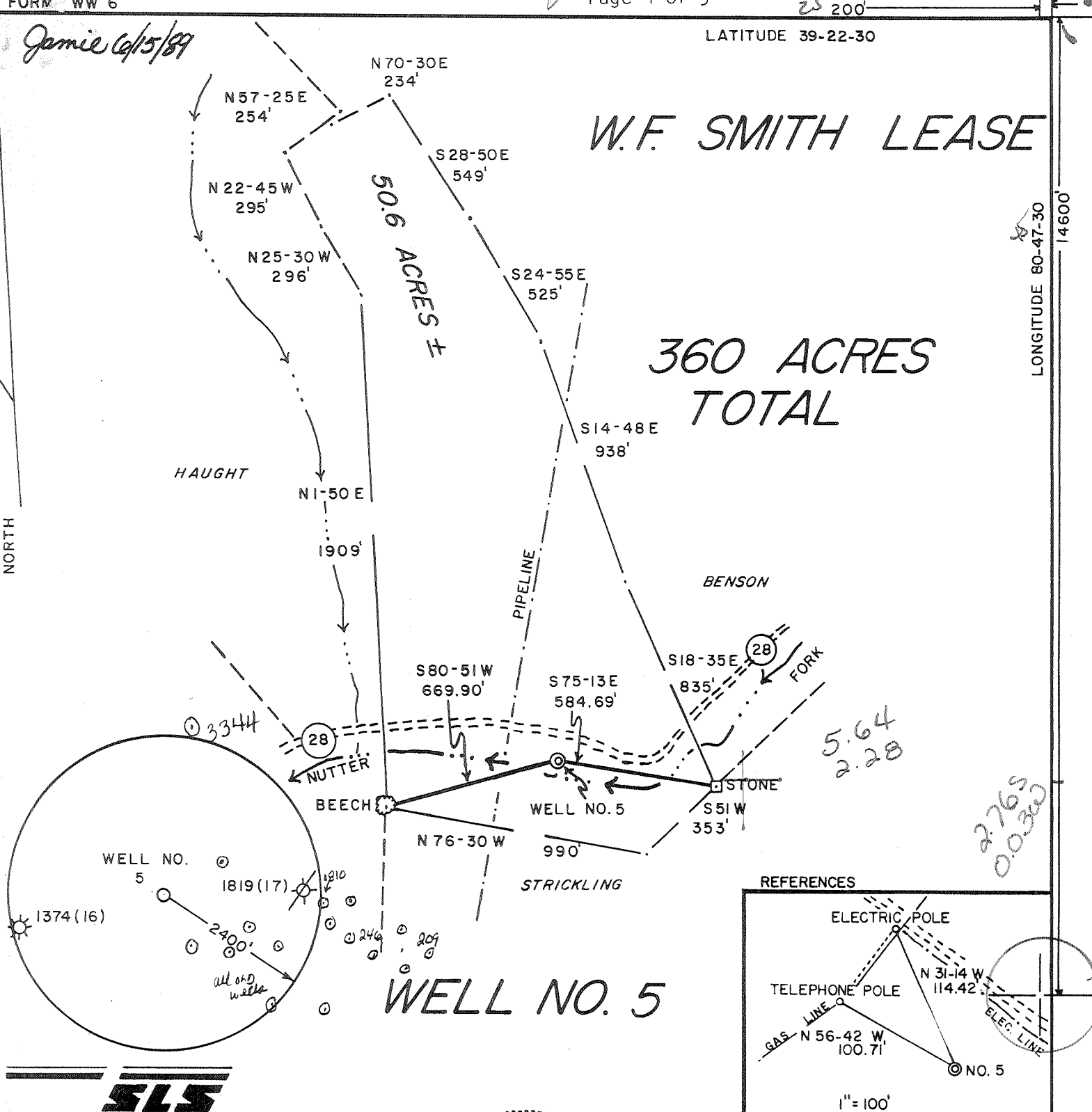


*Jamie 6/15/89*

# W.F. SMITH LEASE

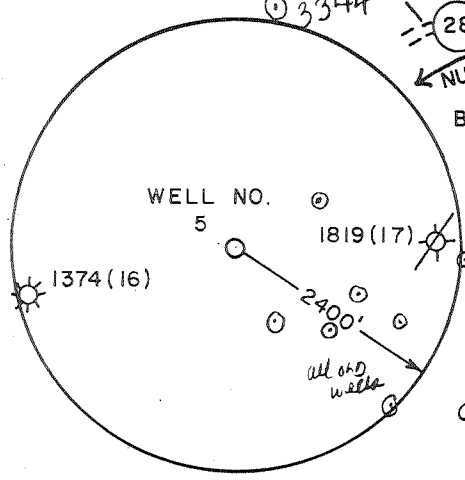
## 360 ACRES TOTAL

### 50.6 ACRES ±



LONGITUDE 80-47-30

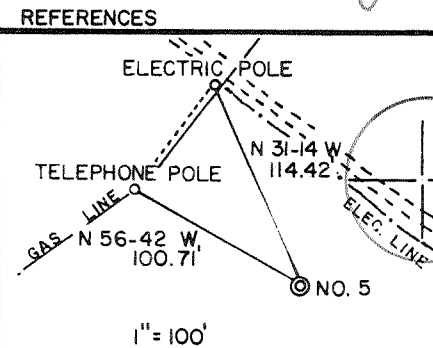
NORTH



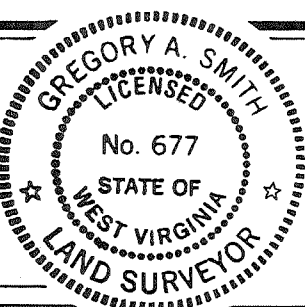
## WELL NO. 5

*5.64  
2.28*

*2.765  
0.0360*



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.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE MAY 12, 1989  
 OPERATORS WELL NO. W.F. SMITH NO. 5  
 API WELL NO. 47 - 017 - 3726  
 STATE COUNTY PERMIT

L.L.S. Gregory A. Smith  
 677

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 2065(27-62)  
 PROVEN SOURCE OF ELEVATION JUNCTION OF ROADS ELEV. 765' SCALE 1" = 500'

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY OIL AND GAS DIVISION



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

LOCATION: ELEVATION 778' WATERSHED NUTTER FORK

DISTRICT WEST UNION 8 COUNTY DODDRIDGE QUADRANGLE WEST UNION 7.5' West Union EC

SURFACE OWNER MAYME R. CUTRIGHT ACREAGE 50.6

ROYALTY OWNER W.F. SMITH ET. AL. LEASE ACREAGE 50.6 OF 360

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 BENSON - ALEXANDER  
 ESTIMATED DEPTH 4800'

WELL OPERATOR QUAKER STATE CORP. 0721 DESIGNATED AGENT FRANK ROTUNDA  
 ADDRESS 1226 PUTNAM-HOWE DR. BELPRE, OHIO 45714 ADDRESS PO BOX 823 PARKERSBURG, WV 26102

COUNTY NAME PERMIT

RECEIVED  
SEP 27 1989

10-JUN-89  
API #. 47- 17-03726

State of West Virginia  
DEPARTMENT OF ENERGY  
Division of Oil and Gas

DIVISION OF OIL & GAS Well Operator's Report of Well Work

Face Name: **DEPT. OF ENERGY** MAYME R. Operator Well No.: W.F. SMITH #5

LOCATION: Elevation: 778.00 Quadrangle: WEST UNION

District: WESTUNION County: DODDRIDGE  
Latitude: 14600 Feet South of 39 Deg. 22Min. 30 Sec.  
Longitude 200 Feet West of 80 Deg. 47 Min. 30 Sec.

Company: QUAKER STATE CORPORATION

1226 PUTNAM HOWE DR. P O B 189 | Casing | Used in | Left | Cement

BELPRE, OH 45714-0000

Agent: FRANK R. ROTUNDA

Inspector: MIKE UNDERWOOD

Permit Issued: 06/16/89

Well work Commenced: 08/10/89

Well work Completed: 08/15/89

Verbal Plugging

Permission granted on:

Rotary Cable Rig

Total Depth (feet) 4806'

Fresh water depths (ft) N/A

Salt water depths (ft) N/A

Is coal being mined in area (Y/N)? N

Coal Depths (ft):

& Tubing Size	Drilling	in Well	Fill Up Cu. Ft.
11 3/4"	184'	184'	C.T.S.
8 5/8"	1005'	1005'	215 sx.
4 1/2"	3994'	3994'	215 sx.

OPEN FLOW DATA

Producing formation Benson Pay zone depth (ft) 4694  
 Gas: Initial open flow 150 MCF/d Oil: Initial open flow --- Bbl/d  
 Final open flow 150 MCF/d Final open flow --- Bbl/d  
 Time of open flow between initial and final tests --- Hours  
 Static rock Pressure 1850 psig (surface pressure) after 24 Hours

Second producing formation Riley Pay zone depth (ft) 4240  
 Gas: Initial open flow comingled 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.

*Duane Clark*

For: QUAKER STATE CORPORATION

By: Duane Clark

Date: September 25, 1989

SEP 29 1989

PERFORATION INFORMATION:

Perforated 1st stage in Benson from 4649' - 4698' with 17 shots, .39 hole.  
 Perforated 2nd stage in Riley from 4247' - 4281' with 19 shots, .39 hole.

FRAC INFORMATION:

Frac'd 1st stage with 75 sx. 80/100 sand, 400 sx. 20/40 sand, and 790 bbl. water with 158,000 SCF of N<sub>2</sub>. Average pressure: 2375 PSI, average rate: 20 BPM foam (5 BPM fluid), ISIP: 1873 PSI, at 5 minutes: 1613 PSI.  
 Frac'd 2nd stage with 195 sx. 20/40 sand, 75% Q/Foam, 382,000 SCF N<sub>2</sub>, 230 bbl. total fluid. Average pressure: 3110 PSI, average rate: 20 BPM foam (5 BPM fluid), ISIP: 1873 PSI, at 5 minutes: 1613 PSI.

FORMATION	TOP FEET	BOTTOM FEET	
Shale	0	135	
Sand	135	206	
Shale and Silt	206	325	
Sand	325	344	
Shale and Silt	345	892	
Sand	892	980	
Silt and Shale	980	1190	
Sand	1190	1308	
Shale	1308	1378	
Sand	1378	1510	
Silt and Shale	1510	1594	
Little Lime	1594	1618	
Big Lime	1618	1721	
Big Injun	1721	1841	
Shale	1841	1988	
Weir	1988	2035	
Shale	2035	2194	
Berea	2194	2199	
Shale	2199	2335	
Gordon	2335	2442	
Shale	2442	2609	
5th Sand	2609	2616	
Shale	2616	3046	
Warren	3046	3122	
Shale	3122	3636	
Speechley	3636	3650	
Shale	3650	4240	
Riley	4240	4300	
Shale	4300	4690	
Benson	4690	4700	
Shale	4700	4804	LTD

9025

017-3726

Issued 6/16/89 Expires 6/16/91

FORM WW-2B

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

- 1) Well Operator: Quaker State Corporation 40400 (8) 670
2) Operator's Well Number: W.F. Smith #5 3) Elevation: 778
4) Well type: (a) Oil / or Gas X /
(b) If Gas: Production X / Underground Storage /
Deep / Shallow /
5) Proposed Target Formation(s): Riley, Benson
6) Proposed Total Depth: 4800 feet
7) Approximate fresh water strata depths: 129', 30-33', 203', 293'
8) Approximate salt water depths: 1207'
9) Approximate coal seam depths: N/A Possible Pitts seam @ 274'-279'
10) Does land contain coal seams tributary to active mine? Yes / No X /
11) Proposed Well Work: Drill & Stimulate New Well
12)

CASING AND TUBING PROGRAM

Table with columns: TYPE, SPECIFICATIONS (Size, Grade, Weight per ft.), FOOTAGE INTERVALS (For drilling, Left in well), CEMENT (Fill-up (cu. ft.)). Rows include Conductor, Fresh Water, Coal, Intermediate, Production, Tubing, Liners.

9025

RECEIVED JUN 15 1989

PACKERS : Kind Sizes Depths set

For Division of Oil and Gas Use Only DIVISION OF OIL & GAS DEPARTMENT OF ENERGY

Fee(s) paid: Well Work Permit Reclamation Fund WPCP
Plat WW-9 WW-2B Bond Agent
(Type)

**RECEIVED**  
JUN 15 1989

1) Date: May 30, 1989  
2) Operator's well number W.F. Smith #5  
3) API Well No: 47 - \_\_\_\_\_ - 3726  
State - County - Permit

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY  
STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served:
  - (a) Name Mayme R. Cutright  
Address Rt. 2, Box 314  
West Union, WV 26456
  - (b) Name \_\_\_\_\_  
Address \_\_\_\_\_
  - (c) Name \_\_\_\_\_  
Address \_\_\_\_\_
- 5) (a) Coal Operator:
  - Name N/A  
Address \_\_\_\_\_
  - (b) Coal Owner(s) with Declaration  
Name N/A  
Address \_\_\_\_\_
  - Name \_\_\_\_\_  
Address \_\_\_\_\_
  - (c) Coal Lessee with Declaration  
Name N/A  
Address \_\_\_\_\_
- 6) Inspector Harold Mike Underwood  
Address Rt. 2, Box 114  
Salem, WV 26426  
Telephone (304)-782-1043

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)  
 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 6 on the above named parties, by:  
XX 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 Quaker State Corporation  
 By: Frank Rotunda  
 Its: Designated Agent  
 Address P.O. Box 823  
Parkersburg, WV 26102  
 Telephone (614) 423-9543

Subscribed and sworn before me this 13th day of June, 1989

Dolores E. Branch  
 Notary Public, State of Ohio  
 My commission expires March 14, 1990  
Dolores E. Branch Notary Public