

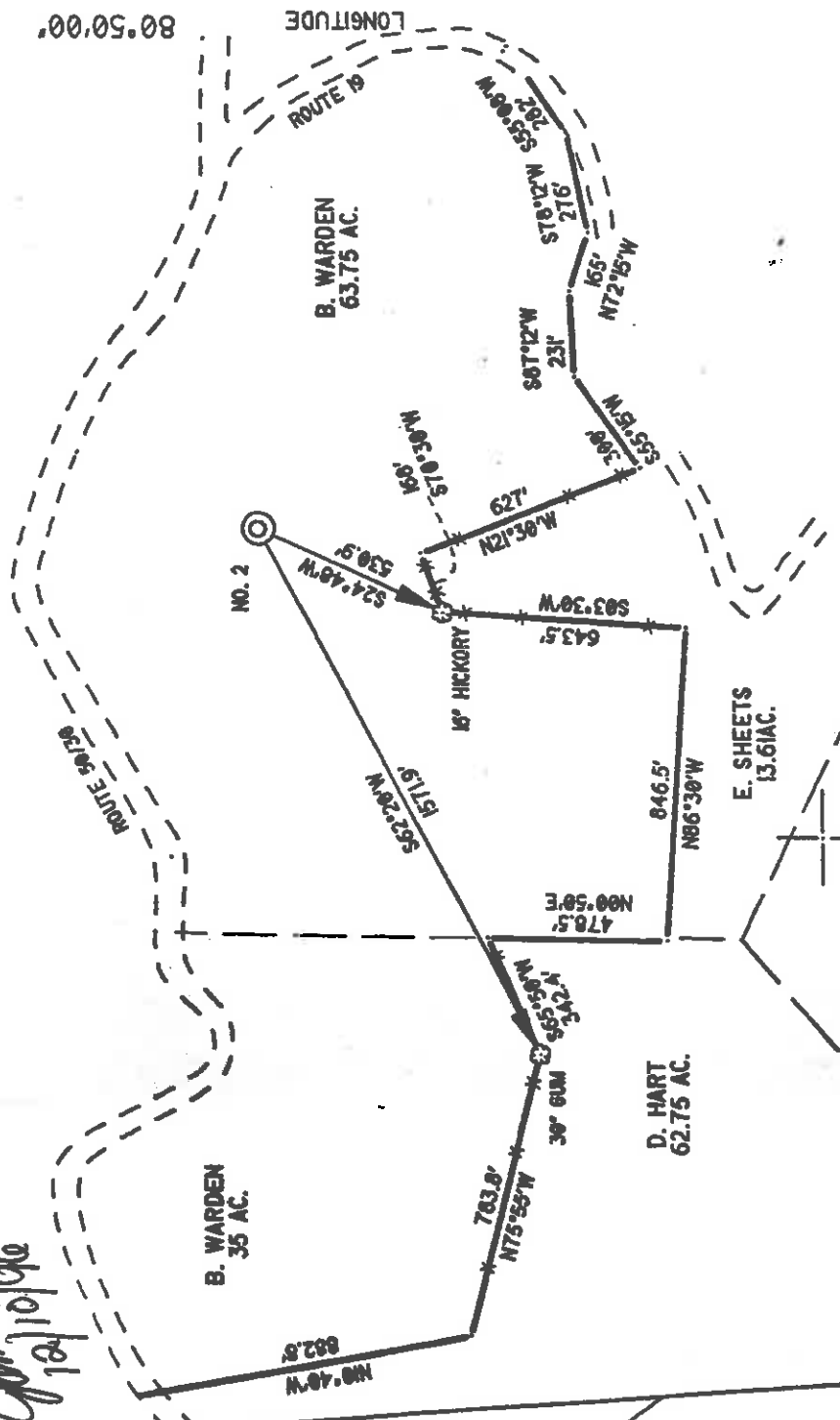
9,100'

9,550'

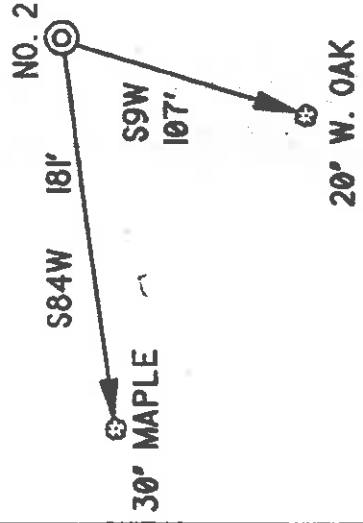
LATITUDE 39°17'30"

80°50'00" LONGITUDE

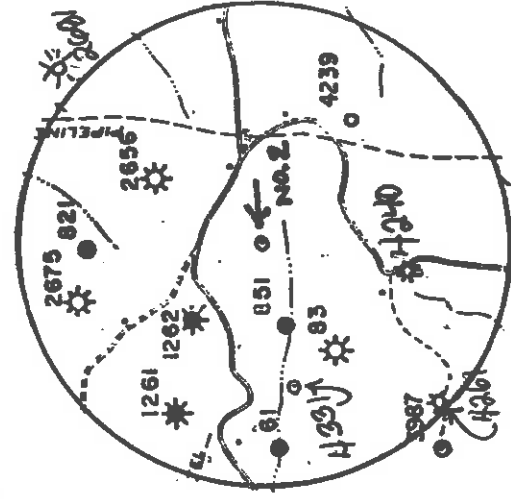
April 10/96



REFERENCE POINTS

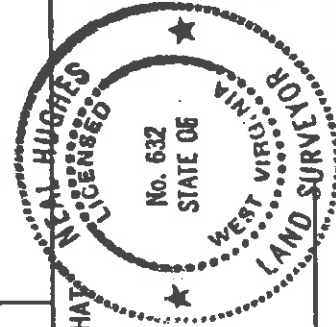


1.7000



I THE UNDERSIGNED, DO 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. *Newly*
632



IDENTIFIES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

DATE DECEMBER 4, 19 96
OPERATORS WELL NO. WARDEN 2

API WELL NO. 47 - 017-0482
STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

FILE NO. 96-96
SCALE 1" = 500'
PROVEN SOURCE KNOB 1332'

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

LOCATION: ELEVATION 1040' WATERSHED DOTSON RUN

DISTRICT CENTRAL COUNTY DODDRIDGE QUADRANGLE *West Union*

SURFACE OWNER BARBARA L. WARDEN ACREAGE 63.75

ROYALTY OWNER BARBARA L. WARDEN LEASE ACREAGE 63.75

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 5600'

DODD 4332
COUNTY NAME PERMIT

WELL OPERATOR KEY OIL COMPANY DESIGNATED AGENT JAN CHAPMAN Permit Issued
ADDRESS 22 GARTON PLAZA WESTON, WV 26452 ADDRESS 22 GARTON PLAZA WESTON, WV 26452
ADDRESS 22 GARTON PLAZA WESTON, WV 26452 ADDRESS 22 GARTON PLAZA WESTON, WV 26452

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



Well Operator's Report of Well Work

Farm name: WARDEN, BARBARA

Operator Well No.: WARDEN #2

12 22 1997

Elevation: 1,040.00

Quadrangle: WEST UNION

Permitting
Office of Oil & Gas

District: CENTRAL
Latitude: 9550 Feet South of 39 Deg. 17 Min. 30 Sec.
Longitude: 9100 Feet West of 80 Deg. 50 Min. 0 Sec.

County: DODDRIDGE

Company: KEY OIL COMPANY
22 Garton Plaza
WESTON, WV 26452-0000

Agent: JAN E. CHAPMAN

Inspector: MIKE UNDERWOOD
Permit Issued: 12/20/96
Well Work Commenced: 1/8/97
Well Work Completed: 1/23/97

Verbal Plugging
Permission granted on:
Rotary X Cable _____ Rig _____
Total Depth (feet) _____ 5509'
Fresh water depths (ft) _____ NONE
Salt water depths (ft) _____ 894'

Is coal being mined in area (Y / N) ? N
Coal Depths (ft) : _____ None Reported

OPEN FLOW DATA

Balltown
Rileys
Benson
Producing formation _____ Alexander
Gas: Initial open flow _____ Show MCF / d
Final open flow _____ 1,508 MCF / d
Time of open flow between initial and final tests _____ N/A _____ Hours
Static rock pressure _____ 1750 _____ psig (surface pressure) after _____ 96 _____ Hours

Second producing formation _____ Commingled
Gas: Initial open flow _____ MCF / d
Final open flow _____ MCF / 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.

For: KEY OIL COMPANY

By:

PRESIDENT

Date: 4-22-97

Casing & Tubing Size	Used in Drilling	Left In Well	Cement Fill Up Cu. Ft.
11 3/4"	129.05	129.05	70 sks To Surface
8 5/8"	2077.45	2077.45	600 sks To Surface
4 1/2"	5374.3	5374.3	350 sks
2 3/8"		5242	

12 22 1997

Warden #2 (47-017-04332)
 Four Stage Foam Frac - Halliburton

1st Stage: Alexander (10 holes) (5262.5' - 5290.5') 60 Quality Foam. 500 gal. 15% HCL.
 60,000# 20/40 sand, 550,000 SCF N2,
 812 bbis foam.

2nd Stage: Benson (10 holes) (4975.5' - 4977.75') 60 Quality Foam. 750 gal 15% HCL.
 40,000# 20/40 sand, 417,000 SCF N2,
 617 bbis foam.

3rd Stage: Riley (7 holes) (4566.75' - 4581.75') 60 Quality Foam. 750 gal 15% HCL.
 Balltown (4 holes) (4486.5' - 4487.25') 10,000# 80/100 sand, 35,000# 20/40 sand,
 438,000 SCF N2, 647 bbis foam.

4th Stage: Balltown (10 holes) (3878' - 4040.25') 60 Quality Foam, 1000 gal 15% HCL.
 5,000# 80/100 sand, 35,000# 20/40 sand,
 390,000 SCF N2, 589 bbis foam.

WELL LOG

Clay	0	5	
Red Rock & Shale	5	50	
Sand & Shale	50	222	
Red Rock & Sand	222	256	
Sand & Shale	256	349	
Sand & Red Rock	349	373	
Sand & Shale & Red Rock	373	948	Damp @ 894'
Lime	948	956	
Sand & Shale	956	1958	
Maxton	1958	1983	
Shell	1983	1977	
Little Lime	1977	2006	
Shale	2006	2038	
Big Lime	2038	2112	
Big Injun	2112	2163	
Shale	2163	2330	
Weir	2330	2458	
Sand & Shale	2458	3396	
Warren	3396	3466	
Shale	3466	3462	
Speechley	3462	3606	
Shale	3606	3864	
Balltown	3864	4516	
Shale & Sand	4516	4540	
Riley	4540	4605	
Shale	4605	4970	
Benson	4970	4984	
Sand & Shale	4984	5217	
Alexander	5217	5305	
Shale	5305	5509	
T.D.	5509		

Gas Checks
 2533 No Show
 2999 2/10ths 1/2" w/H²O
 3765 2/10ths 1/2" w/H²O
 4509 6/10ths 1/2" w/H²O
 4909 2/10ths 1/2" w/H²O
 5251 28/10ths 1/2" w/H²O
 5460 6/10ths 1/2" w/H²O
 TD 4/10ths 1/2" w/H²O