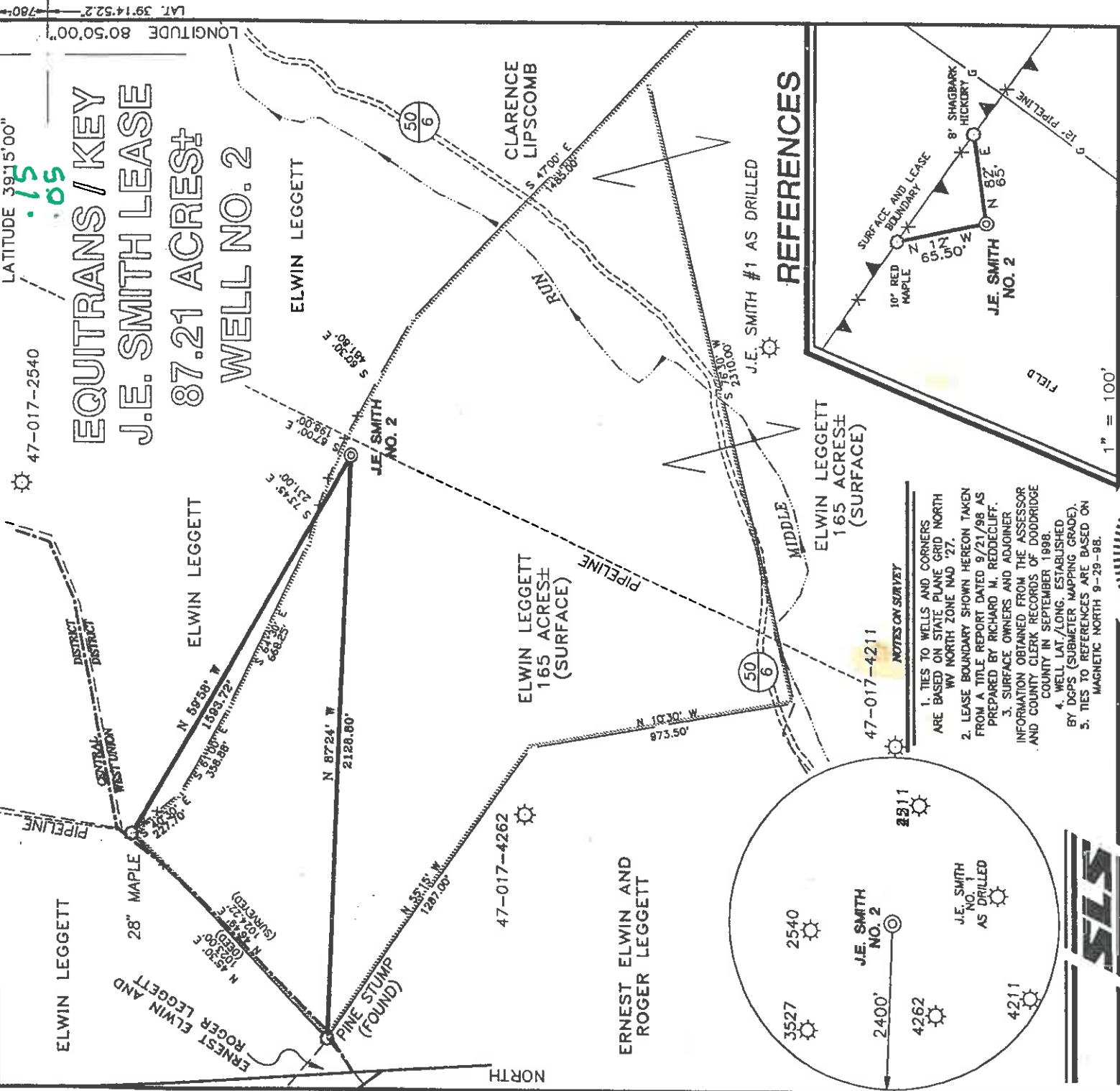
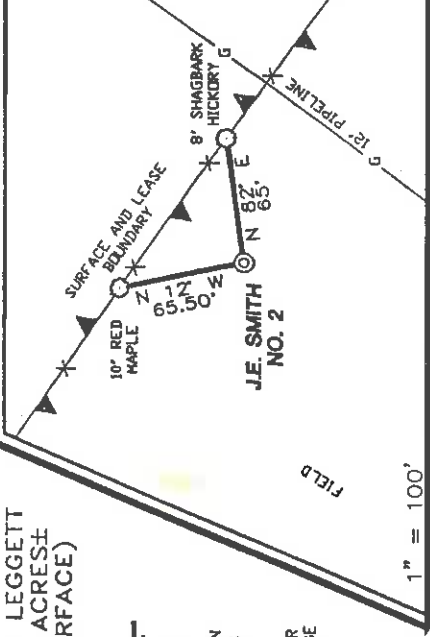


LONG. 80°50'06.3" W
LAT. 39°14'52.2" N



REFERENCES



- NOTES ON SURVEY
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV NORTH ZONE NAD '83.
 2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM A TITLE REPORT DATED 9/21/98 AS PREPARED BY RICHARD M. REDDECLIFF.
 3. SURFACE OWNERS AND ADJOINER INFORMATION OBTAINED FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF DODDRIDGE COUNTY IN SEPTEMBER 1998.
 4. WELL LAT./LONG. ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).
 5. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 9-29-98.

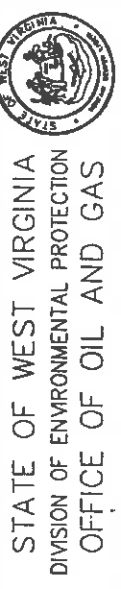


I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

P.S. 677 *Gregory A. Smith*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE SEPTEMBER 30, 19 98
 OPERATORS WELL NO. J.E. SMITH #2
 API WELL NO. 47-017-4211
 COUNTY PERMIT NO. 47-017-04488

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 4015P2 (69-37)
 PROVEN SOURCE OF ELEVATION SCALE 1" = 500'
 JUNCTIONS OF ROADS ELEVATION 899'



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

LOCATION : ELEVATION 1099' WATERSHED MIDDLE RUN OF ARNOLD CREEK
 DISTRICT WEST UNION COUNTY DODDRIDGE QUADRANGLE OXFORD 7.5'
 SURFACE OWNER ELWIN LEGGETT ACREAGE 87.21 OF 165
 ROYALTY OWNER GLENN EDWIN POOLE, ET AL LEASE ACREAGE 87.21
 PROPOSED WORK : LEASE NO. 7198
 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'

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

County Name: Dodd
 Permit: 4488

WR-35

06 - Oct - 98
API # 47 - 17 - 4488

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

Well Operator's Report of Well Work

Farm name: LEGGETT, ELWIN Operator Well No. : J.E. SMITH #2

LOCATION: Elevation: 1099' Quadrangle: OXFORD

District: WEST UNION County: DODDRIDGE
Latitude: 780' Feet South of 39 Deg. 15 Min. 00 Sec.
Longitude: 520' Feet West of 80 Deg. 50 Min. 00 Sec.

Company: KEY OIL COMPANY
22 GARTON PLAZA
WESTON, WV 26452-0000

Agent: JAN E. CHAPMAN

Inspector: MIKE UNDERWOOD
Permit Issued: 10/06/98
Well Work Commenced: 10/10/98
Well Work Completed: 10/14/98

Verbal Plugging
Permission granted on: _____ Rig
Rotary X Cable _____
Total Depth (feet) 5512'
Fresh water depths (ft) 50'
Salt water depths (ft) NONE

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

OPEN FLOW DATA

Balltown
Riley
Benson

Producing formation _____
Gas: Initial open flow 18 MCF / d Pay zone depth (ft)
Final open flow 1,540 MCF / d Oil: Initial open flow 0 Bbl / d
Time of open flow between initial and final tests _____ Oil: Final open flow _____ Bbl / d
Static rock pressure 1750 psig (surface pressure) after 96 Hours

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

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORMED 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: 
Date: October 22, 1998

PRESIDENT

JAN 11 1999

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4"	133.10'	133.10'	70 sks To Surface
8 5/8"	2029.75'	2029.75'	590 sks To Surface
4 1/2"	5406'	5406'	380 sks
2 3/8"	5005'	5005'	

RECEIVED
Office of Oil & Gas
Permitting

JAN 04 1999

WV Division of
Environmental Protection

0000 4488

J. E. Smith #2 (47-017 - 4488)
Four Stage Foam Frac - Halliburton

1st Stage: Alexander (14 holes) (5304.25' to 5344.25') 60 Quality Foam. 500 gal. 15% HCL.
60,000# 20/40 sand, 550,000 SCF N2,
713 bbls foam.

2nd Stage: Benson (12 holes) (5014.50' to 5017.25') 60 Quality Foam. 750 gal 15% HCL.
40,000# 20/40 sand, 417,000 SCF N2,
618 bbls foam.

3rd Stage: Riley (5 holes) (4604' to 4605') 60 Quality Foam. 1,000 gal 15% HCL.
Balltown (7 holes) (4370.75' to 4500') 5,000# 80/100 sand, 45,000# 20/40 sand,
502,000 SCF N2, 744 bbls foam.

4th Stage: Balltown (13 holes) (3983.75' to 4052.50') 60 Quality Foam. 1,000 gal 15% HCL.
5,000# 80/100 sand, 45,000# 20/40 sand,
502,000 SCF N2, 684 bbls foam.

WELL LOG

Fill	0	4	
Sand	4	26	
Red Rock & Shale	26	42	
Sand & Red Rock	42	95	1/2" H2O @ 50'
Red Rock & Sand & Shale	95	270	
Sand	270	312	
Sand & Shale & Red Rock	312	750	
Sand	750	762	
Sand & Shale & Red Rock	946	1357	
Shale & Sand	1357	1510	
Red Rock	1510	1534	
Sand & Shale.	1534	1995	
Little Lime	1995	2006	
Sand & Shale	2006	2040	
Big Lime	2040	2100	
Big Injun	2100	2180	
Shale	2180	2332	
Weir	2332	2464	
Sand & Shale	2464	2536	
Berea	2536	2541	
Shale	2541	3400	
Warren	3400	3466	<u>Gas Checks</u> 2621' - No Show 2991' - No Show
Shale	3466	3478	4091' - 20/10 ^{ths} - 1" w/water
Speechley	3478	3594	4531' - 6/10 ^{ths} - 1" w/water
Sand & Shale	3594	3820	5207' - 6/10 ^{ths} - 1" w/water
Balltown	3820	4510	5450' - 2/10 ^{ths} - 1" w/water
Shale	4510	4556	
Riley	4556	4635	
Shale & Silt	4635	5006	
Benson	5006	5020	
Shale	5020	5256	
Alexander	5256	5348	
Sand & Shale	5348	5512	
T.D.	5512		