

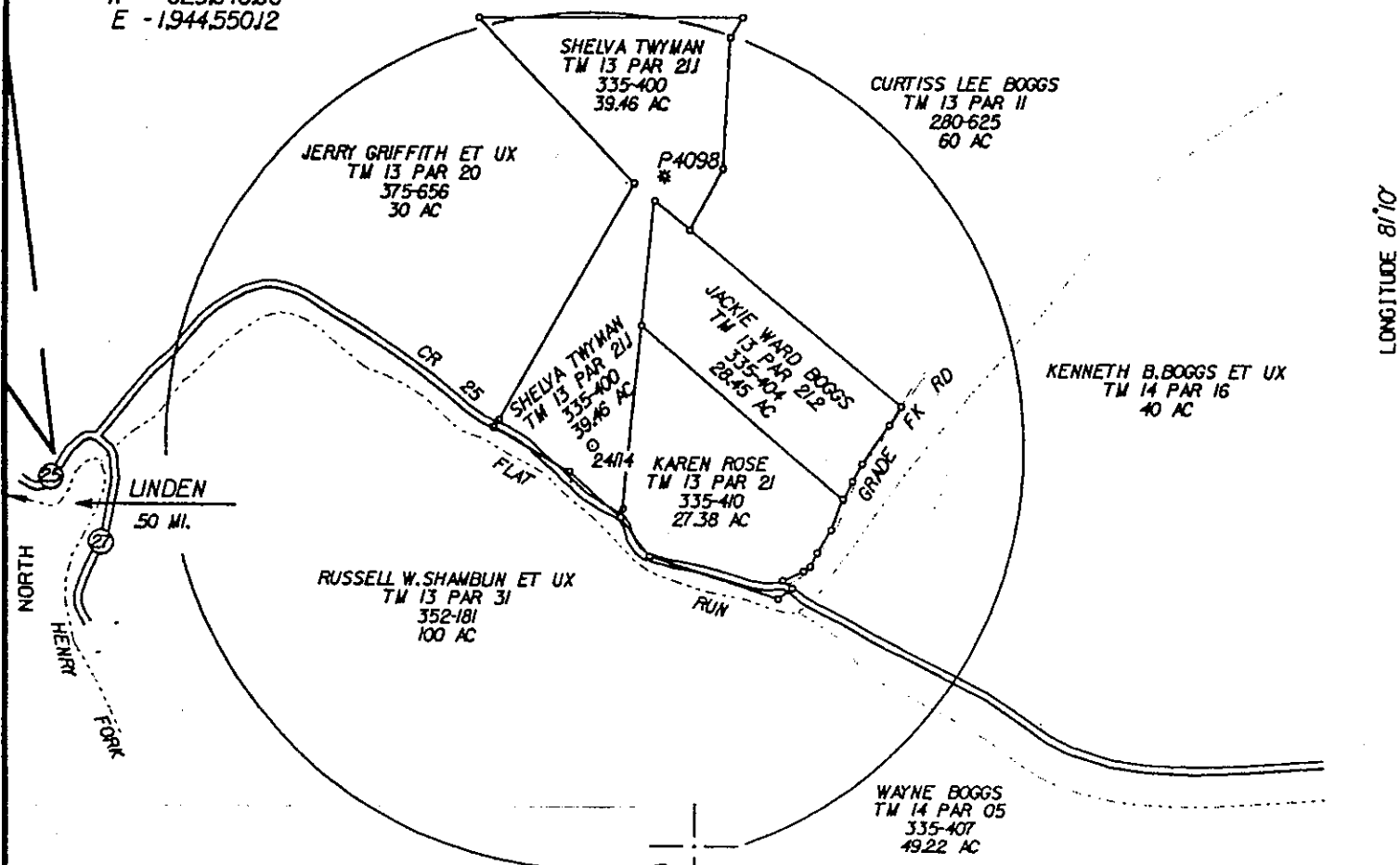
7.905' LATITUDE 38° 45'

WELL SITE

STATE PLANE WV SOUTH ZONE NAD 1927

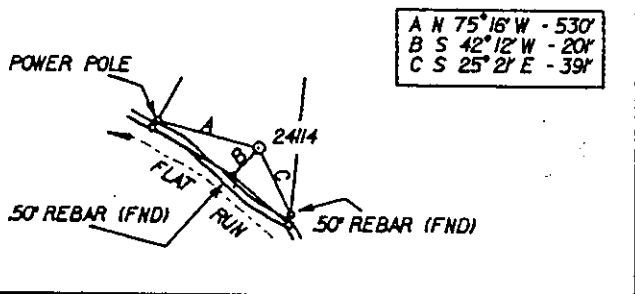
NOTE: NEAREST LEASE BOUNDARY IS GREATER THAN 400'

N - 625,646.86  
E - 1,944,550.12



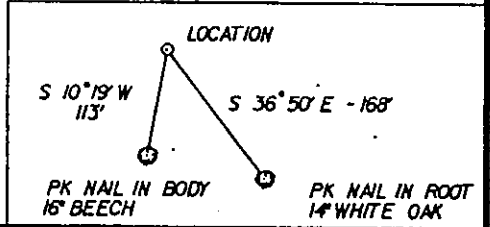
LONGITUDE 81° 0'

WELL TIES 1" = 1000'



2.185  
1.505'

REFERENCES 1" = 100'



(\*) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. CNR2414DEEP.DGN  
DRAWING NO. CNR 2414  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY 1:200  
PROVEN SOURCE OF ELEVATION USGS BM ELEV. 1143'  
EAST OF LOCATION

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) [Signature]  
R.P.E. \_\_\_\_\_ L.L.S. 647

PLACE SEAL HERE

STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION  
OIL AND GAS DIVISION



DATE JANUARY 25, 2000  
OPERATOR'S WELL NO. 2414  
API WELL NO. 47 087 04259  
STATE 087 COUNTY 04259 PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL  
(IF 'GAS,') PRODUCTION X STORAGE DEEP X SHALLOW  
LOCATION: ELEVATION 912' WATER SHED FLAT RUN OF HENRY FORK  
DISTRICT SMITHFIELD COUNTY ROANE  
QUADRANGLE TARIFF, WV 7.5'

SURFACE OWNER SHELVA TYWMAN ACREAGE 39.46  
OIL & GAS ROYALTY OWNER EARNEST WHITLACH LEASE ACREAGE 85  
LEASE NO. 1212700

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

PLUG AND ABANDON CLEAN OUT AND REPLUG  
TARGET FORMATION: TRENTON BLACK RIVER ESTIMATED DEPTH \_\_\_\_\_  
WELL OPERATOR COLUMBIA NATURAL RESOURCES, INC. DESIGNATED AGENT W.A. WATSON, JR.  
ADDRESS PO BOX 6070, CHARLESTON, WV 25362 ADDRESS SAME

FEB 18 2000

DEEP WELL

1-1 0

FORM WV-6

COUNTY NAME

PERMIT

804

4259

*DEEP*

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas  
Well Operator's Report of Well Work

Reviewed *ALB*

Farm name : Shelva Twyman  
Location Elevation: 912'  
District: Smithfield

Operator Well No: 824114  
Quadrangle: Tariff  
County: Roane

COLUMBIA NATURAL RESOURCES	Casing & Tubing	Used in drilling	Left in Well	Cement fill up Cu.Ft.
Address: P.O. Box 6070 Charleston, WV 25362	26"	12'	12'	8 yds.
Agent: Thomas H. Blake	13 3/8"	2103'	2103'	2124 cu. ft.
Inspector : Homer Dougherty	9 5/8 "	6068'	6068'	354 cu. ft.
Date Permit Issued: 02/14/00	7 "	9780'	9780'	1395 cu. ft.
Date Well work commenced: 3/20/00	4 1/2"		9670'	4"x 7" packer set at 9670'
Date Well Work completed : 4/11/01				
Verbal Plugging:				
Date Permission granted on:				
Rotary x Cable Rig				
Total Depth (feet): 11,086				
Fresh Water Depth (ft): None Reported				
Salt Water Depth (ft.): 1656' , 2040'				
Is coal being mined in area : No				
Coal Depths (ft): NA				

**RECEIVED**  
 Office of Oil & Gas  
 Permitting  
  
**NOV 05 2001**  
  
 WV Department of  
 Environmental Protection

**OPEN FLOW DATA**

**Producing formation: Trenton/ Black River:** Pay zone depth (ft) from 9780' to 11,086 Openhole Completion  
 Gas: Initial open flow 2500 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 72 Hours  
 Static rock Pressure : 6870 psig (surface pressure) after 72 Hours

**2nd producing formation:** Pay zone depth (ft) from to  
 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 pressure) after Hours

**3rd producing formation** Pay zone depth (ft) from to  
 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 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.

WELL OPERATOR: COLUMBIA NATURAL RESOURCES, INC.

By: *[Signature]* Date: 10/29/01

NOV 08 2001

ROA 4259

Columbia Natural Resources, Inc.  
WHITLACH #24114

47-087-04259  
Smithfield District, Roane County, WV

All depths are measured

<u>Formation</u>	<u>Top</u>	<u>Bottom</u>
Shale & siltstone	0	1476
Salt Sand	1512	1688
Shale	1688	1858
Little Lime	1858	1894
Big Lime	1894	2034
Injun	2034	2064
Pocono Shale	2064	2330
Sunbury Shale	2330	2350
Berea	2350	2352
U. Devonian Shale	2352	3476
Lower Huron	3854	4650
L. Devonian Shale	4650	4844
Lower Alexander	4844	4910
L. Devonian Shale	4910	5036
Rhinestreet	5036	5726
Marcellus	5726	5768
Onondaga	5768	5934
Oriskany	5934	5974
Helderberg	5974	6272
Salina	6272	6970
Newburg	6970	6985
McKenzie	6985	7348
Rose Hill	7348	7828
Tuscarora	7828	7928
Juniata (red)	7928	8600
Martinsburg (gray)	8600	9942
Trenton	9942	10040
Black River	10040	TD

