

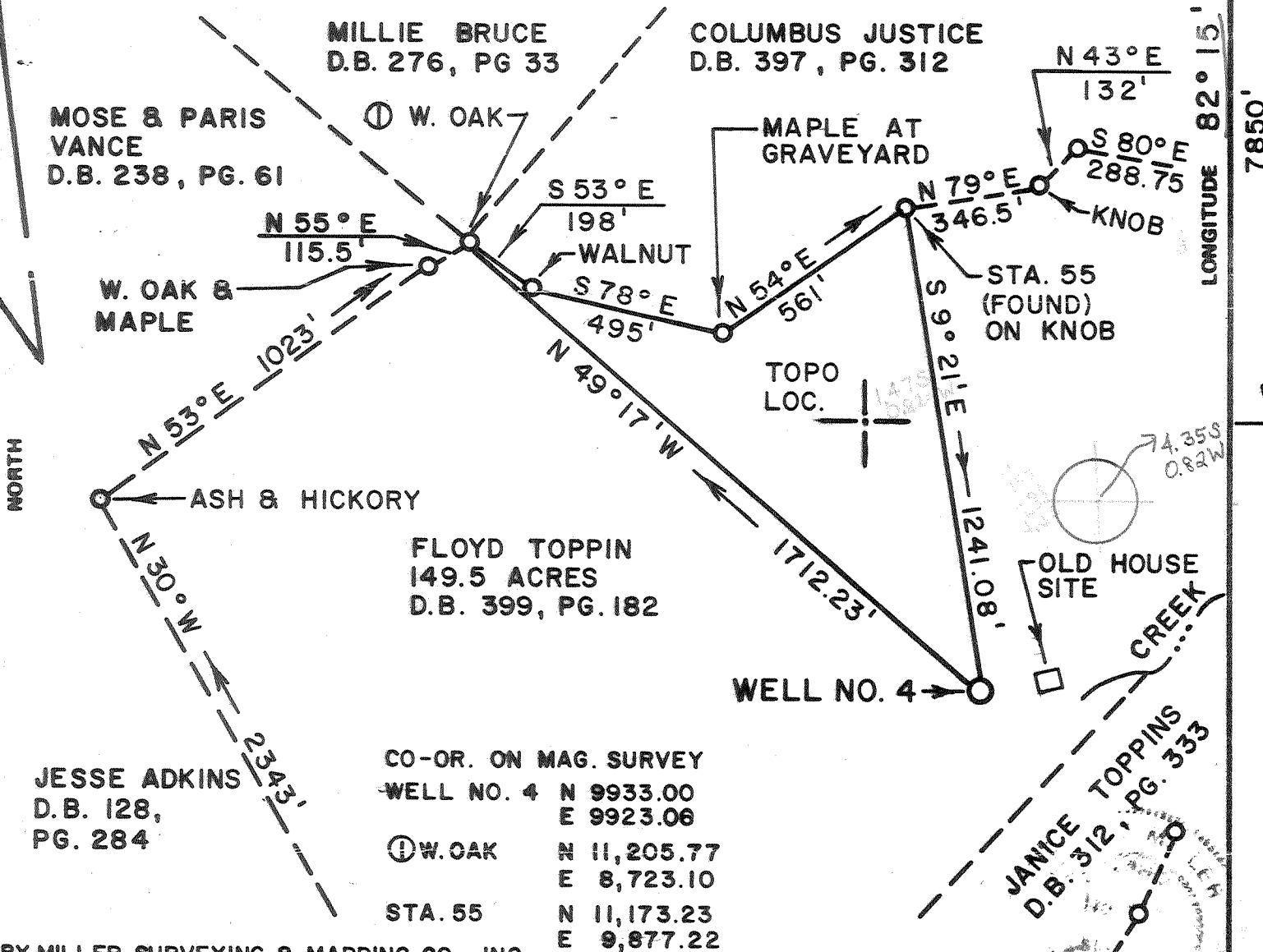
9-22-83

4600'

NOTE - U.S.G.S. - "732" ELEVATION 732.239  
A STANDARD TABLET STAMPED M 160 1957  
SET IN TOP OF NE EDGE OF A SLOPING ROCK  
ABOUT 23' LONG 15' WIDE & 4' HIGH 12' SW OF  
C OF RD. 58 YDS NW OF RD. FORDING SM. CR.  
1/4 MILE UP KIAH CREEK RD.

LATITUDE 38° 02' 30"  
38° 05' - 15'

LONGITUDE 82° 15'  
7850'

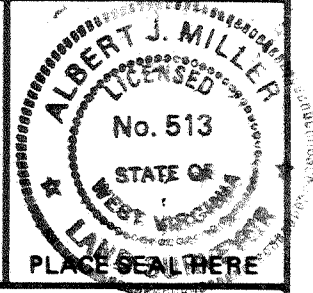


CO-OR. ON MAG. SURVEY  
 WELL NO. 4 N 9933.00  
 E 9923.06  
 W. OAK N 11,205.77  
 E 8,723.10  
 STA. 55 N 11,173.23  
 E 9,877.22

BY MILLER SURVEYING & MAPPING CO., INC.

FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 400'  
 MINIMUM DEGREE OF ACCURACY 1" IN 2500'  
 PROVEN SOURCE OF ELEVATION SEE NOTE ABOVE

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) *Albert J. Miller*  
 R.P.E. \_\_\_\_\_ L.L.S. NO. 513



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



DATE JULY 2, 1983  
 OPERATOR'S WELL NO. CB-4  
 API WELL NO. 47 099 - 1804  
 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 995' WATER SHED QUEENS FORK - KIAH CREEK - EAST LYNN LAKE  
 DISTRICT STONEWALL COUNTY WAYNE  
 QUADRANGLE KIAHSVILLE, Wayne 15' SE  
 SURFACE OWNER FLOYD TOPPIN ACREAGE 149.5  
 OIL & GAS ROYALTY OWNER COLUMBIA GAS TRANSMISSION LEASE ACREAGE 225  
 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 DEVONIAN SHALE ESTIMATED DEPTH 3500'  
 WELL OPERATOR BADGER OIL & GAS DESIGNATED AGENT DYER DRILLING CO.  
 ADDRESS P.O. BOX 299, CULLODEN, W.V. 25510 ADDRESS P.O. BOX 299, CULLODEN, W.V. 25510



State of West Virginia  
Department of Mines  
Oil and Gas Division

Date July 20, 1984  
Operator's Well No. CB#4  
Farm F. Toppins  
API No. 47-099-1804

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

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

LOCATION: Elevation: 995' Watershed QUEENS FORK KIAH CREEK  
District: STONEWALL County WAYNE Quadrangle KIAHSV.LLC

COMPANY BAOGER OIL & GAS CO. INC.

ADDRESS PO Box 299 CULLODEN WV 25510

DESIGNATED AGENT JACK DYER, JR.

ADDRESS PO Box 299 CULLODEN WV 25510

SURFACE OWNER Lloyd Toppin

ADDRESS W. PORTSMOUTH, OH 45662

MINERAL RIGHTS OWNER COLUMBIA GAS TRANSMISSION

ADDRESS PO Box 1273 CHARLESTON WV 25325

OIL AND GAS INSPECTOR FOR THIS WORK JERRY

HOLCOMB ADDRESS HAMLIN, WV

PERMIT ISSUED 10-3-83

DRILLING COMMENCED 3-3-84

DRILLING COMPLETED 6-30-84

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"	21	0	-
9 5/8			
8 5/8	402'	402'	80slb
7	1611	1611	
5 1/2			
4 1/2			
3			
2	3850	3850	
Liners used			

GEOLOGICAL TARGET FORMATION Brown SHALE Depth 3857 feet

Depth of completed well 3857 feet Rotary  / Cable Tools

Water strata depth: Fresh 85 feet; Salt 1110 feet

Coal seam depths: 55-58 Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Brown SHALE Pay zone depth 3857 feet

Gas: Initial open flow 10 Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow 65 Mcf/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests 20 hours

Static rock pressure 155 psig (surface measurement) after 24 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

DEC 17 1984

(Continue on reverse side)

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

Open Hole SHOT  
Rhinest. ← Huron  
3840 to 2875 SHOT 6166 2/3 lbs 8075 g CAT.N

No BRIDGING OF HOLE

Huron - 2875 -

Rhinest - - 3840

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Clay			0	5	
Sand			5	55	
Coal			55	58	
slate			58	74	
Coal			74	78	
Sandy slate.			78	85	water hole full @ 85'
Sand			85	100	
slate			100	155	
Sand			155	180	
slate			180	190	
Sand			190	205	
slate			205	220	
Sand			220	250	
slate			250	280	
Sand			280	305	
slate			305	385	
Sand			385	400	
slate shells			400	445	
Sand			445	465	
slate			465	700	
Lime shells			700	725	
slate shells			725	860	
Sand			860	910	
Sandy slate			910	1000	
Sand			1000	1175	Gas at 1070' + 1095'
slate			1175	1195	water hole full @ 1110'

(Attach separate sheets as necessary)

BADGER OIL AND GAS CO. INC.

Well Operator

By:  Pres.

Date: July 20, 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 coal, encountered in the drilling of a well."

BADGER OIL & GAS CO., INC.

FORMATION	TOP	CB#4		REMARKS
		BOTTOM		
Sand	1195	1290		
Slate	1290	1310		
Sand	1310	1442		
Slate	1442	1452		
Maxum Sand	1452	1548		
Little Lime	1548	1573		
Slate	1573	1582		
Big Lime	1582	1596		
Slate * Lime	1596	1599		
Lime	1599	1785		
Injun Sand	1785	1824		
Slate	1824	2360		
Brown Shale	2360	2385		
Berea Sand	2385	2410		
Slate	2410	2495		
Brown Shale	2495	2540		
Slate	2540	3240		show gas at 3125'
Brown Shale	3240	3475		
Shale	3475	3805		
Dark Shale	3805	3854		show gas at 3830'
Lime Onondaga	3854	<u>3857</u>		

3857  
 995  
 -----  
 2862



1) Date: August 10, 19 83  
2) Operator's Well No. CB-4  
3) API Well No. 47 - 099 - 1804  
State County Permit

DRILLING CONTRACTOR:

Dyer Well Service, Inc.

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

Culloden, WV 25510

OIL AND GAS WELL PERMIT APPLICATION

- 4) WELL TYPE: A Oil X / Gas X  
B (If "Gas", Production \_\_\_\_\_ / Underground storage \_\_\_\_\_ / Deep \_\_\_\_\_ / Shallow X)
- 5) LOCATION: Elevation: 995' Watershed: Queens Fork-Kiah Creek-East Lynn Lake  
District: Stonewall County: Wayne Quadrangle: Kiahsville
- 6) WELL OPERATOR Badger Oil & Gas Co., Inc. 11) DESIGNATED AGENT Jack C. Dyer, Jr.  
Address P. O. Bx 299 Address P. O. Box 299  
Culloden, WV 25510 Culloden, WV 25510
- 7) OIL & GAS ROYALTY OWNER Columbia Gas Transmission 12) COAL OPERATOR Columbia Coal Co.  
Address P. O. Box 1273 Address Ashland, KY  
Charleston, WV 25325
- 8) SURFACE OWNER Floyd Toppin 13) COAL OWNER(S) WITH DECLARATION ON RECORD:  
Address Rt. 2, Craig Road Name Columbia Coal Co.  
Wayne, WV 25570 Address ~~XXXXXXXXXX~~ Ashland, KY  
Acreage 149.5 ~~XX~~
- 9) FIELD SALE (IF MADE) TO:  
Name \_\_\_\_\_  
Address \_\_\_\_\_
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED  
Name Arthur St. Clair  
Address P. O. Box 157  
Brenton, WV 24818
- 14) COAL LESSEE WITH DECLARATION ON RECORD:  
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, Big Lime or Berea
- 17) Estimated depth of completed well, 2500' feet
- 18) Approximate water strata depths: Fresh, 100 feet; salt, 900 feet.
- 19) Approximate coal seam depths: \_\_\_\_\_ Is coal being mined in the area? Yes X / 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		
Conductor	10 3/4			X		60'	60'		Kinds
Fresh water	8 5/8			X		300'	300'	Cemented to surface to by Rule 15.0	
Coal	6 5/8			X		1700'	1700'	Circulate	Sizes
Intermediate									
Production	4 1/2			X		1950'	1950'	Cemented -	Depths set fill-up
Tubing	2 3/8			X		1950'	1950'	400' TD	
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: Stephen R. Hyatt  
My Commission Expires 7/5/90

Signed: \_\_\_\_\_  
Its: \_\_\_\_\_

OFFICE USE ONLY  
DRILLING PERMIT

Permit number 47-099-1804 Date October 3, 19 83

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 October 3, 1985 unless drilling is commenced prior to that date and prosecuted with due diligence.

BLANKET BOND	Bond:	Agent:	Plat:	Casing	Fee
					<u>2895</u>

Administrator, Office of Oil and Gas

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