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

June 24, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4302048, 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 penalities 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: 2401
Farm Name: LINCOLN LAND ASSOC.
API Well Number: 47-4302048
Permit Type: Plugging
Date Issued: 06/24/2015

Promoting a healthy environment.

4302048P

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.

4302048P

Inspector's Signed Copy

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

1) Date: 4/21/2015
2) Operator's Well No. 802401 P&A
3) API Well No. 47-043-02048

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 730' Watershed Mud River
District Union County Lincoln Quadrangle Hager, WV 7.5'

6) Well Operator Chesapeake Appalachia, L.L.C.
Address P.O. Box 18496
Oklahoma City, OK 73154-0496

7) Designated Agent Jessica Greathouse
Address P.O. Box 6070
Charleston, WV 25362

8) Oil and Gas Inspector to be notified
Name Ralph Triplett
Address 5539 McClellan Highway
Branchland, WV 25506

9) Plugging Contractor
Name Chesapeake Appalachia, L.L.C.
Address P.O. Box 18496
Oklahoma City, OK 73154-0496

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

See Attached Sheet

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

Work Order approved by Inspector Ralph D. Triplett Date 04/27/15

Received
Office of Oil & Gas
APR 29 2015

API: 47-043-02048P

802401 P&A PROCEDURE

1) Prepare road and location, MIRU service rig

2) Run in hole with tools to check TD (approximately 2025')

3) Attempt to pull 2" and packer

   A) If successful

      a) Run W.S. to 2025', spot gel

      b) Spot 100' cement plug 2025'-1925', pull W.S. to 1525'

      c) Spot 125' cement plug 1525'-1400', pull W.S. to 1365'

      d) Proceed to step 4

   B) If unsuccessful

      a) Rip or shoot 2" approximately at 1550' and 1525', attempt to pull 2" and packer from that point

      b) If successful in pulling packer, run W.S. to 1550', spot gel, spot 150' cement plug 1550'-1400, pull W.S. to 1365', proceed to step 4

      c) If unsuccessful in pulling packer, cut 2" at free-point (approximately 1400') and pull

      d) Run W.S. as deep as possible (approximately 1420'), spot gel, spot 200' cement plug 1420'-1220', pull W.S.

      e) Proceed to step 5

4) Spot 100' cement plug 1365'-1265', pull W.S.

5) Run in hole with tools to check top of plug. If TOC is below 1300', then reset plug

6) Cut 6 5/8" at free-point (approximately 650') and pull

7) Run W.S. to 650', spot gel

8) Spot 150' cement plug 650'-500', pull W.S.

9) Attempt to pull 8 ¼" casing

   A) If successful

      a) Run W.S. to 350', spot gel

      b) Spot 100' cement plug 350'-250'

      c) Proceed to step 10

   B) If unsuccessful

      a) Run W.S. to 350'

      b) Spot 100' cement plug 350'-250', pull W.S.

      c) Cut 8 ¼" at free-point (approximately 130') and pull

      d) Proceed to step 10

10) Pull or run W.S. to 130'

11) Spot 130' cement plug 130'-surface

12) Pull W.S. and top off with cement

13) Erect monument and reclaim as prescribed by law

OK
RDT
04/27/15

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Office of Oil & Gas
APR 29 2015

Form U-97

Paragon Print 500 42047

UNITED FUEL GAS COMPANY
Incorporated

Well 802401
API 47-043-02048P

Serial Well No. 2401 Lease No. 474 Map Square 56-47

RECORD OF WELL No. 2401 on the

Rosetta Adkins (Surf- Farm of 20000 Acres
Lincoln Land Assn
in Union District
Lincoln County
Branchland Field, State of West Va.

Rig Commenced	March- 15,	192 4
Rig Completed	March- 25,	192 4
Drilling Commenced	May- 9.	192 4
Drilling Completed	June, 20,	192 4
Drilling to cost	1.40 per foot	
Contractor is:	C.C.Wolf	
Address:	Hamlin, W.Va.	
Driller's Names	Lee Price	
	E- Mc Comas	

CASING AND TUBING

Size	Used in Drilling	Left in Well
16		
13		
10	278'-9"-278'-9"	
8¼	~~287'9~~	287'9
6⅝	1315'2"	1315'2"
5 3-16		
4⅞		
4		
3		
2	2085'5"	2085'-5"

SHUT IN
Date June-20- 1924
2 in Tubing or Casing
Size of Packer 2-6-5/8 x16"
Kind of Packer Parmaco
1st Perf. Set from
2nd Perf. Set from

TEST BEFORE SHOT
12 of Water in 2 inch
10ths of Merc. in inch
10ths Volume 168,000 Cu. ft.

TEST AFTER SHOT
~~38~~ of Water in 2 inch
10ths of Merc. in inch
10ths Volume 364,568 Cu. ft.
48-Hr Rock pressure 520 #
Date Shot 6-16-24
Size of Torpedo 40 Qts
Marrietta Torpedo Co
Oil Flowed bbls. 1st 24 hrs
Oil Pumped bbls. 1st 24 hrs

Well abandoned and
Plugged 19

DRILLER'S RECORD

Formation	Top	Bottom	Thickness	Remarks
Surface	000	14	14	Fresh Water 90 Ft-
Slate & Sand	14	372	258	No Coal
Little Dunkard Sand	372	430	58	
Slate	430	461	31	12'7" Perf.set 35ft from bottom-
Big Dunkard Sand	461	545	84	
Salte	545	565	20	Packer set 645ft from bottom on
Gas Sand	565	587	22	2" Tubing (Neck of Packer 3½")
Slate	587	620	33	
Salt Sand	620	850	230	Gas Pay in Injun- 1500 to 1522'
Brake in Sand	850	865	15	" " " Berea- 2015 to 2019
Sand	865	1033	168	2nd " " " - 2032 to 2033
Slate & Shell	1033	1163	130	Sand hard all the way through-
Maxton Sand	1163	1215	52	
Slate	1215	1234	19	6-5/8" Casing Shoe on Bottom of
Stray Sand & Slate	1234	1252	18	Casing-
Litt e Lime	1252	1287	35	
Pencil Cave	1287	1296	9	Steel Line Meas-on top Big Lime,
Big Lime	1296	1491	195	Big Injun and Berea .
Red Rock	1491	1499	8	
Injun	1499	1523	24	
Slate	1523	1538	15	
Squaw Sand	1538	1554	16	
Slate & Shell	1554	2014	460	
Berea	2014	2034	20	
Slate	2034	2069	35	
Total Depth	2069			

Received
Office of Oil & Gas
APR 29 2015

LEP/a

T. P. Cartwright

4302048P

WW4-A
Revised
2/01

1) Date: 4/21/2015
2) Operator's Well No. 802401 P&A
3) API Well No. 47-043-02048

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 Franklin Adkins
Address 170 Carolina Avenue
Chester, WV 26034

(b) Name
Address

(c) Name
Address

5) Coal Operator
(a) Name None

Coal Owner(s) with Declaration
(b) Name Pocahontas Land Corporation
Address 800 Princeton Avenue
P.O. Box 1517
Bluefield, WV 24701

Name Chesapeake Applachia, L.L.C.
Address Attention: Fred Jones
P.O. Box 6070
Charleston, WV 25362-0070

Name
Address

6) Inspector Ralph Triplett
Address 5539 McClellan Highway
Branchland, WV 25506

Telephone 304-389-0350

Coal Lessee with Declaration
(c) Name None
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 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.

Official Seal Notary Public
State of West Virginia
Phyllis A. Copley
144 Willard Circle Hurricane, WV 25526
My Commission Expires
September 16, 2018

Well Operator: Chesapeake Appalachia, L.L.C.
By: R. E. Schmidt
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 April the year of 2015

Phyllis A. Copley
Notary Public

My Commission Expires September 16, 2018

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Office of Oil and Gas
APR 24 2015
WV Department of
Environmental Protection

Well 802401 P+A
API 47-043-02048P

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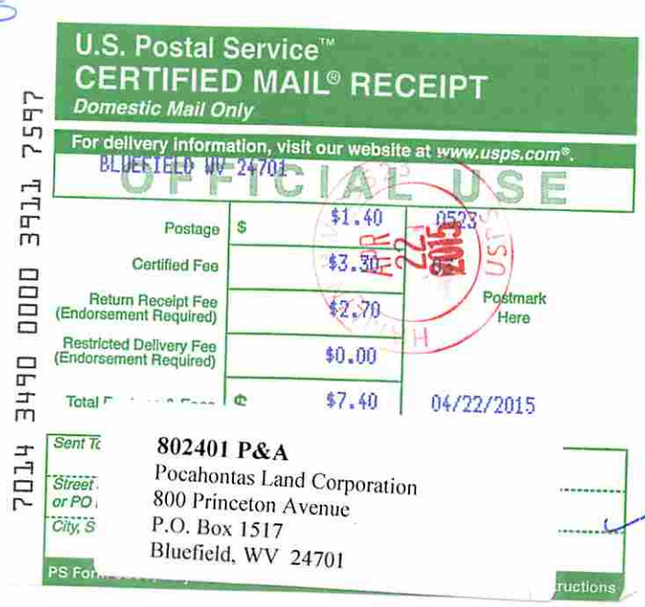
100.00



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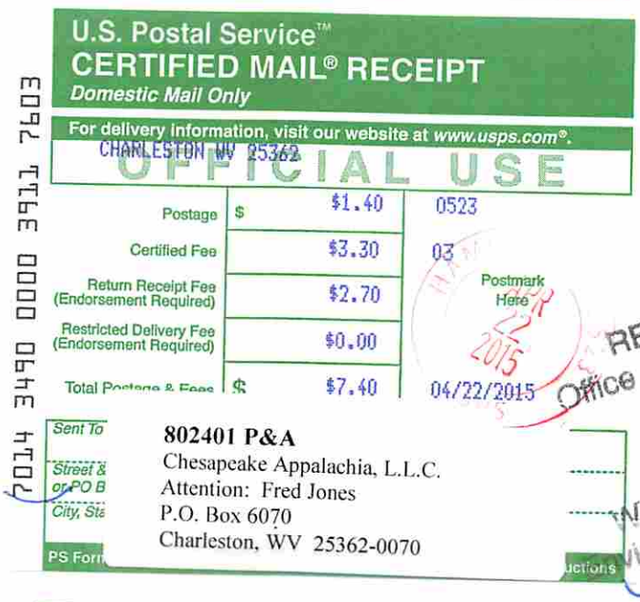
Certified Fee	$3.30	
Return Receipt Fee (Endorsement Required)	$2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	
Total	$7.40	04/22/2015

7014 3490 0000 3911 7597

Sent To
Street or PO
City, S

802401 P&A
Pocahontas Land Corporation
800 Princeton Avenue
P.O. Box 1517
Bluefield, WV 24701

PS Form ... ructions



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Restricted Delivery Fee (Endorsement Required)	$0.00	
Total Postage & Fees	$ $7.40	04/22/2015

7014 3490 0000 3911 7603

Sent To
Street &
or PO B
City, Sta

802401 P&A
Chesapeake Appalachia, L.L.C.
Attention: Fred Jones
P.O. Box 6070
Charleston, WV 25362-0070

PS Form ... uctions

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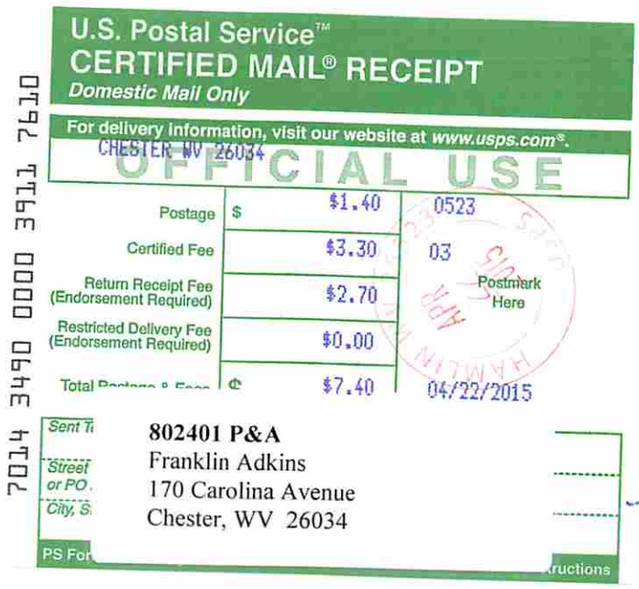
APR 24 2015
WV Department of
Environmental Protection



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CHESTER WV 26034
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Restricted Delivery Fee (Endorsement Required)	$0.00	
Total Postage & Fees	$ $7.40	04/22/2015

7014 3490 0000 3911 7610

Sent To
Street
or PO
City, S

802401 P&A
Franklin Adkins
170 Carolina Avenue
Chester, WV 26034

PS For ... ructions

4302048P

Form WW-9
Rev. 02/01

API Number 47-043-02048
Operator's Well No. 802401 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 Mud River Quadrangle Hager, WV 7.5'

Elevation 730' County Lincoln District Union

Description of anticipated Pit Waste: Plugging Returns/Cement

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

Proposed Disposal Method For Treated Pit Wastes:

X 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
X 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 E. Schindler

Company Official Title Completions Superintendent

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

Phyllis A. Copley Notary Public.

My Commission Expires September 16, 2018

Official Seal Notary Public
State of West Virginia
Phyllis A. Copley
144 Willard Circle Hurricane, WV 25526
My Commission Expires
September 16, 2018

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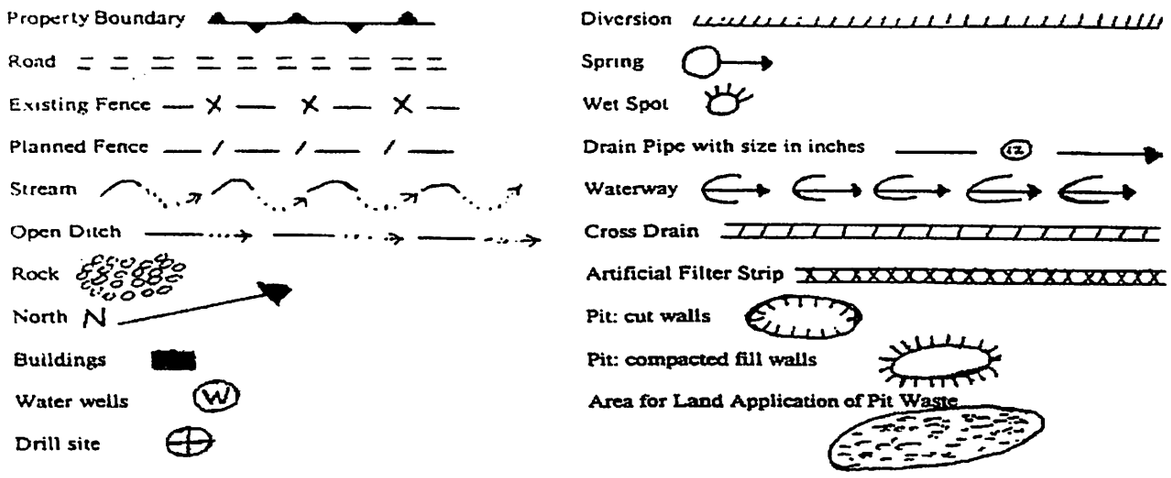
Office of Oil & Gas
APR 29 2015

4302048P

Attachment #1

API #: 47-043-02048
Operator's Well No. 802401 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.

Plan Approved by: Ralph D. Triplett

Title: District Inspector

Date: April 27, 2015

Field Reviewed? (✓) Yes ( ) No

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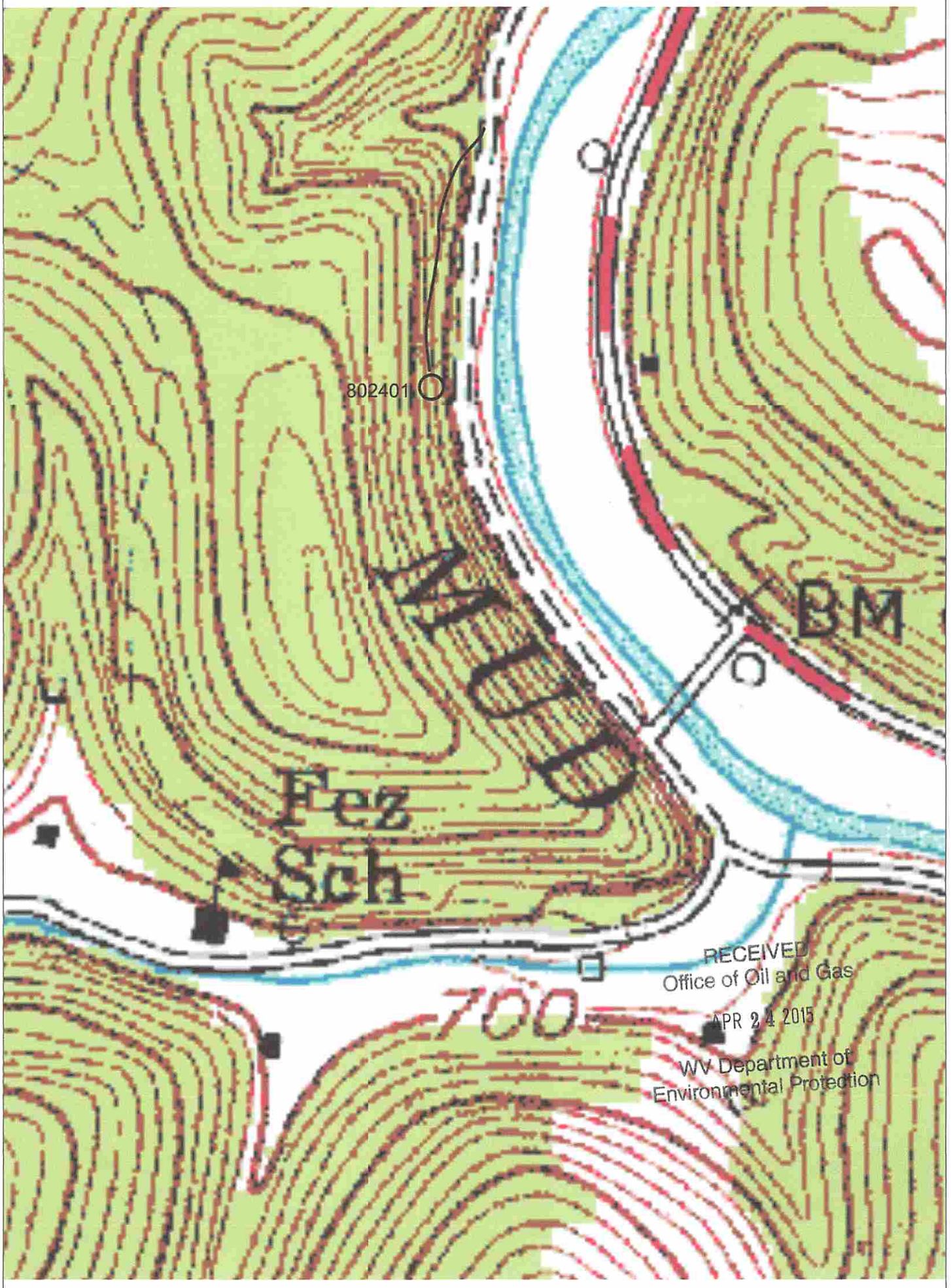
Office of Oil & Gas
APR 29 2015

4302048P

CHESAPEAKE APPALACHIA, L.L.C.

TOPOGRAPHICAL MAP OF ACCESS AND WELL LOCATION 802401

API 47-043-02048



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Office of Oil and Gas
APR 24 2015
WV Department of
Environmental Protection

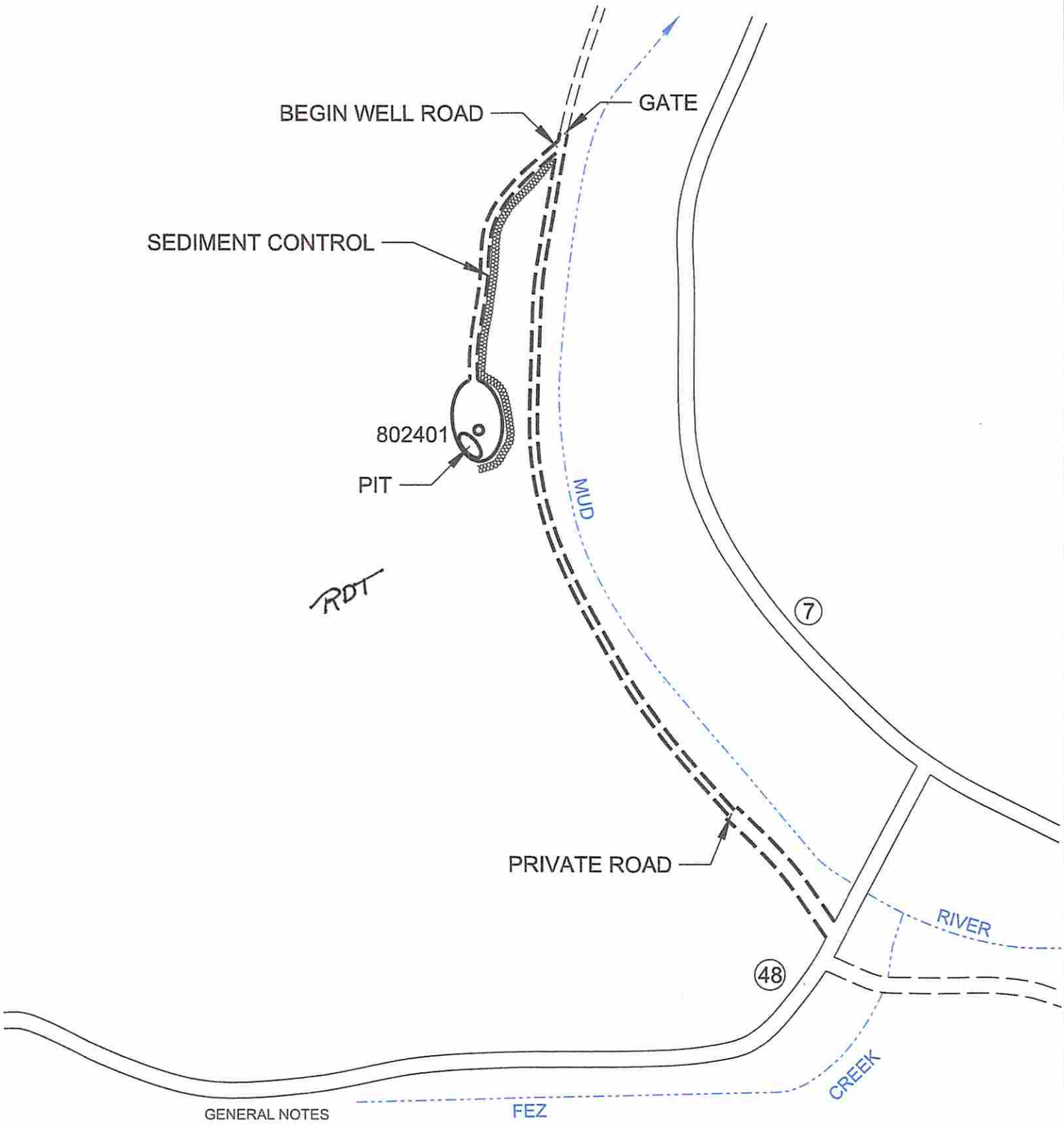
CHESAPEAKE ENERGY CORPORATION - EASTERN DIVISION
P.O. BOX 579 - 8165 COURT AVENUE - HAMLIN, WV 25523
304 824-5141 - FAX 304 824-2247

4302048P

CHESAPEAKE APPALACHIA, L.L.C.

RECLAMATION DIAGRAM
WELL LOCATION 802401

API 47-043-02048



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 show in approximate pre-planning configurations.

All culvert pipes will be a minimum of 15 inches in diameter. all culvert pipes installed will be accomanied 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 roacks of 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 contruction 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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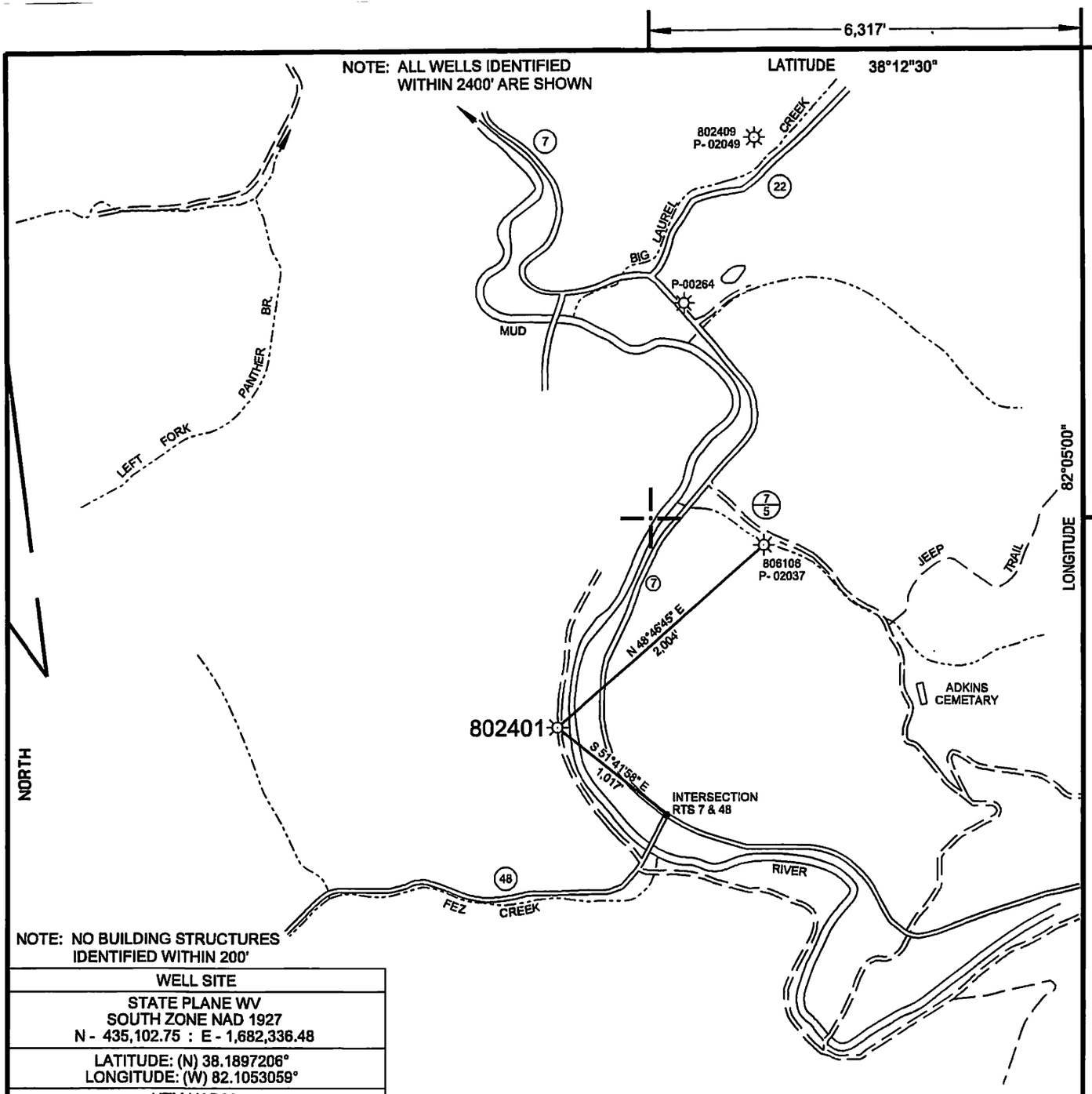
Office of Oil & Gas
APR 29 2015

CHESAPEAKE ENERGY CORPORATION - EASTERN DIVISION
P.O. BOX 579 - 8165 COURT AVENUE - HAMLIN, WV 25523
304 824-5141 - FAX 304 824-2247



NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

WELL SITE
STATE PLANE WV SOUTH ZONE NAD 1927 N - 435,102.75 : E - 1,682,336.48
LATITUDE: (N) 38.1897206° LONGITUDE: (W) 82.1053059°
UTM NAD83 17 - 84W TO 78W, METERS N - 4,227,452.692 : E - 403,218.710

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

FILE NO. CA802401 P&A.DGN
DRAWING NO. CA 802401 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) _____

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

PAUL E. MILLER LICENSED No. 647 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

RECEIVED
Office of Oil and Gas
APR 24 2015
WV Department of Environmental Protection

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

DATE MARCH 3, 20 15
OPERATOR'S WELL NO. 802401
API WELL NO. 47 043 02048 P
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 730' WATER SHED MUD RIVER
DISTRICT UNION COUNTY LINCOLN
QUADRANGLE HAGER, WV 7.5'
SURFACE OWNER FRANKLIN ADKINS ACREAGE --
OIL & GAS ROYALTY OWNER CHESAPEAKE APPALACHIA, L.L.C. LEASE ACREAGE --
LEASE NO. FEE OIL&GAS
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 APPLACHIA, L.L.C. PO BOX 6070, CHARLESTON, WV 25362

FORM WW-6
COUNTY NAME
PERMIT

I
Now

Operator: CHESAPEAKE APPALACHIA, L.L.C.

API: 4302048

WELL No: 2401

Reviewed by: J. M. M. Date: 6/22/15

15 Day End of Comment: 04/29/15

*Well is on an Agreed Order

CHECKLIST FOR FILING A PERMIT

Plugging

CK# 5264514
$100.00

- [x] WW-4B
- [x] Inspector signature on WW-4B
- [x] Completion / Well Records of Previous Work
- [x] WW-4A (Notarized)
- [x] Certified Mail Receipts, Waivers, or Affidavits of Personal Service
- [ ] Surface Owner Waiver
- [ ] Coal Owner / Lessee /Operator Waiver
- [x] WW-9 (Page 1) (Notarized)
- [x] Inspector Signature on WW-9 (Optional)
- [x] Topographic Map of location of well
- [ ] WW-7

OR

- [x] Mylar Plat (Surface owner on plat matches WW-4A)
- [x] Bond
- [x] Company is Registered with the SOS
- [x] Worker's Compensation / Unemployment Insurance account is OK
- [x] $100.00 check ($0.00 if no pit)