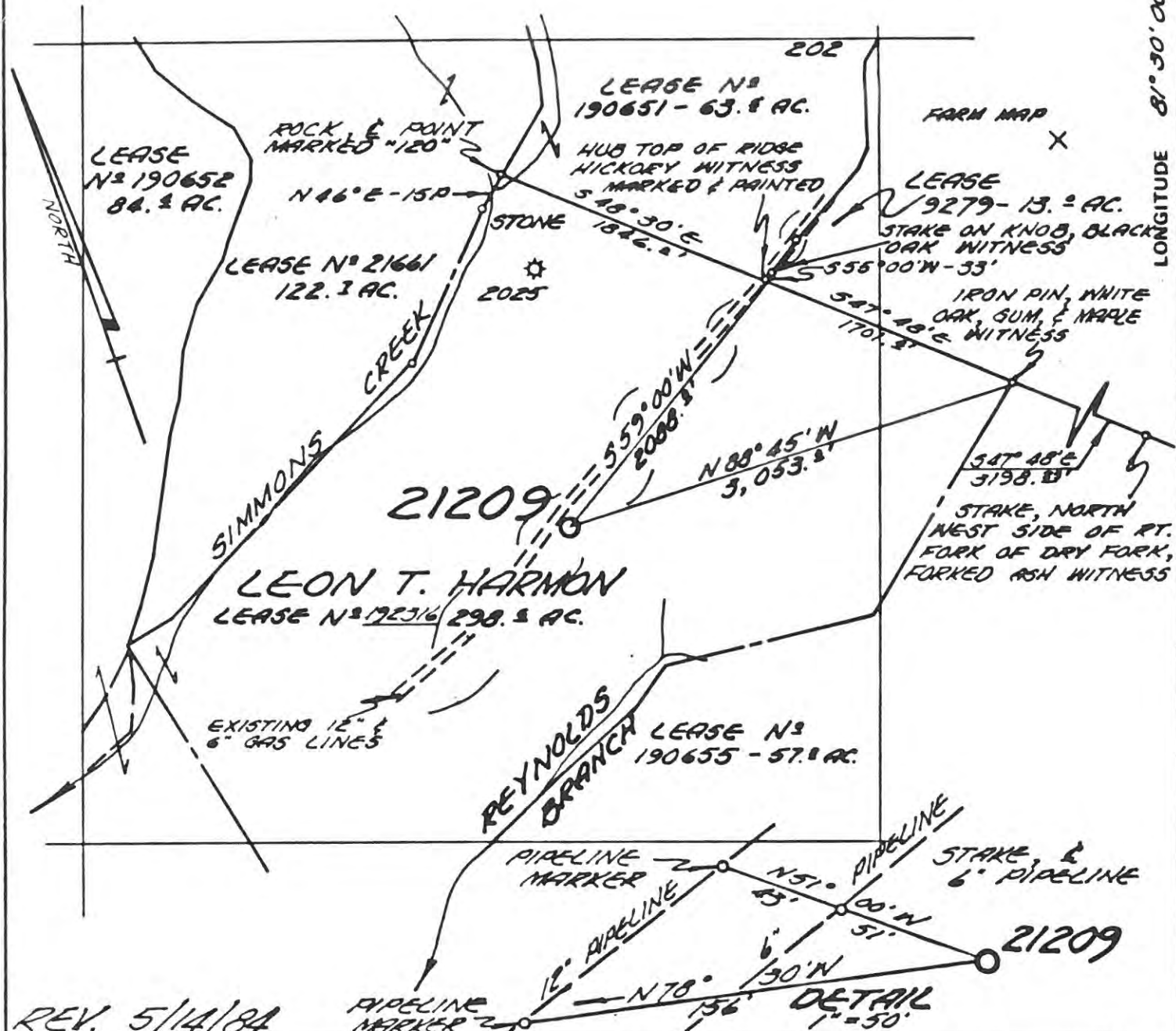


0.073
1.23W

0.073
1.23W



REV. 5/14/84

FILE NO. 66-51
 DRAWING NO. 21209
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1 PART IN 200
 PROVEN SOURCE OF ELEVATION U.S. GOVT GN AT HUNT KNOB BL. 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) Lloyd C. Hart
 R.P.E. _____ L.L.S. 99



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 LAT.: 38° 14' 57"
 LONG.: 81° 31' 20" J.B.P. BOOK 2842 PAGE 23-101



DATE OCTOBER 25 19 83
 OPERATOR'S WELL NO. 21209
 API WELL NO. 47-039-4033
 STATE COUNTY PERMIT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION ___ STORAGE ___ DEEP X SHALLOW ___
 LOCATION: ELEVATION 1429' WATER SHED REYNOLDS BRANCH
 DISTRICT MALDEN COUNTY KANAWHA
 QUADRANGLE BELLE, N.V.A. 2-6 PEYTONA 103 NE3
 SURFACE OWNER LEON T. HARMON ACREAGE 320
 OIL & GAS ROYALTY OWNER LEON T. HARMON LEASE ACREAGE 320 (640 AS Unit)
 LEASE NO. 192316
 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 6930'
 WELL OPERATOR COL. GAS TRANS. CORP. DESIGNATED AGENT J.L. WEEKLEY JUN 25 1984
 ADDRESS P.O. BOX 1273 ADDRESS SAME
CHARLESTON, W.V. 25325

RECEIVED

FEB 13 1985



IV-35 (Rev 8-81)

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

Date January 30, 1985 Operator's Well No. 21209 Farm Leon T. Harmon API No. 47 - 039 - 040

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 / Underground Storage / Deep / Shallow x /)

LOCATION: Elevation: 1429 Watershed Reynolds Branch District: Malden County Kanawha Quadrangle Belle

COMPANY Columbia Gas Transmission Corporation

ADDRESS P. O. Box 1273, Charleston, WV 25325

DESIGNATED AGENT James L. Weekley

ADDRESS P. O. Box 1273, Charleston, WV 25325

SURFACE OWNER Leon T. Harmon

ADDRESS

MINERAL RIGHTS OWNER Leon T. Harmon

ADDRESS

OIL AND GAS INSPECTOR FOR THIS WORK Rodney Dillon

ADDRESS P.O.Box 30, Scarbro, WV

PERMIT ISSUED 6-18-84

DRILLING COMMENCED August 18, 1984

DRILLING COMPLETED September 14, 1984

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

Table with 4 columns: Casing & Tubing Size, Used in Drilling, Left in Well, Cement fill up Cu. ft. Rows include sizes 20-1 1/2, 13-10, 9 5/8, 8 5/8, 7, 5 1/2, 4 1/2, 3, 2, and Liners used.

GEOLOGICAL TARGET FORMATION Tuscarora Depth 6930 feet

Depth of completed well 6990 feet Rotary x / Cable Tools

Water strata depth: Fresh feet; Salt 1286 feet

Coal seam depths: None Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Tuscarora Pay zone depth 6916-6927 feet

Gas: Initial open flow 1,800 Mcf/d Oil: Initial open flow Bbl/d

Final open flow 2,200 Mcf/d Final open flow Bbl/d

Time of open flow between initial and final tests hours

Static rock pressure 1520 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

FEB 25 1985

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

Acidized Tuscarora from 6916-6927' on 12/3/84 with 500 gallons Hcl acid, 1500 gallons HF 15% acid and 100 barrels treating fluid.

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, Lime, Shale			0	1161	
Sandy Shale			1161	1248	
Sand			1248	1286	
Salt Sand			1286	1489	
Sandy Shale			1489	1635	
Ravencliff			1635	1675	
Shale			1675	1740	
Sand and Shale			1740	1760	
Maxon			1760	1820	
Shale			1820	1885	
Big Lime			1885	2055	
Injun Sand			2055	2105	
Black Sand			2105	2260	
Weir			2260	2360	
Shale/Sand			2360	2530	
Devonian Shale			2530	5400	
Onondaga			5400	5480	
Williamsport			6200	6220	
Keefer			6425	6460	
Cacapon			6780	6788	
Tuscarora			6850	6938	
LTD			6965		
DTD			6990		

(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 ... encountered in the drilling of a well."



1) Date: 5-18, 1984
 2) Operator's Well No. 21209
 3) API Well No. 47 - 039 - 4033
 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: 1429 Watershed: Reynolds Branch (K56)
 District: Malden County: Kanawha Quadrangle: Belle
 6) WELL OPERATOR Columbia Gas Transmission 7) DESIGNATED AGENT J. L. Weekley
 Address P. O. Box 1273 Corp. Address P. O. Box 1273
Charleston, WV 25325 Charleston, WV 25325
 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Jerry Holcolmb Name _____
 Address Rt. 1 Box 28 Address _____
Hamlin, WV 25523
 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, 6930 feet
 13) Approximate trata depths: Fresh, _____ feet; salt, _____ feet.
 14) Approximate coal seam depths: 925' Is coal being mined in the area? Yes _____ / No /

RECEIVED
 MAY 29 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	Left in well		
Conductor	20"	H	94	X		60	60	To surface	Kinds
Fresh water									
Coal	13-3/8	K	48	X		200 955'	200 955'	To surface	Size by rule 15.05
Intermediate	9-5/8	K	36	X		2550	2550	To surface	
Production	7	N	23	X		5550			Depths set
Tubing	4 1/2	C	13.5	X		6835			as req. by rule 15.01
Liners									Perforations:
									Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-039-4033 Date June 18, 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 June 18, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>B</u>	Agent: <u>lo</u>	Plat: <u>MH</u>	Casing: <u>MH</u>	Fee: <u>4060-0900</u>
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[Signature]
 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