



FILE NO. SANTA FE 81-51
 DRAWING NO. 1
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION BM 673

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) Neal Hughes
 R.P.E. _____ L.L.S. 632

PLACE SEAL HERE

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



DATE DEC. 23, 19 81
 OPERATOR'S WELL NO. 1
 API WELL NO. 47-107-1199
 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 840' WATER SHED WORTHINGTON CREEK
 DISTRICT UNION COUNTY WOOD
 QUADRANGLE VALLEY MILLS Marietta 15' SC
 SURFACE OWNER WESTVACO ACREAGE 79.9
 OIL & GAS ROYALTY OWNER GRANVILLE ROLSTON LEASE ACREAGE 630
 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 DEVONIAN SHALE ESTIMATED DEPTH 4800'
 WELL OPERATOR SANTA FE DRILLING DESIGNATED AGENT ROBERT CORNELL
 ADDRESS P.O. BOX 1468 ADDRESS SAME
PARKERSBURG, WVA 26101



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
Oil and Gas Division
WELL RECORD

Rotary Oil _____
Cable _____ Gas _____
Recycling _____ Comb.
Water Flood _____ Storage _____
Disposal _____ (Kind) _____

Quadrangle Valley Mills 7.5

Permit No. 47-107-1199

Company Santa Fe Drilling Corporation
Address P.O. Box 1468, Parkersburg, W. Va.
Farm Rolston Acres 79.9
Location (waters) Worthing Creek
Well No. One (1) Elev. 840
District Union County Wood
The surface of tract is owned in fee by _____
Westvaco
Address _____
Mineral rights are owned by Granville
Rolston Address Ogden, West Virginia
Drilling Commenced 2-20-1982
Drilling Completed 2-28-1982
Initial open flow 1,960,000 cu. ft. 50 bbls.
Final production 2,000,000 cu. ft. per day 50 bbls.
Well open 4 hrs. before test 900 RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size 20-16			To surface 504 sks Cement
Cond. 13-10"			
9 5/8			
8 5/8	507	507	
7			
5 1/2		4053	
4 1/2			
3			
2			
Liners Used			

Well treatment details:

Nitrogen Frac done by Powell. Rate was 36,000 scf/min.
Total down hole fluid was 646,000 scf.
Maximum treating pressure was 2200.
Average treating pressure was 1600.

Cementing report is enclosed on attached sheet

Coal was encountered at N/A Feet _____ Inches Up Down _____ Feet
Fresh water 200 Feet _____ Salt Water _____ Feet
Producing Sand Gordon; Warren; Brown Shale; Brown Shale Depth 2522-2550; 3170-3230; 3534-3590
3950-4000 Huron

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Sand & Shale			0	1385		
Maxon			1386	1424		
Shale			1424	1442		
Big Lime			1442	1474		
Shale			1474	1680		
Big Engine			1680	1800		
Shale			1800	2180		
Berea			2180	2194		
Shale			2194	2522		
Gordon			2522	2550	Oil	
Shale			2550	3170		
Warren			3170	3230	Oil	
Shale			3230	3534		
Brown Shale			3534	3590	Gas & Oil	
Shale			3590	3950		
Brown Shale			3950	4000	Gas	
Shale			4000	4053		
			4053		Total Depth	

4053
2194
1859

Huron @ ID

MAY 29 1984

MAY 29 1984

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

JAN 6 - 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

TO THE DEPARTMENT OF MINES,
Charleston, W. Va.

DATE January 5, 1982

Surface Owner Westvaco

Company Santa Fe Drilling Corporation

Address Parkersburg, WV 26101

Address P.O. Box 1468, Parkersburg, WV 26101

Mineral Owner Granville Rolston

Farm Rolston Acres 630

Address Parkersburg, WV 26101

Location (waters) Worthington Creek

Coal Owner N/A

Well No. 1 Elevation 840'

Address _____

District Union County Wood

Coal Operator N/A

Quadrangle Valley Mills

Address _____

THIS PERMIT MUST BE POSTED AT THE WELL SITE

provisions being in accordance with Chapter 22,
the W. Va. Code, this location is hereby approved
for drilling. This permit shall expire if
operations have not commenced by 9-7-82.

INSPECTOR
TO BE NOTIFIED Deo Mace

ADDRESS Rt. 1 Box 65, Sand Ridge, WV 25274

PHONE 655-8693

J. M. Muzzy
Deputy Director - Oil & Gas Division

GENTLEMEN:

The undersigned well operator is entitled to drill upon the above named farm or tract of land for oil and gas, having fee title thereto, (or as the case may be) under grant or lease dated January 10 1981 by Julian K. Rolston made to Santa Fe Drilling Corp. and recorded on the 18 day of June 1981 in Wood County, Book 756 Page 514

NEW WELL DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 OIL AND GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1969.

The enclosed plat was prepared by a registered engineer or licensed land surveyor and all coal owners and/or operators have been notified as of the above date.

The above named coal owners and/or operator are hereby notified that any objection they wish to make, or are required to make by Section 3 of the Code, must be received by, or filed with the Department of Mines within ten (10) days. *

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators or coal owners at their above shown respective address _____ day _____ before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
GEOPHYSICAL LOGS DIRECTLY TO:

WEST VIRGINIA GEOLOGICAL AND
ECONOMIC SURVEY
P. O. BOX 879
MORGANTOWN, WEST VIRGINIA 26505
AC-304 - 292-6331

Address
of
Well Operator

Very truly yours, Santa Fe Drilling Corporation
(Sign Name) Robert Carroll
Well Operator
P.O. Box 1468
Street
Parkersburg
City or Town
West Virginia 26101
State

*SECTION 3 If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made by the coal operators or found thereto by the department and that the same is approved and the well operator authorized to proceed.

47-107-1199

PERMIT NUMBER

"I have read and understand the reclamation requirements as set forth in Chapter 22, Article 4, Section 12-b and will carry out the specified requirements."

Signed by _____

THIS IS AN ESTIMATE ONLY
ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

PROPOSED WORK ORDER TO X DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT:
 NAME Gene Stalnaker NAME Robert Cornell
 ADDRESS Glenville, WV ADDRESS P.O. Box 1468, Parkersburg, WV 261
 TELEPHONE 462-7092 TELEPHONE 422-2121
 ESTIMATED DEPTH OF COMPLETED WELL: 4800 ft. ROTARY X CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Devonian Shale
 TYPE OF WELL: OIL _____ GAS _____ COMB. X STORAGE _____ DISPOSAL _____
 RECYCLING _____ WATER FLOOD _____ OTHER _____

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LIFT IN WELL	CEMENT LIFT UP OR SACKS - CUBIC FT.
20 - 16			
13 - 10			
9 - 5/8			
8 - 5/8	<u>300 Ft.</u>	<u>500</u> 300 Ft.	90 saks or to surface
7			
5 1/2			
4 1/2		<u>4800 ft.</u>	<u>500 saks</u>
1			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 120 FEET N/A SALT WATER _____ FEET
 APPROXIMATE COAL DEPTHS N/A
 IS COAL BEING MINED IN THE AREA? N/A BY WHOM? _____

TO DRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT.

TO DRILL DEEPER OR REDRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED.

TO FRACTURE - STIMULATE:

OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD.

OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.

Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty-four (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

WAIVER: I the undersigned, Agent for _____ Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location.

We the _____ Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.

For Coal Company

Official Title