



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

November 17, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-3901826, 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: HARDY A-5-1360

Farm Name: HARDY, WALLER C., JR.

API Well Number: 47-3901826

Permit Type: Plugging

Date Issued: 11/17/2015

Promoting a healthy environment.

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: October 19, 2015
Operator's Well
Well No. 127511 (Hardy A-5-1360)
API Well No.: 47 039 - 01826

CK 19898
100⁰⁰

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: 727 ft. Watershed: Davis Creek
Location: Loudon County: Kanawha Quadrangle: Charleston West 7.5
District:

6) Well Operator EQT Production Company 7) Designated Agent: Rex C. Ray
120 Professional Place Address: 120 Professional Place
Address: Bridgeport, WV 26330 Address: Bridgeport, WV 26330

8) Oil & Gas Terry Urban 9) Plugging Contractor:
Name: P. O. Box 1207 Name: HydroCarbon Well Service
Address: Clendenin, WV 25045 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.

SEE NEXT PAGES sheet

Received

OCT 26 2015

Office of Oil and Gas
WV Dept. of Environmental Protection

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

[Handwritten Signature]

Date 10-26-15

W.Hardy #5
127511
District, Loudon
Kanawha Co. WV
API # 47-039-01826
BY: R. Green
DATE: 09/9/15

CURRENT STATUS:

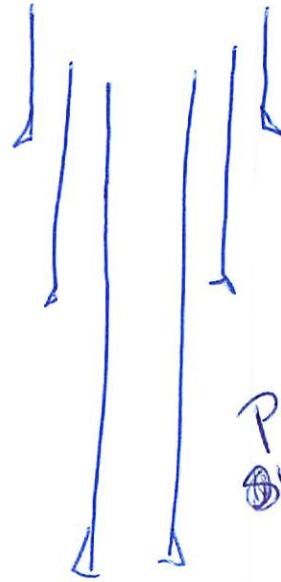
Elevation @ 728'
TD at 1676'
8 1/4" csg @ 25'
7" csg @ 285'
5 3/16" csg @ 1246'
Fresh Water @ 50'
Coal, @ 62' to 64' & 290' to 292'
Saltwater @ 350'
Gas shows @ 356', 1300' to 1315', 1381' to 1393', 1496', & 1575'

Cover with Cement
- Cover all Gas Shows with Cement

1. Notify State Inspector, Terry Urban, 304-549-5915, 24 hrs. prior to commencing operations.
2. TIH tbg to 1650', set 450' C1A cement plug, 1650' to 1200', (gas shows and 5" casing seat). -OK
3. TOOH tbg to 1200', gel hole 1200' to 1000', TOOH tbg.
4. Free point and cut 5" casing (EST @ 1000') TOOH casing.
5. Set 100' C1A cement plug 50' in/out of casing cut. Perforate all saltwater, freshwater, coal, oil and gas shows below cut. Do not omit any plugs.
6. TOOH tbg to 950', gel hole 950' to 775'.
7. TOOH tbg to 775', set 100' C1A cement plug 775' to 675', (Elevation).
8. TOOH tbg to 675', gel hole 675' to 400'.
9. TOOH tbg to 400' set 200' C1A cement plug 400' to 200' (Gas show, saltwater, coal, and 7" casing seat). TOOH tbg.
10. Free point and cut 7" casing (EST @ 150'). TOOH casing.
11. Set 200' C1A cement plug, 50' inside casing cut to surface, perforate all freshwater, saltwater, coal, oil and gas shows below cut. Do not omit any plugs. (Coal, freshwater, & 8" casing seat).
12. Erect monument wit API#.
13. Reclaim location and road to WV-DEP specifications.

*Operator will cover shows
oil oil & Gas shows
Coal & Elevation with Cement
Including Casing cuts & plugs*

*Andrew Miller
10-26-15*



*Producing
@ well, lunch
1660-1163A*

Received

OCT 26 2015

127511

OC 10



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 4

Quadrangle Chas. 8 SW
Permit No. Kan-1826

WELL RECORD

Oil or Gas Well gas
(KIND)

Company Columbian Carbon Company
Address Box 873, Charleston 23, W. Va.
Farm Waller C. Hardy, Jr., et al Acres 9707.19
Location (waters) Davis Creek
Well No. 5- GW-1360 Elev. 728.74'G
District Loudon County Kanawha
The surface of tract is owned in fee by Department of Natural Resources
State Capitol Bldg. Address Charleston 5, W. Va.
Mineral rights are owned by W. C. Hardy, Jr., et al
P. O. Box 350 Address Parkersburg, W. Va.
(for further add. contact C. C. C.)
Drilling commenced 3-29-62
Drilling completed 5-8-62
Date Shot 5-9-62 From 1676' To 1398'
With 2,000# 80% Gelatin
Open Flow /10ths Water in _____ Inch
/10ths Merc. in _____ Inch
Volume _____ show _____ Cu. Ft.
Rock Pressure _____ lbs. _____ hrs.
Oil _____ bbls., 1st 24 hrs.
WELL ACIDIZED see reverse side
WELL FRACTURED see reverse side

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer _____
10			<u>none</u>
13			Size of _____
10	8 1/4" 24#	25'4"	25'4"
8 1/4"	7" 23#	284'11"	284'11"
7"	6 3/8" 14#	1246'4"	1246'4"
6 3/8"			Depth set _____
3			Perf. top _____
2 3/8" 4#	1423'8"	1423'8"	Perf. bottom _____
Liners Used <u>w/ 2" cage</u>			Perf. top _____
			Perf. bottom _____

CASING CEMENTFD _____ SIZE _____ No. Ft. _____ Date _____
see reverse side
COAL WAS ENCOUNTERED AT 62 FEET 24 INCHES
290 FEET 24 INCHES _____ FEET _____ INCHES
_____ FEET _____ INCHES _____ FEET _____ INCHES

RESULT AFTER TREATMENT 39/10 W. 2" = 263MCF-all gas (Big Lime, Big Injun and Weir)
ROCK PRESSURE AFTER TREATMENT 96 hours 360#
Fresh Water 50' Feet Salt Water 350' Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Soil			0	25			
Sand			25	50	F. water	50'	hole full
Slate			50	62			
Coal			62	64			
Slate			64	100			
Sand			100	190			
Slate			190	280			
Gritty Lime			280	290			
Coal			290	292			
Sand			292	485	S. water	350'	hole full
Slate			485	541	Gas	356'	show
Sand			541	660			
Slate			660	671			
Sand			671	750			
Slate			750	775			
Lime			775	815			
Sand			815	1040			
Lime			1040	1096			
Sand			1096	1124			
Lime			1124	1160			
Big Lime			1160	1395	Gas	1300-10'	show
Big Injun			1395	1425	Gas	1310-15'	12/10 W. 1"37M
Slate and Shells			1425	1676			Exh.
Total Depth				1676'	Gas	1381-93'incr. fm. show to	
Sample Analysis on reverse side					Gas	1496' incr. fm. 10/10 W. 1" - 33M	
					Gas	1575' incr. fm. 84M to 94M	



Office of Oil and Gas

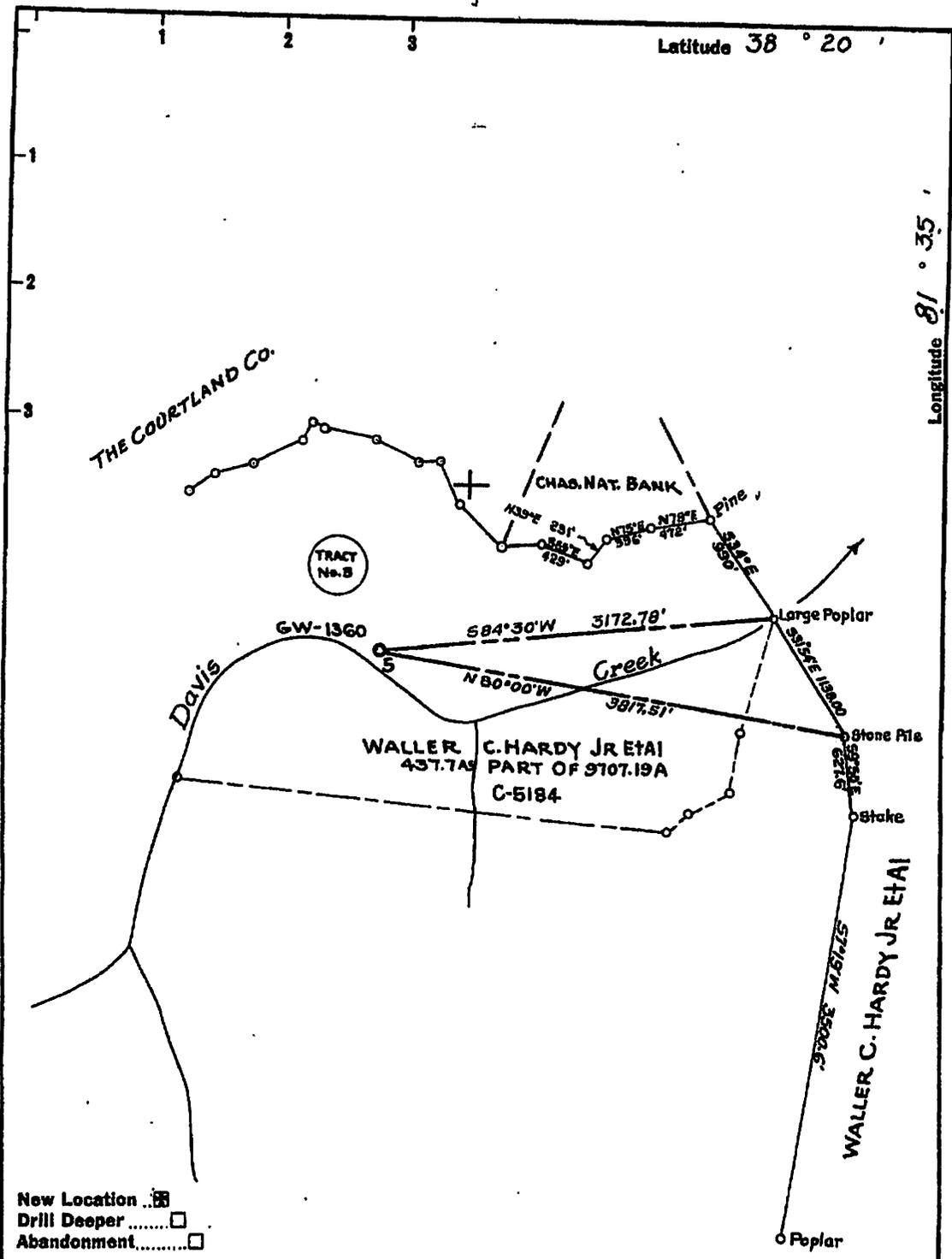
OCT 22 2015

WV Department of Environmental Protection

(over)

Formation	Color	Hard or Soft	Top 4	Bottom	Oil, Gas or Water	Depth Found	Remarks
Samples show:							
Big Lime			1163	1398			
Keener Sand			1398	1422			
Big Injun			1450	1520			
Weir			1623	1660			
<u>CASING RECORD</u>							
3-31-62 Ran 7" casing at 282'DLM with shoe - set in 10' red mud.							
4-17-62 Ran 5-1/2" casing with shoe 1237'DLM - set in 22' red mud. Water broke in. Picked up casing and dumped 5 sacks cement - set casing in cement.							
<u>FRACTURED BIG INJUN 5-1-62</u>							
Show of gas in tubing before fracturing. Pumped in 500 gallons MCA-soaked. Broke down at 2500#. Started sand 1/2#/gallon - increased to 2-1/4#/gallons at end. Pressure 2400# maximum - 1800# average. Time 7 minutes. Flushed with 12 bbls. water. Used 1/2 drum TMN - 1/2 drum T-08, 365 bbls. water, 24,000# sand. 10 minutes after shut down 1200#. Average injection rate 14 bbls/minute. Pulled packer to 1251' and reset.							
<u>ACIDIZED BIG LIME 5-1-62</u>							
Acidized with 3,000 gallons acid. Flushed with 20 bbls. water. Maximum pressure 1375#. Left shut in 30 minutes - opened well - flowed back acid. Pulled tubing and drilled thru Weir.							
<u>SHOT WEIR AND BIG INJUN 5-9-62</u>							
Shot from 1676' to 1398' with 2,000# 80% Atlas Gelatin. Shot not tamped - set off with jack. Bailer went to 1,419'							
5-11-62 Ran 2" siphon string to 1,419'							
Final open flow 39/10 W. 2" = 263MCF all gas (Big Lime, Big Injun & Weir)							

Date May 24, 1962 RECEIVED
 APPROVED W. S. Moore **Office of Oil and Gas**
 By W. S. Moore, Mgr. of Prod.
 OCT 22 2015



New Location
 Drill Deeper
 Abandonment

Company **COLUMBIAN CARBON COMPANY**
 Address **BOX 873 CHARLESTON W.VA.**
 Farm **WALLER C. HARDY JR ET AL**
 Tract **3** Acres **437.74** Lease No. **C-5184**
 Well (Farm) No. **5** Serial No. **GW-1360**
 Elevation (Spirit Level) **728.74'**
 Quadrangle **CHARLESTON B 5-373 W-380**
 County **KANAWHA** District **LOUDON**
 Engineer **R. B. Anderson**
 Engineer's Registration No. **2074**
 File No. _____ Drawing No. **W-2-62**
 Date **JAN 12-1962** Scale. **1" = 1000'**

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

WELL LOCATION MAP
 FILE NO. **KAN-1826**

+ 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 between lines of original tracing.

RECEIVED
 Office of Oil and Gas
 OCT 22 2015
 WV Department of Environmental Protection

WW-4-A
Revised 6/07

- 1) Date: October 19, 2015
- 2) Operator's Well Number
127511 (Hardy A-5-1360)
- 3) API Well No.: 47 039 - 01826
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**

<p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>WV Dept. of Natural Resources</u> Address <u>Kanawha State Forest</u> <u>7500 Kanawha State Forest Drive</u> <u>Charleston, WV 25314</u></p> <p>(b) Name _____ Address _____</p> <p>(c) Name _____ Address _____</p> <p>6) Inspector <u>Terry Urban</u> Address <u>P. O. Box 1207</u> <u>Clendenin, WV 25045</u> Telephone <u>(304) 549-5915</u></p>	<p>5) (a) Coal Operator: Name <u>None</u> Address _____</p> <p>(b) Coal Owner(s) with Declaration Name <u>Hardy Oil & Gas LLC</u> <u>and PFR WV Holdings LLC</u> Address <u>C/O Bank of America, NA</u> <u>P. O. Box 844143</u> <u>Dallas, TX 75284-4143</u></p> <p>(c) Coal Lessee with Declaration Name <u>None</u> Address _____</p>
--	---

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.



OFFICIAL SEAL Well Operator:
STATE OF WEST VIRGINIA
NOTARY PUBLIC
By: Misty S. Christie
Address: 1207 Brierclyff Rd
Bridgeport, WV 26330
Telephone: _____
My Commission Expires: February 26, 2018

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

Subscribed and sworn before me this 20th day of October, 2015
Misty S. Christie Notary Public
My Commission Expires: 2/26/18



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.

WW-9
Revised 2/03

Page _____ of _____
2) Operator's Well Number
127511 (Hardy A-5-1360)
3) API Well No.: 47 039 - 01826

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: Davis Creek Quadrangle: Charleston West 7.5
Elevation: 727 ft. County: Kanawha District: Loudon

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.? 10 ml 20 ml

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

(Handwritten: TW 10-26-15)

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

Additives to be used? _____

Received

Will closed loop system be used? _____
Drill Cuttings disposal method? Leave in pit, landfill, remove offsite, etc. _____

OCT 26 2015

If left in pit and plan to solidify what medium will be used? Cement, Lime, sawdust _____
Landfill or offsite name/permit number? _____

Office of Oil and Gas
WV Dept. of Environmental Protection

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.

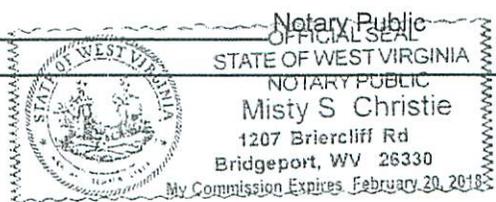
Company Official Signature *Victoria Roark*

Company Official (Typed or Printed) Victoria Roark

Company Official Title Permitting Supervisor-WV

Subscribed and sworn before me this 20th day of October, 2015

Misty S. Christie
My Commission Expires 2/20/18



OPERATOR'S WELL NO.:
127511 (Hardy A-5-1360)

LEGEND

Property Boundary		Diversion	
Road		Spring	
Planned Fence		Drain Pipe with size in inches	
Existing Fence		Stream	
Open Ditch		Artificial Filter Strip	
North		Building	
Pit with Cut Walls		Water well	
		Drill site	
		Pit with Compacted Walls	
		Area of Land Application of Pit Waste	
		Wet Spot	
		Water Way	
		Cross Drain	
		Rock	

Proposed Revegetation Treatment: Acres Disturbed: 1± Prevegetation pH

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
Red Fescue	40	Red Fescue	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:

Comments: _____

Title: Field Trip Details Date: _____
Field Reviewed? Yes No

Received

OCT 26 2015

Office of Oil and Gas
Dept. of Environmental Protection

Topo Quad: Charleston West 7.5'

Scale: 1" = 2000'

County: Kanawha

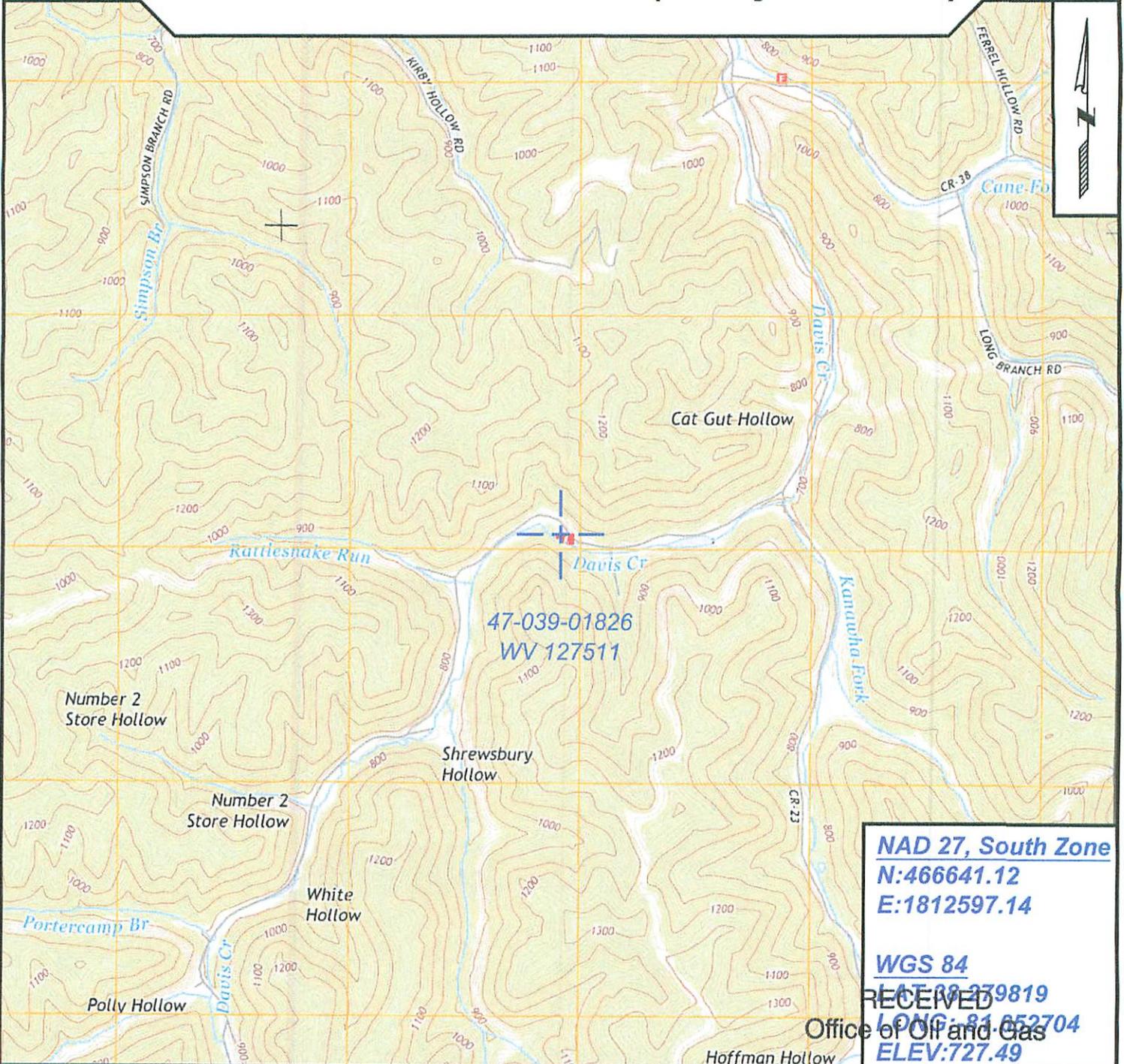
Date: September 14, 2015

District: Loudon

Project No: 52-14-00-07

47-039-01826 WV 127511 (Hardy A-5-1360)

Topo



NAD 27, South Zone
N:466641.12
E:1812597.14

WGS 84
Lat: 38.979819
Long: 81.852704
Elev: 727.49

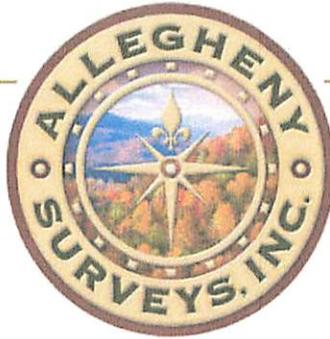
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Office of Oil and Gas



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
 1-800-482-8606
 237 Birch River Road
 Birch River, WV 26610
 PH: (304) 649-8606
 FAX: (304) 649-8608

PREPARED FOR: **OCT 22 2015**
EQT Production Company
 WV Department of Environmental Protection
 P.O. Box 280
 Bridgeport, WV 26630



POTENTIAL WATER SAMPLE DATA SHEET

CLIENT: EQT PRODUCTION COMPANY
LEASE NAME AND WELL No. Hardy A-5-1360 - WV 127511 - API No. 47-039-01826

POTENTIAL SAMPLE LOCATIONS

There appears to be no known water samples within the required 1000' of the existing well WV 127511.

BIRCH RIVER OFFICE
 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

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

RANSON OFFICE
 400 North Main Street, Suite 3
 Ranson, WV 25438
phone: 304-724-5008

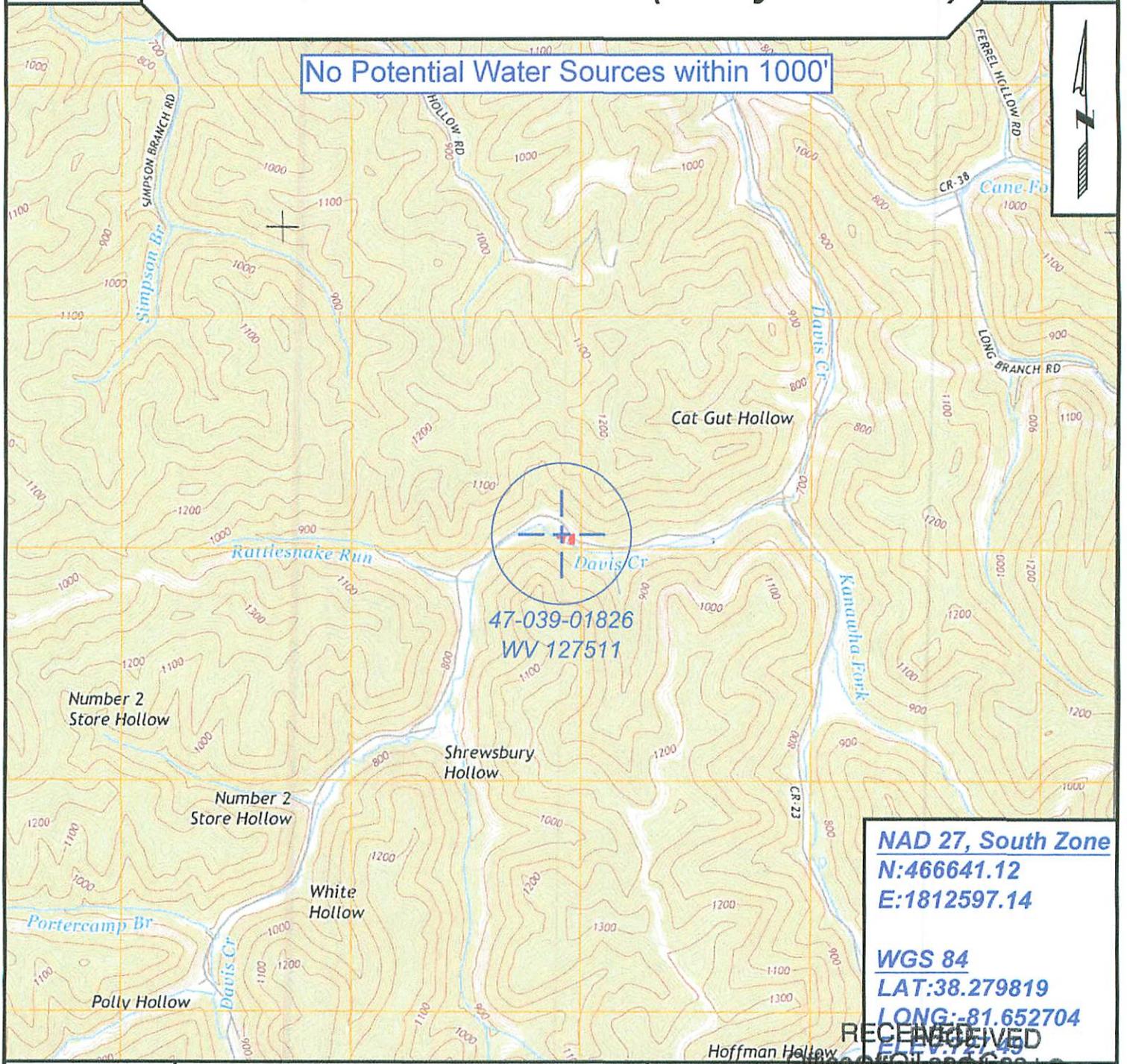
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Office of Oil and Gas
 OCT 22 2015
WV Department of
Environmental Protection

Topo Quad: Charleston West 7.5' Scale: 1" = 2000'
 County: Kanawha Date: September 14, 2015
 District: Loudon Project No: 52-14-00-07

Water

47-039-01826 WV 127511 (Hardy A-5-1360)

No Potential Water Sources within 1000'



NAD 27, South Zone
N:466641.12
E:1812597.14
WGS 84
LAT:38.279819
LONG:-81.652704

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 Office of Oil and Gas



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
 1-800-482-8606
 237 Birch River Road
 Birch River, WV 26610
 PH: (304) 649-8606
 FAX: (304) 649-8608

PREPARED FOR:
EQT Production Company
 OCT 8 2015
 P.O. Box 280
 W. Va. Dept. of Environmental Protection

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47-039-01826 WELL NO.: WV 127511 (Hardy A-5-1360)

FARM NAME: Waller C. Hardy, Jr., et al.

RESPONSIBLE PARTY NAME: EQT Production Company

COUNTY: Kanawha DISTRICT: Loudon

QUADRANGLE: Charleston West 7.5'

SURFACE OWNER: WV DNR, Kanawha State Forest

ROYALTY OWNER: Hardy Oil & Gas LLC, et al.

UTM GPS NORTHING: 4237064

UTM GPS EASTING: 442913 GPS ELEVATION: 222 m (727 ft)

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 X: Post Processed Differential X
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.

Stacy Osborn
Signature

PS# 2180
Title

9/30/15
Date