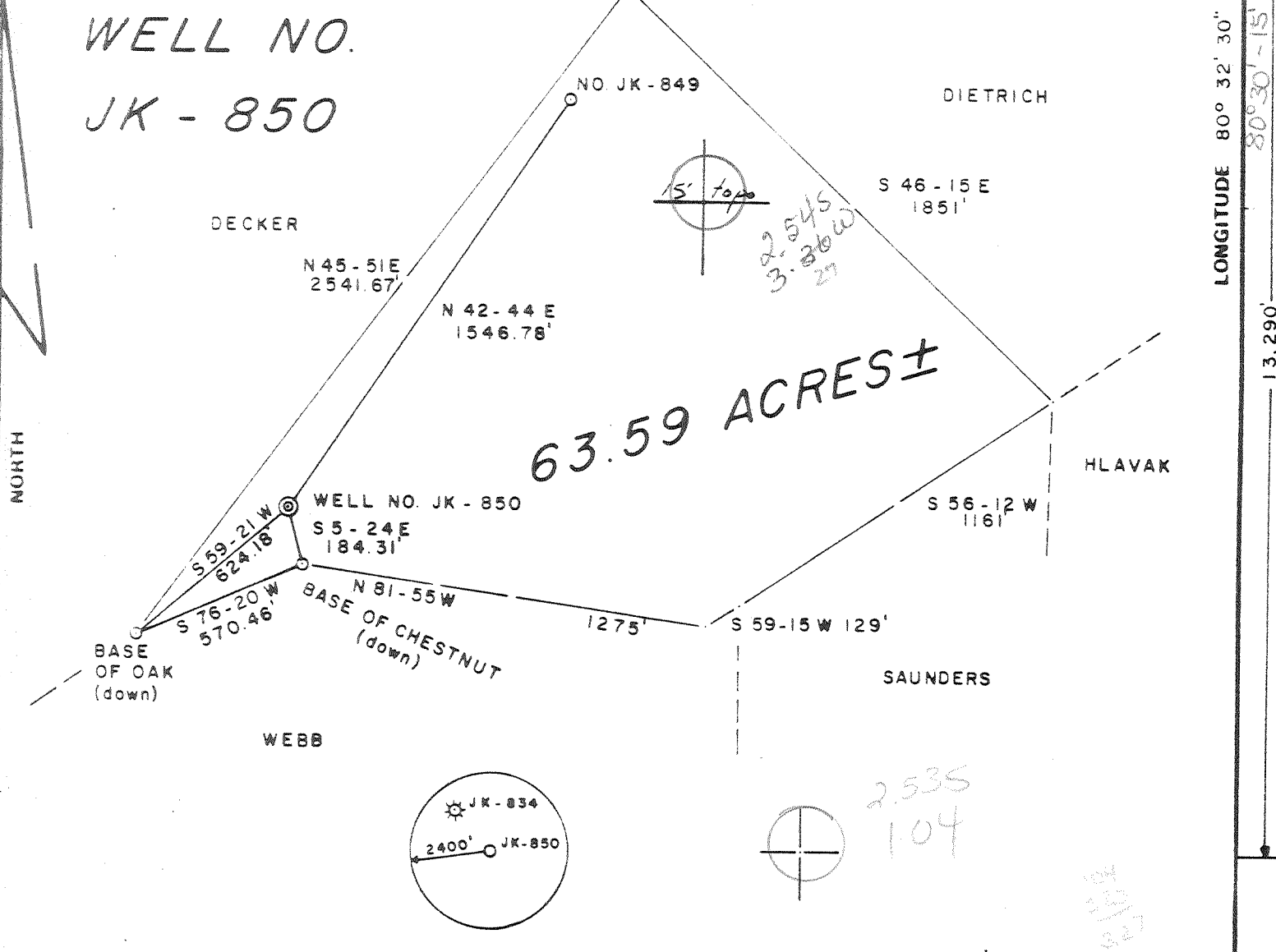


MUTSCHELKNAUS LEASE

WELL NO. JK - 850



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 (873)



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

DATE JAN 16 19 84
 OPERATOR'S WELL NO. JK - 850
 API WELL NO. 47 - 017 - 3307
 STATE COUNTY PERMIT

WELL TYPE OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION ELEVATION 1258' WATER SHED PIKE FORK
 DISTRICT McCLELLAN 5 COUNTY DODDRIDGE
 QUADRANGLE FOLSON 7.5 349 Centerpoint 15' EC 6
 SURFACE OWNER Charles F. Michels, Howard D. Spurlin 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 & 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

1 mile Smithton fault and 1.0' (cont)



IV-35
(Rev 8-81)

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AUG 24 1984

OIL & GAS DIVISION
DEPT. OF MINES

State of West Virginia
Department of Mines
Oil and Gas Division

Date July 23, 1984
Operator's
Well No. WK-408 JK-853
Farm Spurlock
API No. 47 - 017 - 3307

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil ___ / Gas x / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas," Production x / Underground Storage ___ / Deep ___ / Shallow x /)

LOCATION: Elevation: 1258 Watershed Pike Fork
District: McClellan County Doddridge Quadrangle Folsom 7.5

COMPANY Kepeco, Inc.
ADDRESS 436 Blvd. of the Allies Pitts. PA15219
DESIGNATED AGENT E. L. Stuart
ADDRESS Box 1550 Clarksburg WV 26301
SURFACE OWNER Charles F. Michels Howard Spurlock
ADDRESS _____
MINERAL RIGHTS OWNER C.W. Mutschelknaus et al
ADDRESS Rt. 1, Box 52 Salem WV 26426
OIL AND GAS INSPECTOR FOR THIS WORK Mike Underwood
ADDRESS Rt. 2, Box 114 Salem WV 26426
PERMIT ISSUED April 12, 1984
DRILLING COMMENCED June 10, 1984
DRILLING COMPLETED June 17, 1984
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON _____

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	38	38	10 SK
9 5/8			
8 5/8	1737	1737	390 SK Neat
7			
5 1/2			
4 1/2	5386	5386	320 SK Pozmix
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Benson Depth 5306 feet
Depth of completed well 5958 feet Rotary X / Cable Tools _____
Water strata depth: Fresh 135' feet; Salt _____ feet
Coal seam depths: 445' Is coal being mined in the area? NO

OPEN FLOW DATA
Producing formation Balltown, upper Benson, Benson pay zone depth 4257 5220 5306 feet
Gas: Initial open flow 0 Mcf/d Oil: Initial open flow 0 Bbl/d
Final open flow 184 Mcf/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 4 hours
Static rock pressure 1325 psig (surface measurement) after 48 hours shut in
(If applicable due to multiple completion--)
Second producing formation _____ Pay zone depth _____ feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ Mcf/d Oil: Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ hours
Static rock pressure _____ psig (surface measurement) after _____ hours shut in

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

Perforated	June 26, 1984	Young Wireline Co.
Balltown	4257-4262	Avg Press 2850 psi Avg Rate 20 BPM
Upper Benson	5220-5230	Avg Press 3300 psi Avg Rate 23 BPM
Benson	5306-5311	Avg Press 2975 psi Avg Rate 20 BPM
Fractured	June 26, 1984	Halliburton Service Waterfrac with nitrogen assist
Balltown	25000 lbs 20/40 sand	
Upper Benson	20000 lbs 20/40 sand	
Benson	27500 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
Sand & Shale			0	65	
Sand			65	135	Fresh Water @ 135'
Sand & Shale			135	185	
Shale & Red Rock			185	445	
Coal			445	448	
Shale			448	470	
Sandy Shale			470	760	
Sand			760	810	
Sandy Shale			810	910	
Shale & Red Rock			910	975	
Sandy shale			975	1045	
Shale & Red Rock			1045	1385	
Sand			1385	1415	
Shale			1415	1545	
Sand			1545	1610	
Sandy Shale			1610	1700	
Sand			1700	1755	
Sandy Shale			1755	1975	
Sand			1975	2025	
Sand & Shale			2025	2177	
Little Lime			2177	2192	
Big Lime			2209	2278	
Big Injun			2278	2376	
Berea			2702	2761	
Gantz			2870	2882	
Gordon			2952	2973	
5th Sand			3078	3094	
Warren			3621	3651	
Speechley			3671	3728	
Balltown			4256	4262	
Bradford			4592	4665	
Riley			5106	5158	
Upper Benson			5220	5231	
Benson			5300	5310	
Alexander			5500	5514	
Shale			5514	5958	TOTAL DEPTH

Ek@D

(Attach separate sheets as necessary)

Kepeco, Inc.

Well Operator

By: [Signature]

Operations Manager

Date: July 23, 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-850
 3) API Well No. 47 - 017 - 3307
 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
 B (If "Gas", Production / Underground storage / Deep / Shallow)
 5) LOCATION: Elevation: 1258 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 / 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 _____

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OIL & GAS DIVISION
 DEPT. OF MINE

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	Kinds
Conductor	113/4	H-40	42	x		30	0	0 sks.	
Fresh water	85/8	ERW	23	x		1400 1358	1400 1358	TO surface	NEAT
Coal	85/8	ERW	23	x		1400	1400	To surface	
Intermediate									
Production	4 1/2	J-55	10.5	x		5400	5400	325 sks.	Depths set
Tubing								or as req. by rule 15.01	
Liners									Perforations:
									Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-017-3307 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 <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/>	Plat: <input checked="" type="checkbox"/>	Casing <input checked="" type="checkbox"/>	Fee
	<u>LS</u>	<u>MH</u>	<u>MH</u>	<u>1474</u>

Margaret J. Hesse
 Administrator, Office of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.