west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Tuesday, May 23, 2023

WELL WORK PLUGGING PERMIT
Vertical Plugging

CHESAPEAKE APPALACHIA, L.L.C.
6100 N. WESTERN AVE.

OKLAHOMA CITY, OK 73118

Re: Permit approval for 2533
47-023-00018-00-00

This well work permit 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 any additional specific 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.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, is to be submitted to this office within 90 days of completion of permitted well work, 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.

Per 35 CSR 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- 0450.

James A. Martin
Chief

Operator's Well Number: 2533
Farm Name: EVANS, RUTH
U.S. WELL NUMBER: 47-023-00018-00-00
Vertical Plugging
Date Issued: 5/23/2023



06/30/2023

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# PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

## CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.
4. 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.

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WW-4B
Rev. 2/01

1) Date MAY 4, 2023
2) Operator's
Well No. RUTH EVANS 1-2533
3) API Well No. 47- 23 - 00018

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

**APPLICATION FOR A PERMIT TO PLUG AND ABANDON**

4) Well Type: Oil _____/ Gas X / Liquid injection _____/ Waste disposal _____/
(If "Gas, Production ____ or Underground storage ____) Deep ____/ Shallow____

5) Location: Elevation 2290' Watershed LUNICE CREEK
District UNION County GRANT Quadrangle BLACKBIRD KNOB

6) Well Operator CHESAPEAKE APPALACHIA LLC
Address PO BOX 18496
OKLAHOMA CITY, OK 73154-0496

7) Designated Agent ERIC HASKINS - MANAGER REG OPS
Address 14 CHESAPEAKE LANE
SAYRE, PA 18840

8) Oil and Gas Inspector to be notified
Name GAYNE J KNITOWSKI
Address 601 57TH STREET SE
CHARLESTON, WV 25304

9) Plugging Contractor
Name PLANTS AND GOODWIN
Address 360 HIGH STREET
BRADFORD, PA 16701

10) Work Order: The work order for the manner of plugging this well is as follows:

SEE ATTACHED

RECEIVED
Office of Oil & Gas
MAY 12 2023
WV Department of
Environmental Protection

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector Gayne Knitowski Digitally signed by Gayne Knitowski Date: 2023.05.08 07:59:38 -04'00' Date

06/30/2023

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# RUTH EVANS 1-2533

CHESAPEAKE ENERGY

## Plug & Abandon

County/State: GRANT, WV Township: UNION
Latitude: 39.0682297146 Longitude: -79.2615516829 (NAD 83)
API: 4702300018

### Summary

The RUTH EVANS 1-2533 will be plugged and abandoned. The well is located in GRANT County, WV and was spud on 10-05-1988 by UNKNOWN, targeting the Oriskany as a Vertical well. The last known production date for this well was December of 2012 where it averaged 45 MCF, 0 BO, and 0 BW.

The Ruth Evans 1-2533 is a vertical well that was drilled and completed in the Oriskany with perforations from 7,929' to 8,010'. Unknown information includes: casing/tubing weight and grades, drilled hole sizes, and top of cement. All information pertaining to these unknown parameters in the proceeding P&A packet are assumed and/or estimated values.

### Guideline

| Step | Operation |
|---|---|
| | The content of this guideline are recommendations based on expected conditions, current equipment, and existing design. Should actual conditions vary from expected, discuss with your supervisor and all necessary personnel on how to proceed.<br><br>Pre-Job Safety Meeting<br>a. Safety is the highest priority.<br>b. 2 active barriers must be maintained at all times in accordance with OGB-CHK-STD-001 Barrier Standard.<br>c. Ensure gas monitoring equipment is being utilized on location.<br>d. Remind all personnel that everyone has Stop Work Authority.<br>e. Before each shift/day or new scope of work:<br>· Hold well-site safety meetings covering the scope of work with all personnel on location.<br>· Review guideline and discuss critical parameters (pressures, volumes, contingency plans, etc.).<br>· Verify that all personnel understand and are prepared for the operation.<br>· Review emergency action plans for the operation.<br><br>Glossary: QHB = Qualified Hydrostatic Barrier, BPV = Back Pressure Valve, TIW = Full Open Safety Valve (Equal ID to Work String), TWC = Two Way Check |
| 1 | Prior to rig arriving on site: |
| | a. Make sure all casing valves are readily accessible and remove water from cellar.<br>b. Perform 72-hour pressure build up test on all annuli.<br>c. Perform negative pressure test on master valve(s) in accordance with APP Master Valve Operational Guideline - PROD-APP-002.<br>c. Make sure A, B, and C section flanges are properly identified.<br>d. Verify regulatory permit and approval to plug and abandon.<br>e. Notify WVDEP, BLM, municipality and surface landowner 1 week prior to commencing operations. |
| 2 | RU Containment. |
| 3 | MIRU WOR, pump, and surface equipment. |
| 4 | Pump FW until a Qualified Hydrostatic Barrier (QHB) is established. Ensure pump is rigged up and ready to pump kill weight fluid for duration of job. |
| | a. Contact supervisor and OKC engineer if higher weight kill fluid is required. |

| | |
|---|---|
| | · Occurs when pumped FW volume equals or exceeds casing + tubing (if applicable) volume to top perf depth and well pressure exceeds 0 psi and/or well does not pass a flow check. |
| 5 | SKIP TO STEP 11 IF WELL DOES NOT HAVE TUBING - Contact supervisor and OKC engineer if well does not have a tubing hanger. NU lubricator to closed master valve and pressure test. |
| | a. Flow Paths:<br>· 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = Master Valve<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Master Valve |
| 6 | Bleed off test pressure, open master valve, and install BPV in tubing hanger. Contact engineer and prepare to set pump through plug in tubing with SL, if BPV cannot be installed in hanger. |
| | a. Flow Paths:<br>· Tubing – 1st Barrier = QHB, 2nd Barrier = Lubricator<br>· Casing – 1st Barrier = QHB, 2nd Barrier = Tubing Hanger |
| 7 | ND lubricator, ND wellhead, NU 7.0625" master valve and NU double 7.0625" BOPs (Top to Bottom: 2.375" Pipe Ram and Blind Ram). Stab landing joint in tubing hanger. Close pipe ram and pressure test stack against tubing hanger in accordance with CHK Workover and Completions BOP Manual (outlined in section 2.6). LD landing joint, close master valve and blind ram. Pressure test blind ram against master valve in accordance with CHK Workover and Completions BOP Manual (outlined in section 2.6). |
| | a. Flow Paths:<br>· 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = BPV<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Tubing Hanger |
| 8 | NU lubricator and pressure test against master valve. Bleed off test pressure, open master valve and pull BPV. |
| | a. Flow Paths:<br>· 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = BPV (NU), 2nd Barrier = Lubricator (Pull BPV)<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Tubing Hanger |
| 9 | Close Blind Ram and ND lubricator |
| | a. Flow Paths:<br>· 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = Blind Ram<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Tubing Hanger |
| 10 | MU lifting sub into tubing hanger. Unscrew tubing lockdown pins and LD tubing hanger. POOH with tubing while standing back. |
| | a. Flow Paths:<br>· 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = TIW<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Pipe Ram |
| 11 | SKIP TO THIS STEP IF WELL DID NOT HAVE TUBING - Close master valve. NU WL packoff and pressure test against master valve. RU WL. |
| | a. Flow Paths:<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Master Valve<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips, 3rd Barrier = Master Valve |
| 12 | Plug #1 (CIBP Perf Isolation) - TIH with WL and set CIBP as specified under Plug Details table in accordance with Plug 1. Use a CCL to ensure the CIBP is not set in a collar. TOOH with WL. Pressure test CIBP to 1,500 psi or 80% of casing burst pressure accounting for hydrostatic to CIBP depth, which ever is less. |
| | a. Flow Paths:<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = WL Packoff<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips, 3rd Barrier = WL Packoff |
| 13 | ND WL packoff. RD and release WL. |
| | a. Flow Paths:<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips |
| 14 | ND double 7.0625" BOPs (if applicable), master valve, and necessary wellhead equipment to expose casing slips. Establish hot work permit and tac weld casing slips to casing. Ensure thorough LEL monitoring is in place, fire extinguishers are near wellhead, and fire watch is designated as outlined by hot work permit. |
| | a. Flow Paths:<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips |
| 15 | NU double 11" BOPs (Top to Bottom: 2.375" Pipe Ram and Blind Ram) and 11" annular BOP. Test each ram against the CIBP in accordance with CHK Workover and Completions BOP Manual (outlined in section 2.6). |



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|---|---|
| | a. Flow Paths:<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips |
| 16 | Plug #2 (Cement Perf Isolation) - TIH with work string to bottom depth of Plug 2 as specified under the Plug Details table. Pump Spacer 1 as detailed under the Spacer Details table. Pump balanced cement plug in accordance with Plug 2. Displace tubing with volume specified on Plug Details table. POOH with WS. WOC 8 hours. |
| | a. Flow Paths:<br>· 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = CIBP, 3rd Barrier = TIW<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP, 3rd Barrier = Pipe Rams |
| 17 | NU WL packoff. RU WL. |
| | a. Flow Paths:<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP, 3rd Barrier = Cement Plug<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips |
| 18 | RIH with CBL, POOH with WL and discuss results with key stakeholders. |
| | a. Flow Paths:<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP, 3rd Barrier = Cement Plug, 4th Barrier = WL Packoff (untested)<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips, 3rd Barrier = WL Packoff (untested) |
| 19 | Pressure test WL Packoff against cement plug to 500 psi. Ok testing against cement due to CIBP below. RIH with jet cutter and cut csg at TOC as determined by CBL. POOH with WL. |
| | a. Flow Paths:<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = WL Packoff<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips, 3rd Barrier = WL Packoff |
| 20 | Close blind ram. RD WL. Verify good cut before releasing WL by attempting to establish circulation. |
| | a. Flow Paths:<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Blind Ram<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips, 3rd Barrier = Blind Ram |
| 21 | NU casing jacks (if applicable), MU casing spear, and open blind ram. Spear casing, LD slips and spear. |
| | a. Flow Paths:<br>· 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = TIW<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Blind Ram (Csg Jack NU), 2nd Barrier = Pipe Ram (Spear)<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips (Csg Jack NU), 2nd Barrier = Pipe Ram (Spear) |
| 22 | POOH with production casing. |
| | a. Flow Paths:<br>· 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Swage Nipple w/ Ball Valve<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Annular |
| 23 | Plug #3 (Prod Csg Stub Plug) - TIH with work string to bottom depth of Plug 3 as specified under the Plug Details table. Pump Spacer 2 as detailed under the Spacer Details table. Pump balanced cement plug in accordance with Plug 3. Displace tubing with volume specified on Plug Details table. POOH 1,500' above estimated TOC. Close pipe ram. WOC 8 hours. |
| | a. Flow Paths:<br>· 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = TIW<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Pipe Rams |
| 25 | Plug #5 (Inter Csg Shoe Plug) - TIH with work string and tag TOC. PU to bottom depth of Plug 5 as specified under the Plug Details table. Pump Spacer 4 as detailed under the Spacer Details table. Pump balanced cement plug in accordance with Plug 5. Displace tubing with volume specified on Plug Details table. PU a minimum of 500' above estimated TOC. Close pipe ram and WOC 8 hrs. |
| | a. Flow Paths:<br>· 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = TIW<br>· 8.625 Casing – 1st Barrier = QHB, 2nd Barrier = Pipe Rams |
| 26 | Plug #6 (Surface Plug) - TIH with work string and tag TOC. PU to bottom depth of Plug 6 as specified under the Plug Details table. Pump balanced cement plug in accordance with Plug 6. Displace tubing with volume specified on Plug Details table. POOH. Close blind ram. WOC 8 hours. |
| | a. Flow Paths: |

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|---|---|
| | · Tubing – 1st Barrier = QHB, 2nd Barrier = TIW<br>· KOP Casing – 1st Barrier = QHB, 2nd Barrier = Pipe Ram |
| **27** | RDMO. |
| **28** | Monitor well for 24 hrs minimum. |
| **29** | Establish hot work permit. Perform LEL assessment of well head and ensure LEL monitoring remains in place. Contact supervisor and OKC engineer if LELs are registered. Place fire extinguishers near wellhead and ensure fire watch is designated as outlined by hot work permit. Cut casing and weld abandonment cap with monument as specified by WVDEP. |
| | |
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Gayne Knitowski

Digitally signed by Gayne Knitowski
Date: 2023.05.08 07:58:45 -04'00'

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WV Department of
Environmental Protection

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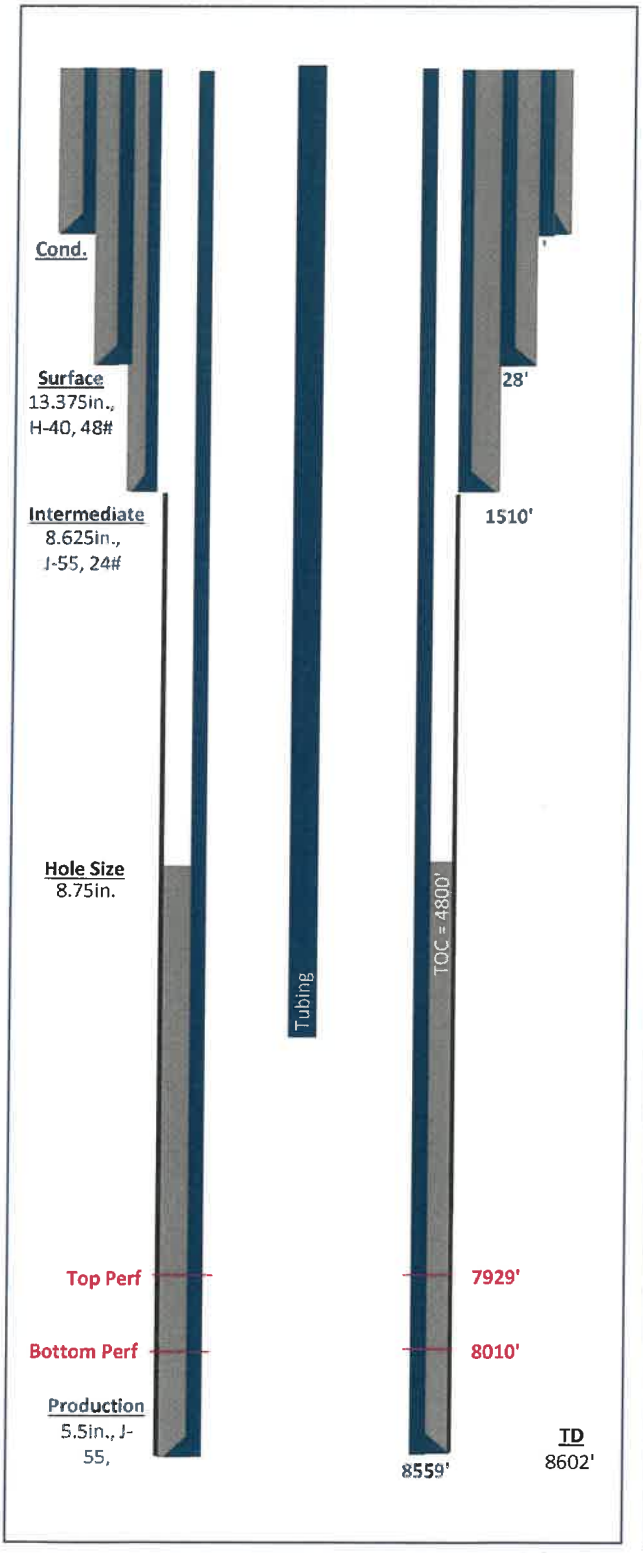
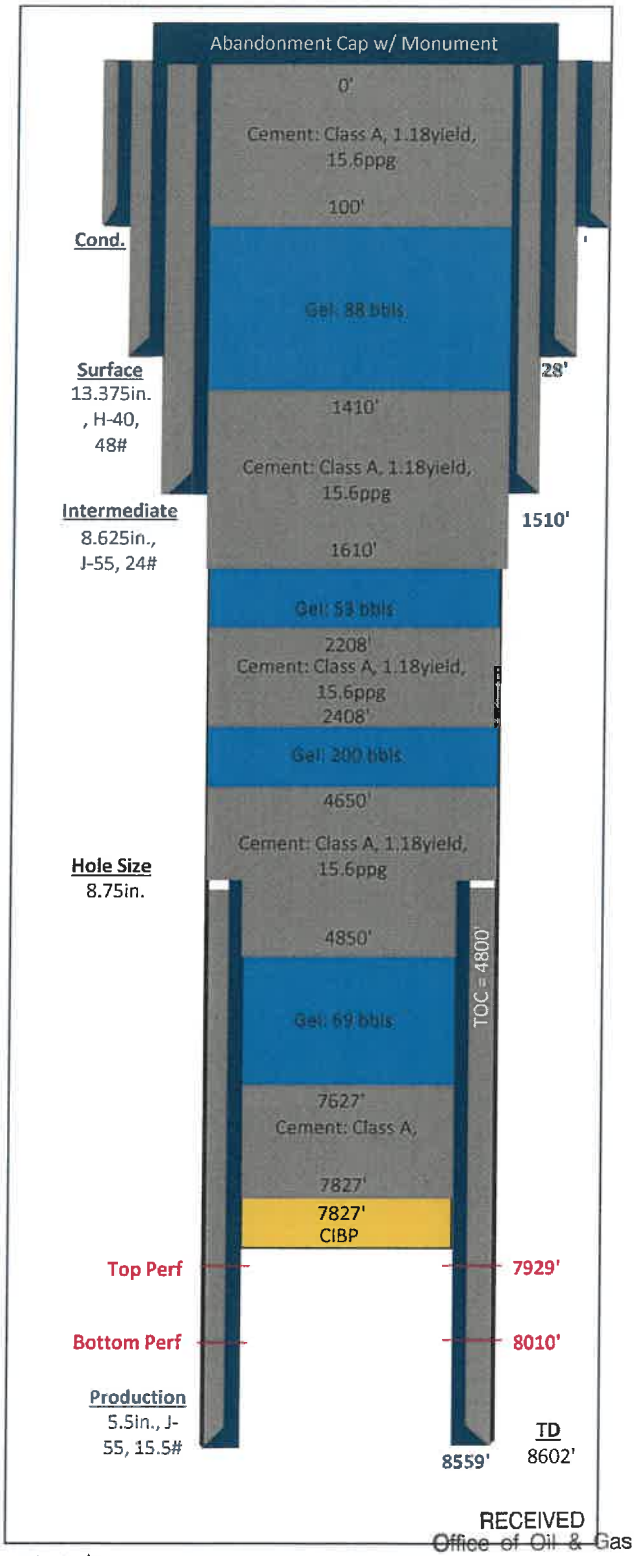
# RUTH EVANS 1-2533

CHESAPEAKE ENERGY

## Current Wellbore Schematic




## Proposed Wellbore Schematic




Schematics are note to scale

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# RUTH EVANS 1-2533

CHESAPEAKE ENERGY

## Plugging Proposal

### Plug Details

| # | Type | Description | Set ID | Plug Height (ft) | Bottom of Plug (ftKB) | Top of Plug (ftKB) | Cement Type | Cement Yield | Cement Density (ppg) | Excess Cement (%) | Cement Volume (bbl) | Cement Volume (sacks) | Tubing Displacement Volume (bbls) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CIBP | CIBP Perf Isolation | 4.95 | 2 | 7,829 | 7,827 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2 | Cement | Cement Perf Isolation | 4.95 | 200 | 7,827 | 7,627 | Class A | 1.18 | 15.6 | 0 | 4.8 | 22.7 | 29.3 |
| 3 | Cement | Prod Csg Stub Plug (Inside Csg) | 4.95 | 50 | 4,850 | 4,800 | Class A | 1.18 | 15.6 | 0 | 1.2 | 5.7 | 17.8 |
| 3 (con.) | Cement | Prod Csg Stub Plug (Open Hole) | 8.75 | 150 | 4,800 | 4,650 | Class A | 1.18 | 15.6 | 20 | 13.4 | 63.7 | 0.0 |
| 4 | Cement | Elevation Plug (Open Hole) | 8.75 | 200 | 2,408 | 2,208 | Class A | 1.18 | 15.6 | 20 | 17.9 | 84.9 | 8.3 |
| 5 | Cement | Inter Csg Shoe Plug (Open Hole) | 8.75 | 100 | 1,610 | 1,510 | Class A | 1.18 | 15.6 | 20 | 8.9 | 42.5 | 5.2 |
| 5 (con.) | Cement | Surf Csg Shoe Plug (Inside Csg) | 8.097 | 100 | 1,510 | 1,410 | Class A | 1.18 | 15.6 | 0 | 6.4 | 30.3 | 0.0 |
| 6 | Cement | Surface Plug | 8.097 | 100 | 100 | 0 | Class A | 1.18 | 15.6 | 0 | 6.4 | 30.3 | 0.4 |

### Spacer Details

| # | Fluid Type | Description | Set ID | Spacer Height | Spacer Density (ppg) | Spacer Viscosity (cp) | Excess Spacer (%) | Spacer Volume (bbls) |
|---|---|---|---|---|---|---|---|---|
| 1 | Gel | Perf Isolation to Prod Csg Stub Plug | 4.95 | 2,777 | 9 | - | 5 | 69.4 |
| 2 | Gel | Prod Csg Stub Plug to Elevation Plug | 8.75 | 2,242 | 9 | - | 20 | 200.1 |
| 3 | Gel | Elevation Plug to Inter Csg Shoe Plug | 8.75 | 598 | 9 | - | 20 | 53.4 |
| 4 | Gel | Inter Csg Shoe Plug to Surface Plug | 8.097 | 1,310 | 9 | - | 5 | 87.6 |

### Estimated Casing Cuts

| String | Est. Cut Depth (ftKB) |
|---|---|
| Intermediate | |
| Production | 4,800 |

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# RUTH EVANS 1-2533

CHESAPEAKE ENERGY

## Well Information

| Surface Location | |
|---|---|
| County/State | GRANT, WV |
| Township | UNION |
| Latitude* | 39.06822971 |
| Longitude* | -79.26155168 |

*NAD 83

| CHK Contacts | | | |
|---|---|---|---|
| Title | Name | Office | Mobile |
| Production Superin. | Chris Sprute | - | 318-771-2769 |
| Completions Fore. | Lucas Welch | - | 570-423-4236 |
| Production Manager | John Van Gels | 405-766-8012 | 636-448-1104 |
| Production Supervisor | Keeley Bergman | 405-766-8438 | 918-991-5520 |
| Production Engineer | Kory Lucas | 405-766-8878 | 740-629-2092 |
| Regulatory Manager | Eric Haskins | - | 607-242-3839 |

| Driving Directions |
|---|
| 0 |

| General Well Data | | | | | | | |
|---|---|---|---|---|---|---|---|
| KB | 10 | Top Perf | 7,929 | Perf Interval Length | 81 | PBTD | 8,559 |
| KOP | N/A | Bottom Perf | 8,010 | TD | 8,602 | Elevation | 2,308 |

| Casing Details | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| String | Grade | OD | ID | Weight | Drift | Top (ftKB) | Bottom (ftKB) | Capacity (bbl/ft) | Tot. Cap. (bbl) | Hole Size |
| Conductor | | | | | | | | | | |
| Surface | H-40 | 13.375 | 12.715 | 48 | 12.559 | - | 28 | 0.157053842 | 4.4 | |
| Intermediate | J-55 | 8.625 | 8.097 | 24 | 7.972 | - | 1,510 | 0.063688954 | 96.2 | |
| Production | J-55 | 5.5 | 4.95 | 15.5 | 4.825 | - | 8,559 | 0.023802701 | 203.7 | 8.75 |
| Production | | | | | | | | | | |
| DV Tool | | | | | | | | | | |

| Tubing Details | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Component | Grade | Weight | OD | ID | Length (ft) | Top (ftKB) | Bottom (ftKB) | Burst 80% (PSI) | Capacity (bbl/ft) | Tot. Cap. (bbl) |
| Tubing | J-55 | 5 | 2.375 | 1.995 | 8,049 | 10 | 8,059 | | | 31 |
| | | | | | | | | | | |
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WR-35

14-Apr-88

API # 47- 23-00018

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

RE
DEP
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Cl

Well Operator's Report of Well Work

Farm name: EVANS, RUTH  Operator Well No.: 2533

LOCATION: Elevation: 2290.00  Quadrangle: BLACKBIRD KNOB

District: UNION  County: GRANT
Latitude: 5550 Feet South of 39 Deg. 5 Min. 0 Sec.
Longitude 3350 Feet West of 79 Deg. 15 Min. 0 Sec.

Company: EQUITABLE RESOURCES EXPLORATION, INC.
P. O. DRAWER 40
BUCKHANNON, WV

Agent: Douglas P. Terry

Inspector: PHILLIP TRACY
Permit Issued: 04/15/88
Well work Commenced: 10-4-88
Well work Completed: 11-3-88
Verbal Plugging
Permission granted on:
Rotary X Cable ____ Rig
Total Depth (feet) 8602'
Fresh water depths (ft) 60', 1307'

Salt water depths (ft) None

Is coal being mined in area (Y/N)?
Coal Depths (ft):

| Casing & Tubing Size | Used in Drilling | Left in Well | Cement Fill Up Cu. Ft. |
|---|---|---|---|
| 13 3/8" | 28 | 28 | |
| 8 5/8" | 1510.35 | 1510.35 | 761 CF |
| 5 1/2" | 8559.03 | 8559.03 | 949.75 CF |
| 2 3/8" | | 8049 | |

OPEN FLOW DATA

Producing formation Oriskany  Pay zone depth (ft) 8010
Gas: Initial open flow 582 MCF/d Oil: Initial open flow ____ Bbl/d
Final open flow 5865 MCF/d  Final open flow ____ Bbl/d
Time of open flow between initial and final tests 6 Hours
Static rock Pressure 2100 psig (surface pressure) after 72 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

GRANT 2018

NOTE: ON BACK OF THIS FORM 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 ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: EQUITABLE RESOURCES EXPLORATION, INC.

By: Douglas P. Terry  Douglas P. Terry
Date: April 10, 1989

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WV Department of
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06/30/2023

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11/12/88 - Halliburton acidized with 2000 gallons 5% Fe Acid, RTTS Packer set @ 7859'.

2/7/89 - Halliburton fracked with 200,000 lbs. 20/40 sand, 13,200 lbs. 80/100 sand and 210,000 Scft N2.
Perforations: 7929' - 8010', Oriskany Sandstone.

| | |
|---|---|
| Harrell Shale | 6714' |
| Upper Marcellus | 7526' |
| Purcell | 7547' |
| Lower Marcellus | 7615' |
| Tioga Metabentonite | 7661' |
| Needmore | 7683' |
| Oriskany Sandstone | 7795' |
| Helderberg L.S. | 8016' |
| Shriver Chert | 8196' |
| Mandata Shale | 8243' |
| Corriganville | 8262' |
| Keyser Group | 8346 to TD 8602' |

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WW-4A
Revised 6-07

1) Date: 5/4/2023
2) Operator's Well Number
CHESAPEAKE APPALACHIA LLC

3) API Well No.: 47 - 023 - 00018

**STATE OF WEST VIRGINIA**
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**
**NOTICE 0F APPLICATION TO PLUG AND ABANDON A WELL**

4) Surface Owner(s) to be served:
(a) Name: GOLDEN E EVANS
Address: 2143 JORDAN RUN ROAD
MAYSVILLE, WV 26833
(b) Name: UNITED STATES OF AMERICA/US FOREST SERVICE
Address: PO BOX 1548
ELKINS, WV 26241
(c) Name:
Address:

6) Inspector: GAYNE J KNITOWSKI
Address: 601 57TH STREET SE
CHARLESTON WV 25304
Telephone: 304546-8171

5) (a) Coal Operator
Name:
Address:

(b) Coal Owner(s) with Declaration
Name: GOLDEN E EVANS
Address: 2143 JORDAN RUN ROAD
MAYSVILLE, WV 26833
Name: UNITED STATES OF AMERICA/US FOREST SERVICE
Address: PO BOX 1548
ELKINS, WV 26241

(c) Coal Lessee with Declaration
Name:
Address:

**TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:**

(1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
(2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

RECEIVED
Office of Oil & Gas
MAY 12 2023
WV Department of
Environmental Protection

Well Operator: CHESAPEAKE APPALACHIA LLC
By: KERI FIENO Keri Fieno
Its: REGULATORY SPECIALIST
Address: PO BOX 18496
OKLAHOMA CITY, OK 73154-0496
Telephone: 405-766-8791

Subscribed and sworn before me this 10th day of May, 2023
Jennifer Johnson Notary Public
My Commission Expires 11/05/26

JENNIFER JOHNSON
NOTARY PUBLIC
STATE OF OKLAHOMA
Commission # 10009313 Expires 11/05/26

**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 needed to comply 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 deprivacyoffier@wv.gov.**

06/30/2023

4702300018P

**Keri Fieno**

**From:** UPS <pkginfo@ups.com>
**Sent:** Monday, May 8, 2023 6:53 PM
**To:** Keri Fieno
**Subject:** [EXTERNAL] UPS Delivery Notification, Tracking Number 1Z4352W50150558874

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

**Hello, your package has been delivered.**
**Delivery Date:** Monday, 05/08/2023
**Delivery Time:** 6:03 PM
**Left At:** FRONT DOOR



Set Delivery Instructions | Manage Preferences | View My Packages

**CHESAPEAKE ENERGY CORPORATION**

| | |
|---|---|
| **Tracking Number:** | 1Z4352W50150558874 |
| **Ship To:** | GOLDEN E EVANS<br>2143 JORDAN RUN ROAD<br>MAYSVILLE, WV 26833<br>US |
| **Number of Packages:** | 1 |
| **UPS Service:** | UPS Next Day Air® |
| **Package Weight:** | 0.4 LBS |
| **Reference Number:** | 142812 RUTH EVANS |
| **Reference Number:** | BG |
| **Reference Number:** | 2023-05-05 09:36:48.767 |



06/30/2023

4702300018P

UNITED STATES POSTAL SERVICE

May 10, 2023

Dear KERI FIENO:

The following is in response to your request for proof of delivery on your item with the tracking number: **9470 1118 9956 2201 2836 77**.

## Item Details

| | |
|---|---|
| **Status:** | Delivered, In/At Mailbox |
| **Status Date / Time:** | May 10, 2023, 11:32 am |
| **Location:** | ELKINS, WV 26241 |
| **Postal Product:** | Priority Mail Express 2-Day® |
| **Extra Services:** | PO to Addressee |
| | Up to $100 insurance included |
| **Recipient Name:** | UNITED STATES OF AMERICA ATTN US FOREST SERVICE |

## Shipment Details

| | |
|---|---|
| **Weight:** | 1lb, 0.0oz |

## Recipient Signature

Note: There is no delivery signature on file for this item.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004



06/30/2023

WW-9
(5/16)

4702300018P

API Number 47 - 023 - 00018
Operator's Well No. RUTH EVANS 1-2533

**STATE OF WEST VIRGINIA**
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**
**OFFICE OF OIL AND GAS**
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name CHESAPEAKE APPALACHIA LLC OP Code 2528

Watershed (HUC 10) LUNICE CREEK Quadrangle BLACKBIRD KNOB

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

Will a pit be used? Yes ☐ No ☑

If so, please describe anticipated pit waste: ANY WELL EFFLUENT WILL BE CONTAINED IN TANKS AND DISPOSED OFFSITE

Will a synthetic liner be used in the pit? Yes ☐ No ☐ If so, what ml.? _____

Proposed Disposal Method For Treated Pit Wastes:

_____ Land Application (if selected provide a completed form WW-9-GPP)
_____ Underground Injection ( UIC Permit Number _____ )
_____ Reuse (at API Number _____ )
✓ Off Site Disposal (Supply form WW-9 for disposal location)
_____ Other (Explain _____

Will closed loop system be used? If so, describe: DRILL CUTTINGS WILL BE CIRCULATED BACK INTO AN OPEN TANK

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. FRESH WATER

-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used in drilling medium? NONE

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) NO PIT

-Landfill or offsite name/permit number? KIMBLE SANITARY LANDFILL OR MUD MASTERS

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, 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.

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Office of Oil & Gas
MAY 12 2023
WV Department of
Environmental Protection

Company Official Signature Keri Fieno

Company Official (Typed Name) KERI FIENO

Company Official Title REGULATORY SPECIALIST

Subscribed and sworn before me this 10th day of May, 20 23

Jennifer Johnson Notary Public

My commission expires 11/05/26

JENNIFER JOHNSON
NOTARY PUBLIC
STATE OF OKLAHOMA
Commission # 10009313 Expires 11/05/26

06/30/2023

Form WW-9

4708300018P

Operator's Well No. RUTH EVANS 1-2533

Proposed Revegetation Treatment: Acres Disturbed 10 Prevegetation pH

Lime 3.90 Tons/acre or to correct to pH 7

Fertilizer type 8-16-16

Fertilizer amount 968 lbs/acre

Mulch 3 Tons/acre

**Seed Mixtures**

| Temporary | | Permanent | |
|---|---|---|---|
| Seed Type | lbs/acre | Seed Type | lbs/acre |
| OATS/ANNUAL RYE | 40LBS/ACRE | BIRDSFOOT TREFOIL | 8LBS/ACRE |
| HAY/STRAW MULCH | 3 TONS/ACRE | TALL FESCUE | 40LBS/ACRE |

Attach:
Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Gayne Knitowski Digitally signed by Gayne Knitowski Date: 2023.05.08 07:57:06 -04'00'

Comments:

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Title: Inspector Date: 5-8-2023

Field Reviewed? (X) Yes ( ) No

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# RECOMMENDED PERMANENT SEEDING MIXTURE FOR ALL DISTURBED AREAS

| MIXTURE NUMBER | SEASON | SPECIES | SEEDING RATE (lb/ac) |
|---|---|---|---|
| 2 | COOL | BIRDSFOOT TREFOIL<br>TALL FESCUE | 8 / 40 |

## MULCHING

MATERIAL SHALL BE HAY OR STRAW WHICH IS FREE OF WEED AND SEEDS, NOT MOLDY, ROTTEN, AND SHALL BE APPLY TO ALL SLOPES FATTER THAN 3:1 AT A RATE OF 140 LBS/1,000 SF. (APPROXIMATELY TWO BALES PER 1,000 SF OR 3 TON PER AC)

## HYDROSEEDING SPECIFICATION

| MATERIAL | DESCRIPTION | APPLICATION RATE (PER 1,000 SY) |
|---|---|---|
| (1) SEE MIXTURE (% BY WEIGHT) | REDTOP – 10%<br>PENNLAWN FESCUE – 45%<br>KENTUCKY BLUEGRASS – 45% | 27 LBS |
| (2) 8–16–16 | COMMERCIAL FERTILIZER | 200 LBS |
| (3) LIME | GROUND COMMERCIAL LIMESTONE | 1,650 LBS |
| (4) MULCH | WOOD CELLULOSE FIBER | 750 LBS |

APPROXIMATE TACK COAT

PROCEDURE: SURFACE TO BE HYDROSEEDED SHALL BE CLEANED OF ALL DEBRIS AND OTHER MATTER HARMFUL TO UNIFORM GERMINATION. A WATER–SURRY MIXTURE COMMPOSED OF THE ABOVE "MATERIALS", ITEMS (1) THROUGHT (3) INCLUSIVE, SHALL BE SPRAYED UNIFORMLY OVER THE AREAS TO BE HYDROSEEDED. IMMEDIATELY, THEREAFTER, ITEM (4) "MULCH" SHALL BE BLOWN ON THE SAME AREA AND TACK–COATED. RATES AND TYPE OF MATERIALS SHALL BE SPECIFIED.

MAINTENANCE AND GUARANTEE

THE CONTRACTOR SHALL GUARANTEE A GOOD STAND OF GRASS IN THE SWALES AND ON BANKS. THE MEANS OF GUARANTEE SHALL BE BY WATERING, MOWING, REGRADING, REMULCHING, AND RESEEDING TO THE SATISFACTION OF THE OWNER UNTIL FINAL ACCEPTANCE. ANY AREAS WHICH FAIL TO SHOW A UNIFORM STAND WITHIN ONE YEAR SHALL BE RESEEDED AND REMULCHED AT THE CONTRACTORS EXPENSE WITH THE SAME MIXTURE ORIGINALLY USED THEREON. ERODED AREAS SHALL BE REPAIRED AND RESTORED TO FINISHED GRADE PRIOR TO RESEEDING AND REMULCHING. ALL SUCH REPAIRING OF EROSION, RESEEDING, AND REMULCHING SHALL BE REPEATED UNTIL ALL EFFECTED AREAS ARE COVERED WITH GRASS.

WW-9- GPP
Rev. 5/16

N/A

4702300018P



API Number 47 - 023 - 00018

Operator's Well No. RUTH EVANS 1-2533

**STATE OF WEST VIRGINIA**
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**
**OFFICE OF OIL AND GAS**
GROUNDWATER PROTECTION PLAN

Operator Name: CHESAPEAKE APPALACHIA LLC

Watershed (HUC 10): LUNICE CREEK Quad: BLACKBIRD KNOB

Farm Name: RUTH EVANS 1-2533

1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

SEE ATTACHED

2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

4. Summarize all activities at your facility that are already regulated for groundwater protection.



5. Discuss any existing groundwater quality data for your facility or an adjacent property.

4702300018P

WW-9- GPP
Rev. 5/16

N/A gwm


API Number 47 - 023 - 00018
Operator's Well No. RUTH EVANS 1-23533

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

Signature: Keri Sino

Date: 5/8/23

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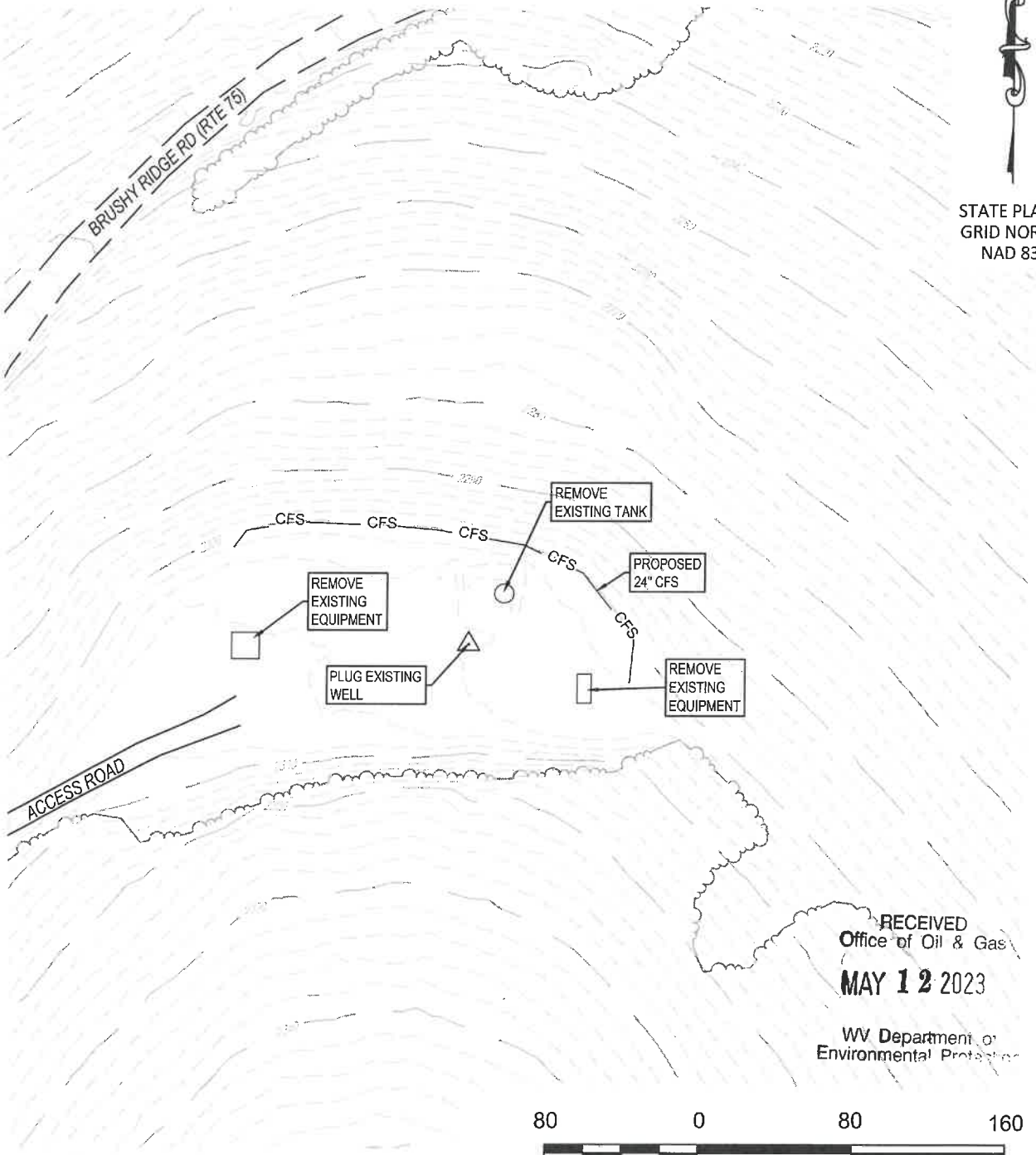


NOTE: ALL PRODUCTION FACILITIES WILL BE REMOVED UPON COMPLETION OF THE PLUGGING OPERATIONS.

# RUTH EVANS 1-2533
# SITE RECLAMATION
# API# 47-023-00018

FOR

CHESAPEAKE ENERGY

LOCATED IN

GRANT COUNTY, WEST VIRGINIA

## SITE PLAN

| PLAN STATUS | DATE | NO. |
|---|---|---|
| FINAL | 03/08/2022 | 1 |

LEGEND

- EXISTING CONTOUR
- EXISTING TREE LINE
- EXISTING ACCESS ROAD EDGE
- PUBLIC ROAD
- WELLHEAD
- COMPOSITE FILTER SOCK — CFS —


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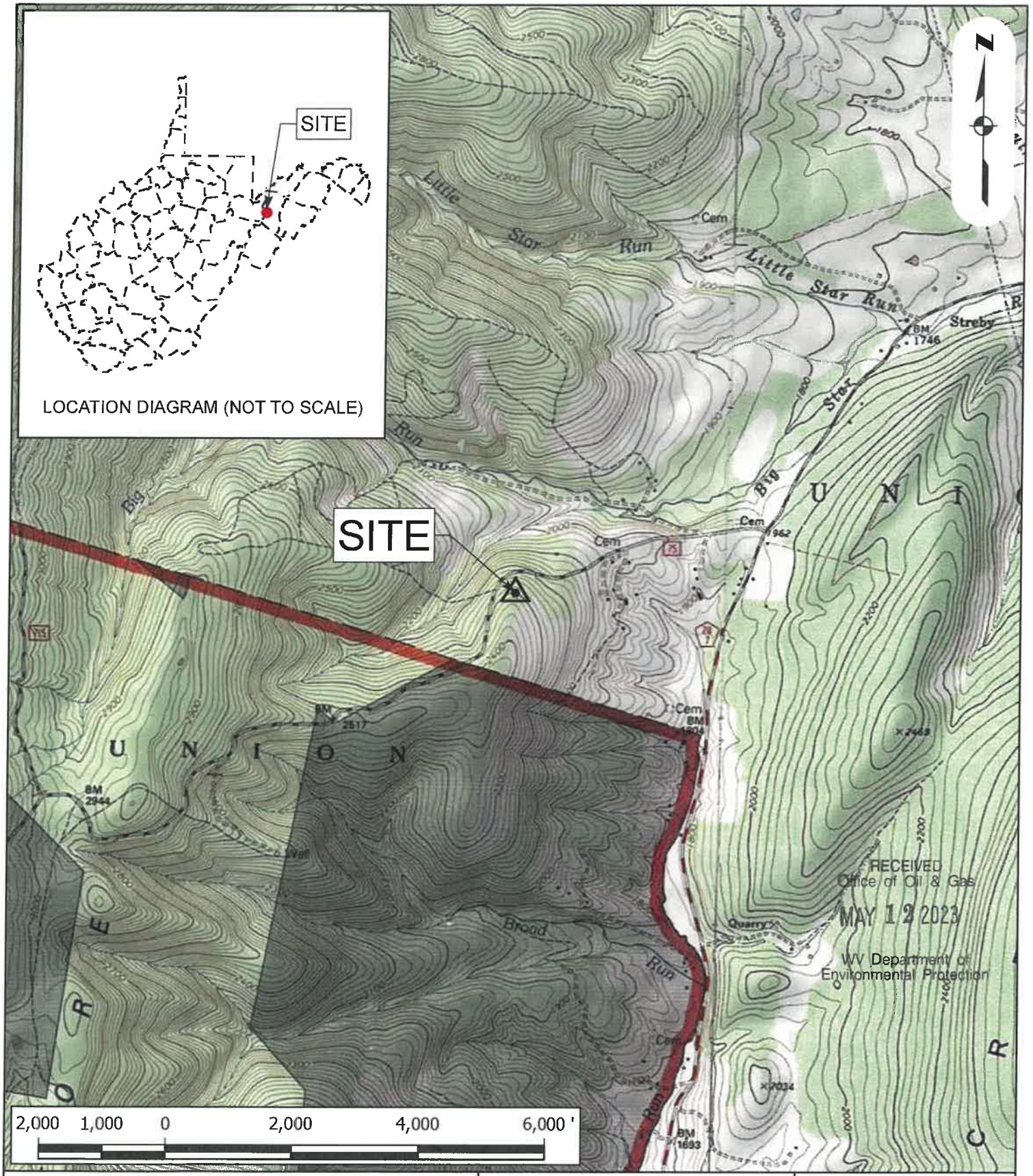




# USGS LOCATION MAP

PREPARED FOR

Ruth Evans 1-2533 Site

GRANT COUNTY, WEST VIRGINIA
BLACKBIRD KNOB USGS QUAD

| | |
|---|---|
| PROJECT - | 2023-0409 Ruth Evans 1-2533 |
| DATE - | 3/8/2023 |
| SCALE - | 1 " = 2,000 ' |
| DRAWN - | JCOOK |
| FILE - | RUTH EVANS_USGS_LOCATION_MAP.mxd |

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4702300018P

WW-7
8-30-06

# West Virginia Department of Environmental Protection
## Office of Oil and Gas
## WELL LOCATION FORM: GPS

**API:** 47-023-00018 **WELL NO.:** 2533

**FARM NAME:** RUTH EVANS

**RESPONSIBLE PARTY NAME:** CHESAPEAKE APPALACHIA LLC

**COUNTY:** GRANT **DISTRICT:** UNION

**QUADRANGLE:** BLACKBIRD KNOB, WV

**SURFACE OWNER:** GOLDEN E EVANS

**ROYALTY OWNER:** GOLDEN E EVANS

**UTM GPS NORTHING:** 4325786.379

**UTM GPS EASTING:** 650395.403 **GPS ELEVATION:** 2290'

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS X: Post Processed Differential X

Real-Time Differential _____

Mapping Grade GPS ____: Post Processed Differential _____

Real-Time Differential _____

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Office of Oil & Gas
MAY 12 2023
WV Department of
Environmental Protection

4. **Letter size copy of the topography map showing the well location.**

I the undersigned, hereby certify this data 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 Office of Oil and Gas.

Kevi Lieno — Signature

REGULATORY SPECIALIST — Title

5/8/23 — Date

06/30/2023

CHESAPEAKE ENERGY

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Environmental Protection

May 10, 2023

Jeff McLaughlin
WV DEP
601 57th Street SE
Charleston, WV 25304

**VIA UPS OVERNIGHT**

Re: Plugging Permit Application

Mr. McLaughlin,

Please find the enclosed Plugging permit application for the Ruth Evans 1-2533.

Sincerely,

Keri Fieno
Regulatory Specialist

Enclosures

**Chesapeake Energy Corporation**
6100 N Western Avenue, Oklahoma City, OK 73118
405-766-8791

06/30/2023

**Kennedy, James P <james.p.kennedy@wv.gov>**

# Fwd: Message from KM_C450i

1 message

**McLaughlin, Jeffrey W** <jeffrey.w.mclaughlin@wv.gov> Tue, May 23, 2023 at 7:50 AM
To: Keri Fieno <keri.fieno@chk.com>, Eric Haskins <eric.haskins@chk.com>, Gayne J Knitowski <gayne.j.knitowski@wv.gov>
Cc: "jours@assessor.state.wv.us" <jours@assessor.state.wv.us>, James P Kennedy <james.p.kennedy@wv.gov>

To all;

Please find attached the newly issued plugging permit application for the Ruth Evans No. 2533(API No. 47-023-00018).

Regards,

Jeff McLaughlin, Technical Analyst
WV DEP, Office of Oil and Gas
---------- Forwarded message ---------
From: <Copy.Center.2064@wv.gov>
Date: Tue, May 23, 2023 at 7:40 AM
Subject: Message from KM_C450i
To: <jeffrey.w.mclaughlin@wv.gov>

**SKM_C450i23052307410.pdf**
1688K

06/30/2023