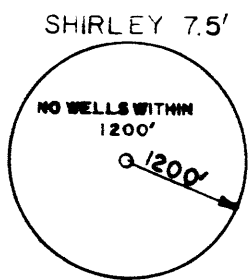


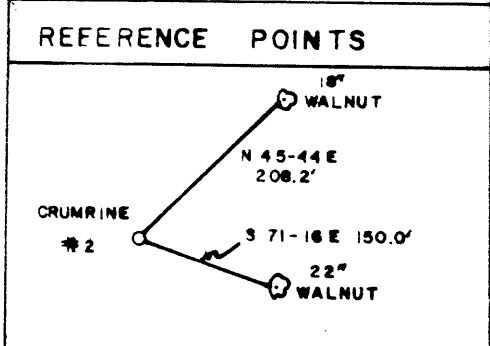
- (A) S 73-30 W 2508.0'
- (B) N 20-00 W 660.0'
- (C) N 16-30 W 1617.0'
- (D) N 46-00 W 1188.0'
- (E) N 50-00 W 462.0'
- (F) N 65-00 W 231.0'
- (G) N 66-00 W 594.0'
- (H) N 57-00 W 396.0'
- (I) NORTH 198.0'
- (J) N 68-00 E 231.0'
- (K) S 80-00 E 1320.0'
- (L) N 83-00 E 396.0'
- (M) N 56-00 E 1221.0'
- (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'

WEST VIRGINIA  
DEPT. OF NATURAL RESOURCES

239 Ac.  
LESS 8 Ac.  
231 TOTAL  
ACREAGE



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

PLACE SEAL HERE

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION



DATE SEPT. 4, 19 85  
 OPERATOR'S WELL NO. CRUMRINE #2  
 API WELL NO. \_\_\_\_\_

WELL TYPE: OIL  GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
 (IF "GAS,") PRODUCTION  STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW   
 LOCATION: ELEVATION 863' 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 Gordail ESTIMATED DEPTH 3200'  
 WELL OPERATOR D.A.C. DESIGNATED AGENT KENNY MASON  
 ADDRESS RT. 1 BOX 51A ADDRESS SAME  
 CAIRO, W.V. 26357

COUNTY NAME  
PERMIT

RECEIVED JUN 13 1986



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

Date June 2, 1986 Operator's Well No. Crumrine #2 Farm Crumrine API No. 47 - 095 - 1127

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

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

LOCATION: Elevation: 863' Watershed Middle Island Creek District: Ellsworth County Tyler Quadrangle Shirley 7.5'

COMPANY: Drilling Appalachian Corporation (DAC)

ADDRESS: Rte. 1, Box 51A, Cairo, WV 26337

DESIGNATED AGENT: Kenneth Mason

ADDRESS: Rte. 1, Box 51A, Cairo, WV 26337

FACE OWNER: John and Charles Crumrine

ADDRESS: Middlebourne, WV 26149

LEGAL RIGHTS OWNER: John and Charles Crumrine

ADDRESS: Middlebourne, WV 26149

ENGINEER AND GAS INSPECTOR FOR THIS WORK: Robert Lowther

ADDRESS: Middlebourne, WV 26149

PERMIT ISSUED: December 17, 1985

DRILLING COMMENCED: December 31, 1985

DRILLING COMPLETED: January 5, 1986

APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR WORKING. VERBAL PERMISSION OBTAINED

Table with 4 columns: Casing Tubing, Used in Drilling, Left in Well, Cement fill up Cu. ft. Rows include sizes 20-16 Cond., 13-10", 9 5/8, 8 5/8 (356' used), 7, 5 1/2, 4 1/2 (2833' used), 3, 2, and Liners used.

LOGICAL TARGET FORMATION: Gordon Depth: 3200 feet

Depth of completed well: 2840 feet Rotary X / Cable Tools

Water strata depth: Fresh 200 feet; Salt feet

Coal seam depths: None Is coal being mined in the area? No

FLOW DATA

Producing formation: Gordon Sandstone Pay zone depth: 2810 feet

Gas: Initial open flow 5 Mcf/d Oil: Initial open flow 0 Bbl/d

Final open flow 1 Mcf/d Oil: Final open flow 0 Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 175 psig (surface measurement) after 72 hours shut in (If applicable due to multiple completion--)

Second producing formation Pay zone depth feet JUN 23 1986

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

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

10 Perforations, from 2810 to 2798 *Gordon*

Foam frac (Nitrogen)

500 gallons of 15% HCL

20/40 sand size

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fres and salt water, coal, oil and ga
Soil			0'	31'	
Intermittent sandstone and shales			32'	1149'	
First Salt Sand			1150'	1198'	Calcite; no shows
Second Salt Sand			1199'	1354'	
Intermittent shales			1355'	1433'	
Third Salt Sand			1434'	1456'	Coarse grained calcite, gas fluores
Shales			1457'	1601'	
Maxon Sandstone			1602'	1616'	Gas show; silicon
Shales			1616'	1729'	
Greenbrier Limestone			1730'	1810'	Pale green and light brown limes
Big Injun <i>Clay</i>			1811'	1992'	Generally sub-angular, some water Composed mostly of silicon
Shales			1992'	2165'	
Weir Sandy-shale			2166'	2260'	Shows of gas
Shales			2261'	2351'	
Berea Sandstone			2352'	2360'	Shows of gas
Upper Devonian Shales			2361'	2783'	Shows of gas; Quartz stringers
<u>Gordon</u> Sandstone			2784'	2840'	Quartz; gas fluorescence, temp. and

(Attach separate sheets as necessary)

DRILLING APPALACHIAN CORPORATION

Well Operator

By: *Kenneth L. Mason*

Date: Kenneth Mason  
June 2, 1986

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

