

560'

LATITUDE 38°27'30"

LONGITUDE 81°22'30"

11,120'

HEARTWOOD FORESTLAND  
FUND VII  
DEED BOOK 2838 PAGE 892  
TAX MAP 24 PARCEL 105

WELL #7094

WELL #F2639

WELL #12116

BEN BROWN  
DEED BOOK 130 PAGE 116  
TAX MAP 34 PARCEL 4

UTM METERS (NAD83)  
N=4253345.17  
E=467103.07

LAT.=38°25'39.95"  
LONG.=81°22'36.73"

7.5 LOC.1

WELL #12383

WELL #7093

JAMES & DOTTIE WALTERS  
DEED BOOK 2563 PAGE 254  
TAX MAP 31 PARCEL 15  
(ELK DISTRICT)

SECONDARY  
FALLING ROCK CREEK

N 84°06' E

N 62°59' E

2626'

2331'

ROUTE 58  
ROUTE 65/3

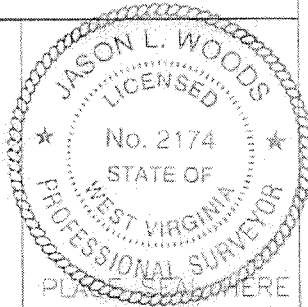
BIG SANDY DISTRICT  
ELK DISTRICT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS REVISED 6/5/13

FILE No 13-100-011  
DRAWING No. 13-100-011  
SCALE 1"=500'  
MINIMUM DEGREE OF ACCURACY 1:200  
PROVEN SOURCE OF ELEVATION TRIMBLE PRO XH  
GPS UNIT

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 DIVISION OF ENVIRONMENTAL PROTECTION.

(SIGNED) Jason L. Woods  
JASON L. WOODS PS #2174



STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
NITRO, WV



DATE MARCH 25 20 13  
OPERATOR'S WELL No. 12116  
API WELL No.

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
(IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
LOCATION: ELEVATION 1147 WATER SHED FALLING ROCK CREEK  
DISTRICT BIG SANDY COUNTY KANAWHA  
QUADRANGLE BLUE CREEK

SURFACE OWNER HEARTWOOD FORESTLAND FUND VII ACREAGE 3240  
OIL & GAS ROYALTY OWNER SEALTEX OIL COMPANY, INC. LEASE ACREAGE 3240  
LEASE No. 48144

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) FRAC

PLUG AND ABANDON  CLEAN OUT AND REPLUG   
TARGET FORMATION ORISKANY ESTIMATED DEPTH 5630  
WELL OPERATOR COLUMBIA GAS TRANSMISSION, LLC DESIGNATED AGENT PAUL AMICK  
ADDRESS PO BOX 1273, CHARLESTON, WV ADDRESS P.O. BOX 1273, CHARLESTON W.V.  
25325-1273 25325-1273

FORM IV-6 (8-78)

06/21/2013

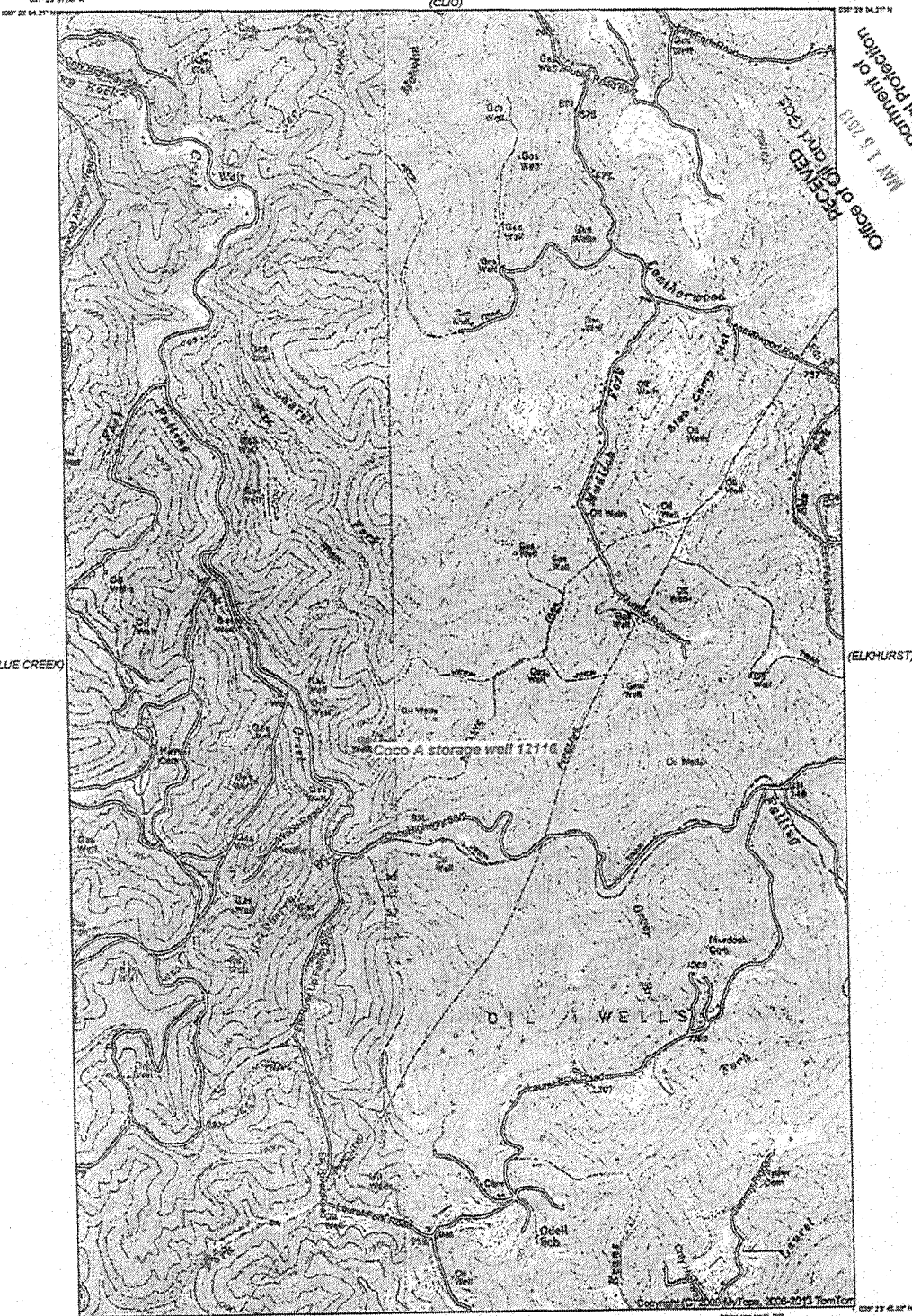
39 03348 R

(KETTLE)



CLENDENIN QUADRANGLE  
WEST VIRGINIA  
TOPOGRAPHIC SERIES

(NEWTON)

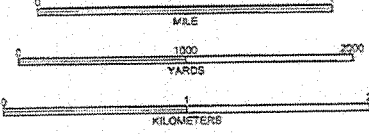


(BLUE CREEK)

(ELKHURST)

(QUICK)

Produced by MyTopo Terrain Navigator  
Topography based on USGS 1:24,000 Maps  
North American 1983 Datum (NAD83)  
Polyconic Projection  
To place on the predicted North American 1927 move the  
projection lines 134' N and 144' E



CONTOUR INTERVAL 20 FEET  
NATIONAL GEODETTIC VERTICAL DATUM 1929

CLENDENIN, WV  
1957

(BENTREE)

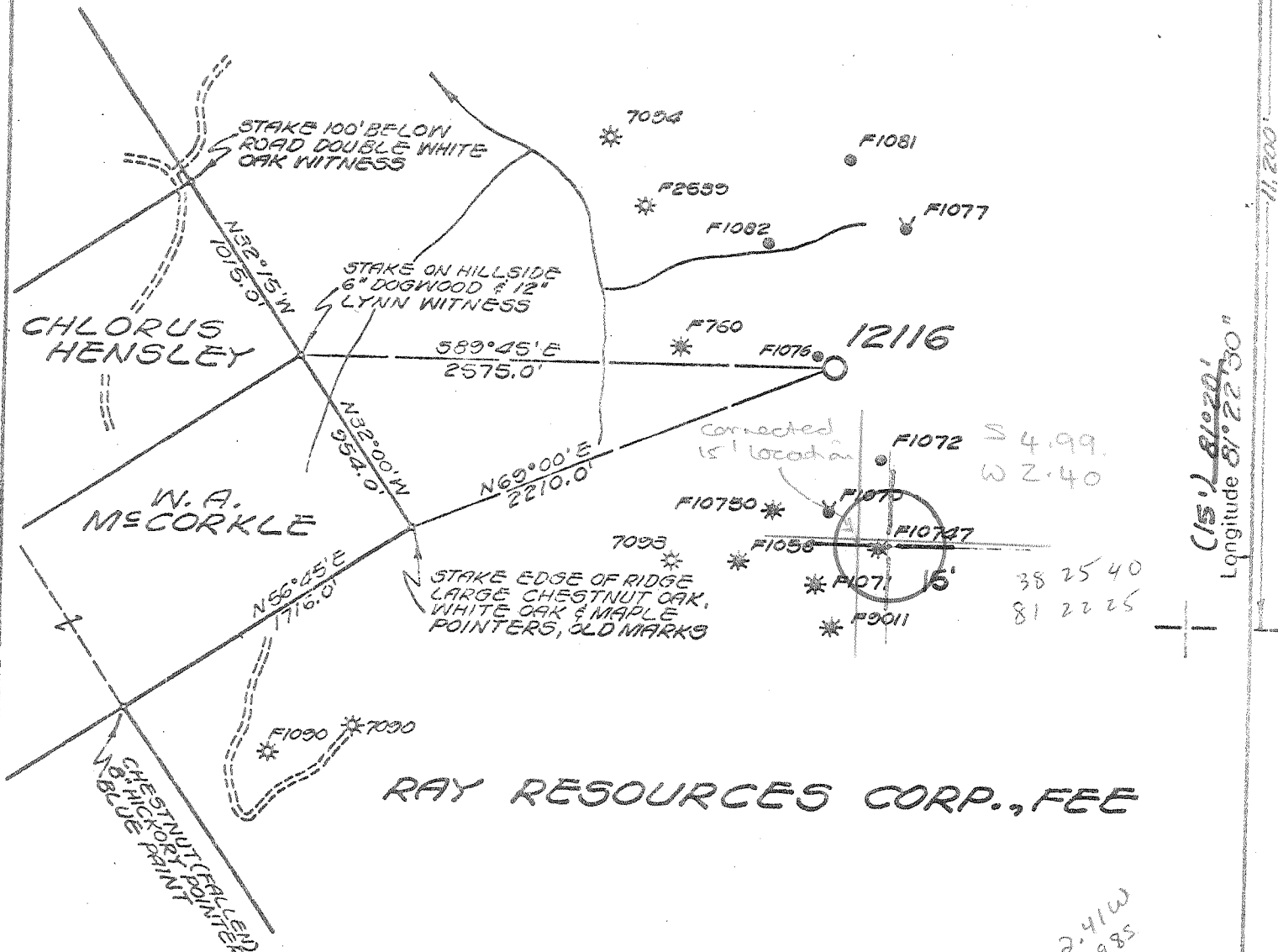
RECEIVED  
Office of Biological Resources  
WV Department of Environmental Protection  
MAY 15 2013

JUN 21 2013

Latitude 38°27'30"  
(15') 38°30'

# RAY RESOURCES CORP., FEE

X FARM MAP



# RAY RESOURCES CORP., FEE

### BENCH MARK DESCRIPTION

U.S.G.S. STANDARD DISK SET IN BOULDER, NORTH SIDE OF CREEK. BOTTOM & NORTH OF DOUBLE POPLAR IN ROAD FORKS - STAMPED # 714 ELEVATION 713.88'

- New Location
- Storage
- Drill Deeper
- Abandonment
- Re-Drill/Fracture

"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 the rules and regulations of the oil and gas section of the mining laws of WEST VIRGINIA. Minimum degree of accuracy is one part in 200

ENGR. REG. No 2330  
BOX 1273 CHARLESTON, W.VA.

Signed *Adrian R. [Signature]*

Company COLUMBIA GAS TRANS. CORP.  
 Address BOX 1273 CHARLESTON, W.VA.  
 Farm RAY RESOURCES CORP., FEE  
 Lease 48144 Acres 3,240<sup>00</sup>  
 Well Farm No. \_\_\_\_\_ Ser. No 12116  
 Elevation - Spirit Level 1147.45'  
 Quadrangle BLUE CREEK  
 Township or District BIG SANDY, GLENDENIN 15'  
 County KANAWHA  
 Sec., Lot, Qr. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_  
 Coordinates LAT. 38°25'39" LONG. 81°22'39"  
 File No. 74-63 Dwg. No. \_\_\_\_\_  
 Date 6-15-78 Scale 1" = 800'

FORM 1495 CE 4 CSD

COLUMBIA GAS SYSTEM  
COLUMBIA GAS TRANSMISSION CORPORATION  
WELL LOCATION MAP

### STATE OF WEST VIRGINIA

(+) Denotes Values Of Well On United States Topographic Maps

NC  
**KAN - 3348**

Scale 15'  7 1/2'

Storage  
**47-039**

SEP 22 1978

Deep well 5590 ... 19-0 Blue Creek (218) 7



MAR 16 1979

OIL & GAS DIVISION  
DEPT. OF MINES

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

Rotary   
Spudder   
Cable Tools   
Storage  *Storage*  
Oil or Gas Well  *Gas*  
(KIND)

Quadrangle Blue Creek  
Permit No. Kan. 3348

WELL RECORD

Company Columbia Gas Trans. Corp.  
Address P.O. Box 1273 Charleston, W. Va.  
Farm Ray Resources Corp. Acres             
Location (waters) Falling Rock  
Well No. 12116 Elev. 1147.45  
District Elk County Kanawha  
The surface of tract is owned in fee by Ray Resources Corp. Address Charleston, W. Va.  
Mineral rights are owned by Ray Resources Corp. Address Charleston, W. Va.

Drilling commenced September 23, 1978  
Drilling completed October 4, 1978  
Date Shot From            To             
With           

Open Flow /10ths Water in            Inch  
                  /10ths Merc. in            Inch  
Volume            Cu. Ft.  
Rock Pressure            lbs.            hrs.  
Oil            bbls., 1st 24 hrs.

WELL ACIDIZED (DETAILS)             
WELL FRACTURED (DETAILS) 706 BBLs with 30,000 lbs. 20-40 Mesh Sand treating at 2950# pressure.

RESULT AFTER TREATMENT (Initial open Flow or bbls.) 15.3 MMCF  
ROCK PRESSURE AFTER TREATMENT 1717 HOURS Maximum  
Fresh Water            Feet Salt Water            Feet 1040' to 1500'  
Producing Sand Oriskany Depth 5550' to 5585'

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			
13	91	91	
XX 9-5/8	2166	2166	Size of
XXX 7"	5528	5528	Depth set
6 3/4			
5 3/16			
4 1/2			
3			Perf. top
2 3/8	5563	5563	Perf. bottom
Liners Used			Perf. top
			Perf. bottom

Attach copy of cementing record.  
CASING CEMENTED            SIZE            No. Ft.            Date             
Amount of cement used (bags)             
Name of Service Co.             
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	Remarks
Sand			0	103			
Shale			103	129			
Sand			129	290			
Shale			290	320			
Sand			320	350			
Shale			350	360			
Sand			360	380			
Shale			380	450			
Sand			620	1040			
Salt Sand			1040	1500			
Shale			1500	1700			9-24-78 cemented to surface, 13-3/8" using 150 sacks neat cement.
Lime			1700	1928			
Shale			1928	1956			
Injun Sand			1956	1982			
Shale			1982	1990			
Injun			1990	2010			9-28-78 cemented to surface, 9-5/8" using 500 sacks Pozimix, 150 sacks neat cement.
Weir			2010	2151			
Shale			2151	5446			
Lime			5446	5550			
Oriskany			5550	5585			10-2-78 - 7" 100 Pozimix, 10% salt, 100 Neat.

APR 10 1979



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

RECEIVED  
SEP 14 1978  
OIL & GAS DIVISION  
DEPT. OF MINES

TO THE DEPARTMENT OF MINES,  
Charleston, W. Va.

DATE September 14, 1978

Surface Owner Ray Resources Corporation  
Address 630 Commerce Square, Chas., W. Va.  
Mineral Owner Same as above  
Address \_\_\_\_\_  
Coal Owner Same as above  
Address \_\_\_\_\_  
Coal Operator Unoperated  
Address \_\_\_\_\_

Company Columbia Gas Transmission Corp.  
Address P. O. Box 1273, Chas., W. Va.  
Farm Ray Resources Corp. Acres 3240  
Location (waters) Falling Rock Creek  
Well No. 12116 Elevation 1147.45  
District Big Sandy County Kanawha  
Quadrangle Blue Creek

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 22,  
of the W. Va. Code, the location is hereby approved  
for drilling. This permit shall expire if  
operations have not commenced by 1-15-79.

INSPECTOR  
TO BE NOTIFIED Martin Nichols  
ADDRESS P. O. Box 554, Clendenin, W. Va.  
PHONE 548-6993

Robert H. [Signature]  
Deputy Director - Oil & Gas Division

GENTLEMEN:

The undersigned well operator is entitled to drill upon the above named farm or tract of land for oil and gas, having fee title thereto, (or as the case may be) under grant or lease dated March 31, 1950 by Seatex Oil Co. made to United Fuel Gas Company and recorded on the --- day of --- 19---, in Kanawha County, Book 915 Page 402

NEW WELL  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  
OIL AND GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1969.

The enclosed plat was prepared by a registered engineer or licensed land surveyor and all coal owners and/or operators have been notified as of the above data.

The above named coal owners and/or operator are hereby notified that any objection they wish to make, or are required to make by Section 3 of the Code, must be received by, or filed with the Department of Mines within ten (10) days. \*

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators or coal owners at their above shown respective address \_\_\_\_\_ day \_\_\_\_\_ before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL  
GEOPHYSICAL LOGS DIRECTLY TO:

WEST VIRGINIA GEOLOGICAL AND  
ECONOMIC SURVEY  
P. O. BOX 879  
MORGANTOWN, WEST VIRGINIA 26505  
AC-304 - 292-6331

Address  
of  
Well Operator

Very truly yours,  
(Sign Name) [Signature]  
Well Operator  
Director, Exploration & Development  
P. O. Box 1273  
Street  
Charleston  
City or Town  
West Virginia 25325  
State

\*SECTION 3. If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made by the coal operators or found thereto by the department and that the same is approved and the well operator authorized to proceed.

THIS IS AN ESTIMATE ONLY  
 ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

RECEIVED  
 SEP 1 1978  
 OIL & GAS DIVISION  
 DEPT. OF MINES

PROPOSED WORK ORDER TO X DRILL \_\_\_\_\_ DEEPEN \_\_\_\_\_ FRACTURE-STIMULATE \_\_\_\_\_  
 DRILLING CONTRACTOR: (If Known) \_\_\_\_\_ RESPONSIBLE AGENT: \_\_\_\_\_  
 NAME \_\_\_\_\_ NAME Larry Friend  
 ADDRESS \_\_\_\_\_ ADDRESS P. O. Box 610, Clendenin, W. Va.  
 TELEPHONE \_\_\_\_\_ TELEPHONE 965-3317  
 ESTIMATED DEPTH OF COMPLETED WELL: 5590' ROTARY X CABLE TOOLS \_\_\_\_\_  
 PROPOSED GEOLOGICAL FORMATION: Oriskany  
 TYPE OF WELL: OIL \_\_\_\_\_ GAS \_\_\_\_\_ COMB. \_\_\_\_\_ STORAGE X DISPOSAL \_\_\_\_\_  
 RECYCLING \_\_\_\_\_ WATER FLOOD \_\_\_\_\_ OTHER \_\_\_\_\_

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LIFT IN WELL	CEMENT (LBS. OR SACKS - CUBIC FT)
20 - 16			
13 - 4# 3/8	150'		To Surface
9 - 5/8	2180'		To Surface
8 - 5/8			
7	5500'		
5 1/2			
4 1/2			
3			
2 7/8	5520'		Perf. Top
			Perf. Bottom
1 1/2			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS \_\_\_\_\_ FEET SALT WATER \_\_\_\_\_ FEET

APPROXIMATE COAL DEPTHS \_\_\_\_\_ FEET

IS COAL BEING MINED IN THE AREA? No BY WHOM? \_\_\_\_\_

TO DRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT.

TO DRILL DEEPER OR REDRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED.

TO FRACTURE - STIMULATE:

OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD.

OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.

Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty four (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

WAIVER I the undersigned, Agent for \_\_\_\_\_ Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location.

We the \_\_\_\_\_ Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.

For Coal Company

Official Title

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Well Operator's Report of Well Work

API 47-039-03348 County Kanawha District Big Sandy  
Quad Blue Creek Pad Name \_\_\_\_\_ Field/Pool Name Coco A Storage  
Farm name National Timber Partners Well Number 12116  
Operator (as registered with the OOG) Columbia Gas Transmission, LLC  
Address 1700 MacCorkle Ave SE City Charleston State WV Zip 25325-1273

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing \_\_\_\_\_ Easting \_\_\_\_\_

Elevation (ft) 1147 GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine  
Mud Type(s) and Additive(s)  
\_\_\_\_\_  
\_\_\_\_\_

Date permit issued 6/18/13 Date drilling commenced \_\_\_\_\_ Date drilling ceased \_\_\_\_\_  
Date completion activities began \_\_\_\_\_ Date completion activities ceased \_\_\_\_\_  
Verbal plugging (Y/N) \_\_\_\_\_ Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft \_\_\_\_\_ Open mine(s) (Y/N) depths \_\_\_\_\_  
Salt water depth(s) ft \_\_\_\_\_ Void(s) encountered (Y/N) depths \_\_\_\_\_  
Coal depth(s) ft \_\_\_\_\_ Cavern(s) encountered (Y/N) depths \_\_\_\_\_  
Is coal being mined in area (Y/N) \_\_\_\_\_

**RECEIVED**  
Office of Oil & Gas

Reviewed by: \_\_\_\_\_

SEP 24 2013

11/08/2013

WV Department of  
Environmental Protection

Blue CK (Falling RK) (217) 9-0

API 47-039 - 03348 Farm name National Timber Partners Well number 12116

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

Comment Details: No existing casing was altered and no additional casing installed during permitted well work.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Shurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) \_\_\_\_\_ Loggers TD (ft) \_\_\_\_\_  
 Deepest formation penetrated \_\_\_\_\_ Plug back to (ft) \_\_\_\_\_  
 Plug back procedure \_\_\_\_\_

Kick off depth (ft) \_\_\_\_\_

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

Well cored  Yes  No  Conventional  Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_





39-03348

Coco A 12116

Existing storage well drilled in 1978.

Note that 6/18/13 permit for fracture stimulation, but frac never performed.

Work Performed:      New wellhead installed.

11/08/2013