



FILE NO. CNR24406(CH-25)DGN
 DRAWING NO. CNR 824406
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION SPOT ELEV. 1643'
USGS KNOB NE 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 ENVIRONMENTAL PROTECTION.
 (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 JUNE 19, 2000
 OPERATOR'S WELL NO. 824406
 API WELL NO. _____

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

LOCATION: ELEVATION 1554' WATER SHED DNIDING RDG. BETWEEN WHITE OAK BRANCH & SMOKEHOUSE FORK
 DISTRICT GUYAN COUNTY LOGAN
 QUADRANGLE CHAPMANVILLE, WV 75'

SURFACE OWNER SEE ABOVE NOTE ACREAGE _____
 OIL & GAS ROYALTY OWNER COLUMBIA NATURAL RESOURCES, INC. LEASE ACREAGE 74,735
 LEASE NO. FEE LANDS

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 BROWN SHALE ESTIMATED DEPTH _____
 WELL OPERATOR COLUMBIA NATURAL RESOURCES, INC. DESIGNATED AGENT W.A. WATSON, JR.
 ADDRESS P.O. BOX 6070, CHARLESTON, WV 25362 ADDRESS SAME

COUNTY NAME LOGAN
 PERMIT 1379

DATE: 12/14/00

API #: 47-45-01379

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

Handwritten initials

Farm name: Betty E. Butcher, et al.
 Location Elevation: 1554'
 District: Guyan

Operator Well No: 824406
 Quadrangle: Chapmanville
 County: Logan

COLUMBIA NATURAL RESOURCES	Casing & Tubing	Used in drilling	Left in Well	Cement fill up Cu.Ft.
Address: P. O. Box 6070				
Charleston, WV 25362-0070	13 3/8"		12'	N/A
Agent: W. A. Watson, Jr.				
Inspector: Ofie Helmick	9 5/8"		344'	159.3
Date Permit Issued: 11/14/00				
Date Well work commenced: 12/06/00	7"		1951.50'	371.7
Date Well Work completed: 01/04/01				
Verbal Plugging:	4 1/2"		4031'	269.8
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Depth (feet): 4040'				
Fresh Water Depth (ft): 486'				
Salt Water Depth (ft.): 995'				
Is coal being mined in area (N <input checked="" type="checkbox"/> Y <input type="checkbox"/>)				
Coal Depths (ft): 71-80'; 185-187'; 222-226'; 302-305'; 310-315'; 486-490'				

OPEN FLOW DATA

Producing formation: Devonian Shale Pay zone depth (ft) from 2,642' to 3,954.5' ; from to
 Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d
 Final open flow 270 MCF/d Final open flow Bbl/d
 Time of open flow between initial and final tests 72 Hours
 Static rock Pressure 289 psig (surface pressure) after 120 Hours

2nd producing formation: Big Lime Pay zone depth (ft) from 2,001' to 2,135' ; from to
 Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d
 Final open flow 207 MCF/d Final open flow Bbl/d
 Time of open flow between initial and final tests 6 Hours
 Static rock Pressure 500 psig (surface pressure) after 72 Hours

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

Signed: _____
 COLUMBIA NATURAL RESOURCES, INC.
 By: *[Signature]*
 Date: 11/7/01

*orig - State
 Area - Branchland
 Region -
 Geology*

WELL # 824406

PERFORATIONS:

Stage 1, Perforations: 65 holes from 2,642' to 3,954'

Stage 2, Perforations: 20 holes from 2,001' to 2,135'

Stage 3 Perforations: holes from to

Stage 4, Perforations: holes from to

FRACTURING:

1ST STAGE: N2 FRAC ON DEVONIAN SHALE

Perforations from	2,642 - 3,954,	Acid	gal.	HCL,
Breakdown @	1,327 PSI,	Avg. Rate	55,000	SCFM <input checked="" type="checkbox"/> OR BPM <input type="checkbox"/>
ATP	2,364 PSI,	Total H ₂ O	Bbl.,	Total sand #
Total N ₂	1,560,000 Scf.	I.S.I.P.	2,390	15 min. 641

2nd STAGE: ACIDIZED BIG LIME

Perforations from	2,001 - 2,135,	Acid	4,000 gal.	15% HCL,
Breakdown @	3,525 PSI,	Avg. Rate	6.1	SCFM <input type="checkbox"/> OR BPM <input checked="" type="checkbox"/>
ATP	2,087 PSI,	Total H ₂ O	63 Bbl.,	Total sand #
Total N ₂	Scf.	I.S.I.P.	1,260#	15 min. N/A

3rd STAGE:

Perforations from	-	Acid	gal.	HCL,
Breakdown @	PSI,	Avg. Rate	SCFM <input type="checkbox"/> OR BPM <input type="checkbox"/>	
ATP	PSI,	Total H ₂ O	Bbl.,	Total sand #
Total N ₂	Scf.	I.S.I.P.		15 min.

4th STAGE:

Perforations from	-	Acid	gal.	HCL,
Breakdown @	PSI,	Avg. Rate	SCFM <input type="checkbox"/> OR BPM <input type="checkbox"/>	
ATP	PSI,	Total H ₂ O	Bbl.,	Total sand #
Total N ₂	Scf.	I.S.I.P.		15 min.

Additional Comments: