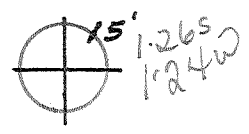
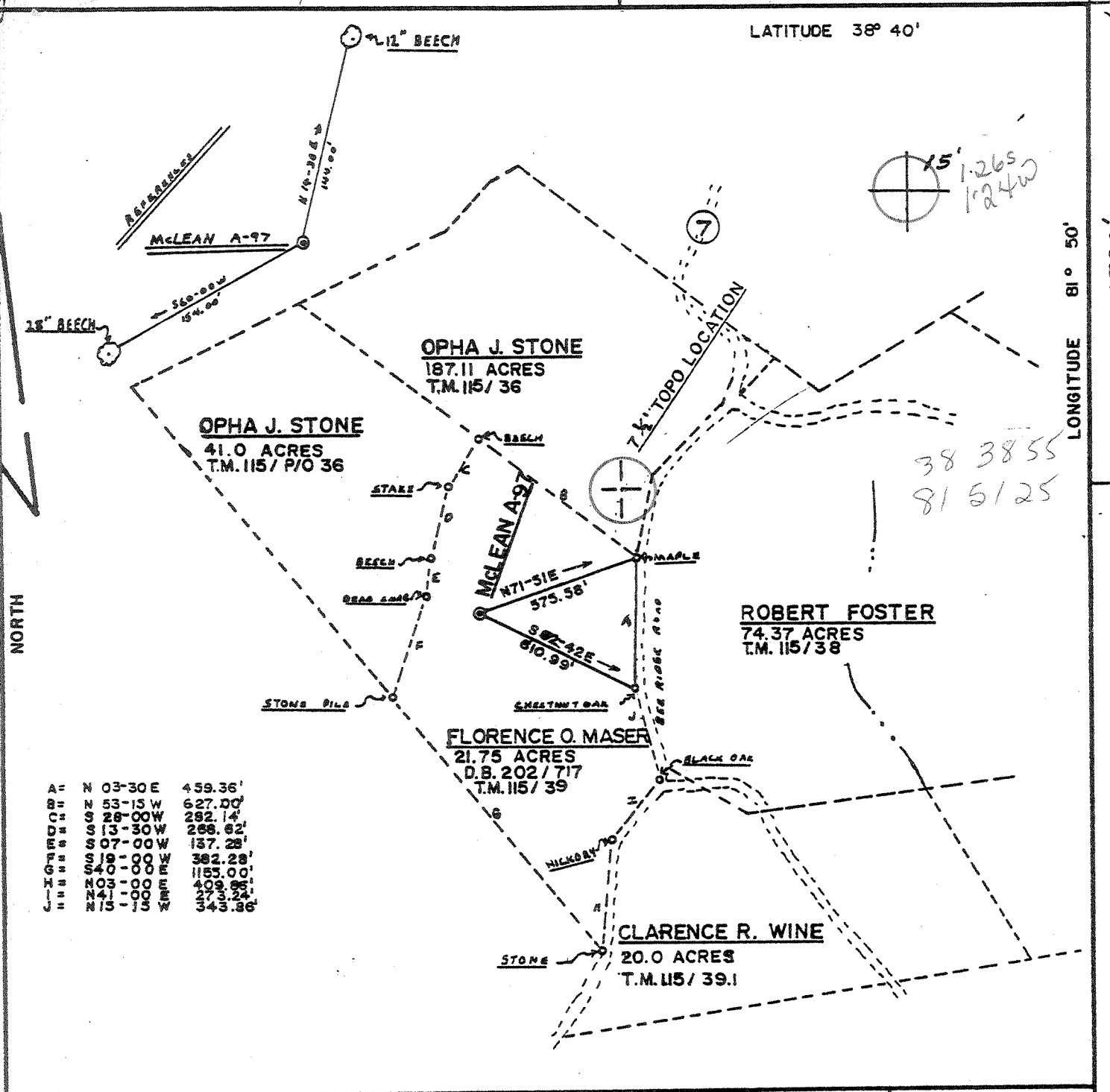


6500'

LATITUDE 38° 40'

LONGITUDE 81° 50'




38 38 55  
81 51 25

A=	N 03-30 E	459.36'
B=	S 53-15 W	627.00'
C=	S 29-00 W	292.14'
D=	S 13-30 W	298.62'
E=	S 07-00 W	137.28'
F=	S 19-00 W	382.28'
G=	S 40-00 W	1155.00'
H=	N 03-00 E	409.95'
I=	N 41-00 E	273.24'
J=	S 15-15 W	343.36'

FILE NO. _____	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) <u>Michael F. Hoff</u> R.P.E. #6023 L.L.S. _____	APPLIED FOR _____
DRAWING NO. _____		PLACE SEAL HERE _____
SCALE 1" = 500 FT.		
MINIMUM DEGREE OF ACCURACY 1 IN 200		
PROVEN SOURCE OF ELEVATION <u>R.M. 1049, approx. 3200' NW</u>		

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

FORM IV-6 (8-78)



Department of Mines  
Oil & Gas Division

DATE DECEMBER 12 1980  
 OPERATOR'S WELL NO. McLEAN A-97  
 API WELL NO. 47-079-1039  
 STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS", PRODUCTION \_\_\_ STORAGE \_\_\_ DEEP X SHALLOW \_\_\_)

LOCATION: ELEVATION 900' WATER SHED A RIGHT FORK OF TURKEY BRANCH  
 DISTRICT BUFFALO COUNTY POTOMAC  
 QUADRANGLE ELMWOOD Winfield C

SURFACE OWNER FLORENCE O. MASER ACREAGE 21.75  
 OIL & GAS ROYALTY OWNER J.L. McLEAN LEASE ACREAGE 24,610.88  
 LEASE NO. 47-0560

PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR MDEX  
 STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_

TARGET FORMATION ORISKANY ESTIMATED DEPTH 5200'

WELL OPERATOR Cabot Oil & Gas Corp. DESIGNATED AGENT J.R. CRAMBLETT  
 ADDRESS P.O. Box 628 ADDRESS Box 628  
Charleston W.Va. MIDWAY EXT 1004 Chas. W.VA.

MAY 21 1981  
278

**RECEIVED**

APR 20 1982

OIL AND GAS DIVISION  
WV DEPARTMENT OF MINES

State of West Virginia  
Department of Mines  
Oil and Gas Division

Date April 19, 1982  
Operator's Well No. A-97  
Farm J. L. McLean  
API No. 47 - 079 - 1039

WELL OPERATOR'S REPORT  
OF

REVISED

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 900' Watershed Right Fork of Turkey Creek  
District: Buffalo County Putnam Quadrangle Elmwood

COMPANY Cabot Oil & Gas Corporation

ADDRESS P.O. Box 628, Chas., WV 25322

DESIGNATED AGENT Richard P. Parsons

ADDRESS P.O. Box 628, Chas., WV 25322

SURFACE OWNER Florence O. Maser

ADDRESS Robertsburg, WV 25172

MINERAL RIGHTS OWNER McLean Heirs

ADDRESS SEE ATTACHED SHEET

OIL AND GAS INSPECTOR FOR THIS WORK Martin Nichols  
ADDRESS P.O. Box 554 Clendenin, WV 25045

PERMIT ISSUED 4-21-81

DRILLING COMMENCED 6-17-81

DRILLING COMPLETED 6-29-81

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"			
9 5/8	700.54	700.54	260 sks
8 5/8			
7	2705.71	2705.71	450 sks
5 1/2			
4 1/2			
3			
2			
2-7/8" Liners used	2170.96	2170.96	
	Tbg hanger set @ 2580'		

GEOLOGICAL TARGET FORMATION Brown Shale Depth 5055 feet

Depth of completed well 5030' feet Rotary XX / Cable Tools \_\_\_\_\_

Water strata depth: Fresh \_\_\_\_\_ feet; Salt \_\_\_\_\_ feet

Coal seam depths: \_\_\_\_\_ Is coal being mined in the area? \_\_\_\_\_

OPEN FLOW DATA

Producing formation Brown Shale Pay zone depth 3814-4815' feet

Gas: Initial open flow 76 Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow 198 Mcf/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 920 psig (surface measurement) after 72 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

(Continue on reverse side)

APR 26 1982

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

6/26/81 - Loaded hole with 18,000# 80% gelatin. Bottom of shot 4830'.  
Top of shot 3047'.

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	645	No water reported: Uphole drilled on fluid.
Coal			645	652	
Sand & Shale			652	725	
Shale			725	980	
Sand & Shale			980	1020	
Sand & Shale			1020	1050	
Sand			1050	1112	
Shale			1112	1132	
Sandy Shale			1132	1148	
Sand			1148	1168	Gas Checks: 3743' TSTM
Shale			1168	1178	
Sand			1178	1264	4389' TSTM
Shale			1264	1358	4766' 444 cf
Sand			1358	1384	4860' 770 cf
Shaly Sand			1384	1402	4922' 561 cf
Sand			1402	1520	
Shale			1520	1660	Temperature Shows: Marcellus Shale
Shaley Sand			1660	1750	
Sand & Shale			1750	1800	
Sand			1800	1900	Noise Shows: 4798'
Shaley Sand			1900	2082	
Big Lime			2082	2134	4904'
Sandy Shale			2134	2284	4966'
Injun Sand			2284	2520	
Sandy Shale			2520	2592	
Shale			2592	2616	
Sunbury Sahle			2616	2635	
Berea Sand			2635	2700	
Sandy Shale			2700	3810	
Shale			3810	4816	
Brown Shale			4816	4906	
Onondaga Lime			4906	4912	
Oriskany Sand			4912	5046	
Helderberg Lime					
				DTD 5030'	
				LTD 5047'	

( pa s as necessary)

Cast iron bridge plug @ 4910'.  
Cement plug to 4816'.

CABOT OIL AND GAS CORPORATION

Well Operator

By: Richard M. [Signature]

District Drilling  
Superintendent

Date: April 19, 1982

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 coal, encountered in the drilling of a well."



Date October 23, 1981  
 Operator's Well No. A-97  
 Farm J. L. McLean  
 API No. 47 - 079 - 1039

USE

State of West Virginia  
 Department of Mines  
 Oil and Gas Division

WELL OPERATOR'S REPORT  
 OF  
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE RECEIVED  
 OCT 30 1981

WELL TYPE: Oil \_\_\_ / Gas XX / Liquid Injection \_\_\_ / Waste Disposal \_\_\_ / OIL AND GAS DIVISION  
 (If "Gas," Production \_\_\_ / Underground Storage \_\_\_ / Deep \_\_\_ / Shallow XX /) WV DEPARTMENT OF MINES

LOCATION: Elevation: 900' Watershed Right Fork of Turkey Creek  
 District: Buffalo County Putnam Quadrangle Elmwood

COMPANY Cabot Oil & Gas Corporation  
 ADDRESS P.O. Box 628, Chas., WV 25322  
 DESIGNATED AGENT Richard P. Parsons  
 ADDRESS P.O. Box 628, Chas., WV 25322  
 SURFACE OWNER Florence O. Maser  
 ADDRESS Robertsburg, WV 25172  
 MINERAL RIGHTS OWNER McLean Heirs  
 ADDRESS SEE ATTACHED SHEET  
 OIL AND GAS INSPECTOR FOR THIS WORK Martin Nichols  
 ADDRESS P.O. Box 554 Clendenin, WV 25045  
 PERMIT ISSUED 4-21-81  
 DRILLING COMMENCED 6-17-81  
 DRILLING COMPLETED 6-29-81  
 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"			
9 5/8	700.54	700.54	260 sks
8 5/8			
7	2705.71	2705.71	450 sks
5 1/2			
4 1/2			
3			
2			
2-7/8" Liners used	2170.96	2170.96	
	Tbg hanger set @		2580'

GEOLOGICAL TARGET FORMATION Brown Shale Depth 5055 feet  
 Depth of completed well 5030' feet Rotary XX / Cable Tools \_\_\_\_\_  
 Water strata depth: Fresh \_\_\_\_\_ feet; Salt \_\_\_\_\_ feet  
 Coal seam depths: \_\_\_\_\_ Is coal being mined in the area? \_\_\_\_\_

OPEN FLOW DATA  
 Producing formation Brown Shale Pay zone depth 3814-4815' feet  
 Gas: Initial open flow 76 Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow 198 Mcf/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests 4 hours  
 Static rock pressure 920 psig (surface measurement) after 72 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.

6-26-81 - Loaded hole with 18,000# 80% gelatin. Bottom of shot 4830'.  
Top of shot 3047'.

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	1020	
Sand			1020	1050	
Shale			1050	1112	
Sandy Shale			1112	1132	
Sand			1132	1148	
Shale			1148	1168	
Sand			1168	1178	
Shale			1178	1264	
Sand			1264	1358	
Shaly Sand			1358	1384	Gas Checks:
Sand			1384	1402	3743' TSTM
Shale			1402	1520	4389' TSTM
Shaley Sand			1520	1660	4766' 444 cf
Sand & Shale			1660	1750	4860' 770 cf
Sand			1750	1800	4922' 561 cf
Shaley Sand			1800	1900	Temperature Shows:
Big Lime			1900	2082	Marcellus Shale
Sandy Shale			2082	2134	
Injun Sand			2134	2284	Noise Shows:
Sandy Shale			2284	2520	4798'
Shale			2520	2592	4904'
Sunbury Shale			2592	2616	4966'
Berea Sand			2616	2635	
Sandy Shale			2635	2700	
Shale			2700	3810	
Brown Shale			3810	4816	
Onondaga Lime			4816	4906	
Oriskany Sand			4906	4912	
Helderberg Lime			4912	5046	
				DTD 5030'	
				LTD 5047'	

Cast iron bridge plug @ 4910'.  
Cement plug to 4816'.

(Attach separate sheets as necessary)

CABOT OIL & GAS CORPORATION

Well Operator

By:

*R. L. Yarrow*

Date:

10-23-81

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 coal, encountered in the drilling of a well."



FORM IV-2  
(Obverse)  
(08-78)

Date: April 16, 19 81

Operator's Well No. McLean A-97

API Well No. 47 - 079 - 1039

State          County          Permit         

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

OIL AND GAS WELL PERMIT

WELL TYPE: Oil          / Gas XX /  
(If "Gas", Production XX / Underground storage          / Deep          / Shallow          /)

LOCATION: Elevation: 900' Watershed: Right Fork of Turkey Creek

District: Buffalo County: Putnam Quadrangle: Elmwood

WELL OPERATOR Cabot Oil & Gas Corporation  
Address P.O. Box 628  
Charleston, WV 25322

DESIGNATED AGENT Richard P. Parsons  
Address P.O. Box 628  
Charleston, WV 25322

OIL & GAS ROYALTY OWNER McLean Heirs  
Address SEE ATTACHED SHEET

COAL OPERATOR Union Carbide Attn: William Barker  
Address Rt. 2, Box 224-B  
Clendenin, WV 25045

Acreage 24610.88

COAL OWNER(S) WITH DECLARATION ON RECORD:

SURFACE OWNER Florence O. Maser  
Address           
Robertsburg, WV 25172

Name Union Carbide Attn: William Barker  
Address Rt. 2, Box 224-B  
Clendenin, WV 25045

Acreage 21.75

Name           
Address         

FIELD SALE (IF MADE) TO:  
Address         

COAL LESSEE WITH DECLARATION ON RECORD:  
Name           
Address         

OIL & GAS INSPECTOR TO BE NOTIFIED  
Name Martin Nichols  
Address P.O. Box 554  
Clendenin, WV 25045

RECEIVED  
APR 21 1981

OIL & GAS DIVISION  
DEPT. OF MINES

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed          / lease XX / other contract          / dated April 1, 19 36, to the undersigned well operator from Helen M. Hoge et al  
(If said deed, lease, or other contract has been recorded:)

Recorded on June 1, 19 36, in the office of the Clerk of the County Commission of Putnam County, West Virginia in deed Book 31 at page 507. A permit is requested as follows:

PROPOSED WORK: Drill XX / Drill deeper          / Redrill          / Fracture or stimulate          / Plug off old formation          / Perforate new formation          / Other physical change in well (specify)         

—planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection they wish to make or are required to make by Code §22-4-3 must be filed with the Department of Mines within fifteen (15) days after the receipt of this Application by the Department.

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.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO:  
WEST VIRGINIA OIL AND GAS CONSERVATION COMMISSION  
1615 WASHINGTON STREET EAST  
CHARLESTON, WV 25311  
TELEPHONE: (304) 348-3092

BLANKET BOND

Cabot Oil and Gas Corporation  
Well Operator  
By Richard P. Parsons  
Its District Drilling Superintendent

PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:  
ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRILLING CONTRACTOR (IF KNOWN) Clint Hurt & Assoc., Inc.

Address P.O. Box 388  
Elkview, WV 25071

GEOLOGICAL TARGET FORMATION, Oriskany

Estimated depth of completed well, 5055 feet Rotary XX / Cable tools \_\_\_\_\_ /

Approximate water strata depths: Fresh, 70 feet; salt, \_\_\_\_\_ feet.

Approximate coal seam depths: Unknown Is coal being mined in the area? Yes \_\_\_\_\_ / No XX /

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									Kinds
Fresh Water									
Coal	9 5/8					770	770	Circ. T.S	Sizes
Intermediate	7					2760	2760	Circ. T.S	
Production	4 1/2					5055	5055	200 sks.	Depths set
Tubing								<i>as reqd. by rule 15.001</i>	
Liners									Perforations:
									Top Bottom

NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2, (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code § 22-4-12a, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 1-8-82.

*[Signature]*  
Deputy Director - Oil & Gas Division

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code 22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof.

WAIVER

The undersigned coal operator \_\_\_\_\_ / owner \_\_\_\_\_ / lessee \_\_\_\_\_ / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: \_\_\_\_\_, 19 \_\_\_\_\_

By \_\_\_\_\_

Its \_\_\_\_\_