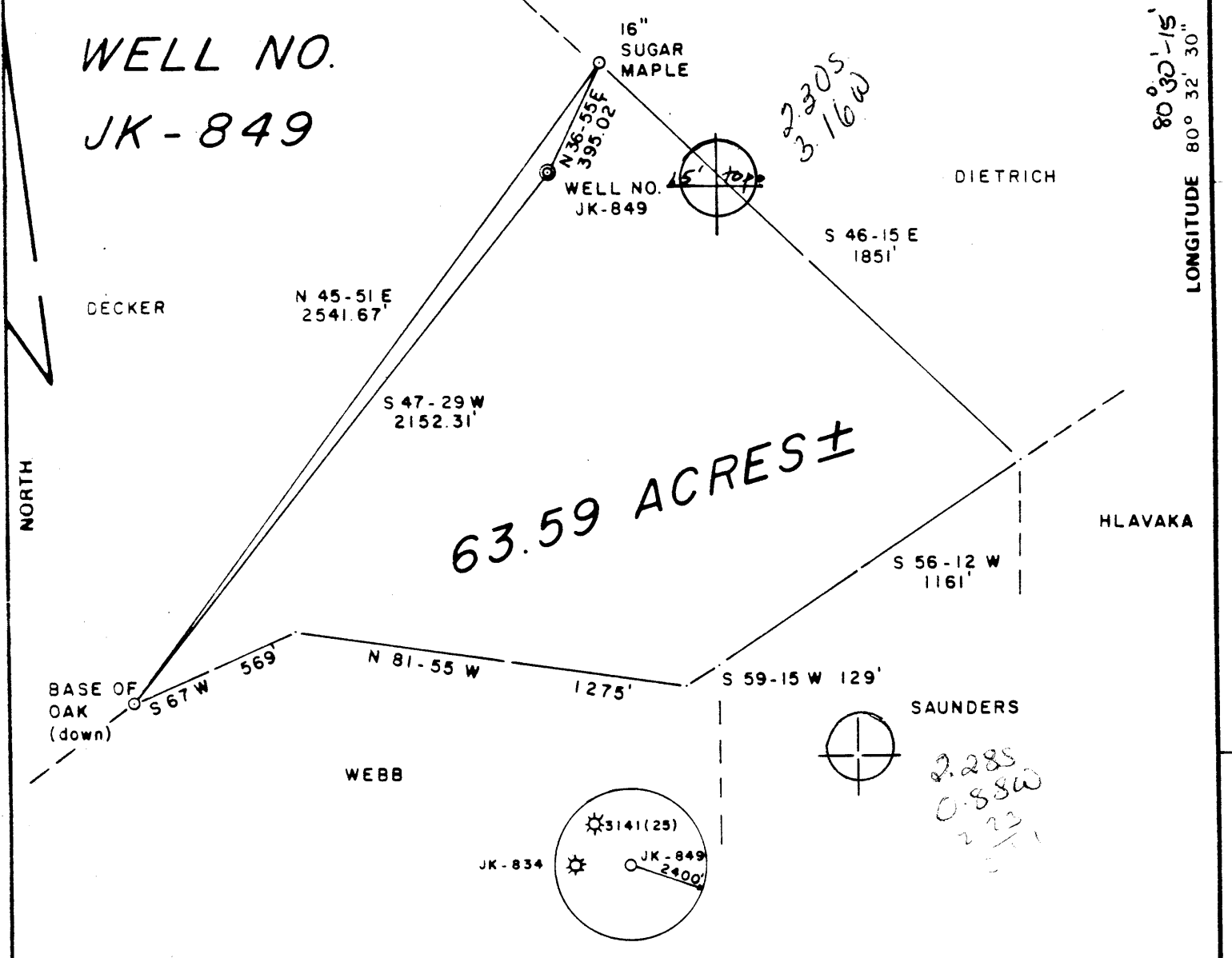


# MUTSCHELKNAUS LEASE

WELL NO.

JK-849



FILE NO. 13-1

DRAWING NO. \_\_\_\_\_

SCALE 1" = 500'

MINIMUM DEGREE OF ACCURACY 1/200

PROVEN SOURCE OF ELEVATION JUNCT. OF ROADS  
ELEV. 912'

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) Gregory A. Smith

R.P.E. \_\_\_\_\_ L.L.S. 677

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FORM IV-6 (8-78)



DATE JAN. 16 19 84

OPERATOR'S WELL NO. JK-849

API WELL NO. \_\_\_\_\_

47 - 017 - 3306

STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

WELL TYPE OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL

(IF "GAS,") PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION ELEVATION 1234' WATER SHED PIKE FORK

DISTRICT McCLELLAN 5 COUNTY DODDRIDGE

QUADRANGLE FOLSOM 7.5' 349 Center point 15' EC<sub>6</sub>

SURFACE OWNER Charles F. Michels/Howard Spurlock ACREAGE 63.59

OIL & GAS ROYALTY OWNER CLARENCE W. MUTSCHELKNAUS, et. al. LEASE ACREAGE 63.59

LEASE NO. JK-24

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 ALEXANDER ESTIMATED DEPTH 5450'

WELL OPERATOR J.B. J. ENTERPRISES, INC. DESIGNATED AGENT RICHARD M. REDDECLIFF

ADDRESS P.O. BOX 48 ADDRESS P.O. BOX 48

BUCKHANNON, WV 26201 BUCKHANNON, WV 26201

APR 23 1984



DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Perforated	7-05-84	Young WireLine Co.		
Upper Benson	5215-5228	Avg. Press. 2900 psig	Avg. Rate 25 bpm	
Benson	5305-5310	Avg. Press. 2600 psig	Avg. Rate 20 bpm	
Alexander	5575-5596	Avg. Press. 3200 psig	Avg. Rate 19 bpm	

Fractured 7-05-84 - Powell - 3-stage waterfrac with nitrogen assist

1st stage -	21000 lbs.	20/40 sand
2nd stage -	27000 lbs.	20/40 sand
3rd stage -	25000 lbs.	20/40 sand

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Sandy Shale			0	40	
Shale & Red Rock			40	55	
Sand & Shale			55	140	Fresh water @ 60'
Sandy Shale & Red Rock			140	250	
Sand & Shale			250	280	
Red Rock & Shale			280	305	
Sand & Shale			305	315	
Red Rock & Shale			315	375	
Sandy Shale			375	480	
Red Rock & Shale			480	570	
Sand			570	660	
Sandy Shale			660	690	
Sand			690	720	
Sand & Shale			720	760	
Sandy Shale			760	815	
Shale & Red Rock			815	1225	
Sandy Shale			1225	1520	
Shale			1520	1550	
Sand			1550	1585	
Shale			1585	1700	
Sand			1700	1725	
Sandy Shale			1725	2060	Water @ 1840'
Shale			2060	2075	
Sand			2075	2105	
Shale & Red Rock			2105	2219	
Big Lime			2219	2267	
Big Injun			2267	2364	
Berea			2726	2750	
Gantz			2855	2861	
Gordon			2944	2966	
4th Sand			2999	3052	
5th Sand			3070	3088	
Warren			3614	3643	Show gas @ 3475'
Speechley			3663	3832	
Balltown			4237	4254	
Bradford			4588	4657	
Upper Benson			5215	5230	
Benson			5304	5310	
Alexander			5571	5598	
Shale			5310	5995	
			(Attach separate sheets as necessary)		
					TOTAL DEPTH

KEPCO, INC.

Well Operator

By: David B. Carson Chief Geologist

Date: October 4, 1984

Note: Regulation 2.02(i) provides as follows:

"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including ..., encountered in the drilling of a well."



1) Date: March 13, 19 84  
 2) Operator's Well No. JK-849  
 3) API Well No. 47 - 017 - 3306  
 State County Permit

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES, OIL AND GAS DIVISION  
 APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil \_\_\_\_\_ / Gas X /  
 B (If "Gas", Production X / Underground storage \_\_\_\_\_ / Deep \_\_\_\_\_ / Shallow X /)
- 5) LOCATION: Elevation: 1234 Watershed: Pike Fork  
 District: McClellan County: Doddridge Quadrangle: Folsom 7.5
- 6) WELL OPERATOR J&J Enterprises, Inc. 7) DESIGNATED AGENT Richard Reddecliff  
 Address P.O. Box 48 Address P.O. Box 48  
Buckhannon, WV 26201 Buckhannon, WV 26201
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:  
 Name Mike Underwood Name S.W. Jack Drilling Company  
 Address Rt. # 2, Box 114 Address P.O. Box 48  
Salem, WV 26426 Buckhannon, WV 26201
- 10) PROPOSED WELL WORK: Drill X / Drill deeper \_\_\_\_\_ / Redrill \_\_\_\_\_ / Stimulate \_\_\_\_\_  
 Plug off old formation \_\_\_\_\_ / Perforate new formation \_\_\_\_\_  
 Other physical change in well (specify) \_\_\_\_\_
- 11) GEOLOGICAL TARGET FORMATION, Alexander
- 12) Estimated depth of completed well, 5450 feet  
 13) Approximate trata depths: Fresh, 250 feet; salt, 0 feet.  
 14) Approximate coal seam depths: 475 Is coal being mined in the area? Yes X

**RECEIVED**  
 MAR 27 1984  
 OIL & GAS DIVISION  
 No. X  
**DEPT. OF MINES**

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor	11 3/4	H-40	42	X		30	0	0 sks.	Kinds
Fresh water	85/8	ERW	23	X		1300	1300	To surface	<b>NEAT</b>
Coal	85/8	ERW	23	X		1300	1300	To surface	
Intermediate									
Production	4 1/2	J-55	10.5	X		5400	5400	325 sks.	Depths set
Tubing								<i>or as req. by rule 15.0.</i>	
Liners									Perforations: Top Bottom

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-017-3306 Date April 12, 19 84

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector, (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.  
 Permit expires April 12, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <b>BLANK</b>	Agent: <u>LS</u>	Plat: <u>MH</u>	Casing: <u>MH</u>	Fee: <u>1475</u>
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Margaret J. Dasse  
 Administrator, Office of Oil and Gas