



1) Date: April 2, 1985
 2) Operator's Well No. Cunningham B-1
 3) API Well No. 47 - 085 - 7372
 State 47 County 085 Permit 7372

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

- 4) WELL TYPE: A Oil / Gas XX /
 B (If "Gas", Production / Underground storage / Deep / Shallow X /)
- 5) LOCATION: Elevation: 920' Watershed: South Fork of Hughes River
 District: Murphy County: Ritchie Quadrangle: Smithville 7.50
- 6) WELL OPERATOR Shale Service, Inc. 44575 7) DESIGNATED AGENT D. L. Stewart
 Address P.O. Box 83 Address P.O. Box 83
Harrisville, WV 26362 Harrisville, WV 26362
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Samuel Hersman Name Shale Service, Inc.
 Address P.O. Box 66 Address P.O. Box 83
Smithville, WV 26178 Harrisville, WV 26362
- 10) PROPOSED WELL WORK: Drill XX / Drill deeper / Redrill / Stimulate
 Plug off old formation / Perforate new formation
 Other physical change in well (specify)
- 11) GEOLOGICAL TARGET FORMATION, Marcellus Sand
- 12) Estimated depth of completed well, 5900' feet
 13) Approximate strata depths: Fresh, 135 feet; salt, feet.
 14) Approximate coal seam depths: n/a 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		
Conductor	11 3/4				X	40'		Kinds
Fresh water								
Coal								
Intermediate	8 5/8	CW	23 lb.	X		1020'	1020'	Sizes
Production	4 1/2	ERW	10.5	X			5900'	Depths set
Tubing							2000'	Up
Liners								Bottom

by rule 15.05
 as required
 by rule 15.05
 DEPT. OF MINES
 APR 4 1985
 RECEIVED

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-085-7372

April 4, 1985
 Date

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 April 4, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	Fee
<u>182</u>	<u>SW</u>	<u>MU</u>	<u>MU</u>	<u>2947</u>

Margaret J. Hass
 Administrator, Office of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.

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

44272

OFFICE USE ONLY

This part of Form IV-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:

RECEIVED

APR - 1 1985

WELL NO. CUNNINGHAM No-0
API NO. 47-085-7372

OIL & GAS DIVISION
DEPT. OF MINES

REGULATORY AND RECLAMATION PLAN

SHALE SERVICE, INC.
P.O. Box 83 HARRISVILLE, WV 26362
643-4711

DESIGNED BY: D.L. STEWART
ADDRESS: P.O. Box 83, HARRISVILLE, WV 26362
Telephone: 643-4711
SOIL CONSERVATION DISTRICT: Little Kanawha

MARVIN L. CUNNINGHAM

UNKNOWN AT THIS TIME

This plan has been reviewed by Little Kanawha SO. All conditions become a part of this plan: 11-18-83 (Date)

Jarrett Newton
(SO Agent)

- DRAINAGE DITCH (A)
EARTHEN
Page Ref. Manual: 2-12
- CROSS DRAINS (B)
2% EVERY 250'
15% EVERY 60' & 20% EVERY 45'
Page Ref. Manual: (2-1)(2-4)
- ROAD CULVERT (C)
16" x 24' CMP
Page Ref. Manual: (2-1)(2-3)

- LOCATION
- DIVERSION DITCH
Material: EARTHEN
Page Ref. Manual: (2-12)
- ROCK RIP-RAP
Material: ROCK
Page Ref. Manual: (2-16)(C-4)
- PIT
Material: EARTHEN
Page Ref. Manual: N/A

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.

FOULDERIZATION



- 2 lbs/acre
- 6.5
- 600 lbs/acre
(10-20-20 or equivalent)
- (HAY) 2 lbs/acre
- LADINO CLOVER 3 lbs/acre
- KY 31 40 lbs/acre

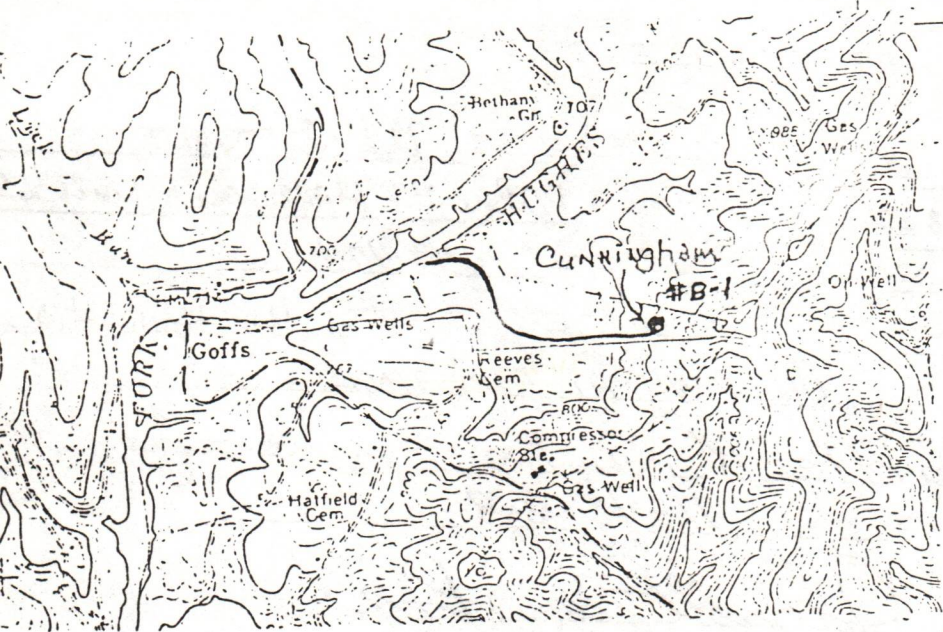
- Time 2 hrs/acre
- 6.5
- Fertilizer 600 lbs/acre
(10-20-20 or equivalent)
- Material (HAY) 2 lbs/acre
- Seed LADINO CLOVER 3 lbs/acre
- KY 31 40 lbs/acre

Use all legumes such as vetch, alfalfa and clovers with the proper bacteriological inoculant with 3% recommended amount.

PLAN PREPARED BY MARK C. ECHARD
STAR RT. 71-BOX 6

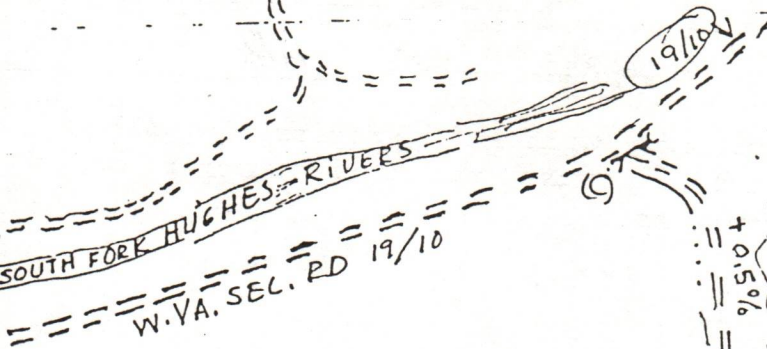
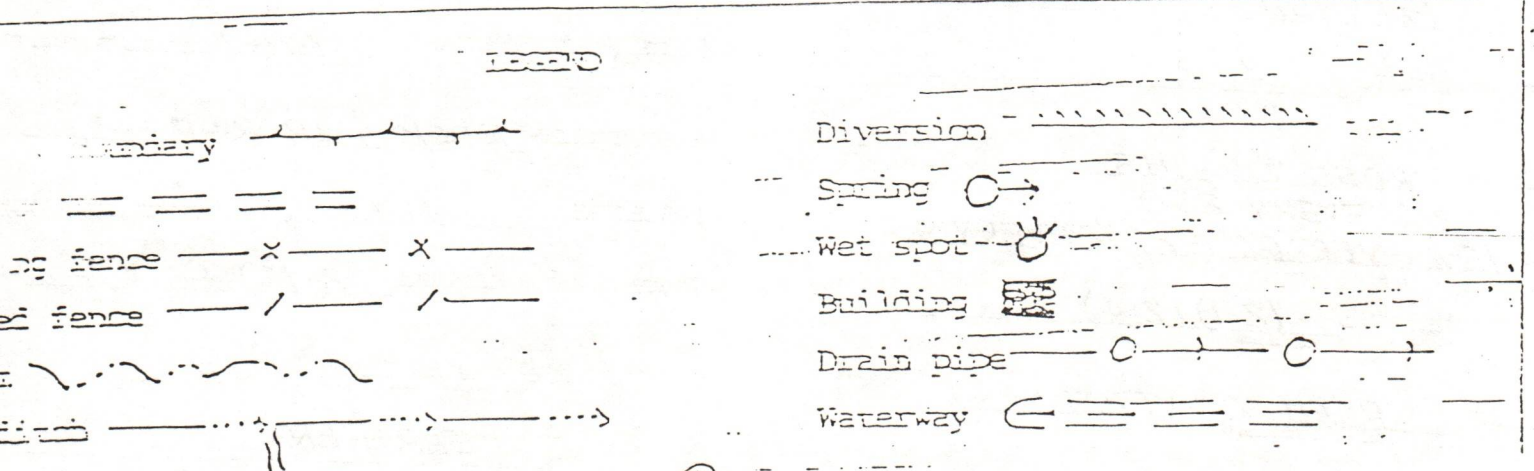
Smithville, 7.5'

Well Site 
 Access Road 

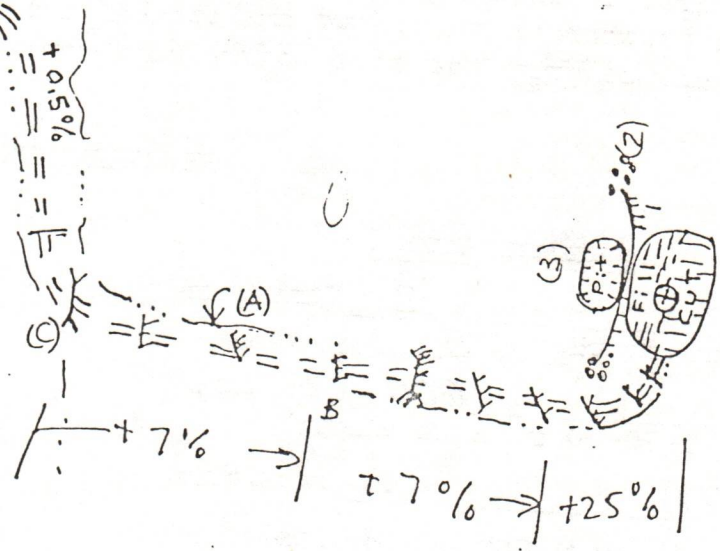


WELL SITE PLAN

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



Cunningham No B-1



1) Date: April 2 ~~October 11~~, 19 85
2) Operator's Well No. Cunningham B-1
3) API Well No. 47-085-2372
State County Permit

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

- 4) SURFACE OWNER(S) OF RECORD TO BE SERVED
- (i) Name Marvin L. Cunningham
Address Rt. 1 Box 65J
Harrisville, WV 26362
 - (ii) Name _____
Address _____
 - (iii) Name _____
Address _____
- 5(i) COAL OPERATOR _____
Address _____
- 5(ii) COAL OWNER(S) WITH DECLARATION ON RECORD:
Name _____
Address _____
- 5(iii) 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 IV-2(B) (or Form IV-4 if the well is to be plugged, 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 IV-6; and
- (3) The Construction and Reclamation Plan on Form IV-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 (FORM IV-2(B) OR FORM 4, DESIGNATED FOR YOU. HOWEVER, YOU ARE NOT REQUIRED TO TAKE ANY ACTION AT ALL.

Take notice that under Chapter 22 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 Administrator of the Office of Oil and Gas, West Virginia Department of Mines, with respect to a well at the location described on attached Application and depicted on attached Form IV-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 Administrator.

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

WELL OPERATOR Shale Service, Inc.
By D. L. Stewart
Its President
Address P. O. Box 83
Harrisville, WV 26326
Telephone 643-4711

this 11th day of October, 1984.
My commission expires June 12, 1994.

Lisa D. Gibson
Notary Public, Ritchie County,
State of West Virginia

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 22-4-1-(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 IV-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.

OIL & GAS DIVISION
DEPT. OF MINES

APR 4 1985

RECEIVED

INSTRUCTIONS TO APPLICANT

CONCERNING THE LINE ITEMS:

- 1) Date of Notice.
- 2) Your well name and number.
- 3) To be filled out by the Office 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 § 22-4-1b(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 § 22-4-20.
- 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 § 22-4-1k 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 § 22-4-1k(d) and the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fees required by Code § 22-4-1a(c) and 22-3-12a, and (v) if applicable, the consent required by Code § 22-4-3a 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 §§ 22-4-1m, 22-4-2, 22-4-2a, and 22-4-2b.

INFORMATION SUPPLIED UNDER CODE § 22-4-11(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:

<u>Grantor, lessor, etc.</u>	<u>Grantee, lessee, etc.</u>	<u>Royalty</u>	<u>Book</u>	<u>Page</u>
Marvin Cunningham	Allstate Energy	12.5	130	588
Allstate Energy	Shale Service		165	817



1) Date: April 2, 19 85
 2) Operator's Well No. Cunningham B-1
 3) API Well No. 47 - 085 -
 State County Permit

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

- 4) WELL TYPE: A Oil _____ / Gas XX /
 B (If "Gas", Production _____ / Underground storage _____ / Deep _____ / Shallow X /)
- 5) LOCATION: Elevation: 920' Watershed: South Fork of Hughes River
 District: Murphy County: Ritchie Quadrangle: Smithville 7.50
- 6) WELL OPERATOR Shale Service, Inc. 7) DESIGNATED AGENT D. L. Stewart
 Address P.O. Box 83 Address P.O. Box 83
Harrisville, WV 26362 Harrisville, WV 26362
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Samuel Hersman Name Shale Service, Inc.
 Address P.O. Box 66 Address P.O. Box 83
Smithville, WV 26178 Harrisville, WV 26362
- 10) PROPOSED WELL WORK: Drill XX / Drill deeper _____ / Redrill _____ / Stimulate _____
 Plug off old formation _____ / Perforate new formation _____
 Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, Marcellus Sand
- 12) Estimated depth of completed well, 5900' feet
 13) Approximate tratra depths: Fresh, 135 feet; salt, _____ feet.
 14) Approximate coal seam depths: n/a 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		SIZES	
Conductor	<u>11 3/4</u>				<u>X</u>	<u>40'</u>			Kinds	
Fresh water									SIZES	
Coal									SIZES	
Intermediate	<u>8 5/8</u>	<u>CW</u>	<u>23 lb</u>	<u>X</u>		<u>1020'</u>	<u>1020'</u>	<u>To Surface</u>	SIZES	
Production	<u>4 1/2</u>	<u>ERW</u>	<u>10.5</u>	<u>X</u>			<u>5900'</u>	<u>2000' Fill</u>	Depths set	
Tubing								<u>Up</u>	Depths set	
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 for a Well Work Permit, and that I have received copies of (1) a Notice of Application for a Well Work Permit on Form IV-2(A), (2) an Application for a Well Work Permit on Form IV-2(B), (3) a survey plat on Form IV-6, and (4) a Construction and Reclamation Plan on Form IV-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.)

NAME: _____
 By _____
 Its _____ Date _____

(For execution by natural persons)

Maxwell L. Cunningham Date: 4-2-85
 (Signature)
 _____ Date: _____
 (Signature)

**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 22, Article 4 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 Administrator of the Office of Oil and Gas in the West Virginia Department of Mines immediately.

NOTE: You are not required to file any comment at all.

Where to file comments and obtain additional information:

Administrator of the Office of Oil and Gas
West Virginia Department of Mines
1615 Washington Street East
Charleston, West Virginia 25311
(304) 348-2057

Who may file comments? If you wish to file comments, you must be an owner of record of (1) an 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 under 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 Administrator'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 Administrator's office by the time stated above. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling.

The Administrator 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 Administrator.

List of Water Testing Laboratories. The Administrator 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 Administrator's office or an Oil and Gas Inspector to obtain a copy of the list.



IV-35
(Rev 8-81)

Date June 28, 1985
Operator's
Well No. B-1
Farm Cunningham
API No. 47-085-7372

State of West Virginia
Department of Mines
Oil and Gas Division

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 ___ / Underground Storage ___ / Deep ___ / Shallow X /)

LOCATION: Elevation: 920' Watershed South Fork of Hughes River
District: Murphy County Ritchie Quadrangle Smithville

COMPANY Big A oil Company
ADDRESS P. O. Box 83
DESIGNATED AGENT D. L. Stewart
ADDRESS Box 83. Harrisville. WV 26326
SURFACE OWNER Marvin Cunningham
ADDRESS Rt 2 Box 65J Harrisville. WV 26362
MINERAL RIGHTS OWNER Same
ADDRESS _____
OIL AND GAS INSPECTOR FOR THIS WORK Samuel
Hersman ADDRESS Box 66 Smithville. WV
PERMIT ISSUED 4/2/85
DRILLING COMMENCED 6/17/85
DRILLING COMPLETED 6/23/85

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"			
9 5/8			
8 5/8	1020'	1020'	To Surface
7			
5 1/2			
4 1/2		5200'	2000'
3			Fill up
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 2501 feet
Depth of completed well 5251 feet Rotary X / Cable Tools _____
Water strata depth: Fresh 145 feet; Salt n/a feet
Coal seam depths: n/a Is coal being mined in the area? no

OPEN FLOW DATA

Producing formation Alexander, Riley, ^{Speechley} Balltown Pay zone depth 1270 feet
Gas: Initial open flow 1500 Mcf/d Oil: Initial open flow show Bbl/d
Final open flow 1500 Mcf/d Final open flow show Bbl/d
Time of open flow between initial and final tests 4 hours
Static rock pressure 950 psig (surface measurement) after _____ 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 Oil: 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

(Continue on reverse side)

RIT 7372

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

1ST Stage	2nd Stage	3rd Stage
4952	4370	4046
4960 10 shots	4372 1st Riley	4048
Alexander	4374	4050
4864	4376	4002
4866	4378	4004
4868	4380	4006
4870 2nd Riley	4192	Plug set 3960'
4520	4194 Balltown	
4522	4196	
4524	4198	
4526	4040	
4528	4042	
4530 Plug set 4420'	4044	

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Soil			0	15	Silty Sand 2110 2284
Red Rock			15	40	Weir Sand 2284 2320
Slate			40	100	Shale 2320 2352
Sand			100	175	Berea Sandstone 2352 2353
Red Rock			175	210	Shale 2353 2389
Sand			210	270	Silty Sand 2389 2425
Red Rock			270	287	Shale 2425 2490
Sand			287	315	Sand 2490 2525
Sed Rock			315	320	Slate 2525 2642
Shale			320	340	Sand 2642 2729
Red Rock			340	350	Gordon 2729 2736
Shale			350	370	Sand 2736 2815
Red Rock			370	400	Shale 2815 2895
Slate			400	500	Silty Sand 2895 2962
Red Rock			500	520	Shale 2962 3080
Shale			520	650	Silty Sand 3080 3100
Red Rock			650	670	Shale 3100 3172
Slate			760	790	Sand 3172 3269
Sand			790	800	Shale 3269 3300
Slate			800	810	Warren 3300 3347
Sand			810	820	Shale 3347 3408
Slate			820	1020	Sand 3408 3492
Shale			1020	1150	Shale 3492 3550
Sand			1150	1180	Sand 3550 3598
Slate			1180	1410	Shale 3598 3660
Shale			1410	1450	Speechley 3660 3685
Sand			1450	1510	Shale 3685 3749
Slate			1510	1630	Sand 3749 3829
Shale			1630	1660	Shale 3829 3901
Sand			1660	1671	Sand 3911 4005
Shale			1671	1710	Balltown 4005 4052
Maxon			1710	1764	Sand 4052 4236
Shale			1764	1802	Shale 4236 4368
Sand			1802	1852	First Riley 4368 4380
Big Lime			1852	1918	Sand 4380 4492
Big Injun Sand			1919	1996	Shale 4492 4515
Sand			1996	2045	Second Riley 4515 4532
Shale			2045	2110	Shale 4532 4934
					Alexander 4943 4964
					Sand 4964 5150
					Shale 5150 5251

(Attach separate sheets as necessary)

Shale Service, Inc.

Well Operator

By: D. L. Stewart D. L. Stewart, Designated Agent

Date: June 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 ... encountered in the drilling of a well."

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

RECEIVED
JUN 25 1985

INSPECTOR'S WELL REPORT

OIL & GAS DIVISION
DEPT. OF MINES
Oil or Gas Well (KIND)

Permit No. 85-7372

Company Shale Service, Inc.
 Address _____
 Farm Marvin S. Cunningham
 Well No. B-1
 District Murphy County Retlaw
 Drilling commenced 6-19-85
 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 70' HOLE DAMP feet _____ feet
 Salt water _____ feet _____ feet

CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKERS
Size			
16			Kind of Packer _____
13			
10			Size of _____
8 5/8	1014	1014	
6 3/8			Depth set _____
5 3/16			
3			Perf. top _____
2			Perf. bottom _____
Liners Used			Perf. top _____
			Perf. bottom _____

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 S. J. Rush / Shirley Rush / Daniel Bell

Rig # 6 Gene Stalnaker, Inc. Tool Pusher Jim Myers

Remarks: Ran 1014 foot of 8 5/8" casing (new)
Dowell ran 225 sacks cement mix
Good circulation of cement, Plug down at 12:50 P.M.
Pit O.K.

6-20-85

DATE

Samuel N. Heroman

DISTRICT WELL INSPECTOR

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

RECEIVED

JUL 3 - 1985

INSPECTOR'S WELL REPORT

OIL & GAS DIVISION

DEPT. OF MINES
Oil or Gas Well _____
(KIND)

Permit No. 85-7372

Company Shale Service, Inc.

Address _____

Farm Marvin S. Cunningham

Well No. B-1

District Murphy County Ritchie

Drilling commenced 6-19-85

Drilling completed 6-24-85 Total depth 5250

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 AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKERS
Size			
16			Kind of Packer _____
13			
10			Size of _____
8 1/4			
6 3/4			Depth set _____
5 3/4 <u>4 1/2</u>	<u>5103'</u>	<u>5103'</u>	
3			Perf. top _____
2			Perf. bottom _____
Liners Used			Perf. top _____
			Perf. bottom _____

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: T.D. hole at depth of 5250 foot - will run 5103 foot of 4 1/2" casing
Running casing at time of visit

6-24-85
DATE

Samuel N. Fosman
DISTRICT WELL INSPECTOR

INSPECTOR'S PERMIT SUMMARY FORM

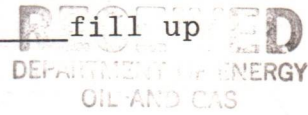
WELL TYPE _____
ELEVATION 920
DISTRICT MURPHY
QUADRANGLE SMITHVILLE 7.5
COUNTY PITCAIE

API# 47-085-7372 (4-4-85)
OPERATOR SHALE SERVICE, INC
TELEPHONE _____
FARM MARVIN L. CUNNINGHAM
WELL # B-1

SURFACE OWNER _____ COMMENTS _____ TELEPHONE _____
TARGET FORMATION _____ DATE APPLICATION RECEIVED _____
DATE STARTED _____
LOCATION _____ NOTIFIED _____ DRILLING COMMENCED 6-19-85

WATER DEPTHS 70', _____, _____, _____
COAL DEPTHS _____, _____, _____, _____

CASING
Ran 1014 feet of 8 5/8" "pipe on 6-20-85 with 225 ^{SACK} fill up
Ran 5103 feet of 4 1/2" "pipe on 6-24-85 with (?) fill up
Ran _____ feet of _____ "pipe on _____ with _____ fill up
Ran _____ feet of _____ "pipe on _____ with _____ fill up
TD 5250 feet on 6-24-85



PLUGGING

MAY 6 1986

Type	From	To	Pipe Removed

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

Date Released 4-29-86

Samuel N. Hersman
Inspector's signature

API# 47 085-7372

LIST ALL VISITS FOR THIS PERMIT

	DATE	TIME	PURPOSE	COMMENTS
1	6-19-85		Visit - Moving rig on site	
2	6-20-85		Visit - Run Surface Casing	
3	6-24-85		Visit - Pick up T.D. Report	
4	4-29-86		Visit - Make Final Inspection	
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Notes

**APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL
PRICE UNDER THE NATURAL GAS POLICY ACT (NGPA)**

1.0 API well number: (If not assigned, leave blank. 14 digits.)	47 - 085 - 7372 -			
2.0 Type of determination being sought: (Use the codes found on the front of this form.)	103			
	Section of NGPA	Category Code		
3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)	5251 feet			
4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)	Shale Service, Incc			Seller Code
	P O Box 83			
	Harrisville		WV	26362
	City		State	Zip Code
5.0 Location of this well: [Complete (a) or (b).] (a) For onshore wells (35 letters maximum for field name.)	Murphy District			
	Field Name			
	Ritchie County		WV	
	County		State	
(b) For OCS wells:	Area Name		Block Number	
	Date of Lease:			
	Mo. Day Yr.			
	OCS Lease Number			
(c) Name and identification number of this well: (35 letters and digits maximum.)	Cunningham B-1			
(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.)	Cabot Corporation			Buyer Code
	Name			
(b) Date of the contract:	Mo. Day Yr.			
(c) Estimated total annual production from the well:	35 Million Cubic Feet			
	(a) Base Price	(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.)	S/MMBTU			
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	S/MMBTU			
9.0 Person responsible for this application:	D. L. Stewart			
	Name			Designated Agent
	Signature			Title
	Date Application is Completed		Phone Number	

Agency Use Only

Date Received by Juris. Agency

JUL 12 1985

Date Received by FERC

D. L. Stewart

6/28/85

643-4711

PARTICIPANTS:

DATE: JUL 30 1985

BUYER-SELLER CODE

WELL OPERATOR:

Shale Service, Inc.

44575

FIRST PURCHASER:

Cabot Corporation

P 616

OTHER:

W. Va. Department of Mines, Oil & Gas Division

WELL DETERMINATION FILE NUMBER

850712 - 1030-085 = 7372

Use Above File Number on all Communications Relating to Determination of this Well

QUALIFIED

CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING

ITEM NO.

- 1. FERC -121 _____ Items not completed - Line No. _____
- 2. IV-1 Agent _____
- 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: _____ Date completed _____ Deepened _____
- (5) Production Depth: _____
- (5) Production Formation: _____
- (5) Final Open Flow: _____
- (5) After Frac. R. P. _____
- (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? _____
- Additional information _____ Does computer program confirm? _____
- Was Determination Objected to _____ By Whom? _____

Operator's Well No. Cunningham B-1
API Well No. 085 7372
State County Permit

STATE APPLICATION FOR WELL CLASSIFICATION

Previous File No. (If Applicable)

WELL OPERATOR Shale Service, Inc.
ADDRESS P.O. Box 83
Harrisville, WV 26362

DESIGNATED AGENT D. L. Stewart
ADDRESS P.O. Box 83
Harrisville, WV 26362

Gas Purchase Contract No. and Date
(Month, day and year)

Meter Chart Code

Name of First Purchaser Cabot Corporation
P.O. Box 1473
Charleston, WV 25325
(City) (State) (Zip Code)

FERC Seller Code FERC Buyer Code

TYPE OF DETERMINATION BEING SOUGHT:

- (1) Initial determination (See FERC Form 121.) Section of NGPA 103 Category Code
- (2) Determination that increased production is the result of enhanced recovery technology.
- (3) Determination of a seasonally affected well.

D. L. Stewart Designated Agent
Name (Print) Title
D. L. Stewart
Signature
P.O. Box 83
Street or P. O. Box
Harrisville, WV 26362
City State (Zip Code)
304-643-4711
() Phone Number
Area Code

(Certificate of Proof of Service to Purchaser)

(All of the above to be completed by the Operator/Applicant)

(To be completed by Jurisdictional Agency. Executed copy to be returned to Operator/Applicant and purchaser, if known).

The Department of Mines has received a request for certification of the above described well as meeting the requirements of Section under the Natural Gas Policy Act of 1975 (NGPA); or for determination that increased production is the result of enhanced recovery technology under Section 108 of (NGPA); or for determination of a seasonally affected well under Section 109 of (NGPA).

All interested parties are hereby notified that on the day of , 1985, at the office of the Oil and Gas Division in Charleston, West Virginia, or as soon thereafter as it may be heard, there will be a public hearing, if requested, or if objection is filed.

This Application is assigned File No.

Initial review of information submitted indicates the well is, is not entitled to certification as claimed under the Natural Gas Policy Act (NGPA). A review of this evidence and any additional evidence will be made at the time appointed for a public hearing or as soon thereafter as the matter may be heard.

Unless objections are timely filed or a request for a hearing is made within fifteen (15) days, a hearing will not be held except on ex parte motion of the department and the matter will go to determination.

WEST VIRGINIA DEPARTMENT OF MINES

Director
By
Title

Date received by
Jurisdictional Agency

RECEIVED

JUL 12 1985

OIL & GAS DIV.
DEPT. OF MINES

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

Date 6-28 1985

Operator's Well No. B-1

API Well No. 47 - 085 - 7372
State County Permit

WELL CLASSIFICATION FORM

NEW ONSHORE PRODUCTION WELL

NGPA Section 103

DESIGNATED AGENT D. L. Stewart

ADDRESS P. O. Box 83
Harrisville, WV 26362

WELL OPERATOR Shale Service, Inc.
ADDRESS P.O. Box 83
Harrisville, WV 26362

LOCATION: Elevation 920'
Watershed South Fork of Hughes River
Dist. Murphy County Ritchie Quad. SMithville

GAS PURCHASER Cabot Corporation
ADDRESS P.O. Box 1473
Charleston, WV 25325

Gas Purchase Contract No. _____
Meter Chart Code _____
Date of Contract _____

* * * * *

Date surface drilling was begun: 6/20/85

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

$$\frac{(.01875)(SG)(D)}{Z T}$$

- Pws = Static Bottom Hole Pressure
 - Pwh = Wellhead pressure
 - SG = Specific Gravity
 - D = Depth to center of perforations
 - Z = Average Compressibility factor
 - T = Average Temp.
- | | | |
|-----|---|------|
| Pws | = | 1067 |
| Pwh | = | 950 |
| SG | = | .72 |
| D | = | 4317 |
| Z | = | .84 |
| T | = | 570° |

AFFIDAVIT

I, D. L. Stewart, 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.

D. L. Stewart

STATE OF WEST VIRGINIA,
COUNTY OF Ritchie, TO WIT:

I, Marilyn Jane Jackson, a Notary Public in and for the state and county aforesaid, do certify that D. L. Stewart, whose name is signed to the writing above, bearing date the 11th day of July, 1985, has acknowledged the same before me, in my county aforesaid.

Given under my hand and official seal this 11th day of July, 1985.

My term of office expires on the 9th day of August, 1993.

(NOTARIAL SEAL)

Marilyn Jane Jackson
Notary Public

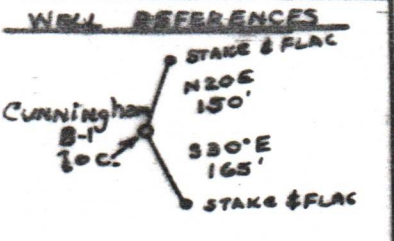
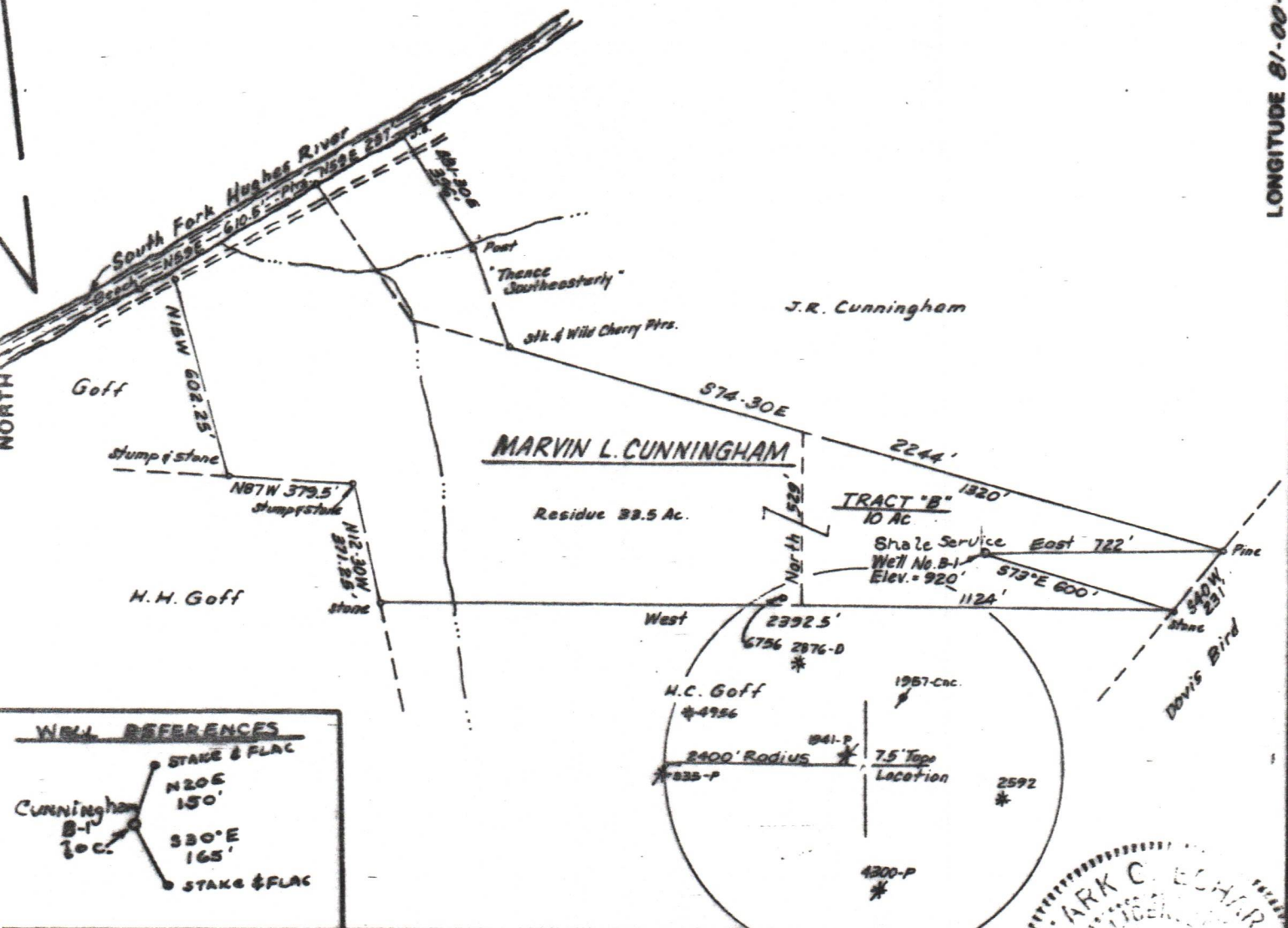
414/85

5,120'

LATITUDE 39-07.30

LONGITUDE 81-00-00

12,800'



FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION BM at Church 2300± N.W. of Location, Elev. = 707'

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. Mark C. Echard
 (SIGNED) MARK C. ECHARD
 R.P.E. _____ L.L.S. 490

NO. 490
 STATE OF WEST VIRGINIA
 SURVEY
 PLACE SEAL HERE

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



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

DATE OCTOBER 10, 1984
 OPERATOR'S WELL NO. B-ONE
 API WELL NO. _____
47 - 085 - 7372
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS.") PRODUCTION STORAGE _____ DEEP _____ SHALLOW
 LOCATION: ELEVATION 920' WATER SHED SOUTH FORK OF HUGHES RIVER
 DISTRICT MURPHY COUNTY RITCHIE
 QUADRANGLE SMITHVILLE 7.5'
 SURFACE OWNER MARVIN L. CUNNINGHAM ACREAGE 10 of 43.5
 OIL & GAS ROYALTY OWNER MARVIN L. CUNNINGHAM LEASE ACREAGE 43.5
 LEASE NO. _____

PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
 TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5900'
 WELL OPERATOR SHALE SERVICE, INC. DESIGNATED AGENT D. L. STEWART
 ADDRESS P.O. BOX 83 ADDRESS P.O. BOX 83
HARRISVILLE, W.VA. 26362 GLENKILLE, W.VA. 26362