



FILE NO. _____
 DRAWING NO. _____
 SCALE $1" = 500'$
 MINIMUM DEGREE OF ACCURACY 1 in 800
 PROVEN SOURCE OF ELEVATION USGS - BM at BIG ISAAC - ELEV - 985' BIG ISAAC QUAD.

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) *Haynes D. Pollock*
 R.P.E. _____ L.L.S. 624

Norton Surveys & Consulting, Inc.

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6
 (8-78)



DATE JANUARY 12, 19 83
 OPERATOR'S WELL NO HINKLE - 3
 API WELL NO. WK-241
47 - 017 - 3204
 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 1210 WATER SHED MEATHOUSE FORK
 DISTRICT GREENBRIER COUNTY DODDRIDGE
 QUADRANGLE BIG ISAAC Trades 151 NE
 SURFACE OWNER W. McClain ACREAGE 23
 OIL & GAS ROYALTY OWNER HINKLE HEIRS LEASE ACREAGE 61
 LEASE NO. _____
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

MAR 21 1983

PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION DEVONIAN SHALE ESTIMATED DEPTH 5600⁶⁻⁶ Meathouse Fork -
 WELL OPERATOR KEPCO, INC. DESIGNATED AGENT E. I. STUART Bristol (146)
 ADDRESS 436 BOULEVARD OF THE ALLIES ADDRESS P.O. BOX 1550
PITTSBURGH, PA. 15219 CLARKSBURG, VA. 26301

RECEIVED

DEC 8 - 1983



State of West Virginia
OIL & GAS DIVISION
DEPT. OF MINES
Department of Mines
Oil and Gas Division

Date September 26, 1983
Operator's
Well No. WK-241
Farm Hinkle
API No. 47 - 017 - 3204

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: 1210' Watershed Meathouse Fork
District: Greenbrier County Doddridge Quadrangle Big Isaac

COMPANY Keeco, Inc.
ADDRESS 436 Boulevard of the Allies
Pittsburgh, PA 15219
DESIGNATED AGENT E. L. Stuart
ADDRESS P.O. Box 1550
Clarksburg, WV 26301
SURFACE OWNER Bernard W & Evelyn Lamb
ADDRESS Rt. #3, Salem, WV 26426
MINERAL RIGHTS OWNER Russel G. West, et al
ADDRESS Rt. #1, Wolf Summit, WV
OIL AND GAS INSPECTOR FOR THIS WORK Stephen
Casey ADDRESS Rt 2 Box 232-D
Jane Lew, WV 26378
PERMIT ISSUED March 15, 1983
DRILLING COMMENCED April 22, 1983
DRILLING COMPLETED May 2, 1983
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"	30'	30'	10 sks Class "A"
9 5/8			
8 5/8	1380'	1380'	240 sks Pozmix 100 sks Class A
7			
5 1/2			
4 1/2	5413'	5413'	485 sks Pozmix
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Alexander Depth 5151' feet
Depth of completed well 5517 feet Rotary x / Cable Tools _____
Water strata depth: Fresh 130 feet; Salt _____ feet
Coal seam depths: None reported Is coal being mined in the area? No

OPEN FLOW DATA
Producing formation Alexander, Benson Pay zone depth 5151', 4992'
Balltown 3681' feet
Gas: Initial open flow 0 Mcf/d Oil: Initial open flow 0 Bbl/d
Final open flow 1,200 Mcf/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 8 hours
Static rock pressure 2075 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.

Perforations: ^{Balltown} 3681' - 3839' 24 holes; Avg. press. 2100 psi; Avg. rate 20 BPM
^{Benson} 4992' - 4999' 28 holes; Avg. press. 2400 psi; Avg. rate 15 BPM
^{Alex.} 5151' - 5344' 50 holes; Avg. press. 2350 psi; Avg. rate 20 BPM

Fractured: May 17, 1983 Halliburton
 3 stage frac job
 1st stage 25,000 lbs. 20/40
 2nd stage 25,000 lbs. 20/40
 3rd stage 20,000 lbs. 20/40

1500 gallons 15% HCl, 15-N, HC-2, WG-12
 KCl, GBW-3, Nitrogen

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Red rock			0'	25'	
Sand			25'	48'	
Sand and shale			48'	125'	
Sand			125'	265'	130' Freshwater
Red rock			265'	280'	
Sand and shale			280'	370'	
Sand			370'	400'	
Sand and shale			400'	430'	
Red rock and shale			430'	520'	
Sand and shale			520'	705'	
Shale			705'	775'	
Sand and shale			775'	830'	
Red rock and shale			830'	895'	
Shale			895'	1060'	
Red rock and shale			1060'	1095'	
Sand and shale			1095'	1130'	
Shale			1130'	1175'	
Sand and shale			1175'	1315'	
Red rock and shale			1315'	1330'	
Sand and shale			1430'	1900'	
Red rock and shale			1900'	1915'	
Sand and shale			1915'	2097'	
Big Lime			2097'	2142'	
Big Injun			2142'	2242'	
Weir			2480'	2510'	
Gordon			2695'	2708'	
5th			2802'	2821'	
Bayard			3005'	3101'	
Speechley			3424'	3428'	
Balltown			3591'	3839'	
Bradford			3954'	4294'	
Riley			4460'	4468'	
Benson			4989'	5000'	
Alexander			5151'	5350'	
Shale			5350'	5517'	
TD				5517'	

(Attach separate sheets as necessary)

KEPCO, INC.

Well Operator

By: [Signature] Operations Manager

Date: September 26, 1983

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~~ encountered in the drilling of a well."



1) Date: Feb. 1, 1983, 19
 2) Operator's Well No. 11111111
 3) API Well No. 47 State County Permit

DRILLING CONTRACTOR: _____

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OIL AND GAS DIVISION

OIL AND GAS WELL PERMIT APPLICATION

- 4) WELL TYPE: A Oil _____ / Gas X _____
 B (If "Gas", Production _____ / Underground storage _____ / Deep _____ / Shallow _____)
- 5) LOCATION: Elevation: 1210 Watershed:
 District: Greenbrier County: Quadrangle:
- 6) WELL OPERATOR 11) DESIGNATED AGENT
 Address Address
- 7) OIL & GAS ROYALTY OWNER 12) COAL OPERATOR
 Address Address
- 8) SURFACE OWNER 13) COAL OWNER(S) WITH DECLARATION ON RECORD:
 Name Address
 Name Address
- 9) FIELD SALE (IF MADE) TO: Address
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name Address
- 15) PROPOSED WORK: Drill X / Drill deeper _____ / Redrill _____ / Fracture or stimulate _____
 Plug off old formation _____ / Perforate new formation _____
 Other physical change in well (specify) _____
- 16) GEOLOGICAL TARGET FORMATION,
- 17) Estimated depth of completed well, 3000 feet
 18) Approximate water strata depths: Fresh, 20-700 feet; salt, _____ feet.
 19) Approximate coal seam depths: Is coal being mined in the area? Yes _____ / No _____

20) 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		Top	Bottom
Conductor	<u>3 1/2"</u>					<u>20'</u>	<u>22'</u>	<u>10 SURFACE</u>		Kinds
Fresh water										
Coal	<u>3 1/2"</u>					<u>1350'</u>	<u>1350'</u>	<u>10 SURFACE</u>		Sizes
Intermediate										
Production	<u>4"</u>					<u>3600'</u>	<u>3600'</u>	<u>10 SURFACE</u>		Depths set
Tubing										
Liners										Perforations:
										Top Bottom

21) EXTRACTION RIGHTS

- Check and provide one of the following:
 Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil or gas.
 The requirement of Code 22-4-1-(c) (1) through (4). (See reverse side for specifics.)

22) ROYALTY PROVISIONS

Is the right to extract, produce or market the oil or gas based upon a lease or other continuing contract or contracts providing for flat well royalty or any similar provision for compensation to the owner of the oil or gas in place which is not inherently related to the volume of oil or gas so extracted, produced or marketed? Yes No

If the answer above is No, nothing additional is needed. If the answer is Yes, you may use Affidavit Form IV-60.

23) Required Copies (See reverse side.)

24) Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

Notary: _____
 My Commission Expires _____

Signed: _____
 Its: _____

OFFICE USE ONLY
DRILLING PERMIT

Permit number _____ Date _____

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. 10) 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.)

Permit expires November 15, 1983 unless drilling is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	Fee
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Administrator, Office of Oil and Gas

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