



Well No. 1
Farm JOHN E. EFAW
API # 47-073-1285
Date 7/31/81

STATE OF WEST VIRGINIA
OFFICE OF OIL AND GAS - DEPARTMENT OF MINES

OIL AND GAS WELL PERMIT APPLICATION

WELL TYPE: Oil X / Gas X /
(If "Gas", Production X / Underground storage ___ / Deep X / Shallow ___ /

LOCATION: Elevation: 1087 Watershed: BOGARDS RUN
District: UNION County: PLEASANTS Quadrangle: BENS RUN 7 1/2'

WELL OPERATOR LAUDERMAN OIL & GAS DRILLING DESIGNATED AGENT PHILLIP MORGAN
Address P.O. BOX 266 Address SAME
PADEN CITY, W.VA. 26159

OIL AND GAS ROYALTY OWNER JOHN E. EFAW COAL OPERATOR N/A
Address RED. 1 Address _____
ST. MARYS, W.VA. 26170

Acreage 47

SURFACE OWNER SAME COAL OWNER(S) WITH DECLARATION ON RECORD:
NAME N/A
Address _____

Acreage 47 NAME N/A
Address _____

FIELD SALE (IF MADE) TO:
NAME N/A
Address _____

OIL AND GAS INSPECTOR TO BE NOTIFIED:
NAME _____
Address _____

NAME PHILLIP TRACY
Address RED. ALMA, W.VA.
Telephone 304-758-4573

RECEIVED
AUG 10 1981
OIL & GAS DIVISION
DEPT. OF MINES

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed ___ / lease X / other contract ___ / dated MAY 19, 1980 to the undersigned well operator from JOHN E. & JANET EFAW, HUSBAND & WIFE
(If said deed, lease, or other contract has been recorded:)

Recorded on Nov. 18, 1980, in the office of the Clerk of County Commission of PLEASANTS County, West Virginia, in #159 Book at page 267. A permit is requested as follows:

PROPOSED WORK: Drill X / Drill Deeper ___ / Redrill ___ / Fracture or stimulate X / Plug off old formation ___ / Perforate new formation ___ / Other physical change in well (specify) _____

--planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection they wish to make or are required to make by Code §22-4-3 must be filed with the Department of Mines within fifteen (15) days after receipt of this Application by the Dept. Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessees on or before the day of the mailing or delivery of this Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO:
WEST VIRGINIA OIL AND GAS CONSERVATION COMMISSION
1613 WASHINGTON ST., E.
CHARLESTON, WV 25311
Telephone - 304/348-3092

LAUDERMAN OIL & GAS DRILLING
Well Operator

By: Phillip Morgan
Its: Agent

BLANKET BOND

(Revised 3-81)

PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:
ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRILLING CONTRACTOR (IF KNOWN) UNKNOWN

Address _____

GEOLOGICAL TARGET FORMATION OHIO SHALE
Estimated depth of completed well 5400 feet. Rotary X / Cable tools /
Approximate water strata depths: Fresh, 110 feet; salt, 1700 feet.
Approximate coal seam depths: N/A
Is coal being mined in this area: Yes / No X /

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL- UP OR SACKS Cubic ft.	PACKERS
	Size	Grade	Weight per ft	New	Used	For Drill- ling		
Conductor								Kinds
Fresh water	<u>8 5/8</u>	<u>ERW</u>	<u>20*</u>	<input checked="" type="checkbox"/>		<u>260' FOR MUD ROTARY TO</u>		<u>Surface</u>
Coal						<u>1187' FOR AIR ROTARY</u>		<u>Surface</u>
Intermed.								
Production Tubing	<u>4 1/2</u>	<u>CW</u>	<u>10.5*</u>	<input checked="" type="checkbox"/>		<u>CEMENTED FROM T.D. TO</u>		Depths set
Liners						<u>APPROX. 1200 FT. FROM SURFACE</u>		Perforations: Top Bottom

NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, 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 §22-4-2, (iii) Form IV-9, "Reclamation Plan" applicable to the reclamation required by Code §22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code §22-4-12a, and (v) if applicable, the consent required by Code §22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 4-12-82.

J. P. Hunsley
Deputy Director - Oil & Gas Division

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code §22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof:

W A I V E R

The undersigned coal operator / owner / lessee / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided the well operator has complied with all applicable requirements of the West Virginia Code and the governing regularions.

Date: , 19 .

By: _____

Its: _____

Date 29 JULY 1981
Well No. EFAW #1
API No. 47 - 073 - 1285
State County Permit

STATE OF WEST VIRGINIA
OFFICE OF OIL AND GAS

Company Name LAUDERMAN OIL & GAS Designated Agent PHILLIP MORGAN
Address PADEN CITY, W.VA 26159 Address PADEN CITY, W.VA.
Telephone 337-2215 Telephone 337-2215
Landowner JOHN E. EFAW Soil Cons. District UPPER OHIO

Revegetation to be carried out by PHILLIP MORGAN (Agent)

This plan has been reviewed by Upper Ohio SCD. All corrections
and additions become a part of this plan. 8/4/81 Kenneth J. P. [Signature]
(Date) (SCD Agent)

Access Road
Structure CULVERT 1 (A)
Spacing _____
Page Ref. Manual 1.8
Structure _____ (B)
Spacing _____
Page Ref. Manual _____
Structure _____ (C)
Spacing _____
Page Ref. Manual _____

Location
Structure DIVERSION Ditch (1)
Material SOIL
Page Ref. Manual 1.9
Structure Rip Rap (2)
Material Rock-Sand-Brush
Page Ref. Manual N/A
Structure _____ (3)
Material _____
Page Ref. Manual _____

RECEIVED

All structures should be inspected regularly and repaired if necessary AUG 10 1981

Revegetation

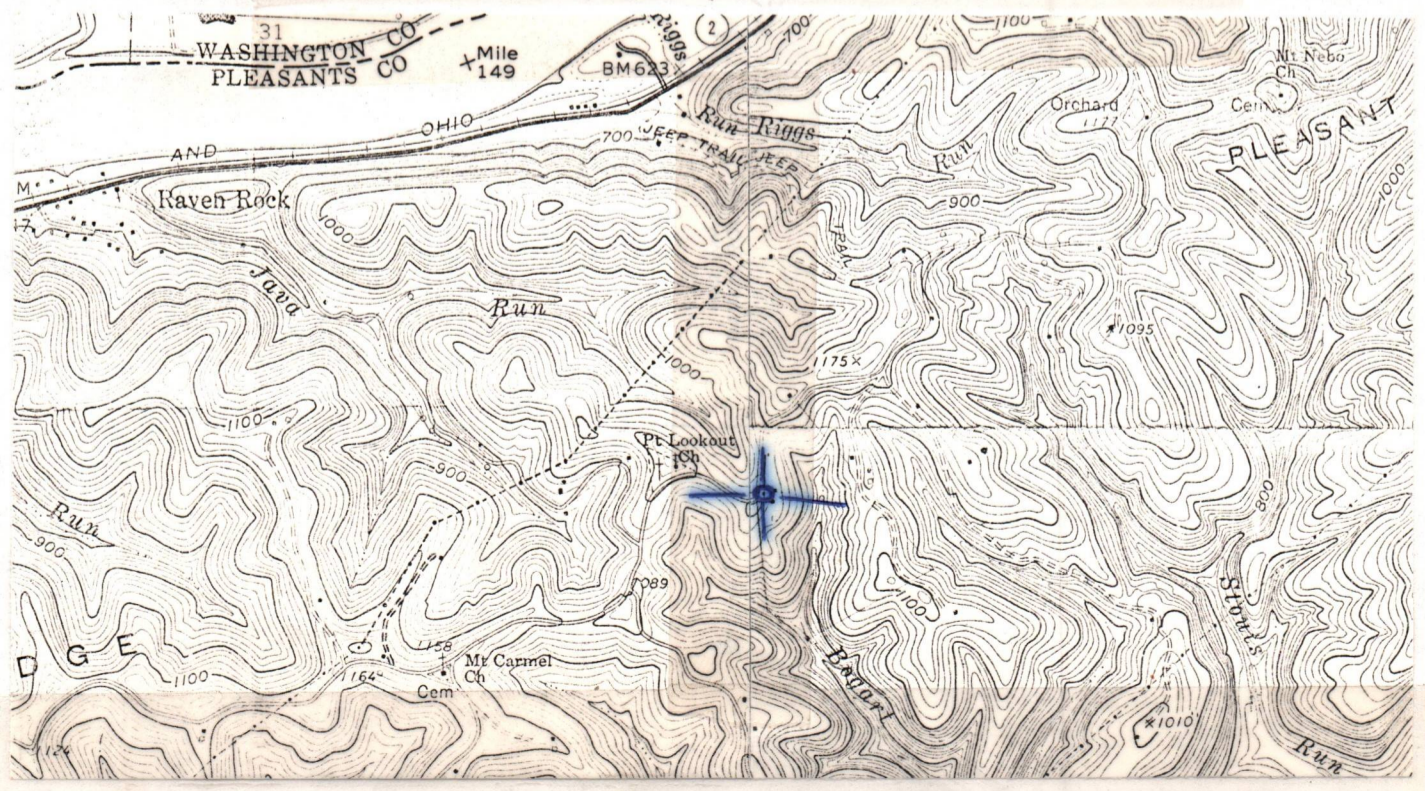
OIL & GAS DIVISION
DEPT. OF MINES

Treatment Area I
Lime _____ Tons/acre
or correct to pH 6.5
Fertilizer 500 lbs/acre
(10-20-20 or equivalent)
Mulch HAY 2 Tons/Acre
Seed* Ky 31 PESCOE 35 lbs/acre
RED TOP 5 lbs/acre
_____ lbs/acre

Treatment Area II
Lime _____ Tons/Acre
or correct to pH 6.5
Fertilizer 500 lbs/acre
(10-20-20 or equivalent)
Mulch HAY 2 Tons/Acre
Seed* Ky 31 PESCUE 35 lbs/acre
RED TOP 5 lbs/acre
_____ lbs/acre

*Inoculate all legumes such as vetch, trefoil and clovers with the proper bacterium. Inoculate with 3X recommended amount.

Attach or photocopy section of involved Topographic map. Quadrangle BENS RUN



RECEIVED

MAR 21 1985



IV-35
(Rev 8-81)

OIL & GAS DIVISION
DEPT. OF MINES State of West Virginia
Department of Mines
Oil and Gas Division

Date 2/19/85
Operator's _____
Well No. _____
Farm John E. Efaw
API No. 47 - 073 - 1285

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 ___ /)

LOCATION: Elevation: 1080 Watershed Middle Island Creek
District: Union County Pleasants Quadrangle Raven Rock

COMPANY Lauderman Oil & Gas
ADDRESS Paden City, West Virginia
DESIGNATED AGENT Phillip Morgan
ADDRESS P.O. Box 266, Paden City, W.Va. 26159
SURFACE OWNER John E. Efaw
ADDRESS Rt. 2, Box 446, St. Marys, W.Va. 26170
MINERAL RIGHTS OWNER John E. Efaw, Etal
ADDRESS Same as above
OIL AND GAS INSPECTOR FOR THIS WORK Bob
Lowther ADDRESS Middlebourne, W.Va. 26149
PERMIT ISSUED 8/12/81
DRILLING COMMENCED 1/6/82
DRILLING COMPLETED 1/13/82
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"			
9 5/8			
8 5/8	1212'	1212'	Surface
7			
5 1/2			
4 1/2	4912'	4912'	cemented back to 1562'
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 4,000 feet
Depth of completed well 4912 feet Rotary X / Cable Tools _____
Water strata depth: Fresh _____ feet; Salt _____ feet
Coal seam depths: _____ Is coal being mined in the area? No

OPEN FLOW DATA
Producing formation Devonian Shale Pay zone depth 4860'-4890' feet
Gas: Initial open flow 140 Mcf/d Oil: Initial open flow — Bbl/d
Final open flow 25 Mcf/d Final open flow — Bbl/d
Time of open flow between initial and final tests 24 hours
Static rock pressure 850 psig (surface measurement) after 24 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)

RECEIVED

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

The John E. Efaw #1 well was perforated from 4,460 - 4,893 with thirty four (34) .39 select fire shots and stimulated with 850,000 std. cubic feet, Nitrogen in a single stage frac.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Red Rock Sand & Shale			Surface	1570	
Salt Sand			1570	1710	
Shale			1710	1898	
Maxton			1898	1912	
Big Lime			1912	1982	
Big Injun			1982	2090	
Shale			2090	2116	
Squaw			2116	2168	
Shale			2168	2446	
Weir			2446	2451	
Shale			2451	2522	
Berea			2522	2530	
Shale			2530	2636	
Gantz			2636	2650	
Shale			2650	2918	
Gordon			2918	2930	
Shale			2930	4912	

(Attach separate sheets as necessary)

Western Resources Limited

Well Operator

By: Edward E. Pilling

Date: 3/19/85

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."

26-Mar-85

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OFFICE OF OIL AND GAS
CHARLESTON 25305
FINAL INSPECTION REPORT
INSPECTORS COMPLIANCE REPORT

RECEIVED
APR 4 - 1985
OIL & GAS DIVISION
DEPT. OF MINES

Company: WESTERN RESOURCES, LIMITED
Name: EFAW, JOHN E. Well: EFAW #1

Permit No. 47- 73-1285
County: PLEASANTS

Code	Description	In Compliance	
		Yes	No
3.06	Notification prior to starting work	✓	
5.04	Prepped before drilling to prevent waste	✓	
5.03	High pressure drilling	✓	
6.01	Required permits at wellsite	✓	
5.03	Adequate Fresh Water Casings	✓	
5.02	Adequate Coal Casings	✓	
5.01	Adequate Production Casings	✓	
5.04	Adequate Cement Strength	✓	
5.05	Cement Type	✓	
3.02	Maintained Access Roads	✓	
5.01	Necessary Equipment to Prevent Waste	✓	
3.04	Reclaimed Drilling Pits	✓	
3.05	No Surface or Underground Pollution	✓	
3.07	Requirements for Production & Gathering Pipelines	✓	
1.01	Well Records on Site	✓	
1.02	Well Records Filed	✓	
7.05	Identification Markings	✓	

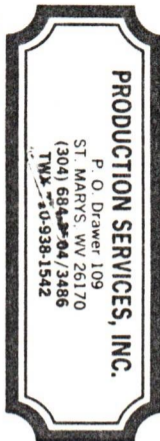
HAVE INSPECTED THE ABOVE CAPTIONED WELL AND RECOMMEND THAT IT BE RELEASED:

SIGNED R.A. Lowther
DATE Apr 1, 1985

Our well record was received and reclamation requirements approved. In accordance with Chapter 22, Article 4, Section 2, the above well will remain under bond coverage for the life of the well.

T.H. [Signature]
Administrator

April 18, 1985
Date



REPORT OF MONTHLY PRODUCTION
GAS VOLUMES IN MCF @ 14.73
OIL IN BARRELS @ 60 DEGREES

OPERATOR Western Resources, Limited

YEAR 19 83

API	FARM	COUNTY	AVG. FLOW PRESSURE												SHUT-IN PRESSURE	TOTALS
			130#				250#				140#					
1285	Efaw #1	Pleasants	217.28	237.41	139.30	180.19	105.81	126.0	102.04	72.1	87.7	81.9	56.3	60.7	1,466.73	
GAS MCF															0	
OIL BBL	J- 0	F- 0	M- 0	A- 0	J- 0	J- 0	A- 0	S- 0	0- 0	0- 0	N- 0	D- 0			279	
DAYS ON LINE	21	15	15	15	28	30	31	23	30	30	27	21	23			

API	FARM	COUNTY	AVG. FLOW PRESSURE												SHUT-IN PRESSURE	TOTALS
			130#				140#									
1397	Locke #1	Pleasants	11.0	0	6.0	67.0	113.0	91.0	38.0	0	28.0	29.0	55.0	16.0	454.0	
GAS MCF															10.66	
OIL BBL	J- 0	F- 0	M- 2.46	A- 0	J- 0	J- 5.74	A- 2.46	S- 0	0- 0	0- 0	N- 0	D- 0			165	
DAYS ON LINE	3	0	2	22	31	27	25	0	3	9	22	21				

API	FARM	COUNTY	AVG. FLOW PRESSURE												SHUT-IN PRESSURE	TOTALS
			130#				140#									
1376	Nichols #1	Pleasants	142.0	116.0	73.0	79.0	87.0	89.0	73.0	57.0	62.0	69.0	41.0	7.0	895.0	
GAS MCF															0	
OIL BBL	J- 0	F- 0	M- 0	A- 0	J- 0	J- 0	A- 0	S- 0	0- 0	0- 0	N- 0	D- 0			297	
DAYS ON LINE	31	28	26	21	31	30	28	31	23	23	23	18	7			

API NUMBERS

SUMMARIZATION SCHEDULE
Section 271.804 (b)

In accordance with Section 271.804 (b) please list all other wells which are to be used in determining this well classification under Part 271 Subpart H.

IV-27
9-83

RECEIVED
AUG 28 1984



OIL & GAS DIVISION STATE OF WEST VIRGINIA
DEPT. OF MINES DEPARTMENT OF MINES

Date: Aug 24, 1984
Well No: 8-1
API NO: 47 - 073 1285
State County Permit 25250

601

**Oil and Gas Division
NOTICE OF VIOLATION**

WELL TYPE: Oil ✓ / Gas ✓ Liquid Injection / Waste Disposal /
Of "Gas" - Production ✓ / Storage / Deep / Shallow /
LOCATION: Elevation: 1087 Watershed: Boggs Run
District: 1-1-107 County: Mingo Quadrangle: Boggs Run
WELL OPERATOR Landmark with 764 DESIGNATED AGENT
Address P.O. Box 26159 Address

The above well is being posted this 24 day of Aug, 1984, for a violation of Code 22-4-17 and/or Regulation , set forth in detail as follows:
(USE REVERSE SIDE OF THIS NOTICE IF NECESSARY)

Failure to Reclaim well site within 6 months after completion of Drilling

A copy of this notice has been posted at the well site and sent by certified or registered mail to the indicated well operator or his designated agent.
You are hereby granted until Aug 31, 1984, to abate this violation.
Failure to abate the violation may result in action by the Department under Code 22-4-17 or Code 22-4-18.

Robert A. Louth
Oil and Gas Inspector
Address Middlebourne
W.V.
Telephone: 758-4764

RECEIVED

NOV 7 - 1984

FORM IV-31
9-83

OIL & GAS DIVISION
DEPT. OF MINES

Date: Nov 2, 1984
Operator's _____
Well Number _____
API Well No.: 47 - 073 - 1285
State County Permit

601

27250 - Lauderman

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

NOTICE OF ABATEMENT

WELL TYPE: Oil _____ / Gas Liquid Injection _____ / Waste disposal _____
Underground _____
If "Gas" - Production Storage _____ / Deep _____ / Shallow _____
LOCATION: Elevation: 1087 Watershed: Bogards Run
District: Union County: Putnam Quadrangle: _____
WELL OPERATOR: Lauderman Oil & Gas DESIGNATED AGENT _____
Address: Paden City W. Va. Address _____

Notice is hereby given that the undersigned authorized oil and gas inspector made a special inspection of the above named well on Nov 2, 1984,

The violation of Code § 22-4-12 B heretofore found to exist on Aug 24, 1984, by Form IV-27, "Notice of Violation" / Form IV-28, "Imminent Danger Order" of that date has been totally abated. If the abated violation was found by an Imminent Danger Order requiring operations to cease, such requirement is hereby rescinded, and the well operator is hereby notified that he may resume operations.

COMMENTS

well site is Reclaimed

A copy of this notice has been posted at the well site and sent by certified or registered mail to the indicated well operator or his designated agent.

R. A. Lowther
Oil and Gas Inspector

Address _____

Telephone _____

RECEIVED
NOV 7 - 1984

FORM IV 31
9-83

DEPT. OF MINES
OIL & GAS DIVISION

Date: Nov 3 1984
Operator's
Well Number
API Well No. 42
State VA County Stafford Permit

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

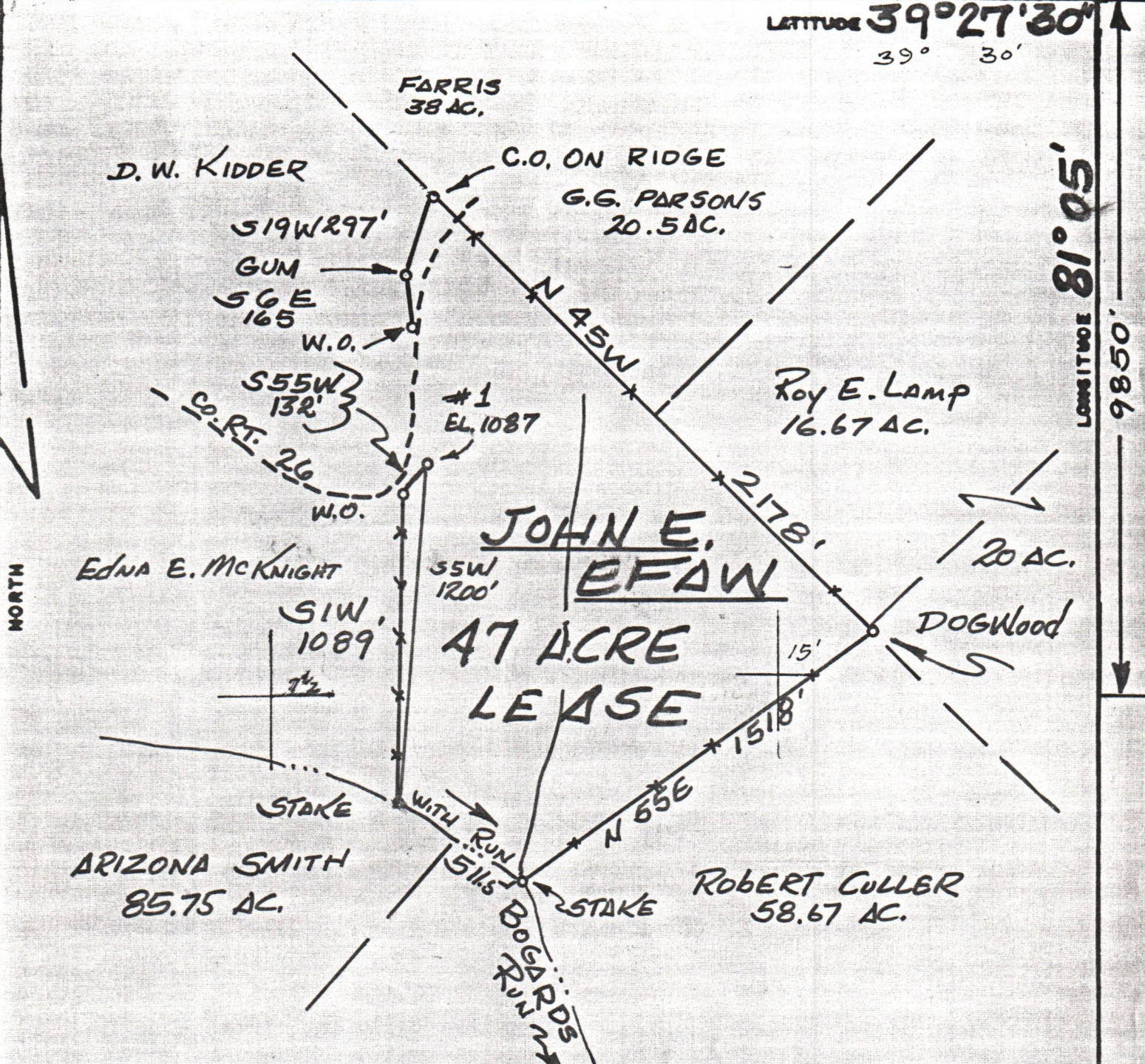
NOTICE OF ABATEMENT

WELL TYPE: Oil Gas ✓ Liquid Injection ✓ Waste disposal
If Gas Production ✓ Storage ✓ Deep ✓ Shallow ✓ Underground
LOCATION: Stafford Elevation 1000 Watershed Stafford
District Stafford County Stafford Quadrangle Stafford
WELL OPERATOR Stafford DESIGNATED AGENT Stafford
Address Stafford Address Stafford

Notice is hereby given that the undersigned authorized oil and gas inspector made a special inspection of the above named well on 11/3/84 at 10:00 AM.
The violation of Code 30-2-2 "Inspection of that date has been formally stated. If the stated violation was found by
in violation of Form IV 31, "Inspection Order", of that date has been formally stated. If the stated violation was found by
in violation of other existing regulations to cease, such requirements hereby rescinded, and the well operators hereby notified that they may
resume operations.

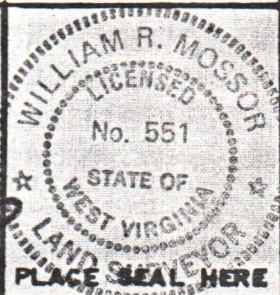
COMMENTS: well is to be repaired

A copy of this notice has been posted at the well site and sent by mail to the indicated well operator or his designated
agent.
Oil and Gas Inspector Stafford
Address Stafford
Telephone Stafford



FILE NO. _____
 DRAWING NO. _____
 SCALE 1"=500
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION RD. INT. EL. 1089'

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) William R. Mossor
 R.P.E. _____ L.L.S. 551



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



DATE 29 JULY, 1981
 OPERATOR'S WELL NO. 1
 API WELL NO. 47-073
 STATE COUNTY PERMIT 1285

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS", PRODUCTION STORAGE _____ DEEP _____ SHALLOW
 LOCATION: ELEVATION 1087' WATER SHED BOGARD'S RUN
 DISTRICT UNION COUNTY PLEASANTS
 QUADRANGLE BENS RUN COUNTY 7 1/2' QUAD.
 SURFACE OWNER JOHN E. EFAW ACREAGE 46
 OIL & GAS ROYALTY OWNER JOHN E. EFAW LEASE ACREAGE 47
 LEASE NO. _____
 PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUS OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
 TARGET FORMATION SHALE ESTIMATED DEPTH 5400'
 WELL OPERATOR LAUDERMAN O&G DESIGNATED AGENT PHILLIP MORGAN
 ADDRESS BOX 266 PADEN CITY, WVA. 26159 ADDRESS BOX 266 PADEN CITY, WVA. 26159