



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

Thursday, July 6, 2023

WELL WORK PLUGGING PERMIT
Vertical Plugging

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

OKLAHOMA CITY, OK 73118

Re: Permit approval for WVGO2569
47-023-00024-00-00

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: WVGO2569
Farm Name: MOOMAU, DR. FREDERICK
U.S. WELL NUMBER: 47-023-00024-00-00
Vertical Plugging
Date Issued: 7/6/2023

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.

1) Date MAY 9, 2023
2) Operator's
Well No. MOOMAU 1-2569
3) API Well No. 47-23 - 00024

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 2760' Watershed LUNICE CREEK
District UNION County GRANT Quadrangle BLACKBIRD KNOB

6) Well Operator CHESAPEAKE APPALACHIA LLC 7) Designated Agent ERIC HASKINS - MANAGER REG OPS
Address PO BOX 18496 Address 14 CHESAPEAKE LANE
OKLAHOMA CITY, OK 73154-0496 SAYRE, PA 18840

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name GAYNE J KNITOWSKI Name PLANTS AND GOODWIN
Address 601 57TH STREET SE Address 360 HIGH STREET
CHARLESTON, WV 25304 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 and Gas
MAY 19 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 Date 5-11-2023
Digitally signed by Gayne Knitowski
Date: 2023.05.11 07:49:43 -0400

07/07/2023

MOOMAU 1 2569

Well Information

Surface Location	
County/State	GRANT, WV
Township	UNION
Latitude*	39.06995806
Longitude*	-79.27549921

*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	0	Top Perf	8,599	Perf Interval Length	55	PBTD	0
KOP	N/A	Bottom Perf	8,654	TD	8,832	Elevation	2,761

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	-	42	0.157054	6.6	17.5
Intermediate	J-55	9.625	8.835	40	8.679	-	2,822	0.075828	214.0	12.25
Production	N-80	5.5	4.892	17	4.767	-	8,832	0.023248	205.3	7.875
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	4.7	2.375	1.995	8,563	0	8,563	6,160	0.003866	33

 RECEIVED
 Office of Oil and Gas

MAY 19 2023

 WV Department of
 Environmental Protection

07/07/2023

MOOMAU 1 2569

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	4.892	2	8,499	8,497	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Cement	Cement Perf Isolation	4.892	200	8,497	8,297	Class A	1.18	15.6	0	4.6	22.1	31.9
3	Cement	Prod Csg Stub Plug (Inside Csg)	4.892	50	8,200	8,150	Class A	1.18	15.6	0	1.2	5.5	30.7
3 (con.)	Cement	Prod Csg Stub Plug (Open Hole)	7.875	150	8,150	8,000	Class A	1.18	15.6	20	10.8	51.6	0.0
4	Cement	Inter Csg Shoe and Elevation Plug (Open Hole)	7.875	100	2,922	2,822	Class A	1.18	15.6	20	7.2	34.4	10.3
4 (con.)	Cement	Inter Csg Shoe and Elevation Plug (Inside Csg)	8.835	161	2,822	2,661	Class A	1.18	15.6	0	12.2	58.1	0.0
5	Cement	Surface Plug	8.835	100	100	0	Class A	1.18	15.6	0	7.6	36.1	0.4

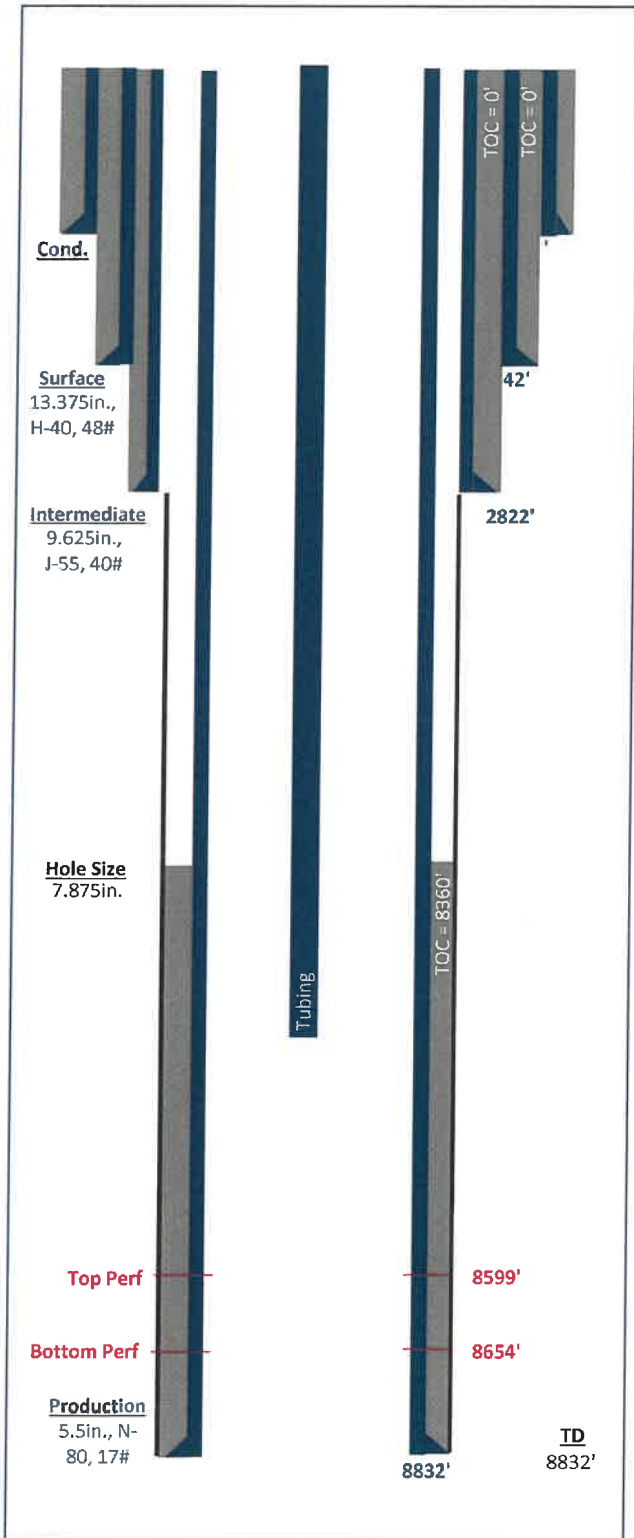
Spacer Details								
#	Fluid Type	Description	Set ID	Spacer Height	Spacer Density (ppg)	Spacer Viscosity (cp)	Excess Spacer (%)	Spacer Volume (bbls)
1	Gel	Perf Isolation to Prod Csg Stub Plug	4.892	97	9	-	5	2.4
2	Gel	Prod Csg Stub Plug to Inter Csg Shoe and Elevation Plug	7.875	5,078	9	-	20	367.1
3	Gel	Inter Csg Shoe and Elevation Plug to Surface Plug	8.835	2,561	9	-	5	203.9
4								

Estimated Casing Cuts	
String	Est. Cut Depth (ftKB)
String	
Intermediate	
Production	8,150

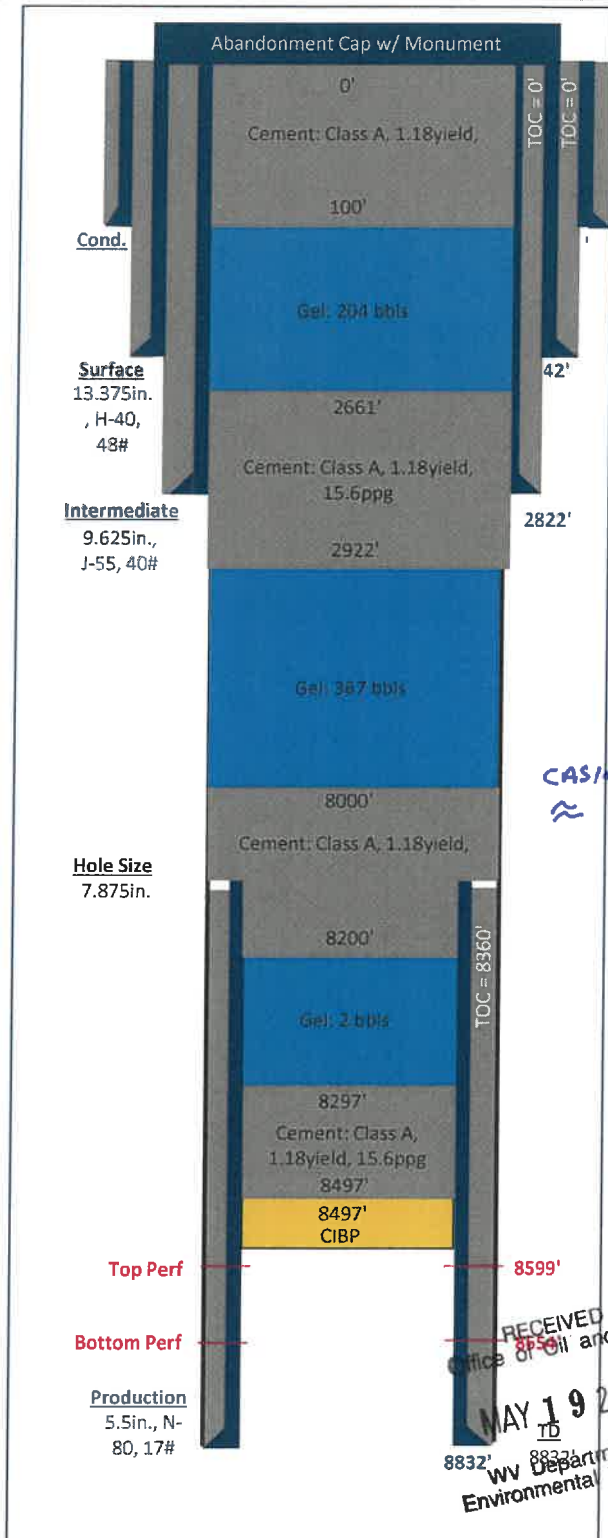
RECEIVED
 Office of Oil and Gas
 MAY 19 2023
 WV Department of
 Environmental Protection

07/07/2023

Current Wellbore Schematic



Proposed Wellbore Schematic



Schematics are note to scale

MOOMAU 1 2569

CHESAPEAKE
ENERGY

Plug & Abandon

County/State: GRANT, WV Township: UNION
 Latitude: 39.0699580585 Longitude: -79.2754992146 (NAD 83)
 API: 4702300024

Summary

The MOOMAU 1 2569 will be plugged and abandoned. The well is located in GRANT County, WV and was spud on 09-06-1989 by UNKNOWN, targeting the Oriskany as a Vertical well. The last know production date for this well was December of 2012 where it produced 7 MCF, 0 BO, and 0 BW.

May have RTTS Packer @ 8,570'. WellView shows production casing TOC at 8,360', but calculated TOC = 5,242'. Surface casing grade and weight is unknown, packet reflects assumed information.

Guideline

Step	Operation
	<p>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.</p> <p>Pre-Job Safety Meeting</p> <ol style="list-style-type: none"> Safety is the highest priority. 2 active barriers must be maintained at all times in accordance with OGB-CHK-STD-001 Barrier Standard. Ensure gas monitoring equipment is being utilized on location. Remind all personnel that everyone has Stop Work Authority. Before each shift/day or new scope of work: <ul style="list-style-type: none"> · Hold well-site safety meetings covering the scope of work with all personnel on location. · Review guideline and discuss critical parameters (pressures, volumes, contingency plans, etc.). · Verify that all personnel understand and are prepared for the operation. · Review emergency action plans for the operation. <p>Glossary: QHB = Qualified Hydrostatic Barrier, BPV = Back Pressure Valve, TIW = Full Open Safety Valve (Equal ID to Work String), TWC = Two Way Check</p>
1	Prior to rig arriving on site: <ol style="list-style-type: none"> Make sure all casing valves are readily accessible and remove water from cellar. Perform 72-hour pressure build up test on all annuli. Perform negative pressure test on master valve(s) in accordance with APP Master Valve Operational Guideline - PROD-APP-002. Make sure A, B, and C section flanges are properly identified. Verify regulatory permit and approval to plug and abandon. 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. <ol style="list-style-type: none"> Contact supervisor and OKC engineer if higher weight kill fluid is required.

RECEIVED
Office of Oil and Gas

MAY 19 2023

WV Department of
Environmental Protection

07/07/2023

	<ul style="list-style-type: none"> 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.
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = Master Valve 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.
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> Tubing – 1st Barrier = QHB, 2nd Barrier = Lubricator 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).
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = BPV 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.
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = BPV (NU), 2nd Barrier = Lubricator (Pull BPV) 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Tubing Hanger
9	Close Blind Ram and ND lubricator
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = Blind Ram 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 releasing back. Office of Oil and Gas
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = TIW 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. MAY 19 2023 AGAINST MASTER VALVE Environmental Protection
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Master Valve 9.625 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. TOO H 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.
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = WL Packoff 9.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips, 3rd Barrier = WL Packoff
13	ND WL packoff. RD and release WL.
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP 9.625 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.
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP 9.625 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).

	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> · 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP · 9.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips
16	<p>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.</p> <p style="text-align: right; color: blue;">PLUG 2 8497' - 8297'</p>
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> · 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = CIBP, 3rd Barrier = TIW · 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP, 3rd Barrier = Pipe Rams <p style="text-align: right; color: blue;">gan</p>
17	<p>NU WL packoff. RU WL.</p>
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> · 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP, 3rd Barrier = Cement Plug · 9.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips
18	<p>RIH with CBL, POOH with WL and discuss results with key stakeholders.</p>
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> · 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = CIBP, 3rd Barrier = Cement Plug, 4th Barrier = WL Packoff (untested) · 9.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips, 3rd Barrier = WL Packoff (untested)
19	<p>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.</p> <p style="text-align: center; color: blue;">≈ 7000' PER OLO LOG</p>
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> · 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = WL Packoff · 9.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips, 3rd Barrier = WL Packoff
20	<p>Close blind ram. RD WL. Verify good cut before releasing WL by attempting to establish circulation.</p>
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> · 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Blind Ram · 9.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips, 3rd Barrier = Blind Ram
21	<p>NU casing jacks (if applicable), MU casing spear, and open blind ram. Spear casing, LD slips and spear.</p>
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> · 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = TIW · 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Blind Ram (Csg Jack NU), 2nd Barrier = Pipe Ram (Spear) · 9.625 Casing – 1st Barrier = QHB, 2nd Barrier = Csg Head/Slips (Csg Jack NU), 2nd Barrier = Pipe Ram (Spear)
22	<p>POOH with production casing.</p>
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> · 5.5 Casing – 1st Barrier = QHB, 2nd Barrier = Swage Nipple w/ Ball Valve · 9.625 Casing – 1st Barrier = QHB, 2nd Barrier = Annular
23	<p>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.</p>
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> · 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = TIW · 9.625 Casing – 1st Barrier = QHB, 2nd Barrier = Pipe Rams
24	<p>Plug #4 (Inter Csg Shoe and Elevation Plug) - TIH with work string and tag TOC. PU to bottom depth of Plug 4 as specified under the Plug Details table. Pump Spacer 3 as detailed under the Spacer Details table. Pump balanced cement plug in accordance with Plug 4. Displace tubing with volume specified on Plug Details table. PU a minimum of 500' above estimated TOC. Close pipe ram and WOC 8 hrs.</p>
	<p>a. Flow Paths:</p> <ul style="list-style-type: none"> · 2.375 Tubing – 1st Barrier = QHB, 2nd Barrier = TIW · 9.625 Casing – 1st Barrier = QHB, 2nd Barrier = Pipe Rams
25	<p>Plug #5 (Surface Plug) - TIH with work string and tag TOC. PU to bottom depth of Plug 5 as specified under the Plug Details table. Pump balanced cement plug in accordance with Plug 5. Displace tubing with volume specified on Plug Details table. POOH. Close blind ram. WOC 8 hours.</p>
	<p>a. Flow Paths:</p>

RECEIVED
 Office of Oil and Gas
 MAY 19 2023
 WV Department of
 Environmental Protection

	<ul style="list-style-type: none"> • Tubing – 1st Barrier = QHB, 2nd Barrier = TIW • KOP Casing – 1st Barrier = QHB, 2nd Barrier = Pipe Ram
26	RDMO.
27	Monitor well for 24 hrs minimum.
28	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.

Digitally signed
 by Gayne
 Knitowski
 Date: 2023.05.11
 07:52:40 -04'00'

RECEIVED
 Office of Oil and Gas

MAY 19 2023

WV Department of
 Environmental Protection

WR-35

26-Jul-89
API # 47- 23-00024

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

Well Operator's Report of Well Work

Farm name: MOOMAU, FREDERICK DR. Operator Well No.: WVG02569

LOCATION: Elevation: 2760.00 Quadrangle: BLACKBIRD KNOB

District: UNION County: GRANT
Latitude: 4880 Feet South of 39 Deg. 5 Min. 0 Sec.
Longitude 7300 Feet West of 79 Deg. 15 Min. 0 Sec.

Company: EQUITABLE RESOURCES EXP.
P. O. DRAWER 40
BUCKHANNON, WV 26201-0040

Agent: DOUGLAS P. TERRY

Inspector: PHILLIP TRACY
Permit Issued: 07/26/89
Well work Commenced: 9/6/89
Well work Completed: 10/6/89
Verbal Plugging
Permission granted on:
Rotary Cable _____ Rig
Total Depth (feet) 8864
Fresh water depths (ft) 78

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
13 3/8"	42.20	42.20	
9 5/8"	2822.05	2822.05	1395 CF
5 1/2"	8832.70	8832.70	622 CF
2 3/8"	8563	8563	

Salt water depths (ft) _____

Is coal being mined in area (Y/N)? N
Coal Depths (ft): None

OPEN FLOW DATA

Producing formation Oriskany Pay zone depth (ft) 8654
Gas: Initial open flow N/A MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 6,519 MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests 3 1/2 Hours
Static rock Pressure 1300 psig (surface pressure) after 48 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

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.

Douglas P. Terry
For: EQUITABLE RESOURCES EXP.

By: Douglas P. Terry, Operations Manager, North
Date: November 29, 1989

RECEIVED
Office of Oil and Gas

MAY 19 2023

WV Department of
Environmental Protection

GRANT
0024

07/07/2023

4702300024P

RTTS Packer at 8570' (not set)
Perforations: 8599-8654', Oriskany Formation
Breakdown and acidize with 2000 gals. 5% Fe Acid.

Devonian Sand & Shales	0 to 8199
Upper Marcellus	8200
Purcell Limestone	8222
Lower Marcellus	8314
Needmore Shale	8374
Oriskany	8485
Helderberg Limestone	8690

L 726

RECEIVED
Office of Oil and Gas

MAY 19 2023

07/07/2023

WV Department of
Environmental Protection

47023000249

WW-4A
Revised 6-07

1) Date: 5/9/2023
2) Operator's Well Number
CHESAPEAKE APPALACHIA LLC

3) API Well No.: 47 - 023 - 00024

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

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name: SUEDON INVESTMENTS - WEST VIRGINIA	Name: _____
Address: 4936 MILLERS STATION ROAD HAMPSTEAD, MD 21074	Address: _____
(b) Name: UNITED STATES OF AMERICA/US FOREST SERVICE	(b) Coal Owner(s) with Declaration
Address: PO BOX 1548 ELKINS, WV 26241	Name: SUEDON INVESTMENTS - WEST VIRGINIA
(c) Name: _____	Address: 4936 MILLERS STATION ROAD HAMPSTEAD, MD 21074
Address: _____	Name: UNITED STATES OF AMERICA/US FOREST SERVICE
6) Inspector: GAYNE J KNITOWSKI	Address: PO BOX 1548 ELKINS, WV 26241
Address: 601 57TH STREET SE CHARLESTON WV 25304	(c) Coal Lessee with Declaration
Telephone: 304546-8171	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 and Gas
MAY 19 2023

WV Department of Environmental Protection

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

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
 My Commission Expires 11/5/26 Notary Public

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 depprivacyofficer@wv.gov.

07/07/2023

4702300024P

From: UPS
To: Keri Fiengo
Subject: [EXTERNAL] UPS Delivery Notification, Tracking Number 1Z4352W51349087854
Date: Thursday, May 11, 2023 12:37:40 PM



Hello, your package has been delivered.

Delivery Date: Thursday, 05/11/2023

Delivery Time: 1:35 PM

Left At: FRONT DOOR



[Set Delivery Instructions](#)

[Manage Preferences](#)

[View My Packages](#)

CHESAPEAKE ENERGY CORPORATION

Tracking Number: 1Z4352W51349087854

Ship To:

SUEDON INVESTMENTS - WEST VIRGINIA
4936 MILLERS STATION ROAD
HAMPSTEAD, MD 21074
US

RECEIVED
Office of Oil and Gas
MAY 19 2023
WV Department of
Environmental Protection

Number of Packages:

1

UPS Service:

UPS Next Day Air Saver®

Package Weight:

0.4 LBS

Reference Number:

142828 MOOMAU1-2569

Reference Number:

2023-05-09 19:32:44.107

Reference Number:

062615

© 2023 United Parcel Service of America, Inc. UPS, the UPS brandmark, and the color brown are trademarks of United Parcel Service of America, Inc. All rights reserved.

All trademarks, trade names, or service marks that appear in connection with UPS's services are the property of their respective owners.

07/07/2023

4702300024P

USPS Tracking®

FAQs >

U S FOREST SERVICE
ELKINS, WV 26241

Tracking Number:

Remove X

9405511899562265518023

Copy

Add to Informed Delivery (<https://informedelivery.usps.com/>)

Latest Update

Your item has been delivered and is available at a PO Box at 8:28 am on May 13, 2023 in ELKINS, WV 26241.

Get More Out of USPS Tracking:

USPS Tracking Plus®

Feedback

Delivered

Delivered, PO Box

ELKINS, WV 26241
May 13, 2023, 8:28 am

Out for Delivery

ELKINS, WV 26241
May 13, 2023, 7:22 am

Arrived at Post Office

ELKINS, WV 26241
May 13, 2023, 7:11 am

Departed USPS Regional Facility

CHARLESTON WV PROCESSING CENTER
May 13, 2023, 2:33 am

Arrived at USPS Regional Destination Facility

CHARLESTON WV PROCESSING CENTER
May 12, 2023, 12:23 pm

Departed USPS Regional Facility

RECEIVED
Office of Oil and Gas
MAY 19 2023
WV Department of
Environmental Protection

07/07/2023

4702300024P

OKLAHOMA CITY OK DISTRIBUTION CENTER
May 12, 2023, 7:51 am

● **Arrived at USPS Regional Origin Facility**

OKLAHOMA CITY OK DISTRIBUTION CENTER
May 11, 2023, 1:03 am

● **Accepted at USPS Origin Facility**

OKLAHOMA CITY, OK 73118
May 10, 2023, 11:48 pm

● **Shipping Label Created, USPS Awaiting Item**

OKLAHOMA CITY, OK 73118
May 10, 2023, 1:05 pm

● [Hide Tracking History](#)

Text & Email Updates 

USPS Tracking Plus® 

Product Information 

[See Less](#) 

RECEIVED
Office of Oil and Gas

MAY 19 2023

WV Department of
Environmental Protection

Track Another Package

Enter tracking or barcode numbers

Need More Help?

Contact USPS Tracking support for further assistance.

[FAQs](#)

07/07/2023

WW-9
(5/16)

API Number 47 - 023 - 00024
Operator's Well No. MOOMAU 1-2569

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

RECEIVED
Office of Oil and Gas
MAY 19 2023

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste permitted 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.

Company Official Signature Keri Fieno

Company Official (Typed Name) KERI FIENO

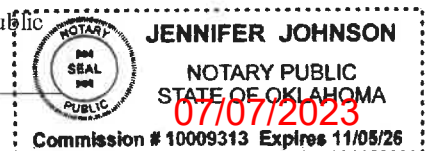
Company Official Title REGULATORY SPECIALIST

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

Jennifer Johnson

My commission expires 11/5/26

Notary Public



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
OATS/ANNUAL RYE 40LBS/ACRE
HAY/STRAW MULCH 3 TONS/ACRE

Seed Type lbs/acre
BIRDSFOOT TREFOIL 8LBS/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: 2023.05.11 07:50:17 -0400

Comments:

RECEIVED Office of Oil and Gas

MAY 19 2023

WV Department of Environmental Protection

Title: Inspector Date: 5-11-2023

Field Reviewed? (X) Yes () No

RECOMMENDED PERMANENT SEEDING MIXTURE
FOR ALL DISTURBED AREAS

MIXTURE NUMBER	SEASON	SPECIES	SEEDING RATE (lb/ac)
2	COOL	BIRDSFOOT TREFCIL 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)	REDFOP - 10% PENNLAWN FESCUE - 45% 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 COMPOSED OF THE ABOVE "MATERIALS". ITEMS (1) THROUGH (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

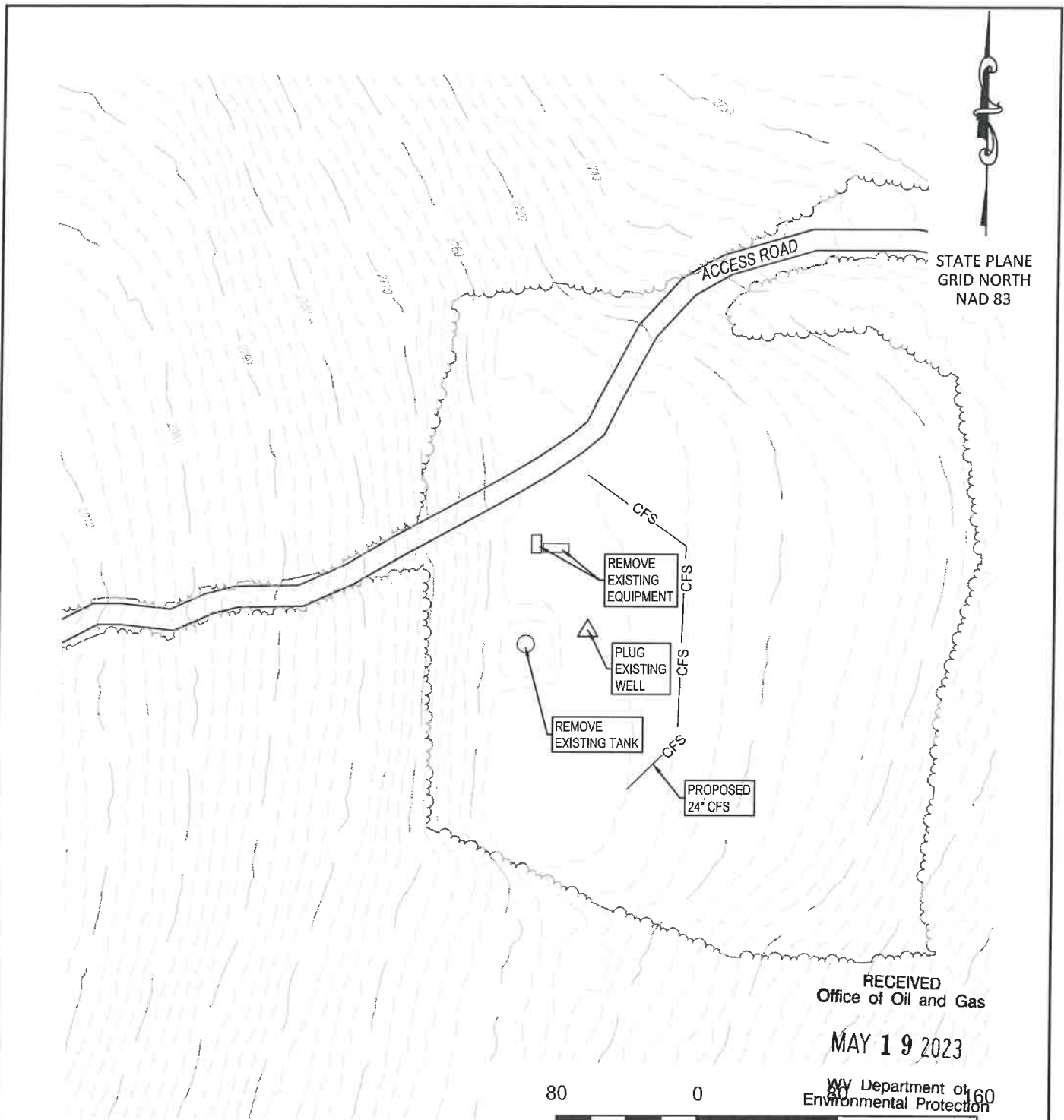
THE CONTRACTOR SHALL GUARANTEE A GOOD STAND OF GRASS IN THE SWALES AND ON BANKS. THE MEANS OF GUARANTEE SHALL BE BY WATERING, MOWING, REGRADING, REMULCHING, AND RESEEDING TO THE SATISFACTION OF THE OWNER UNTIL FINAL ACCEPTANCE. ANY AREAS WHICH FAIL TO SHOW A UNIFORM STAND WITHIN ONE YEAR SHALL BE RESEEDED 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.

RECEIVED
Office of Oil and Gas

MAY 19 2023

WV Department of
Environmental Protection

07/07/2023



STATE PLANE
GRID NORTH
NAD 83

RECEIVED
Office of Oil and Gas

MAY 19 2023

WV Department of Environmental Protection



SCALE IN FEET

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

**MOOMAU 1 2569
SITE RECLAMATION
API# 47-023-00024**
FOR
CHESAPEAKE ENERGY
LOCATED IN
GRANT COUNTY, WEST VIRGINIA

SITE PLAN

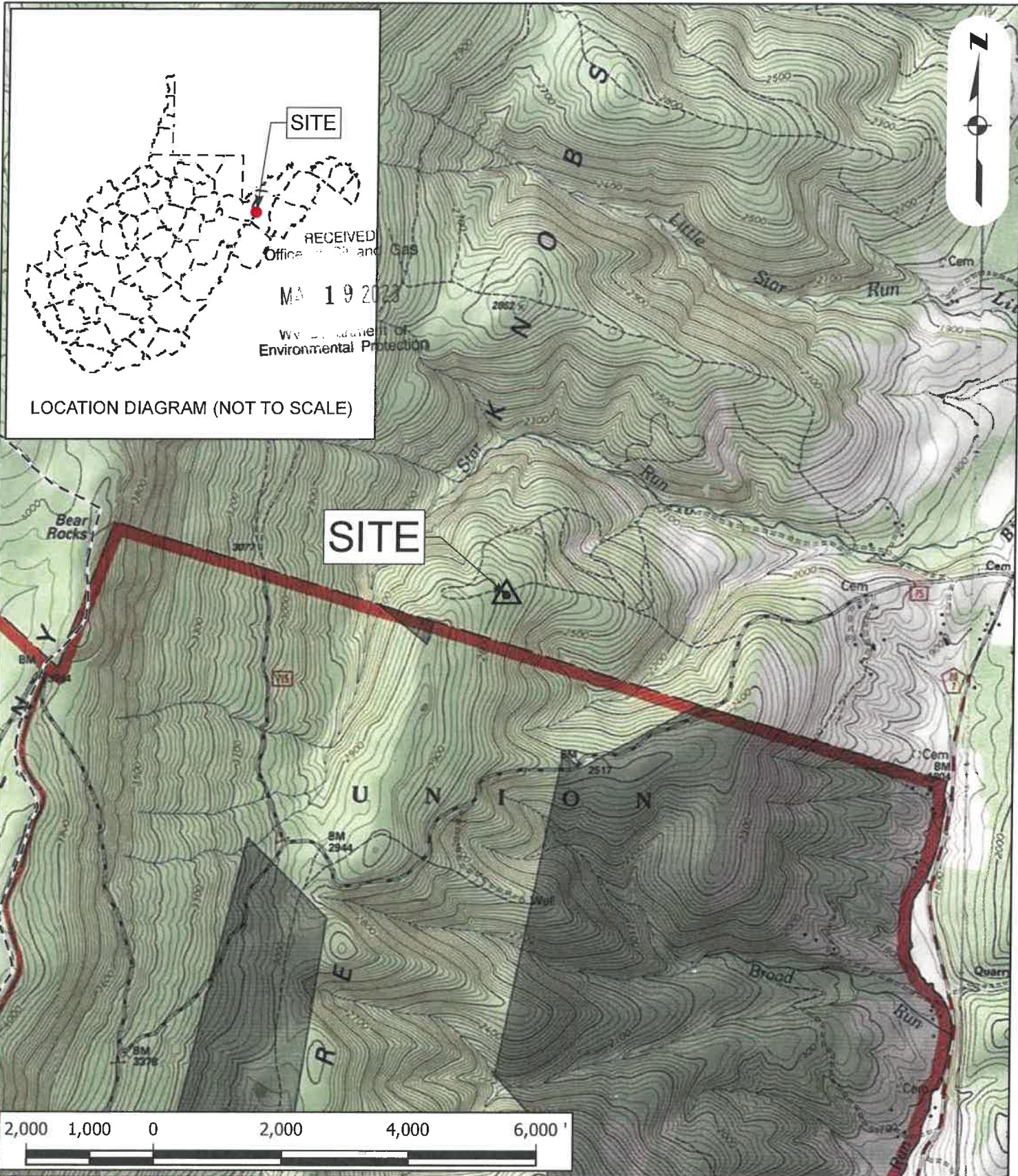
LEGEND

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

JHA Companies | ENGINEERS SURVEYORS ENVIRONMENTAL GIS MAPPING
www.jhacompanies.com

844-542-4757
466 SOUTH MAIN STREET
MONTROSE, PA 18801
PA • OH • NY • WV • VA • MD

07/07/2023



USGS LOCATION MAP

PREPARED FOR

Moomau 1 2569 Site

GRANT COUNTY, WEST VIRGINIA
BLACKBIRD KNOB USGS QUAD

PROJECT - 2023-0408 Moomau 1 2569

DATE - 3/8/2023

SCALE - 1" = 2,000'

DRAWN - JCOOK

FILE - MOOMAU_USGS_LOCATION_MAP.mxd



(844) 542-4757
07/07/2023

WW-7
8-30-06



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

API: 47-023-00024 WELL NO.: 1-2569

FARM NAME: MOOMAU

RESPONSIBLE PARTY NAME: CHESAPEAKE APPALACHIA LLC

COUNTY: GRANT DISTRICT: UNION

QUADRANGLE: BLACKBIRD KNOB, WV

SURFACE OWNER: SUEDON INVESTMENTS - WEST VIRGINIA

ROYALTY OWNER: SUEDON INVESTMENTS - WEST VIRGINIA

UTM GPS NORTHING: 4325743.317 *432 5969' COOPER EARTH*

UTM GPS EASTING: 649175.705 GPS ELEVATION: 2760'

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:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, height above mean sea level (MSL) – meters.
- Accuracy to Datum – 3.05 meters
- Data Collection Method:
Survey grade GPS : Post Processed Differential
Real-Time Differential
Mapping Grade GPS : Post Processed Differential
Real-Time Differential

RECEIVED
Office of Oil and Gas
Altitude:
MAY 19 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.

Teri Leno
Signature

REGULATORY SPECIALIST
Title

5/9/23
Date

CHESAPEAKE
ENERGY

4702300024P

May 17, 2023

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

VIA UPS OVERNIGHT

Re: Plugging Permits

Mr. McLaughlin,

Please find the enclosed Plugging permits for the following wells:

Moomau 1-2569
Oather Heavner 2082

Sincerely,



Keri Fieno
Regulatory Specialist

Enclosures

RECEIVED
Office of Oil and Gas
MAY 19 2023
WV Department of
Environmental Protection

N/A

WW-9- GPP
Rev. 5/16

Page 1 of 2
API Number 47 - 023 - 00024
Operator's Well No. MOOMAU 1-2569

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: MOOMAU 1-2569

- 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.

RECEIVED
Office of Oil and Gas
MAY 19 2023

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

MAY 19 2023
WV Department of
Environmental Protection

- 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.

07/07/2023

N/A

WW-9- GPP
Rev. 5/16

Page 2 of 2
API Number 47023 00024
Operator's Well No. MOOMAU.I-2569

[Empty rectangular box]

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

[Empty rectangular box]

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.

RECEIVED
Office of Oil and Gas

MAY 19 2023

WV Department of
Environmental Protection

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

[Empty rectangular box]

Signature: *Kevin Dienero*

Date: 5/9/23