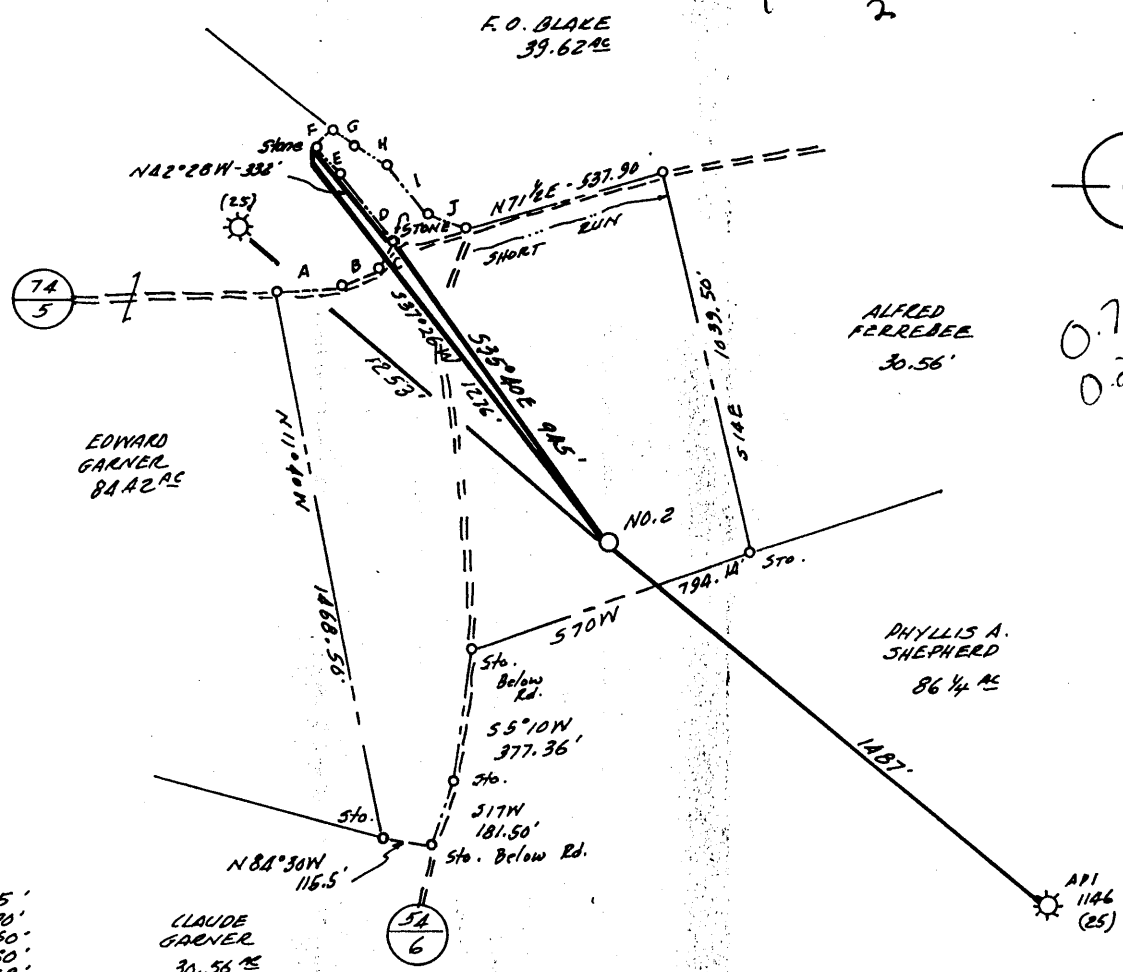


3/1/88

LATITUDE 39°20'00"

LONGITUDE 80°52'30"

NORTH

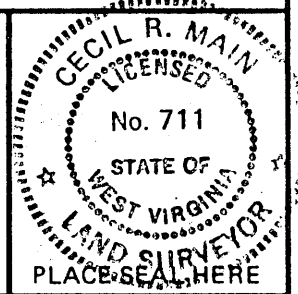


- A N82E 173.25'
- B N59E 108.90'
- C N22 1/2 E 72.60'
- D N39W 237.60'
- E N51 1/4 W 94.38'
- F N33 1/2 E 57.75'
- G S65°20'E 76.56'
- H S65°20'E 99'
- I S41 1/2 E 165'
- J S73 1/4 E 107.25'

WELL REF.  
 S17E 139' TO 12" PINE  
 S34°20'E 141' TO 8" PINE

FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY 1 IN 200  
 PROVEN SOURCE OF ELEVATION API 1146  
ELEV. 1218'

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) Cecil R. Main  
 R.P.E. \_\_\_\_\_ L.L.S. 711



STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION



DATE FEBRUARY 18, 19 88  
 OPERATOR'S WELL NO. MARSH #2  
 API WELL NO. 47 - 095 - 1228  
 STATE COUNTY PERMIT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS,") PRODUCTION \_\_\_ STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION: ELEVATION 1121' WATER SHED SHORT RUN  
 DISTRICT CENTERVILLE COUNTY TYLER  
 QUADRANGLE PERMSBORO 7.5' 539 133 8 West Union SC  
 SURFACE OWNER OREAN FERREBEE ACREAGE 30  
 OIL & GAS ROYALTY OWNER MARSH HEIRS LEASE ACREAGE 30  
 LEASE NO. \_\_\_\_\_  
 PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
 TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5900  
 WELL OPERATOR APPALACHIAN ENERGY DEV., INC. DESIGNATED AGENT GEORGE WILLIAMS  
 ADDRESS P.O. BOX 902 ADDRESS P.O. BOX 902  
BELINGTON, WV 26250 397 BELINGTON, WV 26250

MAR 11 1988

6-6 Stanley (90)

FORM IV-6 (8-78)

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MAY 3 1 1988

DIVISION OF OIL & GAS  
DEPT. OF ENERGY



State of West Virginia

DEPARTMENT OF ENERGY

Oil and Gas Division

Date 5/25/88

Operator's

Well No. #2

Farm Marsh

API No. 47 -095 - 1228

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 x / Shallow x /)

LOCATION: Elevation: 1121 Watershed Short Run  
District: Centerville County Tyler Quadrangle Pennsboro

COMPANY Appalachian Energy Dev., Inc.

ADDRESS Rt 2, Box 499 Grafton, Wv 26354

DESIGNATED AGENT George R. Williams

ADDRESS Rt 2, Box 499 Grafton, Wv 26354

SURFACE OWNER Olean Ferrebee

ADDRESS 159 Orpha Ave, Weirton, Wv 26062

MINERAL RIGHTS OWNER Marsh Heirs

ADDRESS Pennsboro, Wv

OIL AND GAS INSPECTOR FOR THIS WORK Robert

Lowther ADDRESS Middlebourne, Wv

PERMIT ISSUED 3/9/88

DRILLING COMMENCED 4/20/88

DRILLING COMPLETED 4/24/88

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 Cond.			
13-10"	30	0	0
9 5/8			
8 5/8	1269	1269	surface
7			
5 1/2			
4 1/2	5424	5424	1500'
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Alexander/Benson/Riley Depth detail feet See perf.

Depth of completed well 5810 feet Rotary x / Cable Tools

Water strata depth: Fresh 220 feet; Salt 1555 feet

Coal seam depths: none Is coal being mined in the area? no

OPEN FLOW DATA Note: These zones are downhole commingled. See perf.

Producing formation Alexander/Benson/Riley Pay zone depth detail feet

Gas: Initial open flow 64 Mcf/d Oil: Initial open flow 0 Bbl/d

Final open flow 800 Mcf/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 1680 psig (surface measurement) after 48 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

JUN 3 1988

(Continue on reverse side)

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

- 1) Alexander-perf. 5267-98 w/12 holes. Frac w/19,000# 20/40 sand in 229 bbls water, using 28,900 SCF N<sub>2</sub>. Avg rate-27, Avg pr-2850, ISDP-3500.
- 2) Benson-perf 4998-5004 w/18 holes. Frac w/30,000# 20/40 sand in 375 bbls water, using 36,300 SCF N<sub>2</sub>. Avg rate-26, Avg pr-2500, ISDP-1250.
- 3) Riley-perf 4597-4628 w/16 holes. Foam frac w/30,000# 20/40 sand in 568 bbls 75 quality foam, using 541,000 SCF N<sub>2</sub>. Avg rate-24, Avg pr-3250, ISDP-1450.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
sand & shale			0	220	
sand			220	245	1" water @ 220
sand & shale			245	1545	
sand			1545	1575	1 1/2" water @ 1555
sand & shale			1575	1956	
Big Lime			1956	2041	
Big Injun			2041	2172	
shale			2172	2333	
Weir			2333	2452	
shale			2452	2516	
Berea			2516	2522	
shale			2522	4597	
Riley			4597	4629	
shale			4629	4998	
Benson			4998	5004	
shale			5004	5263	
Alexander			5263	5298	
shale			5298	5810	
total depth				5810	

Note: Gas tests were inaccurate due to soaping of the hole.

(Attach separate sheets as necessary)

Appalachian Energy Dev., Inc.  
Well Operator

By: *Spencer Williams*

Date: 5/25/88

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 coal, encountered in the drilling of a well."

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Page 1 of 8  
Form WW2-A  
(09/87)  
File Copy

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

1) Date: March 2, 1988  
2) Operator's well number  
Marsh #2  
3) API Well No: 47 - 095 - 1228  
State - County - Permit

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served:
  - (a) Name Orean Ferreebee  
Address 159 Orpha Ave.  
Weirton, WV 26062
  - (b) Name \_\_\_\_\_  
Address \_\_\_\_\_
  - (c) Name \_\_\_\_\_  
Address \_\_\_\_\_
- 5) (a) Coal Operator:
  - Name None  
Address \_\_\_\_\_
  - (b) Coal Owner(s) with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_
  - Name \_\_\_\_\_  
Address \_\_\_\_\_
  - (c) Coal Lessee with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_
- 6) Inspector Robert Lowther  
Address General Delivery  
Middlebourne, WV 26149  
Telephone (304)-758-4764

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

XX Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR  
Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_ on the above named parties, by:

- XX Personal Service (Affidavit attached)
- \_\_\_\_\_ Certified Mail (Postmarked postal receipt attached)
- \_\_\_\_\_ Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator Appalachian Energy Dev., Inc.

By: [Signature]  
Its: President  
Address P.O. Box 902  
Belington, WV 26250  
Telephone (304) 265-4147

Subscribed and sworn before me this 2 day of March, 1988

My commission expires April 13, 1995 [Signature] Notary Public

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

- 1) Well Operator: Appalachian Energy Dev., Inc. <sup>397</sup> 2325, 1, 538
- 2) Operator's Well Number: Marsh #2 3) Elevation: 1121
- 4) Well type: (a) Oil  or Gas  /  
(b) If Gas: Production  Underground Storage  /  
Deep  Shallow  /
- 5) Proposed Target Formation(s): Alexander 439
- 6) Proposed Total Depth: 5592 feet
- 7) Approximate fresh water strata depths: 150 ft., 391, 596, 643
- 8) Approximate salt water depths: 1550
- 9) Approximate coal seam depths: None 1098-1103', 1028-1030'  
*from Tyler 409, 418, 759, 1146*
- 10) Does land contain coal seams tributary to active mine? Yes  / No  /
- 11) Proposed Well Work: Drill  
*New*
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
<i>OK R.A.L.</i> Conductor	11 3/4		42	30	30 <i>cks</i>	surface as required
Fresh Water						<i>C38CSR18-11.3</i>
Coal						<i>C38CSR18-11.2.2</i>
Intermediate	8 5/8		23	1271	1271 <i>cks</i>	surface as required
Production	4 1/2	J55	10.5	5429	5429 <i>38CSR18-11.1</i>	540 sks or as required
Tubing						
Liners						

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PACKERS : Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

For Division of Oil and Gas Use Only

6729 1246  
10  
Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP  
Plat  WW-9  WW-2B  Bond 5000mbset  Agent  
(Type)