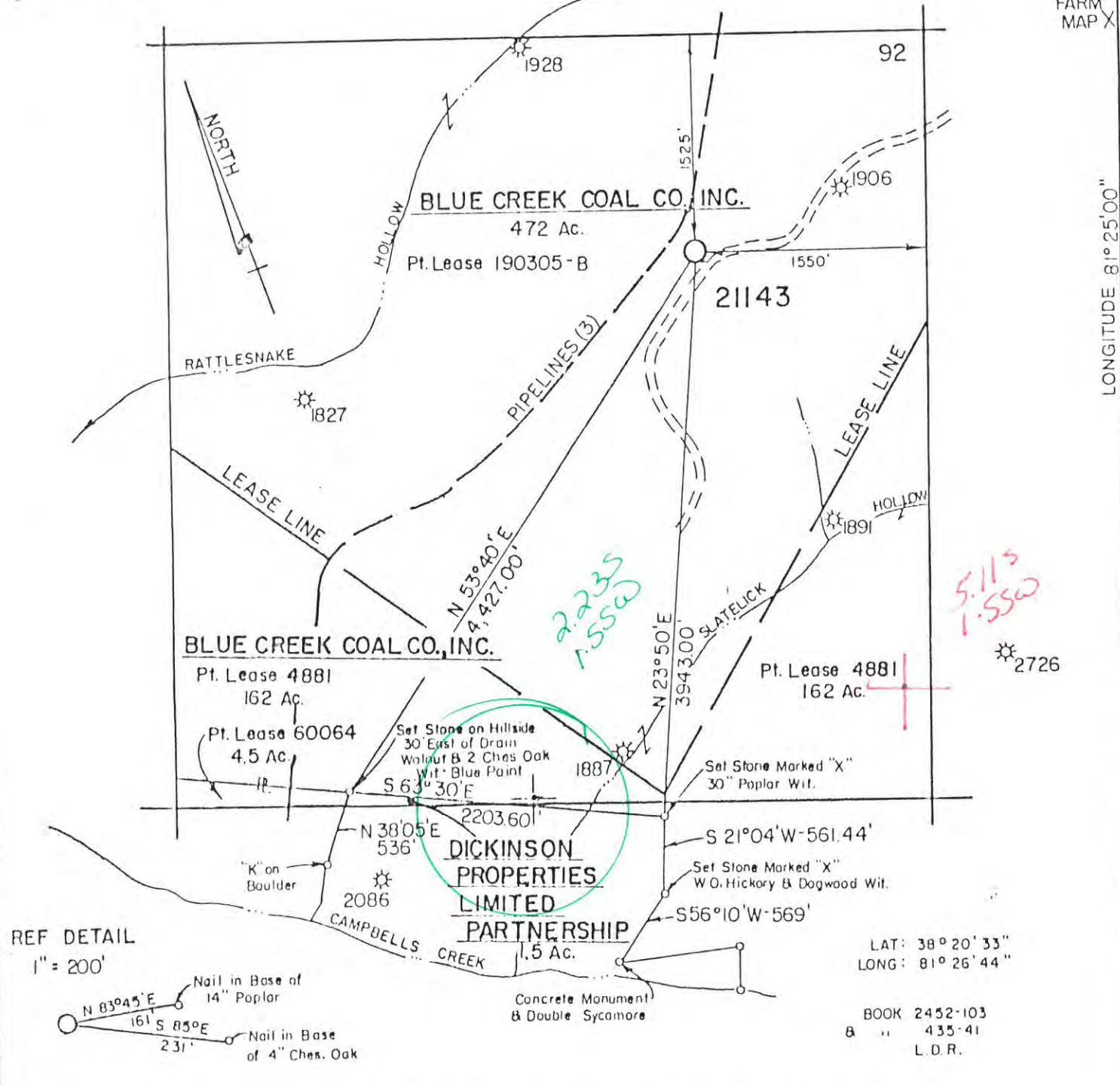


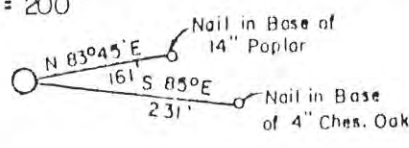
87B 8/24/87

LATITUDE 38° 22' 30"

FARM MAP X



REF DETAIL
1" = 200'



LAT: 38° 20' 33"
LONG: 81° 26' 44"

BOOK 2452-103
B " 435-41
L.D.R.

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS REVISED 3-16-1987

FILE NO. 70-57
DRAWING NO. 21143
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY 1 PART IN 2500
PROVEN SOURCE OF ELEVATION U.S. GOV'T. B.M.
ELEV. 709.06'

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
P.P.E. _____ L.L.S. 398 WV

PLACE SEAL HERE

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION



DATE SEPT. 13, 19 82
OPERATOR'S WELL NO. 21143
API WELL NO. 47-039-4526

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 1278.0' WATERSHED SLATELICK HOLLOW OF CAMPBELLS CREEK
DISTRICT MALDEN COUNTY KANAWHA
QUADRANGLE QUICK, W. VA. 563 029 WC4 Cledonia
SURFACE OWNER BLUE CREEK COAL CO., INC. ACREAGE 1875 Ac.
OIL & GAS ROYALTY OWNER BLUE CREEK COAL CO., INC. LEASE ACREAGE 640 Ac. UNIT
LEASE NO. 190305-B

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 TUSCARORA ESTIMATED DEPTH 6,920'
WELL OPERATOR COL. NAT. RESOURCES, INC. DESIGNATED AGENT J.E. CAMPBELL
ADDRESS P.O. BOX 1273 1013 ADDRESS SAME
CHARLESTON, WV 25325

SEP 8 1987

deep well 6-6 Indian Creek (358)

COUNTY NAME
PERMIT



IV-35
(Rev 8-81)

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

State of West Virginia
Department of Mines
Oil and Gas Division

Date February 1, 1988
Operator's Well No. 21143
Farm Blue Creek Coal Co., Inc.
API No. 47 - 039 - 4526

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

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

LOCATION: Elevation: 1278.0 Watershed Slate Lick Hollow of Campbells Creek
District: Malden County Kanawha Quadrangle Quick

COMPANY Columbia Natural Resources, Inc.
ADDRESS P. O. Box 1273, Charleston, WV 25325
DESIGNATED AGENT Joseph E. Campbell
ADDRESS P. O. Box 1273, Charleston, WV 25325
SURFACE OWNER Blue Creek Coal Co., Inc.
ADDRESS 32 Sanderson Road, Clendenin, WV 25045
MINERAL RIGHTS OWNER Blue Creek Coal Co., Inc.
ADDRESS 32 Sanderson Road, Clendenin, WV 25045
OIL AND GAS INSPECTOR FOR THIS WORK
Carlos Hively ADDRESS 223 Pinch Ridge Road
Elkview, WV 25071
PERMIT ISSUED 8-18-87
DRILLING COMMENCED 9-15-87
DRILLING COMPLETED 11-16-87
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 Cord.			
13-10"	522	522	550
9 5/8	1972	1972	860
8 5/8			
7	5448	5448	235
5 1/2			
4 1/2	6998	6998	225
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Tuscarora Depth 6920 feet
Depth of completed well 6928 feet Rotary X / Cable Tools _____
Water strata depth: Fresh 481-566 feet; Salt 1100-1318 feet
Coal seam depths: 477-481 Is coal being mined in the area? No

OPEN FLOW DATA
Producing formation Tuscarora Pay zone depth 6920 feet
Gas: Initial open flow 0 Mcf/d Oil: Initial open flow 0 Bbl/d
Final open flow 22,444 Mcf/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 6 hours
Static rock pressure 1549 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)

FEB 16 1988

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

N/A

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Top Soil			0	10	
Sand			15	20	
Shale			20	25	
Sand			25	90	
Shale			90	100	
Sand			100	199	
Coal			199	204	
Sand			204	256	
Sand & Shale			256	302	
Coal			302	305	
Sand & Shale			305	379	
Sand			379	414	
Coal			414	420	
Sand & Shale			420	477	
Coal			477	481	Coal
Sand & Shale			481	566	Water
Shale			566	665	
Sand & Shale			665	730	
Shale			730	770	
Sand & Shale			770	850	
Sand			850	885	
Sand & Shale			885	905	
Sand			905	955	
Shale			955	965	
Sand			965	1100	
Salt Sand			1100	1318	Salt Water
Salt Sand & Shale			1318	1342	
Salt Sand			1342	1481	
Sand			1481	1560	
Sand & Shale			1560	1640	
Sand			1640	1665	
Lime			1665	1715	
Big Lime			1715	1878	
Injun			1878	1908	
Sand & Shale			1908	2317	
Berea			2317	2322	
Shale			2322	5255	
Onondaga Lime			5255	5366	
Oriskany Sand			5366	5400	

(See Attached)

(Attach separate sheets as necessary)

COLUMBIA NATURAL RESOURCES, INC.

Well Operator

By: *Joseph Campbell*

Date: *FEB. 3, 1988*

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."

147

0394526

Well No. 21143

<u>FORMATION</u>	<u>TOP FEET</u>	<u>BOTTOM FEET</u>
Lime	5400	6150
Sand	6150	6246
Lockport	6246	6395
Keefer	6395	6428
Rose Hill	6428	6740
Cacapon	6740	6751
Shale & Sand	6751	6773
Tuscarora	6773	6928

Driller T.D. @ 6928' ✓
Logger T.D. @ 6847'

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

FEB 16 1988

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AUG 18 1987



1) Date: August 5, 19 87
 2) Operator's Well No. 21143
 3) API Well No. 47 State 039 County 4526 Permit

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

- 4) WELL TYPE: A Oil / Gas /
 B (If "Gas", Production / Underground storage / Deep / Shallow)
 5) LOCATION: Elevation: 1278' / Watershed: Slatelick Hollow of Campbells Creek
 District: Malden 7 / County: Kanawha 039 / Quadrangle: Quick 562
 6) WELL OPERATOR Columbia Natural Resources, Inc. 7) DESIGNATED AGENT Joseph E. Campbell
 Address P. O. Box 1273 10460 / Address P. O. Box 1273
 Charleston, WV 25325 / Charleston, WV 25325
 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Carlos Hively / Address 223 Pinch Ridge Road / Elkview, WV 25071
 9) DRILLING CONTRACTOR: Name _____ / Address _____
 10) PROPOSED WELL WORK: Drill / Drill deeper / Redrill / Stimulate /
 Plug off old formation / Perforate new formation /
 Other physical change in well (specify) _____
 11) GEOLOGICAL TARGET FORMATION, Tuscarora 2715
 12) Estimated depth of completed well, 6920 feet
 13) Approximate trata depths: Fresh, _____ feet; salt, _____ feet.
 14) Approximate coal seam depths: _____ Is coal being mined in the area? Yes _____ / No

15) 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		
Conductor	13-3/8			X		770	770	To surface Kinds 38 CSR 18-11.3
Fresh water								
Coal	9-5/8			X		2300	2300	To surface Sizes 38 CSR 18-11.22
Intermediate	7			X		5420	5420	38 CSR 18-11.1
Production	4-1/2					6920	5420	Depths set 11
Tubing								
Liners								Perforations: Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-039-4526 Date September 3, 19 87

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. 8) 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.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.
 Permit expires September 3, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

10653

Bond: <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/>	Plan: <input checked="" type="checkbox"/>	Casing: <input checked="" type="checkbox"/>	Fee: 226 50102407	WPDP: <input checked="" type="checkbox"/>	SGI: <input checked="" type="checkbox"/>	Other: <input type="checkbox"/>
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NOTE: Keep one copy of this permit posted at the drilling location.
 Director, Division of Oil and Gas File

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.