



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

April 22, 2014

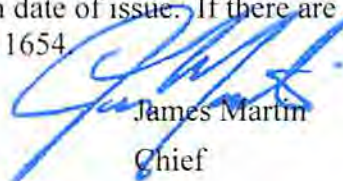
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-2100766, issued to EQT PRODUCTION COMPANY, 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: WV 654746 (HARDMAN # 1168)

Farm Name: HARDMAN, O. W. O.

API Well Number: 47-2100766

Permit Type: Plugging

Date Issued: 04/22/2014

Promoting a healthy environment.

04/25/2014

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)
Permit Copy
(Rev 2/01)

Date: 3-17-14
Operator's Well _____
Well No. 654746 (Hardman #1168)
API Well No.: 47 021 - 00766

STATE OF WEST VIRGINIA
DIVISION 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: _____
If Gas, Production X Or Underground storage _____ Deep _____ Shallow X

5) Elevation: 963' Watershed: Steer Run of Steer Creek of Little Kanawha River
Location: Center County: Gilmer Quadrangle: Normantown
District: _____

6) Well Operator EQT Production Company
120 Professional Place
Address: Bridgeport, WV 26330

7) Designated Agent: Rex C. Ray
Address: 120 Professional Place
Bridgeport, WV 26330

8) Oil & Gas Bryan Harris
Name: P.O. Box 157
Address: Volga, WV 26238

9) Plugging Contractor:
Name: HydroCarbon Well Service
Address: PO BOX 995
Buckhannon, WV 26201

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

See Attachment for details and procedures.

OFFICE USE ONLY

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

Work order approved by inspector

Bryson O. Harrison

Date 4-9-14

PLUGGING PROGNOSIS – Weston

Hardman #1168 (654746)

GILMER, County, WV
 API # 47-021-00766
 Center District

BY: Craig Duckworth
 DATE: 11/13/13

CURRENT STATUS:

10" csg @ none reported
 8 1/4" csg @ none reported
 6 5/8" csg @ none reported
 3" csg @ 1874' (Packer @ 1171')

TD @ 1856'

Fresh Water @ none reported **Salt Water @ none reported**
1st Salt Sand @ 920' **Coal @ none reported**
Gas shows @ 1220' & 1199'
Oil Shows @ none reported
Stimulation: none reported

1. Notify State Inspector, **Bryan Harris 304-553-6087**, 24 hrs. Prior to commencing operations.
2. Attempt to pull 3" & packer (1171'). If unable to pull 3" cut at top of packer @ 1171' and pull 3"
3. TIH w/ tbg @ 1171'; Set 300' CIA Cement Plug @ 1171 to 870' (gas show @ 1220' & 1199'; Salt Sand @ 920')
4. TOOH w/ tbg @ 870'; gel hole @ 870' to 670'.
5. TOOH w/ tbg @ 670'; Set 100' CIA Cement Plug @ 670' to 570'(Safety Plug)
6. TOOH w/ tbg @ 570'; gel hole @ 570' to 200'
7. TOOH w/ tbg @ 200'; Set 200' CIA Cement Plug @ 200' to 0 (Surface)
8. Top off as needed
9. Set Monument to WV-DEP Specifications
10. Reclaim Location & Road to WV-DEP Specifications

OK gma

Received

MAR 19 2014

Office of Oil and Gas
 WV Dept. of Environmental Protection

04/25/2014



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

2100766P

WELL RECORD

Permit No. 211-766P

Oil or Gas Well Gas
(KIND)

Company Carnegie Natural Gas Company
Address Pittsburgh, Pa.
Farm O. W. O. Hardman Acres 266
Location (waters) Steer Run
Well No. 2 - 1168 Elev. 951
District Center County Gilmer
The surface of tract is owned in fee by _____
Address _____
Mineral rights are owned by SEE BELOW
Address _____
Drilling commenced December 10, 1947
Drilling completed December 30, 1947
Date Shot _____ From _____ To _____
With _____
Open Flow _____ /10ths Water in _____ Inch
_____ /10ths Merc. in _____ Inch
Volume 84,000 Cu. Ft.
Rock Pressure _____ lbs. _____ hrs.
Oil _____ bbls., 1st 24 hrs.
Fresh water _____ feet _____ feet
Salt water _____ feet _____ feet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
18			Kind of Packer _____
13			Hookwall
10			Size of <u>3" x 8 1/4"</u>
8 1/4			Depth set <u>1171</u>
8 1/8			
5 3/16			
3	<u>1170</u>	<u>1170</u>	Perf. top _____
2			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
			Commenced drilling deeper at 1235'				
Sand	White	Hard		1260			2nd Salt Sand
Slate	Dark	Soft	1260	1377			
Sand	White	Hard	1377	1415			3rd Salt Sand
Slate	Light	Soft	1415	1450			
Lime	Light	Hard	1450	1519			
Sand	Light	Hard	1519	1545			
Slate	Dark	Soft	1545	1575			
Lime	Dark	Hard	1575	1595			
Sand	White	Hard	1595	1606			Maxon
Slate	Dark	Soft	1606	1628			
Lime	Light	Hard	1628	1645			
Slate	Dark	Soft	1645	1652			
Lime	Dark	Hard	1652	1672			Little Lime
Sand	White	Hard	1672	1690			Blue Monday
Shells	Dark	Med.	1690	1694			Pencil Cave
Lime	Light	Hard	1694	1765			Big Lime
Sand	White	Hard	1765	1853			Big Injun
Slate	Dark	Soft	1853				
			Total depth	1874			
OWNERS of MINERAL RIGHTS:							
XXXXXXXXXXXXXXXXXXXX							
Heirs of F. W. Moore, by Glen C. Moore, Atty-in-Fact, Glenville, W. Va. N. B. Piercy, 2006 Chesapeake St., Norfolk, Va. Benjamin Hardman, Middlebourne, W. Va. Ann H. Theiss, Middlebourne, W. Va. W. H. Theiss, Middlebourne, W. Va.							

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(Over)

2100766 P



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

WELL RECORD

Permit No. 766

WELL TO BE DRILLED DEEPER

Oil or Gas Well GAS

Company <u>CARNEGIE NATURAL GAS COMPANY</u>	Casing and Tubing	Used in Drilling	Left in Well	Packers
Address <u>1015 Frick Bldg., PITTSBURGH, PA.</u>				
Farm <u>O.W.O. HARDMAN</u> Acres <u>266</u>	Size			
Location (waters) <u>Steer Creek</u>				Kind of Packer
Well No. <u>1168</u> Elev. <u>951</u>	16			
District <u>CENTER</u> County <u>GILMER</u>	18			
The surface of tract is owned in fee by _____	10			Size of _____
Address _____	8 1/2			
Mineral rights are owned by <u>SEE BELOW</u>	6 1/2			Depth set _____
Address _____	5 3/16			
Drilling commenced <u>5-29-23</u>	3			Perf. top _____
Drilling completed <u>6-13-23</u>	2			Perf. bottom _____
Date Shot From _____ To _____	Liners Used			Perf. top _____
With _____				Perf. bottom _____
Open Flow /10ths Water in _____ Inch	CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____			
/10ths Merc. in _____ Inch	COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES			
Volume <u>1,530,000</u> Cu. Ft.	_____ FEET _____ INCHES _____ FEET _____ INCHES			
Rock Pressure _____ lbs. _____ hrs.	_____ FEET _____ INCHES _____ FEET _____ INCHES			
Oil _____ bbls., 1st 24 hrs.	_____ FEET _____ INCHES _____ FEET _____ INCHES			
Fresh water _____ feet _____ feet				
Salt water _____ feet _____ feet				

Formation	Color	Hard or Soft	Top	Bottom	Oil Gas or Water	Depth Found	Remarks
Little Dunkard			660	620			
lg Dunkard			680	750			
is Sand			775	870			
oil			870	875			
st Salt Sand			920	960			
st Salt Sand			1140		Gas	1199	
					Gas	1220-1230	
<u>OWNERS of MINERAL RIGHTS:</u>							
Heirs of F. W. Moore, by Glen C. Moore, Atty-in-Fact, Glenville, W. Va.							
N. B. Piercy, 2006 Chesapeake St., Norfolk, Va.							
Benjamin Hardman, Middlebourne, W. Va.							
Ann H. Theiss, Middlebourne, W. Va.							
W. H. Theiss, Middlebourne, W. Va.							



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MAR 19 2014

(Over)

WW-4-A
Revised 6/07

1) Date: 3-17-14
2) Operator's Well Number
654746 (Hardman #1168)
3) API Well No.: 47 021 - 00766
State County Permit

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL & GAS
NOTICE AND APPLICATION TO PLUG AND ABANDON WELL

4) Surface Owner(s) to be served:
(a) Name John Anthony Sherwood
Address 979 Madison Ave.
Painesville, OH 44077
(b) Name _____
Address _____
(c) Name _____
Address _____
6) Inspector Bryan Harris
Address P.O. Box 157
Volga, WV 26238
Telephone 304-553-6087

5) (a) Coal Operator:
Name None
Address _____
(b) Coal Owner(s) with Declaration
Name John D. Piercy
Address 9005 Southwestern Blvd
Suffolk, VA 23437-9097
Name Margaret Ann Conaway-Torok
Address 9290 Highland Dr.
Brecksville, OH 44141-2606
(See attached)
(c) Coal Lessee with Declaration
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 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 Division 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:
By Nicholas L. Bumgardner
Notary Public
Rt. 1, Box 4
Liberty, WV 25124
My Commission Expires July 27, 2018

EQT Production Company
Victoria J. Roark
Permitting Supervisor
PO Box 280
Bridgeport, WV 26330
(304) 848-0076

Subscribed and sworn before me this 17 day of MARCH, 2014
Nicholas L. Bumgardner Notary Public
My Commission Expires: 6/27/2018

The Office of Oil & Gas processes your personal information, such as name, address and phone number, as 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 depprivacyofficer@wv.gov

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MAR 19 2014

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL & GAS
CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name: EQT PRODUCTION COMPANY OP ID: _____
Watershed: Steer Run of Steer Creek of Little Kanawha River Quadrangle: Normantown
Elevation: 963' County: Gilmer District: Center

Description of anticipated Pit Waste: Formation Fluids

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes ___ No X
Will synthetic liner be used in the pit? Yes Is so, what ml.? 30 ml

Proposed Disposal Method for Treated Pit Wastes:
 Land Application
 Underground Injection - UIC Permit Number _____
 Reuse (at API Number) _____
 Offsite Disposal Permit #. _____
 Other: Explain _____

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. _____
If oil based, what type? Synthetic, petroleum, etc. _____
Additives to be used? _____

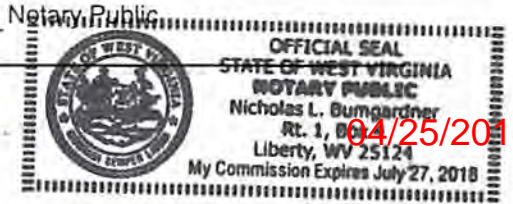
Will closed loop system be used? _____
Drill Cuttings disposal method? Leave in pit, landfill, remove offsite, etc. _____
If left in pit and plan to solidify what medium will be used? Cement, Lime, sawdust _____
Landfill or offsite name/permit number? _____

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Division of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any terms 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 _____
Company Official (Typed or Printed) Victoria Roark
Company Official Title Permitting Supervisor-WV

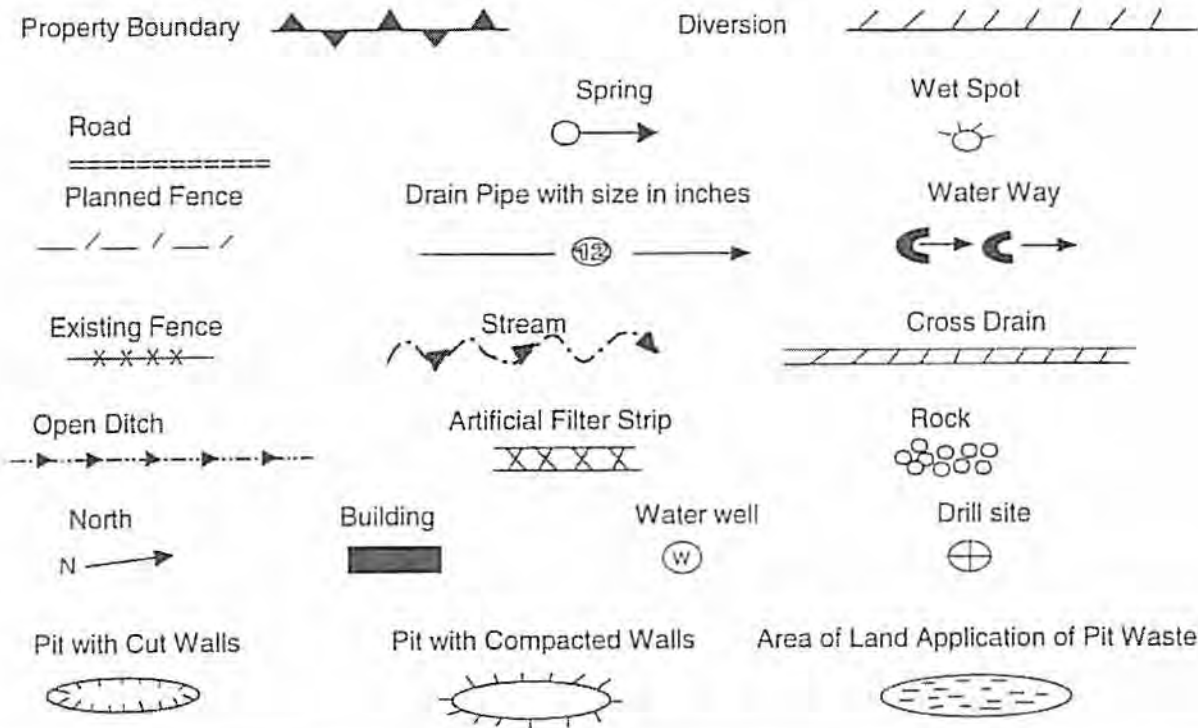
Subscribed and sworn before me this 17 day of MARCH, 2014 Office of Oil and Gas
WV Dept. of Environmental Protection

My Commission Expires 6/27/2018



OPERATOR'S WELL NO.:
654746 (Hardman #1168)

LEGEND



Proposed Revegetation Treatment: Acres Disturbed: 1± Prevegetation pH 5.8
 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 2 Tons/acre or hydroseed.

SEED MIXTURES

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	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.
 Photocopies section of involved 7.5' topographic sheet.

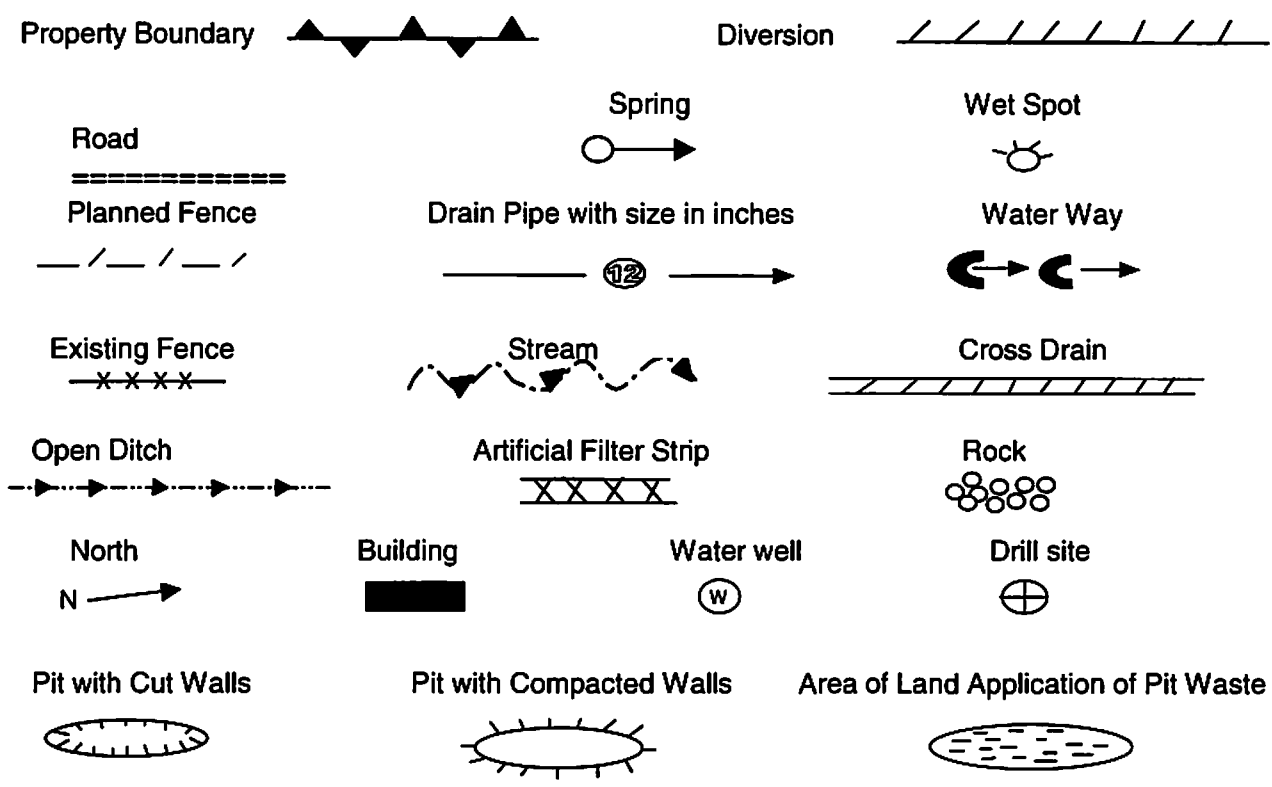
Plan approved by: Debra O'Hara

Comments: _____

Title: Inspector Date: 4-9-14
 Field Reviewed? Yes No

OPERATOR'S WELL NO.:
654746 (Hardman #1168)

LEGEND



Proposed Revegetation Treatment: Acres Disturbed: 1± Prevegetation pH 5.8
 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 2 Tons/acre or hydroseed.

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Seed Type	lbs/acre	Seed Type	lbs/acre
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Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

ATTACH:
 Drawing(s) of road, location, pit and proposed area for land application.
 Photocopies section of involved 7.5' topographic sheet.

Received

Plan approved by: _____

MAR 19 2014

Comments: _____

Title: _____ Date: _____
 Field Reviewed? Yes No Office of Oil and Gas
WV Dept. of Environmental Protection

Topo Quad: Normantown 7.5'

Scale: 1" = 2000'

County: Gilmer

Date: February 14, 2014

District: Center

Project No: 25-19-00-07

47-021-00766 WV 654746 (Hardman #1168)

Topo



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.

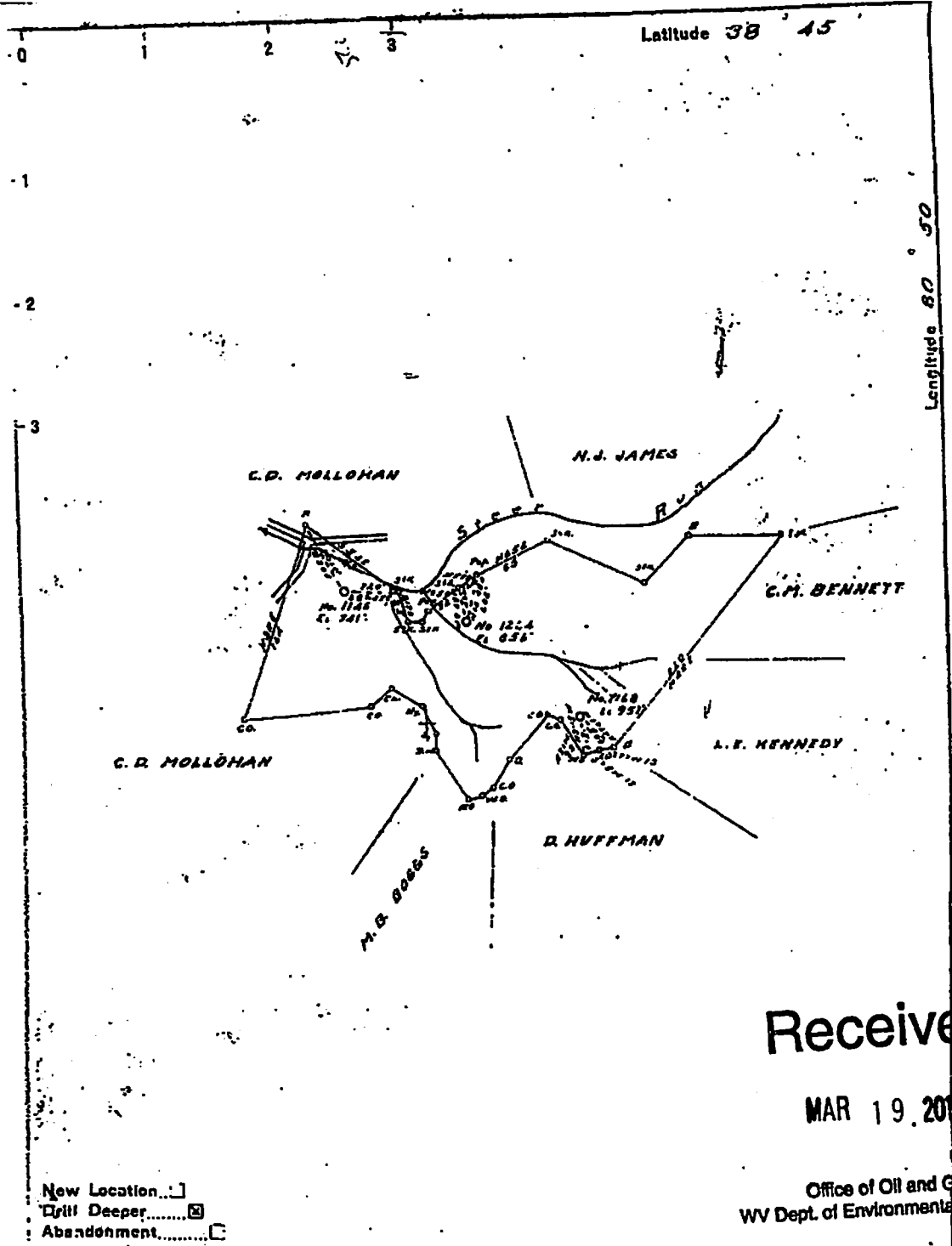
1-800-482-8606
P.O. BOX 438
BIRCH RIVER, WV 26610
PH: (304) 649-8606
FAX: (304) 649-8608

PREPARED FOR:

EQT Production Company

P.O. Box 280
Bridgeport, WV 26330

04/25/2014



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Office of Oil and Gas
WV Dept. of Environmental Protection

New Location

Drill Deeper

Abandonment

Company CARNEGIE NATURAL GAS

Address PITTSBURGH, PA.

Farm O.W.D. HARDMAN

Tract _____ Acres 2.66 Lease No. E10883-19

Well (Farm) No. _____ Serial No. E-1168

Elevation (Spirit Level) 951'

Quadrangle GLENVILLE SW

County GILMER District CENTER

Engineer R.I. SWEENEY

Engineer's Registration No. _____

File No. _____ Drawing No. _____

Date 12-21-48 Scale 1"=100'

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

WELL LOCATION MAP
FILE NO. GIL-766-D ✓

+ 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 tracing.

105C1



POTENTIAL WATER SAMPLE DATA SHEET

CLIENT: EQT PRODUCTION COMPANY
 LEASE NAME AND WELL No. Hardman #1168 - WV 654746 - API No. 47-021-00766

POTENTIAL SAMPLE LOCATIONS

There appears to be no known water samples within the required 1000' of the existing well WV 654746.

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Office of Oil and Gas
 WV Dept. of Environmental Protection

BIRCH RIVER OFFICE
 P.O. Box 438 • 237 Birch River Road
 Birch River, WV 26610
phone: 304-649-8606
fax: 304-649-8608

BRIDGEPORT OFFICE
 172 Thompson Drive
 Bridgeport, WV 26330
phone: 304-848-5035
fax: 304-848-5037

CALDWELL OFFICE
 212 Cumberland Street
 Caldwell, OH 43724
phone: 740-305-5007
fax: 740-305-5126

ALUM CREEK OFFICE
 P.O. Box 108 • 1413 Childress Road
 Alum Creek, WV 25003
phone: 304-756-2949
fax: 304-756-2948

2100766P

Topo Quad: Normantown 7.5'

Scale: 1" = 2000'

County: Gilmer

Date: February 14, 2014

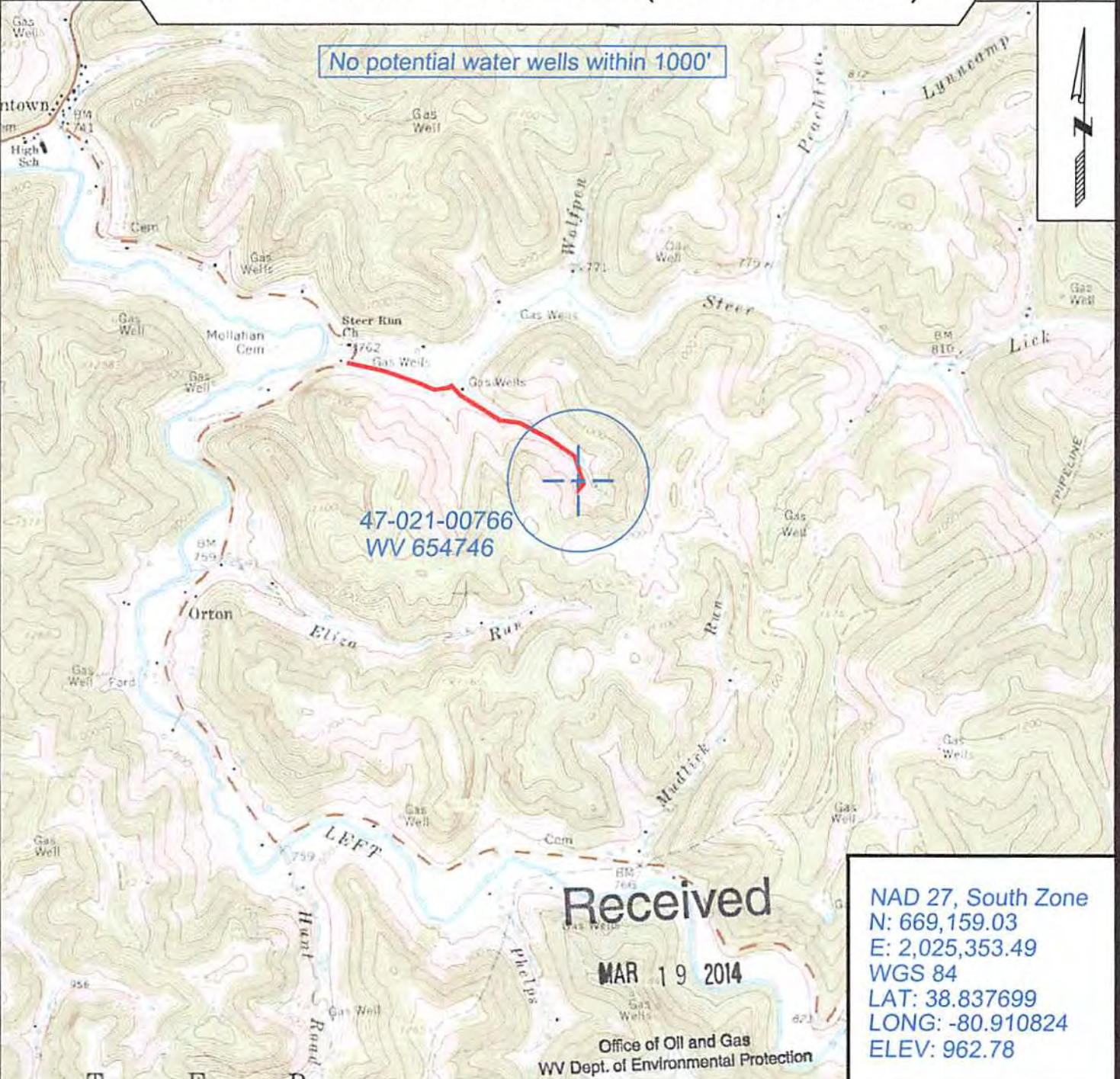
District: Center

Project No: 25-19-00-07

Water

47-021-00766 WV 654746 (Hardman #1168)

No potential water wells within 1000'



47-021-00766
WV 654746

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MAR 19 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

NAD 27, South Zone
N: 669,159.03
E: 2,025,353.49
WGS 84
LAT: 38.837699
LONG: -80.910824
ELEV: 962.78



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
1-800-482-8606
P.O. BOX 438
BIRCH RIVER, WV 26610
PH: (304) 649-8606
FAX: (304) 649-8608

PREPARED FOR:
EQT Production Company
P.O. Box 280
Bridgeport, WV 26330

04/25/2014

Date: 3-17-14
Operator's Well _____
Well No. 654746 (Hardman #1168)
API Well No.: 47 021 - 00766

*CK17273
100008*

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

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If Gas, Production _____ X Or Underground storage _____ Deep _____ Shallow X

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Location: Center County: Gilmer Quadrangle: Normantown *514*
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**Office of Oil and Gas
WV Dept. of Environmental Protection**

OFFICE USE ONLY

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Work order approved by inspector _____

Date _____