

A. FERREBEE HRS. LEASE

Jan 10/20/89

12/2/94

FERREBEE

S 88-11 E

210.38'

STONE

N 38-22 E
87.14'

WELL NO. 1

.75 ACRES ± SUR.

N 4-33 E
132.27'

TAYLOR et al

S 82-36 W

165.22'

LINE

SCHOOL
FOUNDATION

W/L NO. 1

S 16-31 W
165.00'

STONE

N 68-05 W

184.25'

3" PLASTIC
GAS

S 04-34 E
90.15'

1/2" REBAR

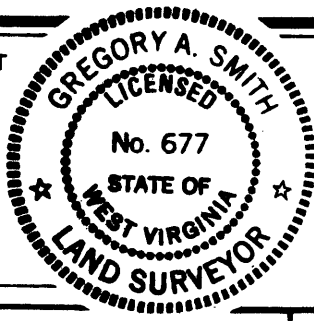
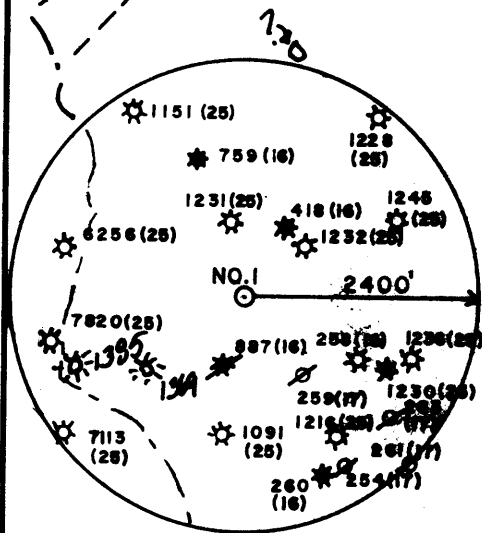
.16 ACRES ± SUR.

FERREBEE

FERREBEE

1 ACRE ±

NOTE: REFERENCES SHOWN ABOVE,
ALSO AS CORNERS



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.

L.L.S. 677 *Gregory A. Smith*

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

DATE FEBRUARY 3, 19 89

OPERATORS WELL NO. FERREBEE NO. 1

API WELL NO. 47 - 095 - 13337
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 1986(27-23)
PROVEN SOURCE OF ELEVATION TOP OF KNOB ELEV. 1308' SCALE 1"=40'

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION



WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1181' WATERSHED MUDLICK RUN

DISTRICT CENTERVILLE COUNTY TYLER QUADRANGLE PENNSBORO 7.5'

SURFACE OWNER ALFRED FERREBEE HRS. ACREAGE .91 *WU SC*

ROYALTY OWNER ALFRED FERREBEE HRS. LEASE ACREAGE 1.00

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) Stamp Plug 5000' 4 1/2 Feet of Hole Formation a TARGET FORMATION ALEXANDER

ESTIMATED DEPTH 5200'

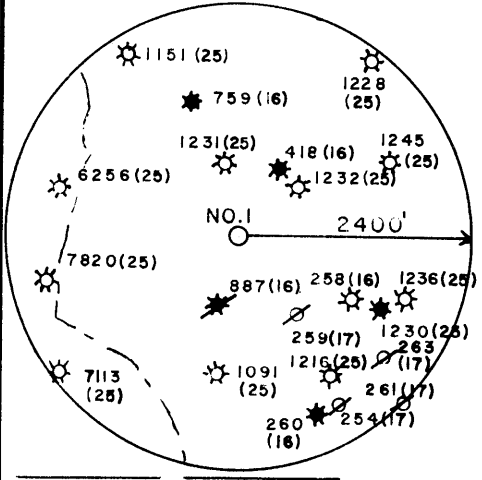
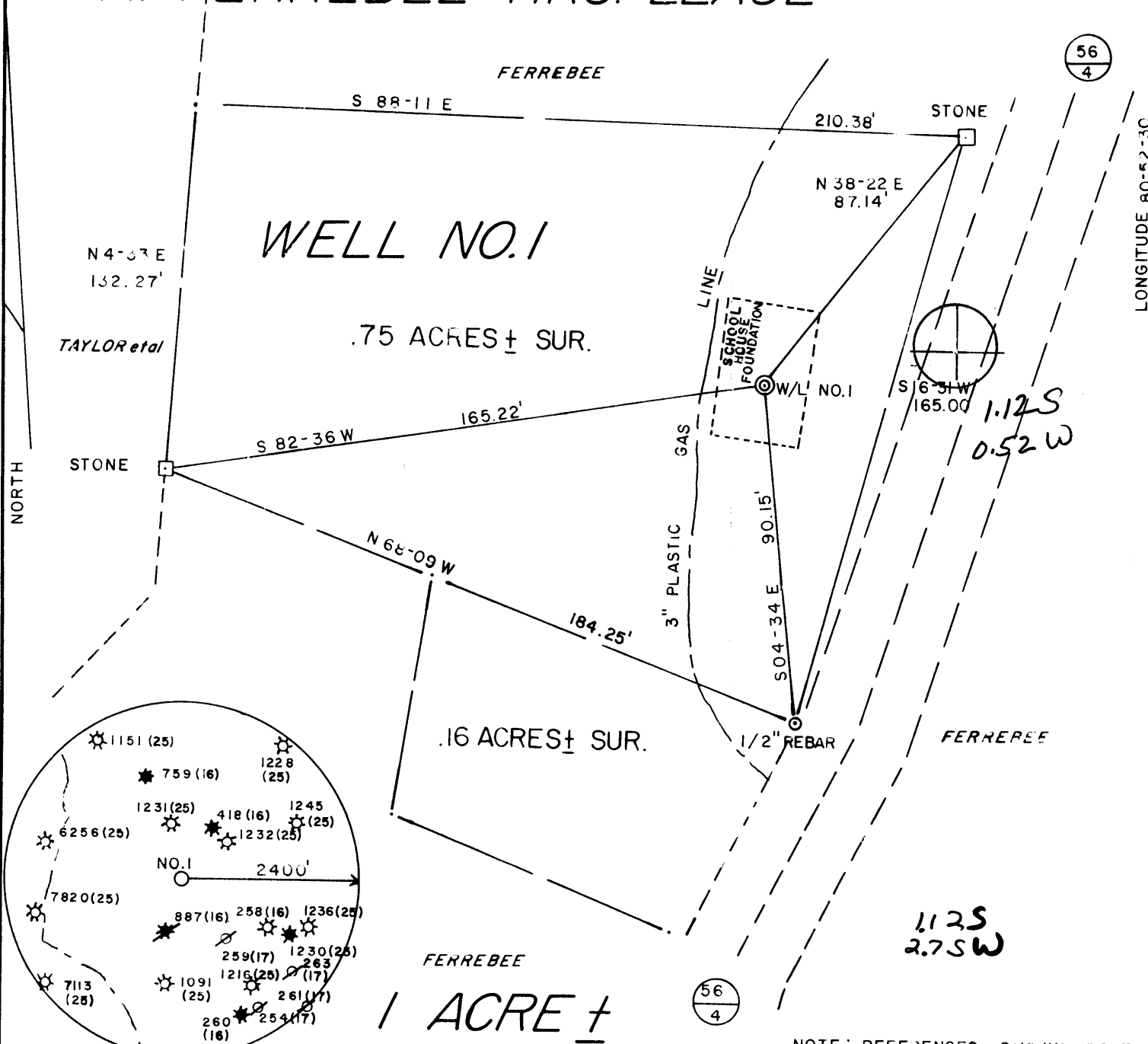
WELL OPERATOR APPALACHIAN ENERGY DEVELOPMENT, INC. DESIGNATED AGENT GEORGE WILLIAMS

ADDRESS RT. 2 BOX 499 GRAFTON, WV 26354 397 ADDRESS RT. 2 BOX 499 GRAFTON, WV 26354

COUNTY NAME TYLER
PERMIT 1333

A. FERREBEE HRS. LEASE

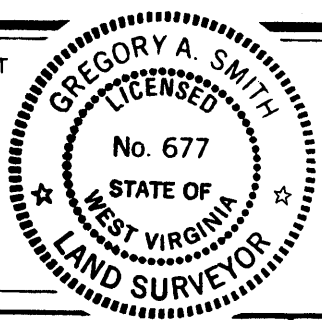
Janie 10/20/89



NOTE: REFERENCES SHOWN ABOVE, ALSO AS CORNERS

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L.L.S. 677 Gregory A. Smith



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 DATE FEBRUARY 3, 19 89
 OPERATORS WELL NO. FERREBEE NO.1
 API WELL NO. 47 - 095 - 1333
 STATE COUNTY PERMIT

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STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1181' WATERSHED MUDLICK RUN West Union
 DISTRICT CENTERVILLE 1 COUNTY TYLER QUADRANGLE PENNSBORO 7.5'

SURFACE OWNER ALFRED FERREBEE HRS. ACREAGE .91 W.O. / SC
 ROYALTY OWNER ALFRED FERREBEE HRS. LEASE ACREAGE 1.00

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION ALEXANDER
 ESTIMATED DEPTH 5200'

WELL OPERATOR APPALACHIAN ENERGY DEVELOPEMENT, INC. DESIGNATED AGENT GEORGE WILLIAMS
 ADDRESS RT.2 BOX 499 GRAFTON, WV 26354 ADDRESS RT. 2 BOX 499 GRAFTON, WV 26354

RECEIVED

WV Division of Environmental Protection

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

JAN 12 1995

Well Operator's Report of Well Work

Permitting
Farm name: Office of Oil & Gas Ferrebee Heirs

Operator Well No.: Ferrebee #1

LOCATION: Elevation: 1,181.00 Quadrangle: PENNSBORO

District: CENTERVILLE County: TYLER
Latitude: 5950 Feet South of 39 Deg. 20Min. 0 Sec.
Longitude 2750 Feet West of 80 Deg. 52 Min. 30 Sec.

Company: APPALACHIAN ENERGY DEVELO
ROUTE 2, BOX 499
GRAFTON, WV 26354-0499

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
4.5		5509	Squeeze 3800-1840

Agent: GEORGE WILLIAMS

Inspector: MIKE UNDERWOOD
Permit Issued: 12/09/94
Well work Commenced: 12/15/94
Well work Completed: 12/21/94

Verbal Plugging
Permission granted on: _____
Rotary Cable _____ Rig
Total Depth (feet) _____
Fresh water depths (ft) _____

Salt water depths (ft) _____

Is coal being mined in area (Y/N)? _____
Coal Depths (ft): _____

OPEN FLOW DATA

Producing formation Warren Sand Pay zone depth (ft) 3472-3538
Gas: Initial open flow 50 MCF/d Oil: Initial open flow -0- Bbl/d
Final open flow 30 MCF/d Final open flow -0- Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure 1200 psig (surface pressure) after 72 Hours

Second producing formation Fifth Sand Pay zone depth (ft) 2984-90
Gas: Initial open flow 20 MCF/d Oil: Initial open flow show Bbl/d
Final open flow 10 MCF/d Final open flow show Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure 600 psig (surface pressure) after _____ Hours

Producing formation Weir Sand Pay Zone depth (ft) 2378-2494
Gas final 10 MCF Oil final -0- Pressure 450

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: APPALACHIAN ENERGY DEVELOPMENT, INC.

By: George Williams
Date: Jan 10, 1995

GEOLOGICAL WELL RECORD DATA

COMPANY NAME: Appalachian Energy Development Company
 WELL NAME: Ferrebee #1
 PERMIT NO.: 47- 95-01333 F

FORMATION	TOP	BOTTOM	NOTES
Big Lime	2030	2092	
Keener Sand	2110	2150	
Big Injun Sand	2150	2212	
Weir Sand	2378	2494	
Berea Sand	2561	2564	
*Gantz Sand	2610	2616	
*Gordon Stray Sand	2782	2809	
*Gordon Sand	2860	2867	
*Fifth Sand	2984	2990	
*Warren Sand	3472	3538	

Wide Month Frac Plug @ 2550

Small Month Frac Plug @ 3070

Solid Plug @ 3320

Cement Squeeze perforations at 3790.

Cement calculations indicate cement should be squeezed back up to 1800 feet. Work done on December 21, 1994.

Bond Log showed actual cement top at 1840 feet

Former Cement top at 3985 feet.

RECEIVED
MAR 06 1990



DIVISION OF OIL & GAS
DEPT. OF ENERGY

State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Date 2/27/90
Operator's
Well No. #1
Farm Ferrebee
API No. - 095 - 1333

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: 1181 Watershed Madlick 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 Alfred Ferrebee Heirs

ADDRESS Rt 1, Box 61 Weirton, Wv 26062

MINERAL RIGHTS OWNER Alfred Ferrebee Heirs

ADDRESS Rt 1, Box 61 Weirton, Wv 26062

WELL AND GAS INSPECTOR FOR THIS WORK Glen Robinson

ADDRESS Mineralwells, Wv 26150

PERMIT ISSUED 10/20/89

DRILLING COMMENCED 1/2/90

DRILLING COMPLETED 1/9/90

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

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	1772	1772	515 sxs
7			
5 1/2			
4 1/2	5431	5431	310 sxs
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Alexander/Benson/Riley Depth 5327 feet

Depth of completed well 5500 feet Rotary x / Cable Tools

Water strata depth: Fresh 100 feet; Salt 1270 feet

Coal seam depths: n/a Is coal being mined in the area? no

FLOW DATA Note: These zones are downhole commingled.

Producing formation Alexander/Benson/Riley Pay zone depth see perf details feet

Gas: Initial open flow 35 Mcf/d Oil: Initial open flow 0 Bbl/d

Final open flow 510 Mcf/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 1660 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

MAR 12 1990

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

Alexander-perf 5327-37 w/18 holes. Foam frac w/30,000# sand in 635 bbls
75 quality foam, using 555,000 scf nitrogen.

Benson-perf 5037-43 w/18 holes. Frac w/30,000# sand in 419 bbls water, using
45,000 scf nitrogen.

Riley-perf 4641-72 w/ 14 holes. Foam frac w/ 30,000# sand in 675 bbls
75 quality foam, using 575,000 scf nitrogen.

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	95	
sand			95	110	wet @ 100'
sand & shale			110	958	
red rock			958	1045	
sand & shale			1045	1990	
Big Lime			1990	2110	wet @ 1270
Big Injun			2110	2214	
shale			2214	2378	
Weir			2378	2496	
shale			2496	2560	
Berea			2560	2564	
shale			2564	4640	
Riley			4640	4678	
shale			4678	5038	
Benson			5038	5042	
shale			5042	5328	
Alexander			5328	5339	
shale			5339	5500	
		total depth		5500	
					gas ck @ TD 4/10" water thru ½" flow meter.

(Attach separate sheets as necessary)

Appalachian Energy Dev., Inc.

Well Operator

By:

Date:

2/27/90

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."

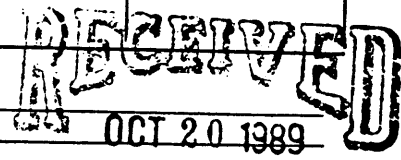
STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
 WELL WORK PERMIT APPLICATION

- 1) Well Operator: ³⁹⁷ APPALACHIAN ENERGY DEVELOPMENT, INC. 2325 (1) 538
- 2) Operator's Well Number: FERREBEE WELL NO. 1 3) Elevation: 1181'
- 4) Well type: (a) Oil ___ / or Gas X /
 (b) If Gas: Production X / Underground Storage ___ /
 Deep ___ / Shallow X /
- 5) Proposed Target Formation(s): Alexander 439
- 6) Proposed Total Depth: 5200' feet
- 7) Approximate fresh water strata depths: 120' 721', 731'
- 8) Approximate salt water depths: 1642' ~~N/A~~ 1604, 1646, 1691
- 9) Approximate coal seam depths: N/A
- 10) Does land contain coal seams tributary to active mine? Yes ___ / No X /
- 11) Proposed Well Work: Drill & Stimulate *New Well*
- 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>ASPC 10/11/89</i> Conductor	11-3/4"			120' 30'	120' 30'	CTS 0 Sacks
Fresh Water	8-5/8"			1756'	1756'	CTS 38 CSR 18-11.3
Coal						
Intermediate						
Production	4-1/2"			5200'	5200'	CTS Or 38 CSR 18-11.1
Tubing						
Liners						

PACKERS : Kind _____
 Sizes _____
 Depths set _____



For Division of Oil and Gas Use Only DEPARTMENT OF ENERGY

1969
 Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond *Blanket CD* Agent

RECEIVED
OCT 20 1989

Date: October 11th, 1989
Operator's well number
FERREBEE WELL NO. 1
API Well No: 47 - 095 - 1333
State - County - Permit

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- | | |
|--|---|
| <p>4) Surface Owner(s) to be served:
 (a) Name <u>Alfred Ferrebee Heirs</u>
 Address <u>c/o Brooks Ferrebee</u>
 <u>Rt. 1, Box 61, Weirton, WV 26062</u>
 (b) Name _____
 Address _____
 (c) Name _____
 Address _____</p> | <p>5) (a) Coal Operator:
 Name <u>N/A</u>
 Address _____
 (b) Coal Owner(s) with Declaration
 Name <u>N/A</u>
 Address _____
 Name _____
 Address _____
 (c) Coal Lessee with Declaration
 Name <u>N/A</u>
 Address _____</p> |
| <p>6) Inspector <u>Glen P. Robinson</u>
 Address <u>Rt. 1, #6 Mt. Pleasant Est.</u>
 <u>Mineralwells, WV 26150</u>
 Telephone (304)- <u>489 - 9162</u></p> | |

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

 Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR
 X 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 7 on the above named parties, by:

- Personal Service (Affidavit attached)
- X 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 Development, Inc.
 By: George Redman
 Its: President
 Address Rt. 2, Box 499
Grafton, WV 26354
 Telephone 265-4147

Subscribed and sworn before me this 11th day of October, 1989

Gregory A. Smith Notary Public
My commission expires 12-7-92

NOV 23 1994

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

Issued 12/09/94

Expires 12/09/96

Permitting
 Office of Oil & Gas

Operator: Appalachian Energy Development, Inc. 397

2325 ① 539

- 2) Operator's Well Number: 47-095-1333-F 3) Elevation: 1181'
- 4) Well type: (a) Oil / or Gas X/
 (b) If Gas: Production X/ Underground Storage /
 Deep / Shallow X/
- 5) Proposed Target Formation(s): Uphole Zones ?
- 6) Proposed Total Depth: (5500) feet
- 7) Approximate fresh water strata depths: 721', 731'
- 8) Approximate salt water depths: 1604', 1642', 1646', 1691'
- 9) Approximate coal seam depths: N/A
- 10) Does land contain coal seams tributary to active mine? Yes / No X/
- 11) Proposed Well Work: Frac Uphole Zones- Remove Plug, Commingle with lower Formations-Frac New Formations
- 12)

CASING AND TUBING PROGRAM

Squeeze job

TYPE	SPECIFICATIONS	FOOTAGE INTERVALS	CEMENT
	Size Grade	Weight per ft. For drilling	Left in well Fill-up (cu. ft.)
Conductor	8 5/8 Existing		1772 → 515 SKS
Fresh Water			
Coal			
Intermediate			
Production	4 1/2 Existing		5431 → NEED TO DO SOME JOB → Mitchell
Tubing		<i>Reverts</i>	310 SKS
Liners			

PACKERS : Kind _____
 Sizes _____
 Depths set _____

For Division of Oil and Gas Use Only

Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond Agent
 (Type) CD Blanket

12-9

RECEIVED
WV Division of
Environmental Protection

NOV 23 1994

- 1) Date: Nov. 14, 1994
- 2) Operator's well number
Ferrebee #1
- 3) API Well No: 47 - 095 - 1333
State - County - Permit

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
Office of Oil & Gas

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- | | |
|--|---|
| <p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>Alfred Ferrebee Heirs</u>
Address <u>159 Orpha Ave.</u>
<u>Weirton, WV 26062</u></p> <p>(b) Name _____
Address _____</p> <p>(c) Name _____
Address _____</p> | <p>5) (a) Coal Operator:</p> <p>Name <u>N/A</u>
Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name <u>N/A</u>
Address _____</p> <p>Name _____
Address _____</p> <p>(c) Coal Lessee with Declaration</p> <p>Name <u>N/A</u>
Address _____</p> |
| <p>6) Inspector <u>Michael Underwood</u>
Address <u>Rt. 2 Box 135</u>
<u>Salem, WV 26426</u>
Telephone <u>(304)- 782-1043</u></p> | |

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

 Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR

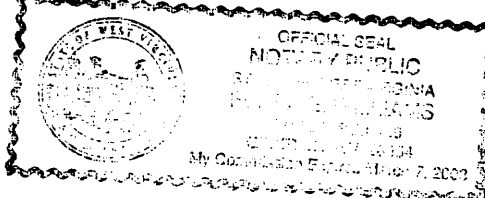
 Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

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:

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

INSTRUCTIONS TO SURFACE OWNERS NAMED ABOVE
(Continued on Reverse)

The well operator named below is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, 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 of the West Virginia Code. Well work permits are valid for 24 months.



Well Operator Appalachian Energy Dev., Inc.
By: Rose E. Williams
Its: President
Address Route 2 Box 499
Grafton, WV 26354
Telephone (304) 265-4147

Subscribed and sworn before me this 14th day of November, 19 94

Rose E. Williams Notary Public
My commission expires March 7, 2003