

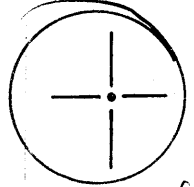
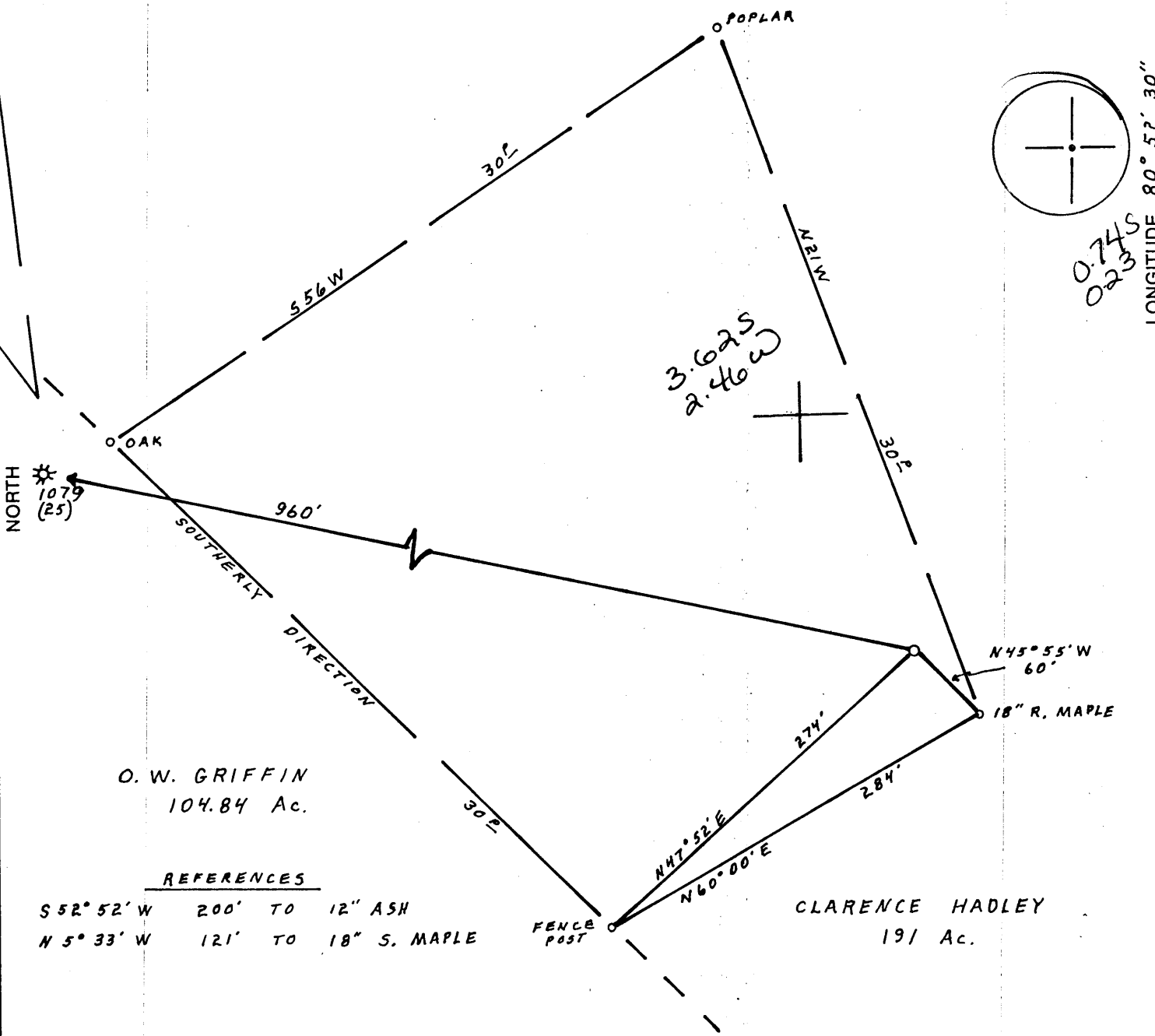
88-3/25/87

39 25

1,250'

LATITUDE 39° 22' 30"

CLARENCE HADLEY
191 Ac.



0745
0235
LONGITUDE 80° 52' 30"

O. W. GRIFFIN
104.84 Ac.

REFERENCES

S 52° 52' W 200' TO 12" ASH
N 5° 33' W 121' TO 18" S. MAPLE

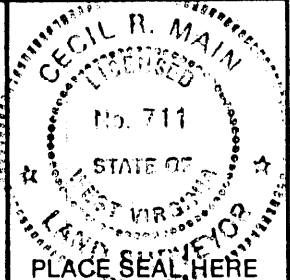
FENCE POST

CLARENCE HADLEY
191 Ac.

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

FILE NO. _____
DRAWING NO. _____
SCALE 1" = 100'
MINIMUM DEGREE OF ACCURACY 1 PART IN 200'
PROVEN SOURCE OF ELEVATION B.M. EL. 782'
EAST OF LOCATION

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 MARCH 21, 1987
OPERATOR'S WELL NO. HADLEY # 2
API WELL NO. _____

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 1029' WATERSHED BIG RUN
DISTRICT CENTERVILLE 1 COUNTY TYLER
QUADRANGLE PENNSBORO 7.5' 539 133 CS West Union
SURFACE OWNER LARRY & CHARITY HADLEY ACREAGE 4
OIL & GAS ROYALTY OWNER LARRY & CHARITY HADLEY LEASE ACREAGE 4

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 BENSON ESTIMATED DEPTH 5500
WELL OPERATOR APPALACHIAN ENERGY DEV., INC. DESIGNATED AGENT GEORGE WILLIAMS
ADDRESS P.O. BOX 902 397 ADDRESS P.O. BOX 902
BELINGTON, W. Va. 26250 BELINGTON, W. Va. 26250

MAR 30 1987

b-b Wilbur

(92)

FORM IV-6 (8-78)

COUNTY NAME

PERMIT

WR-35

RECEIVED
MAY 05 1987

DIVISION OF OIL & GAS
DEPT. OF ENERGY



State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Date 5/4/87
Operator's
Well No. 2
Farm Hadley
API No. 47 - 095 - 1179

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: 1029 Watershed Big Run
District: Centerville County Tyler Quadrangle Pennsboro

COMPANY Appalachian Energy Dev., Inc.

ADDRESS Rt 2 Box 499 Grafton, Wv 26354

DESIGNATED AGENT George Williams

ADDRESS Rt 2 Box 499 Grafton, Wv 26354

SURFACE OWNER Clarence Hadley

ADDRESS Rt 1 Middlebourne, Wv

MINERAL RIGHTS OWNER Clarence Hadley

ADDRESS Rt 1 Middlebourne, Wv

OIL AND GAS INSPECTOR FOR THIS WORK Robert Lowther
ADDRESS Middlebourne, Wv

PERMIT ISSUED 3/25/87

DRILLING COMMENCED 4/16/87

DRILLING COMPLETED 4/25/87

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.			
1 3/4	252	252	100 sx
9 5/8			
8 5/8	1562	1562	320 sx
7			
5 1/2			
4 1/2	5101	5101	205 sx
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Benson Depth 4944 feet

Depth of completed well 5085 feet Rotary x / Cable Tools _____

Water strata depth: Fresh 35&700 feet; Salt none feet

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

OPEN FLOW DATA These zones are downhole commingled.

Producing formation Benson Pay zone depth 4947-56 feet

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

Combined Final open flow (867) Mcf/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 1730 psig (surface measurement) after 24 hours shut in
(If applicable due to multiple completion--)

Second producing formation Riley Pay zone depth 4556-88 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 **11 1987**

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

(Continue on reverse side)

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

- 1.) Benson- perf 4947-56 w/14 holes. Frac w/30000# 20/40 sand in 450 bbls total fluid w/65000 SCF N₂. Avg Pr-2150 psi, Avg Rate-25 BPM, ISDP-1200 psi.
- 2.) Riley-perf 4471-74 w/2 holes, 4556-88 w/14 holes. Foam frac w/42500# 20/40 sand in 808 bbls 75 quality foam, using 550000 SCF N₂. Avg Pr-3000 psi, Avg Rate-24 BPM, ISDP-1800 psi.

Note: 3 9/16 baffle left in well @ 4649'.

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	30		
sand			30	40	wet @ 35'.	
sand & shale			40	345		
sand			345	381		
sand & shale			381	504		
sand			504	530		
sand & shale			530	690		
sand			690	710	wet @ 700'.	
sand & shale			710	1865		
Big Lime			1865	1972		
Big Injun			1972	2113		
shale			2113	2280		
Weir			2280	2395		
shale			2395	2466		
Berea			2466	2470		
shale			2470	2893		
5th sand			2893	2902		
shale			2902	4555		
Riley			4555	4594		
shale			4594	4944		
✓Benson			4944	4956		
shale			4956	5085		
Total Depth				<u>5085'</u>		

(Attach separate sheets as necessary)

Appalachian Energy Dev., Inc.

Well Operator

By: Merge Williams

Date: 5/4/87

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."



1) Date: 3/24, 1987
 2) Operator's Well No. HADLEY #2
 3) API Well No. 47 095 1179
 State County Permit

RECEIVED
 MAR 25 1987

STATE OF WEST VIRGINIA
 DIVISION OF OIL & GAS 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 / Underground storage Deep / Shallow X)
- 5) LOCATION: Elevation: 1029 Watershed: Big Run
 District: Centerville County: Tyler Quadrange: Pennsboro 7.5'
- 6) WELL OPERATOR Appalachian Energy CODE: 2325 7) DESIGNATED AGENT George Williams
 Address RT 2 Box 499 Address RT 2 Box 499
Grafton, WV 26354 Grafton, WV 26354
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR
 Name Robert Lowther Name Century Petroleum Drilling
 Address General Delivery Address Vienna, WV
Middlebourne, WV 26149
- 10) PROPOSED WELL WORK: Drill X / Drill deeper / Redrill / Stimulate X
 Plug off old formation / Perforate new formation
 Other physical change in well (specify)
- 11) GEOLOGICAL TARGET FORMATION, Benson
- 12) Estimated depth of completed well, 5089' feet
- 13) Approximate strata depths: Fresh, 110 feet; salt, none 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	11 3/4"			X		250'	250'	SURFACE	Rule 15.05
Fresh water									
Coal									
Intermediate	8 5/8"			X		1569'	1569'	SURFACE	Rule 15.05
Production	4 1/2"			X		5059'	5059'	1000' FILL	Depths set
Tubing								509 SKS	OR AS REQUIRED
Liners								BY Rule 15.05	Perforations:
									Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-095-1179 Date March 25, 1987

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 March 25, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/>	Plat: <u>AS</u>	Casing: <u>188</u>	Fee: <u>469</u>	WOP: <u>188</u>	S&E: <u>188</u>	Other: <u> </u>
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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.

John N. Johnston
 Director, Division of Oil and Gas
By Margaret J. Head File