'50.516"W | 3609.76           | 333.680         | 2.37          | 2.27                 | 0.68                |



# Actual Wellpath Report

Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494'  
Page 7 of 10



| REFERENCE WELLPATH IDENTIFICATION |                            |          |                       |
|-----------------------------------|----------------------------|----------|-----------------------|
| Operator                          | CHESAPEAKE APPALACHIA, LLC | Slot     | Slot 3H               |
| Area                              | Ohio County, WV            | Well     | Gary Kestner 3H       |
| Field                             | Ohio                       | Wellbore | Gary Kestner 3H (AWB) |
| Facility                          | Gary Kestner               |          |                       |

| WELLPATH DATA (204 stations) |                 |             |          |                |            |           |                   |                    |                |                |                   |                 |               |                      |                     |
|------------------------------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|----------------|----------------|-------------------|-----------------|---------------|----------------------|---------------------|
| MD [ft]                      | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude       | Longitude      | Closure Dist [ft] | Closure Dir [°] | DLS [°/100ft] | Build Rate [°/100ft] | Turn Rate [°/100ft] |
| 9861.00                      | 90.700          | 335.600     | 6388.87  | 3652.69        | 3274.58    | -1618.55  | 1707227.49        | 605433.71          | 40°09'27.108"N | 80°32'50.754"W | 3652.75           | 333.698         | 1.87          | -0.23                | 1.86                |
| 9905.00                      | 90.300          | 336.100     | 6388.48  | 3696.67        | 3314.73    | -1636.55  | 1707209.49        | 605473.86          | 40°09'27.502"N | 80°32'50.992"W | 3696.71           | 333.724         | 1.46          | -0.91                | 1.14                |
| 9948.00                      | 89.500          | 337.200     | 6388.56  | 3739.62        | 3354.20    | -1653.59  | 1707192.44        | 605513.34          | 40°09'27.891"N | 80°32'51.218"W | 3739.66           | 333.757         | 3.16          | -1.86                | 2.56                |
| 9991.00                      | 88.900          | 336.600     | 6389.16  | 3782.56        | 3393.75    | -1670.46  | 1707175.58        | 605552.88          | 40°09'28.279"N | 80°32'51.441"W | 3782.59           | 333.793         | 1.97          | -1.40                | -1.40               |
| 10035.00                     | 88.300          | 336.200     | 6390.23  | 3826.51        | 3434.06    | -1688.07  | 1707157.97        | 605593.19          | 40°09'28.676"N | 80°32'51.674"W | 3826.53           | 333.823         | 1.64          | -1.36                | -0.91               |
| 10078.00                     | 88.100          | 336.400     | 6391.58  | 3869.46        | 3473.41    | -1705.34  | 1707140.69        | 605632.54          | 40°09'29.063"N | 80°32'51.902"W | 3869.47           | 333.850         | 0.66          | -0.47                | 0.47                |
| 10121.00                     | 87.600          | 337.300     | 6393.20  | 3912.37        | 3512.92    | -1722.24  | 1707123.80        | 605672.05          | 40°09'29.451"N | 80°32'52.126"W | 3912.38           | 333.883         | 2.39          | -1.16                | 2.09                |
| 10165.00                     | 86.900          | 336.700     | 6395.31  | 3956.26        | 3553.38    | -1739.41  | 1707106.63        | 605712.51          | 40°09'29.849"N | 80°32'52.353"W | 3956.26           | 333.918         | 2.09          | -1.59                | -1.36               |
| 10208.00                     | 87.200          | 335.200     | 6397.52  | 3999.18        | 3592.59    | -1756.91  | 1707089.13        | 605751.72          | 40°09'30.234"N | 80°32'52.584"W | 3999.18           | 333.940         | 3.55          | 0.70                 | -3.49               |
| 10252.00                     | 87.100          | 335.000     | 6399.71  | 4043.11        | 3632.45    | -1775.41  | 1707070.62        | 605791.58          | 40°09'30.626"N | 80°32'52.828"W | 4043.12           | 333.952         | 0.51          | -0.23                | -0.45               |
| 10295.00                     | 88.000          | 335.700     | 6401.55  | 4086.06        | 3671.50    | -1793.33  | 1707052.71        | 605830.62          | 40°09'31.010"N | 80°32'53.065"W | 4086.06           | 333.967         | 2.65          | 2.09                 | 1.63                |
| 10338.00                     | 87.200          | 334.600     | 6403.35  | 4129.02        | 3710.48    | -1811.38  | 1707034.65        | 605869.61          | 40°09'31.393"N | 80°32'53.303"W | 4129.02           | 333.979         | 3.16          | -1.86                | -2.56               |
| 10382.00                     | 87.900          | 334.900     | 6405.23  | 4172.97        | 3750.24    | -1830.13  | 1707015.90        | 605909.37          | 40°09'31.784"N | 80°32'53.551"W | 4172.97           | 333.987         | 1.73          | 1.59                 | 0.68                |
| 10425.00                     | 89.500          | 334.600     | 6406.20  | 4215.95        | 3789.12    | -1848.47  | 1706997.57        | 605948.24          | 40°09'32.166"N | 80°32'53.793"W | 4215.95           | 333.995         | 3.79          | 3.72                 | -0.70               |
| 10468.00                     | 90.000          | 334.500     | 6406.39  | 4258.95        | 3827.95    | -1866.95  | 1706979.09        | 605987.07          | 40°09'32.547"N | 80°32'54.037"W | 4258.95           | 334.001         | 1.19          | 1.16                 | -0.23               |
| 10511.00                     | 91.200          | 334.500     | 6405.94  | 4301.95        | 3866.75    | -1885.46  | 1706960.58        | 606025.88          | 40°09'32.929"N | 80°32'54.281"W | 4301.95           | 334.006         | 2.79          | 2.79                 | 0.00                |
| 10555.00                     | 90.800          | 334.700     | 6405.17  | 4345.94        | 3906.50    | -1904.33  | 1706941.71        | 606065.62          | 40°09'33.319"N | 80°32'54.530"W | 4345.94           | 334.012         | 1.02          | -0.91                | 0.45                |
| 10598.00                     | 90.000          | 335.500     | 6404.87  | 4388.93        | 3945.50    | -1922.43  | 1706923.60        | 606104.62          | 40°09'33.702"N | 80°32'54.769"W | 4388.93           | 334.022         | 2.63          | -1.86                | 1.86                |
| 10642.00                     | 89.700          | 336.000     | 6404.99  | 4432.91        | 3985.61    | -1940.51  | 1706905.53        | 606144.74          | 40°09'34.097"N | 80°32'55.007"W | 4432.91           | 334.040         | 1.33          | -0.68                | 1.14                |
| 10685.00                     | 89.500          | 335.900     | 6405.29  | 4475.88        | 4024.88    | -1958.03  | 1706888.01        | 606184.00          | 40°09'34.483"N | 80°32'55.239"W | 4475.88           | 334.058         | 0.52          | -0.47                | -0.23               |
| 10728.00                     | 89.200          | 335.200     | 6405.78  | 4518.86        | 4064.02    | -1975.83  | 1706870.21        | 606223.14          | 40°09'34.867"N | 80°32'55.474"W | 4518.87           | 334.072         | 1.77          | -0.70                | -1.63               |
| 10772.00                     | 88.300          | 334.100     | 6406.74  | 4562.85        | 4103.77    | -1994.66  | 1706851.38        | 606262.89          | 40°09'35.258"N | 80°32'55.723"W | 4562.85           | 334.078         | 3.23          | -2.05                | -2.50               |
| 10815.00                     | 88.000          | 333.400     | 6408.12  | 4605.83        | 4142.32    | -2013.67  | 1706832.37        | 606301.44          | 40°09'35.637"N | 80°32'55.973"W | 4605.83           | 334.075         | 1.77          | -0.70                | -1.63               |
| 10859.00                     | 87.600          | 333.700     | 6409.81  | 4649.79        | 4181.68    | -2033.25  | 1706812.79        | 606340.80          | 40°09'36.024"N | 80°32'56.231"W | 4649.79           | 334.070         | 1.14          | -0.91                | 0.68                |
| 10902.00                     | 88.700          | 332.500     | 6411.20  | 4692.76        | 4220.01    | -2052.69  | 1706793.35        | 606379.13          | 40°09'36.400"N | 80°32'56.488"W | 4692.76           | 334.061         | 3.78          | 2.56                 | -2.79               |
| 10945.00                     | 89.800          | 331.900     | 6411.76  | 4735.74        | 4258.04    | -2072.75  | 1706773.29        | 606417.16          | 40°09'36.774"N | 80°32'56.752"W | 4735.74           | 334.044         | 2.91          | 2.56                 | -1.40               |
| 10989.00                     | 89.500          | 331.400     | 6412.03  | 4779.70        | 4296.76    | -2093.64  | 1706752.40        | 606455.88          | 40°09'37.154"N | 80°32'57.026"W | 4779.70           | 334.022         | 1.33          | -0.68                | -1.14               |
| 11032.00                     | 89.700          | 332.500     | 6412.33  | 4822.67        | 4334.71    | -2113.86  | 1706732.18        | 606493.83          | 40°09'37.526"N | 80°32'57.293"W | 4822.67           | 334.003         | 2.60          | 0.47                 | 2.56                |
| 11076.00                     | 89.700          | 332.600     | 6412.56  | 4866.65        | 4373.76    | -2134.14  | 1706711.90        | 606532.87          | 40°09'37.910"N | 80°32'57.560"W | 4866.65           | 333.990         | 0.23          | 0.00                 | 0.23                |
| 11119.00                     | 90.900          | 332.000     | 6412.34  | 4909.63        | 4411.83    | -2154.13  | 1706691.91        | 606570.94          | 40°09'38.284"N | 80°32'57.823"W | 4909.63           | 333.975         | 3.12          | 2.79                 | -1.40               |



# Actual Wellpath Report

Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494'  
Page 8 of 10



| REFERENCE WELLPATH IDENTIFICATION |                            |          |                       |
|-----------------------------------|----------------------------|----------|-----------------------|
| Operator                          | CHESAPEAKE APPALACHIA, LLC | Slot     | Slot 3H               |
| Area                              | Ohio County, WV            | Well     | Gary Kestner 3H       |
| Field                             | Ohio                       | Wellbore | Gary Kestner 3H (AWB) |
| Facility                          | Gary Kestner               |          |                       |

### WELLPATH DATA (204 stations)

| MD [ft]  | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude       | Longitude      | Closure Dist [ft] | Closure Dir [°] | DLS [°/100ft] | Build Rate [°/100ft] | Turn Rate [°/100ft] |
|----------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|----------------|----------------|-------------------|-----------------|---------------|----------------------|---------------------|
| 11163.00 | 90.600          | 331.700     | 6411.76  | 4953.60        | 4450.62    | -2174.89  | 1706671.16        | 606609.73          | 40°09'38.665"N | 80°32'58.096"W | 4953.60           | 333.957         | 0.96          | -0.68                | -0.68               |
| 11206.00 | 90.300          | 332.100     | 6411.42  | 4996.57        | 4488.55    | -2195.14  | 1706650.90        | 606647.66          | 40°09'39.037"N | 80°32'58.362"W | 4996.57           | 333.939         | 1.16          | -0.70                | 0.93                |
| 11249.00 | 91.100          | 333.200     | 6410.90  | 5039.55        | 4526.74    | -2214.89  | 1706631.15        | 606685.85          | 40°09'39.412"N | 80°32'58.623"W | 5039.56           | 333.928         | 3.16          | 1.86                 | 2.56                |
| 11336.00 | 90.500          | 332.900     | 6409.68  | 5126.53        | 4604.28    | -2254.32  | 1706591.73        | 606763.39          | 40°09'40.174"N | 80°32'59.142"W | 5126.54           | 333.913         | 0.77          | -0.69                | -0.34               |
| 11423.00 | 89.900          | 332.700     | 6409.38  | 5213.51        | 4681.66    | -2294.09  | 1706551.96        | 606840.77          | 40°09'40.934"N | 80°32'59.666"W | 5213.52           | 333.894         | 0.73          | -0.69                | -0.23               |
| 11510.00 | 90.500          | 332.500     | 6409.08  | 5300.48        | 4758.90    | -2334.12  | 1706511.92        | 606918.01          | 40°09'41.693"N | 80°33'00.193"W | 5300.50           | 333.873         | 0.73          | 0.69                 | -0.23               |
| 11596.00 | 91.900          | 334.200     | 6407.28  | 5386.45        | 4835.74    | -2372.69  | 1706473.36        | 606994.85          | 40°09'42.447"N | 80°33'00.701"W | 5386.47           | 333.865         | 2.56          | 1.63                 | 1.98                |
| 11683.00 | 91.800          | 334.900     | 6404.47  | 5473.40        | 4914.26    | -2410.05  | 1706436.00        | 607073.36          | 40°09'43.219"N | 80°33'01.194"W | 5473.42           | 333.876         | 0.81          | -0.11                | 0.80                |
| 11770.00 | 91.500          | 334.300     | 6401.96  | 5560.36        | 4992.82    | -2447.35  | 1706398.69        | 607151.92          | 40°09'43.991"N | 80°33'01.687"W | 5560.37           | 333.887         | 0.77          | -0.34                | -0.69               |
| 11857.00 | 90.600          | 333.800     | 6400.37  | 5647.35        | 5071.03    | -2485.42  | 1706360.63        | 607230.13          | 40°09'44.759"N | 80°33'02.189"W | 5647.36           | 333.890         | 1.18          | -1.03                | -0.57               |
| 11943.00 | 92.200          | 337.500     | 6398.27  | 5733.27        | 5149.34    | -2520.86  | 1706325.19        | 607308.44          | 40°09'45.529"N | 80°33'02.657"W | 5733.27           | 333.916         | 4.69          | 1.86                 | 4.30                |
| 11987.00 | 91.000          | 337.000     | 6397.04  | 5777.18        | 5189.90    | -2537.87  | 1706308.18        | 607349.00          | 40°09'45.928"N | 80°33'02.882"W | 5777.18           | 333.941         | 2.95          | -2.73                | -1.14               |
| 12030.00 | 92.100          | 339.900     | 6395.87  | 5820.03        | 5229.88    | -2553.65  | 1706292.40        | 607388.97          | 40°09'46.321"N | 80°33'03.091"W | 5820.03           | 333.975         | 7.21          | 2.56                 | 6.74                |
| 12073.00 | 91.800          | 340.200     | 6394.41  | 5862.77        | 5270.27    | -2568.32  | 1706277.73        | 607429.37          | 40°09'46.719"N | 80°33'03.286"W | 5862.77           | 334.019         | 0.99          | -0.70                | 0.70                |
| 12117.00 | 91.700          | 341.900     | 6393.07  | 5906.41        | 5311.87    | -2582.60  | 1706263.45        | 607470.96          | 40°09'47.128"N | 80°33'03.476"W | 5906.41           | 334.071         | 3.87          | -0.23                | 3.86                |
| 12160.00 | 91.700          | 342.400     | 6391.79  | 5948.96        | 5352.78    | -2595.77  | 1706250.28        | 607511.87          | 40°09'47.531"N | 80°33'03.652"W | 5948.97           | 334.129         | 1.16          | 0.00                 | 1.16                |
| 12204.00 | 91.900          | 343.200     | 6390.41  | 5992.42        | 5394.79    | -2608.78  | 1706237.27        | 607553.88          | 40°09'47.944"N | 80°33'03.826"W | 5992.45           | 334.193         | 1.87          | 0.45                 | 1.82                |
| 12247.00 | 92.200          | 341.300     | 6388.87  | 6034.94        | 5435.71    | -2621.88  | 1706224.17        | 607594.81          | 40°09'48.347"N | 80°33'04.001"W | 6035.00           | 334.250         | 4.47          | 0.70                 | -4.42               |
| 12290.00 | 91.500          | 340.500     | 6387.48  | 6077.61        | 5476.33    | -2635.94  | 1706210.11        | 607635.42          | 40°09'48.747"N | 80°33'04.188"W | 6077.69           | 334.297         | 2.47          | -1.63                | -1.86               |
| 12333.00 | 91.100          | 339.000     | 6386.51  | 6120.38        | 5516.66    | -2650.82  | 1706195.23        | 607675.75          | 40°09'49.144"N | 80°33'04.386"W | 6120.48           | 334.335         | 3.61          | -0.93                | 3.49                |
| 12377.00 | 91.900          | 340.700     | 6385.36  | 6164.13        | 5557.95    | -2665.97  | 1706180.08        | 607717.04          | 40°09'49.550"N | 80°33'04.587"W | 6164.27           | 334.374         | 4.27          | 1.82                 | 3.86                |
| 12420.00 | 92.300          | 341.600     | 6383.78  | 6206.77        | 5598.61    | -2679.85  | 1706166.20        | 607757.70          | 40°09'49.950"N | 80°33'04.772"W | 6206.94           | 334.421         | 2.29          | 0.93                 | 2.09                |
| 12439.00 | 91.900          | 341.700     | 6383.08  | 6225.59        | 5616.63    | -2685.83  | 1706160.22        | 607775.72          | 40°09'50.128"N | 80°33'04.852"W | 6225.78           | 334.443         | 2.17          | -2.11                | 0.53                |
| 12494.00 | 91.900          | 341.700     | 6381.26  | 6280.06        | 5668.82    | -2703.09  | 1706142.96        | 607827.91          | 40°09'50.641"N | 80°33'05.082"W | 6280.31           | 334.507         | 0.00          | 0.00                 | 0.00                |



# Actual Wellpath Report

Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494'  
Page 9 of 10



| REFERENCE WELLPATH IDENTIFICATION |                            |          |                       |
|-----------------------------------|----------------------------|----------|-----------------------|
| Operator                          | CHESAPEAKE APPALACHIA, LLC | Slot     | Slot 3H               |
| Area                              | Ohio County, WV            | Well     | Gary Kestner 3H       |
| Field                             | Ohio                       | Wellbore | Gary Kestner 3H (AWB) |
| Facility                          | Gary Kestner               |          |                       |

| TARGETS                    |         |          |            |           |                   |                    |                |                |       |
|----------------------------|---------|----------|------------|-----------|-------------------|--------------------|----------------|----------------|-------|
| Name                       | MD [ft] | TVD [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude       | Longitude      | Shape |
| Gary Kestner 3H PBHL:Rev-6 |         | 6375.43  | 5586.31    | -2750.85  | 1706095.20        | 607745.40          | 40°09'49.820"N | 80°33'05.685"W | point |

| WELLPATH COMPOSITION - Ref Wellbore: Gary Kestner 3H (AWB) Ref Wellpath: Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494' |             |                                      |   |                       |
|---|-------------|--------------------------------------|---|-----------------------|
| Start MD [ft]   | End MD [ft] | Positional Uncertainty Model         | Log Name/Comment                          | Wellbore              |
| 0.00  | 5908.00     | Generic gyro - continuous (Standard) | VES / Gyro <0'> <108'-5908'>              | Gary Kestner 3H (AWB) |
| 5908.00   | 12439.00    | NaviTrak (MagCorr)                   | BHI / NaviTrak MWD<5908'> <5952'- 12439'> | Gary Kestner 3H (AWB) |
| 12439.00  | 12494.00    | Blind Drilling (std)                 | Projection to bit                         | Gary Kestner 3H (AWB) |



# Actual Wellpath Report

Gary Kestner 3H <5908'><5952'-12439'> Proj: 12494'  
Page 10 of 10

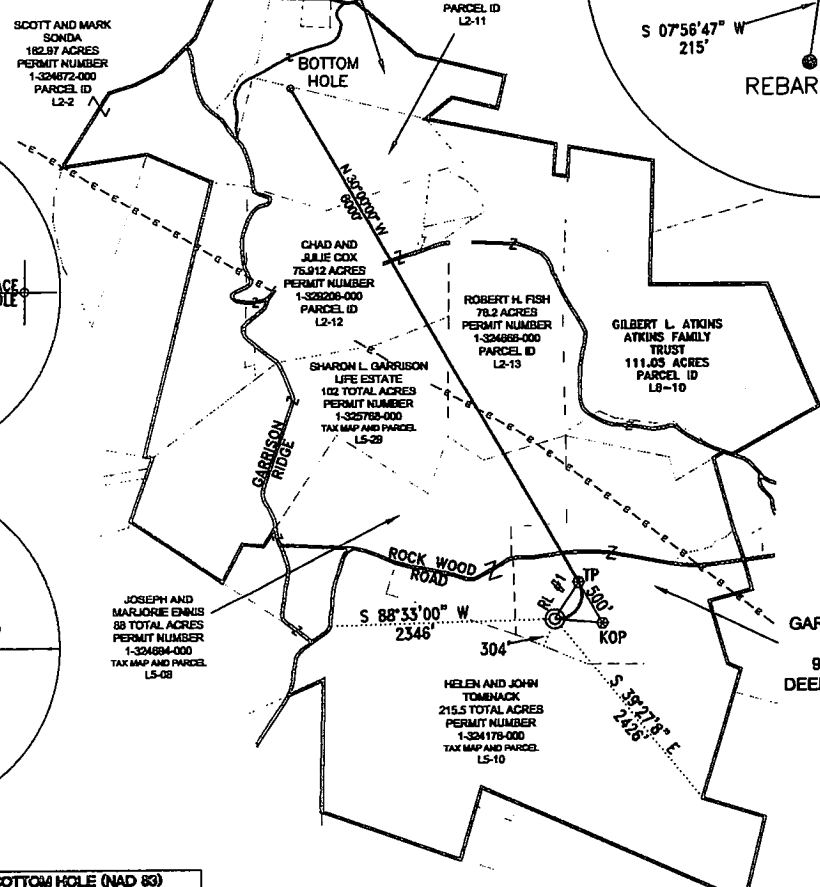
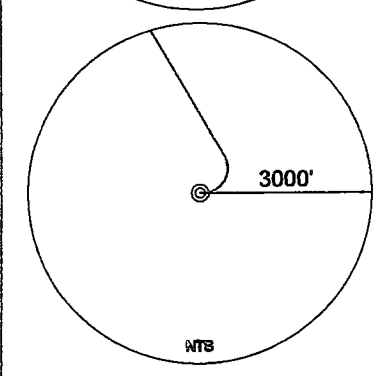
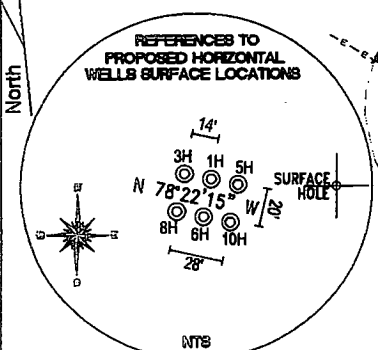
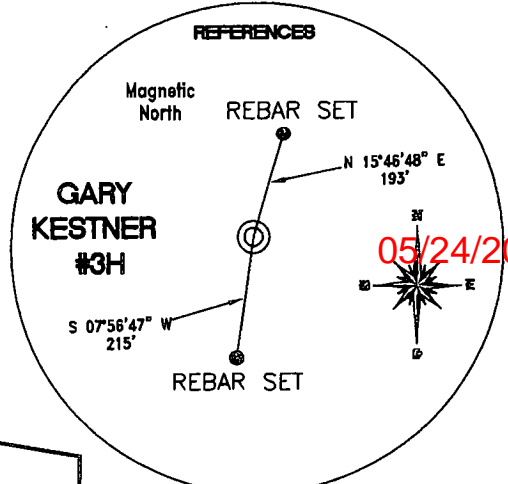


| REFERENCE WELLPATH IDENTIFICATION |                            |          |                       |
|-----------------------------------|----------------------------|----------|-----------------------|
| Operator                          | CHESAPEAKE APPALACHIA, LLC | Slot     | Slot 3H               |
| Area                              | Ohio County, WV            | Well     | Gary Kestner 3H       |
| Field                             | Ohio                       | Wellbore | Gary Kestner 3H (AWB) |
| Facility                          | Gary Kestner               |          |                       |

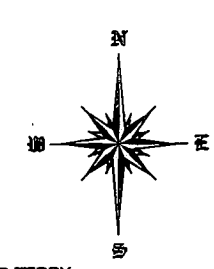
| COMMENTS  |
|---|
| <p><b>Wellpath general comments</b><br/>API: 47-069-00081-00-00<br/>Rig: Nomac 243<br/>BHI Job#: 3924674<br/>Duration: 8/6/11-8/23/11<br/>VES / Gyro &lt;100'-5908'&gt;<br/>BHI / NaviTrak MWD &lt;5908'&gt; &lt;5952'- 12439'&gt;<br/>TD Projected To MD: 12494'</p> |



|   |  |
|---|--|
| <b>TOP HOLE (NAD 83)</b><br>N) 602196.3<br>E) 1677411.8<br>LAT.) 40°08'55.2"<br>LONG.) 80°32'28.7"<br>DEC. LAT.) 40.148666<br>DEC. LONG.) 80.541299 | <b>KOP (NAD 83)</b><br>N) 602153.3<br>E) 1677910.9<br>LAT.) 40°08'54.8"<br>LONG.) 80°32'22.2"<br>DEC. LAT.) 40.148564<br>DEC. LONG.) 80.539512 |
| <b>TOP HOLE (NAD 27)</b><br>N) 602159.2<br>E) 1708846.0<br>LAT.) 40°08'54.9"<br>LONG.) 80°32'29.4"<br>DEC. LAT.) 40.148593<br>DEC. LONG.) 80.541506 | <b>KOP (NAD 27)</b><br>N) 602116.2<br>E) 1709345.1<br>LAT.) 40°08'54.6"<br>LONG.) 80°32'23.0"<br>DEC. LAT.) 40.148491<br>DEC. LONG.) 80.539719 |



|                             |
|-----------------------------|
| <b>REFERENCE LINES</b>      |
| RL #1<br>N 32°33'53" E 462' |



|   |  |
|---|--|
| <b>TP (NAD 83)</b><br>N) 602586.3<br>E) 1677660.9<br>LAT.) 40°08'59.1"<br>LONG.) 80°32'25.5"<br>DEC. LAT.) 40.149744<br>DEC. LONG.) 80.540424 | <b>BOTTOM HOLE (NAD 83)</b><br>N) 607782.5<br>E) 1674660.9<br>LAT.) 40°09'50.1"<br>LONG.) 80°33'04.9"<br>DEC. LAT.) 40.163911<br>DEC. LONG.) 80.551373 |
| <b>TP (NAD 27)</b><br>N) 602549.2<br>E) 1709095.1<br>LAT.) 40°08'58.8"<br>LONG.) 80°32'26.3"<br>DEC. LAT.) 40.149672<br>DEC. LONG.) 80.540631 | <b>BOTTOM HOLE (NAD 27)</b><br>N) 607745.4<br>E) 1706095.2<br>LAT.) 40°09'49.8"<br>LONG.) 80°33'05.7"<br>DEC. LAT.) 40.163839<br>DEC. LONG.) 80.551579 |

**REFERENCE NOTES**  
 Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records OHIO County, West Virginia FEBRUARY 2011  
 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS  
 Drafted by: E.A.M.

FILE #: CHE 049  
 DRAWING #: 1590  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/200  
 PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed:   
 L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 WVDEP  
 OFFICE OF OIL & GAS  
 601 57TH STREET  
 CHARLESTON, WV 25304

DATE: APRIL 27, 2011

OPERATOR'S WELL #: GARY KESTNER 3H

API WELL #: 47 ~~169~~ ~~2008000~~

STATE COUNTY PERMIT 00081H

Well Type:  Oil  Waste Diposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1,300'

COUNTY/DISTRICT: OHIO / LIBERTY QUADRANGLE: BETHANY, WV

SURFACE OWNER: GARY AND TERRY KESTNER ACREAGE: 95.98 +/-

OIL & GAS ROYALTY OWNER: GARY AND TERRY KESTNER ACREAGE: 486.22 +/-

LEASE NUMBERS:

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
 PLUG OFF FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON   
 CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY): TVP 6400'

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 12,476' TMD

WELL OPERATOR: CHESAPEAKE APPALACHIA, LLC. DESIGNATED AGENT: ERIC GILLESPIE  
 ADDRESS: PO BOX 18496 ADDRESS: PO BOX 6070  
 CITY: OKLAHOMA CITY STATE: OK ZIP CODE: 73154-0496 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

Bethany

Spot is off  
05/24/2019

Operator: CHESAPEAKE APPALACHIA, L.L.C.  
API: 6900081  
WELL No: GARY KESTNER 3H  
Reviewed by: LR Date: 4-23-11  
15 Day End of Comment: 4/18

### CHECKLIST FOR FILING A PERMIT

#### Horizontal Well

- WW-2B
- <sup>(2)</sup> Inspector signature on WW-2B
- WW-2A (Notarized)
- Certified Mail Receipts, Waivers, or Affidavits of Personal Service
- Surface Owner Waiver
- Coal Owner / Lessee / Operator Waiver
- WW-2A-1 (Signed) Showing Book/Page Number and Royalty Percentage
- WW-2B-1 (Names, addresses, and spot on topographical map listed as water testing)
- WW-9 (Page 1 & 2) (Notarized)
- More than 5,000 bbls
- <sup>(2)</sup> Inspector Signature on WW-9
- Reclamation plan
- ?   Topographic Map of location of well
- Mylar Plat (Signed and Sealed) (Surface owner on plat matches WW-2A)
- Bond
- Company is Registered with the SOS
- Worker's Compensation / Unemployment Insurance account is OK
- \$650.00 check (\$550.00 if no pit)
- Mine Data
- Addendum

check spot SPOT is off

4/27/11 Emailed Dee for new plat

GKestner@  
\* access.kia.wv.us