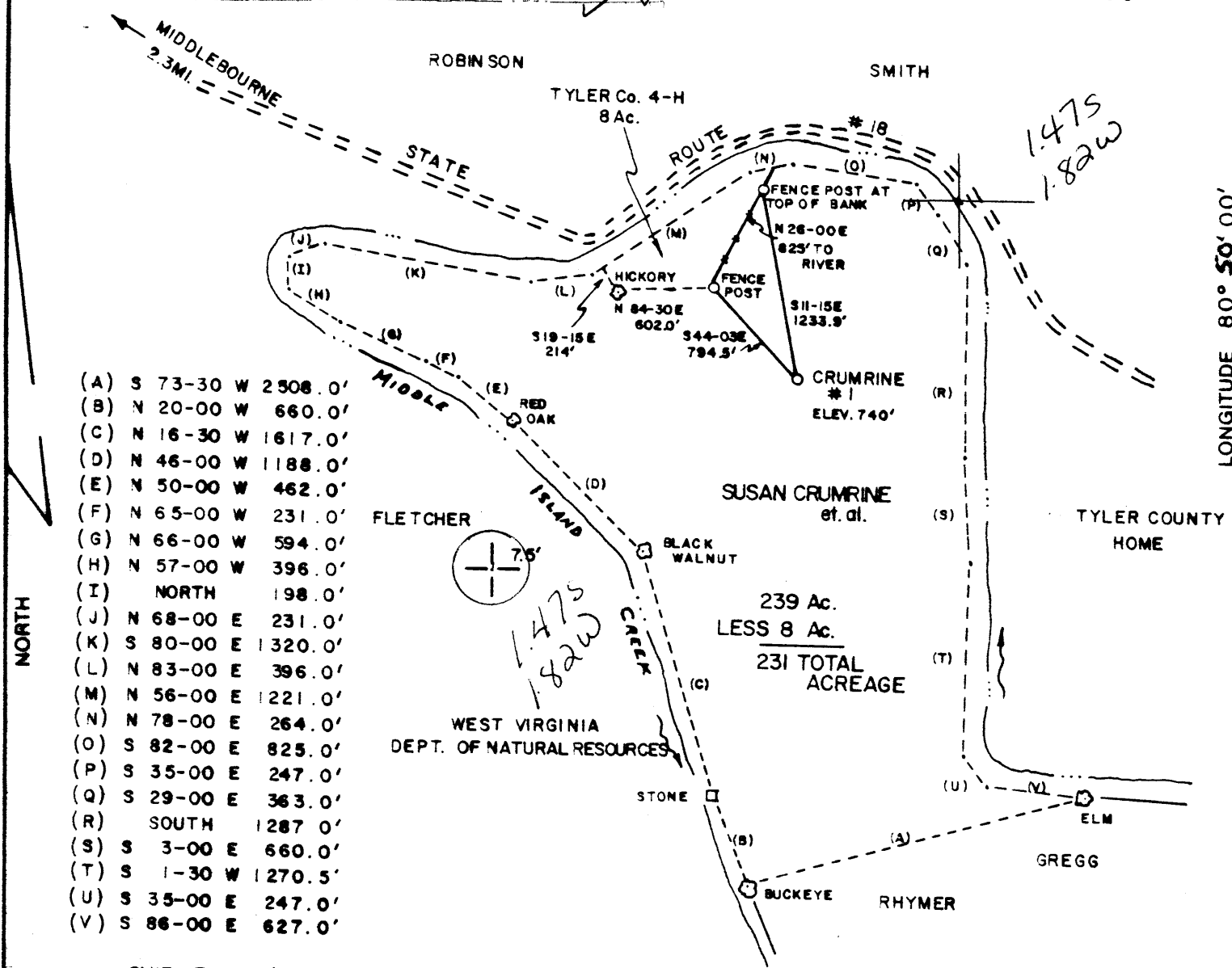


M.U. 11-15-85

9520'

LATITUDE 39° 30' 00"

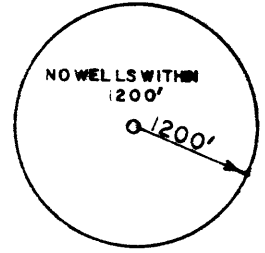


- (A) S 73-30 W 2508.0'
- (B) N 20-00 W 660.0'
- (C) N 16-30 W 1617.0'
- (D) N 46-00 W 1188.0'
- (E) N 50-00 W 462.0'
- (F) N 65-00 W 231.0'
- (G) N 66-00 W 594.0'
- (H) N 57-00 W 396.0'
- (I) NORTH 198.0'
- (J) N 68-00 E 231.0'
- (K) S 80-00 E 1320.0'
- (L) N 83-00 E 396.0'
- (M) N 56-00 E 1221.0'
- (N) N 78-00 E 264.0'
- (O) S 82-00 E 825.0'
- (P) S 35-00 E 247.0'
- (Q) S 29-00 E 363.0'
- (R) SOUTH 1287.0'
- (S) S 3-00 E 660.0'
- (T) S 1-30 W 1270.5'
- (U) S 35-00 E 247.0'
- (V) S 86-00 E 627.0'

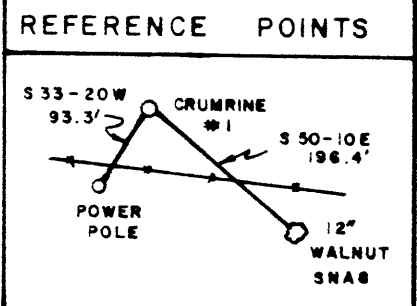
NORTH

LONGITUDE 80° 50' 00"

SHIRLEY 7.5'



NOTE: ● - STAKE (DEED)



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

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION ROAD INTERSECTION
 717'

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) Paul K. Marshall
 R.P.E. _____ L.L.S. 580



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE NOV. 12, 1985
 OPERATOR'S WELL NO. CRUMRINE #1
 API WELL NO. 47-95-1123
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS,") PRODUCTION STORAGE _____ DEEP _____ SHALLOW
 LOCATION: ELEVATION 740' WATERSHED MIDDLE ISLAND CREEK
 DISTRICT ELLSWORTH 2 COUNTY TYLER
 QUADRANGLE SHIRLEY 7.5' 607 133 NC2 West Union
 SURFACE OWNER SUSAN CRUMRINE ACREAGE 231
 OIL & GAS ROYALTY OWNER SUSAN CRUMRINE LEASE ACREAGE 239
 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) _____
 PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
 TARGET FORMATION BIG INJUN ESTIMATED DEPTH 2300'
 WELL OPERATOR D.A.C. DESIGNATED AGENT KENNY MASON 1985
 ADDRESS RT. 1, BOX 51A ADDRESS SAME
 CARO, W.V. 26357

COUNTY NAME PERMIT

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

First stage:

Water frac - fourteen perforations, from 1815' to 1854'
HCL Acid 15%
20/40 Sand

Second and third stage:

9 shots: 1479' to 1696'
20/40 Sand
Hydrochloric Acid 15%

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Soil			0'	29'	
Intermittent Sandstone and Shale			30'	1199'	
Second Salt Sand			1200'	1254'	Coarse calcite and minerals No shows
Third Salt Sand			1255'	1332'	Calcite
Shales			1333'	1463'	
Maxon Sandstone			1464'	1490'	Gas Show
Shales			1491'	1559'	
Big Lime			1560'	1680'	
Shales			1681'	1687'	
Big Injun <i>Crack a rock</i>			1688'	1864'	Gas, Oil, & Salt Water Shows TD 1928

(Attach separate sheets as necessary)

DRILLING APPALACHIAN CORPORATION

Well Operator

By: Kenneth R. Mason
Date: February 7, 1986

Note: Regulation 2.02(i) provides as follows:
"The term 'log' or 'well log' shall mean a systematic

RECEIVED
NOV 14 1985



1) Date: Nov. 11, 19 85
2) Operator's Well No. Crumrine #1
3) API Well No. 47 - 95 - 1123
State County Permit

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

- 4) WELL TYPE: A Oil / Gas
B (If "Gas", Production / Underground storage / Deep / Shallow)
- 5) LOCATION: Elevation: 740' Watershed: Middle Island Creek
District: Ellsworth 311 County: Tyler Quadrangle: Shirley
- 6) WELL OPERATOR Drilling Appalachian Corp. 14425 7) DESIGNATED AGENT Kenneth Mason
Address Route 1, Box 51A Address Route 1, Box 51A
Cairo, WV 26337 Cairo, WV 26337
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Robert Lowther
Address Middlebourne, West Virginia
- 9) DRILLING CONTRACTOR: Name C. T. Drilling Co.
Address Marietta, OH
- 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, Injun 371
- 12) Estimated depth of completed well, 2200' feet
- 13) Approximate trata depths: Fresh, 165 feet; salt, _____ feet.
- 14) Approximate coal seam depths: None Is coal being mined in the area? Yes _____ / No
- 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'		Kinds	
Fresh water										
Coal									Sizes	
Intermediate	8 5/8	J-55	20#	X		350'	350'	100 sacks	IS by rule 15.6 as required by 15.6.1	
Production	4 1/2	J-55	10 1/2#	X		2200'	2200'	85 sacks		
Tubing									Depths set	
Liners									Locations: Top Bottom	

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-095-1123

Date November 18 1985

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 November 18, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>MLB</u>	Plat: <u>ML</u>	Casing: <u>ML</u>	Fee: <u>1629</u>	WPCP: <u>ML</u>	S&E: <u>ML</u>	Other: _____
---	-------------------	-----------------	-------------------	------------------	-----------------	----------------	--------------

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

John H. ...
Director, Division of Oil and Gas

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.