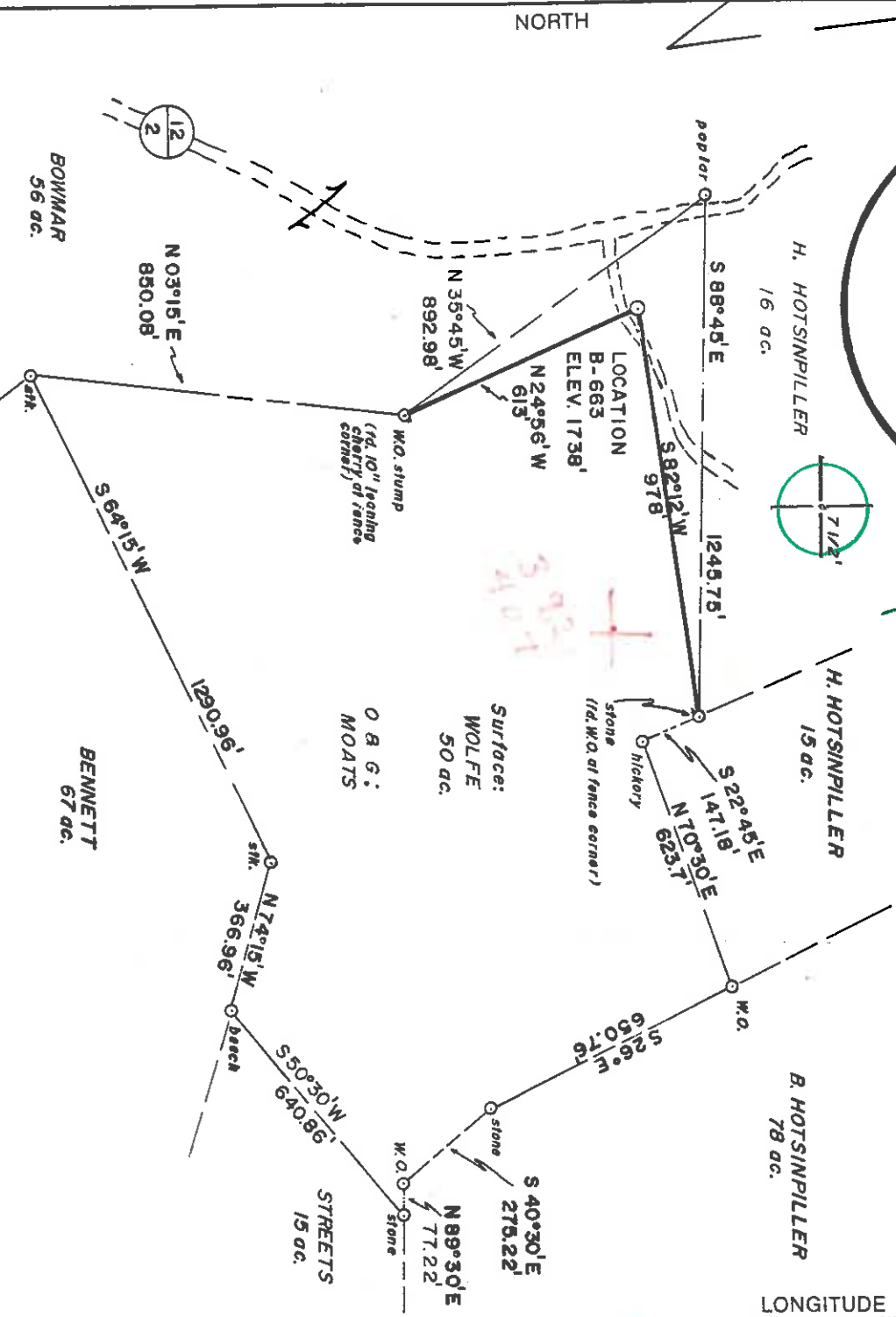
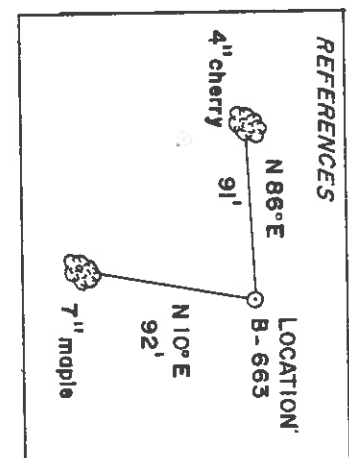
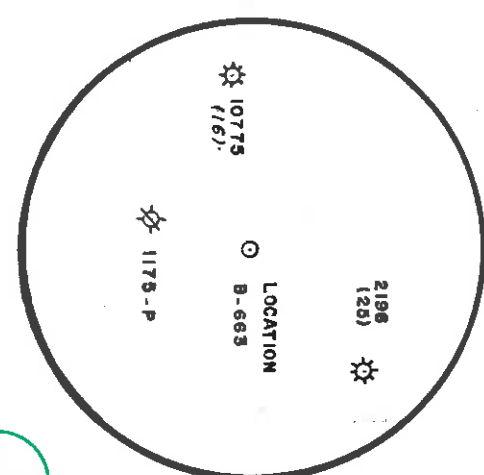


12/16/87

9700' LATITUDE 39°12'30"

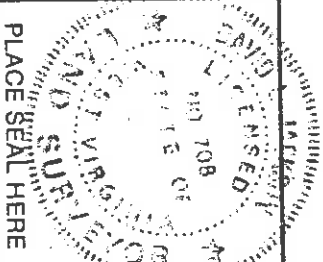
LONGITUDE 79°57'30"



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
 DRAWING NO. _____
 SCALE 1"=400'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION SPOT ELEV. 700'
NW OF LOCATION ELEV. 1702'

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 ENERGY.
 (SIGNED) David T. Jackson
 R.P.E. _____ L.L.S. 708



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
OIL AND GAS DIVISION



DATE NOVEMBER 10, 1987
 OPERATOR'S WELL NO. B-663
 API WELL NO. 47 D01 2383

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL STATE COUNTY PERMIT
 (IF "GAS,") PRODUCTION X STORAGE DEEP SHALLOW X
 LOCATION: ELEVATION 1738' WATER SHED LAUREL CREEK
 DISTRICT PHILIPPI COUNTY BARBOUR
 QUADRANGLE NESTORVILLE 7 1/2' 505 ACREAGE 50
T.K. WOLFE
 SURFACE OWNER LARRY JOHN MOATS, ET AL LEASE ACREAGE 50
 OIL & GAS ROYALTY OWNER LARRY JOHN MOATS, ET AL LEASE ACREAGE 50
 PROPOSED WORK: DRILL X 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 HAVERTY ESTIMATED DEPTH 5500
 WELL OPERATOR BERRY ENERGY CONSULTANTS & MGRS. DESIGNATED AGENT DAVID BERRY
 ADDRESS P.O. BOX 5, CLARKSBURG, WV INC. ADDRESS P.O. BOX 5, CLARKSBURG, WV 26301

6-6 Taylor Drain

(316)

DEC 28 1987



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State of West Virginia
Department of Mines
Oil and Gas Division

Date March 21, 1988
Operator's Well No. B-663
Farm Moats
API No. 47 - 001 - 2383

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

WELL OPERATOR'S REPORT
OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 1738' Watershed Laurel Creek
District: Phillippi County Barbour Quadrangle Nestorville

COMPANY Berry Energy Consultants & Mgrs.

ADDRESS P.O. Box 5, Clarksburg, WVa 26301

DESIGNATED AGENT David B. Berry

ADDRESS P.O. Box 5, Clarksburg, Wv 26301

SURFACE OWNER T. K. Wolfe

ADDRESS P.O. Box K, Phillippi, Wv 26416

MINERAL RIGHTS OWNER Larry Moats

ADDRESS Rt. 2, Box 227, Belington, Wv 26250

OIL AND GAS INSPECTOR FOR THIS WORK
P.O. Box 2536

Phil Tracy ADDRESS Elkins, Wv 26241

PERMIT ISSUED December 23, 1987

DRILLING COMMENCED February 8, 1988

DRILLING COMPLETED February 15, 1988

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

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cord.			
13-10"			
9 5/8			
8 5/8	1015	1015	280 Sks
7			
5 1/2			
4 1/2	5420	5207	320 Sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Haverly Depth 5370 feet

Depth of completed well 5420 feet Rotary X / Cable Tools

Water strata depth: Fresh 870 feet; Salt None feet

Coal seam depths: 346; 450; 677 Its coal being mined in the area? NO

OPEN FLOW DATA

Producing formation 4th & 3rd Elks Pay zone depth 4870-5126 feet

Gas: Initial open flow 60 Mcf/d Oil: Initial open flow 0 Bbl/d

Final open flow 1 MMcf/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests _____ hours

Static rock pressure 1400 psig(surface measurement) after 72 hours shut in

(If applicable due to multiple completion--)

Second producing formation Benson Pay zone depth 4006-4010 feet

Gas: Initial open flow 60 Mcf/d Oil: Initial open flow _____ Bbl/d

Final open flow 1 MMcf/d Oil: Final open flow _____ Bbl/d

Time of open flow between initial and final tests _____ hours

Static rock pressure 1400 psig(surface measurement) after 72 hours shut in

1,000 Mcf

MAR 25 1988
(Continue on reverse side)

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

3 STATE FOAM FRAC
 1st Stage: 4th Elk ^{Grallier} 5124-5127(13) 400 Sk. 20/40 Sand, 500 gal. acid, 993,000 Scf N₂
 2nd Stage: 3rd Elk ^{Grallier} 4870-4873(13) 600 Sk. 20/40 Sand, 500 gal. acid, 989,000 Scf N₂
 3rd Stage: Benson 4006-4010(14) 460 Sk. 20/40 Sand, 500 gal. acid, 560,000 Scf N₂

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
Fill			0	20	Including indication of all fresh and salt water, coal, oil and gas
Sands			20	230	
Shales			230	270	
Sands			270	346	
Coal			346	349	Coal
Sands			349	450	
Coal			450	455	Coal
Sands			455	677	
Coal			677	679	Coal
Sands			679	720	
Shales			720	735	
Sands			735	1100	Fresh water 3/4" stream 87'
Shales			1100	1210	
Big Lime			1210	1320	
Bit Injun			1320	1400	
Shales			1400	1560	
Sands			1560	1740	
Shales			1740	1900	
Sands & Shales			1900	2200	
Shales			2200	2260	
Sands			2260	2330	
Shales			2330	3080	
Sands			3080	3909	
Rileys			3090	3700	
Shales			3700	3850	
Benson			3850	4000	
Sands & Shales			4000	4060	
Elks			4060	4230	
Sands & Shales			4230	4900	
T.D.			4900	T.D.	
			5420		

Grallier@TP.

Gas show 6/10 2" water
 Gas check T.D. 2/10 2" water

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 DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

Berry Energy Consultants & Mgrs.
 Well Operator

By: David B. Stoney
 Date: 3-21-88

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 ... encountered in the drilling of a well."



1) Date: November 23, 19 87
 2) Operator's Well No. B-663
 3) API Well No. 47 State 001 County 2383 Permit

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**DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY**

**DEPARTMENT OF ENERGY, OIL AND GAS DIVISION
 APPLICATION FOR A WELL WORK PERMIT**

4) WELL TYPE: A Oil / Gas / B (If "Gas", Production / Undergrnd storage / Deep / Shallow
 5) LOCATION: Elevation: 1738' / Watershed: Laurel Creek
 District: Phillippi 5 County: Barbour 001 Quadrangle: Westoverville 7 1/2'
 6) WELL OPERATOR Berry Energy Consultants: 4600 7) DESIGNATED AGENT David B. Berry
 Address P. O. Box 5 Address P. O. Box 5
Clarksburg, WV 26301 Clarksburg, WV 26301

8) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name Phillip Tracy Name _____
 Address P. O. Box 2536 Address _____
Elkins, WV 26241

10) PROPOSED WELL WORK: Drill / deeper / Redrill / Stimulate
 Plug off old formation / Perforate new formation
 Other physical change in well (specify) Havecty 437

11) GEOLOGICAL TARGET FORMATION, 5300 feet 1587' feet.
 12) Estimated depth of completed well, 5300 feet.
 13) Approximate trala depths: Fresh, 470', 380', 579' feet. NONE salt, _____ y salt, _____ feet.
 14) Approximate coal seam depths: 323', 608', 703', 116' Is coal being mined in the area? Yes No

15) CASING AND TUBING PROGRAM From Barbours 858, 1175, 2195, 2196

CASING OR TUBING TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used		
Conductor	11 3/4	API	42#	X		32'	
Fresh water						32'	
Coal							
Intermediate	8 5/8	API	24#	X		300'	NO SP-PROG
Production	4 1/2	API	10#	X		5250'	300 SKS
Tubing							
Liners							

Sizes 58CSR18-11.3
 Depths set 38CSR18-11.3
30CSR18-11.1

**OFFICE USE ONLY
 DRILLING PERMIT**

Permit number 47-001-2383 Date December 23 19 87

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 December 23, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Board:	Agent:	Plat:	Casing:	Test:	Well:	SP:	Other:
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

NOTE: Keep one copy of this permit posted at the drilling location. _____ Director, Division of Oil and Gas File
 See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

6485

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STATE OF WEST VIRGINIA

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

DEPARTMENT OF ENERGY, DIVISION OF OIL & GAS

NOTICE OF APPLICATION FOR A WELL WORK PERMIT

1) Date: November 23, 1987
Operator's B-663
2) Well No. 47 - 001 - 238
3) API Well No. 47 - 001 - 238
State County Permit

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

5 (1) COAL OPERATOR NON-OPERATED

(1) Name T. K. Wolfe

Address P. O. Box K
Philippi, WV 26416

5 (11) COAL OWNER(S) WITH DECLARATION ON RECORD:

Name Badger Coal

Address P. O. Box 4000

Lebanon, VA 24266

(11) Name
Address

(111) Name

Address

5 (111) COAL LESSEE WITH DECLARATION ON RECORD:

Name

Address

FOR THE REASON(S) STATED ABOVE, YOU SHOULD HAVE RECEIVED THIS FORM AND THE FOLLOWING DOCUMENTS:

- (1) The Application for a Well Work Permit on Form WV-318 which sets out the parties involved in the drilling or other work, and describes the well and the 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-318) 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 for by publication in certain circumstances) on or before the day of mailing or delivery to the Director of the Division of Oil and Gas.

6) EXTRACTOR RIGHTS

Check and provide one of the following:
 Included in the lease or lease 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 lease or other contract or contracts providing for flat well royalty or any other 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 time from instructions, and for instructions concerning the required copies of the Notice and Application, Plat, and Construction and Reclamation Plan.

WELL OPERATOR Berry Energy Consultants & Mgr's.

By David F. Berry

Its Vice President

Address P. O. Box 5

Clarksburg, WV 26301

Telephone 622-3450

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
David B. Berry

this 24th day of November, 1987,
My commission expires 4/22, 1991.

Mary Ann Conner
Notary Public, Harrison County,
State of West Virginia