



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 12, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4302006, 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: 5905
Farm Name: CALDWELL, J. L.
API Well Number: 47-4302006
Permit Type: Plugging
Date Issued: 06/12/2015

Promoting a healthy environment.

06/12/2015

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

WW4-A
Revised
2/01

1) Date: 3/27/2015
2) Operator's Well No. 805905 P&A
3) API Well No. 47-043-02006 P

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 Wilson College
Address 1015 Philadelphia Avenue
Chambersburg, PA 17201
(b) Name John & Janet Salstrom (surv)
Address P.O. Box 123
Hamlin, WV 25523
(c) Name _____
Address _____
6) Inspector Ralph Triplett
Address 5539 McClellan Highway
Branchland, WV 25506
Telephone 304-389-0350

5) Coal Operator
(a) Name None
Coal Owner(s) with Declaration
(b) Name Wilson College
Address 1015 Philadelphia Avenue
Hamlin, WV 25523
Name _____
Address _____
Name _____
Address _____
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.



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 27th day of March the year of 2015
Phyllis A. Copley Notary Public
My Commission Expires September 16, 2018
Form WW-9

Received
Office of Oil & Gas
MAR 31 2015

06/12/2015

WV 805905 P&A
 API 47-043-02006 P

7014 2120 0003 6636 5934

**U.S. Postal Service™
 CERTIFIED MAIL® RECEIPT**
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

HAMLIN WV 25523

Postage	\$ 11.40	0523
Certified Fee	3.30	01
Return Receipt Fee (Endorsement Required)	2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	0.00	
Total Postage & Fees	17.40	03/30/2015

805905 P&A (access surface)
 John & Janet Salstrom (surv)
 P.O. Box 123
 Hamlin, WV 25523

See Reverse for Instructions

7014 2120 0003 6636 5941

**U.S. Postal Service™
 CERTIFIED MAIL® RECEIPT**
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

CHAMBERSBURG PA 17201

Postage	\$ 11.40	0523
Certified Fee	3.30	01
Return Receipt Fee (Endorsement Required)	2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	0.00	
Total Postage & Fees	17.40	03/30/2015

Sent To: 805905 P&A (surface and coal)
 Street & / or PO Bo: Wilson College
 City, State: 1015 Philadelphia Avenue
 Chambersburg, PA 17201

PS Form

Received
 Office of Oil & Gas
 MAR 31 2015

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

1) Date: 3/27/2014
2) Operator's Well No. 805905 P&A
3) API Well No. 47-043-02006

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

CK# 5251660 \$100.00

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 1,015' Watershed Sixmile Creek
District Sheridan County Lincoln Quadrangle Branchland, 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 Ralph Triplett Name Chesapeake Appalachia, L.L.C.
Address 5539 McClellan Highway Address P.O. Box 18496
Branchland, WV 25506 Oklahoma City, OK 73154-0496

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

See Attached Sheet

Received
Office of Oil & Gas

MAR 31 2015

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

Work Order approved by Inspector

[Signature]

Date

6/11/15

06/12/2015

805905 P&A Procedure

- 1) Prepare road and location, MIRU service rig
- 2) RIH with tools to check TD at approximately 1640'
- 3) Attempt to pull 2" and packer
 - A) If successful:
 - a) Run W.S. to approximately 1640', spot gel
 - b) Spot 125' cement plug 1640'-1515', pull W.S. to 1450'
 - c) Spot 100' cement plug 1450'-1350', pull W.S.
 - d) Proceed to step 4
 - B) If unsuccessful:
 - a) Cut 2" at free-point (approximately 1500') and pull
 - b) Run W.S. to 1500', spot gel
 - c) Spot 175' cement plug 1500'-1325', pull W.S.
 - d) Proceed to step 4
- 4) RIH with tools to check to of plug. If TOC is below 1380' then reset plug.
- 5) Cut 6 5/8" at free-point (approximately 825') and pull
- 6) Run W.S. to 825', spot gel
- 7) Spot 150' cement plug 825'-675', pull W.S. to 350'
- 8) Spot 100' cement plug 350'-250', pull W.S. to 125'
- 9) Spot 125' cement plug 125'-surface
- 10) Pull W.S. and top off with cement
- 11) Erect monument and reclaim as prescribed by law

↑
with API # AFFIXED

Received
Office of Oil & Gas
MAR 31 2015

GCC
6/9/15

06/12/2015

HUNTINGTON DEVELOPMENT & GAS CO.

Serial Well No. **5905** 31 Lease No. _____ Map Square **32-49**

WLU 805905 P+A
API 47-043-02006

RECORD OF WELL No. 5905 on the Caldwell Cons. Farm of _____ Acres in Laurel Hill District Lincoln County Hubball Field, State of W. Va. Ridge between Blue Lick & Mill Branch		CASTING AND TUBING SIZE USED IN DRILLING LEFT IN WELL 10 _____ 13 _____ 10 20 8 1/4 143 00 6 5/8 1400 1400 5 3/16 _____ 4 7/8 _____ 4 _____ 3 125 125 2 1524 1524			TEST BEFORE SHOT _____ of Water in _____ Inch 10ths _____ _____ of Merc. in _____ Inch 10ths 500,000 Volume _____ Cu. ft. TEST AFTER SHOT _____ of Water in _____ Inch 10ths _____ _____ of Merc. in _____ Inch 10ths 1,039,680 Volume _____ Cu. ft. Rock Pressure 350 # Date Shot 2-22-15 Size of Torpedo 100 Qts Oil Flowed NONE bbls. 1st 24 hrs. Oil Pumped _____ bbls. 1st 24 hrs.	
Rlg Commenced _____ 192 Rlg Completed _____ 192 Drilling Commenced 1-20-15 _____ 192 Drilling Completed 2-22-15 _____ 192 Drilling to cost _____ per foot Contractor is: G. L. Moabon Address: 2566-1st Ave., Huntington, W. Va. Driller's Names A. Spurlock & S.M. Smith		SHUT IN Date 2-22-15 in 2" Tubing or Casing 6-5/8 X 3/2 Size of Packer _____ Kind of Packer Special Gas 1st Perf. Set NO RECORD 2nd Perf. Set _____ from _____			Well abandoned and Plugged _____ 10 _____	

DRILLER'S RECORD

Formation	Top	Bottom	Thickness	Remarks
Red rock	0	21		Gas from Injun Sand.
Sand	21	175		
Slate	175	180		Gas in lime 1475
Sand	180	200		
Slate	200	210		Show of oil in white lime and show of gas at 1475'.
Sand	210	345		
Slate	345	390		
Sand	390	420		
Slate	420	465		
Sand	465	480		
Black slate	480	660		After Big Injun Sand was drilled, there was a light spray of oil from the big lime carried out with the gas.
Sand	600	670		
Slate & shells	670	760		
Salt sand	760	980		
Water	850			
Slate	980	990		
Sand	990	1025		
Slate	1025	1035		Tubing packer set at 1524'.
Sand	1035	1140		
Slate	1140	1150		
Sand	1150	1270		Big Injun gas pay 1600-1633'.
Red rock	1270	1275		
Slate	1275	1290		DESCRIPTION OF SHOT:
Sand	1290	1320		12' of anchor from bottom of hole.
Red rock	1320	1330		50 qt. shell 12 1/2" X 5".
Slate	1330	1335		8' of anchor between shells.
Sand	1335	1340		50 qt. shell 12 1/2" X 5".
Slate	1340	1345		Top of shot 1600'.
Black lime	1345	1385		
Pencil cave	1385	1390		Bad hole was encountered 130-143'.
White lime	1390	1567		
Black lime	1567	1580		
Red rock	1580	1595		CLOSED PRESSURE TEST:
Injun	1595	1600		1 min. 2 min. 3 min. 4 min. 5 min.
" gas	1600			110 130 140 150 157
Slate	1633	1645		6 min. 7 min. 8 min. 9 min. 10 min.
Sand	1645	1649		162 167 172 175 180
TOTAL DEPTH		1649		30 min.-220 60 min.-245 rock -350

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Office of Oil & Gas
MAR 31 2015

06/12/2015

API Number 47-043-02006 P
Operator's Well No. 805905 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 Sixmile Creek Quadrangle Branchland, WV 7.5'
Elevation 1,015' County Lincoln District Sheridan

Description of anticipated Pit Waste: Plugging Returns/Cement

Will a synthetic liner be used in the pit? Yes

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 *David Gocke* Received
Office of Oil & Gas
MAR 31 2015
Company Official (Typed Name) David Gocke
Company Official Title Manager - Operations, Appalachia South

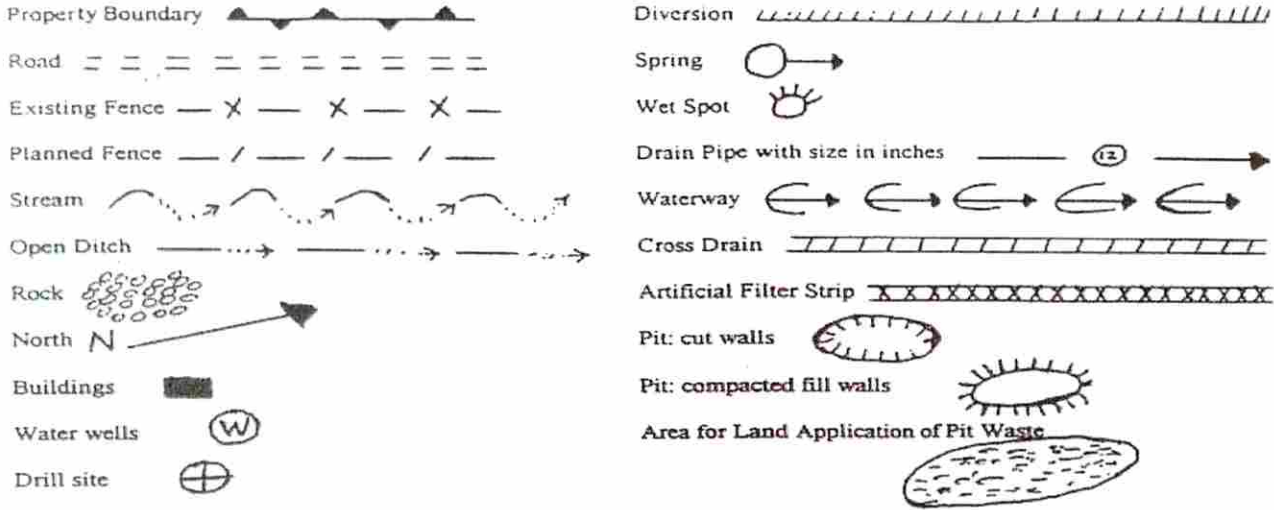
Subscribed and sworn before me this 27th day of March, 2015.
Phyllis A. Copley Notary Public.
My Commission Expires September 16, 2018



06/12/2015

API #: 47-043-02006 P
 Operator's Well No. 805905 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: [Signature]
 Title: Manager

Received
 Office of Oil & Gas

Date: 6/11/15

MAR 31 2015

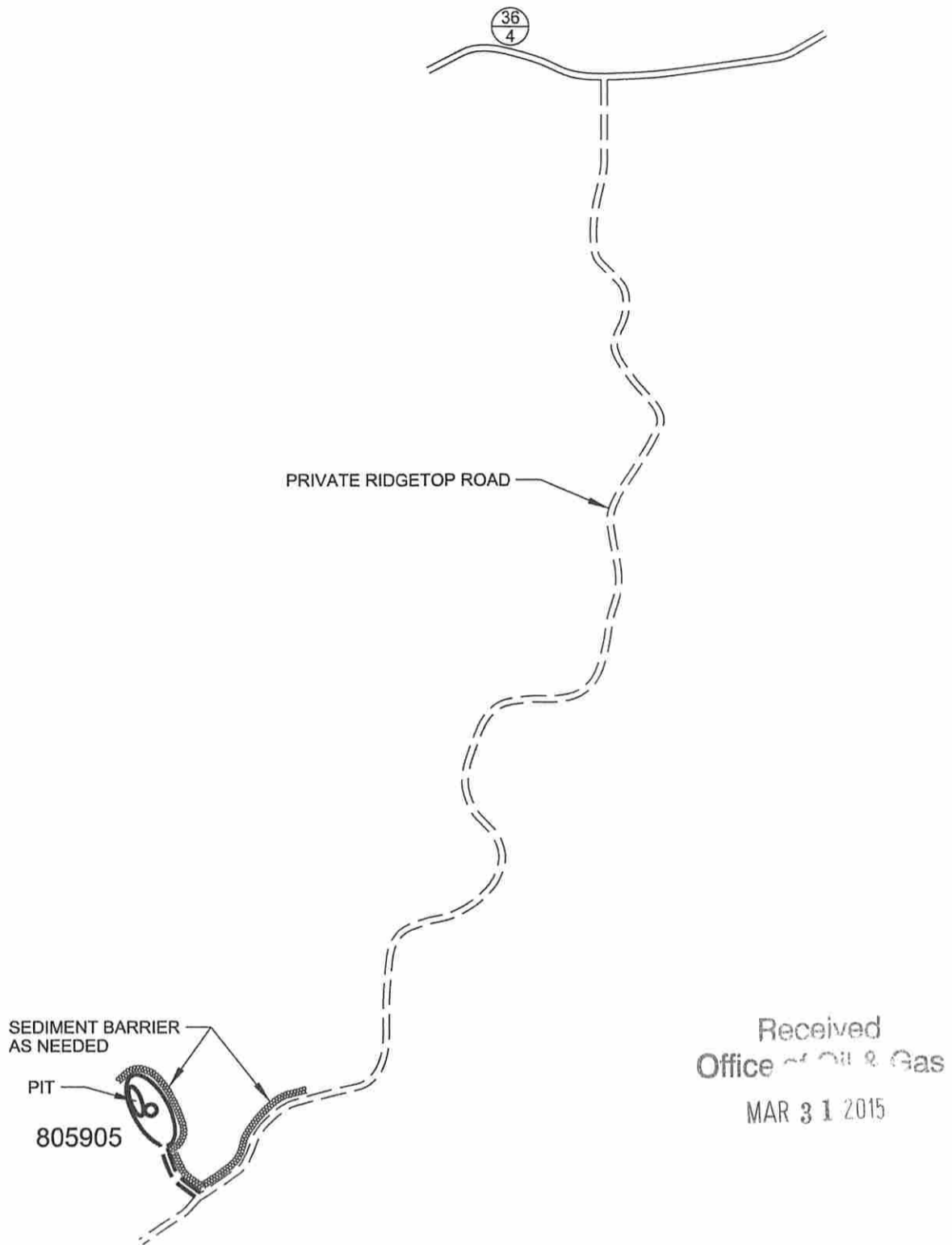
Field Reviewed? () Yes () No

CHESAPEAKE APPALACHIA, L.L.C.

RECLAMATION DIAGRAM WELL LOCATION 805905

API 47-043-02006

43-2006P



Received
Office of Oil & Gas
MAR 31 2015

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 outfall 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.

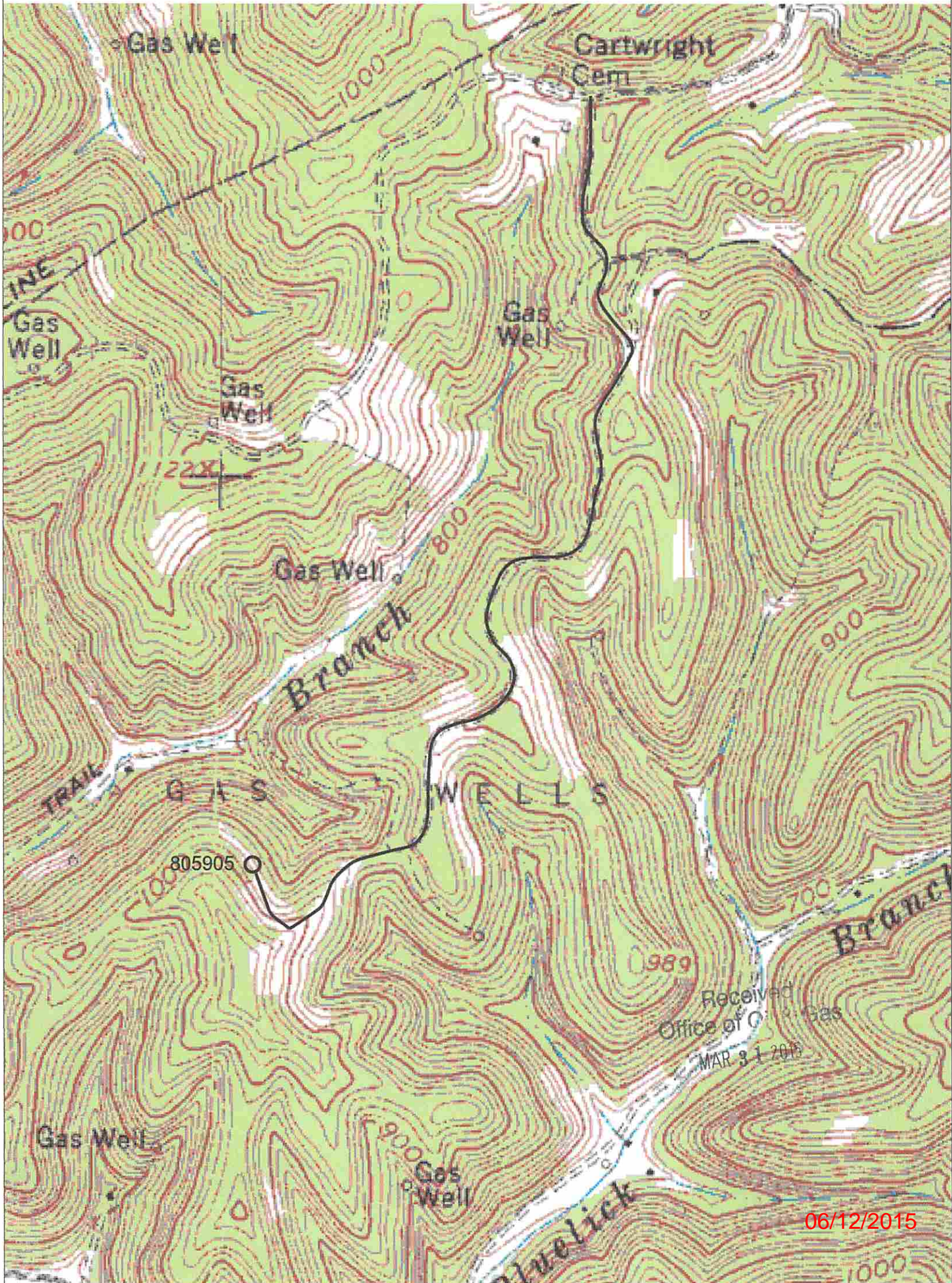
06/12/2015

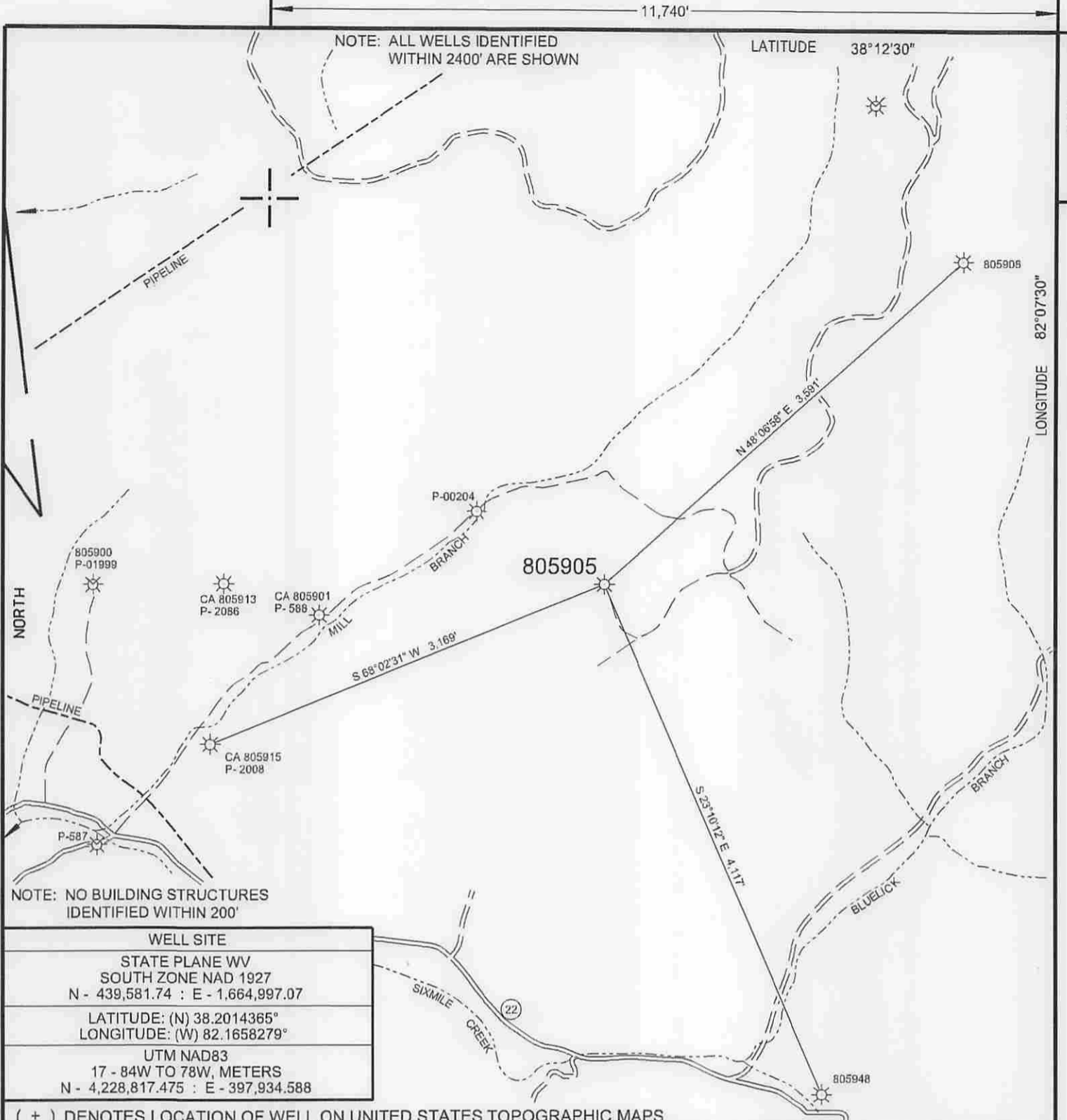
CHESAPEAKE APPALACHIA, L.L.C.

TOPOGRAPHICAL MAP OF ACCESS AND
WELL LOCATION 805905

API 47-043-02006

43-2006P





WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927 N - 439,581.74 : E - 1,664,997.07	
LATITUDE: (N) 38.2014365° LONGITUDE: (W) 82.1658279°	
UTM NAD83 17 - 84W TO 78W, METERS N - 4,228,817.475 : E - 397,934.588	

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

FILE NO. CA805905 P&A.DGN

DRAWING NO. CA805905 P&A

SCALE 1" = 1000'

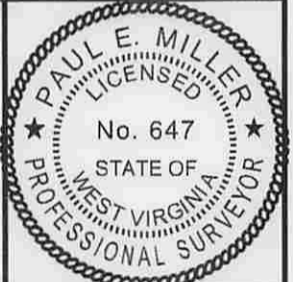
MINIMUM DEGREE OF ACCURACY 1 : 200

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 FEBRUARY 13, 20 15

OPERATOR'S WELL NO. 805905

API WELL NO. 47 043 02006 P

STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1,015' WATER SHED SIXMILE CREEK
DISTRICT SHERIDAN COUNTY LINCOLN
QUADRANGLE BRANCLAND, WV 7.5'

SURFACE OWNER WILSON COLLEGE ACREAGE -

OIL & GAS ROYALTY OWNER _____ LEASE ACREAGE 913
LEASE NO. 1045190

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 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

06/12/2015

I Operator: CHESAPEAKE APPALACHIA, L.L.C.
API: 4302006
WELL No: 5905
Reviewed by: GCS Date: 6/9/15
45 Day End of Comment: 04/07/15

WELL IS ON AN AGREED ORDER

CHECKLIST FOR FILING A PERMIT

Plugging

CK# 5251660

\$100.00

talked to Ralph on the plugging and he was fine with procedure.

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

OR

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