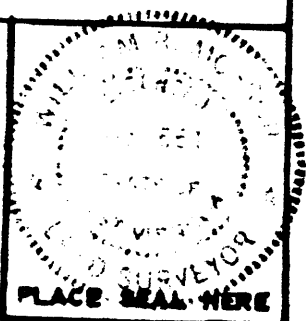


FILE NO. _____
 DRAWING NO. _____
 SCALE 1"=500'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION H.G. PT. 1165'

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) William R. Haggard
 R.P.E. _____ L.L.S. 551



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



DATE 10 DECEMBER, 1981
 OPERATOR'S WELL NO H-1310
 API WELL NO. 47-073-1413
 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 1149' WATER SHED RIGHT FORK-FRENCH CREEK
 DISTRICT JEFFERSON TAXED IN MCJAN COUNTY PLEASANTS
 QUADRANGLE SCHULTZ 7 1/2' QUAD St Marys 151c
 SURFACE OWNER B.C. EDDY ACRES 62.5
 OIL & GAS ROYALTY OWNER BLAINE & MARY EDDY LEASE ACRES 62.5
 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 SHALE ESTIMATED DEPTH 5400'
 WELL OPERATOR HAUGHT, INC. DESIGNATED AGENT WARREN HAUGHT
 ADDRESS SMITHVILLE, W.VA. 26178 ADDRESS SMITHVILLE, W.VA. 26178

JAN 27 1982

3-3-82
St. Marys
77

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

20 - .39 holes 5365' - 5669'

Stimulation - 688,000 SCF N₂

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Red Rock			50	61	Fresh H ₂ O
Slate			61	75	
Sand			75	87	
Shale			87	101	
Red Rock			101	111	
Shale			111	130	
Sand			130	145	
Red Rock			145	172	
Sand & Shale			172	250	
Sand			250	350	
Sand & Shale			350	430	
Sand			430	555	
Red Rock			555	640	
Sand			640	775	
Sand & Shale			775	850	
Sand			850	985	
Sand			985	1050	
Sand & Shale			1050	1170	
Sand			1170	1259	
Sand & Shale			1259	1321	
Sand			1321	1330	
Shale			1330	1360	
Red Rock			1360	1375	
Shale			1375	1380	
Sand			1380	1400	
Shale			1400	1420	
Red Rock			1420	1430	
Sand & Shale			1430	1480	
Shale			1480	1500	
First Salt Sand			1512	1591	
Second Salt Sand			1601	1702	
Third Salt Sand			1714	1760	
Maxon			1778	1832	
Big Lime			1907	1960	
Keener			1984	2008	
Big Injun			2020	2117	
Squaw			2130	2154	
Weir			2282	2312	

(Continued)

(Attach separate sheets as necessary)

National Operating, Inc.

Well Operator

By: _____

Date: 4-22-82

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 ..."

WELL LOG
Continued

073-1413

FORMATION	TOP FEET	BOTTOM FEET	REMARKS
Berea	2364	2374	
Gantz	2434	2436	
Fifty Foot	2498	2506	
Thirty Foot	2612	2630	
Gordon	2716	2750	
Fourth Sand	2776	2794	
Fifth Sand	2892	2910	
Byard	3002	3018	
Elizabeth	3185	3213	
Warren First	3276	3290	
Warren Second	3400	3428	
Tiona	3470	3494	
Speechley	3621	3646	
Balltown	3726	3760	
Scheffield	3869	3900	
Bradford	3995	4014	
Kane	4052	4064	
Riley	4139	4196	
Elk	4380	4390	
Benson	5016	5058	
Black Shale	5320	5796 T.D.	Gas after stimulation

~~PHINE~~
MARC.

5365
2374

2991

5796
2154

3642 EXPL FT

5796
1149

4847 subsea T.D.

5796
2374

3422

5065
2374

2691



STATE OF WEST VIRGINIA
OFFICE OF OIL AND GAS - DEPARTMENT OF MINES

OIL AND GAS WELL PERMIT APPLICATION

WELL TYPE: Oil X / Gas X /

(If "Gas", Production X / Underground storage ___ / Deep ___ / Shallow X /

LOCATION: Elevation: 1149' Watershed: Right Fork-French Creek
District: Jefferson County: Pleasants Quadrangle: Schultz, WV

WELL OPERATOR Haught, Inc.
Address Rt. 3 Box 14
Smithville, WV 26178

DESIGNATED AGENT Warren R. Haught
Address Smithville, WV 26178

OIL AND GAS
ROYALTY OWNER Blain & Mary Eddy
Address Rt. 2 Box 88
St. Marys, WV 26170
Acreage 62.5

COAL OPERATOR None
Address _____

SURFACE OWNER B. & C. Eddy
Address St. Marys, WV 26170
Acreage 62.5

COAL OWNER(S) WITH DECLARATION ON RECORD:
NAME _____
Address _____

FIELD SALE (IF MADE) TO:
NAME Columbia Gas Transmission Corp.
Address P. O. Box 1273
Charleston, WV 25325

NAME _____
Address _____

OIL AND GAS INSPECTOR TO BE NOTIFIED:
NAME Phillip L. Tracy
Address Rt. 23
Alma, WV 26320
Telephone 758-4573

COAL LESSEE WITH DECLARATION ON RECORD:
NAME None
Address _____

RECEIVED

JAN 11 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed ___ / lease X / other contract ___ / dated Dec. 22 1980, to the undersigned well operator from Blaine Eddy et ux & Mary Eddy.

(If said deed, lease, or other contract has been recorded:)

Recorded on Feb. 6, 1981, in the office of the Clerk of County Commission of Pleasants County, West Virginia, in Deed ¹⁶¹ Book/ at page 221. A permit is requested as follows:

PROPOSED WORK: Drill X / Drill Deeper ___ / Redrill ___ / Fracture or stimulate ___ / Plug off old formation ___ / Perforate new formation ___ / Other physical change in well (specify) _____

--planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection they wish to make or are required to make by Code §22-4-3 must be filed with the Department of Mines within fifteen (15) days after receipt of this Application by the Dept. 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 lessees on or before the day of the mailing or delivery of this Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO:
WEST VIRGINIA OIL AND GAS CONSERVATION COMMISSION
1613 WASHINGTON ST., E.
CHARLESTON, WV 25311
Telephone - 304/348-3092

Haught, Inc.
Well Operator
By: Warren R. Haught
Its: President

(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) Haught, Inc.

Address Rt. 3 Box 14

Smithville, WV 26178

GEOLOGICAL TARGET FORMATION (Marcellus) Devonian Shale

Estimated depth of completed well 5400 feet. Rotary X / Cable tools /

Approximate water strata depths: Fresh, 75 feet; salt, feet.

Approximate coal seam depths: None

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									Kinds
Fresh water	8 5/8	K-55	20#	X		1100	1100	Cement to	Surface
Coal									Sizes
Intermed.									
Production	4 1/2	J-55	10.5	X			5400	525 Sacks	Depths set
Tubing								or as needed	by
Liners								rule 15.01	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 conditions 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 9-12-82.

Fred B. Bennett
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 regulations.

Date: , 19 .

By: _____

Its: _____