

88
8-26-80

Date: August 21, 19 80

Operator's Well No. H-1073

API Well No. 17 - 073 - 0942
State County Permit

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

OIL AND GAS WELL PERMIT APPLICATION

WELL TYPE: Oil X / Gas X /
(If "Gas", Production X / Underground storage _____ / Deep _____ / Shallow X /)

LOCATION: Elevation: 898' Watershed: Ohio River
District: Union County: Pleasants Quadrangle: Raven Rock W.V. 7 1/2

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

DESIGNATED AGENT Warren R. Haught
Address Smithville, WV 26178

OIL & GAS ROYALTY OWNER Jack Waugh
Address St. Marys, WV 26170

COAL OPERATOR None
Address _____

Acreage 107

COAL OWNER(S) WITH DECLARATION ON RECORD:

SURFACE OWNER Jack Waugh

Name _____

Address St. Marys, WV 26170

Address _____

Acreage 107

Name _____
Address _____

FIELD SALE (IF MADE) TO:
Name _____
Address _____

Address _____
Name _____
Address _____
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AUG 25 1980
OIL & GAS DIVISION
DEPT. OF MINES

OIL & GAS INSPECTOR TO BE NOTIFIED
Name Phillip L. Tracy
Address Rt. #3
Alma, W.V. 26320

COAL LESSEE WITH DECLARATION ON RECORD:
Name None
Address _____

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed ___ / lease ___ / other contract X / dated May 17, 19 80, to the undersigned well operator from Jack Waugh
[If said deed, lease, or other contract has been recorded:]

Recorded on June 18, 19 80, in the office of the Clerk of the County Commission of Pleasants County, West Virginia, in Deed Book 156 at page 332. 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 the receipt of this Application by the Department.

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.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO:
WEST VIRGINIA OIL AND GAS CONSERVATION COMMISSION
1615 WASHINGTON STREET EAST
CHARLESTON, WV 25311
TELEPHONE: (304) 348-3092

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

BLANKET BOND

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 Smithville, WV 26178

GEOLOGICAL TARGET FORMATION, Shale
Estimated depth of completed well, 4000' feet Rotary X / Cable tools _____
Approximate water strata depths: Fresh, 75 feet; salt, _____ feet.
Approximate coal seam depths: None Is coal being mined in the area? Yes _____ No X

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		
Conductor									Kinds
Fresh water	8 5/8	K-55	20#	X		200'	200'	75 sacks	
Coal									Sizes
Intermediate									
Production	4 1/2	J-55	10.5#	X			4000'	100 sacks	Depths set
T casing									
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-3, "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 § 22-4-3a 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 5-4-81.

Thomas E. Huzzey
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 _____

BLANKET BOND

Date 21 AUG 1980
Well No. H-1073
API No. 47 - 073 - 942
State County Permit

STATE OF WEST VIRGINIA
OFFICE OF OIL AND GAS

Company Name HAUGHT INC. Designated Agent WARREN HAUGHT
Address SMITHVILLE, W.VA. Address SMITHVILLE, W.VA.
Telephone 477-3333 Telephone 477-3333
Landowner JACK WAUGH Soil Cons. District UPPER OHIO
Revegetation to be carried out by WARREN HAUGHT (Agent)
This plan has been reviewed by Upper Ohio SCD. All corrections
and additions become a part of this plan! 8/28/80 Renneth R. Plawn
(Date) (SCD Agent)

Access Road	Location
Structure <u>DITCH</u> (A)	Structure <u>DIVERSION DITCH</u> (1)
Spacing <u>N/A</u>	Material <u>SOIL</u>
Page Ref. Manual <u>1:11</u>	Page Ref. Manual <u>1:9</u>
Structure <u>CROSS DRAIN</u> (B)	Structure <u>SEDIMENT BARRIER</u> (2)
Spacing <u>100'</u>	Material <u>TREES & BRUSH</u>
Page Ref. Manual <u>1:3</u>	Page Ref. Manual <u>1:15</u>
Structure _____ (C)	Structure _____ (3)
Spacing _____	Material _____
Page Ref. Manual _____	Page Ref. Manual _____

All structures should be inspected regularly and repaired if necessary.

Revegetation

Treatment Area I	Treatment Area II
Lime _____ Tons/acre or correct to pH <u>6.5</u>	Lime _____ Tons/Acre or correct to pH _____
Fertilizer <u>500</u> lbs/acre (10-20-20 or equivalent)	Fertilizer _____ lbs/acre (10-20-20 or equivalent)
Mulch <u>HAY OR STRAW 2</u> Tons/Acre	Mulch _____ Tons/Acre
Seed* <u>FESCUE KY 31 (40)</u> lbs/acre	Seed* _____ lbs/acre
_____ lbs/acre	_____ lbs/acre
_____ lbs/acre	_____ lbs/acre

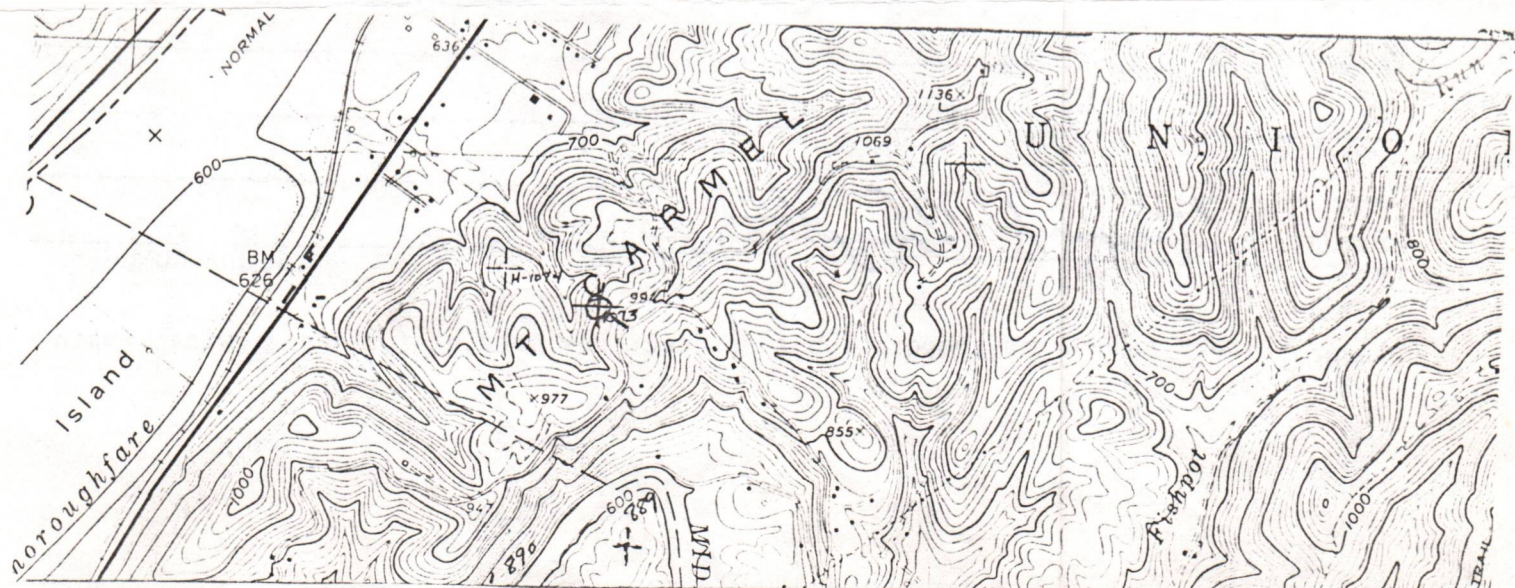
RECEIVED
SEP - 2 1980

*Inoculate all legumes such as vetch, trefoil and clovers with the proper bacterium. Inoculate with 3X recommended amount.

OIL & GAS DIVISION
DEPT. OF MINES

Attach or photocopy section of involved Topographic map. Quadrangle RAVEN Rock 7 1/2'

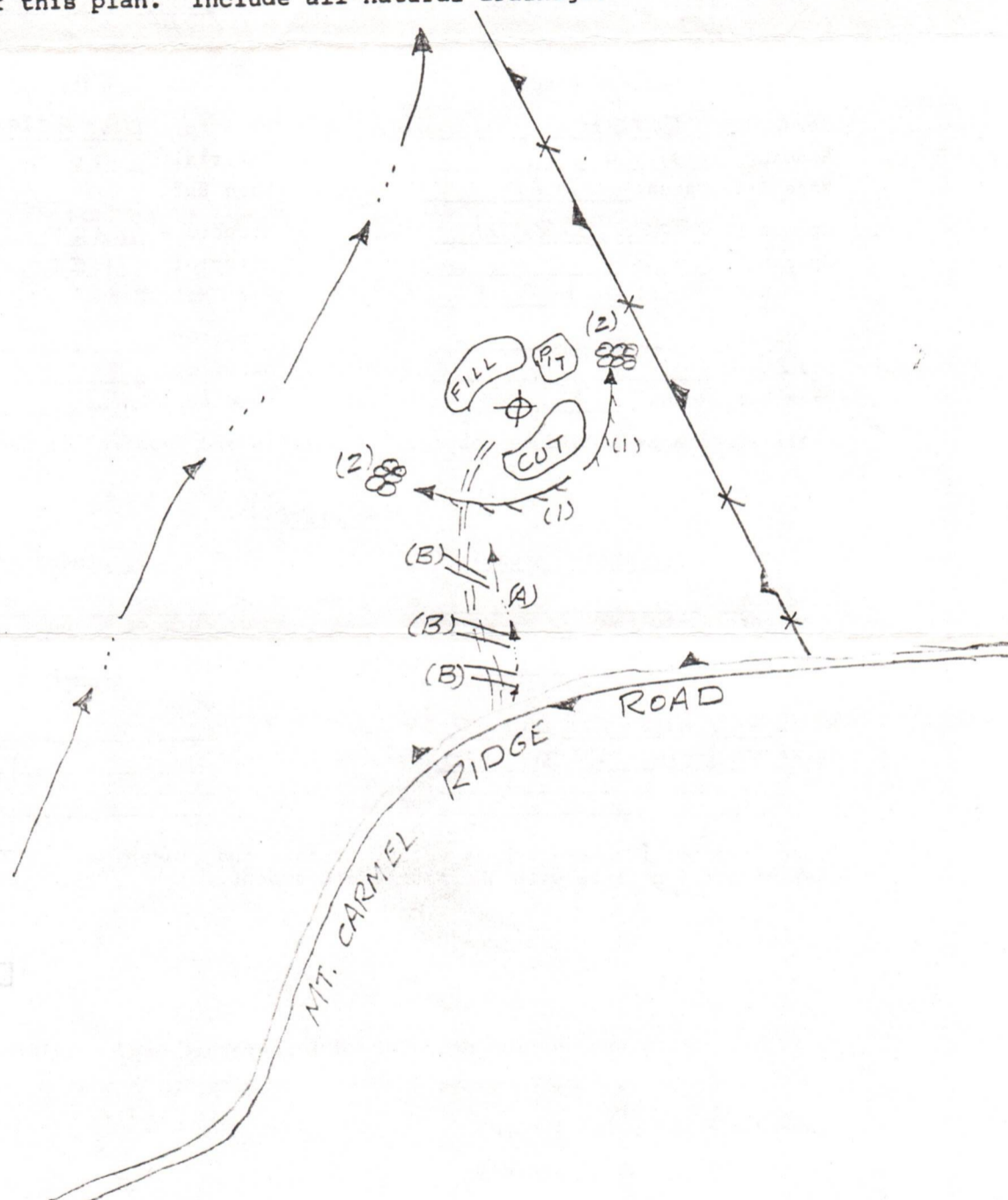
Legend:  Well Site
 Access Road



Well Site Plan

- Legend:
- Property Boundry
 - Road
 - Existing Fence
 - Planned Fence
 - Stream
 - Open Ditch
- Diversion
 - Spring
 - Wet Spot
 - Building
 - Drain Pipe
 - Waterway

Sketch to include well location, existing access road, roads to be constructed, wellsite, drilling pits and necessary structures numbered or lettered to correspond with first part of this plan. Include all natural drainage.



Comments: SLOPE OF ACCESS ROAD 15%
ALL TREES TO BE CUT & PILED.

Signature: Walter R. Haught Smithville, WV 26178 477-3333
 Agent Address Phone Number

Please request landowners cooperation to protect new seeding for one growing season.

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

WELL OPERATOR'S REPORT 64
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 898' / Watershed: Ohio River
District: Union / County: Pleasants / Quadrangle: Raven Rock W.V. 7 1/2'

WELL OPERATOR Haight, Inc. / Jack Waugh H-1073 / DESIGNATED AGENT Warren R. Haight
Address Route 3, Box 14 / Address Smithville, WV 26178
Smithville, WV 26178

PERMITTED WORK: Drill / Convert / Drill deeper / Redrill / Fracture or stimulate
Plug off old formation / Perforate new formation /
Other physical change in well (specify) _____

PERMIT ISSUED ON September 4, 19 80, OIL & GAS INSPECTOR FOR THIS WORK:
(IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED) Name Phillip L. Tracy
Address Rt. 3
Alma, WV 26320

GEOLOGICAL TARGET FORMATION: Shale / Depth 3257 to 3720 feet
Depth of completed well, 3966 feet / Rotary / Cable Tools
Water strata depth: Fresh, _____ feet; salt, _____ feet.
Coal seam depths: None / Is coal being mined in the area? No
Work was commenced September 13, 19 80, and completed September 19, 19 80

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		
Conductor									Kinds
Fresh water	<u>8-5/8</u>	<u>K-55</u>	<u>20#</u>	<input checked="" type="checkbox"/>		<u>966'</u>	<u>966'</u>	<u>160 sacks</u>	
Coal									Sizes
Intermediate									
Production	<u>4 1/2</u>	<u>J-55</u>	<u>10.5#</u>	<input checked="" type="checkbox"/>		<u>3877'</u>	<u>425 Sacks</u>		Depths set
Tubing									
Liners									Perforations:
									Top Bottom
									<u>3355 3660</u>

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FEB 10 1981
OIL & GAS DIVISION
DEPT. OF MINES

OPEN FLOW DATA

Producing formation Shale / Pay zone depth 3257 to 3720 feet
Gas: Initial open flow, _____ Mcf/d / Oil: Initial open flow, _____ Bbl/d
* Final open flow, 120 Mcf/d / Final open flow, Show Bbl/d
Time of open flow between initial and final tests, 8 hours
Static rock pressure, 450 psig (surface measurement) after 12 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 / 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

[08-78]

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

Nitrogen Fraced by B.J. Hughes Production Services--9/24/80
720,000 SCF 500 Gal. Acid

Perforations: 25: 3355 -- 3660

WELL LOG

FORMATION	Color	Hard or Soft	C4		Remarks Including indication of all fresh and salt water, coal, oil and gas
			Top Feet	Bottom Feet	
Clay			0	12	
Red Rock			12	20	
Shale			20	40	
Red Rock			40	55	
Sand			55	95	
Red Rock			95	110	
Sand/Shale			110	182	
Red Rock			182	190	
Sand			190	210	
Red Rock			210	245	
Sand			245	251	
Shale			251	306	
Red Rock			306	332	
Shale/Sand			332	520	
Sand			520	540	
Shale			540	590	
Sand/Shale			590	1390	
Sand			1390	1494	
Shale			1494	1515	
Sand			1515	1530	
B. Lime			1530	1560	
Shale			1560	1600	
Sand			1600	1667	
Shale			1667	1683	
Sand & Shale			1683	1733	
Shale			1733	2180	
Sand			2180	2390	
Shale			2390	2440	
Sand			2440	2445	
Shale			2445	2535	
Sand			2535	2615	
Shale			2615	2788	
Sand			2788	2892	
Shale & Sand			2892	3146	
Shale			3146	3192	
Sand			3192	3257	
Shale			3257	3361	
Sand			3361	3384	
Shale			3384	3572	
Sand			3572	3621	
Shale			3621	3656	
Sand			3656	3720	
Shale			3720	3804	
Sand			3804	3876	
Shale			3876	3966	T.D.

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."

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

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

RECEIVED

MAR - 8 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

INSPECTOR'S WELL REPORT

Permit No. 073-0942

Oil or Gas Well _____
(KIND)

Company Haught INC
Address Smithville W. Va.
Farm Jack waugh
Well No. H-1073
District union County pleasant

CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKERS
Size			
16			Kind of Packer
13			
10			Size of
8 1/4			
6 5/8			Depth set
5 3/16			
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

Drilling commenced _____
Drilling completed _____ Total depth _____
Date shot _____ Depth of shot _____
Initial open flow _____ /10ths Water in _____ Inch
Open flow after tubing _____ /10ths Merc. in _____ Inch
Volume _____ Cu. Ft.
Rock pressure _____ lbs. _____ hrs.
Oil _____ bbls., 1st 24 hrs.
Fresh water _____ feet _____ feet
Salt water _____ feet _____ feet

CASING CEMENTED _____ SIZE _____ No. FT. _____ Date _____

NAME OF SERVICE COMPANY _____

COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES

_____ FEET _____ INCHES _____ FEET _____ INCHES

_____ FEET _____ INCHES _____ FEET _____ INCHES

Drillers' Names _____

Remarks: Final Inspection accepted

3-5-82

R.A. Lowther 512

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION
INSPECTOR'S PLUGGING REPORT

Permit No. _____ Well No. _____

COMPANY _____ ADDRESS _____

FARM _____ DISTRICT _____ COUNTY _____

Filling Material Used _____

Liner	Location	Amount	Packer	Location		
PLUGS USED AND DEPTH PLACED			BRIDGES	CASING AND TUBING		
CEMENT-THICKNESS	WOOD-SIZE	LEAD	CONSTRUCTION-LOCATION	RECOVERED	SIZE	LOST

Drillers' Names _____

Remarks: _____

_____ I hereby certify I visited the above well on this date.

DATE

DISTRICT WELL INSPECTOR



State of West Virginia

Department of Mines
Oil and Gas Division

Charleston 25305

March 16, 1982

WALTER N. MILLER
DIRECTOR

Haught, Inc.
Route 3, Box 14
Smithville, West Virginia 26178

Dear Sir:

The required records and reports have been received in this office and the District Inspectors have submitted Final Inspections for the following wells listed below:

<u>PERMIT NO.</u>	<u>FARM & WELL NO.</u>	<u>DISTRICT</u>
PLEA-871	Jessie L. Taylor #H-1009	McKim
PLEA-0928	Lewis F. Snider #H-1049	MCKim
PLEA-0939	Jimmie Brammer #H-1057	Union
→ PLEA-0942	Jack Waugh #H-1073	Union
PLEA-0943	Jack Waugh #H-1074	Union
PLEA-0990	Paul M. Wilson, et al #H-1116	Washington
PLEA-1020	Cecil Lee Fetty #H-1076	McKim
PLEA-1038	Clifford Cunningham #H-1141	Washington
PLEA-1067	Watson-Haas Lumber Co. #H-1185	Washington
PLEA-1142	Benson D. Ward #H-1237	McKim

In accordance with Chapter 22, Article 4, Section 2, the bond coverage for above captioned wells will stay in force for life of well. Reclamation requirements have been approved..... ..

Very truly yours,

Fred Burdette

1.0 API well number: (If not available, leave blank. 14 digits.)	47-073-0942																
2.0 Type of determination being sought: (Use the codes found on the front of this form.)	107 Section of NGPA																
3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)	3966' feet																
4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)	<table style="width:100%; border: none;"> <tr> <td style="border: none;">Name</td> <td style="border: none;"><u>Haught, Inc.</u></td> <td style="border: none;">Seller Code</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Street</td> <td style="border: none;"><u>Rt. 3 Box 14</u></td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">City</td> <td style="border: none;"><u>Smithville, WV</u></td> <td style="border: none;">State</td> <td style="border: none;"><u>26178</u></td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;">Zip Code</td> <td style="border: none;"></td> </tr> </table>	Name	<u>Haught, Inc.</u>	Seller Code		Street	<u>Rt. 3 Box 14</u>			City	<u>Smithville, WV</u>	State	<u>26178</u>			Zip Code	
Name	<u>Haught, Inc.</u>	Seller Code															
Street	<u>Rt. 3 Box 14</u>																
City	<u>Smithville, WV</u>	State	<u>26178</u>														
		Zip Code															
5.0 Location of this well: [Complete (a) or (b).] (a) For onshore wells (35 letters maximum for field name.)	<table style="width:100%; border: none;"> <tr> <td style="border: none;">Field Name</td> <td style="border: none;"><u>Union District</u></td> </tr> <tr> <td style="border: none;">County</td> <td style="border: none;"><u>Pleasants County WV</u></td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;">State</td> </tr> </table>	Field Name	<u>Union District</u>	County	<u>Pleasants County WV</u>		State										
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	State																
(b) For OCS wells:	<table style="width:100%; border: none;"> <tr> <td style="border: none;">Area Name</td> <td style="border: none;"><u>N/ A</u></td> <td style="border: none;">Block Number</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Date of Lease:</td> <td style="border: none;"> <table style="width:100%; border: none;"> <tr> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> <tr> <td style="border: none;">Mo. Day Yr.</td> <td style="border: none;">OCS Lease Number</td> </tr> </table> </td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> </table>	Area Name	<u>N/ A</u>	Block Number						Date of Lease:	<table style="width:100%; border: none;"> <tr> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> <tr> <td style="border: none;">Mo. Day Yr.</td> <td style="border: none;">OCS Lease Number</td> </tr> </table>			Mo. Day Yr.	OCS Lease Number		
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Mo. Day Yr.	OCS Lease Number																
(c) Name and identification number of this well: (35 letters and digits maximum.)	<u>Jack Waugh H-1073</u>																
(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)	<u>Shale</u>																
6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)	<table style="width:100%; border: none;"> <tr> <td style="border: none;">Name</td> <td style="border: none;"><u>Columbia Gas Transmission Corp.</u></td> <td style="border: none;">Buyer Code</td> <td style="border: none;"></td> </tr> </table>	Name	<u>Columbia Gas Transmission Corp.</u>	Buyer Code													
Name	<u>Columbia Gas Transmission Corp.</u>	Buyer Code															
(b) Date of the contract:	<table style="width:100%; border: none;"> <tr> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> <tr> <td style="border: none;">Mo. Day Yr.</td> <td style="border: none;"></td> </tr> </table>			Mo. Day Yr.													
Mo. Day Yr.																	
(c) Estimated annual production:	15 MMcf.																
7.0 Contract price: (As of filing date. Complete to 3 decimal places.)	<table style="width:100%; border: none;"> <tr> <td style="border: none;">(a) Base Price (\$/MMBTU)</td> <td style="border: none;">(b) Tax</td> <td style="border: none;">(c) All Other Prices [Indicate (+) or (-).]</td> <td style="border: none;">(d) Total of (a), (b) and (c)</td> </tr> <tr> <td style="border: none;">-----</td> <td style="border: none;">-----</td> <td style="border: none;">-----</td> <td style="border: none;">-----</td> </tr> </table>	(a) Base Price (\$/MMBTU)	(b) Tax	(c) All Other Prices [Indicate (+) or (-).]	(d) Total of (a), (b) and (c)	-----	-----	-----	-----								
(a) Base Price (\$/MMBTU)	(b) Tax	(c) All Other Prices [Indicate (+) or (-).]	(d) Total of (a), (b) and (c)														
-----	-----	-----	-----														
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	<table style="width:100%; border: none;"> <tr> <td style="border: none;">4.976</td> <td style="border: none;">.637</td> <td style="border: none;">.01</td> <td style="border: none;">5.623</td> </tr> </table>	4.976	.637	.01	5.623												
4.976	.637	.01	5.623														
9.0 Person responsible for this application:	<table style="width:100%; border: none;"> <tr> <td style="border: none;">Name</td> <td style="border: none;"><u>Warren R. Haught</u></td> <td style="border: none;">Title</td> <td style="border: none;"><u>President</u></td> </tr> <tr> <td style="border: none;">Signature</td> <td colspan="3" style="border: none;"></td> </tr> <tr> <td style="border: none;">Date Application is Completed</td> <td style="border: none;"><u>August 24, 1981</u></td> <td style="border: none;">Phone Number</td> <td style="border: none;"><u>477-3333</u></td> </tr> </table>	Name	<u>Warren R. Haught</u>	Title	<u>President</u>	Signature				Date Application is Completed	<u>August 24, 1981</u>	Phone Number	<u>477-3333</u>				
Name	<u>Warren R. Haught</u>	Title	<u>President</u>														
Signature																	
Date Application is Completed	<u>August 24, 1981</u>	Phone Number	<u>477-3333</u>														

4102 1981
OIL & GAS DIVISION
DEPT. OF MINES

Agency Use Only
Date Received by Juris. Agency AUG 26 1981
Date Received by FERC

NOV 20 1980

PARTICIPANTS:

DATE: _____

BUYER-SELLER CODE

WELL OPERATOR: Haught Inc

FIRST PURCHASER: Columbia Gas Trans.

OTHER: _____

004030

0.2%

W. Va. Department of Mines, Oil & Gas Division
 WELL DETERMINATION FILE NUMBER
91-08-26-107-073-0942
 Use Above File Number on all Communications
 Relating to Determination of this Well

Qualifies J. Haggerty

CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING

ITEM NO.

- 1. FERC -121 Items not completed - Line No. 7.0 All
- 2. IV-1 Agent Warren R. Haught
- 3. IV-2 Well Permit _____
- 4. IV-6 Well Plat
- 5. IV-35 Well Record Drilling Deepening
- 6. IV-36 Gas-Oil Test: Gas Only _____ Was Oil Produced? _____ Ratio _____
- 7. IV-39 Annual Production _____ years
- 8. IV-40 90 day Production _____ Days off line: _____
- 9. IV-48 Application for certification. Complete?
- 10-17. IV Form 51 - 52 - 53 - 54 - (55) - 56 - 57 - 58 Complete? Affidavit Signed
- 18-28. Other: Survey _____ Logs _____ Geological Charts _____
 Structure Map _____ 1: 4000 Map _____ Well Tabulations _____
 Gas Analyses _____
- (5) Date commenced: 9-13-80 Date completed 9-19-80 Deepened _____
- (5) Production Depth: 3257-3720
- (5) Production Formation: Shale
- (5) Final Open Flow: 120 mcf
- (5) After Frac. R. P. 450 # 12 hrs
- (6) Other Gas Test: -
- (7) Avg. Daily Gas from Annual Production: -
- (8) Avg. Daily Gas from 90-day ending w/1-120 days -
- (8) Line Pressure: - PSIG from Daily Report: _____
- (5) Oil Production: From Completion Report
- 10-17. Does lease inventory indicate enhanced recovery being done -
- 10-17. Is affidavit signed? Notarized?
- Does official well record with the Department confirm the submitted information? yes
- Additional information _____ Does computer program confirm? _____
- Was Determination Objected to _____ By Whom? _____

HHH

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

Date August 24 1981

Operator's Well No H-1073

API Well No 073 State West Virginia

WELL CLASSIFICATION FORM
HIGH COST GAS WELL - DEVONIAN SHALE

MGPA Section 107

DESIGNATED AGENT Warren R. Haught

ADDRESS Rt. 3 Box 14

Smithville, WV 26178

WELL OPERATOR Haught, Inc.

ADDRESS Rt. 3 Box 14

Smithville, WV 26178

LOCATION: Elevation 898'

Watershed Ohio River

Dist Union County Pleasants Road Raven Rock

GAS PURCHASER Columbia Gas Transmission

ADDRESS P.O. Box 1273

Charleston, WV 25325

Gas Purchase Contract No. Applied For

Meter Chart Code

Date of Contract

Date surface drilling began September 13, 1980

Indicate the bottom hole pressure of the well and explain how this was calculated.

$$Pws = Pwh e^{(.01875)(SG)(D) / Z T}$$

Pws = Static Bottom Hole Pressure

Pwh = Wellhead Pressure

SG = Specific Gravity

D = Depth to center of Perforations

Z = Average Compressibility factor

T = Average Temperature (°R)

Pws = 489 psig.

Pwh = 450

SG = .7

D = 3507.5

Z = .95

T = 570

AFFIDAVIT

I, Warren R. Haught, having been first sworn according to law, state that, I have calculated the percentage of footage of the producing interval which is not Devonian shale as indicated by a Gamma Ray index of less than 0.7 if a Gamma Ray log described subparagraph (3)(i) or (3)(ii)(A) has been filed, or as indicated by the report described in subparagraph (3)(ii)(B); I have demonstrated that the percentage of potentially disqualifying non-shale footage is equal to or less than five (5) percent of the gross Devonian age interval; and I have no knowledge of any information not described in the application which is inconsistent with a conclusion that the well qualifies as a high cost natural gas well.

Warren R. Haught

STATE OF WEST VIRGINIA

COUNTY OF Ritchie TO WIT

I, Lenna G. Haught, a Notary Public in and for the state and county aforesaid do certify that Warren R. Haught whose name is signed to the writing above, bearing date the 24 day of August, 1981, has acknowledged the same before me, in my county aforesaid.

Given under my hand and official seal this 24 day of August, 1981.

My term of office expires on the 18th day of May, 1986.

Lenna G. Haught
Notary Public

[NOTARIAL SEAL]



Operator: Haught, Inc.

Agent: Warren R. Haught

Type Determination being sought - 107 (Devonian Shale)

API Well No.: 47-073-0942

Well Name: Jack Waugh H-1073

West Virginia Office of Oil and Gas References

County: Pleasants

SJA File No. N/A
Volume Page Line

I. NOTE: A Gamma Ray Log has been marked with the (a) Shale Base Line, (b) a line representing 0.7 x (Shale Base Line), (c) intervals with Gamma Ray units less than 0.7 x (Shale Base Line) and that log is included with this analysis.

II. Gamma Ray evaluation indices:

A. Shale Base Line (API Units)

1. GR Value at Base Line = 110 * API Units
2. Remarks:

B. Gamma Ray Log Value at 0.7 x Value at Base Line

1. GR Value = 110 * API Units
2. Calculation: $0.7 \text{ (GR Value at Base Line)} = 77$
 $0.7 \text{ (} \underline{110} \text{ *)} = \underline{77}$ API Units

II. Intervals with GR index less than 0.7 x (Value at Base Line):

Interval		Thickness of Interval Feet	Feet of less than* 0.7 (Shale Base Line) Feet
From**	To***		
2112	2611	500	11
2612	3111	500	0
3112	3611	500	0
3612	3966	354	0

Total Devonian Interval

1854

Total Less Than 0.7 (Shale Base)

11

% Less Than 0.7 (Shale Base Line) = $\frac{11}{1854} \times 100 = .59\%$

*Marked on log included with analysis.

**Top of Devonian Section Recorded as First Interval in this Column.

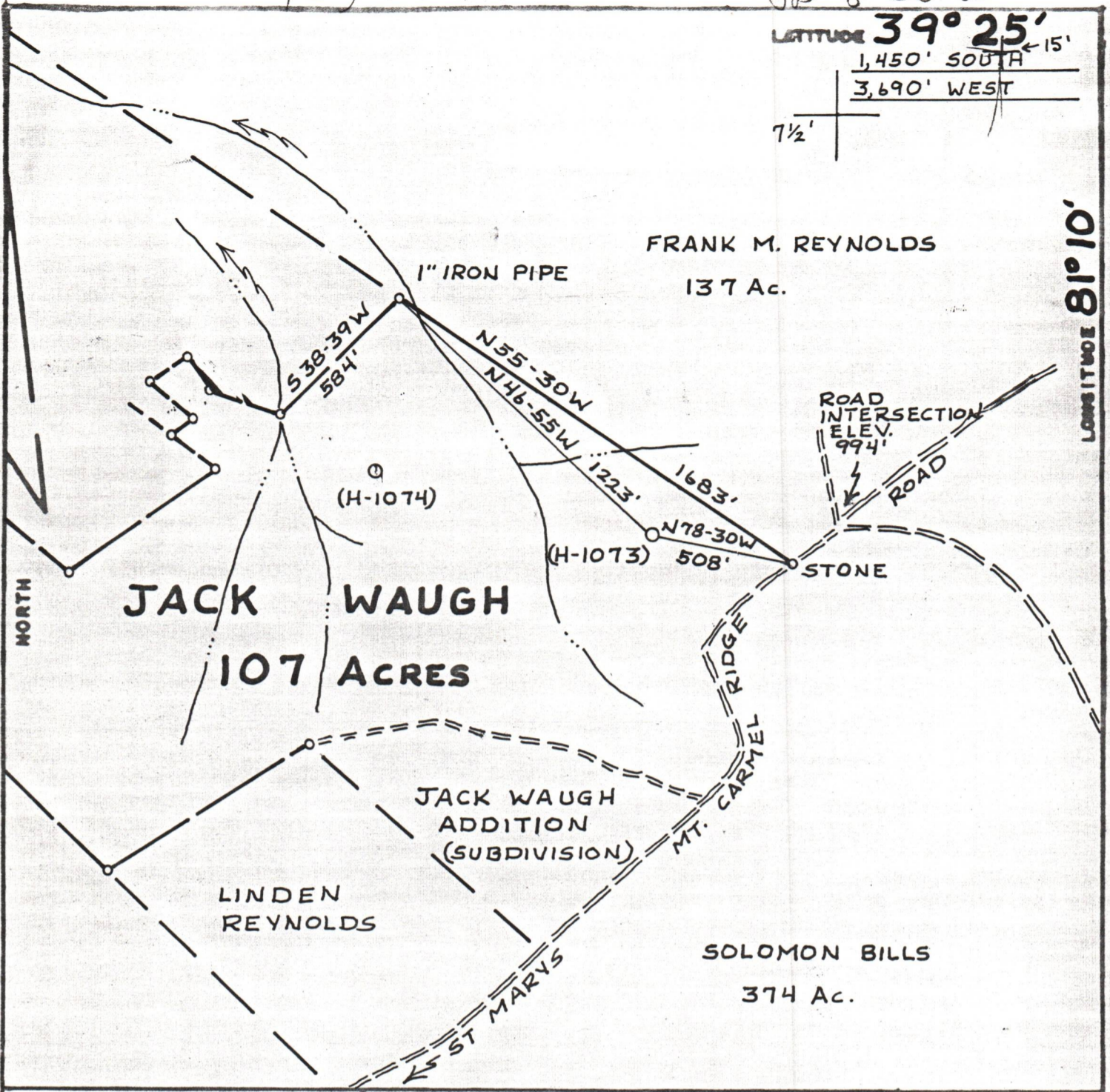
***Lesser of TD or Bottom of Devonian Section Recorded as last Interval in this Column.

4-5

60 8-26-80

LATITUDE **39° 25' 15"**
 1,450' SOUTH
 3,690' WEST
 7 1/2'

LONGITUDE 81° 10'



FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 500
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION ROAD INT. 994

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

PLACE SEAL HERE

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



DATE 21 AUGUST, 1980
 OPERATOR'S WELL NO H-1073
 API WELL NO. 47-073-0942 G
 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 898 WATER SHED OHIO RIVER
 DISTRICT UNION COUNTY PLEASANTS
 QUADRANGLE RAVEN ROCK W.VA. 7 1/2 QUAD. ST MARYS 15'
 SURFACE OWNER JACK WAUGH ACREAGE 107
 OIL & GAS ROYALTY OWNER JACK WAUGH LEASE ACREAGE 107
 LEASE NO. _____
 PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUS OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUS AND ABANDON _____ CLEAN OUT AND REPLUG _____
 TARGET FORMATION SHALE ESTIMATED DEPTH 4000
 WELL OPERATOR HAUGHT INC. DESIGNATED AGENT WARREN HAUGHT
 ADDRESS SMITHVILLE W.VA. 26178 ADDRESS SMITHVILLE W.VA. 26178