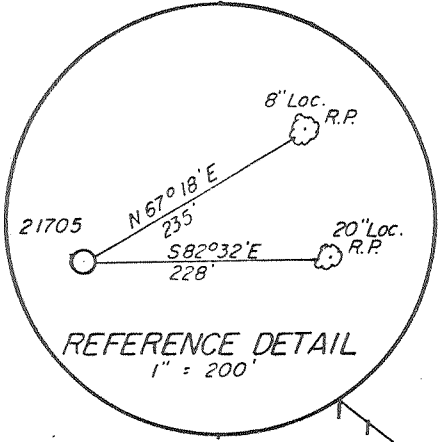


James 8/18/1988

LATITUDE 39°05'00"

1250'

LONGITUDE 79°15'00"



EVANS UNIT

**KERMIT & BESSIE BERG**

Surf. & Mineral

Pt. Lease 185894 - 118.2 a.

21705

N78°06'W - 2172.24'

N37°02'W - 2279.36'

N29°40'E - 1564.0'

Pt. Lease 180912

48.1 a.

BIG STAR RUN

Fence Corner by Run 12" Birch & 12" Hemlock Wit.

30" Double Ash

Set Stone in Fence Corner

Pt. Lease 178984 14.30 a.

60" w.o.

LITTLE STAR RUN

LAT. 39°04'40"  
LONG. 79°15'16"

Note Book 438-A Pgs. 76-83

REVISED 7-19-1988  
REVISED 5-24-1988

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

FILE NO. \_\_\_\_\_  
DRAWING NO. 21705 P.I.  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY 1 PART in 2500  
PROVEN SOURCE OF ELEVATION U.S.G.S. B.M.#76  
CMP EL. 1746.0

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 ENERGY.

(SIGNED) James L. Browning  
R.P.E. \_\_\_\_\_ L.L.S. 398

PLACE SEAL HERE

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY  
OIL AND GAS DIVISION



DATE APRIL 18, 1988  
OPERATOR'S WELL NO. 21705 P.I.  
API WELL NO. \_\_\_\_\_

47 023 00021  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 2005' WATERSHED BIG STAR RUN  
DISTRICT UNION 3 COUNTY GRANT

QUADRANGLE BLACKBIRD KNOB, W. VA. 255 034 9 Davis SE

SURFACE OWNER KERMIT & BESSIE BERG ACREAGE 154

OIL & GAS ROYALTY OWNER KERMIT & BESSIE BERG LEASE ACREAGE 154 (413.6 Ac. UNIT)

LEASE NO. 185894

PROPOSED WORK: DRILL X 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 ORISKANY ESTIMATED DEPTH 7760'

WELL OPERATOR COLUMBIA NATURAL RESOURCES INC. DESIGNATED AGENT J.E. CAMPBELL

ADDRESS P.O. BOX 1273 1013 ADDRESS SAME

CHAS. W. VA. 25325

SEP 06 1988

DEEP WELL 3-3 Jordan Run (370) DPD Corriganville

COUNTY NAME PERMIT

21705

FORM WW-6 H.T. HALL 4-673

State of West Virginia  
DEPARTMENT OF ENERGY  
Division of Oil and Gas

Well Operator's Report of Well Work

Farm name: BERG, KERMIT & BESSIE Operator Well No.: 21705

LOCATION: Elevation: 2005.00 Quadrange: BLACKBIRD KNOB

District: UNION County: GRANT  
Latitude: 2000 Feet South of 39 Deg. 5 Min. 0 Sec.  
Longitude 1250 Feet West of 79 Deg. 15 Min. 0 Sec.

Company: COLUMBIA NATURAL RESOURCE  
P. O. BOX 1273  
CHARLESTON, WV

Asent: JOSEPH E. CAMPBELL

Inspector: PHILLIP TRACY  
Permit Issued: 09/02/88  
Well work Commenced: 09-27-88  
Well work Completed: 10-26-88  
Verbal Plussins  
Permission granted on: N/A  
Rotary  Cable  Rig  
Total Depth (feet) 8670'  
Fresh water depths (ft)  
1/4" stream @ 60'; 1/2" stream @ 130'  
Salt water depths (ft)  
Is coal beins mined in area (Y/N)? N  
Coal Depths (ft): None

Casings & Tubins Size	Used in Drillings	Left in Well	Cement (Fill Up) Cu. Ft.
13-3/8"	88'	88'	45
9-5/8"	2528'	2528'	798
5-1/2"	8658'	8658'	365

**RECEIVED**  
JUN 15 1989

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

OPEN FLOW DATA

Producing formation Oriskany Pay zone depth (ft) 7991-8120  
Gas: Initial open flow 1350 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 3340 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure 2100 psis (surface pressure) after 80 Hours

Second producing formation Corrigansville Pay zone depth (ft) 8458-8658  
Gas: Initial open flow 0 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 1362 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure 1890 psis (surface pressure) after 60 Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: COLUMBIA NATURAL RESOURCES, INC.

By: Joseph E. Campbell  
Date: June 15, 1989

JUN 16 1989

Well 21705  
Kermit & Bessie Berg

Formation

Rock & Clay	0 - 20
Sand	20 - 65
Sand & Shale	65 - 156
Sand	156 - 174
Sand & Shale	174 - 608
Sand	608 - 623
Sand & Shale	623 - 1535
Shale	1535 - 1715
Sand	1715 - 2008
Shale	2008 - 2139
Sand & Shale	2139 - 2410
Shale	2410 - 2688
Sandy Shale	2688 - 2829
Sand	2829 - 2959
Sand & Shale	2959 - 3196
Shale	3196 - 3496
Sand	3496 - 3566
Shale & Sand	3566 - 5949
Sand	5949 - 5964
Sand & Shale	5964 - 7080
Lime	7080 - 7090
Shale	7090 - 7660
Shale & Metabentonite	7660 - 7700
Shale	7700 - 7800
Shale & Chert	7800 - 7830
Shale, Chert & Salt Sd.	7830 - 7840
Sand & Shale, Oriskany	7840 - 8150
Shale	8150 - 8160
Limestone 493	8160 - 8670
T.D.	8670

1/4" stream of water 60'  
1/2" stream of water 130'

8670  
8150  
          
520 - expl. fig.

**RECEIVED**  
JUN 15 1989

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

7598

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

- 1) Well Operator: Columbia Natural Resources, Inc. 10460 3, 255
- 2) Operator's Well Number: 21705 3) Elevation: 2005'
- 4) Well type: (a) Oil    / or Gas X /  
(b) If Gas: Production X / Underground Storage    /  
Deep X / Shallow    /
- 5) Proposed Target Formation(s): Oriskany 475
- 6) Proposed Total Depth: 7760 feet
- 7) Approximate fresh water strata depths: Possibly 955'
- 8) Approximate salt water depths: -
- 9) Approximate coal seam depths: -
- 10) Does land contain coal seams tributary to active mine? Yes    / No X /
- 11) Proposed Well Work: Drill ~~new~~ Stimulate New Well.
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS		FOOTAGE INTERVALS		CEMENT	
	Size	Grade	Weight per ft.	For drilling		Left in well
Conductor	13-3/8"	H	48	30	30	N/A
Fresh Water						
Coal						38CSR18-11.3
Intermediate	9-5/8"	K	36	2000	2000	1170
Production	5-1/2"	N	17	7730	7730	900
Tubing	2-3/8"	J	4.7	7730	7730	
Liners						

RECEIVED  
AUG 17 1988

PACKERS : Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

For Division of Oil and Gas Use Only

50114282

Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP

Plat  WW-9  WW-2B  Bond 50 Blanket  Agent

(Type)

RECEIVED  
AUG 17 1988

Page 1 of 3  
Form W2-A  
(09/87)  
File Copy

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

Date: July 19, 1988  
Operator's well number 21705  
API Well No: 47 - 023 - 00021  
State - County - Permit

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served:

(a) Name See Attached List  
Address \_\_\_\_\_

(b) Name \_\_\_\_\_  
Address \_\_\_\_\_

(c) Name \_\_\_\_\_  
Address \_\_\_\_\_

5) (a) Coal Operator:

Name N/A  
Address \_\_\_\_\_

(b) Coal Owner(s) with Declaration

Name Same as Surface  
Address \_\_\_\_\_

(c) Coal Lessee with Declaration

Name N/A  
Address \_\_\_\_\_

6) Inspector Phillip Tracy  
Address P. O. Box 2356  
Elkins, WV 26241  
Telephone (304)- 636-8798

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

\_\_\_\_\_ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR

X Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_\_\_ on the above named parties, by:

\_\_\_\_\_ Personal Service (Affidavit attached)

X Certified Mail (Postmarked postal receipt attached)

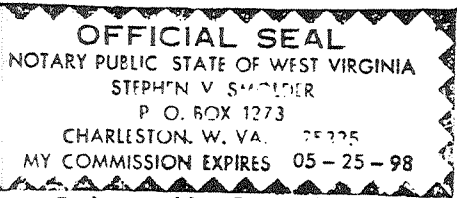
\_\_\_\_\_ Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator Columbia Natural Resources, Inc.  
By: [Signature]  
Its: Vice President, Drilling and Production Operations  
Address P.O. Box 1273  
Charleston, WV 25325  
Telephone (304)357-2000



Subscribed and sworn before me this 25 day of July, 1988

Stephen V. Snodder Notary Public  
My commission expires May 25, 1988