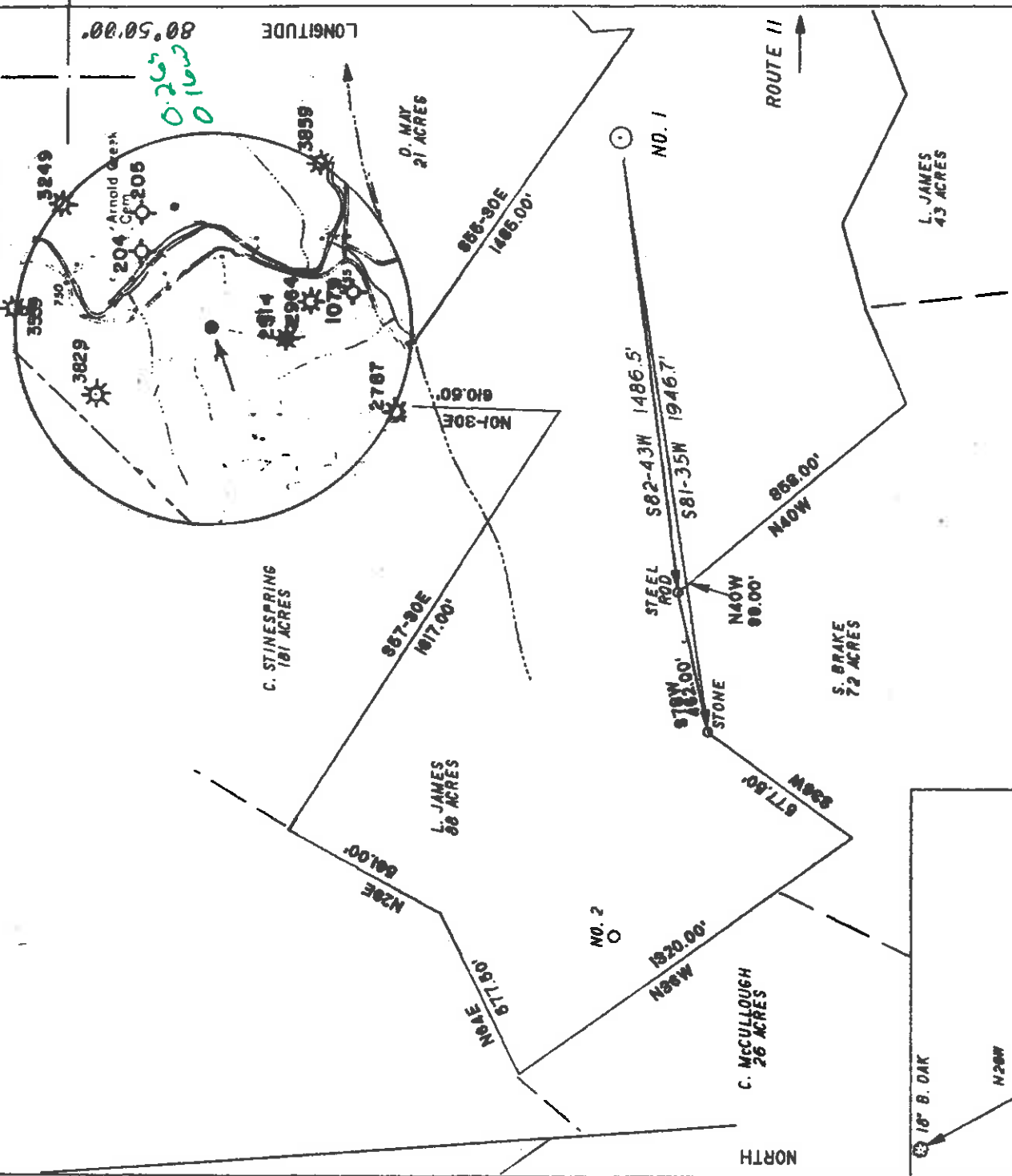


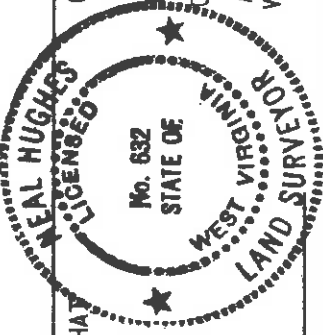
900'

LATITUDE 39°20'00"

LONGITUDE 80°50'00"



0.265
0.163



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 BY THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

L.L.S. *Neal Hughes*
632

(*) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
DATE SEPT. 16 19 94
OPERATORS WELL NO. SHEPHERD 1

API WELL NO. 47 - 017 - 4161

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

FILE NO. 94-96
SCALE 1"=500'
RD. INTER. 7.55'

WELL TYPE: OIL LIQUID WASTE DISPOSAL GAS INJECTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 962' WATERSHED ARNOLD CREEK
DISTRICT CENTRAL COUNTY DODDRIDGE QUADRANGLE WEST UNION #15
SURFACE OWNER LONNIE JAMES ACREAGE 88
ROYALTY OWNER SHEPHERD HOLDING CO., ET AL LEASE ACREAGE 88
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 5400'

COUNTY NAME PERMIT

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

6-6-91

DEC 09 1994

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

**Permitting
 Office of Oil & Gas**

Well Operator's Report of Well Work

Farm name: JAMES, LONNIE

Operator Well No.: SHEPHERD #1

LOCATION: Elevation: 962.00

Quadrangle: WEST UNION

District: CENTRAL
 Latitude: 1350 Feet South of 39 Deg. 20Min. 0 Sec.
 Longitude 900 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: 10/03/94
 Well work Commenced: 10/25/94
 Well work Completed: 10/31/94
 Verbal Plugging
 Permission granted on: _____ Rig
 Rotary X Cable _____
 Total Depth (feet) 5336
 Fresh water depths (ft) -0-

Salt water depths (ft) -0-

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

Casing & Tubing Size	Used in		Cement Fill Up Cu. Ft.
	Drilling	in Well	
11 3/4	132	132	70 sks. to surface
8 5/8	1542	1542	405 sks. to surface
4 1/2		5245	260 sks.
1.5		5120	

OPEN FLOW DATA

Riley Benson

4426-4480
 4854-4862

Producing formation Alexander
 Gas: Initial open flow 84 MCF/d Oil: Initial open flow 0 Bbl/d
 Final open flow 750 MCF/d Final open flow 0 Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock Pressure 1500 psig (surface pressure) after 96 Hours

Pay zone depth (ft) 5120-5177
 Initial open flow 0 Bbl/d
 Final open flow 0 Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock Pressure after 96 Hours

Second producing formation _____
 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

Pay zone depth (ft) _____
 Initial open flow _____ Bbl/d
 Final open flow _____ Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock 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: December 5, 1994

DEC 10 1994

SHEPHERD #1 (47-017-4161)
3 STAGE FOAM FRAC - HALLIBURTON

STAGE 1 : ALEXANDER (12 HOLES) (5126.75'-5173.75') 60 Quality Foam, 500 gal. 15% HCl, 40,000 lbs. 20-40 sand, 407,000 SCF N₂, 618 bbls. Foam

STAGE 2 : BENSON (10 holes) (4856.75'-4859') 75 Quality Foam, 750 gal. 15% HCl, 30,000 lbs. 20-40 sand, 413,000 SCF N₂, 518 bbls. Foam

STAGE 3 : RILEY (13 holes) (4429.50'-4478') 60 Quality Foam, 750 gal. 15% HCl, 10,000 lbs. 80-100 sand, 40,000 lbs. 20-40 sand, 525,000 SCF N₂, 700 bbls. Foam

WELL LOG

FORMATION	TOP FEET	BOTTOM FEET	REMARKS
Sand and Shale	0	157	No H ₂ O reported on Driller's Log. <u>Gas Checks:</u> 1943 N/S 2504 N/S 3001 N/S 3499 2/10 thru 2" w/water 3998 4/10 thru 2" w/water 4713 2/10 thru 2" w/water 5057 2/10 thru 2" w/water Gas at T.D. 2/10 thru 2" w/water Gas at Drill Collars 2/10 thru 2" w/water
Red Rock	157	159	
Sand and Shale	159	160	
Shale and Red Rock	160	193	
Sand and Shale	193	670	
Red Rock and Shale	670	1043	
Sand and Shale	1043	1135	
Sand and Shale	1135	1615	
Sand and Shale	1615	1800	
Sand and Shale	1800	1841	
Little Lime	1841	1950	
Big Lime	1841	1950	
Sand and Shale	1950	1996	
Big Injun	1996	2020	
Sand and Shale	2020	4426	
Riley	4426	4480	
Sand and Shale	4480	4854	
Benson	4854	4862	
Sand and Shale	4862	5120	
Alexander	5120	5177	
Shale	5177	5336 T.D.	

25891

SEP 30 1994

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

Office of Oil & Gas

475
 Key Oil Company

25655 (1)

671

017-4161
 Issued 10/03/94
 Page of

19842

3) Elevation: 962

Operator's Well Number: Shepherd #1

Well type: (a) Oil or Gas

(b) If Gas: Production / Underground Storage
 Deep / Shallow

Proposed Target Formation(s): Alexander
 439

Proposed Total Depth: 5400 feet

Approximate fresh water strata depths: 95'

Approximate salt water depths: 1400'

Approximate coal seam depths: None

Does land contain coal seams tributary to active mine? Yes No

Proposed Well Work: Drill, Stimulate, Produce

12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEME
	Size	Grade	Weight per ft.	For drilling	Left in well	
Conductor	16"	Used		20	0	Fill-ut (Cu. ft.)
Fresh Water	11 3/4"	ERW	42	132	132	70 sks. to surface
Coal						10 sks.
Intermediate	8 5/8"	ERW	23	1500	1500	390 sks. to surface
Production	4 1/2"	J-55	10.50		5225	260 sks.
Tubing	1.5"					
Liners						

PACKERS : Kind _____
 Sizes _____
 Depths set _____

96431
 For Divison of Oil and Gas Use Only
 Fee(s) paid: Well Work Permit Reclamation Fund

