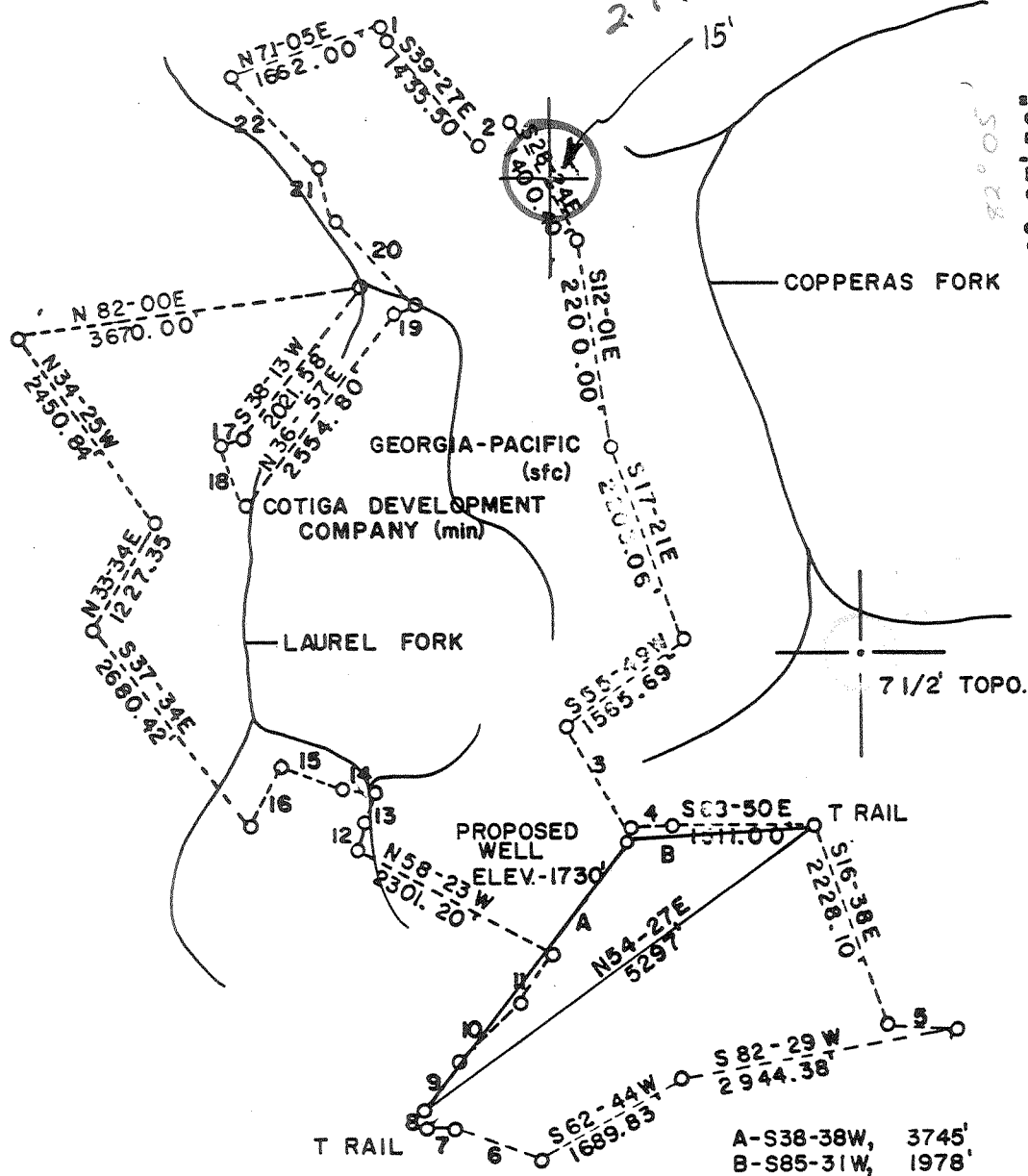


37° 50' 00"

1.60S  
2.74W



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=N67-17 W	960.73'
7=S87-15 W	309.02'
8=N02-32 W	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	368.11'
14=N78-40W	383.5'
15=N67-30 W	660.00'
16=S27-32 W	746.08'
17=S72-40 W	280.67'
18=S19-02E	719.17'
19=N66-12E	243.53'
20=N41-58 W	1268.84'
21=N13-51 W	610.50'
22=N42-10 W	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) [Signature]  
 R.P.E. \_\_\_\_\_ L.L.S. 624



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



DATE MAY 19, 19 83  
 OPERATOR'S WELL NO. C-70  
 API WELL NO. \_\_\_\_\_  
47 - 045 - 1086  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

JUN 27 1983

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

LOCATION: ELEVATION 1730' WATER SHED COPPERAS FORK  
 DISTRICT ISLAND CREEK COUNTY LOGAN  
 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) \_\_\_\_\_

PLUS AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_  
 FORMATION MARCELLUS ESTIMATED DEPTH 5200'  
 WELL OPERATOR SENECA-UPSHUR PET. INC. REPRESENTATIVE JOSEPH HAGER  
 ADDRESS P.O. BOX 2048 Logan-Holden-Dingess (274)  
BUCKHANNON, W. VA. 26001 propwell P.O. BOX 2048  
BUCKHANNON, W. VA. 26001

IV-35  
(Rev 8-81)



Date January 10, 1984  
Operator's  
Well No. C-70  
Farm \_\_\_\_\_  
API No. 47 - 045 - 1086

**RECEIVED** State of West Virginia  
Department of Mines  
Oil and Gas Division  
AUG 22 1984

OIL & GAS DIVISION  
**DEPT. OF MINES** 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: 1730' Watershed Copperas Fork  
District: Island Creek County Logan 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 Company  
ADDRESS 2nd Floor Rear, 14 E. Lancaster Ave. Paoli, Pennsylvania 19301  
OIL AND GAS INSPECTOR FOR THIS WORK Arthur  
St. Clair ADDRESS P.O. Box 157, Brenton, WV  
PERMIT ISSUED 6/24/83

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.	30	30	10
13-10"	1204	1204	140
9 5/8			
8 5/8	2649	2649	420
7			
5 1/2			
4 1/2		5088	175
3			
2			
Liners used			

DRILLING COMMENCED 10/19/83  
DRILLING COMPLETED 10/29/83

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 5141 feet Rotary X / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh \_\_\_\_\_ feet; Salt \_\_\_\_\_ feet  
Coal seam depths: 10', 151', 336', 349', 523', 665', 1180' Is coal being mined in the area? No

OPEN FLOW DATA  
Producing formation Devonian Shale Pay zone depth 3510 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

SEP 24 1984

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

FOAM FRAC:

DATE: 12/21/83  
 WATER: 838 BBLs.  
 SAND: 210,000#  
 PERFS: 4368' - <sup>Huron</sup>4969' 30 .49 Perfs  
 NITROGEN: 20,180 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	10	
Coal			10	13	
Shale			13	151	
Coal			151	155	
Shale			155	160	
Sand			160	336	
Coal			336	340	
Sand			340	348	
Coal			349	357	
Sand			357	446	
Shale			446	523	
Coal			523	527	
Shale			527	665	
Coal			665	678	
Sand & Shale			678	1180	
Coal			1180	1185	
Sand			1185	1356	
Sand & Shale			1356	2309	
Red Rock			2309	2313	
Sand & Shale			2313	2340	
Red Rock and Shale			2340	2566	
Big Lime			2566	2844	
Big Injun			2844	2878	
Sand & Shale			2878	3000	
Weir			3000	3062	
Sand & Shale			3062	3400	
Sudbury Shale			3400	3452	
Berea			3452	3510	
Gray Shale			3510	4370	
Brown Shale			4370	4942	
Marcellus ?			4942	5141	

Onondaga @ 5128'

T.D. Huron @ T.D.

5141  
3510  
-----  
1631

(Attach separate sheets as necessary)

Seneca-Upshur Petroleum Company  
Well Operator

By: \_\_\_\_\_

Date: \_\_\_\_\_

January 10, 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 those encountered in the drilling of a well."



1) Date: May 24, 19 83  
 2) Operator's Well No. G-70  
 3) API Well No. 47 - 045 - 1086  
 State County Permit

DRILLING CONTRACTOR:

Little Swiss Drilling Co.  
Buckhannon, WV 26201

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

OIL AND GAS WELL PERMIT APPLICATION

- 4) WELL TYPE: A Oil \_\_\_\_\_ / Gas X /  
 B (If "Gas", Production X / Underground storage \_\_\_\_\_ / Deep \_\_\_\_\_ / Shallow X /)
- 5) LOCATION: Elevation: 1730' Watershed: Cooperas Fork  
 District: Inland Creek County: Logan Quadrangle: Myrtle
- 6) WELL OPERATOR Seneca-Upshaw Petroleum, Inc. 11) DESIGNATED AGENT Joseph G. Hager  
 Address P.O. Box 2048 Address P.O. Box 2048  
Buckhannon, West Virginia 26201 Buckhannon, West Virginia 26201
- 7) OIL & GAS ROYALTY OWNER Cotina Development Company 12) COAL OPERATOR None  
 Address 2nd Floor Room, 14 E. Lancaster Ave. Address \_\_\_\_\_  
Pooli, Pennsylvania 19301
- 8) SURFACE OWNER Georgia-Pacific 13) COAL OWNER(S) WITH DECLARATION ON RECORD:  
 Address P.O. Box 1808 Name Inland Creek Coal Company  
Sumata, Georgia 30909 Address Paintsville, Kentucky 41240  
 Acreage 1030 Name \_\_\_\_\_  
 Address \_\_\_\_\_
- 9) FIELD SALE (IF MADE) TO:  
 Address \_\_\_\_\_
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED 14) COAL LESSEE WITH DECLARATION ON RECORD:  
 Name Arthur St. Clair Name Three Rivers Coal Company  
 Address P.O. Box 157 Address P.O. Box 118  
Lawton, West Virginia 24818 Pittsburgh, PA 15230
- 15) PROPOSED WORK: Drill X / Drill deeper \_\_\_\_\_ / Redrill \_\_\_\_\_ / Fracture or stimulate \_\_\_\_\_ /  
 Plug off old formation \_\_\_\_\_ / Perforate new formation \_\_\_\_\_ /  
 Other physical change in well (specify) \_\_\_\_\_
- 16) GEOLOGICAL TARGET FORMATION, Marcellus
- 17) Estimated depth of completed well, 5200 feet
- 18) Approximate water strata depths: Fresh, 680 feet; salt, 1080 feet.
- 19) Approximate coal seam depths: 320 Is coal being mined in the area? Yes \_\_\_\_\_ / No X /

20) 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		Top	Bottom
Conductor	<u>16"</u>				<u>X</u>	<u>20</u>	<u>20</u>	<u>To Surface</u>		Kinds
Fresh water										
Coal										Sizes
Intermediate	<u>8 5/8"</u>		<u>23.00</u>	<u>X</u>		<u>2610</u>	<u>2610</u>	<u>To Surface</u>		
Production	<u>4 1/2"</u>		<u>23.00</u>	<u>X</u>			<u>5200</u>	<u>As Required</u>		Depths set
Tubing								<u>By Rule 15.0</u>		
Liners										Perforations:
										Top Bottom

21) EXTRACTION RIGHTS

Check and provide one of the following:

- Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil or gas. On File 059-1017  
 The requirement of Code 22-4-1-(c) (1) through (4). (See reverse side for specifics.)

22) ROYALTY PROVISIONS

Is the right to extract, produce or market the oil or gas based upon a lease or other continuing contract or contracts providing for flat well royalty or any similar provision for compensation to the owner of the oil or gas in place which is not inherently related to the volume of oil or gas so extracted, produced or marketed? Yes  No

If the answer above is No, nothing additional is needed. If the answer is Yes, you may use Affidavit Form IV-60.

23) Required Copies (See reverse side.)

24) Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

Notary: Stanley A. Toste  
 My Commission Expires June 6, 1988

Signed: [Signature]  
 Its: Vice President

OFFICE USE ONLY

Permit number 47-045-1086 **DRILLING PERMIT** Date June 24 19 83

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. 10 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.)

Permit expires February 24, 1984 unless drilling is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	Fee

Administrator, Office of Oil and Gas