

NOTE : COAL NOT OPERATED AT LOCATION SITE

LATITUDE : 39° 17' 08"  
LONGITUDE : 79° 09' 10"

NOTE BOOK 460-A PG. 31 LDR

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

FILE NO. \_\_\_\_\_  
DRAWING NO. 22680  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY 1 : 200  
PROVEN SOURCE OF ELEVATION U.S. GOV'T BM  
ELEV. 2635'

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 JUNE 30, 19 93  
OPERATOR'S WELL NO. 22680  
API WELL NO. \_\_\_\_\_

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF "GAS," ) PRODUCTION X STORAGE \_\_\_ DEEP X SHALLOW \_\_\_  
LOCATION: ELEVATION 2670' WATER SHED NEW CREEK  
DISTRICT UNION COUNTY GRANT  
QUADRANGLE MOUNT STORM, WY Ell Borden SE  
SURFACE OWNER LEON & LEROY BURGESS ACREAGE 86  
OIL & GAS ROYALTY OWNER LEON & LEROY BURGESS LEASE ACREAGE 607.7 AC. UNIT

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 9500'  
WELL OPERATOR COLUMBIA NATURAL RES. INC. DESIGNATED AGENT J.E. CAMPBELL  
ADDRESS P.O. BOX 5070 ADDRESS SAME  
CHARLESTON, WV 25362

COUNTY NAME  
PERMIT

SEP 16 1993  
Sep pool N. of  
Iron Run. w/  
Grant 19  
6-6 370 (cc)

Permitting  
Office of Oil & Gas  
AUG 0 3 94

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

Well Operator's Report of Well Work

Farm name: Burgess Operator Well No.: 22680

LOCATION: Elevation 2670' Quadrangle: MOUNT STORM

District: UNION County: GRANT  
Latitude: 7850 Feet South of 39 Deg. 17 Min. 08 Sec.  
Longitude: 2250 Feet West of 79 Deg. 09 Min. 10 Sec.

Company: COLUMBIA NATURAL RESOURCES  
P. O. BOX 6070  
CHARLESTON, WV 25362-0070

Agent: JOSEPH E. CAMPBELL

Inspector: Phillip Tracy  
Permit Issued: 09/02/93  
Well Work Commenced: 10/11/93  
Well Work Completed: 02/01/94  
Verbal Plugging  
Permission granted on: \_\_\_\_\_

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
13/3/8	140	124	90
9-5/8	2239	2205	690
5-1/2	9720	9698	758
2-3/8	-	9395	-

Rotary X Cable \_\_\_\_\_ Rig \_\_\_\_\_  
Total Depth (feet) 9720  
Fresh water depths (ft) \_\_\_\_\_

Salt water depths (ft) \_\_\_\_\_

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): \_\_\_\_\_

OPEN FLOW DATA

Producing formation Oriskany Pay zone depth (ft) 9386 - 9459  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 750 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 10 days test Hours  
Static rock Pressure 3460 psig (surface pressure) after 10 day test Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ 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.

AUG 15 1994

For: COLUMBIA NATURAL RESOURCES, INC.  
By: J. Friend  
Date: 8-1-94

Well 22680

## Formations

716 - 1116	Greenbrier
1720 - 3356	Hampshire FM
3356 - 5176	ForeKnobs FM
5176 - 7370	Scherr FM
7370 - 8214	Brallier FM
8214 - 8404	Harrell Sh
8892 - 9018	Upper Marcellus Sh.
9018 - 9082	Purcell LS
9082 - 9149	Lower Marcellus Sh.
9149 - 9293	Needmore Sh.
9293 - 9720	Oriskany
DTD 9720'	

AUG 15 1994

WELL 22680

<u>Interval</u>	<u>Holes per foot*</u>	<u>No. of holes</u>
9387'-9395'	6	48
9398'-9403'	6	31
9430'-9435'	6	31
9437'	6	6
9439'	6	6
9442'-9445'	6	19
9448'	6	6

147 Total holes  
 .41"

Stage 1 ~~low~~ Oriskany

---



---

Pump 300 Bbl Pad - 30<sup>#</sup> Pur - Gel 3  
 w / 2 Bbl / min CO<sub>2</sub>

Pump 2250 Bbl 30<sup>#</sup> Pur - Gel 3  
 Ramp sand from 1/2<sup>#</sup> per gal to 5 3/4<sup>#</sup> per gal  
 w / 2 Bbl / min CO<sub>2</sub>

Pump Flush - cut CO<sub>2</sub> - screened out @ 6882<sup>#</sup> SPSi

Total Water 2753.4 Bbl  
 Total Sand 150 SKS 80/100  
 2268 SKS 20/40

Total CO<sub>2</sub> 80 TON

Ave Treating Rate 5500<sup>#</sup>

ISIP 6721<sup>#</sup>

5' SIP 4892

10' SIP 4628

15' SIP 4510<sup>#</sup>

slut Tot Spc 20 hrs

AUG 15 1994

Well #22680

<u>Interval</u>	<u>Holes per foot*</u>	<u>No. of Holes</u>
9580'-9582'	4	<del>12</del> 4
9584'-9586'	4	<del>12</del> 4
9588'-9590'	4	<del>12</del> 4

\*Phase shots every 90°

Total Holes - 36

Shriver Chart

Pump 1500 gal 15% HCL @ 2 Bbl/min

Breakdown 3190#

Broke to 3080# climbed to 3380#

ISIP 3300# 5min SIP 3270#

gas flow after breakdown  $\approx$  20 mcf/d

Set Cast Iron Bridge Plug @ 9550

AUG 25 1994

47-023-0030  
Issued 09/07/93  
Page 3 of 4

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

Expires 09/07/95

- 1) Well Operator: COLUMBIA NATURAL RESOURCES, INC. 10460 (3) 491
- 2) Operator's Well Number: 22680 3) Elevation: 2670'
- 4) Well type: (a) Oil  or Gas   
(b) If Gas: Production  / Underground Storage   
Deep  / Shallow
- 5) Proposed Target Formation(s): Oriskany 475
- 6) Proposed Total Depth: 9500 feet
- 7) Approximate fresh water strata depths: -
- 8) Approximate salt water depths: -
- 9) Approximate coal seam depths: -
- 10) Does land contain coal seams tributary to active mine? Yes  / No
- 11) Proposed Well Work: Drill New Gas Well/Stimulate
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT Fill-up (cu. ft.)
	Size	Grade	Weight per ft.	For drilling	Left in well	
Conductor	13-3/8	H	48	120	120	84
Fresh Water						38CSRB 11.1
Coal						38CSRB 11.2
Intermediate	9-5/8	J	40	2220	2220	689
Production	5-1/2	N	17	9441	9441	240
Tubing	2-3/8	N	4.7		9400	38CSRB 11.1
Liners						

RECEIVED

WV Division of Environmental Protection

SEP 02 93

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

For Division of Oil and Gas Use Only

Permitting Office of Oil & Gas

50114791 / 17

Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP  
 Plat  WW-9  WW-2B  Bond Surety Blanket Agent

(Type)

17916



STATE OF WEST VIRGINIA  
**OIL AND GAS CONSERVATION COMMISSION**  
#10 McJUNKIN ROAD  
NITRO, WEST VIRGINIA 25143-2506

September 10, 1993

Division of Environmental Protection  
Office of Oil and Gas  
#10 McJunkin Road  
Nitro, West Virginia

RE: Application for Permit #47-023-00030 to drill deep well.

COMPANY: Columbia Natural Resources, Inc.

FARM: Leon & Leroy Burgess #22680

COUNTY: Grant DISTRICT: Union QUAD: Mount Storm

The application of the above company is Approved for Oriskany  
(Approved or Disapproved)

Applicant has complied with the provisions of Chapter twenty-two, eight (22-8), of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

- 1.) Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners; yes
- 2.) Provided a tabulation of all deep wells within one mile of the proposed location, including the Api number of the deep well, well name, and the name and address of the operator and; none
- 3.) Provided a plat showing that the proposed location is a distance of 1,250 feet from the nearest unit boundary and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

*Brett Loflin*  
Brett Loflin  
Petroleum Engineer

RECEIVED  
WV Division of  
Environmental Protection

Page 1 of 4  
Form WW2-A  
(09/87)

SEP 0 2 93  
Permitting  
Office of Oil & Gas

1) Date: July 16, 1993  
2) Operator's well number  
22680  
3) API Well No: 47 - 023 - 0030  
State - County - Permit

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

<p>4) Surface Owner(s) to be served:          (a) Name <u>Leon J. &amp; Judy C. Burgess</u>          Address <u>Route 1</u>  <u>Elk Garden, WV 26717</u>          (b) Name <u>LeRoy J. &amp; Loretta R. Burgess</u>          Address <u>Route 3, Box 200-A</u>  <u>Rawlings, MD 21557</u>          (c) Name _____          Address _____</p>	<p>5) (a) Coal Operator:          Name _____          Address _____          (b) Coal Owner(s) with Declaration          Name <u>(Same as Surface)</u>          Address _____          Name _____          Address _____          (c) Coal Lessee with Declaration          Name _____          Address _____</p>
<p>6) Inspector <u>Phillip Tracy</u>          Address <u>Route 2, Box 37-A</u>  <u>Montrose, WV 26283</u>          Telephone (304)- <u>636-8798</u></p>	

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)

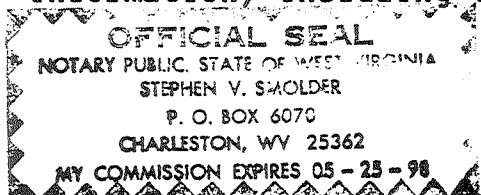
I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 4 on the above named parties, by:

- \_\_\_\_\_ 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 & Production Operations  
 Address P. O. Box 6070  
Charleston, WV 25362-0070  
 Telephone 304/353-5000

Subscribed and sworn before me this 22 day of July, 1993

Stephen V. Smolder Notary Public  
My commission expires May 25, 1998