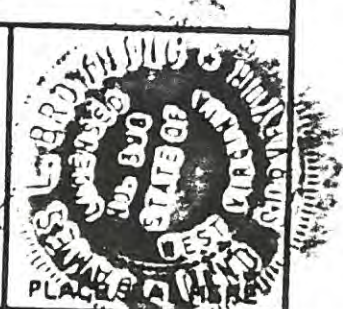


COAL: NOT OPERATED

REVISED 9-4-84

FILE NO. 68-53  
 DRAWING NO. 21309  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY 1 PART IN 200  
 PROVEN SOURCE OF ELEVATION U.S. GOVT. TRI. STA. - HUNTS KNOB  
ELEV. 1625'

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 DEPARTMENT OF MINES  
 (SIGNED) James L. Brown  
 S.P.E. \_\_\_\_\_ L.L.S. 398 W.V.



STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION  
 BOOK: 2474, PG. 27, U.B.R.  
 LAT: 38° 16' 37"  
 LONG: 81° 30' 49"



DATE MAY 31, 1984  
 OPERATOR'S WELL NO. 21309  
 API WELL NO. 47-039-4069  
 STATE COUNTY PERMIT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS.") PRODUCTION X STORAGE \_\_\_ DEEP X SHALLOW \_\_\_  
 LOCATION: ELEVATION 1418.00' WATER SHED SIMMONS CREEK  
 DISTRICT MALDEN COUNTY KANAWHA  
 QUADRANGLE CHARLESTON EAST 289 Charleston 024 BEg  
 SURFACE OWNER COLUMBIA GAS TRANS. CORP. ACREAGE 6.94  
 OIL & GAS ROYALTY OWNER COLUMBIA GAS TRANS. CORP. LEASE ACREAGE 640 AC UNIT  
 LEASE NO. DEED 21527

PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_  
 PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
 TARGET FORMATION TUSCARORA ESTIMATED DEPTH 6870'  
 WELL OPERATOR COL. GAS TRANS. CORP. DESIGNATED AGENT J. L. WEEKLEY OCT 09 1984  
 ADDRESS P.O. BOX 1273 175 ADDRESS SAME  
CHARLESTON, W.V. 25325

IV-35  
(Rev 8-81)

RECEIVED  
FEB 13 1985



OIL & GAS DIVISION State of West Virginia  
DEPT. OF MINES Department of Mines  
Oil and Gas Division

Date February 7, 1985  
Operator's Well No. 21309  
Farm TCO Mineral Tract  
API No. 47 - 039 - 04069

WELL OPERATOR'S REPORT  
OF  
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil \_\_\_ / Gas x / Liquid Injection \_\_\_ / Waste Disposal \_\_\_ /  
(If "Gas," Production x / Underground Storage \_\_\_ / Deep x / Shallow \_\_\_ /)

LOCATION: Elevation: 1418 Watershed Simmons Creek  
District: Malden County Kanawha Quadrangle West Virginia

COMPANY Columbia Gas Transmission Corporation

ADDRESS P. O. Box 1273, Charleston, WV

DESIGNATED AGENT James L. Weekley

ADDRESS P. O. Box 1273, Charleston, WV

SURFACE OWNER Columbia Gas Transmission

ADDRESS P. O. Box 1273, Charleston, WV

MINERAL RIGHTS OWNER Columbia Gas Transmission

ADDRESS P. O. Box 1273, Charleston, WV

OIL AND GAS INSPECTOR FOR THIS WORK Rodney Dillon

ADDRESS P.O.Box30, Scarbro, WV

PERMIT ISSUED 9/28/84

DRILLING COMMENCED 11/2/84

DRILLING COMPLETED 11/21/84

IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20- <del>16</del> Cond.	23.00	23.00	20 sacks
13- <del>10</del> "	845.00	845.00	630 sacks
9 5/8	2424.40	2424.40	800 sacks
8 5/8			
7	5460.00	5460.00	150 sacks
5 1/2			
4 1/2	6748.80	6748.80	140 sacks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Tuscarora Depth 6870 feet

Depth of completed well 6824 feet Rotary x / Cable Tools

Water strata depth: Fresh \_\_\_ feet; Salt 1212 feet

Coal seam depths: 261-263; 337-341' Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Tuscarora Pay zone depth 6785-6796 feet

Gas: Initial open flow 1500 Mcf/d Oil: Initial open flow \_\_\_ Bbl/d

Final open flow 2300 Mcf/d Final open flow \_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_ hours

Static rock pressure 1440 psig (surface measurement) after 72 hours shut in

(If applicable due to multiple completion--)

Second producing formation \_\_\_ Pay zone depth \_\_\_ feet

Gas: Initial open flow \_\_\_ Mcf/d Oil: Initial open flow \_\_\_ Bbl/d

Final open flow \_\_\_ Mcf/d Oil: Final open flow \_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_ hours

Static rock pressure \_\_\_ psig (surface measurement) after \_\_\_ hours shut in

(Continue on reverse side)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Acidized 1/3/85 from 6786-6796' with 1,500 gallons 15% HF.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Sand			0	261	
Coal			261	263	
Sand			263	337	
Coal			337	341	
Sand			341	522	
Sandy Shale			522	893	
Sand			893	945	
Sand & Shale			945	1212	
Salt Sand			1212	1423	
Shale			1423	1442	
Ravencliff			1442	1605	
Shale			1605	1675	
Maxon			1675	1760	
Sandy Shale			1760	1790	
Big Lime			1790	1980	
Injun Sand			1980	2030	
Sandy Shale			2030	2107	
Shale			2107	2370	
Berea			2370	2388	
Shale			2388	5240	
Onondaga			5240	5340	
Salina			5560	5920	
Williamsport			6070	6110	
Keefer			6290	6340	
Rose Hill			6340	6570	
<u>Tuscarora</u>			6730	6800	
LTD			6831		
DTD			6824		

(Attach separate sheets as necessary)

Columbia Gas Transmission Corporation

Well Operator

By:

Date:

February 8, 1985

Note: Regulation 2.02(i) provides as follows:  
"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including ~~minerals~~, encountered in the drilling of a well."



1) Date: September 21, 19 84  
 2) Operator's Well No. 21309  
 3) API Well No. 47 - 039 - 4069  
 State County Permit

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES, OIL AND GAS DIVISION  
 APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil  / Gas  /  
 B (If "Gas", Production  / Underground storage  / Deep  / Shallow  /)
- 5) LOCATION: Elevation: 1418' / Watershed: Simmons Creek / K34  
 District: Malden / County: Kanawha / Quadrangle: Charleston East
- 6) WELL OPERATOR Columbia Gas Trans. Corp. 7) DESIGNATED AGENT J. L. Weekley  
 Address P. O. Box 1273 / Address P. O. Box 1273  
Charleston, WV 25325 / Charleston, WV 25325
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Rodney G. Dillon  
 Address P. O. Box 30  
Scarbro, WV 25917
- 9) DRILLING CONTRACTOR: Name \_\_\_\_\_ Address \_\_\_\_\_
- 10) PROPOSED WELL WORK: Drill  / Drill deeper  / Redrill  / Stimulate   
 Plug off old formation  / Perforate new formation  /  
 Other physical change in well (specify) \_\_\_\_\_
- 11) GEOLOGICAL TARGET FORMATION, Tuscarora
- 12) Estimated depth of completed well, 6870' feet  
 13) Approximate trata depths: Fresh, 2618' feet; salt, \_\_\_\_\_ feet.  
 14) Approximate coal seam depths: \_\_\_\_\_ Is coal being mined in the area? Yes  / No

**RECEIVED**  
 SEP 21 1984  
 OIL & GAS DIVISION  
 DEPT. OF MINES

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling		
Conductor	20			X		60'	60'	To Surface Kinds
Fresh water								
Coal	13-3/8			X		850'	850'	To Surface Sizes <u>NEAT</u>
Intermediate	9-5/8			X		2465'	2465'	To Surface
Production	7			X		5225'		Depths set
Tubing	4-1/2			X		6870'		Perforations: Top Bottom
Liners								

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-039-4069 Date September 28, 19 84

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector, (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.  
 Permit expires September 28, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>43</u> BLANKET	Agent: <u>LS</u>	Plat: <u>MH</u>	Casing: <u>MH</u>	Fee: <u>4060</u> <u>0916</u>
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Margaret J. Hesse  
 Administrator, Office of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

File