



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

September 06, 2013

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-3901963, 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-11-1467) WV 127561
Farm Name: HARDY, WALLER & CHARLOTTI
API Well Number: 47-3901963
Permit Type: Plugging
Date Issued: 09/06/2013

Plugging Prognosis

Hardy A-11 (127561)**API # 47-039-01963**~~Gilmer Co.~~ Kanawha Co.

Racine, Quad

Prepared by Doug Fry 10/29/2012

Current Status;

10 3/4" @ 29'

8 1/4" @ 452'

7" @ 1401' Pulled

4 1/2" @ 1627' EST TOC @ 1432'

T.D. 1627'

FW @ 731'-742'-748'-752' Coal @ 55'-58'-229'-231'-320'-325' Salt Sand top @ EST 1,000'

Gas Shows @ Gray Lime and Big Injun shows from 1538'-1576' Oil Shows @ Sandy Lime (1245'-1347')

Completion; Fractured Big Injun, Perfed @ 1562'-1576'

- 1) Notify State Inspector Terry Urban @ (M) 304-549-5915, 24 hrs prior to commencing operations.
- 2) TOOH w/ 2" tubing @ 1615', Packer @ 1550', check tubing condition.
- 3) TIH w/ 2" tubing @ 1600', set 200' C1A cement plug @ 1600' to 1400'. (Big Injun Perfs).
- 4) TOOH w/ tubing @ 1400', Gel Hole @ 1400' to 1245'.
- 5) TOOH w/ 2" tubing, Free point 4 1/2" csg, Cut 4 1/2" csg @ free point, TOOH w/ 4 1/2" csg unless casing is needed to stay in the hole to stabilize while setting any bottom hole plugs and then pull 4 1/2" csg.
- 6) Set 100' C1A cement plug 50' In/Out of cut. Perf all Coal, Gas, Salt Sand top and Oil & FW shows below 4 1/2" cut do not omit any plugs shown below.
- 7) TIH w/ tubing @ 1245', set 100' C1A cement plug @ 1,245' to 1,145'. (Sandy Lime Oil show)
- 8) TOOH w/ tubing @ 1,145', Gel Hole @ 1,145' to 1000'.
- 9) TOOH w/ tubing @ 1000', set 100' C1A cement plug @ 1000' to 900'. (EST Salt Sand Top).
- 10) TOOH w/ tubing @ 900', Gel Hole @ 900' to 805'.
- 11) TOOH w/ tubing @ 805', set 174' C1A cement plug @ 805' to 631'. (FW shows).
- 12) TOOH w/ tubing @ 631', Gel Hole @ 631' to 505'.
- 13) TOOH w/ tubing @ 505', set 105' C1A cement plug @ 505' to 400'. (8 1/4" csg pt).
- 14) TOOH w/ 2" tubing, Free point 8 1/4" csg, Cut 8 1/4" csg @ free point, TOOH w/ 8 1/4" csg unless casing is needed to stay in the hole to stabilize while setting any bottom hole plugs and then pull 8 1/4" csg.
- 15) Set 100' C1A cement plug 50' In/Out of cut. Perf all Coal, Gas, Salt Sand top and Oil & FW shows below 4 1/2" cut do not omit any plugs shown below.
- 16) TIH w/ 2" tubing @ 400', set 400' C1A cement plug @ 400' to Surface'. (3 coal shows).
- 17) TOOH w/ tubing @ 325', set 325' C1A cement plug @ 325' to Surface.. (8 5/8" csg st).
- 18) Top off as needed.
- 19) Set Monument to WV - DEP Specifications
- 20) Reclaim Location & Roads to WV-DEP Specifications.


 8-19-12
Received
 AUG 20 2013
 Office of Oil and Gas
 WV Dept. of Environmental Protection
 09/06/2013

Form OG-18



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

Quadrangle Peytona 2 SW
Permit No. Kan-1963

WELL RECORD

Oil or Gas Well gas
(KIND)

Company Cities Service Oil Company
Address P. O. Box 873, Charleston 23, W. Va.
Farm Waller C. Hardy, Jr., et al Acres 9707.19
Location (waters) Brier Creek
Well No. 11 - GW-1467 Elev. 1044.80'
District Washington County Kanawha
The surface of tract is owned in fee by W. Va. Dep't of Natural Resources
Room 636 Capitol Building Address Chas. 5, W. Va.
Mineral rights are owned by W. C. Hardy, Jr., et al
5100 2nd Avenue Address Vienna, W. Va.
Drilling commenced 8-17-63
Drilling completed 9-19-63
Date Shot not shot From _____ To _____
With _____

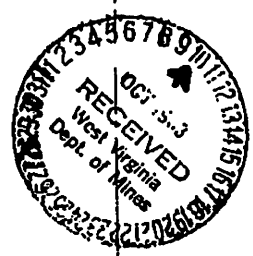
Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
18			Kind of Packer _____
13			<u>Anchor Packer</u>
10 <u>3/4" 32#</u>	<u>29'</u>	<u>29'</u>	Size of <u>4-1/2"</u>
8 <u>1/2" 24#</u>	<u>452'</u>	<u>452'</u>	
7 <u>1/2" 23#</u>	<u>1401'</u>	<u>pulled</u>	Depth set <u>1550'</u>
5 <u>1/2" 9.5#</u>	<u>1627'</u>	<u>1627'</u>	
3			Perf. top _____
<u>3/8" 4#</u>	<u>1615'</u>	<u>1615'</u>	Perf. bottom _____
Liners Used <u>w/ sand jet at 1605'</u>			Perf. top _____
			Perf. bottom _____

Open Flow /10ths Water in _____ Inch
/10ths Merc. in _____ Inch
Volume show _____ Cu. Ft.
Rock Pressure _____ lbs. _____ hra.
Oil _____ bbls., 1st 24 hra.
WELL ACIDIZED not acidized
WELL FRACTURED see reverse side

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
see reverse side
COAL WAS ENCOUNTERED AT 55 FEET 36 INCHES
229 FEET 24 INCHES 320 FEET 60 INCHES
_____ FEET _____ INCHES _____ FEET _____ INCHES

RESULT AFTER TREATMENT 9/10 M. 2" = 467MCF (Big Injun)
ROCK PRESSURE AFTER TREATMENT 25 hours 353#
Fresh Water 731-42' Feet Salt Water _____ Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Soil			0	10			
Sand			10	20			
Slate			20	55			
Coal			55	58			
Sand			58	90			
Slate			90	207			
Sandy Lime			207	229			
Coal			229	231			
Sand and Lime			231	258			
Sand			258	274			
Slate			274	320			
Coal			320	325			
Lime			325	329			
Broken Sand			329	385			
Slate and Shells			385	405			
Sand			405	481			
Slate			481	490			
Sand			490	544			
Slate			544	597			
Sand			597	820	F. water	731-42'	
Slate			820	841	F. water	748-52'	
Sand			841	923			
Sandy Lime			923	931			
Sand			931	1062			
Sandy Shale			1062	1140			
Sand			1140	1191			
Sandy Shale			1191	1245			



Received

AUG 19 2013

Office of Oil and Gas
West Virginia Dept. of Environmental Protection
12 1/2 bbls/hr.
hole full

(over)

Formation	Color	Hard or Soft	Top ♂	Bottom	Oil, Gas or Water	Depth Found	Remarks
Sandy Lime			1245	1347	Oil	1247-50'	show
Gray Lime			1347	1544			
Big Injun Sand			1544	1576			
Slate and Shells			1576	1612'DLM			
Schlumberger showed Berea	1537-1578'			1617' Schl. Meas.	Schl. Log showed: Gas	1500' 1538-64'	show show
Total depth	-----			1617' Schl. Meas.			
Plugged back depth	-----			1604'			
CASING RECORD							
8-24-63	Ran 8-5/8" casing with shoe at 450'DLM.						
9-12-63	Ran 7" casing at 1,385'DLM with shoe, R/L nipple 2 joints off bottom - set in 20' red mud. Pulled.						
9-20-63	Ran 4-1/2" casing at total depth with steel shoe set at 1,617' Schlumberger measurement. Anchor packer set at 1550' - float insert in top of packer. Centralizers on 1st and 4th joints - R/L nipple at 1,393'. Cemented with 24 sacks-displaced with 5 barrels water. Plug went to float insert.						
	Ran Schlumberger Logs: Induction, Gamma Ray, Temperature and Calliper.						
9-26-63	Perforated: 1562-75' 2 shots/foot (Big Injun)						
FRACTURED THE BIG INJUN 9-27-63							
Breakdown pressure 1,800#. Average pressure 2,100#. Injection rate 24 bbls/minute. Used 28,000# 20-40 sand, 500 gallons MCA, 2,000 gallons 15% acid, 150,000 SCF Nitrogen and 18,690 gallons water.							
Final open flow 10-4-63 9/10 M. 2" = 467 MCF							

Received

APR 19 1963
Office of Oil and Gas
WV Dept. of Environmental Protection

Date October 8, 19 63

APPROVED Cities Service Oil Company, Owner
By W. S. Moore, Division Sup't
(Title)

3901963A

Cities Service Oil Company
Daily Drilling Report
November 9, 1976

Miscellaneous Information

Charleston

GW-1467, Hardy "A" #11

(PBSD 1604', 4½" at 1617', Big Injun Perf 1562-75')
Ran 2-3/8" 4.7# EUE 8 Rd A Grade tubing with Baker Model C Retrievable B.P. and Model C full bore cement packer. Set B.P. at 1586' and packer at 1552', treated Big Injun 1562-75 with 500 gals. of HF acid down tubing. Displaced with 7 bbls. 2% KCl water. Max. pressure 900# min. pressure 0#, ISIP Vac. AIR 2 BPM. Unseated packer and picked up B.P. Reset B.P. at 1553' and packer at 1469'. Treated Big Lime at 1498-1501 and 1537-37' with 2500 gals. of 28% acid followed by 2500 gals. of 2% KCl with max. pressure 4300# min. press. 3200#, ISIP 1600#. 20 min. SIP 850# AIR 8 BPM SI 1 hr. TL&T 171 bbls. Flowed back 27 bbls. SION Preparing to swab

Holden Toolhouse

- GW-1753, Oswald "A" #3
- GW-1754, Oswald "A" #5
- GW-1756, Oswald "A" # A6
- Mohawk Land Co. "A" #9, GW-1758
- GW-1759, McDonald Land Co. A-10
- GW-1754, Island Creek Coal B-17

- SIWOPL Conn. W.O. bids from contractor
- SIWOPL Conn. W.O. bids from contractor
- SIWOPL Conn. W.O. bids from contractor
- W.O. Rig - Est. Nov. 5
- Building location - Est. ready by Nov. 15
- W.O. completion unit - Est. Nov. 15 - Will get contractor to bid on moving "B" #10 (P&A) 4" P.L. to tie in "B" #17

Received

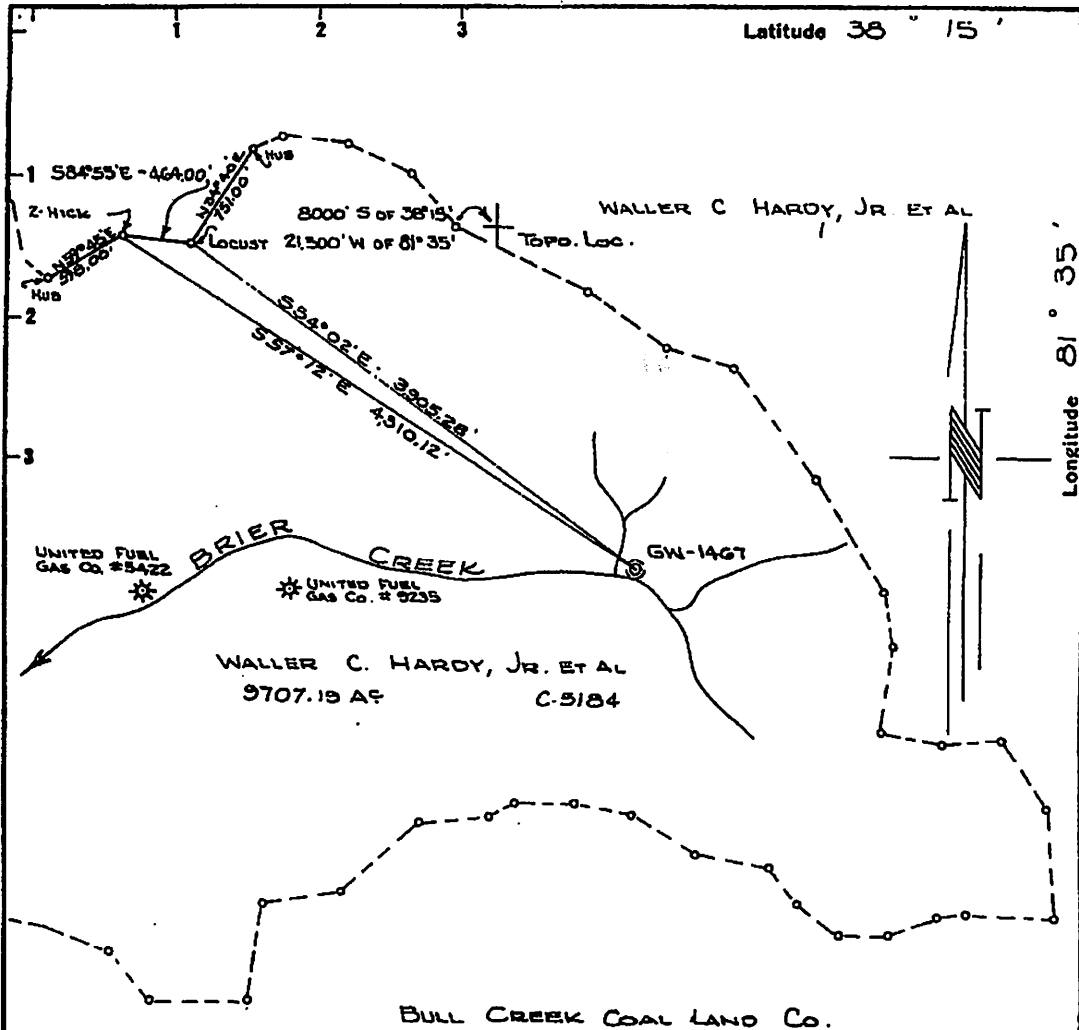
NOV-19 1976

Office of Oil and Gas
WV Dept. of Environmental Protection

09/06/2013

Hardy A-11 127561

3901963P



NOTE - ELEVATION TAKEN FROM U.S.G.S. "807" ELEVATION 807.07' KANAWHA STATE FOREST 2.5 MILES S.E. OF MAIN GATE ALONG DAVIS CREEK ROAD, 6.2 MILES N.W. OF HERNSHAW AT MOUTH OF POLLY HOLLOW, 22' S. OF E OF Y-ROAD JUNCTION WITH POLLY HOLLOW ROAD CONCRETE POST. STANDARD TABLET STAMPED "17 JJS 1956 "807"

FRAC 19/30/78
 New Location
 Drill Deeper
 Abandonment

THE ACCURACY OF THIS SURVEY IS WITHIN THE LIMITS PRESCRIBED BY THE OIL AND GAS DIVISION OF THE DEPARTMENT OF MINES.

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS MAP IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY PARAGRAPH 6 OF THE RULES AND REGULATIONS OF THE OIL AND GAS SECTION OF THE MINING LAWS OF WEST VIRGINIA.

Company CITIES SERVICE OIL Co.
 Address Box 873, Charleston, W.Va.
 Farm WALLER C. HARDY, JR. ET AL.
 Tract _____ Acres 9707.19 Lease No. C-5154
 Well (Farm) No. 11 Serial No. GW-1467
 Elevation (Spirit Level) 1044.80
 Quadrangle PEYTONA-2, S151 W410
 County KANAWHA District WASHINGTON
 Engineer _____
 Engineer's Registration No. 2113
 File No. _____ Drawing No. W-22-63
 Date 8 JULY 63 Scale 1" = 1000'

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

WELL LOCATION MAP
 FILE NO. 44N-1963-FRAC

+ Denotes location of well on United States Topographic Maps, scale 1" to 62500 latitude and longitude lines being represented by border lines as shown.

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

47-039

Received

AUG 19 2013

Office of Oil and Gas
Dept. of Environmental Protection

09/06/2013

3901963P

WW-4-A
Revised 6/07

1) Date: August 15, 2013
2) Operator's Well Number
WV 127561 Hardy A-11
3) API Well No.: 47 039 - 01963
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 Kanawha State Forest ✓
Address 7500 Kanawha State Forest Dr
Charleston, WV 25314
(b) Name _____
Address _____
(c) Name _____
Address _____
6) Inspector Terry Urban ✓
Address P.O. Box 1207
Clendenin, WV 25045
Telephone 304.549.5915

5) (a) Coal Operator:
Name None
Address _____
(b) Coal Owner(s) with Declaration ✓
Name Dickenson Fuel Co
P.O. Box 311
Address Charleston, WV 25321
Name _____
Address _____
(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: _____
Its: _____
Address: _____
Telephone: _____
Subscribed and sworn before me this _____ day of _____, 2013
My Commission Expires: _____



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

Received

15 day of Aug, 2013
Notary Public

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.

Office of Oil and Gas
Division of Environmental Protection

09/06/2013

3901963 A

WW-9
Revised 2/03

Page ____ of ____
2) Operator's Well Number
Hardy A-11
3) API Well No.: 47 039 - 01963

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: Briar Creek of Big Coal River Quadrangle: Racine 7.5'
Elevation: 1063 County: Kanawha District: Washington

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.

Received

Company Official Signature _____

Company Official (Typed or Printed) Victoria Roark

Company Official Title Permitting Supervisor-WV

Subscribed and sworn before me this 15 day of Aug, 2013

My Commission Expires 8-24-22

AUG 20 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

Notary Public

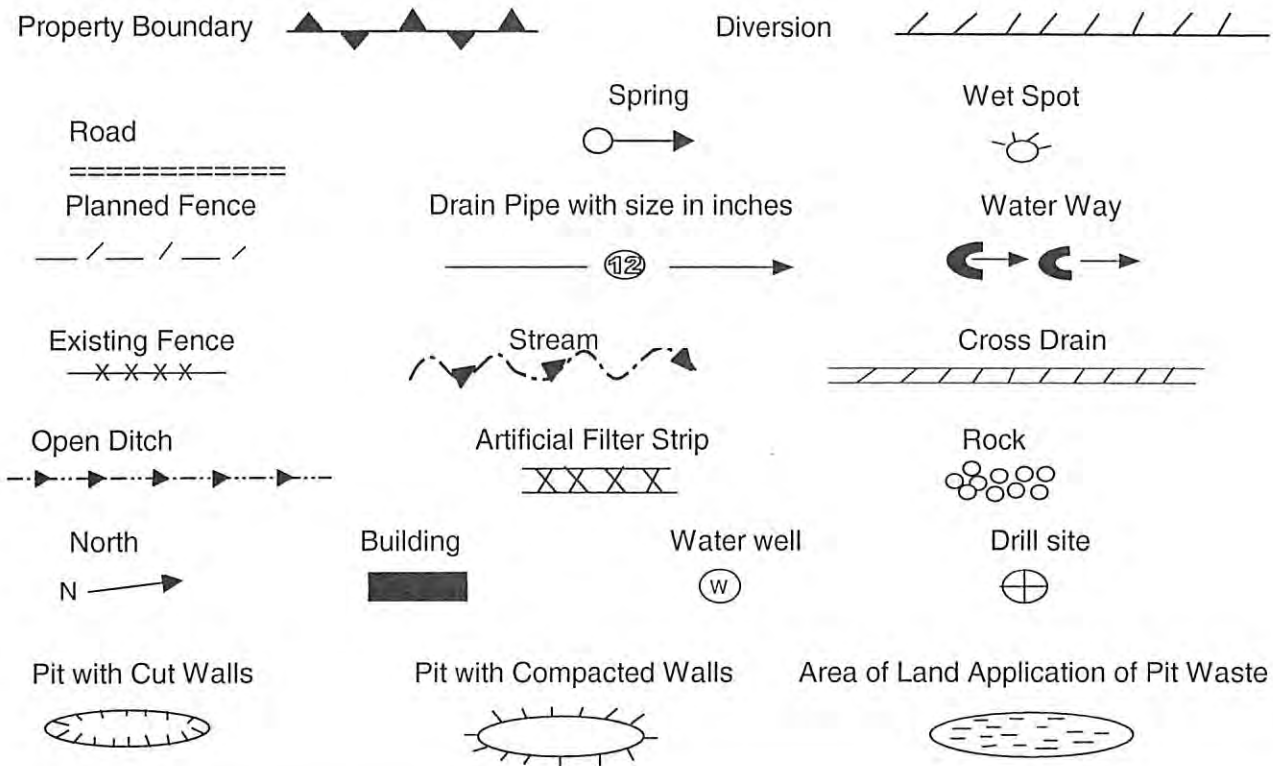


OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Pamela Sykes
EQT Production
PO Box 100
Bridgeport, WV 26330
My Commission Expires Aug. 24, 2022

09/06/2013

OPERATOR'S WELL NO.:
Hardy A-11

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		

Received

AUG 20 2013

Office of Oil and Gas
Environmental Protection

ATTACH:

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

Plan approved by: [Signature]

Comments: _____

Title: Inspector David E. [Signature] Date: 8-19-13
 Field Reviewed? Yes No

3901963A

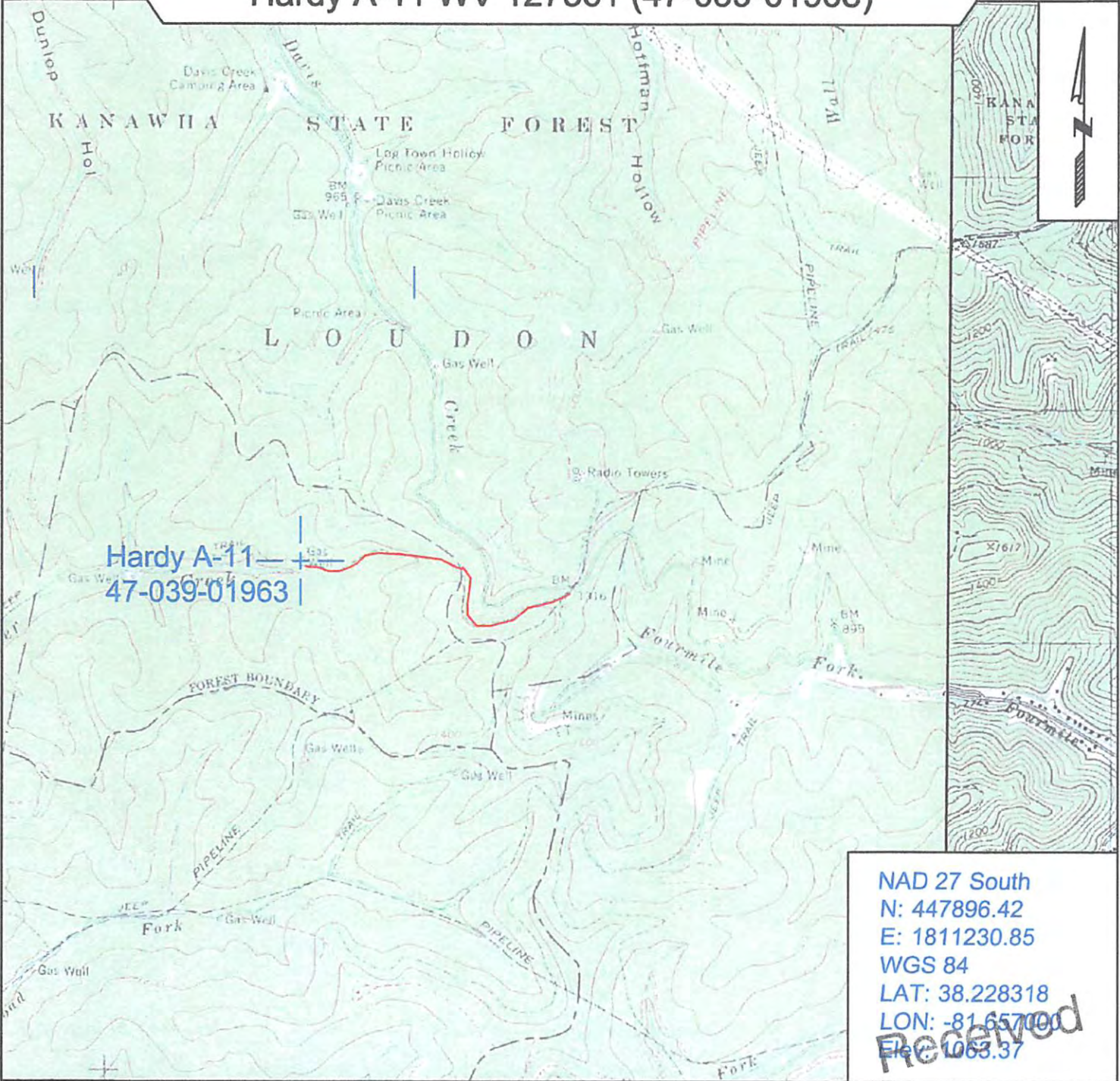
Topo Quad: Racine 7.5' Scale: 1" = 2000'

County: Kanawha Date: June 10, 2013

District: Washington Project No: 52-14-00-07

Hardy A-11 WV 127561 (47-039-01963)

Topo



Hardy A-11
47-039-01963

NAD 27 South
 N: 447896.42
 E: 1811230.85
 WGS 84
 LAT: 38.228318
 LON: -81.657000
 Elev: 1063.37



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
 Office of Oil and Gas
 WV Dept. of Environmental Protection

AUG 19 2013

Received

09/06/2013

39 01963 P

WW-7
8-30-06



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

API: 47-039-01963 WELL NO.: WV 127561 (Hardy A-11)

FARM NAME: Hardy

RESPONSIBLE PARTY NAME: EQT Production Company

COUNTY: Kanawha DISTRICT: Washington

QUADRANGLE: Racine 7.5'

SURFACE OWNER: Waller & Charlotte Hardy

ROYALTY OWNER: Columbian Carbon Company

UTM GPS NORTHING: 4231352

UTM GPS EASTING: 442496 GPS ELEVATION: 324 m (1063 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.

Received

AUG 19 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

[Signature]
Signature

Professional Surveyor #2180
Title

7/26/13
Date

09/06/2013