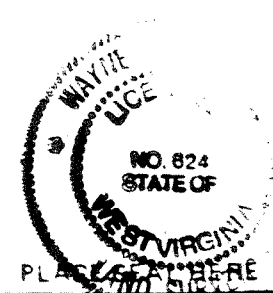


1= S24-50 E	181.50'
2= N53-11E	469.71'
3= S28-24E	122.972'
4= S83-49E	484.85'
5= S83-52E	758.07'
6= N07-17W	960.73'
7= S77-11W	309.02'
8= N02-11W	215.14'
9= N35-37E	670.23'
10= N48-18E	878.32'
11= N36-07E	644.87'
12= N6-45E	330.00'
13= N22-38E	363.11'
14= N7-40W	383.5'
15= N67-30W	660.00'
16= S27-32W	746.08'
17= S72-40W	280.67'
18= S19-02E	719.17'
19= N66-12E	243.53'
20= N41-58W	1268.84'
21= N13-51W	610.50'
22= N42-10W	1346.00'

FILE NO _____
 DRAWING NO _____
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION USGS BM TRACEFORK 665 MYRTLE QUAD.

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) Hayes D. Porter
 R.P.E. _____ L.L.S. 624



(-) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-E (878)

DATE AUGUST 29 1983
 OPERATOR'S WELL NO. C-76
 API WELL NO. 47-059-1077
 STATE WEST VIRGINIA COUNTY MINGO PERMIT



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

OCT 16 1983

WELL TYPE OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION ELEVATION 1640' WATERSHED LAUREL FORK
 DISTRICT HARDEE COUNTY MINGO
 QUADRANGLE MYRTLE Holden 15' SC
 SURFACE OWNER GEORGIA PACIFIC ACREAGE 1030'
 OIL & GAS ROYALTY OWNER COTIGA DEVELOPMENT CO. LEASE ACREAGE 1030'
 LEASE NO. _____
 PROPOSED WORK DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) DEEP WELL
 CLEAN OUT AND REPLUG
 ESTIMATED DEPTH 5200'
 WELL OPERATOR SENECA-UPSHUR PET. INC. AGENT JOSEPH HAGER
 ADDRESS P.O. BOX 2048 FUCKHANNON, W. VA. 26201

6-6 Dempsey School (268)



IV-35
(Rev 8-81)

Date February 24, 1984
Operator's Well No. C-76
Farm _____
API No. 47 - 059 - 1077

State of West Virginia
Department of Mines
Oil and Gas Division

RECEIVED

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

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 ___ / Shallow X /)

LOCATION: Elevation: 1650K 1640' Watershed Laurel Fork
District: Hardee County Mingo Quadrangle Myrtle

COMPANY Seneca-Upshur Petroleum Company
ADDRESS P.O. Box 2048, Buckhannon, WV 26201
DESIGNATED AGENT Joseph G. Hager
ADDRESS P.O. Box 2048, Buckhannon, WV 26201
SURFACE OWNER Georgia-Pacific
ADDRESS 133 Teachtree St., N.E., Atlanta, GA
MINERAL RIGHTS OWNER Cotiga Development Co.
2nd Floor Rear, 14 E. Lancaster Ave.
ADDRESS Paoli, Pennsylvania 19301
OIL AND GAS INSPECTOR FOR THIS WORK Arthur
St. Clair ADDRESS P.O. Box 157, Brenton, WV
PERMIT ISSUED October 13, 1983

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.	20	20	10
13-10"	1046	1046	450
9 5/8			
8 5/8	2546	2546	420
7			
5 1/2			
4 1/2		4983	185
3			
2			
Liners used			

DRILLING COMMENCED 12/1/83
DRILLING COMPLETED 12/9/83 ✓

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

GEOLOGICAL TARGET FORMATION Marcellus Depth 5200 feet
Depth of completed well 5071 feet Rotary X / Cable Tools _____
Water strata depth: Fresh _____ feet; Salt 1743 feet
Coal seam depths: 75', 123', 225', 274', 860', 997' Is coal being mined in the area? No

OPEN FLOW DATA
Producing formation Devonian Shale Pay zone depth 3490 feet
Gas: Initial open flow Trace Mcf/d Oil: Initial open flow 0 Bbl/d
Final open flow 880 Mcf/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 2 hours
Static rock pressure 590 psig (surface measurement) after 24 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

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

DATE: 2/9/84
 WATER: 856 BBLs.
 SAND: 210,000#
 PERFS: ^{Huron} 4316' - 4557' 30 .49 Perfs
 NITROGEN: 21,180 CCF

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Surface			0	41	Measured from kb
Sand			41	75	
Coal			75	81	
Sand			81	123	
Coal			123	129	
Sand & Shale			129	225	
Coal			225	229	
Sand & Shale			229	274	
Coal			274	278	
Sand & Shale			278	860	
Coal			860	864	
Shale			864	942	
Mine			942	958	
Sand & Shale			958	997	
Coal			997	1005	
Shale			1005	1134	
Sand			1134	1154	
Shale			1154	1212	
Sand & Shale			1212	2170	
Red Rock			2170	2189	
Sand & Shale			2189	2504	
Little Lime			2504	2516	
Big Lime			2516	2794	
Big Injun			2794	2822	
Sand & Shale			2822	2957	
Weir			2957	3014	
Sand & Shale			3014	3370	
Sudbury Shale			3370	3410	
Berea			3410	3490	
Gray Shale			3490	4320	
Brown Shale			4320	4900	
Marcellus			4900	5071	T.D.

from 8-ray log:
 NP thickness
 Big Lime 2596 224
 Weir 2820 0
 Sudbury 2962 52
 Beria 3370 36
 Berea 3406 22
 Huron Dev undiff 3428 899
 Huron 4327 278
 Seneca 4605 119
 Onondaga 4724 178
 Chautauque 4902 156
 Onondaga 5058

(Attach separate sheets as necessary)

Seneca-Upshur Petroleum Company

Well Operator

By:

Date: February 24, 1984

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



1) Date: September 1, 1983
 2) Operator's Well No. C-76
 3) API Well No. 47 - 059 - 1077
 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: 1640' Watershed: Laurel Fork
 District: Hardee County: Mingo Quadrangle: Myrtle
- 6) WELL OPERATOR Seneca-Upshur Petroleum, Inc. 7) DESIGNATED AGENT Joseph G. Hager
 Address P.O. Box 2048 Address P.O. Box 2048
Buckhannon, West Virginia 26201 Buckhannon, West Virginia 26201
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Arthur St. Clair
 Address P.O. Box 157
Brenton, West Virginia 24818
- 9) DRILLING CONTRACTOR: Name Little Swiss Drilling Company
 Address P.O. Box 2048
Buckhannon, West Virginia 26201
- 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, Marcellus
- 12) Estimated depth of completed well, 5200 feet
- 13) Approximate trata depths: Fresh, 575 feet; salt, 975 feet.
- 14) Approximate coal seam depths: 320 Is coal being mined in the area? Yes No

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 SEP 6 - 1983

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	16"				X	20	20	To Surface	Kinds
Fresh water	11 3/4"					600	600	To Surface	By Rule 15-05
Coal									Sizes
Intermediate	8 5/8"		23.00	X		2515	2515	To Surface	Depths set
Production	4 1/2"		23.00	X			5200	As Required	Depths set
Tubing								by Rule 15.01	Perforations:
Liners									Top Bottom

OIL & GAS DIVISION
 DEPT. OF MINE

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-059-1077 Date October 13, 1983

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 October 13, 1985 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>BB</u>	Agent: <u>MH</u>	Plat: <u>[Signature]</u>	Casing: <u>[Signature]</u>	Fee: <u>6120</u> <u>6136</u>
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[Signature]
 Administrator, Office of Oil and Gas

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

File