

*Janie  
1/8/97*

LATITUDE 38°42'30"

3000'

POCAHONTAS CO  
GREENBANK DIST

RANDOLPH CO  
DRY FORK DIST

UNITED STATES  
OF AMERICA  
DEPARTMENT  
OF INTERIOR

All Waters Shown  
of West Fork of  
Greenbrier River

1828.67 AC PORTION OF THE  
TOTAL 1964 AC OF TRACT 29  
WITHIN GOVERNMENT P 52  
SHOWN ON TAX MAP 3 & BEING  
P 4 TAX MAP 1 6595 AC

GAS WELL #7466  
(POC-32)

GAS WELL #7454  
(POC-25)

GAS WELL #7465  
(POC-31)

GAS WELL #7461  
(POC-11)

GAS WELL #7464  
(POC-30)

GAS WELL #7477  
(POC-39)

GAS WELL #7456  
(POC-26)

GAS WELL #7476  
(POC-33)

GAS WELL #7463  
(POC-29)

GAS WELL #7469  
(POC-4)

4"x4"x3' Spruce Post  
In A Mound of Stones  
Marked WLCO 23-FS

MOUNTAIN

TR 27

TR 30

11,170'  
570' 46" E  
TR 30  
GAS WELL #8770  
(POC-12)

4"x10"x24" Stone  
In a Mound of Stones  
Marked WLCO 24 FS

TM 4 P 1  
905 AC<sub>2</sub> TR 33

LYNN  
KNOB

2"x8"x26" Set Stone  
In a Mound of Stones  
Marked WLCO 21-52 FS  
Maple Pointer

MONONGAHELA

NATIONAL

MIDDLE

FOREST

TR 33

Stone By  
Fallen Beech &  
Cherry Pointer

(54)

TR 33

*2.515  
2.555  
0.59W  
0.59W*

NOTES: This Map Is For  
Well Location Only & Does  
Not Represent A Complete  
Property Survey.  
No Dwellings Or Surface  
Coal Operations Within  
2000'.

REF: INV 4280N/608E  
Farm map #P23-501

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS (7 1/2")

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 2000'  
MINIMUM DEGREE OF  
ACCURACY 1/200  
PROVEN SOURCE OF  
ELEVATION Top of Concrete  
Pod of Well No 7461 0.80'  
Above Ground Elev 3387.84

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 REGU-  
LATIONS ISSUED AND PRESCRIBED BY THE DEPART-  
MENT OF ENERGY.  
(SIGNED) *Edward Nicholas*  
R.P.E. \_\_\_\_\_ L.L.S. 798

PLACE SEAL HERE

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL & GAS  
#10 McJUNKIN ROAD  
NITRO, WEST VIRGINIA 25143-2506



DATE November 15, 1996  
OPERATOR'S WELL NO. 7464  
API WELL NO. \_\_\_\_\_

WELL TYPE: OIL \_\_\_\_\_ GAS X LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
(IF "GAS,") PRODUCTION \_\_\_\_\_ STORAGE X DEEP \_\_\_\_\_ SHALLOW \_\_\_\_\_

LOCATION: ELEVATION 346' WATER SHED Eiklick Run Of West Fork Of Greenbrier River  
DISTRICT Greenbank COUNTY Pocahontas  
QUADRANGLE Wildell, WV COORDINATES LAT: 38°40'16" LONG: 79°45'37"

SURFACE OWNER United States of America Dept of Interior ACREAGE 1828.67 ±  
OIL & GAS ROYALTY OWNER USA Dept of Interior LEASE ACREAGE 48,212.33  
COAL OWNER \_\_\_\_\_ LEASE NO. 90700

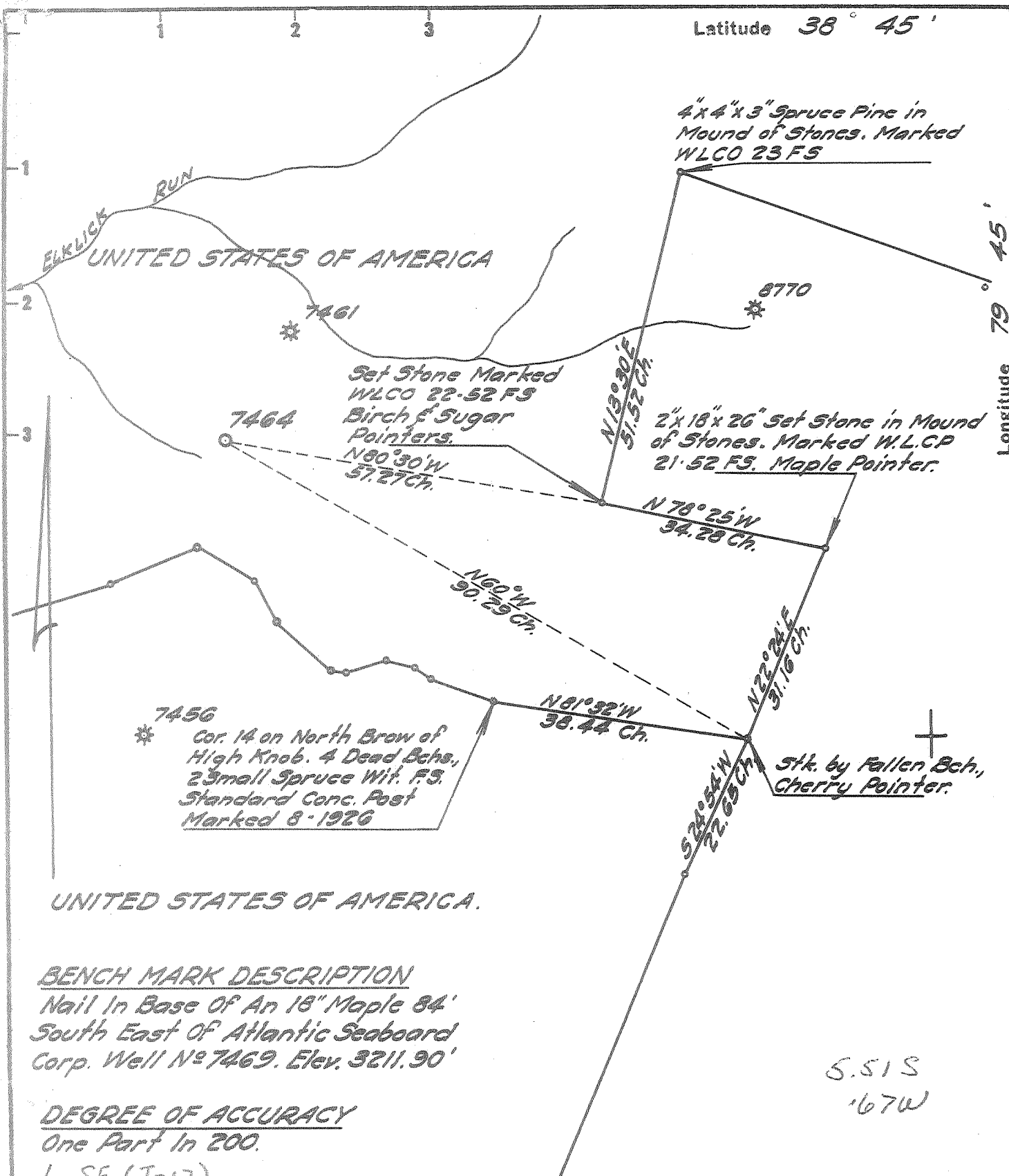
PROPOSED WORK: DRILL \_\_\_\_\_ CONVERT \_\_\_\_\_ DRILL DEEPER \_\_\_\_\_ REDRILL \_\_\_\_\_ FRACTURE OR  
STIMULATE \_\_\_\_\_ PLUG OFF OLD FORMATION \_\_\_\_\_ PERFORATE NEW  
FORMATION \_\_\_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Storage Recondition  
Re-work existing storage well acidize Oriskany drilled

PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_  
TARGET FORMATION Oriskany ESTIMATED DEPTH 6080'

WELL OPERATOR COLUMBIA GAS TRANSMISSION CORP DESIGNATED AGENT RICHARD L COTY  
ADDRESS PO Box 1273, Charleston, WV ADDRESS PO Box 1273, Charleston, WV  
25325-1273 25325-1273

POCAHONTAS  
COUNTY NAME  
PERMIT  
30

JAN 21 1997



BENCH MARK DESCRIPTION

Nail In Base Of An 18" Maple 84'  
South East Of Atlantic Seaboard  
Corp. Well No 7469. Elev. 3211.90'

5.51 S  
167 W

DEGREE OF ACCURACY

One Part In 200.

1 SE (I-12)

- Fracture Before 6/5/27
- New Location
- Drill Deeper
- Redrill
- Abandonment

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 5 of the Rules and Regulations of the Oil and Gas Section of the Mining Laws of West Virginia.

The accuracy of this survey is within the limits and as prescribed in paragraph 5 by the Oil and Gas Division of the Department of Mines Regulations.

PROVEN ELEVATION 3211.90'

Company ATLANTIC SEABOARD CORP.

Address CHARLESTON W. VA.

Farm UNITED STATES OF AMERICA

Tract PT. 52 Acres 1964 Lease No. ALMA-023190

Well (Farm) No. \_\_\_\_\_ Serial No. 7464

Elevation (Spirit Level) 3461.34'

Quadrangle DURBIN - NE

County POCANONTAS District GREEN BANK

Engineer Sybert Russell

Engineer's Registration No. \_\_\_\_\_

File No. 162-81 Drawing No. \_\_\_\_\_

Date JAN. 19, 1966 Scale 1" = 1320'

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

WELL LOCATION MAP  
FILE NO. Poc. - 30

+ 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.

9-0 261 Deep Well Ordinary Storage



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

Rotary   
Spudder   
Cable Tools   
Storage

Quadrangle Durbin

WELL RECORD

Oil or Gas Well Gas Storage  
(KIND)

Permit No. POC.-30

Company Atlantic Seaboard Corporation  
Address P.O. Box 1273 Charleston, W.Va. 25325  
U.S.A. Dept. of Interior Tr. #52 Acres 48,212.33  
Location (waters) Elklick Run of West Fork  
Well No. X-77-7464 Elev. 3461.34'  
District Green Bank County Focahontas  
The surface of tract is owned in fee by \_\_\_\_\_  
Address \_\_\_\_\_  
Mineral rights are owned by U.S. Geological Survey  
Address \_\_\_\_\_  
Drilling commenced 5-22-66  
Drilling completed 6-4-66  
Date Shot \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_  
With \_\_\_\_\_

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			
13 3/8		42' Cemented	
10			Size of
9-5/8		1379' Cemented	
7"		5883' Cemented	set
5 3/16			
4 1/2			
3			Perf. top
2 3/8		6072'	Perf. bottom
Liners Used			Perf. top
			Perf. bottom

Open Flow \_\_\_\_\_ /10ths Water in \_\_\_\_\_ Inch  
\_\_\_\_\_ /10ths Merc. in \_\_\_\_\_ Inch  
Volume 11,730,000 - Oriskany Cu. Ft.  
Rock Pressure 1450 lbs. \_\_\_\_\_ hrs.  
Oil \_\_\_\_\_ bbls., 1st 24 hrs.  
WELL ACIDIZED (DETAILS) \_\_\_\_\_  
WELL FRACTURED (DETAILS) \_\_\_\_\_

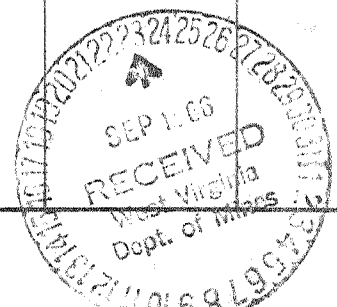
Attach copy of cementing record.  
CASING CEMENTED \_\_\_\_\_ SIZE \_\_\_\_\_ No. Ft. \_\_\_\_\_ Date \_\_\_\_\_  
Amount of cement used (bags) \_\_\_\_\_  
Name of Service Co. \_\_\_\_\_  
COAL WAS ENCOUNTERED AT \_\_\_\_\_ FEET \_\_\_\_\_ INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES FEET \_\_\_\_\_ INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES FEET \_\_\_\_\_ INCHES

RESULT AFTER TREATMENT (Initial open Flow or bbls.) \_\_\_\_\_  
ROCK PRESSURE AFTER TREATMENT \_\_\_\_\_ HOURS  
Fresh Water 125 Feet \_\_\_\_\_ Salt Water \_\_\_\_\_ Feet \_\_\_\_\_  
Producing Sand \_\_\_\_\_ Depth \_\_\_\_\_

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Soil			0	20	Water 125'		
Sand			20	150			
Shale			150	515	Gas 6020' tested 340/10 W 4" 3,114 M when drilling completed		
Sand			515	885			
Shale			885	1250			
Sand			1250	1465	Test before acidized - 340/10 W 4" 3,114 M		
Shale			1465	2105			
Sand			2105	2515	Acidized 6-9-66 with 3,000 gallons 28% Hcl acid, 578,725 std. cu.ft. nitrogen injected at rate of 80,142 std. cu.ft./bbl.		
Shale			2515	2965			
Sand			2965	3455	Acidized 6-11-66 with 20,000 gallons 15% Hcl acid with 4,000 gallons water overflush and 218,000 std. cu. ft. nitrogen injected at rate of 290 std. cu.ft. nitrogen/bbl.		
Shale			3455	5330			
Tully Lime			5330	5355	Test after acidized - 18" spring gauge 4" 11,730 M		
Marcellus Shale			5355	5685			
Onondaga Lime			5685	5729			
Chert			5729	5840			
Needmore Shale			5840	5877			
Oriskany Sand			5877	6070			
Helderberg			6070	6080			
Total Depth			6080'				

5685 5877 6070  
3461 3461 3461  
~~2224 2416 2609~~

Shut in 6-12-66



675-0030-W

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: 175 COLUMBIA GAS TRANSMISSION CORPORATION 10450 ② 680

2) Operator's Well Number: Glady Stg # 7464 API 47-075-00030 3) Elevation: 3,290.97 feet

4) Well type : (a) Oil / or Gas X /  
(b) If Gas : Production / Underground Storage X /  
Deep X / Shallow /

Issued 01/13/97  
Expires 01/13/99

Proposed Target Formation (s) : Oriskany 475

Proposed Total Depth : 6080 feet

Approximate fresh water strata depths : 125'

8) Approximate salt water strata depths : none recorded

9) Approximate coal seam depths : NONE

10) Does land contain coal seams tributary to active mine ? Yes / No X /

11) Proposed Well Work : Columbia proposes to log the well with cased hole logs. Set a bridge plug, reconfigure the wellhead and test the casing. The well will be cleaned out to TD. The well will be acidized or fractured across the Oriskany and sections as determined by the well logs. The well will then be cleaned up, flow tested and placed back in service.

12) CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS	FOOTAGE INTERVALS	CEMENT			
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill - up (cu. ft.)
conductor	13-3/8"	H-40	48#	42'	42'	21 sks neat 405 cu ft litepoz
Fresh Water	9-5/8"	H-40	32#	1,379'	1,379'	118 cu ft neat
Coal						
Intermediate						
Production	7"	J-55 & N-80	23#	5,883'	5,883'	300 sks litepoz 500 gals cealment
Tubing	2-3/8"	(TO BE RETIRED)	4.7#	6,072'	6,072'	
Liners						

*Handwritten signature and notes:*  
This is from well records.

PACKERS : Kind None  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_

00171760

For Division of Oil and Gas Use Only  
 Fee (s) paid.  Well Work Permit  Reclamation Fund  WPCP Agent  
 Plat  WW - 2  WW - 2B  Bond Blanket (Type)

RECEIVED  
DEC 27 1996  
Permitting Office of Oil & Gas

23052

RECEIVED  
W. Virginia  
Environmental Protection

Page 1 of  
Form WW2 - A  
(6/94)  
File Copy

DEC 27 1996

- 1) Date: 10/24/96
- 2) Operator's well number  
GLADY WELL 7464
- 3) API Well No: 47 - 075 - 00030  
State - County - Permit

Permitting  
Office of Oil & Gas

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served:
  - a) Name United States Forest Service  
Address Monongahela National Forest  
P. O. Box 1548, Elkins, WV 26241
  - b) Name \_\_\_\_\_  
Address \_\_\_\_\_
  - c) Name \_\_\_\_\_  
Address \_\_\_\_\_
- 6) Inspector Phillip Tracy  
Address Route 2, Box 37-A  
Montrose, WV 26283  
Telephone (304) - 636-8798

- 5) (a) Coal Operator :  
Name \_\_\_\_\_  
Address \_\_\_\_\_
- (b) Coal Owner (s) with Declaration  
Name United States Dept. Of Interior, Bureau Of Land Mgt.  
Address P.O. Box 631  
Milwaukee, WI 53201-0631 Attn: Tim Abing  
Name \_\_\_\_\_  
Address \_\_\_\_\_
- (c) Coal Lessee with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

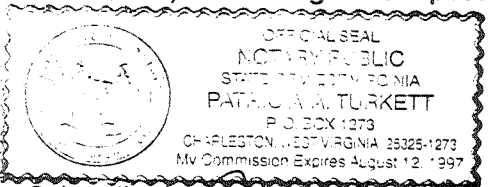
\_\_\_\_\_ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR  
 Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)  
 I certify that as required under Chapter 22 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_\_\_ on the above named parties, by:

- \_\_\_\_\_ Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- \_\_\_\_\_ Publication (Notice of Publication attached)

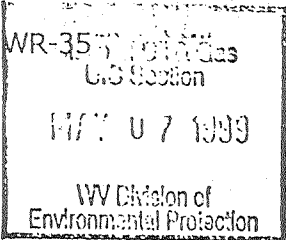
I have read and understand Chapter 22-6 and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.  
 I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, 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 and imprisonment.

Well Operator COLUMBIA GAS TRANSMISSION CORP.  
 By: W.H. Erdon  
 Its: Senior Storage Engineer / Well Services  
 Address Route 3, Box 216  
Elkins, WV 26241  
 Telephone 304/636-8129  
 me this 24th day of November, 19 96



Subscribed and sworn before  
Patricia A. Turkett  
 My commission expires August 12, 1997 Notary Public



09-Jan-97  
API # 47- 075-00030-W

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas

Reviewed RB

Well Operator's Report of Well Work

Farm name: U. S. FOREST SERVICE Operator Well No.: GLADY 7464

LOCATION: Elevation: 3,461.00 Quadrangle: WILDELL

District: GREENBANK County: POCAHONTAS  
Latitude: 13,525 Feet South of 38 Deg. 42 Min. 30 Sec.  
Longitude: 3,000 Feet West of 79 Deg. 45 Min. 0 Sec.

Company: COLUMBIA GAS TRANSMISSION  
P.O. BOX 1273  
CHARLESTON, WV 25325-1273

Agent: RICHARD L. COTY  
Inspector: CRAIG DUCKWORTH  
Permit Issued: 01/13/97  
Well work Commenced: 07/23/97  
Well work Completed: 9/19/97  
Verbal Plugging  
Permission granted on: \_\_\_\_\_  
Rotary \_\_\_\_\_ Cable \_\_\_\_\_ Rig  
Total Depth (feet) 6,080'  
Fresh water depths (ft) See Original Records  
Salt water depths (ft) See Previous  
Is coal being mined in area (Y/N) ? N  
Coal Depths (ft) : See Previous

Casing & Up Tubing Size	Used in Drilling	Left in Well	Cement Fill Cu. Ft.
STIMULATION; SEE BACK FOR DETAILS			

OPEN FLOW DATA

Producing formation ORISKANY Pay zone depth (ft) 5,877' - 6,070'  
Gas : Initial open flow 6380 MCF/d Oil : Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 8756 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 453 Days Hours  
Static rock Pressure 2020 psig (surface pressure) after 4 Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
Gas : Initial open flow \_\_\_\_\_ MCF/d Oil : Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For : COLUMBIA GAS TRANSMISSION CORP.

By : William H. Foraker MAY 22 1999  
Date : May 4, 1999

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas

Well Operator's Report of Well Work

**STIMULATION**

- Acidized on 09-18-97
- Halliburton Foamed Acid Job.
- Pre-flush with 4,032 gals equivalent 15% Halliburton 75 Quality FE Foamed Acid followed by 9,702 gals equivalent 75 Quality Foam.
- Treated with 11,970 gals equivalent 20% Halliburton 75 Quality FE Foamed Acid followed by 11,970 gals equivalent 15% Halliburton 75 Quality FE Foamed Acid. Flushed with 13,986 gals equivalent 75 quality foam and 840 gals H2O.
- Avg. Rate Approx. 12 BPM @ 2100 PSIG
- Total acid 4,528 gallons 28% Halliburton FE acid (uncut).
- Total nitrogen 735,000 scf.
- Additives: 45 gals FE-1A; 17 gals-IIAI-81; 5 gals-SCA-130; 3 gals-FE5A; 24 gals-HC2; 18 lbs BA-2, 5 gals PEN-88M.