



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

February 08, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-3901948, 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.

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. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: 9278
Farm Name: BLUE CK COAL & LAND
API Well Number: 47-3901948
Permit Type: Plugging
Date Issued: 02/08/2016

Promoting a healthy environment.

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. This well is under a consent order and must be plugged under the terms of that agreement.

39,01948P

FORM WW-4 (B)
Observe
File Copy
(Rev. 2/01)

1) Date: 1/11/2016
2) Operator's Well No. 809278 P&A
3) API Well No. 47-039-01948

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 _____
 (Is Gas, Production X or Underground storage _____) Deep _____ Shallow X
- 5) Location: Elevation 1,147' Watershed Morris Fork of Blue Creek
 District Elk County Kanawa Quadrangle Mammoth, WV 7.5'
- 6) Well Operator Chesapeake Appalachia, L.L.C. 7) Designated Agent Jessica Greathouse
 Address P.O. Box 18496 Address P.O. Box 6070
Oklahoma City, OK 73154-0496 Charleston, WV 25362
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor
 Name Terry Urban Name Chesapeake Appalachia, L.L.C.
 Address P.O. Box 1207 Address P.O. Box 18496
Clendenin, WV 25045 Oklahoma City, OK 73154-0496

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

See Attached Sheet

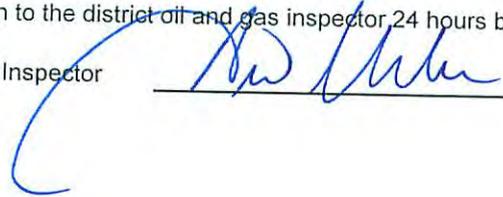
OK 5314291
100⁰⁰

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

Work Order approved by Inspector  Date 1-19-16

API Number: 47-039-01948

Operator's Well Number: 809278

PLUGGING PROCEDURE

- 1) Prepare road and location, MIRU Service Rig
- 2) RIH with tools and check TD at approximately 2175'
- 3) Run W.S. to 2175', spot gel, pull W.S. to 2100'
- 4) Spot 350' cement plug 2100'-1750', pull W.S.
- 5) RIH with tools to check TOC. If top of plug is below 1780' then add cement to plug.
- 6) Cut 4 1/2" at free-point (approximately 1450') and pull
- 7) Run in hole with W.S. to 1450', spot gel
- 8) Spot 100' cement plug 1450'-1350', pull W.S. to 1200'
- 9) Spot 100' cement plug 1200'-1100', pull W.S. to 900'
- 10) Spot 100' cement plug 900'-800', pull W.S.

NOTE: If 4 1/2" is not free at 1450' or deeper then shoot or rip holes in casing so plugs in steps 8, 9 and 10 can be set. Then pull 4 1/2" from wherever free and set 100' plug at cut.

- 11) Attempt to pull 8 5/8"

A) If successful

- a) Run W.S. to 700', spot gel
- b) Spot 100' cement plug 700'-600', pull W.S. to 300'
- c) Spot 100' cement plug 300'-200', pull W.S. to 100'
- d) Proceed to step 12

B) If unsuccessful

- a) Run W.S. to 700', spot gel
- b) Spot 100' cement plug 700'-600', pull W.S.
- c) Cut 8 5/8" at free-point (approximately 300') and pull
- d) Run W.S. to 300', spot gel
- e) Spot 100' cement plug 300'-200', pull W.S. to 100'
- f) Proceed to step 12

- 12) Spot 100' cement plug 100'-surface
- 13) Pull W.S. and top off with cement
- 14) Set monument and reclaim as prescribed by law

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1-19-16



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 14

3901948P

Quadrangle Clendenin

WELL RECORD

Permit No. KAN-1948

Oil or Gas Well Gas
(KIND)

Company United Fuel Gas Company
Address P. O. Box 1273 Charleston 25, W. Va.
Farm Blue Creek Coal & Land Co. Acres. 29,768
Location (waters) Morris Fork
Well No. 9278 Elev. 1199.52'
District Elk County Kanawha
The surface of tract is owned in fee by _____
Address _____

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Backer _____
16			Shoe Float _____
13		20'	Size of Shoe _____
10		634	4-1/2 _____
8			Depth set _____
5 3/16			Perf. top _____
2 1/4"		2237	Perf. bottom _____
2			Perf. top _____
Liners Used			Perf. bottom _____

Mineral rights are owned by Union Carbide Chemicals Co. 6%
1106 Security Bldg. Address Charleston, W. Va.
Drilling commenced June 25, 1963
Drilling completed July 25, 1963
Date Shot _____ From _____ To _____
With _____
Open Flow _____ /10ths Water in _____ Inch
_____ /10ths Merc. in _____ Inch
Volume 1,501,000 Cu. Ft.
Rock Pressure 340 lbs. _____ hrs.
Oil _____ bbls., 1st 24 hrs.
WELL ACIDIZED _____

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
COAL WAS ENCOUNTERED AT 58 FEET 48 INCHES
_____ FEET _____ INCHES _____ FEET _____ INCHES
_____ FEET _____ INCHES _____ FEET _____ INCHES

WELL FRACTURED _____

RESULT AFTER TREATMENT _____

ROCK PRESSURE AFTER TREATMENT _____

Fresh Water 1443' Feet Salt Water _____ Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Surface			0	12			
Sand			12	50			
Slate			50	58			
Coal			58	62			
Slate			62	0			
Sand			70	150			
Slate			150	159			
Sand			159	166			
Slate			166	205			
Sand			205	295			
Slate			295	312			
Sand			312	385			
Slate			385	406			
Sand			406	470			
Slate			470	650			
Sand			650	1040	Show of Gas 920'		
Slate			1040	1060			
Sand			1060	1525	Hole Full of Water 1443'		
Slate			1525	1530			
Sand			1530	1570			
Red Rock			1570	1581			
Slate			1581	1586			
Lime			1586	1610			
Red Rock			1610	1635			
Slate			1635	1659			
Haxon Sand			1659	1711			
Lime			1711	1750			
Sand			1750	1756			
Lime			1756	1800			
Lime			1800	1807			

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Formation	Color	Hard or Soft	Top 14	Bottom	Oil, Gas or Water	Depth Found	Remarks
Pincel Slate			1807	1820			
Big Lime Slate			1820	1827			
Big Lime			1827	1885			
Injun Sand			1885	2037	Show of Oil	1889-1894'	
Lime Shell			2037	2064	4/10 Water in 1" Pipe	1930-1938	
Weir Sand			2064	2114	Gas 40/10 Water in 1" Pipe	2083-2089'	
Slate & Shells			2114	2139			
Weir Sand			2139	2185			
Slate			2185	2225			
Total Depth			2225		Shut in July 31, 1963		

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Date September 10, 1963

APPROVED UNITED FUEL GAS COMPANY, Owner
By S. R. Ferrell
(Title)
Supt., Civil Engineering Dept.

39 019 48 P

WW4-A
Revised
2/01

1) Date: 1/11/2016
2) Operator's Well No. 809278 P&A
3) API Well No. 47-039-01948

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT
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:
(a) Name Blue Eagle Land LLC ✓
Address Attention: Dave Hancock
508 Empire Drive
Cross Lanes, WV 25313

(b) Name _____
Address _____

(c) Name _____
Address _____

6) Inspector Terry Urban
Address P.O. Box 1207
Clendenin, WV 25045

Telephone 304-549-5915

5) Coal Operator
(a) Name Blackhawk Mining LLC ✓
Address 3228 Summit Square Suite 180
Lexington, KY 40509

Coal Owner(s) with Declaration
(b) Name Blue Eagle Land LLC ✓
Address Attention: Dave Hancock
508 Empire Drive
Cross Lanes, WV 25313

Name Kinder Morgan Resources, LLC ✓
Address 1001 Louisiana, Suite 1000
Houston, Texas 77002

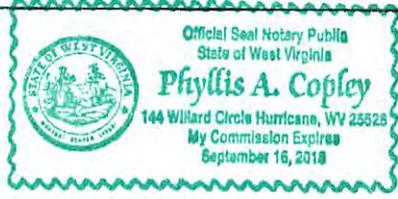
Coal Lessee with Declaration
(c) Name Patriot Coal Corporation ✓
Address 63 Corporate Centre Drive Suite 416
Scott Depot, WV 25560

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 the 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 the 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.



Well Operator: Chesapeake Appalachia, L.L.C.
By: [Signature]
Its: Manager - Operations, Appalachia South
Address: P.O. Box 18496
Oklahoma City, OK 73154-0496
Telephone: 405-935-4073

Subscribed and sworn before me this 11th day of January the year of 2016
Phyllis A. Copley Notary Public
My Commission Expires September 16, 2018
Form WW-9

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API Number 47-039-01948
Operator's Well No. 809278 P&A

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 Morris Fork of Blue Creek Quadrangle Mammoth, WV 7.5'
Elevation 1,147' County Kanawha District Eik

Description of anticipated Pit Waste: Plugging Returns/Cement

Will a synthetic liner be used in the pit? Yes 20 MIL.

Do NOT
DIG PIT IN
FILL, gwwm

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

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Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Swabbing
- Plugging
- Other (Explain _____)

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on December 31, 1999, 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 *David Gocke*

Company Official (Typed Name) David Gocke

Company Official Title Manager - Operations, Appalachia South

Subscribed and sworn before me this 11th day of January, 2016

Phyllis A. Copley

Notary Public.

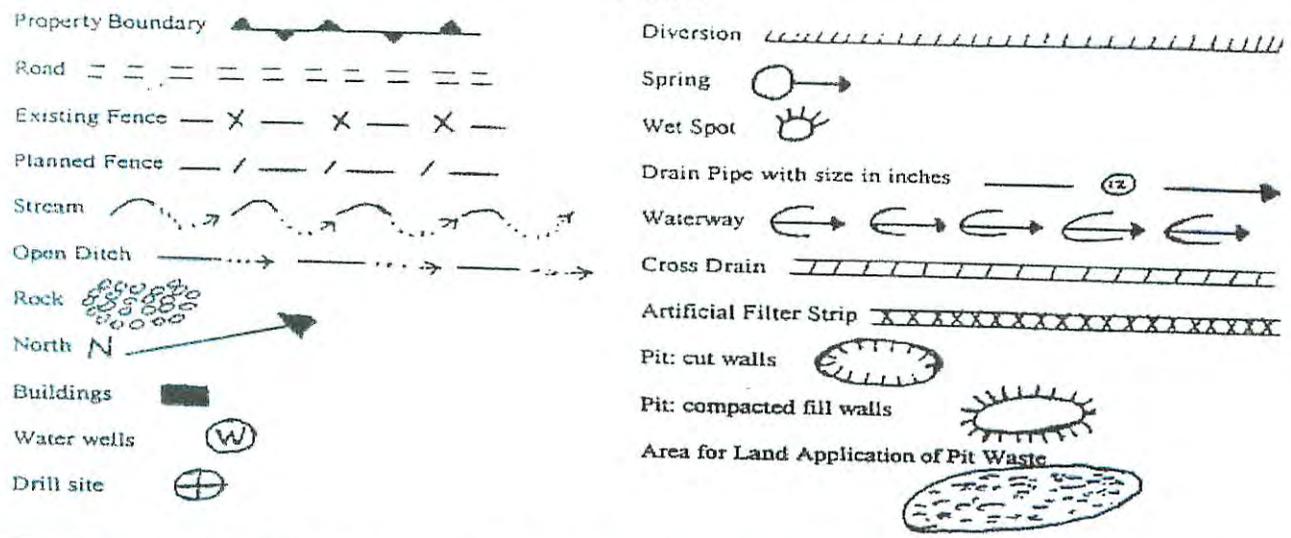
My Commission Expires September 16, 2018



Attachment #1

API #: 47-039-01948
 Operator's Well No. 809278 P&A

LEGEND



Proposed Revegetation Treatment: Acres Disturbed 1.0 Prevegetation pH 6.1

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 1/3 TON lbs/acre (500 lbs minimum)

Mulch Weed Free Straw 2 Tons/acre

Seed Mixtures

October 1st to April 30th

May 1st to September 30th

Creeping Red Fescue	68.60%	Creeping Red Fescue	68.60%
Wheat	14.76%	Oats	14.18%
Annual Ryegrass	9.80%	Annual Ryegrass	9.80%
Ladino Clover	3.21%	Ladino Clover	4.97%

Total seeding will be 50 lbs/acre

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *[Signature]*

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Title: *Fuel Imp 026*

JAN 19 2016

Date: *1-19-14*

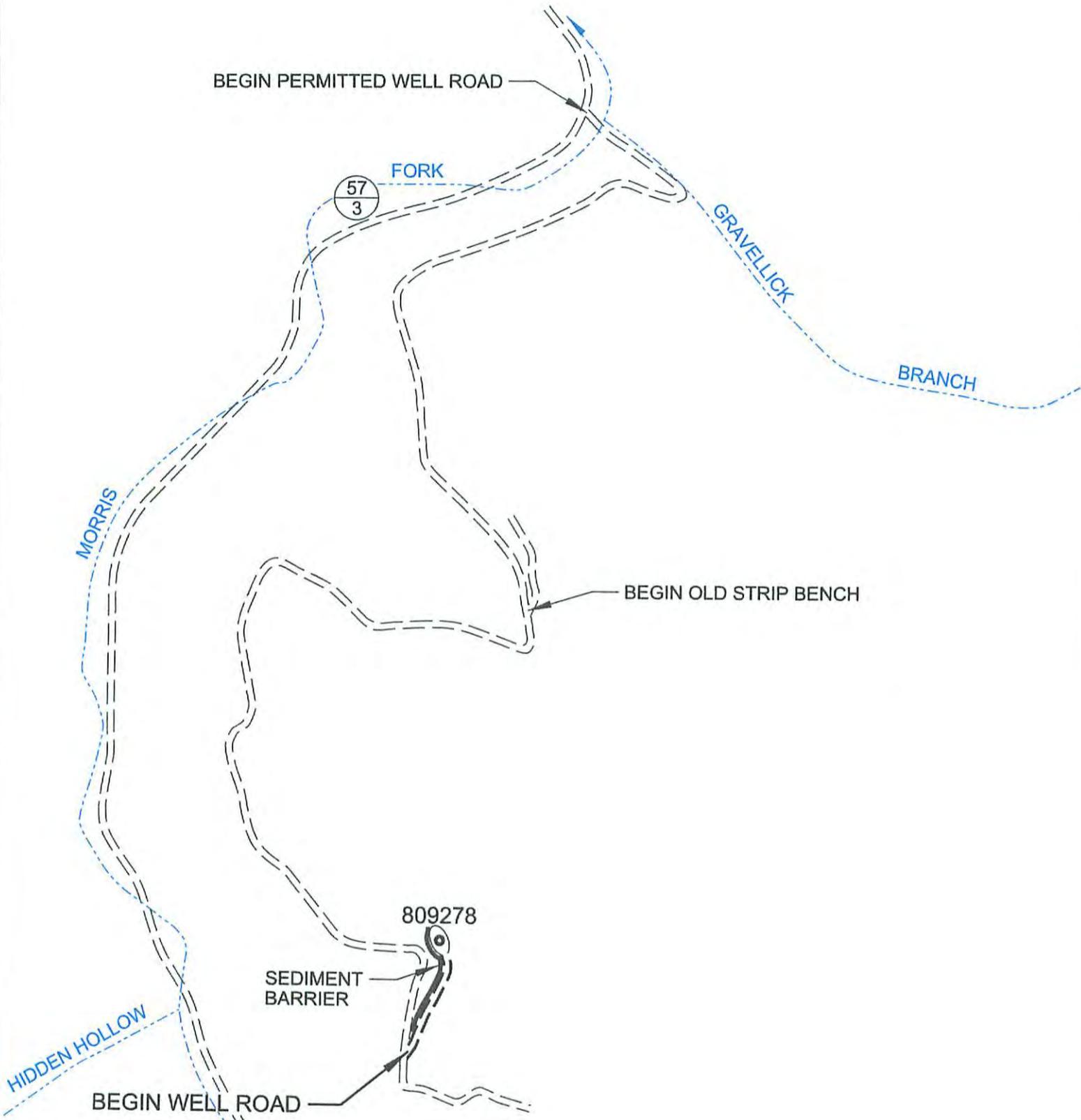
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Field Reviewed? () Yes () No

CHESAPEAKE APPALACHIA, L.L.C.

RECLAMATION DIAGRAM WELL LOCATION 809278

API 47-039-01948



GENERAL NOTES

This drawing is a schematic representation of the well site and access road. Proposed structures such as well site, drilling pit, roadways, culverts, sediment barriers, etc. are shown in approximate pre-planning configurations.

All culvert pipes will be a minimum of 15 inches in diameter. All culvert pipes installed will be accompanied by an entrance sump with dimensions no less than 3 feet (width) x 3 feet (length) x 4 feet (deep). Culverts will be installed at an angle to ensure proper flow. The out fall of culverts will be protected from erosion and sedimentation using large rocks or other sediment controls deemed necessary in the prevention of erosion and sedimentation. Storm water from the ditches to the culverts will be directed to stable natural vegetative areas. Where culverts are not practical, operator will have other sediment control in place to minimize erosion sedimentation.

Cross drains, broad based dips, water bars, and diversion ditches, will be employed during the construction phase. These erosion and sediment control structures will be used to control erosion and sedimentation during the construction phase, where applicable, and in areas that will allow. These structures will be considered permanent and used as such.

Permanent seeding: See Attachment #1.

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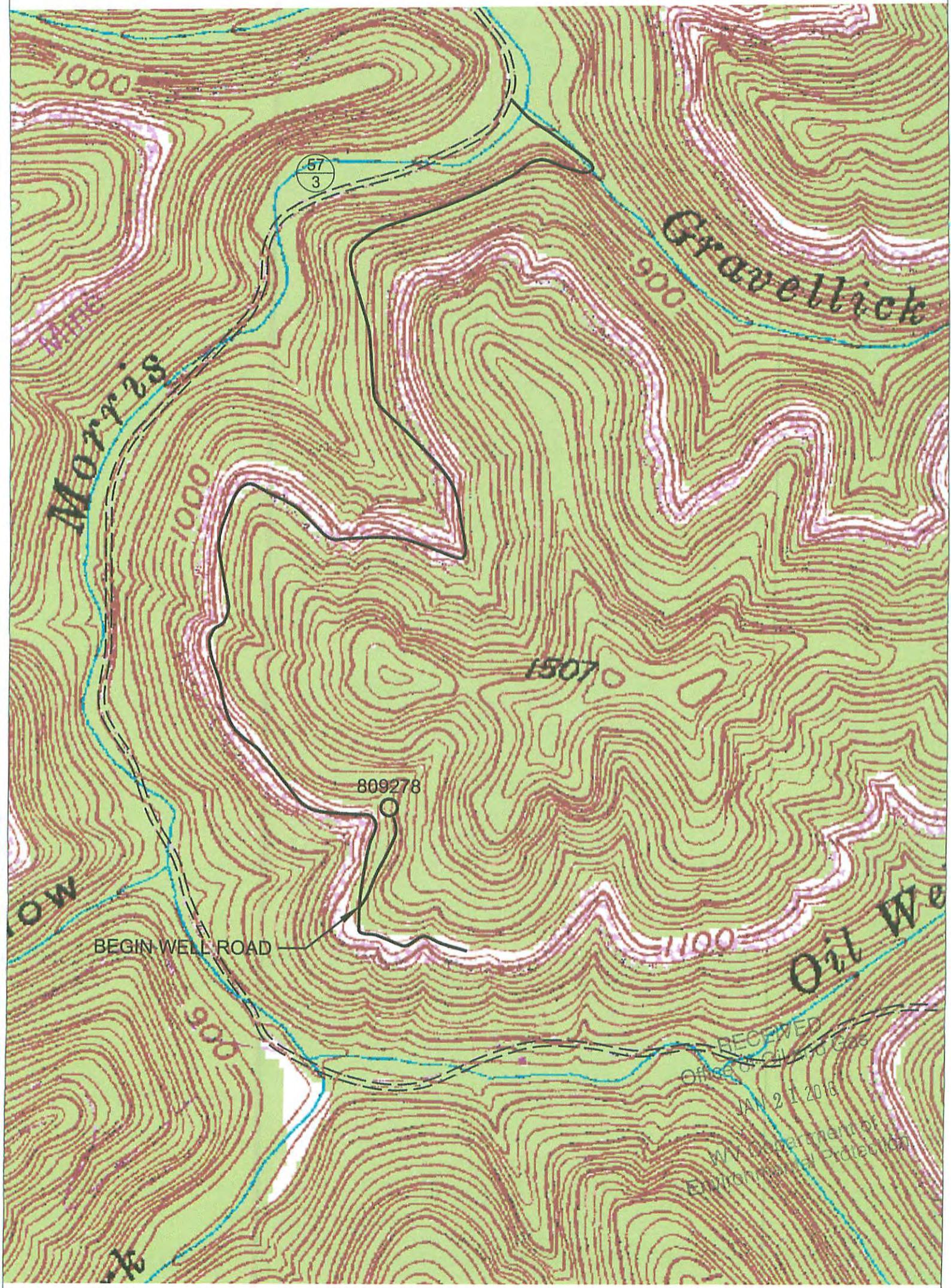
Department of
Environmental Protection

3901948P

CHESAPEAKE APPALACHIA, L.L.C.

TOPOGRAPHICAL MAP OF ACCESS AND
WELL LOCATION 809278

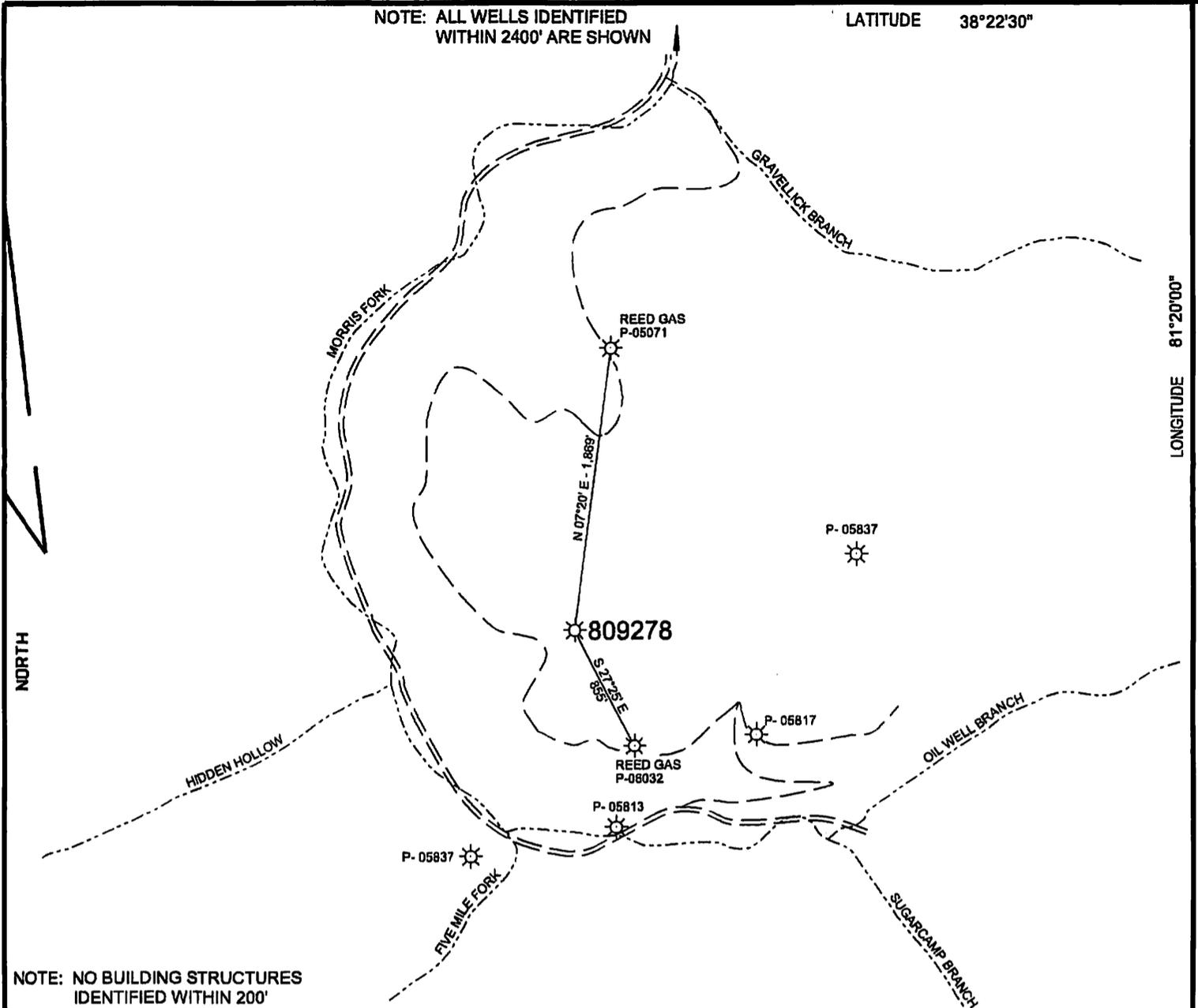
API 47-039-01948



NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

LATITUDE 38°22'30"

6,267'



NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927 N - 485,872.155 : E - 1,898,134.344	
LATITUDE: (N) 38.3338081° LONGITUDE: (W) 81.3551321°	
UTM NAD83 17 - 84W TO 78W, METERS N - 4,242,923.666 : E - 468,976.362	



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO.	809278 P&A.DGN
DRAWING NO.	809278 P&A
SCALE	1" = 1000'
MINIMUM DEGREE OF ACCURACY	1 : 200
PROVEN SOURCE OF ELEVATION	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) *Paul E. Miller*

R.P.E. _____ L.L.S. 647



STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION



DATE JANUARY 5, 20 16
OPERATOR'S WELL NO. 809278
API WELL NO.

47 039 01948 P
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION: ELEVATION 1147' WATER SHED MORRIS FORK OF BLUE CREEK
DISTRICT ELK COUNTY KANAWHA
QUADRANGLE MAMMOTH, WV 7.5'

SURFACE OWNER BLUE EAGLE LAND, L.L.C. ACREAGE --
OIL & GAS ROYALTY OWNER RANGE RESOURCES - PINE MOUNTAIN, INC. LEASE ACREAGE 18,704.62
LEASE NO. 1-004881

PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON X CLEAN OUT AND REPLUG ___
TARGET FORMATION _____ ESTIMATED DEPTH _____
WELL OPERATOR CHESAPEAKE APPALACHIA, L.L.C. DESIGNATED AGENT JESSICA GREATHOUSE
ADDRESS P.O. BOX 18496, OKLAHOMA CITY, OK 73154-0496 ADDRESS CHESAPEAKE APPALACHIA, L.L.C. PO BOX 6070, CHARLESTON, WV 25362

FORM WW-6

COUNTY NAME

PERMIT