

2000'

LATITUDE 38°42'30"

4200'

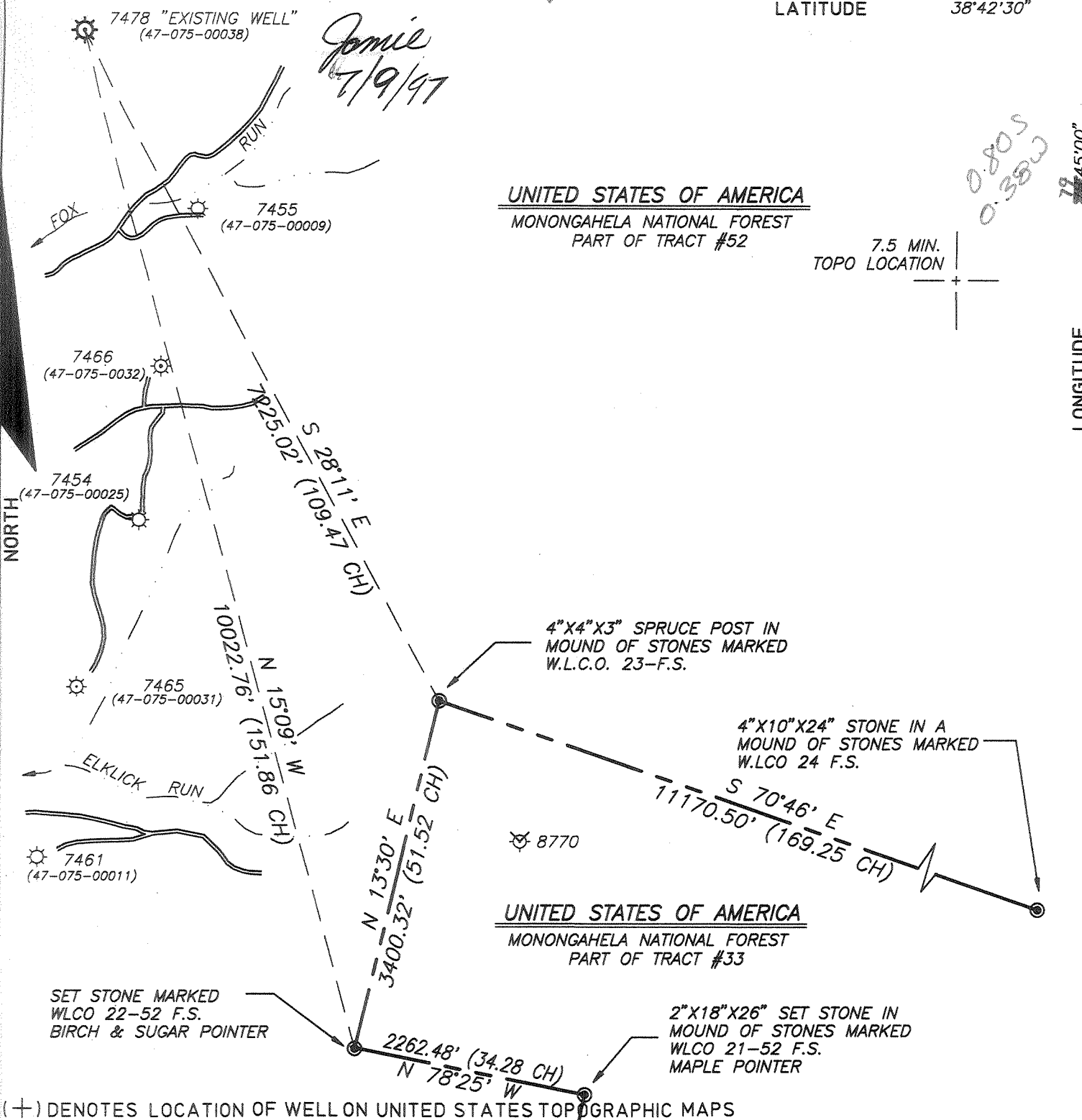
LONGITUDE 79°45'00"

0.80 S  
0.38 W

UNITED STATES OF AMERICA  
MONONGAHELA NATIONAL FOREST  
PART OF TRACT #52

7.5 MIN.  
TOPO LOCATION

*Jamie*  
7/9/97



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. \_\_\_\_\_  
 DRAWING NO. 7478  
 SCALE 1"=1320'  
 MINIMUM DEGREE OF 1:200  
 PROVEN SOURCE OF ELEVATION TOP OF CONCRETE PAD OF WELL 7455 1' ABOVE GROUND ELEV. 3275.07'

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 THE LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED) *Devin R. Arnold, Jr.*  
 R.P.E. \_\_\_\_\_ L.L.S. 499

PLACE SEAL HERE

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

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

LOCATION: ELEVATION 3485.99 WATER SHED FOX RUN OF THE WEST FORK OF THE GREENBRIER RIVER  
 DISTRICT GREENBANK COUNTY POCAHONTAS  
 QUADRANGLE WILDELL COORDINATES LAT. 38°41'48" LONG. 79°45'26"

SURFACE OWNER UNITED STATES OF AMERICA DEPT. OF INTERIOR ACREAGE 1828.67'  
 OIL & GAS ROYALTY OWNER U.S.A. DEPT. INTERIOR LEASE ACREAGE 20408.26  
 COAL OWNER UNITED STATES OF AMERICA DEPT. OF INTERIOR LEASE NO. 1090700

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

PLUG AND ABANDON  CLEAN OUT AND REPLUG

TARGET FORMATION *Wichita* ESTIMATED DEPTH 6090' *Existing well drilled 11/9/96 1997.*

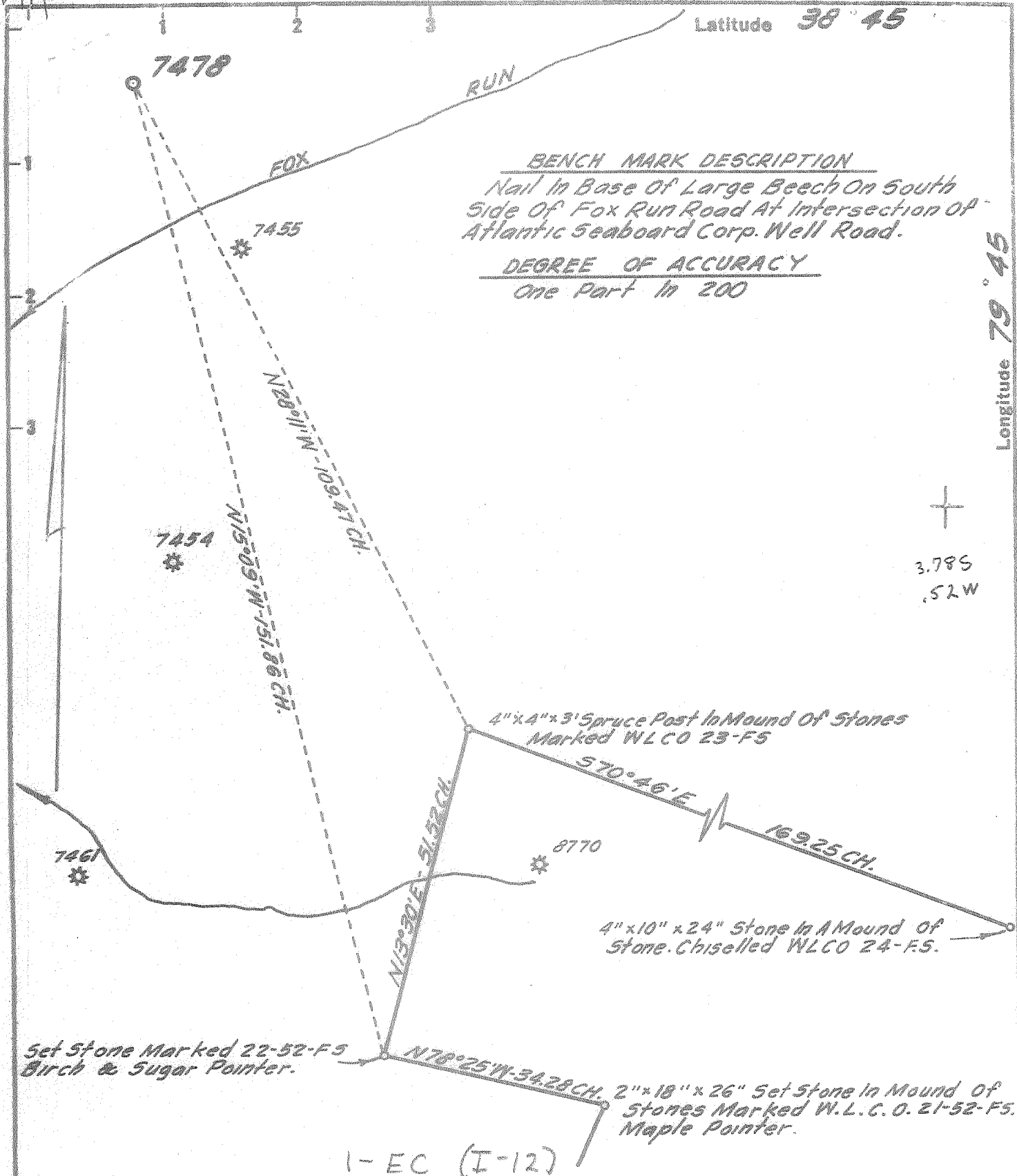
WELL OPERATOR COLUMBIA GAS TRANSMISSION CORP. DESIGNATED AGENT RICHARD L. COTY  
 ADDRESS PO BOX 1273, CHARLESTON, WV 25325-1273 ADDRESS PO BOX 1273, CHARLESTON, WV 25325-1273



DATE APRIL 14, 19 97  
 OPERATOR'S WELL NO. 7478  
 API WELL NO. 47 075 00038  
 STATE COUNTY PERMIT

COUNTY NAME 075

PERMIT 00009



Fracture	<input type="checkbox"/>
Before 6/5/27	<input type="checkbox"/>
New Location	<input checked="" type="checkbox"/>
Drill Deeper	<input type="checkbox"/>
Redrill	<input type="checkbox"/>
Abandonment	<input type="checkbox"/>

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 3562.39'

Company ATLANTIC SEABOARD CORP.  
 Address CHARLESTON, W. VA.  
 Farm UNITED STATES OF AMERICA  
 Tract 52 Acres 1962 Lease No. 45-700-  
 Well (Farm) No. \_\_\_\_\_ Serial No. 7478  
 Elevation (Spirit Level) 3485.99'  
 Quadrangle DURBIN - NE  
 County POCAHONTAS District GREEN BANK  
 Engineer O. J. Smith  
 Engineer's Registration No. 2712  
 File No. 162-83 Drawing No. \_\_\_\_\_  
 Date MARCH 19, '68 Scale 1" = 1320'

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

**WELL LOCATION MAP**  
 FILE NO. POC 38

+ 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 26 Deep Well - Storage



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

Rotary   
Spudder   
Cable Tools   
Storage

Quadrangle Durbin

WELL RECORD

Permit No. POC.-38

Oil or Gas Well Gas Storage  
(KIND)

Company Atlantic Seaboard Corporation  
Address P.O. Box 1273 Charleston, W. Va. 25325  
Farm U.S.A. Tr. 52 Acres 48,212.33  
Location (waters) Mikes Run of Fox Run  
Well No. X-77-7478 Elev. 3485.99'  
District Green Bank County Pocahontas  
The surface of tract is owned in fee by \_\_\_\_\_  
Address \_\_\_\_\_

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			
13 3/8		41' Cemented	
10			Size of
8 9-5/8		1390' Cemented	
7"		5892' Cemented	Depth set
			Perf. top
		6085'	Perf. bottom
			Perf. top
			Perf. bottom

Mineral rights are owned by United States Geological Survey  
General Services Bldg. Address Washington, D. C.  
Drilling commenced 6-3-66  
Drilling completed 6-15-66  
Date Shot From \_\_\_\_\_ To \_\_\_\_\_  
With \_\_\_\_\_

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

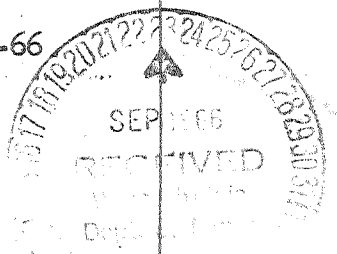
Open Flow /10ths Water in \_\_\_\_\_ Inch  
/10ths Merc. in \_\_\_\_\_ Inch  
Volume 9,120,000 - Oriskany Cu. Ft.  
Rock Pressure 1560 lbs. \_\_\_\_\_ hrs.  
Oil \_\_\_\_\_ bbls., 1st 24 hrs.

WELL ACIDIZED (DETAILS) \_\_\_\_\_  
WELL FRACTURED (DETAILS) \_\_\_\_\_

RESULT AFTER TREATMENT (Initial open Flow or bbls.) \_\_\_\_\_  
ROCK PRESSURE AFTER TREATMENT \_\_\_\_\_ HOURS  
Fresh Water 55 Feet \_\_\_\_\_ Salt Water \_\_\_\_\_ Feet  
Producing Sand \_\_\_\_\_ Depth \_\_\_\_\_

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Soil			0	30	Water 55'		
Sand			30	85			
Sand & Shale			85	545	Gas test 5400' - show		
Shale			545	855			
Sand & Shale			855	1400	Gas test 5848' est. 500 M		
Shale			1400	2300			
Sand & Shale			2300	4285	Gas gauged 5892' 11/10 W 7" 1,416 M		
Shale			4285	5375			
Tully			5375	5400	Oriskany gas gauged 30/10 W 4" 919 M		
Marcellus			5400	5700	when drilling completed.		
Onondaga Limestone			5700	5725			
Chert			5725	5840	Test before acidized 30/10 W 4" 919 M		
Needmore Shale			5840	5882	Acidized 6-19-66 with 20,000 gallons		
Oriskany			5882	6085	15% Hcl acid, overflush 3,000 gallons		
Helderberg			6085		water and 155,000 std. cu.ft.		
Total Depth			6090'		nitrogen at rate of 221 std. cu.ft./bbl		
			5700	5882	Test after acidized 11" spring gauge		
			3486	3486	4" 9,120 M		
			2214	2599			
			2396				

Shut in 6-21-66



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

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

2) Operator's Well Number: Gladys Stg # 7478 (API 47-075-00038) 3) Elevation: 3,485.99 feet

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

Issued 07/07/97
Expires 07/07/99

5) Proposed Target Formation (s): Oriskany 475

6) Proposed Total Depth: Cleanout to the Original TD 6,090' KB

7) Approximate fresh water strata depths: water noted @ 55' on original driller's record

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 kill the well with a freshwater polymer based mud system. Remove the tubing and reconfigure the wellhead. The well will be cleaned out to the original TD. The well will be logged with cased and open hole logs. The well will be acidized across the Oriskany section. The well will then be cleaned up, flow tested and placed back in service.

CASING AND TUBING PROGRAM

Table with columns: TYPE, SPECIFICATIONS, FOOTAGE INTERVALS, CEMENT. Rows include Conductor, Fresh Water, Coal, Intermediate, Production, Tubing, and Liners.

PACKERS: Kind None
Sizes
Depths set

206679/19

For Division of Oil and Gas Use Only

Fee (s) paid: Well Work Permit Reclamation Fund WPCP
Plat WW-9 WW-2B Bond Agent

(Type)

23891

1) Date: 5/14/97  
2) Operator's well number  
GLADY WELL 7478  
3) API Well No: 47 - 075 - 00038 - W  
State - County - Permit

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 \_\_\_\_\_

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 \_\_\_\_\_

6) Inspector Craig Duckworth  
Address Box 107, Davisson Route  
Gassaway, WV 26624 - 0107  
Telephone (304) 626 - 0789

(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  
  X   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)
- X   Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

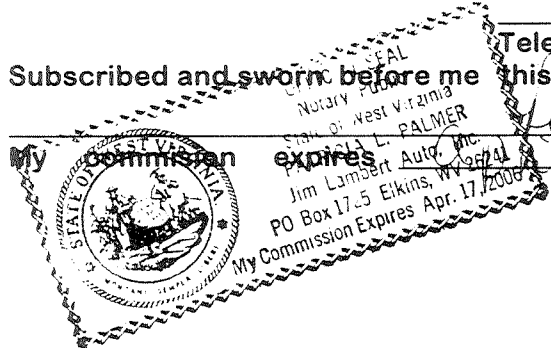
I have read and understand Chapter 22-6 and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

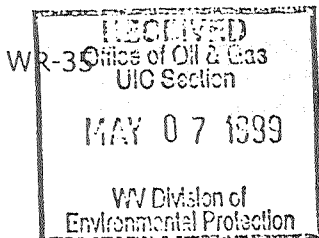
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, 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: William H. Foraker  
Its: Senior Storage Engineer / Well Services  
Address Route 3, Box 216  
Elkins, WV 26241

Subscribed and sworn before me this 30 day of May, 19 97  
Patricia L. Palmer Notary Public





07-Jul-97  
 API # 47-075-00038-W  
 Reviewed AS

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

Well Operator's Report of Well Work

Farm name: U. S. FOREST SERVICE Operator Well No.: GLADY 7478

LOCATION: Elevation: 3,485.99' Quadrangle: WILDELL

District: GREENBANK County: POCAHONTAS  
 Latitude: 4,200 Feet South of 38 Deg. 42 Min. 30 Sec.  
 Longitude: 2,000 Feet West of 78 Deg. 45 Min. 0 Sec.

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

Agent: RICHARD L. COTY  
 Inspector: CRAIG DUCKWORTH  
 Permit Issued: 07/07/97  
 Well work Commenced: 09/12/97  
 Well work Completed: 10/03/97  
 Verbal Plugging  
 Permission granted on: \_\_\_\_\_  
 Rotary Cable Rig  
 Total Depth (feet) 6,090'  
 Fresh water depths (ft) See Original Records  
 Salt water depths (ft) See Previous

Casing & Up Tubing Size	Used in Drilling	Left in Well	Cement Fill Cu. Ft.
	PULLED & RETIRED 6,085' of 2-3/8", J-55, 4.7 #/FT EUE TUBING		
	STIMULATION; SEE BACK FOR DETAILS		

Is coal being mined in area (Y/N) ? N  
 Coal Depths (ft) : See Previous

OPEN FLOW DATA

Producing formation ORISKANY Pay zone depth (ft) 5,882' - 6,085'  
 Gas : Initial open flow 10166 MCF/d Oil : Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow 5627 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests 427 Days Hours  
 Static rock Pressure 1951 psig (surface pressure) after 2 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  
 Date : May 4, 1999

MAY 22 1999

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

Well Operator's Report of Well Work

**STIMULATION**

- Acidized on 09-30-97
- Halliburton Foamed Acid Job.
- Pre-flush with 4,032 gals equivalent 15% Halliburton 75 Quality FE Foamed Acid followed by 11,718 gals equivalent 75 Quality Foam.
- Treated with 250 gals 28% Halliburton FE Acid followed by 11,970 gals equivalent 20% Halliburton 75 Quality FE Foamed Acid followed by 11,424 gals equivalent 15% Halliburton 75 Quality FE Foamed Acid. Flushed with 13,986 gals equivalent 75 quality foam and 840 gals H<sub>2</sub>O.
- Avg. Rate Approx. 19 BPM @ 1900 PSIG
- Total acid 4,528 gallons 28% Halliburton FE acid (uncut).
- Total nitrogen 705,000 scf.
- Additives: FE-1A; HAI-81; SCA-130; FE5A; HC2; BA-2; Penn-88.