



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

July 07, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-3901754, 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: 9033
Farm Name: BLUE CK COAL & LAND
API Well Number: 47-3901754
Permit Type: Plugging
Date Issued: 07/07/2015

Promoting a healthy environment.

07/10/2015

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.

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

1) Date: 5/21/2015
2) Operator's Well No. 809033 P&A
3) API Well No. 47-039-01754

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 1,246' Watershed Rockcamp Fork
 District Elk County Kanawha Quadrangle Clendenin, 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

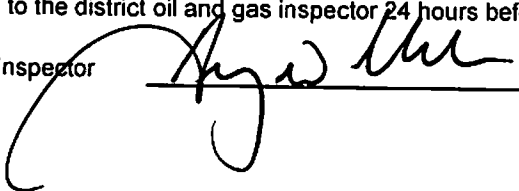
10) Work Order: The work order for the manner of plugging this well is as follows:

See Attached Sheet

SEE Attached plugging
prog.

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

Work Order approved by Inspector



Date

6-1-15

Received

JUN - 1 2015

07/10/2015

Office of Oil and Gas
WV Dept. of Environmental Protection

809033 P&A PROCEDURE

- 1) Prepare road and location, MIRU service rig
- 2) Run in hole with tools to check TD (approximately 2215')
- 3) TIH with W.S. to 2200', spot gel, spot 300' cement plug 2200'-1900', pull W.S.
- 4) Cut 4 1/2" at free-point (approximately 1750') and pull. If unable to pull at least 1700' of 4 1/2", then shoot or rip holes approximately at 1725' and 1690'. Spot 100' cement plug 1750'-1650'.
- 5) If 4 1/2" was not pulled in step 4, then attempt to cut approximately at 1150', and pull
- 6) Run W.S. to 1150', spot gel
- 7) Spot 150' cement plug 1150'-1000', pull W.S.
- 8) Attempt to pull 8 5/8"
 - A) If successful
 - a) Run W.S. to 850', spot gel
 - b) Spot 100' cement plug 850'-750'
 - c) Proceed to step 9
 - B) If unsuccessful
 - a) Rip or shoot holes in 8 5/8" approximately at 770'
 - b) Run W.S. to 850', spot gel
 - c) Spot 100' cement plug 850'-750', pull W.S.
 - d) Cut 8 5/8" at free-point approximately at 375', and pull
 - e) Proceed to step 9
- 9) Run or pull W.S. to 375', spot gel
- 10) Spot 200' cement plug 375'-175', pull W.S. to 100'
- 11) Spot 100' cement plug 100'-surface
- 12) Pull W.S. and top off with cement
- 13) Erect monument and reclaim as prescribed by law

Set plug from TD to 1800 ft

Will spot cement at all Rips be P&A

Will set corks plug AT 1235 ft AS per Casey Records

Will make Decisions on Rest of plugging during process

[Signature] 6-1-15

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Office of Oil and Gas WV Dept. of Environmental Protection

1235 Elevator



10 3/4

2015

807 85/8

4 1/2

2257

CS

5/10/2015



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

Well # 809033
API # 47-039-01754P

Page 7 of 2

Quadrangle Clendenin
Permit No. KAN-1754

WELL RECORD

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) Rockcamp Fork
Well No. 9033 Elev. 1235.40
District Elk County Kanawha
The surface of tract is owned in fee by _____
Address _____
Mineral rights are owned by Union Carbide Chemicals
1106 Security Bldg. Address Charleston, W. Va.
Drilling commenced 4-19-61
Drilling completed 5-19-61
Date Shot - _____ From _____ To _____
With _____
Open Flow 6 /10ths Water in 3 _____ Inch
_____ /10ths Merc. in _____ Inch
Volume 232,000 - Weir _____ Cu. Ft.
Rock Pressure 445 lbs. 48 hrs.
Oil _____ bbls., 1st 24 hrs.
WELL ACIDIZED _____

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packer _____
13			
10 <u>3/4</u>		<u>20'</u>	Size of _____
8 <u>5/8</u>		<u>807</u>	
Co <u>3/4</u> 7"	<u>1880'</u>	<u>Pulled</u>	Depth set _____
5 3/16			
2 <u>4 1/2</u>	<u>Cemented</u>	<u>2257'</u>	Perf. top _____
2			Perf. bottom _____
Liners Used			Perf. top _____
			Perf. bottom _____

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
COAL WAS ENCOUNTERED AT 238 FEET 48 INCHES
802 FEET 24 INCHES FEET _____ INCHES
FEET _____ INCHES FEET _____ INCHES

WELL FRACTURED _____

RESULT AFTER TREATMENT _____

ROCK PRESSURE AFTER TREATMENT _____

Fresh Water 200 Feet 350 Salt Water _____ Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Broken Sand			0	85			
Slate			85	97	Water 200'	2	bailers per hours
Broken Sand			97	173			
Sand			173	238	Hole full water	350'	
Coal			238	242			
Slate			242	252	Show gas	1070'	
Broken Sand			252	370			
Lime			370	455	Gas 1930'	6/10 W 1"	26 M
Sand			455	582			
Slate & Shells			582	802	Gas 2090'	12/10 W 1"	37 M
Coal			802	804			
Slate & Shells			804	980	Perforated from	2090-2093',	2097-2098',
Broken Sand			980	1002			2102-2103',
Slate & Shells			1002	1055			2168-2169',
Broken Sand			1055	1120			2183-2184',
Slate			1120	1148			2191-2192',
Broken Sand			1148	1160			2194-2200',
Salt Sand			1160	1510			2206-2206 1/2
Slate & Shells			1510	1560			and 2216'
Lime			1560	1595			
Sand			1595	1660	Test before fracture	2/10 W 1"	15 M
Red Rock			1660	1665	Fractured Weir	5-24-61	with 630 bbls.
Slate & Shells			1665	1690	water, 1500 gallons acid		and 23,000#
Red Rock			1690	1697	240-20-40 sand.		
Slate & Shells			1697	1777	Final open flow	6/10 W 3"	232 M
Maxon			1777	1824			
Little Lime			1824	1845			
Slate			1845	1855			
Lime			1855	1870			
Pencil Cave			1870	1876			



(over)

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Office of Oil & Gas 07/10/2015
MAY 26 2015

Well # 809033
 API# 47-039-01754P

Formation	Color	Hard or Soft	Top //	Bottom	Oil, Gas or Water	Depth Found	Remarks
Big Lime			1876	2051			Page 2 of 2
Injun			2051	2080			
Squaw			2080	2086			
Broken Sand			2086	2152			
Weir			2152	2214			
Slate & Shells			2214	2261			
Total Depth			2261'				

Date August 15, 1961

APPROVED UNITED FUEL GAS COMPANY, Owner

By S.R. Ferrell
 (Title)
 Supt., Civil Engineering Dept.

07/10/2015

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 Attn: Dave Hancock
P.O. Box 58370
Charleston, WV 25358

(b) Name Clonch Industries
Address P.O. Box 283
Dixie, WV 25059

(c) Name _____
Address _____

5) Coal Operator

(a) Name None
Address _____

Coal Owner(s) with Declaration

(b) Name Blue Eagle Land LLC
Address Attn: Dave Hancock
P.O. Box 58370
Charleston, WV 25358

Name _____
Address _____

Coal Lessee with Declaration

(c) Name Patriot Coal
Address 63 Corporate Center Drive
P.O. Box 1001
Scott Depot, WV 25560

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

Telephone 304-389-7583

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: Completion Superintendent
Address: P.O. Box 18496
Oklahoma City, OK 73154-0496
Telephone: 405-935-4073

Subscribed and sworn before me this 21st day of May the year of 2015
Phyllis A. Copley Notary Public
My Commission Expires September 16, 2018

Received
Office of Oil & Gas
MAY 26 2015
07/10/2015

3901754A

Form WW-9
Rev. 02/01

API Number 47-039-01754
Operator's Well No. 809033 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 Rockcamp Fork Quadrangle Clendenin, WV 7.5'
Elevation 1,246' County Kanawha District Elk

Description of anticipated Pit Waste: Plugging Returns/Cement

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

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 _____)

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 R.E. Schindler

Company Official (Typed Name) Robert Schindler

Company Official Title Completion Superintendent

Subscribed and sworn before me this 21st day of May, 2015.

Phyllis A. Copley Notary Public.

My Commission Expires September 16, 2018



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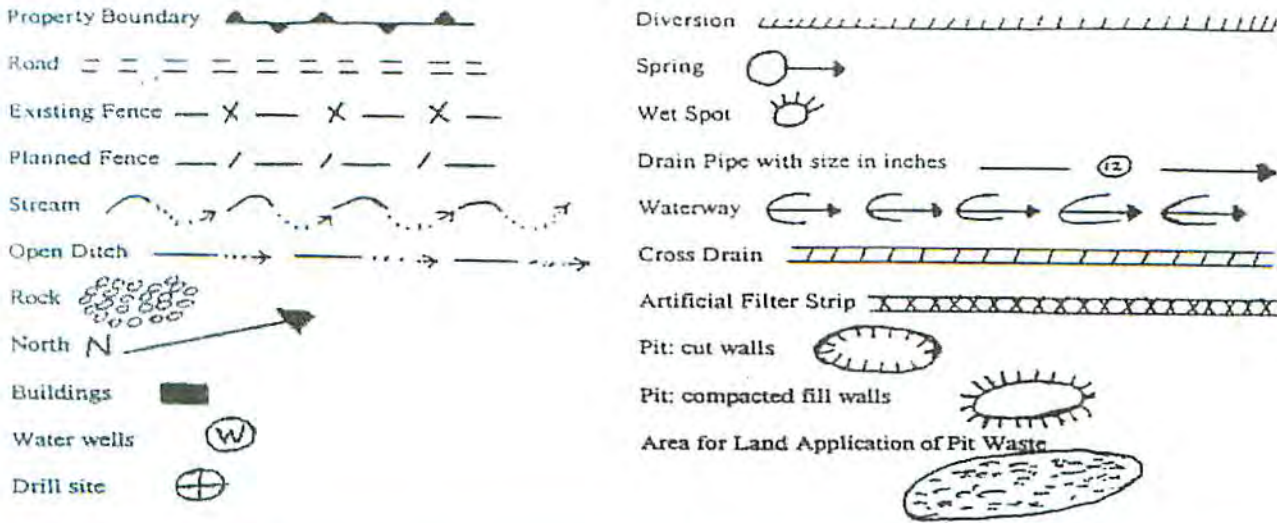
07/10/2015

Office of Oil and Gas
WV Dept. of Environmental Protection

Attachment #1

API #: 47-039-01754
 Operator's Well No. 809033 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 Hay 2 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
CHESAPEAKE CONTRACTOR'S MIX	40	ORCHARD GRASS	15
ALSIKE CLOVER	5	ALSIKE CLOVER	5
ANNUAL RYE	15		

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

Photocopied section of involved 7.5' topographic sheet.

Dutch Ridge

Plan Approved by: *[Signature]*
 Title: *Field Inspection and CLOS*
 Date: *6-1-15*

Field Reviewed? () Yes () No

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JUN - 1 2015

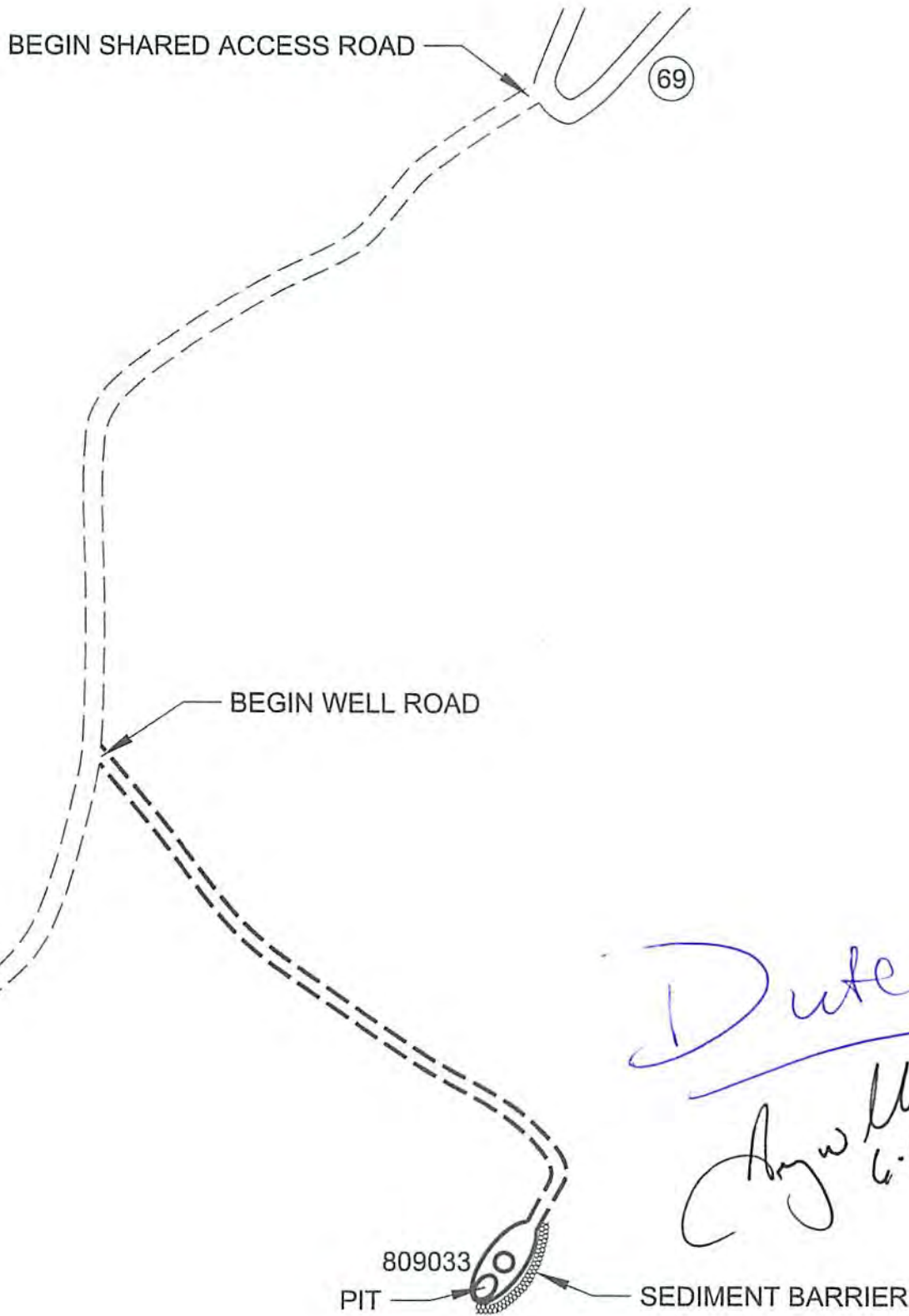
Office of Oil and Gas
 WV Dept of Environmental Protection

3901754A

CHESAPEAKE APPALACHIA, L.L.C.

RECLAMATION DIAGRAM
WELL LOCATION 809033

API 47-039-01754



Dutenberg
Angus
 6-1-15

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.

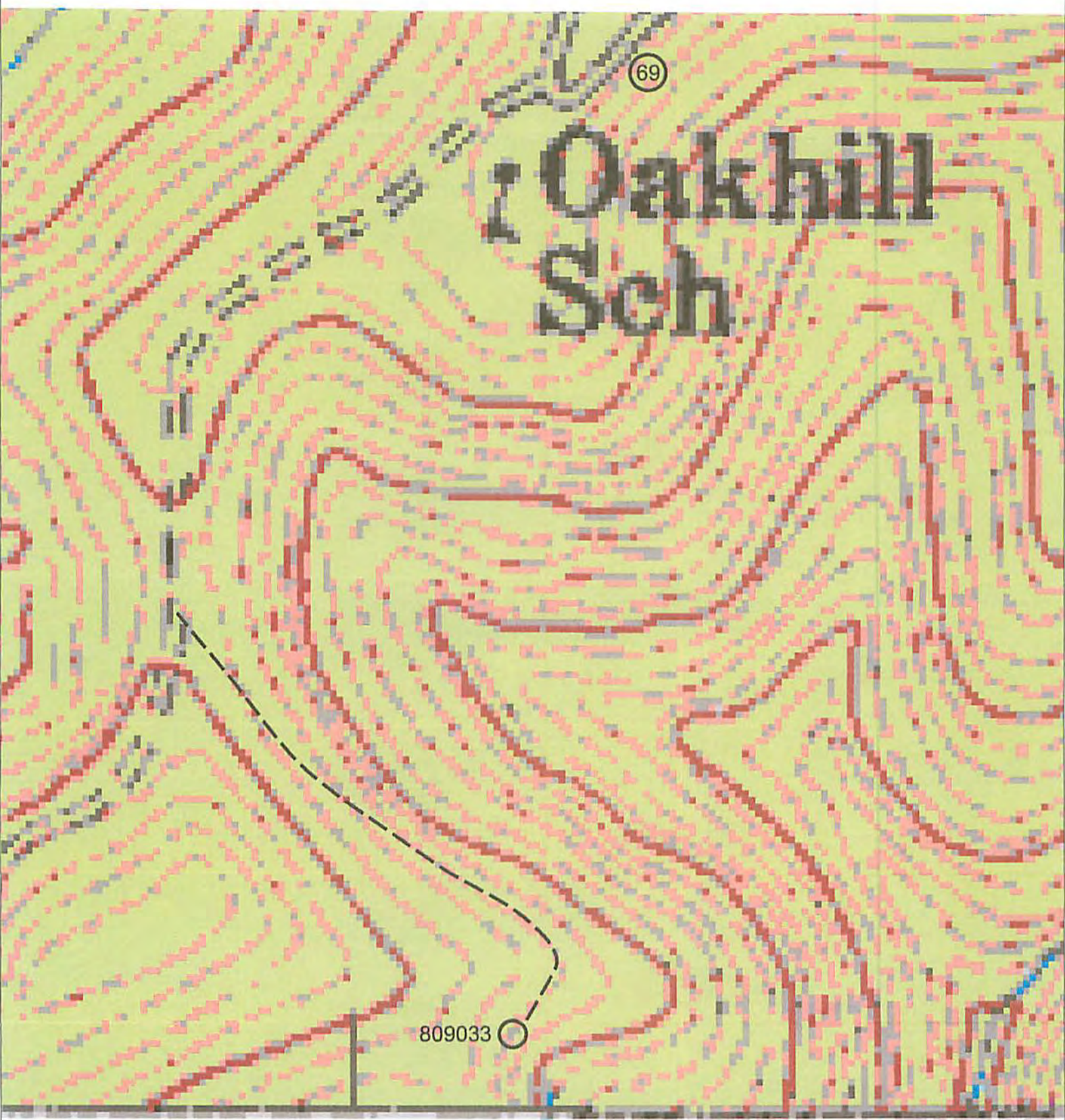
Permanent seeding: See Attachment #1.

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39017540

CHESAPEAKE APPALACHIA, L.L.C.
TOPOGRAPHICAL MAP OF ACCESS AND
WELL LOCATION 809033
API 47-039-01754



20' 471

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Office of Oil ~~67905~~ 67905
MAY 26 2015

3901754P

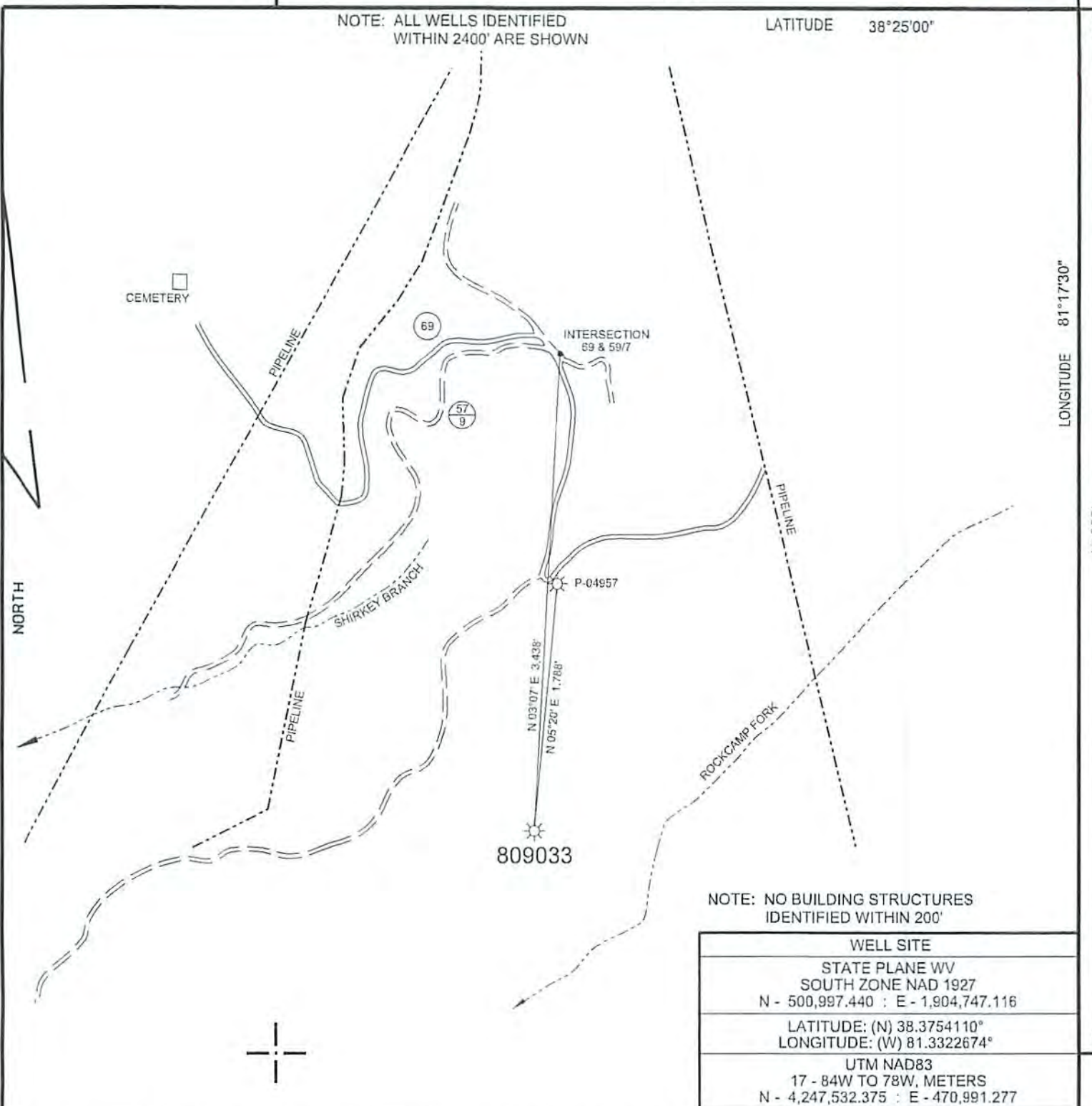
11,662'

NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

LATITUDE 38°25'00"

LONGITUDE 81°17'30"

15,032'



NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927	
N - 500,997.440 : E - 1,904,747.116	
LATITUDE: (N) 38.3754110°	
LONGITUDE: (W) 81.3322674°	
UTM NAD83	
17 - 84W TO 78W, METERS	
N - 4,247,532.375 : E - 470,991.277	

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

FILE NO. CA809033P&A.DGN
 DRAWING NO. CA809033 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 APRIL 30, 2015
 OPERATOR'S WELL NO. 809033
 API WELL NO. _____
47 039 01754 P
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1,246' WATER SHED ROCKCAMP FORK
 DISTRICT ELK COUNTY KANAWHA
 QUADRANGLE CLENDENIN, WV 7.5'
 SURFACE OWNER BLUE EAGLE LAND, LLC ACREAGE ---
 OIL & GAS ROYALTY OWNER _____ LEASE ACREAGE _____
 LEASE NO. _____

COUNTY NAME

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

PERMIT

PLUG AND ABANDON 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

07/10/2015

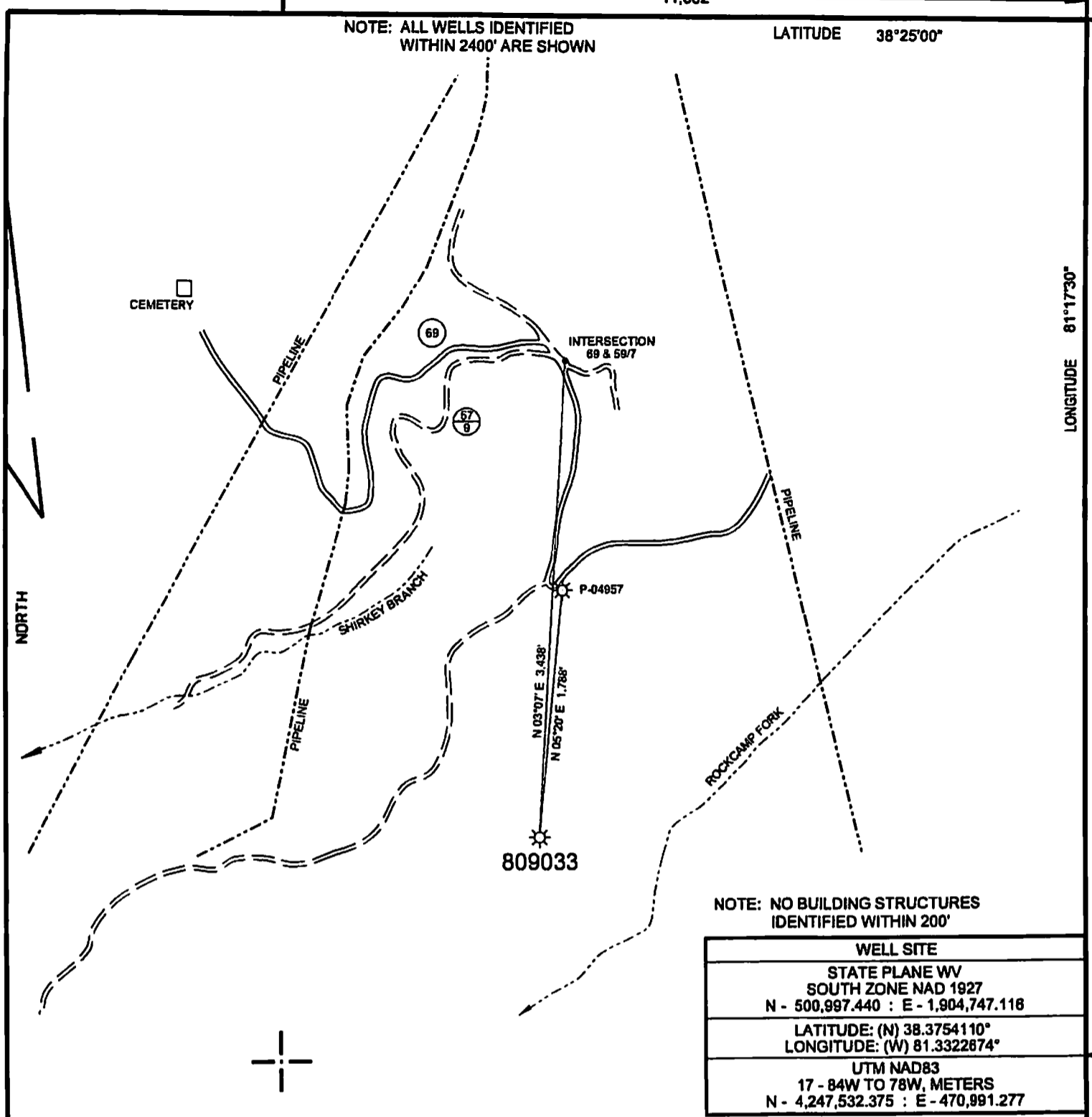
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NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

LATITUDE 38°25'00"

LONGITUDE 81°17'30"

15,032'



NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927 N - 500,997.440 : E - 1,904,747.118	
LATITUDE: (N) 38.3754110° LONGITUDE: (W) 81.3322874°	
UTM NAD83 17 - 84W TO 78W, METERS N - 4,247,532.375 : E - 470,991.277	

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

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 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION MAPPING GRADE GPS

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(SIGNED) *Paul E. Miller*
 R.P.E. _____ L.L.S. 647



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



DATE APRIL 30, 2015
 OPERATOR'S WELL NO. 809033
 API WELL NO.

47 039 01754 P
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1,246' WATER SHED ROCKCAMP FORK
 DISTRICT ELK COUNTY KANAWHA

QUADRANGLE CLENDENIN, WV 7.5'
 SURFACE OWNER BLUE EAGLE LAND, LLC ACREAGE -

OIL & GAS ROYALTY OWNER _____ LEASE ACREAGE _____
 LEASE NO. _____

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 18498, OKLAHOMA CITY, OK 73154-0498 ADDRESS CHESAPEAKE APPALACHIA, L.L.C. PO BOX 8070, CHARLESTON, WV 25382

FORM WW-6

COUNTY NAME

PERMIT

07/10/2015