



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

Jim Justice , Governor
Austin Caperton , Cabinet Secretary
www.dep.wv.gov

Tuesday, October 17, 2017
WELL WORK PERMIT
Vertical / Plugging

SHALE GAS PRODUCTION, LLC
929 CHARLESTON ROAD

SPENCER, WV 25276

Re: Permit approval for 1
47-039-01172-00-00

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.

Please be advised that form WR-35, Well Operators Report of Well Work 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: 1
Farm Name: KANAWHA & HOCKING
U.S. WELL NUMBER: 47-039-01172-00-00
Vertical / Plugging
Date Issued: 10/17/2017

Promoting a healthy environment.

10/20/2017

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.

WW-4B
Rev. 2/01

1) Date _____, 20____
2) Operator's
Well No. L.M. Bryan
3) API Well No. 47-33 - 01172

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 / Liquid injection ____ / Waste disposal ____ /
(If "Gas, Production or Underground storage ____) Deep ____ / Shallow ____
- 5) Location: Elevation 711.28 Watershed Coal River
District Jefferson County Kanawha Quadrangle St. Albans
- 6) Well Operator Shale Gas Production, LLC 7) Designated Agent J. Scott Freshwater
Address 929 Charleston Road Address 929 Charleston Road
Spencer, WV 25276 Spencer, WV 25276
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Terry Urban Name Contractor Services Inc. of WV
Address P.O. Box 1207 Address 929 Charleston Road
Clendenin, WV 25045 Spencer, WV 25276

10) Work Order: The work order for the manner of plugging this well is as follows:
Prep Location; move in; rig up. Pull tubing packer. If no release, trip in hole with 1 1/2". Cement
^{3520'} from bottom to packer depth. If packer released; recover 2". Trip in hole with 1 1/2".
Cement to bottom of 7"-2109'. Try to pull and recover 313' of 8";
Set cement plugs accordingly. Cement bond log 7" casing; attempt to recover
nocemented casing. If not recoverable, perforate casing. MAKE SURE TO COVER SALT SAND ^{844'}
WITH CEMENT. _{JWM}
Trip in hole with tubing-cement to cut point of 7", approx. 100' below. **TD 3451**
Cement to surface. Set plugs according to inspector.
Trip out of hole with casing and lay down. Erect monument.
Operator will try to plug Devonian Shale

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 8-3-17

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STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

WELL RECORD

Permit No. KAN-1172

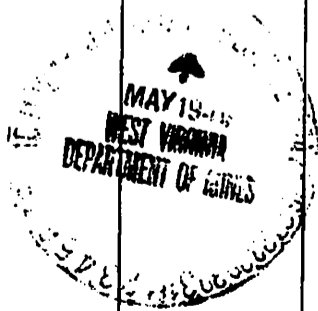
Oil or Gas Well
(KIND)

Company Ajax Pipe Line Company
 Address 1219 Kanawha Valley Bldg., Charleston, W. Va.
 Farm L. M. Bryan Acres 393.09
 Location (waters) Coal River
 Well No. I Elev. 711.28
 District Jefferson County Kanawha
 The surface of tract is owned in fee by L. M. Bryan, et al
 Address R. F. D. #1, St. Albans, W. Va.
 Mineral rights are owned by Same
 Address _____
 Drilling commenced November 14, 1944
 Drilling completed March 7, 1945
 Date Shot March 7 From 3540' To 3746'
 With 1400# Gelatin

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packer
18			Hook Wall
10	14"	14"	Size of 6-5/8"x2"
7 1/4	459'10"	313'9"	Depth set 2645'
6 3/4	2109'	2109'	
5 3/16			
3			Perf. top
2	3751'	3751'	Perf. bottom
Liners Used			Perf. top
			Perf. bottom

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

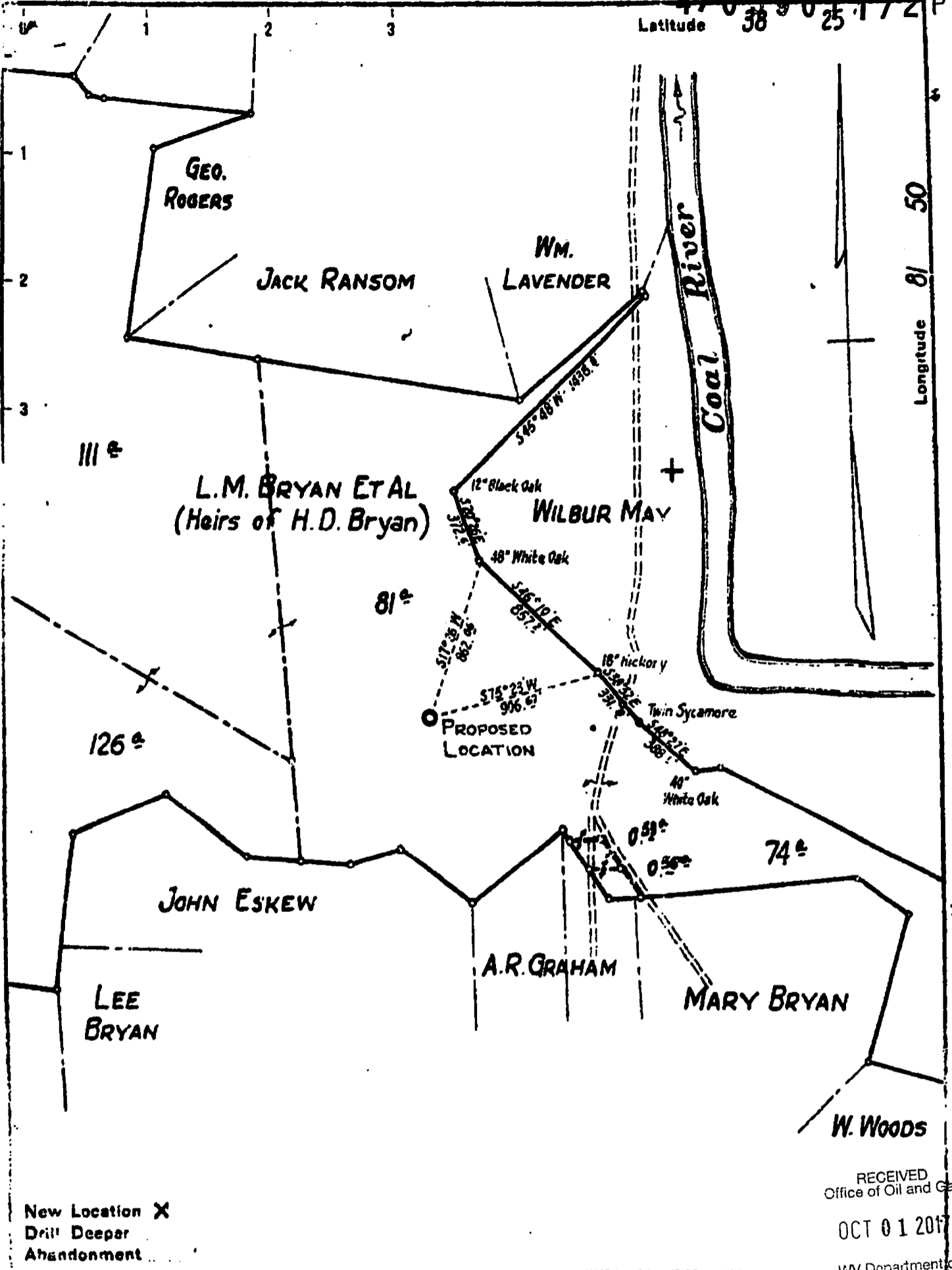
Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Soil			0	9			
Red Mud			9	21			
Blue Slate			21	90			
Sand			90	112			
Slate			112	350			
Sand			350	425			
White Mud			325	338			
Blue Mud			338	420			
Sand			420	448			
Slate			448	475			
Sand			475	542			
Blue Slate			542	620			
White Slate			620	648			
Sand			648	800			
Black Slate			800	844			
Salt Sand			844	1402			
Slate			1402	1407			
Little Lime			1407	1439			
Pencil Cave			1439	1443			
Big Lime			1443	1600			
Engine Sand			1600	1670			
Slate & Shells			1670	2092			
Brown Shale			2092	2110			
Berea Sand			2110	2131			
Slate & Shells			2131	3300			
Brown Shale			3300	3330			
Gray Slate			3330	3555			
Brown Shale			3555	3734			
White Slate			3734	3751			
Total Depth				3751			



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Latitude 38° 05' 17.2" N
Longitude 81° 50'



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Company AJAX PIPE LINE CO.
 Address CHARLESTON, W.VA.
 Farm L.M. BRYAN ET AL
 Tract Acres 393.09 Lease No. _____
 Well (Farm) No. 1 Serial No. _____
 Elevation (Spirit Level) 711.49'
 Quadrangle ST. ALBANS
 County KANAWHA District JEFFERSON
 Engineer W. S. GRAVELY
 Engineer's Registration No. _____
 File No. _____ Drawing No. _____
 Date SEPT. 2, 1944 Scale 1" = 660'

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

WELL LOCATION MAP
 FILE NO. KAN-1172

+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on border line of original map.

10/20/2017

4/2006



Bryan Heirs

Coal River Rd

Bryan Ave

Geronimo Dr

494 ft

Image U.S. Geological Survey

Google earth

Imagery Date: 3/31/2006 38°21'49.29" N 81°52'18.79" W elev. 774 ft eye alt. 2939 ft

4703901172P

011

1996

WW-4A
Revised 6-07

1) Date: _____
2) Operator's Well Number
LM Bryan et.al _____

3) API Well No.: 47 - 39 - 01172

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:
(a) Name Donald C. Bryan
Address 5025 Kelly Creek Rd.
Charleston, WV 25312
(b) Name Bryan David Curtis Bryan
Address P.O. Box 2232
Saint Albans, WV 25177
(c) Name _____
Address _____
6) Inspector Terry Urban
Address P.O. Box 1207
Clendenin, WV 25405
Telephone 304-549-5915

5) (a) Coal Operator
Name _____
Address _____
(b) Coal Owner(s) with Declaration
Name _____
Address _____
(c) Coal Lessee with Declaration
Name _____
Address _____

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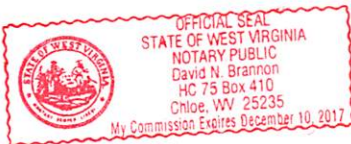
TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (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.

Well Operator Shale Gas Production, LLC
By: J. Scott Freshwater
Its: Managing Member
Address 929 Charleston Road
Spencer, WV 25276
Telephone 304-927-5228



Subscribed and sworn before me this 22nd day of September 2017
David N. Brannon Notary Public
My Commission Expires December 10, 2017

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 depprivacyoffier@wv.gov.

WW-9
(5/16)

API Number 47 - 39 - 01172
Operator's Well No. L.M. Bryan

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Shale Gas Production, LLC OP Code _____

Watershed (HUC 10) Coal River Quadrangle St. Albans

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: brine, oil TU above ground pit

Will a synthetic liner be used in the pit? Yes No If so, what ml.? N/A

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: N/A

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. N/A

-If oil based, what type? Synthetic, petroleum, etc. _____

Additives to be used in drilling medium? _____

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. N/A

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) _____

-Landfill or offsite name/permit number? _____

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected 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 [Signature]

Company Official (Typed Name) J. Scott Freshwater

Company Official Title Managing Member

Subscribed and sworn before me this 20th day of September, 20 17

David N. Brannon Notary Public

My commission expires December 10, 2017

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Operator's Well No. L.M. Bryan

Proposed Revegetation Treatment: Acres Disturbed .5 Prevegetation pH 5.5

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type _____

Fertilizer amount 0.25 lbs/acre

Mulch Hay 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	25	Ladino Clover	5
Red Top Clover	15	KY 31	40

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: Amy White

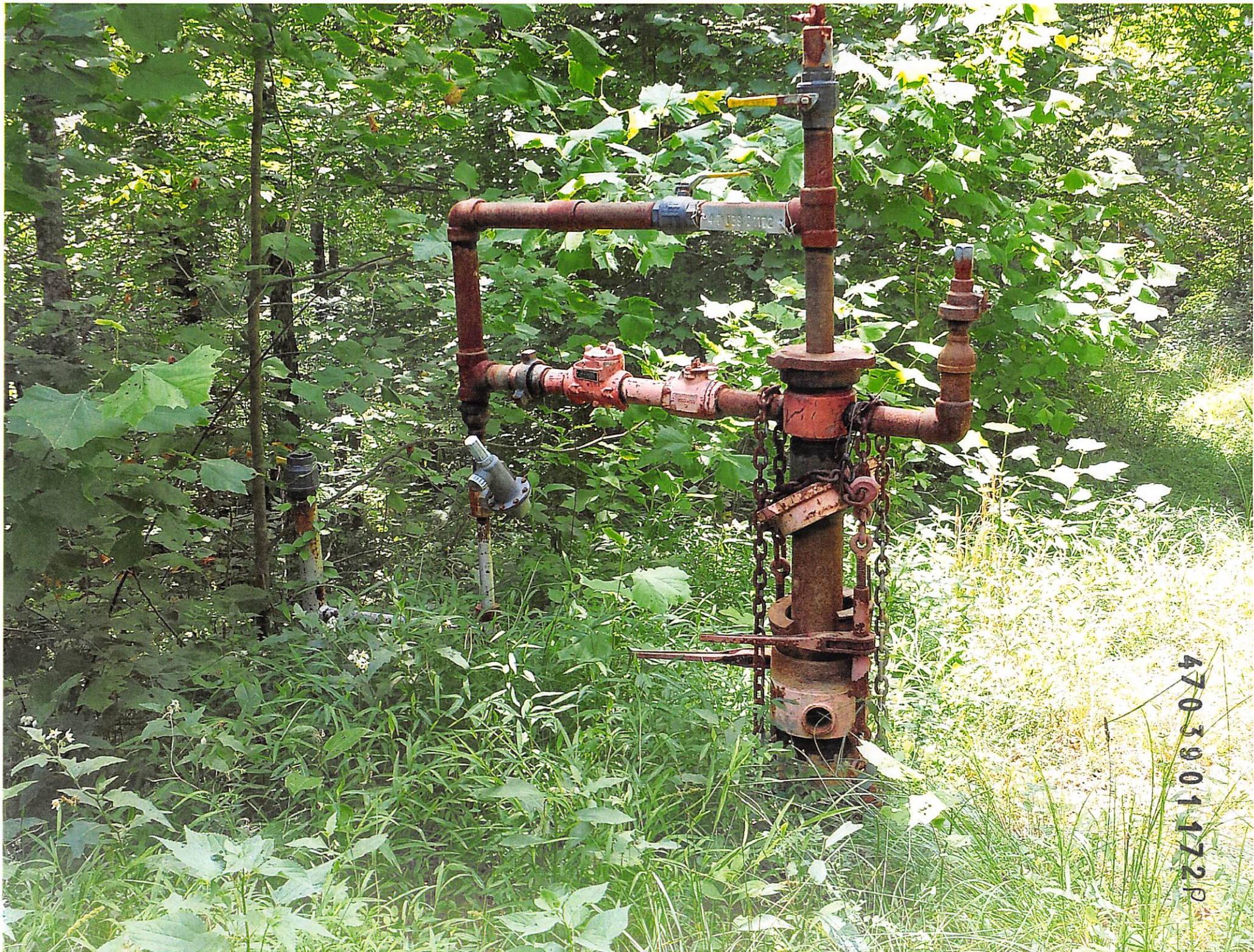
Comments: Operator will make attempt to pull tubing & packer & set plug accordingly

Title: Inspection of GAS

Date: 8-3-17

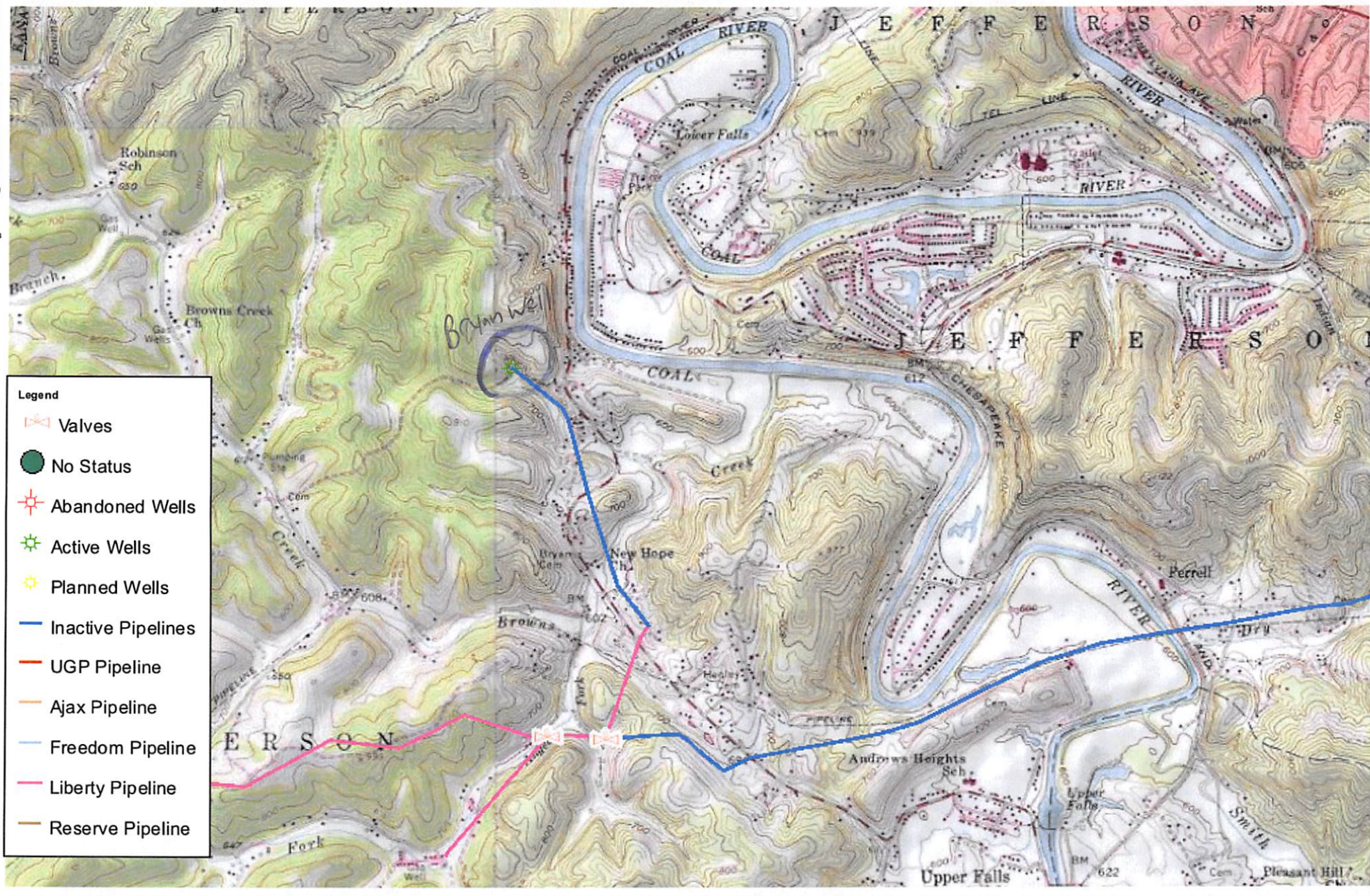
Field Reviewed? Yes No

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4703901172P

47039011729



TITLE	CREATED BY	Administrator
test	DATE	7/17/2017
	DETAILS	Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere Projection: Mercator Auxiliary Sphere Datum: WGS 1984
	SCALE	1:35,496



SCALE	0 295 590 1,180 Yards
	Web Map

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-39-01172 WELL NO.: L.M. Bryan
 FARM NAME: L.M Bryan
 RESPONSIBLE PARTY NAME: Shale Gas Production, LLC
 COUNTY: Kanawha DISTRICT: Jefferson
 QUADRANGLE: St. Albans
 SURFACE OWNER: Donald C. Bryan/David Curtis Bryan
 ROYALTY OWNER: Bryan Heirs
 UTM GPS NORTHING: 4246526.6
 UTM GPS EASTING: 423653.2 GPS ELEVATION: 711.28

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:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS ____ : Post Processed Differential ____

Real-Time Differential ____

Mapping Grade GPS ____ : Post Processed Differential ____

Real-Time Differential ____

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.

L.M. Bryan *Land Manager* *10/2/17*
 Signature Title Date

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10/20/2017