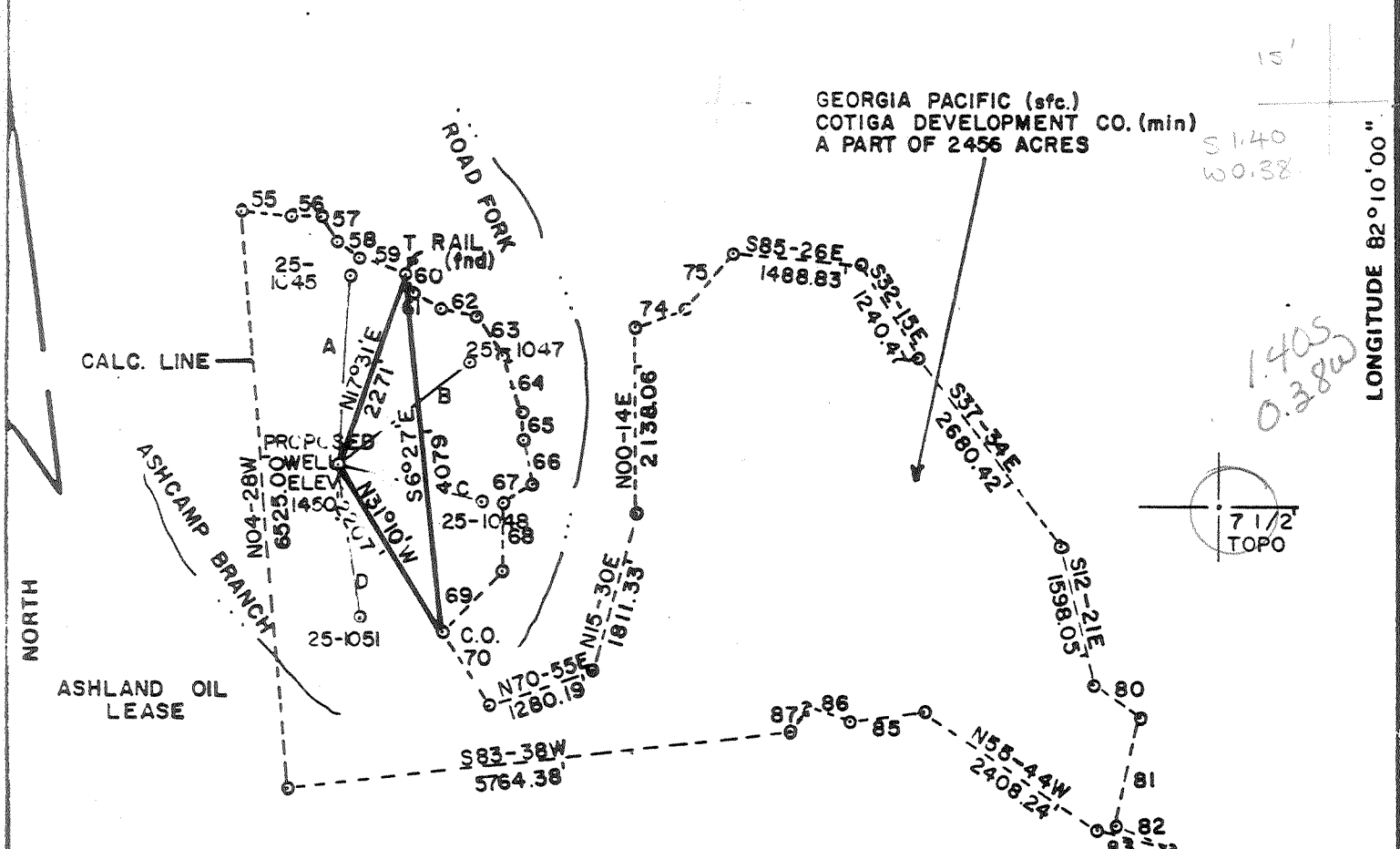


Plot Card CSD



S 140
W 0.38

1405
0.380

LONGITUDE 82°10'00"

7400

55=S84-23E, 576.91'
56=N88-55E, 309.69'
57=S38-34E, 335.65'
58=S47-51E, 297.79'
59=S72-41E, 570.52'
60=S26-36E, 233.12'
61=S66-14E, 358.33'
62=S79-27E, 395.30'
63=S34-33E, 537.76'
64=S17-30E, 683.36'
65=S02-36E, 317.36'
66=S12-01E, 491.26'

67=S56-10W, 398.23'
68=S01-03W, 741.78'
69=S43-29W, 951.27'
70=S29-19E, 985.79'
74=N69-32E, 601.12'
75=N39-31E, 838.37'
80=S34-18E, 656.34'
81=S12-31W, 1261.68'
82=S68-23E, 676.88'
83=N75-37W, 868.74'
85=S83-47W, 883.60'
86=N70-32W, 528.67'

87=S31-25W, 292.68'

A=N04°34'E 2154'
B=N51°45'E 1885.5'
C=S75°47'E 1681'
D=S08°19'E 1768'

FILE NO. _____
DRAWING NO. _____
SCALE 1"=2000'
MINIMUM DEGREE OF ACCURACY 1 in 200
PROVEN SOURCE OF ELEVATION USGS BM TRACEFORK 665, USGS 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) Wayne D. Norton
R.P.E. _____ L.L.S. 1624
Norton Surveys + Consulting, Inc.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
FORM IV-6 (8-78)

DATE NOVEMBER 3, 1983
OPERATOR'S WELL NO. C-90
API WELL NO. 47-059-1091
STATE MINO COUNTY MINO PERMIT



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 1450 WATER SHED ASHCAMP BRANCH
DISTRICT HARDEE COUNTY MINO
QUADRANGLE MYRTLE Holden 15' SW
SURFACE OWNER GEORGIA PACIFIC ACREAGE A PART OF 2456
OIL & GAS ROYALTY OWNER COTIGA DEVELOPMENT CO. LEASE ACREAGE A PART OF 2456
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) _____
PLUG AND ABANDON CLEAN OUT AND REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 5000'
WELL OPERATOR SENECA-UPSHUR PET. INC. DESIGNATED AGENT JOSEPH HAGER
ADDRESS P.O. BOX 2048 ADDRESS P.O. BOX 2048
BUCKHANNON, W.VA. 26201 BUCKHANNON, W.VA. 26201

DEC 27 1983

HALL - DEEP WELL 66 Dempsey School (368)



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IV-3 (Rev 8-81) NOV 14 1986

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

State of West Virginia
Department of Mines
Oil and Gas Division

Date February 16, 1984
Operator's Well No. C-90
Farm
API No. 47 - 059 - 1091

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: 1450' Watershed Ashcamp Branch
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.
ADDRESS 2nd Floor Rear, 14 East Lancaster Ave. Paoli, PA 19301
OIL AND GAS INSPECTOR FOR THIS WORK Arthur St. Clair
ADDRESS P.O. Box 157, Brenton, WV
PERMIT ISSUED 12/15/83
DRILLING COMMENCED 12/31/83
DRILLING COMPLETED 01/08/84

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.	19	19	10
13-10"			
9 5/8			
8 5/8	2366	2366	400
7			
5 1/2			
4 1/2		4726	185
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Marcellus Depth 5000 feet
Depth of completed well 4795 feet Rotary x / Cable Tools
Water strata depth: Fresh ___ feet; Salt ___ feet
Coal seam depths: 737', 792' Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 3300 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

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(Continue on reverse side)

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

DATE: 02/07/84
 WATER: 878 BBL.
 SAND: 210,000#
 PERFS: 4087' - 4312' 32 .49 Perfs
 NITROGEN: 21,080 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
Sand			0	285	
Sand & Shale			285	737	
Coal			737	743	
Sand & Shale			743	792	
Coal			792	798	
Sand & Shale			798	2280	
Little Lime			2280	2286	
Sand & Shale			2286	2336	
Big Lime			2336	2614	
Big Injun			2614	2635	
Sand & Shale			2635	2770	
Weir			2770	2832	
Sand & Shale			2832	3172	
Sudbury Shale			3172	3244	
Berea			3244	3300	
Gray Shale			3300	4080	
Brown Shale			4080	4640	
Marcellus			4640	4795	T.D.
					GR log start from 1420' to 395 3215
					401 3222
					810 4089
					820 4348
					825 4465
					830 4634
					461 4784

(Attach separate sheets as necessary)

Seneca-Upshur Petroleum Company
Well Operator

By: 

Date: February 16, 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 coal, encountered in the drilling of a well."



1) Date: November 4, 1983
 2) Operator's Well No. C-90
 3) API Well No. 47 - 059 - 1091
 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: 1450' Watershed: Ashcamp Branch
 District: Hardee County: Mingo Quadrangle: Myrtle
 6) WELL OPERATOR Seneca-Upshur Petroleum Company 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 9) DRILLING CONTRACTOR:
 Name Arthur St. Clair Name Little Swiss Drilling Company
 Address P.O. Box 157 Address P.O. Box 2048
Brenton, West Virginia 24818 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, 5000 feet
 13) Approximate trata depths: Fresh, 400 feet; salt, 800 feet.
 14) Approximate coal seam depths: 320 Is coal being mined in the area? Yes

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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)	Kinds	
	Size	Grade	Weight per ft.	New	Used			For drilling
Conductor	16"				X	20	20	To Surface
Fresh water	11 3/4"					1000	1000	To Surface <i>by rule 15.05</i>
Coal								Sizes
Intermediate	8 5/8"		23.00	X		2350	2350	To Surface
Production	4 1/2"		23.00	X			5000	As Required
Tubing								Depths set
Liners								by Rule 15.01
								Perforations:
								Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-059-1091

Date December 15, 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 December 15, 1985 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	Fee
MARKET BOND	<i>LS</i>	<i>MU</i>	<i>MU</i>	<i>6245</i>

[Signature]
 Administrator, Office of Oil and Gas

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