

BS 12-3-81

9690' WEST

Plot Card CSD

LATITUDE 39° 15' 00"

W. VA. PULP & PAPER

LONGITUDE 81° 10' 00"

8900' SOUTH

CAIN

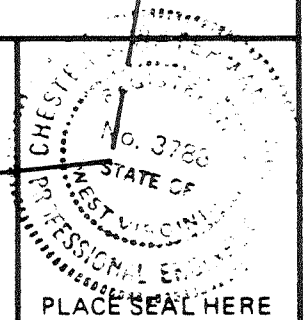
DAVIS

W. VA. PULP & PAPER CO.

FILE NO. 81-589
 DRAWING NO. _____
 SCALE 1" = 300'
 MINIMUM DEGREE OF ACCURACY 1/200'
 PROVEN SOURCE OF ELEVATION LONG RUN ROAD (763')

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) Chet Watson WESTVACO
 R.P.E. 3788 L.L.S. _____



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



DATE 10/28, 1981
 OPERATOR'S WELL NO. 1
 API WELL NO. 47-085-5400
 STATE COUNTY 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 980 WATER SHED LONG RUN
 DISTRICT GRANT COUNTY RITCHIE
 QUADRANGLE CAIRO 7.5' Harrisonville 15' NW
 SURFACE OWNER WESTVACO ACREAGE 73.23
 OIL & GAS ROYALTY OWNER HALL & TETRICK LEASE ACREAGE 73.23
 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 SH. ESTIMATED DEPTH 6100'
 WELL OPERATOR WAYMAN W. BUCHANAN DESIGNATED AGENT WIMPP. MORRIS
 ADDRESS SAN ANTONIO, TX ADDRESS CHARLESTON, WV
DEEP WELL Silver Run

JAN - 8 1982

(Revised 3-81)

PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:
ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRILLING CONTRACTOR (IF KNOWN) Gene Stalnaker, Inc.
Address P.O. Box 178
Glenville, WV 26351

GEOLOGICAL TARGET FORMATION Marcellus Shale
Estimated depth of completed well 5900' feet. Rotary X / Cable tools /
Approximate water strata depths: Fresh, 75 feet; salt, feet.
Approximate coal seam depths:
Is coal being mined in this area: Yes / No X /

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL UP OR SACKS Cubic ft.	PACKERS
	Size	Grade	Weight per ft	New	Used	For Drilling	Left in Well		
Conductor	13 3/8		48#	X			150	Circulate	Kinds
Fresh water									
Coal									Sizes
InterMed.	8 5/8		23#	X			2000	Circulate	
Production Tubing	4 1/2	ERW	10.5#	X			5900	400 sks.	Depths set
Liners									Perforations: Top Bottom

*NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code §22-4-2, (iii) Form IV-9, "Reclamation Plan" applicable to the reclamation required by Code §22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code §22-4-12a, and (v) if applicable, the consent required by Code §22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.
A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.*

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 8-7-82


Deputy Director - Oil & Gas Division

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code §22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof:

W A I V E R

The undersigned coal operator / owner / lessee / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided the well operator has complied with all applicable requirements of the West Virginia Code and the governing regularions.

Date: , 19 .

By:

Its:



Date September 28, 1982

State of West Virginia

Department of Mines
Oil and Gas Division

Operator's
Well No. Hall & Tetrick #1
Farm Hall & Tetrick
API No. 47 - 058 - 5400

RECEIVED

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE MAR 9 - 1983

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

LOCATION: Elevation: 980' Watershed Long Run
District: Grant County Ritchie Quadrangle Cairo 7.5'

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

COMPANY Wayman W. Buchanan
ADDRESS 444 Petroleum Commerce Bldg.
San Antonio, Texas 78205

DESIGNATED AGENT Jim P. Morris
ADDRESS 401 Peoples Building
Charleston, WV 25301

SURFACE OWNER Westvaco
ADDRESS Parkersburg, WV 26101

GENERAL RIGHTS OWNER William Hall & M. F. Tetrick
ADDRESS _____

OIL AND GAS INSPECTOR FOR THIS WORK Deo Mace
ADDRESS Sandridge, WV

PERMIT ISSUED 9/7/82

DRILLING COMMENCED 12/15/81

DRILLING COMPLETED 12/22/81

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

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"			
9 5/8		277	Circ.
8 5/8			
7		2032	Circ.
5 1/2			
4 1/2		5801	290 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Marcellus Shale Depth 6100 feet
Depth of completed well 5810 feet Rotary X / Cable Tools _____
Water strata depth: Fresh 60 feet; Salt 1870 feet
Coal seam depths: None Is coal being mined in the area? _____

OPEN FLOW DATA
Producing formation Upper Dev. undiff. Devonian Shale Pay zone depth 3699-3899 feet
Gas: Initial open flow N/T Mcf/d Oil: Initial open flow 0 Bbl/d
Final open flow 310 Mcf/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 24 hours
Static rock pressure 625 psig (surface measurement) after 24 hours shut in
(If applicable due to multiple completion--)
Second producing formation None 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
(If applicable due to multiple completion) after _____ hours shut in

MAR 14 1983

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

Perforations from 3699-3899 with 30 holes.
Treated zone with 1500 gals. 15% HCL nitroified acid; Fractured with 2,000,000 scf nitrogen.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fre and salt water, coal, oil and g
Soil & Shale			0	120	
Sand			120	150	
Shale			150	360	
Sand			360	405	
Shale			405	1004	
Sand			1004	1022	
Shale			1022	1310	
Sand			1310	1395	
Shale			1395	1420	
Sand			1420	1500	
Shale			1500	1522	
Sand			1522	1618	
Shale			1618	1643	
Sand			1643	1698	
Shale			1698	1705	
Sand			1705	1763	
Big Lime			1763	1870	
Injun			1870	1895	
Squaw			1895	1960	
Shale			1960	2270	
Coffee Shale			2270	2281	
Berea			2281	2283	
Shale			2283	4324	
Huron Shale			4324	4568	
Shale			4568	5279	
Rhinestreet shale			5279	5497	
Shale			5497	5661	
Marcellus Shale			5661	5790	
Onondaga Limestone			5790	5810	
TD			5810		

5810
5497
313 expl stg

(Attach separate sheets as necessary)

Wayman W. Buchanan
Well Operator

By: Cay Whigton
Date: September 28, 1982

Note: Regulation 2.05(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."