



1) Date: August 9, 1985  
 2) Operator's Well No. HARDY #1  
 3) API Well No. 47-039-4218  
 State \_\_\_\_\_ County \_\_\_\_\_ Permit \_\_\_\_\_

**RECEIVED**  
AUG 13 1985

STATE OF WEST VIRGINIA  
 DIVISION OF OIL & DEPARTMENT OF ENERGY, OIL AND GAS DIVISION  
 DEPARTMENT OF ENERGY: **APPLICATION FOR A WELL WORK PERMIT**

- 4) WELL TYPE: A Oil \_\_\_\_\_ / Gas X /  
 B (If "Gas", Production X / Underground storage \_\_\_\_\_ / Deep \_\_\_\_\_ / Shallow X)
- 5) LOCATION: Elevation: 865' 765' / Watershed: Cavelick Run of Allens Fork  
 District: Poca / County: Kanawha / Quadrangle: Sissonville 608
- 6) WELL OPERATOR Angerman Assoc. CODE: 2200 7) DESIGNATED AGENT Robert Wallace  
 Address Suite 201, 1000 RIDC Plaza / Address 11 North Kanawha Street  
Pittsburgh, PA 15238 / Buckhannon, WV 26201
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Carlos Hively 9) DRILLING CONTRACTOR: Name Clint Hurt & Assoc., Inc.  
 Address 223 Pinch Ridge Rd. / Address P.O. Box 388  
Elk View, WV 25071 / Elk View, WV 25071
- 10) PROPOSED WELL WORK: Drill X / Drill deeper \_\_\_\_\_ / Redrill \_\_\_\_\_ / Stimulate \_\_\_\_\_  
 Plug off old formation \_\_\_\_\_ / Perforate new formation \_\_\_\_\_  
 Other physical change in well (specify) \_\_\_\_\_
- 11) GEOLOGICAL TARGET FORMATION, Shale
- 12) Estimated depth of completed well, 4600 feet
- 13) Approximate trata depths: Fresh, N/A feet; salt, 2200 feet.
- 14) Approximate coal seam depths: None Is coal being mined in the area? Yes \_\_\_\_\_ / No X

15) 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									
Fresh water	9-5/8"		36#	X			180	100 sks	Kinds <u>CTS by rule 15.05</u>
Coal									Sizes
Intermediate	7"	J-55	20#	X			2400	200 sks	
Production	4-1/2"	J-55	10.5#	X			4600	250 sks	<u>or as required by rule 15.01</u>
Tubing	2-3/8"	J-55	3.6#	X			4600		
Liners									Perforations:
									Top Bottom

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-039-4218 Date August 19 19 85

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 August 19, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>AIB</u>	Plat: <u>MJ</u>	Casing: <u>MH</u>	Fee: <u>1594</u>	WPCP: <u>1</u>	S&E: <u>MH</u>	Other: _____
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NOTE: Keep one copy of this permit posted at the drilling location.

[Signature]  
 Director, Division of Oil and Gas

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

File



OFFICE USE ONLY

PERMIT MODIFICATIONS AND CONDITIONS (IF ANY) TO THE PROPOSED WELL WORK

1) WELL TYPE A OR B (If Gas Production)

2) LOCATION

3) WELL OPERATOR

4) ADDRESS

5) ADDRESS

6) PROPOSED WELL WORK

7) GEOMORPHOLOGICAL TABULATION

8) APPROXIMATE DEPTH OF PROPOSED WELL

9) APPROXIMATE DEPTH OF EXISTING WELL

10) APPROXIMATE DEPTH OF EXISTING WELL

11) APPROXIMATE DEPTH OF EXISTING WELL

12) APPROXIMATE DEPTH OF EXISTING WELL

13) APPROXIMATE DEPTH OF EXISTING WELL

14) APPROXIMATE DEPTH OF EXISTING WELL

15) CASING AND TUBING PROGRAM

OFFICE USE ONLY

This part of Form WW-2(B) is to record the dates of certain occurrences and any follow-up inspections.

	Date	Date(s)
Application received		Follow-up inspection(s)
Well work started		" "
Completion of the drilling process		" "
Well Record received		" "
Reclamation completed		" "

OTHER INSPECTIONS

Reason: \_\_\_\_\_

Reason: \_\_\_\_\_

1) Date: August 9, 1985  
Operator's  
2) Well No. HARDY #1  
3) API Well No. 47-039-4218  
State County Permit

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL & GAS  
NOTICE OF APPLICATION FOR A WELL WORK PERMIT

4) SURFACE OWNER(S) OF RECORD TO BE SERVED

(1) Name LUSTER C. BOGGESS  
Address ALLEN'S ROUTE BOX 86  
SISSONVILLE WV 25320  
(1i) Name \_\_\_\_\_  
Address \_\_\_\_\_  
(1ii) Name \_\_\_\_\_  
Address \_\_\_\_\_

5 (1) COAL OPERATOR NONE  
Address \_\_\_\_\_  
5 (1i) COAL OWNER(S) WITH DECLARATION ON RECORD:  
Name NONE  
Address \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
5 (1ii) COAL LESSEE WITH DECLARATION ON RECORD:  
Name \_\_\_\_\_  
Address \_\_\_\_\_

TO THE PERSON(S) NAMED ABOVE: You should have received this Form and the following documents:

- (1) The Application for a Well Work Permit on Form WV-2(B) which sets out the parties involved in the drilling or other work, and describes the well and its location and, if applicable, the proposed casing and cementing program;
- (2) The plat (surveyor's map) showing the well location on Form WV-6, and
- (3) The Construction and Reclamation Plan on Form WV-9 (unless the well work is only to plug a well), which sets out the plan for erosion and sediment control and for reclamation for the site and access road.

THE REASON YOU RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON THE REVERSE SIDE OF THE COPY OF THE APPLICATION WV-2(B) DESIGNATED FOR YOU. HOWEVER, YOU ARE NOT REQUIRED TO TAKE ANY ACTION AT ALL.

Take notice that under Chapter 22B of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a Well Work Permit with the Director of the Division of Oil and Gas, with respect to a well at the location described on attached Application and depicted on attached Form WV-6. Copies of this Notice, the Application, the plat, and the Construction and Reclamation Plan have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Director of the Division of Oil and Gas.

RECEIVED  
AUG 13 1985  
DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

6) EXTRACTION RIGHTS

Check and provide one of the following:

- Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil or gas.
- The requirement of Code 22B-1-8(c)(1) through (4). (see reverse side for specifics.)

7) ROYALTY PROVISIONS

Is the right to extract, produce or market the oil or gas based upon a lease or leases or other contract or contracts providing for flat well royalty or any similar provision for compensation to the owner of the oil or gas in place which is not inherently related to the volume of oil or gas so extracted, produced or marketed? Yes No

If the answer above is No, nothing additional is needed. If the answer is Yes, you may use Affidavit Form WV-60.

See the reverse side for line item instructions, and for instructions concerning the required copies of the Notice and Application, plat, and Construction and Reclamation Plan.

The truth of the information on the Notice and Application is verified and sworn to and the Notice is signed on behalf of the Well Operator in my County and State by

Raid K. Baker,  
this 13th day of August, 1985,  
My commission expires 3-9, 1992

Low A. Humphreys  
Notary Public, Kanawha County,  
State of West Virginia

WELL OPERATOR ANGERMAN ASSOCIATES, INC

By Raid K Baker  
Its LAND MANAGER  
Address SUITE 201 1000 RIDGE PLAZA  
Pgh. PA 15238  
Telephone 412 782-6440

I N S T R U C T I O N S T O A P P L I C A N T

CONCERNING THE LINE ITEMS:

- 1) Date of Notice.
- 2) Your well name and number.
- 3) To be filled out by the Division of Oil & gas.
- 4) & 5) Use separate sheet if necessary.
- 4) Surface owner(s) of record to be served with Notice and Application. However, see also Code §22B-1-9(b) if "more than three tenants in common or other co-owners of interest described in subsection (a) of this section hold interests in such lands".
- 5(i) "Coal Operator" means any person, firm, partnership, partnership association or corporation that proposes to or does operate a coal mine.
- 5(ii, iii) See Code §22B-1-36.
- 6) See Code §22-4-11(c). However, in lieu of filing the lease(s) or other continuing contract(s), the Applicant may fill out the information in the space provided below.
- 7) See Code § § 22-4-11 (d, e).

CONCERNING THE REQUIRED COPIES FOR FILING AND SERVICE:

Filing. Code §22B-1-6 and Regulation 7.02 provide that the original and required copies of the Notice and Application must be filed with the Administrator, 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 §22B-1-2C and the reclamation required by Code §22B-1-30 and Regulation 23, (iv) unless previously paid on the same well, the fees required by Code §22B-1-2(c) and 22B-1-29, and (v) if applicable, the consent required by Code §22B-1-21 from the owner of any water well on dwelling within 200 feet of the proposed well.

Service. In addition, service must be made on the surface owner(s) and the person(s) with an interest in the coal. See Code § § 22B-1-9, 22-B-1-13 and 22B-1-14.

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INFORMATION SUPPLIED UNDER CODE §22B-1-8(d)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on the obverse side of this Notice, I depose and say that I am the person who signed the Notice for the Applicant, and that--

- (1) the tract of land is the same tract described in the Application to which this Notice applies, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, lessor, etc.

Grantee, lessee, etc.

Royalty

Book page

IV-9  
(Rev 8-81)

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AUG 13 1985



DATE July 3, 1985

WELL NO. Hardy No. 1

API NO. 047 - 039 - 4218

State of West Virginia  
DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY  
Department of Mines  
Oil and Gas Division

CONSTRUCTION AND RECLAMATION PLAN

COMPANY NAME Angerman Associates Inc.  
Address Suite 201 1000 RIDC Plaza  
Pittsburg, PA 15238  
Telephone 412/782-6440

DESIGNATED AGENT Robert Wallace  
Address 11 North Kanawha St., Buckhannon, WV 26201  
Telephone 304-472-4700

LANDOWNER Luster C. Boggess

SOIL CONS. DISTRICT Capitol

Revegetation to be carried out by \_\_\_\_\_ (Agent)

This plan has been reviewed by Capitol SCD. All corrections and additions become a part of this plan: 7-24-85 (Date)

R. C. [Signature]  
(SCD Agent)

"SEE ATTACHED COMMENTS"

ACCESS ROAD		LOCATION	
Structure 8-culverts 12" min.	(A)	Structure diversion ditch	(1)
Spacing N/A		Material earthen	
Page Ref. Manual 2:7 2:8		Page Ref. Manual 2:12 2:13	
Structure 3-36" culverts and crushed stone	(B)	Structure drill pit	(2)
Spacing N/A		Material earthen	
Page Ref. Manual 2:7 2:8		Page Ref. Manual	
Structure drainage ditch	(C)	Structure 25' filter strip	(3)
Spacing N/A		Material natural vegetation	
Page Ref. Manual 2:12 2:13		Page Ref. Manual	

All structures should be inspected regularly and repaired if necessary. All commercial timber is to be cut and stacked and all brush and small timber to be cut and removed from the site before dirt work begins.

REVEGETATION

Treatment Area I

Lime	2 Tons/acre
or correct to pH	6.5
Fertilizer	500 lbs/acre
(10-20-20 or equivalent)	
Mulch Hay-Straw	2 Tons/acre
Seed* Orchard Grass	20 lbs/acre
Red Clover	5 lbs/acre
Ladino Clover	2 lbs/acre

Treatment Area II

Lime	2 Tons/acre
or correct to pH	6.5
Fertilizer	500 lbs/acre
(10-20-20 or equivalent)	
Mulch Hay-Straw	2 Tons/acre
Seed* Orchard Grass	20 lbs/acre
Red Clover	5 lbs/acre
Ladino Clover	2 lbs/acre

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

PLAN PREPARED BY C. T. Tolley, Jr.

ADDRESS 7911 Sissonville Drive  
Sissonville, WV 25320

PHONE NO. 304/988-9432

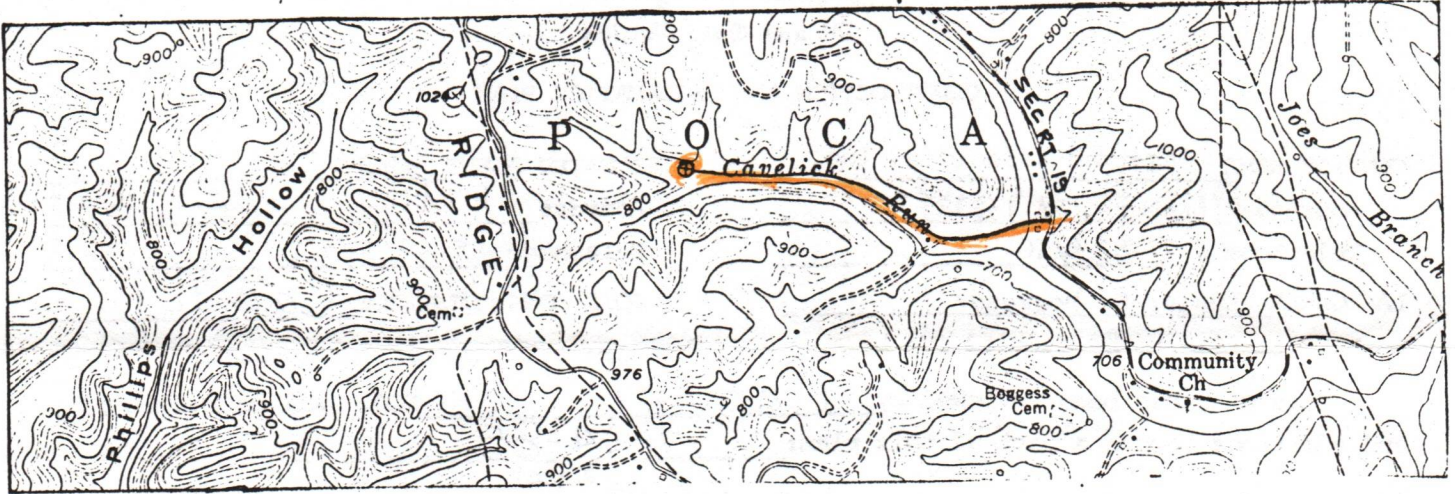
NOTES: Please request landowner's cooperation to protect new seedling for one growing season. Attach separate sheets as necessary for comments.

ATTACH OR PHOTOCOPY SECTION OF INVOLVED TOPOGRAPHIC MAP. QUADRANGLE Sissonville

LEGEND

Well Site ⊕

Access Road ———

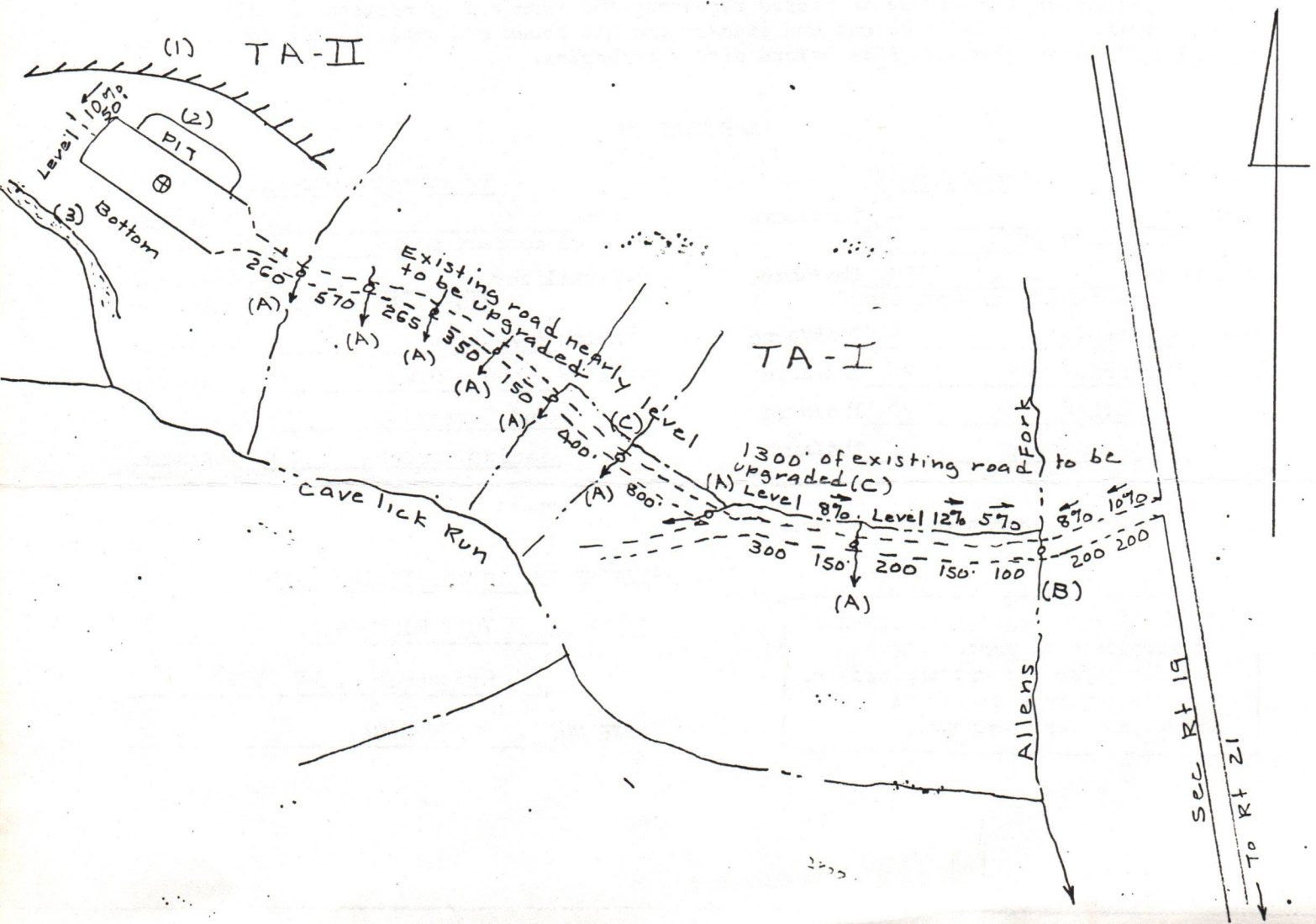


WELL SITE PLAN

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

LEGEND

Property boundary ———	Diversion ———
Road = = = = =	Spring ○ →
Existing fence — X — X —	Wet spot ⊕
Planned fence — / — / —	Building ■
Stream ~ ~ ~ ~ ~	Drain pipe — ○ — ○ —
Open ditch — ···· → — ···· → — ···· →	Waterway ⇐ = = = = ⇒



**CAPITOL SOIL CONSERVATION DISTRICT**  
WESTMORELAND PLACE  
400 ALLEN DRIVE  
CHARLESTON, WEST VIRGINIA 25302

DATE: July 24, 1985

WELL SITE: Hardy # 1  
R. BAKER, Angerman Assoc., Inc.  
Suite 201, 1000 RIDC, Ptbg, PA15238  
LANDOWNER: Luster C. Boggess

QUADRANGLE: Sissonville

PLAN PREPARED BY: C.T. Tolley, Jr., 7911 Sissonville Dr. Sissonville  
WV 25320

PLAN RECEIVED BY CAPITOL SCD ON: July 12, 1985, First-Class Mail

PLAN REVIEWED BY: Linda M. Cable, District Manager, Capitol SCD  
on July 24, 1985

SITE FIELD REVIEWED \_\_\_\_\_ YES DATE \_\_\_\_\_ NO X

RECLAMATION PLAN COMMENTS:

- (1) The agent doing the revegetation must be identified.
- (2) Topsoil shall be scalped from the disturbed area, stockpiled and utilized for topdressing after the site is regraded.
- (3) The culvert sizing is inadequate. The approval of this Construction and Reclamation Plan as far as the crossing of Allen Fork is dependent on getting approval from the Public Lands Corp.

**RECEIVED**  
AUG 13 1985

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

*R. C. Alford*

R. C. ALFORD, CHAIRMAN  
BOARD OF SUPERVISORS

NOTE: ALL COMMENTS SHOULD BE STUDIED  
SO THEY WILL NOT BE REPEATED  
ON FUTURE PLANS!

cc: Office of Oil & Gas, WV Dept. of Energy  
cc: C.T. Tolley, Jr.



1) Date: August 9, 1985  
 2) Operator's Well No. \_\_\_\_\_  
 3) API Well No. 47 State \_\_\_\_\_ County \_\_\_\_\_ Permit \_\_\_\_\_

STATE OF WEST VIRGINIA  
 DEPARTMENT OF ENERGY, OIL AND GAS DIVISION  
APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil \_\_\_\_\_ / Gas X /  
 B (If "Gas", Production X / Underground storage \_\_\_\_\_ / Deep \_\_\_\_\_ / Shallow \_\_\_\_\_ /)
- 5) LOCATION: Elevation: 865' Watershed: Cavelick Run of Allens Fork  
 District: Poca County: Kanawha Quadangle: Sissonville
- 6) WELL OPERATOR Angerman Assoc. CODE: \_\_\_\_\_ 7) DESIGNATED AGENT Robert Wallace  
 Address Suite 201, 1000 RIDC Plaza Address 11 North Kanawha Street  
Pittsburgh, PA 15238 Buckhannon, WV 26201
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Carlos Hively 9) DRILLING CONTRACTOR: Clint Hurt & Assoc., Inc.  
 Address 223 Pinch Ridge Rd. Address P.O. Box 388  
Elk View, WV 25071 Elk View, WV 25071
- 10) PROPOSED WELL WORK: Drill X / Drill deeper \_\_\_\_\_ / Redrill \_\_\_\_\_ / Stimulate \_\_\_\_\_  
 Plug off old formation \_\_\_\_\_ / Perforate new formation \_\_\_\_\_  
 Other physical change in well (specify) \_\_\_\_\_
- 11) GEOLOGICAL TARGET FORMATION, Shale  
 12) Estimated depth of completed well, 4600 feet  
 13) Approximate strata depths: Fresh, N/A feet; salt, 2200 feet.  
 14) Approximate coal seam depths: None Is coal being mined in the area? Yes \_\_\_\_\_ / No X /

15) 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		Top	Bottom
Conductor										Kinds
Fresh water	<u>9-5/8"</u>		<u>36#</u>	<u>X</u>			<u>180</u>	<u>100 sks</u>		<u>2 1/2 by rule 15.0'</u>
Coal										Sizes
Intermediate	<u>7"</u>	<u>J-55</u>	<u>20#</u>	<u>X</u>			<u>2400</u>	<u>200 sks</u>		
Production	<u>4-1/2"</u>	<u>J-55</u>	<u>10.5#</u>	<u>X</u>			<u>4600</u>	<u>250 sks</u>		Depths set
Tubing	<u>2-3/8"</u>	<u>J-55</u>	<u>3.6#</u>	<u>X</u>			<u>4600</u>			<u>2 1/2 by rule 15.0'</u>
Liners										Perforations:
										Top Bottom

The law requires a comment period for surface owners. However, the permit can be issued in less than 15 days from the filing of the Application if the surface owner(s) of record sign(s) the following "Voluntary Statement of No Objection" on a facsimile of this surface owner's copy of the Application.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners on the reverse side of this Application, and that I have received copies of (1) a Notice of Application for a Well Work Permit on Form WW-2(A), (2) an Application for a Well Work Permit on Form WW-2(B), (3) a survey plat on Form WW-6, and (4) a Construction and Reclamation Plan on Form WW-9, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued based on those materials.

(For execution by corporation, partnership, etc.)

(For execution by natural persons)

NAME: \_\_\_\_\_  
 By \_\_\_\_\_  
 Its \_\_\_\_\_ Date \_\_\_\_\_

Luster C. Boggs  
 (Signature) Date Aug 13, 1985  
Sadie Jane Boggs  
 (Signature) Date Aug 13, 1985



INSTRUCTIONS TO SURFACE OWNERS  
AND  
EXPLANATION OF METHODS AND TIME LIMITS TO COMMENT  
ON OIL AND GAS WELL WORK PERMIT

The well operator named in the Notice and this Application and the attached materials is applying for a permit from the State to do oil or gas well drilling or other well work. You are being served with these materials because surface owners have the right to file comments before the permit is issued. (NOTE: If the surface tract is owned by more than three persons, in multiple heirship for example, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22B, Article 1 of the W. Va. Code. Permits are valid for 24 months.

If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator named in the materials and the Director of the Division of Oil and Gas in the West Virginia Department of Energy immediately.

NOTE : YOU ARE NOT REQUIRED TO FILE ANY COMMENT AT ALL.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION :

Director, Division of Oil and Gas  
West Virginia Department of Energy  
1615 Washington Street, East  
Charleston, West Virginia 25311-2192  
(304) - 348 - 3500

Who may file comments? If you wish to file comments, you must be an owner of record of (1) and interest in the surface tract on which the well already is or is about to be located, or (2) an interest in any other surface tract over the same oil or gas lease which will be utilized for roads or other land disturbances.

Time limits for comments. The law requires these materials to be delivered on or before the date the operator files his Application. You have FIFTEEN (15) DAYS after the filing date to file your comments as provided in METHODS FOR FILING COMMENTS below. You may call the Director's office at the above telephone number to be sure of the date. However, if you have been contacted by the well operator, and if you have signed a "voluntary statement of no objection" to any of the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number, and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Methods for filing comments. Comments must be filed in person or received in the mail at the Director's office by the time stated above. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling.

The Director for Oil and Gas has the power to deny or condition a well work permit based on your comments on the following grounds:

- "(1) The proposed well work will constitute a hazard to the safety of persons; or
- "(2) The plan for soil erosion and sediment control is not adequate or effective; or
- "(3) Damage would occur to publicly owned lands or resources; or
- "(4) The proposed well work fails to protect fresh water sources or supplies."

If you want a copy of the permit as it is finally issued, or a copy of the order denying the permit, you should request a copy from the Director.

List of Water Testing Laboratories. The Director maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Director's office or an Oil and Gas Inspector to obtain a copy of the list.

RECEIVED  
AUG 19 1985

SITE REGISTRATION APPLICATION FORM  
STATE OF WEST VIRGINIA/NPDES GENERAL PERMIT FOR OIL AND GAS  
DRILLING PIT WASTE DISCHARGE  
DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

1. Company Name ANGERMAN ASSOCIATES, INC.
2. Mailing Address Suite 201 1000 RIDC PLAZA Pgh. PA. 15238  
street city state zip
3. Telephone 412-782-6440 4. Well Name HARDY #1
5. Latitude 38° 35' Longitude 81° 40'
6. NPDES # WV0073343 7. Dept. Oil & Gas Permit NO. 47-039-4218
8. County KANAWHA 9. Nearest Town Sissonville
10. Nearest Stream Cavelick Run 11. Tributary of ALLEN'S FORK
12. Will Discharge be Contracted Out? yes X no \_\_\_\_\_
13. If Yes, Proposed Contractor UNKNOWN AT THIS TIME  
Address \_\_\_\_\_  
Telephone \_\_\_\_\_
14. Proposed Disposal Method: UIC \_\_\_\_\_ Land application X  
Off Site Disposal \_\_\_\_\_ Reuse \_\_\_\_\_ Centralized Treatment \_\_\_\_\_  
Thermal Evaporation \_\_\_\_\_ Other \_\_\_\_\_
15. Attach to this application a topographic map (a duplicate of the one submitted to the Office of Oil and Gas) showing the outline of the facility, location of wells, springs, rivers and other surface water bodies, and drinking water wells known to the applicant in the area of the lease that may be impacted by any land application.

Nothing in the general permit shall be deemed in any way to create new, or enlarge existing, rights of riparian owners or others. Neither does anything in the general permit create new, or enlarge existing, obligations or duties of an operator pursuant to the requirements of W. Va. Code S22-4-1 et seq. The issuance of the general permit does not convey any property rights of any sort. Nor shall the issuance of the general permit give rise to any presumptions of law or findings of fact inuring to or for the benefit of persons other than the State of West Virginia.



DEPARTMENT OF THE ARMY  
HUNTINGTON DISTRICT, CORPS OF ENGINEERS  
502 EIGHTH STREET  
HUNTINGTON, WEST VIRGINIA 25701

RECEIVED  
AUG 13 1985

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

REPLY TO  
ATTENTION OF:

July 29, 1985

Operations Division  
Regulatory Functions Branch  
Allens Fork of Left Fork of Pocatalico River-  
Low Water Crossing

Angerman Associates Inc.  
Suite 201  
1000 RIDC Plaza  
Pittsburgh, Pennsylvania 15238

Dear Mr. Baker:

I refer to your letter(s), drawing(s), and application submitted to this office by the West Virginia Public Land Corporation, concerning the placement of a low water stream crossing Allens Fork, 3.2 miles above its confluence with Pocatalico River, near Sissonville, Kanawha Co., West Virginia. The purpose of the fill is to provide vehicular access to a gas well.

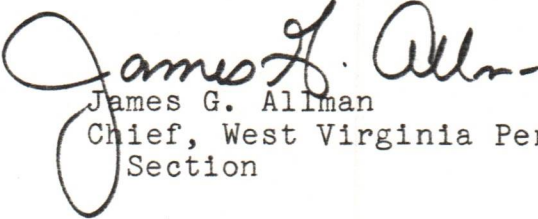
Any placement of any fill or dredged material in any stream or wetland must be approved in advance by a Department of the Army permit. The information provided indicates that your proposed work may meet the criteria for a Nationwide permit. Rules and regulations governing Nationwide permits were advertised in the Federal Register on July 22, 1982, and October 5, 1984. See Section 330.5, (a)(14) of the enclosed Nationwide Permit criteria. You are reminded that this project must be designed to pass flood flows and that fill material used in the project must be stabilized and will not adversely affect water quality.

Providing your project is constructed in accordance with the attached drawing and all terms and conditions outlined above, your proposed project is permitted and no further processing will be required by this office. If your project exceeds the limitations of or you cannot meet the criteria and conditions for a Nationwide Permit, you must apply for and receive an individual permit before starting your project.

Necessary authority as may be required must still be acquired from the West Virginia Public Land Corporation.

If you have any questions, please call James Bower at 304-529-5710.

Sincerely,

  
James G. Allman  
Chief, West Virginia Permit  
Section

Enclosures





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

PERFORATED 2376-2382 16 SHOTS 0.39  
TREATED w/25,000# 20/40 SAND, 508 BBL. FORM 75Q.

WELL LOG

FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
SHALE	0	1345	
SALT SAND	1345	1748	
LIME	1748	1923	
BIG LUTAS	1923	1970	
SHALE + SAND	1970	2372	
BEREA	2372	2386	
SHALE	2386	2480	

(Attach separate sheets as necessary)

By: *[Signature]*  
Well Operator  
HUGGEMAN ASSOCIATES, INC.

Date: Oct. 28, 1985

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  
those encountered in the drilling of a well."

✓ IR-26  
Obverse

INSPECTOR'S PERMIT SUMMARY FORM

(8-19-85)

WELL TYPE Gas  
ELEVATION \_\_\_\_\_  
DISTRICT Poca  
QUADRANGLE \_\_\_\_\_  
COUNTY Kanawha

API# 47-039-4218  
OPERATOR Angerman Associates  
TELEPHONE \_\_\_\_\_  
FARM Luster C. Boggess  
WELL # HARDY #1

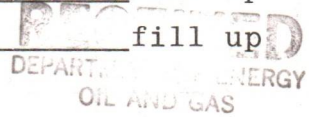
SURFACE OWNER \_\_\_\_\_ COMMENTS \_\_\_\_\_ TELEPHONE \_\_\_\_\_  
TARGET FORMATION \_\_\_\_\_ DATE APPLICATION RECEIVED \_\_\_\_\_

DATE STARTED \_\_\_\_\_  
LOCATION 9-24-85 NOTIFIED \_\_\_\_\_ DRILLING COMMENCED 9-30-85

WATER DEPTHS \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
COAL DEPTHS \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

CASING

Ran 198 feet of 8 5/8 "pipe on 9-30-85 with 65 SKS fill up  
Ran 2444 feet of 4 1/2 "pipe on 10-4-85 with 170 SKS fill up  
Ran \_\_\_\_\_ feet of \_\_\_\_\_ "pipe on \_\_\_\_\_ with \_\_\_\_\_ fill up  
Ran \_\_\_\_\_ feet of \_\_\_\_\_ "pipe on \_\_\_\_\_ with \_\_\_\_\_ fill up



TD 2460 feet on 10-4-85

PLUGGING

MAY 14 1986

Type	From	To	Pipe Removed

Pit Discharge date: \_\_\_\_\_ Type \_\_\_\_\_  
Field analysis                      ph \_\_\_\_\_      fe \_\_\_\_\_      cl \_\_\_\_\_  
Well Record received \_\_\_\_\_

Date Released 5-5-86

Carlos H. Hines  
Inspector's signature

API# 47039 - 4218

LIST ALL VISITS FOR THIS PERMIT

	DATE	TIME	PURPOSE	COMMENTS
1	9-24-85		Inspection	Building location
2	9-30-85		"	Set surface casing
3	10-4-85		"	Ran 4 1/2" casing
4	11-7-85		"	Drilling well back up
5	3-5-86		"	Location not Reclaimed
6	4-28-86		"	Location Reclaimed & seeded
7	5-5-86		"	Released
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Notes



**RECEIVED**  
JAN 24 1986

<p>1.0 API well number: (If not available, leave blank. 14 digits.)</p>	<p style="font-size: 1.2em; font-weight: bold;">47-039-4218</p>				<p>DIVISION OF OIL &amp; GAS DEPARTMENT OF ENERGY</p>															
<p>2.0 Type of determination being sought (Use the codes found on the front of this form.)</p>	<p style="font-size: 1.2em; font-weight: bold;">103</p> <p>Section of NGPA</p>		<p>Category Code</p>																	
<p>3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)</p>	<p style="font-size: 1.2em; font-weight: bold;">2444</p> <p>feet</p>																			
<p>4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)</p>	<p style="font-size: 1.2em; font-weight: bold;">ANGERMAN ASSOCIATES, INC</p> <p>Name</p> <p style="font-size: 1.2em; font-weight: bold;">SUITE 201, 1000 RIOC PLAZA</p> <p>Street</p> <p style="font-size: 1.2em; font-weight: bold;">PITTSBURGH PA 15238</p> <p>City State Zip Code</p>				<p>Seller Code</p>															
<p>5.0 Location of this well: [Complete (a) or (b).] (a) For onshore wells (35 letters maximum for field name.)</p>	<p style="font-size: 1.2em; font-weight: bold;">POCA DISTRICT</p> <p>Field Name</p> <p style="font-size: 1.2em; font-weight: bold;">KAWAWHA</p> <p>County</p> <p style="font-size: 1.2em; font-weight: bold;">W.VA.</p> <p>State</p>																			
<p>(b) For OCS wells:</p>	<p>Area Name</p>		<p>Block Number</p>																	
<p>Date of Lease:</p> <table style="margin: auto;"> <tr> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> </tr> <tr> <td style="font-size: 0.8em;">Mo.</td> <td style="font-size: 0.8em;">Day</td> <td style="font-size: 0.8em;">Yr.</td> <td colspan="3"></td> </tr> </table>												Mo.	Day	Yr.						
Mo.	Day	Yr.																		
<p>(c) Name and identification number of this well: (35 letters and digits maximum.)</p>	<p style="font-size: 1.2em; font-weight: bold;">HARDY #1</p>																			
<p>(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)</p>																				
<p>6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)</p>	<p style="font-size: 1.2em; font-weight: bold;">CARBOT CORPORATION</p> <p>Name</p>				<p>Buyer Code</p>															
<p>(b) Date of the contract:</p>	<table style="margin: auto;"> <tr> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> <td style="border: 1px solid black; width: 20px; height: 15px;"></td> </tr> <tr> <td style="font-size: 0.8em;">Mo.</td> <td style="font-size: 0.8em;">Day</td> <td style="font-size: 0.8em;">Yr.</td> <td colspan="3"></td> </tr> </table>											Mo.	Day	Yr.						
Mo.	Day	Yr.																		
<p>(c) Estimated annual production:</p>	<p style="font-size: 1.2em; font-weight: bold;">15</p> <p>MMcf.</p>																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th style="width:15%;">(a) Base Price (\$/MMBTU)</th> <th style="width:15%;">(b) Tax</th> <th style="width:15%;">(c) All Other Prices (Indicate (+) or (-).)</th> <th style="width:15%;">(d) Total of (a), (b) and (c)</th> </tr> </thead> <tbody> <tr> <td>7.0 Contract price: (As of filing date. Complete to 3 decimal places.)</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> </tr> <tr> <td>8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)</td> <td style="text-align: center;">3.545</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> </tr> </tbody> </table>							(a) Base Price (\$/MMBTU)	(b) Tax	(c) All Other Prices (Indicate (+) or (-).)	(d) Total of (a), (b) and (c)	7.0 Contract price: (As of filing date. Complete to 3 decimal places.)	---	---	---	---	8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	3.545	---	---	---
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8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	3.545	---	---	---																
<p>9.0 Person responsible for this application:</p>	<p style="font-size: 1.2em; font-weight: bold;">SAMUEL L. KIMMER</p> <p>Name</p> <p style="font-size: 1.2em; font-weight: bold;">PRESIDENT</p> <p>Title</p> <p style="font-size: 1.2em; font-weight: bold;">S. L. Kimer</p> <p>Signature</p> <p style="font-size: 1.2em; font-weight: bold;">10-28-85</p> <p>Date Application is Completed</p> <p style="font-size: 1.2em; font-weight: bold;">(412) 782-6440</p> <p>Phone Number</p>																			
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%; text-align: center;"> <p>Agency Use Only</p> <p>Date Received by Juris. Agency</p> <p style="font-size: 1.2em; font-weight: bold;">JAN 24 1986</p> <p>Date Received by FERC</p> </td> <td></td> </tr> </table>						<p>Agency Use Only</p> <p>Date Received by Juris. Agency</p> <p style="font-size: 1.2em; font-weight: bold;">JAN 24 1986</p> <p>Date Received by FERC</p>														
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STATE OF WEST VIRGINIA

DEPARTMENT OF MINES, OIL AND GAS DIVISION

FEB 15 1986

COVER SHEET, STATE APPLICATION FOR WELL CLASSIFICATION

Date: OCT 28, 1985 2200

Applicant's Name: ANGERMAN ASSOC., INC.

Address: SUITE 201 RIDC PLAZA  
PITTSBURGH, PA. 15238

Gas Purchaser Contract No. \_\_\_\_\_

Date of Contract \_\_\_\_\_  
(Month, day and year)

First Purchaser: CABOT CORP. P616

Address: P.O. Box 8807  
(Street or P.O. Box)  
So. CHARLESTON, W. VA. 25303  
(City) (State) (Zip Code)

FERC Seller Code \_\_\_\_\_

AGENCY USE ONLY  
WELL DETERMINATION FILE NUMBER  
860124 -1030-039-4218  
Use Above File Number on all  
Communications Relating to This Well

Designated Agent: ROBERT WALLACE

Address: 11 N. KAWAHA ST.  
BUCKHANNON, W. VA. 26201

FERC Buyer Code \_\_\_\_\_

NAME AND TITLE OF PERSON TO WHOM QUESTIONS CONCERNING THIS APPLICATION SHALL BE ADDRESSED:

Name: SAMUEL L. KIMMEL PRESIDENT  
(Print) (Title)

Signature: [Signature]

Address: SUITE 201, 1000 RIDC PLAZA  
(Street or P.O. Box)  
PITTSBURGH PA. 15238  
(City) (State) (Zip Code)

Telephone: (412) 782-6440  
(Area Code) (Phone Number)

(Certificate of Proof of Service to Purchaser)

NGPA Category Applied For

NGPA SECTION/SUBSECTION

- 102 New Natural Gas
  - 102-2 2.5 Mile Test
  - 102-3 1000 Foot Deeper Test
  - 102-4 New Onshore Reservoir
- 103 New Onshore Production Well
  - 103 New Onshore Production Well
- 107 High Cost Natural Gas
  - 107-0 Deep (more than 15,000 feet)
  - 107-1 Geopressured Brine
  - 107-2 Coal Seams
  - 107-3 Devonian Shale
  - 107-5 Production enhancement
  - 107-6 New Tight Formation
  - 107-7 Recompletion Tight Formation

- 108 Stripper Well Natural Gas
  - 108- Stripper Well
  - 108-1 Seasonally Affected
  - 108-2 Enhanced Recovery
  - 108-3 Temporary Pressure Buildup

RECEIVED  
JAN 24 1986

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

AGENCY USE ONLY  
QUALIFIED

Date Received \_\_\_\_\_

Determination Date \_\_\_\_\_

STATE OF WEST VIRGINIA

DEPARTMENT OF MINES, OIL AND GAS DIVISION

FEB 15 1986

COVER SHEET, STATE APPLICATION FOR WELL CLASSIFICATION

Date: OCT 28, 1985 2200

Applicant's Name: ANGERMAN ASSOC., INC

Address: SUITE 201, RIDC PLAZA  
PITTSBURGH, PA. 15238

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Date of Contract \_\_\_\_\_  
(Month, day and year)

First Purchaser: CABOT CORP. P 616

Address: P.O. Box 8807  
(Street or P.O. Box)  
So. CHARLESTON W. VA. 25303  
(City) (State) (Zip Code)

FERC Seller Code \_\_\_\_\_

AGENCY USE ONLY  
WELL DETERMINATION FILE NUMBER  
860124 -1076-039 - 4218  
Use Above File Number on all  
Communications Relating to This Well

Designated Agent: ROBERT WALLACE

Address: 114. KAWAHA ST.  
BUCKHANNON, W. VA. 26201

FERC Buyer Code \_\_\_\_\_

NAME AND TITLE OF PERSON TO WHOM QUESTIONS CONCERNING THIS APPLICATION SHALL BE ADDRESSED:

Name: ARTHUR E. ANGLING VP  
(Print) (Title)

Signature: [Signature]

Address: SUITE 201, 1000 RIDC PLAZA  
(Street or P.O. Box)  
PITTSBURGH, PA. 15238  
(City) (State) (Zip Code)

Telephone: (412) 782-6440  
(Area Code) (Phone Number)

(Certificate of Proof of Service to Purchaser)

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  - 102-2 2.5 Mile Test
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AGENCY USE ONLY  
**QUALIFIED**

RECEIVED  
JAN 24 1986

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

Date Received \_\_\_\_\_

Determination Date \_\_\_\_\_

WELL NO. HARDY #1

API NO. 47 - 039-4218  
State \_\_\_\_\_ County \_\_\_\_\_

WELL CLASSIFICATION FORM

HIGH-COST GAS - NEW TIGHT FORMATION

NGPA SECTION 107

WELL OPERATOR ANGERMAN ASSOC. INC.

Designated Agent ROBERT WALLACE

Address SUITE 201/DODRICK PLAZA  
PITTSBURGH, PA. 15238

Address 11 N. KANAWHA ST.  
BUCKHANNON, W. VA. 26201

Gas Purchaser CAROT CORP.

Location: Elevation 865'

Address P.O. BOX 8807

Watershed CAVE LICK RUN Quad SISSONVILLE

SO. CHARLESTON, W. VA. 25303

District POCA County KANAWHA

Gas Purchase Contract No. --

Meter Chart Code --

Date of Contract \_\_\_\_\_

\* \* \* \* \*

Date surface drilling began SEPT. 30, 1985

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

$$BHP = P_1 + P_2 (e^{GL/53.34T} - 1)$$

$$P = 850$$

$$e = 2.718281828$$

$$G = .65$$

$$L = \frac{2376 + 2382}{2} = 2379$$

$$T = 74 + 460 = 534$$

$$BHP = 850 + 850 (2.718281828^{(.65)(2379)/(53.34)(534)} - 1)$$

$$BHP = 897.4$$

AFFIDAVIT

I, SAMUEL L. KIMMEL, having been first sworn according to law, state that surface drilling the the well for which this determination is sought was begun on after July 16, 1979, the gas is being produced from a designated tight formation and I have no knowledge of any information not described in the application which is inconsis with a conclusion that the well qualifies as a high-cost natural gas well.

Samuel L. Kimmel, Pres.

STATE OF PENNSYLVANIA

COUNTY OF ALLEGHENY, TO-WIT:

I, DAVID J SMITH, a Notary Public in and for the state and county aforesaid, do certify that SAMUEL L KIMMEL whose name is signed to the writ above, has acknowledged the same before me, in the county aforesaid.

Given under my hand this 1 day of NOVEMBER, 1985.

My commission expires: APRIL 8 1989

(NOTARIAL SEAL)

David J. Smith  
Notary Public

DAVID J. SMITH, NOTARY PUBLIC  
O'HARA TOWNSHIP, ALLEGHENY COUNTY  
MY COMMISSION EXPIRES APRIL 8, 1989  
Member, Pennsylvania Association of Notaries



STATE OF WEST VIRGINIA  
PUBLIC LAND CORPORATION

1800 Washington Street, East  
Charleston 25305

August 7, 1985

LETTER PERMIT

RECEIVED  
AUG 13 1985

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

RONALD R. POTESTA, DIRECTOR  
DEPARTMENT OF NATURAL RESOURCES  
Secretary

FANNIE E. MARLAND  
Executive Secretary

Mr. Reid K. Baker, Land Department  
Angerman Associates, Inc.  
Suite 201, 1000 RIDC Plaza  
Pittsburgh, PA 15238

Dear Mr. Baker:

The Public Land Corporation grants permission to Angerman Associates, Inc. to upgrade and utilize an existing stream crossing on Allens Fork of Left Fork of Pocatalico River, Kanawha County, northwest of Sissonville, West Virginia. The crossing will provide access to Hardy #1 well. This permit is subject to the following conditions:

1. Work must be performed during low flows.
2. Any stream bed disturbance should be restricted to the immediate area.  
Instream use of equipment should be kept to a minimum.
3. All shore areas disturbed by this operation must be reshaped, seeded, and mulched immediately upon completion of work.
4. Green concrete must not be placed in the stream (toxic to aquatic life).
5. Guidance should be obtained from the Soil Conservation Service or a certified engineer for the design and construction.

The issuance of this permit by the Public Land Corporation does not preclude the necessity to obtain other permits which may be required by law, nor does this permit obviate the need to comply with the West Virginia Water Pollution Control Act and/or the State Water Resources Board's Administrative Regulations. Information may be obtained from the Division of Water Resources, 1201 Greenbrier Street, Charleston, WV 25311.

This permit does not grant any rights, privileges, or permission to enter upon or cross the property of any other person, nor is permission granted to remove any material which lies upon the property of other persons. Work should be completed in as brief a period as possible and within one year from the date of this letter.

There is a fee of \$100 per year for this crossing as long as it remains in use. Your check in this amount is now due and payable to the Public Land Corporation covering the first year's fee.

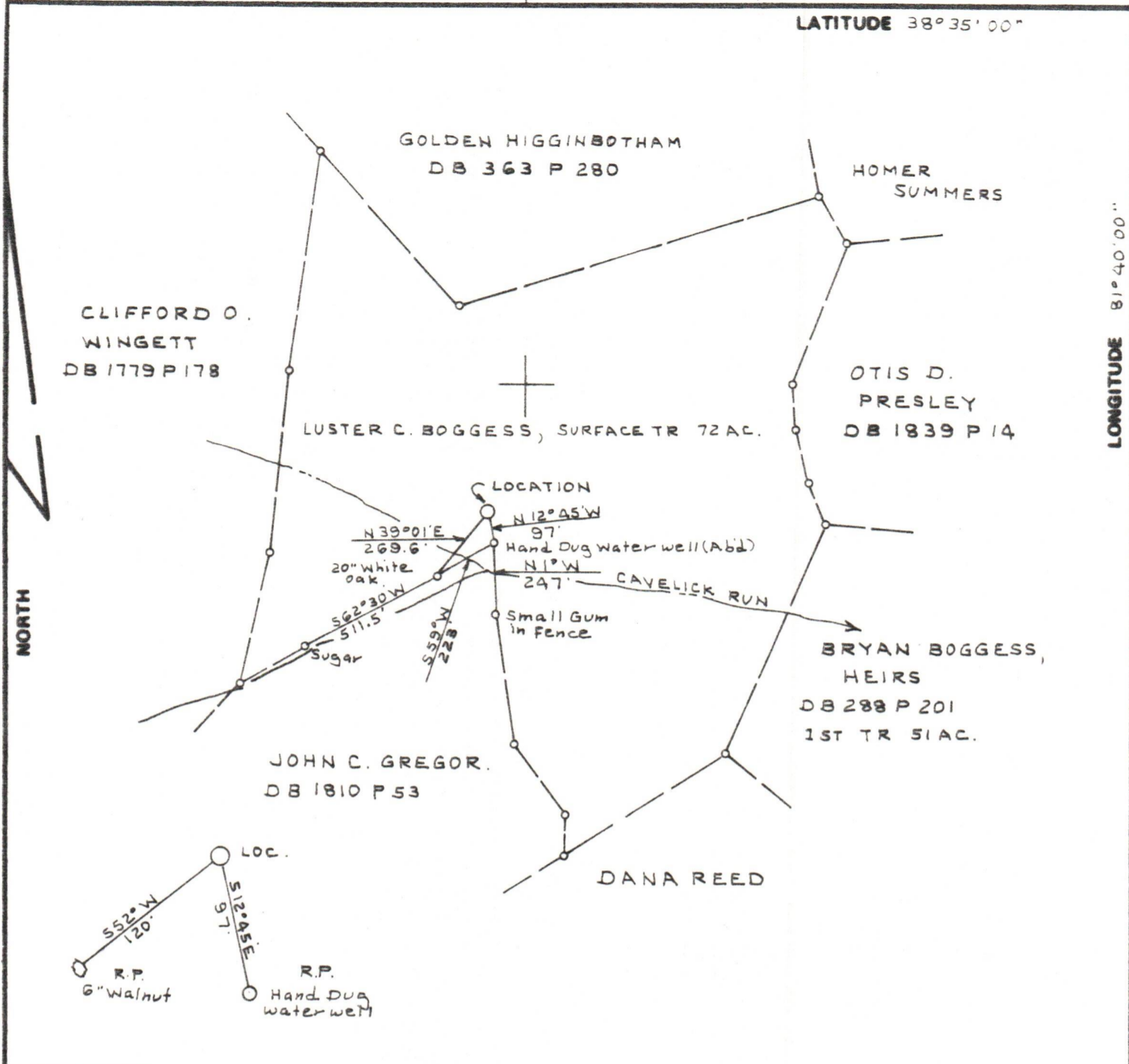
Sincerely yours,

*Fannie E. Marland*

Fannie E. Marland  
Executive Secretary

slj

cc: Mr. Bernard Dowler  
DNR Conservation Officers, Kanawha County  
Division of Water Resources



FILE NO. 3K 35 Pg 54  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY 1:200'  
 PROVEN SOURCE OF ELEVATION USGS Rd Forks 2800' ± Northeast of loc. El. 691'

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) C. S. Volley Jr.  
 R.P.E. \_\_\_\_\_ L.S. 92

PLACE SEAL HERE

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



DATE JULY 3, 1985  
 OPERATOR'S WELL NO. HARDY No 1  
 API WELL NO. \_\_\_\_\_  
47 - 039 - 4218  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS,") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION: ELEVATION 765.0' WATER SHED CAVELICK RUN OF ALLENS FORK  
 DISTRICT POCA COUNTY KANAWHA  
 QUADRANGLE SISSONVILLE  
 SURFACE OWNER LUSTER C. BOGGESS ACREAGE 72  
 OIL & GAS ROYALTY OWNER FRANK A. HARDY, ETAL LEASE ACREAGE 2071.3  
 LEASE NO. \_\_\_\_\_  
 PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE X 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 4500'  
 WELL OPERATOR ANGERMAN ASSOC. INC. DESIGNATED AGENT ROBERT WALLACE  
 ADDRESS SUITE 201, 1000 R.I. DC PLAZA ADDRESS 11 NORTH KANAWHA ST.  
PITTSBURGH PA. 15238 BUCKHANNON, W.V. 26201

**RECEIVED**  
JAN 24 1986

FERC-121

1.0 API well number: (If not available, leave blank. 14 digits.)		47-039-4218				DIVISION OF OIL & GAS DEPARTMENT OF ENERGY	
2.0 Type of determination being sought (Use the codes found on the front of this form.)		107 Section of NGPA		6 Category Code			
3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)		2444 feet					
4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)		<u>ANGERMAN ASSOCIATES, INC.</u> Name <u>SUITE 201, 1000 PUDC PLAZA</u> Street <u>PITTSBURGH PA 15238</u> City State Zip Code				Seller Code	
5.0 Location of this well: (Complete (a) or (b).) (a) For onshore wells (35 letters maximum for field name.)		<u>POCA DISTRICT</u> Field Name <u>KARAWHA</u> County <u>W.VA.</u> State					
(b) For OCS wells:		Area Name		Block Number			
		Date of Lease:		OCS Lease Number			
		Mo. Day Yr.					
(c) Name and identification number of this well: (35 letters and digits maximum.)		<u>HARDY #1</u>					
(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)							
6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)		<u>CABOT CORPORATION</u>				Buyer Code	
(b) Date of the contract:		<u>12, 1, 85</u>				Mo. Day Yr.	
(c) Estimated annual production:		<u>15</u>				MMcf.	
		(a) Base Price (\$/MMBTU)	(b) Tax	(c) All Other Prices (Indicate (+) or (-).)	(d) Total of (a), (b) and (c)		
7.0 Contract price: (As of filing date. Complete to 3 decimal places.)		<u>2.60</u>	<u>N/A</u>	<u>N/A</u>	<u>2.60</u>		
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)		<u>6.076</u>	<u>N/A</u>	<u>N/A</u>	<u>6.076</u>		
9.0 Person responsible for this application:		<u>ARTHUR E. YINLENG</u> Name <u>VP</u> Title <u>X Arthur E. Yinleung</u> Signature <u>10-28-85</u> Date Application is Completed <u>(412) 782-6540</u> Phone Number					
Agency Use Only							
Date Received by Juris. Agency							
<u>JAN 24 1986</u>							
Date Received by FERC							

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

Date OCT. 28 1985

Operator's Well No. HARDY #1

API Well No. 47 - 039 - 4218  
State County Permit

WELL CLASSIFICATION FORM  
NEW ONSHORE PRODUCTION WELL

NGPA Section 103

WELL OPERATOR ADGERMAN ASSOC. INC.  
ADDRESS SUITE 201, RIDG PLAZA  
PITTSBURGH, PA. 15238  
GAS PURCHASER CAROT CORP.  
ADDRESS P.O. BOX 8807  
SO. CHARLESTON, W. VA. 25303

DESIGNATED AGENT ROBERT WALLACE  
ADDRESS 11 N. KANAWHA ST.  
BUCKHANNON, W. VA. 26201  
LOCATION: Elevation 765'  
Watershed CAVE LICK RUN  
Dist. POCA County KANAWHA Quad. SISSONVILLE  
Gas Purchase Contract No. \_\_\_\_\_  
Meter Chart Code \_\_\_\_\_  
Date of Contract \_\_\_\_\_

\* \* \* \* \*

Date surface drilling was begun: SEPT. 30, 1985

Indicate the bottom hole pressure of the well and explain how this was calculated:  
 $BHP = P_1 + P_2 (e^{GL/53.34T} - 1)$        $BHP = 850 + 850 (2.718281828^{(65)(2379)/(53.34)(534)} - 1)$   
 $P = 850$        $BHP = 897.4$   
 $e = 2.718281828$   
 $G = .65$   
 $L = \frac{2376 + 2382}{2} = 2379$   
 $T = 74 + 460 = 534$

AFFIDAVIT

I, SAMUEL L. KIMMEL, having been first sworn according to law state that surface drilling of the well for which this determination is sought was begun on or after February 19, 1977; the well satisfies applicable state or federal well spacing requirements and the well is not within a proration unit, in existence at the time surface drilling began, which was applicable to the reservoir from which gas is or will be produced and which applied to any other well producing gas in commercial quantities or on which surface drilling began on or after February 19, 1977, and which was capable of producing gas in commercial quantities. I state, further, that I have concluded, to the best of my information, knowledge and belief, that the well for which this determination is sought is a new onshore production well and that I am not aware of any information not described in the application which is inconsistent with this conclusion.

*[Handwritten Signature]*

STATE OF PENNSYLVANIA

COUNTY OF Allegheny, TO WIT:

I, REID K. BAKER, a Notary Public in and for the state and county aforesaid, do certify that Samuel L. Kimmel, whose name is signed to the writing above, bearing date the 28 day of OCTOBER, 1985, has acknowledged the same before me, in my county aforesaid. Given under my hand and official seal this 28 day of OCTOBER, 1985. My term of office expires on the 15 day of APRIL, 1989.

[NOTARIAL SEAL]

*[Handwritten Signature: Reid K. Baker]*  
Notary Public

REID K. BAKER, NOTARY PUBLIC  
O'HARA TOWNSHIP, ALLEGHENY COUNTY  
MY COMMISSION EXPIRES APRIL 15, 1989  
Member, Pennsylvania Association of Notaries