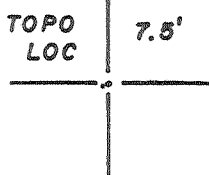
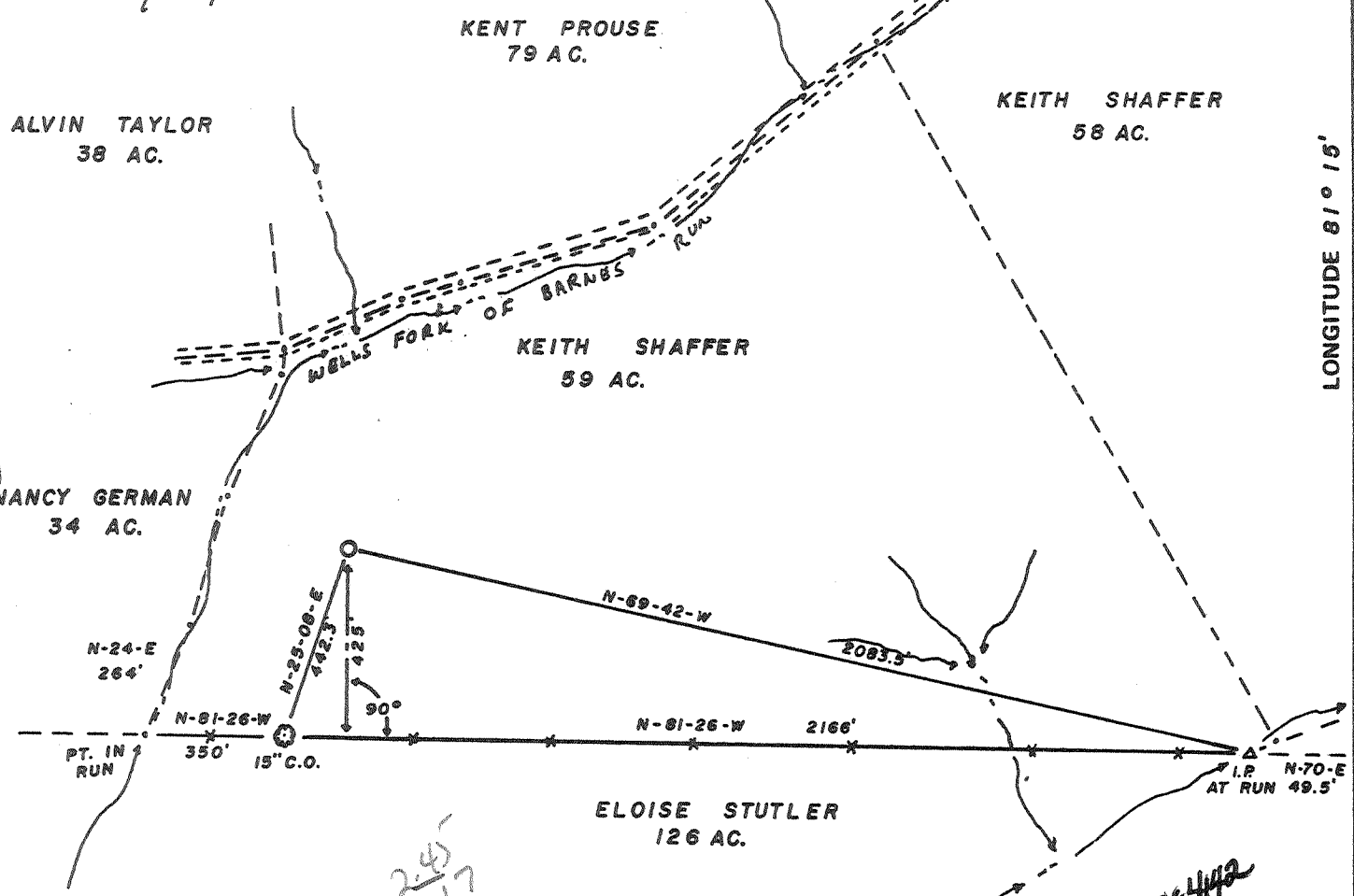


LATITUDE 38° 55'

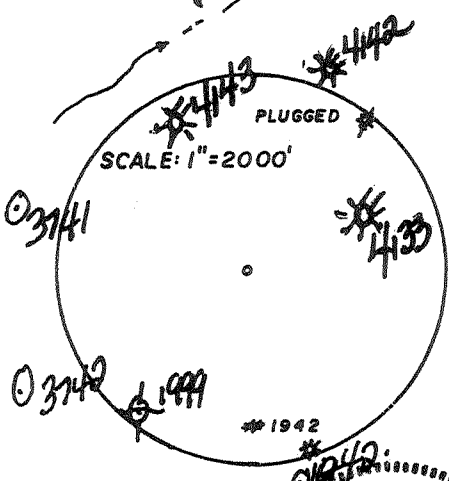
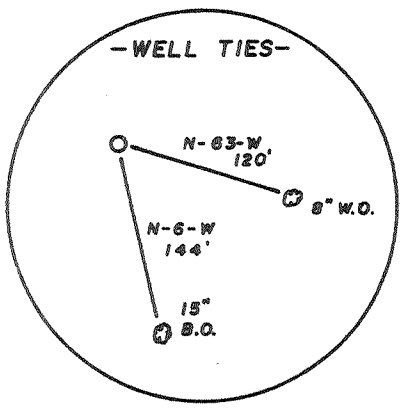
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" 2/16/93

NORTH

LONGITUDE 81° 15'

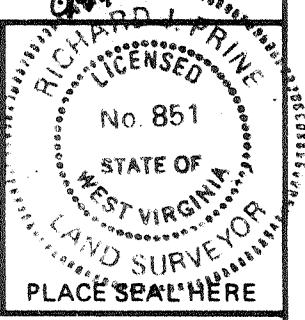


2.45
2.17



FILE NO. JENNINGS LEASE
 DRAWING NO. _____
 SCALE 1" = 400'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION B.M. AT BARNES RUN SCHOOL BLDG. ELV.= 696

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) Richard J. Prine
 R.P.E. _____ L.L.S. 851



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE 8-15, 19 90
 OPERATOR'S WELL NO. # 2
 API WELL NO. _____
47 - 087 - 4134
 STATE COUNTY PERMIT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS,") PRODUCTION STORAGE _____ DEEP SHALLOW _____
 LOCATION: ELEVATION 955 WATERSHED BARNES RUN OF WEST FORK OF L.K.R.
 DISTRICT SPENCER 6 COUNTY ROANE
 QUADRANGLE BURNING SPRINGS Spencer EC
 SURFACE OWNER KEITH SHAFFER ACREAGE 59
 OIL & GAS ROYALTY OWNER HARRY C. BOGGS LEASE ACREAGE 955
 LEASE NO. JENNINGS
 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 ORISKANY ESTIMATED DEPTH 6000
 WELL OPERATOR BOGGS NATURAL GAS DESIGNATED AGENT HARRY C. BOGGS
 ADDRESS P.O. BOX 148 ADDRESS P.O. BOX 148
DEEP WELL SPENCER, W.V. 25276 Spencer (869) SPENCER, W.V. 25276

ROANE 4134

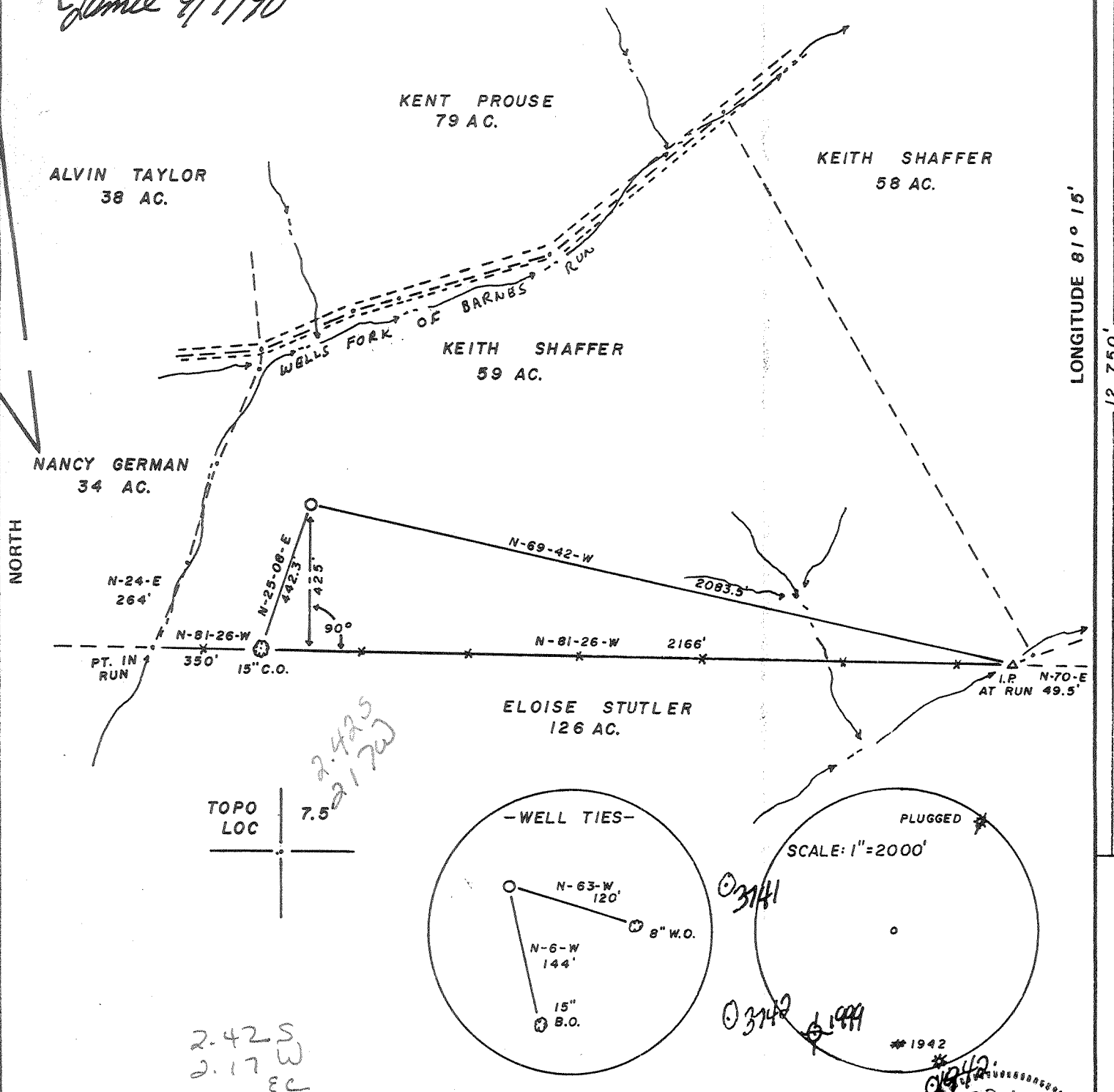
FORM IV-6 (8-78)

11,550

LATITUDE 38° 55'

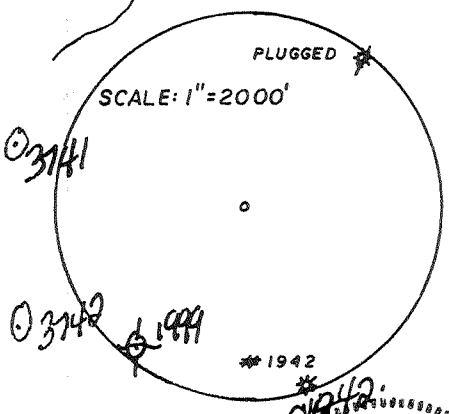
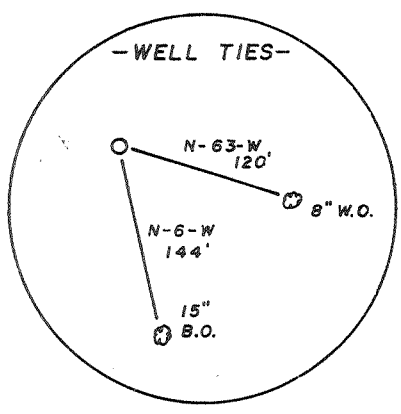
LONGITUDE 81° 15'

Done 9/1/90



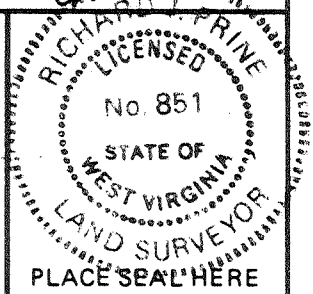
2.425
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EC

TOPO LOC 7.5



FILE NO. JENNINGS LEASE
 DRAWING NO. _____
 SCALE 1" = 400'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION B.M. AT BARNES RUN SCHOOL BLDG. ELV. = 696

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) *Richard J. Prine*
 R.P.E. _____ L.L.S. 851



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE 8-15, 19 90
 OPERATOR'S WELL NO. # 2
 API WELL NO. 47-087-4134
 STATE COUNTY PERMIT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS,") PRODUCTION STORAGE _____ DEEP SHALLOW _____
 LOCATION: ELEVATION 955 WATERSHED BARNES RUN OF WEST FORK OF L.K.R.
 DISTRICT SPENCER COUNTY ROANE
 QUADRANGLE BURNING SPRINGS *Spencer EC*
 SURFACE OWNER KEITH SHAFFER ACREAGE 59
 OIL & GAS ROYALTY OWNER HARRY C. BOGGS LEASE ACREAGE 955
 LEASE NO. JENNINGS
 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 ORISKANY ESTIMATED DEPTH 6000
 WELL OPERATOR BOGGS NATURAL GAS DESIGNATED AGENT HARRY C. BOGGS
 ADDRESS P.O. BOX 148 ADDRESS P.O. BOX 148
SPENCER, W.V. 25276 SPENCER, W.V. 25276

SEP 1 1990
 SEP 14 1990

FORM IV-6 (8-78)

Well Operator's Report of Well Work

Farm name: SHAFFER, KEITH Operator Well No.: JENNINGS 2
 LOCATION: Elevation: 955.00 Quadrangle: BURNING SPRINGS
 District: SPENCER County: ROANE
 Latitude: 12750 Feet South of 38 Deg. 55Min. 0 Sec.
 Longitude 11550 Feet West of 81 Deg. 15 Min. 0 Sec.

Company: BOGGS NATURAL GAS CO.
 P. O. BOX 148
 SPENCER, WV 25276-0000

Agent: HARRY C. BOGGS

Inspector: HOMER DOUGHERTY
 Permit Issued: 08/30/90
 Well work Commenced: 10-9-90
 Well work Completed: 10-19-90
 Verbal Plugging
 Permission granted on: _____
 Rotary ~~xxx~~ Cable _____ Rig
 Total Depth (feet) 5846
 Fresh water depths (ft) 100'

Salt water depths (ft) NONE

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

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
9 5/8"	200'	200'	surface
7"	1890	1890	500' li
4 1/2"	5846	5846	3000' 1

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 4400-5846
 Gas: Initial open flow 10 MCF/d Oil: Initial open flow 0 Bbl/d
 Final open flow 100 MCF/d Final open flow 0 Bbl/d
 Time of open flow between initial and final tests 24 Hour
 Static rock Pressure 850 psig (surface pressure) after 24 Hour

Second producing formation _____ Pay zone depth (ft) _____
 Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow _____ MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests _____ Hour
 Static rock Pressure _____ psig (surface pressure) after _____ Hour

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATE 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: BOGGS NATURAL GAS CO.

By: Jeffery C. Boggs
 Date: 11-7-90

Jeffery C. Boggs

sand/shale	0	1930
Big Lime	1930	2030
Big Injun	2030	2050
shale	2050	2420
Berea	2420	2440
Devonian Shale	2440	5780
Corniferous Lime	5780	5846 TD

First Stage	mid Rh 5800 -5300	30 holes	15,000 # sand	400,000 SCF N ₂
Second Stage	4700-4800'	28 holes	40,000 # sand	500,000 SCF N ₂
Third Stage	LH 4400-4420	30 holes	40,000 # sand	550,000 SCF N ₂

UD 2440
 LH 3550
 J 4600
 A 4800
 Rh 5100

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

Well Operator's Report of Well Work

Farm name: SHAFFER, KEITH Operator Well No.: JENNINGS 2

LOCATION: Elevation: 955.00 Quadrangle: BURNING SPRINGS

District: SPENCER County: ROANE
Latitude: 12750 Feet South of 38 Deg. 55Min. 0 Sec.
Longitude 11550 Feet West of 81 Deg. 15 Min. 0 Sec.

Company: BOGGS NATURAL GAS CO.
P. O. BOX 148
SPENCER, WV 25276-0000

Agent: HARRY C. BOGGS

Inspector: HOMER DOUGHERTY
Permit Issued: 02/16/93
Well work Commenced: 04/01/93
Well work Completed: 06/93

Verbal Plugging
Permission granted on: _____
Rotary Cable Rig
Total Depth (feet) 5846'
Fresh water depths (ft) 100'

Salt water depths (ft) n/a

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

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			
9 5/8	200'	200'	
7"	1890	1890'	500'
4 1/2"	5846	5846	3000'

OPEN FLOW DATA

Producing formation Big Injun/Berea Pay zone depth (ft) 2030-2440
Gas: Initial open flow 150 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure 140 psig (surface pressure) after 24 Hours

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

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.

Reviewed TMG
Recorded _____

For: BOGGS NATURAL GAS CO.

By: J. Boggs
Date: 6/93

JUN 25 1993

Re-completed existing shale well in Big Injun and Berea

Big Injun:	20 shots 2030-2050	350,000 nitrogen	25,000 # sand
Berea :	20 shots 2420-2440	350,000 nitrogen	25,000 # sand

sand	0	1930	
Big Lime	1930	2030	
Big Injun	2030	2050	
shale	2050	2420	
Berea	2420	2440	
Devonian	2440	5780	
Lime	5780	5846	TD

DF - 461

DET - 455

882 71

CL 111

AUG 27 90

087-4134

Issued 8/30/90 Page ___ of ___

Expires 8/30/92

Permitting
Oil and Gas Section

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

- 1) Well Operator: Boggs Natural Gas ⁴¹⁶⁶ 6455 (6) 271
- 2) Operator's Well Number: Jennings # 2 3) Elevation: 955
- 4) Well type: (a) Oil ___ / or Gas~~xx~~ /
(b) If Gas: Production x / Underground Storage ___ /
Deep xxx Shallow: ___ /
- 5) Proposed Target Formation(s): 475 Oriskany
- 6) Proposed Total Depth: 6000' feet
- 7) Approximate fresh water strata depths: 100'
- 8) Approximate salt water depths: none
- 9) Approximate coal seam depths: none
- 10) Does land contain coal seams tributary to active mine? Yes ___ / No xx
- 11) Proposed Well Work: drill And frac new well
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT Fill-up (cu. ft)
	Size	Grade	Weight per ft.	For drilling	Left in well	
Conductor						
Fresh Water	10 3/4"			150'	150'	surface
Coal						30 CSR 10/11
Intermediate	7"			1900'	1900'	500' lin
Production	4 1/2"			6000'	6000'	2500' 1:
Tubing						30 CSR 10/11
Liners						

PACKERS : Kind _____
Sizes _____
Depths set _____

163 TO
24

For Division of Oil and Gas Use Only

Fee(s) paid: Well Work Permit Reclamation Fund WP
 Plat WW-9 WW-2B Bond 150 L.C. Ag
 (Type)

REC'D
AUG 27 90
Permitting
Oil and Gas Section

1) Date: August 18, 1990
2) Operator's well number
Jennings # 2
3) API Well No: 47 - 087 - 4134
State - County - Permit

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:</p> <p>(a) Name <u>Keith Shaffer</u>
Address <u>Clendinen WV</u></p> <p>(b) Name _____
Address _____</p> <p>(c) Name _____
Address _____</p> | <p>5) (a) Coal Operator:</p> <p>Name <u>NONE</u>
Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name _____
Address _____</p> <p>(c) Coal Lessee with Declaration</p> <p>Name _____
Address _____</p> |
| <p>6) Inspector <u>Homer Dougherty</u>
Address _____
Telephone (304)- _____</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
~~xxxx~~ 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:

~~xxx~~ 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 Boggs Natural Gas Co
 By: Jeffery C. Boggs
 Its: Petroleum Engineer
 Address Spencer, WV 25276
 Telephone 927 1236

Subscribed and sworn before me this 20th day of August, 1990

Zerelda D. Richards Notary Public
 My commission expires July 13, 1992
 Commissioned: Zerelda D. Richards

FEB 0 1 93

087-4134-Frac
Issued 2/16/93

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

Expires 2/16/95

- 1) Well Operator: Boggs Natural Gas Co 6455 (6) 271
- 2) Operator's Well Number: Jennings #2 3) Elevation: 955
- 4) Well type: (a) Oil / or Gas XX /
(b) If Gas: Production XX / Underground Storage /
Deep / Shallow XX /
- 5) Proposed Target Formation(s): Berea Big Injun 395
- 6) Proposed Total Depth: 5846 existing
- 7) Approximate fresh water strata depths: 100'
- 8) Approximate salt water depths: none
- 9) Approximate coal seam depths: none
- 10) Does land contain coal seams tributary to active mine? Yes / No XX
- 11) Proposed Well Work: Refrac existing well in Berea and Big Injun
With Nitrogen and fresh water

Environmental Protection

CASING AND TUBING PROGRAM

FEB 0 1 93

TYPE	SPECIFICATIONS	FOOTAGE INTERVALS		CEMENT			
		Size	Grade		Weight per ft.	For drilling	Left in well
Conductor							
Fresh Water		9 5/8			200	200	existing
Coal							
Intermediate		7"			1800	1800	existing
Production		4 1/2"			5846	5846	existing
Tubing							
Liners							

PACKERS : Kind _____
Sizes _____
Depths set _____

For Division of Oil and Gas Use Only

Fee(s) paid: Well Work Permit Information Fund WPCF
Plat WW-9 WW-2B Bond Acar

16788

17485
2

1993
Office of Oil & Gas

- 1) Date: January 27, 1993
- 2) Operator's well number Jennings #2
- 3) API Well No: 47 - 087 - 4134 -FRAC
State - County - Permit

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:</p> <p>(a) Name <u>Keith Shaffer</u>
Address <u>763 Cambels Creek Dr</u></p> <p>(b) Name _____
Address _____</p> <p>(c) Name _____
Address _____</p> | <p>5) (a) Coal Operator:</p> <p>Name <u>None</u>
Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name _____
Address _____</p> <p>Name _____
Address _____</p> |
| <p>6) Inspector <u>Homer Dougherty</u>
Address <u>Looneyville WV</u></p> <p>Telephone (304)- <u>927-4591</u></p> | <p>(c) Coal Lessee with Declaration</p> <p>Name _____
Address _____</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
xx Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

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Well Operator Boggs Natural Gas Co
 By: Jeffery C. Boggs
 Its: Engineer
 Address P.O. 148
Spencer, WV 25276
 Telephone 927-1236

Subscribed and sworn before me this 27 day of January, 19 93

My commission expires September 2, 2002

