

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

FILE NO. CNR824362.DGN
 DRAWING NO. CNR 824362
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION SPOT ELEV. (806')
RD. INT. 550' SW 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) *Paul J. Miller*
 R.P.E. _____ L.L.S. 647

PLACE SEAL HERE

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

DATE APRIL 11, 2000
 OPERATOR'S WELL NO. 824362
 API WELL NO. 47 087 04274
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 786' WATER SHED CANOE BRANCH
 DISTRICT SMITHFIELD COUNTY ROANE
 QUADRANGLE TARIFF, WV T.5'

SURFACE OWNER SUZANNE JOAN SALLACH ACREAGE 99.5
 OIL & GAS ROYALTY OWNER ARIETTA HALCOMB ET AL LEASE ACREAGE 94.25
 LEASE NO. 1-212705-000

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 BLACK RIVER, BEEKMANTOWN, COPPER RIDGE ESTIMATED DEPTH 11,750'
 WELL OPERATOR COLUMBIA NATURAL RESOURCES, INC. DESIGNATED AGENT W.A. WATSON, JR.
 ADDRESS P.O. BOX 6070, CHARLESTON, WV 25362 ADDRESS SAME

COUNTY NAME ROA
 PERMIT 4274

DEEP WELL 1-1 0 MAY 10 2000

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

API #:

47-087-04274

MB

Well Operator's Report of Well Work

Farm name: Artetia Halcomb Operator Well #: 824362
LOCATION: Elevation: 786' Quadrangle: Tariff WV 7.5'
District: Smithfield County: Roane
Latitude: 5760' S. of 38° 42' 30"
Longitude: 1270' W. of 81° 12' 30"

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

Agent: Thomas Blake
Inspector: Homer Dougherty
Permit Issued: 5-4-00
Well work Commenced: 2-9-01
Well work Completed: 12-31-01
Verbal Plugging:
Permission Granted on:
Rotary Rig Cable Rig
Total depth (ft.): 11060'
Fresh water depths (ft.): N/A
Salt water depths (ft.): 890'
Is coal being mined in area (Y/N)? N
Coal depths (ft): None

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill-Up(cu.ft.)
26	192	192	484
13 3/8	1972	1972	244
9 5/8	5824	5824	354
7	9622	9622	902
4 1/2		10979	196
2 3/8		9857	

OPEN FLOW DATA

Producing formation: Trenton/ Black River Pay zone depth from 9908 to 9926

Gas: Initial open flow _____ MCF/D Oil: Initial open flow _____ Bbl/d
 Final open flow 1200 MCF/D Final open flow _____ Bbl/d
 Time of open flow final test 4.75 Hours
 Static rock Pressure 7100 psig (surface pressure) after 240 Hours

Producing formation: _____ Pay zone depth 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 final test _____ Hours
 Static rock Pressure _____ psig (surface pressure) after _____ Hours

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.

By: *Jason Bach*
Jason Bach

COLUMBIA NATURAL RESOURCES, INC

Date: 3-28-02

APR 12 2002

5 KUN 7 2 17

WELL DATA SHEET



DATE: 03/28/2002
 WELL NAME: Sallach
 OPERATOR: CNR
 WELL #: 824362
 DISTRICT: Smithfield
 COUNTY: Roane
 STATE: WV

API #: 47-087-04274
 GEOLOGIST: Brand
 DTD: 11060
 LTD: 10910
 ELEV. GL: 786
 ELEV. KB: 806
 BHT: 180 deq @ 10910

<u>FORMATION</u>	<u>TOP</u>	<u>BOTTOM</u>
Salt Sand	1360	1584
Little Lime	1640	1700
Big Lime	1700	1782
Injun	1782	1820
Berea	2190	2192
Lower Huron	3298	4523
Marcellus	5456	5564
Onondaga	5564	5744
Oriskany	5744	5794
Heiderberg	5794	6140
Salina	6140	6752
Newburg	6752	6768
McKenzie	6768	7116
Rose Hill	7116	7592
Tuscarora	7592	7692
Queenston	7692	8351
Martinsburg	8351	9710
Trenton	9710	9856
Black River	9856	11060

LOGS RUN: _____

MUDLOG: _____

REMARKS: _____

APR 12 2002

WELL # 824362

PERFORATIONS:

Stage 1, Perforations: 85 holes from 10760 to 10780
 Stage 2, Perforations: 72 holes from 9908 to 9926
 Stage 3 Perforations: _____ holes from _____ to _____
 Stage 4, Perforations: _____ holes from _____ to _____

FRACTURING:

1st STAGE: Black River

Perforations from	<u>10760</u>	to	<u>10780</u>	Acid	<u>1500</u>	gal.	<u>28%</u>	HCL	
Breakdown @	<u>N/A</u>	PSI,	Avg. Rate			SCFM			
ATP	_____	PSI,	Total H2O		<u>265</u>	Bbl.,	Total Sand	_____	#
Total N2	_____	Scf.	I.S.I.P.		<u>4540</u>	15 min.		<u>4605</u>	

2nd STAGE: Black River

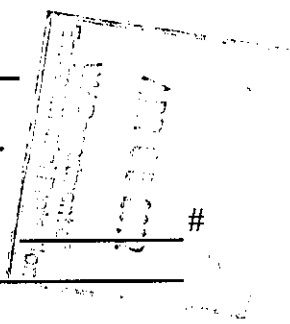
Perforations from	<u>9908</u>	to	<u>9926</u>	Acid	<u>3000</u>	gal.	<u>28%</u>	HCL.	
Breakdown @	<u>5300</u>	PSI,	Avg. Rate		<u>3.5</u>	BPM,			
ATP	<u>6200</u>	PSI,	Total H2O		<u>140</u>	Bbl.,	Total Sand	_____	#
Total N2	_____	Scf.	I.S.I.P.		<u>4760</u>	5 min.		<u>4628</u>	

3rd STAGE: _____

Perforations from	_____	to	_____	Acid	_____	gal.	_____	HCL.	
Breakdown @	_____	PSI,	Avg. Rate		_____	BPM,			
ATP	_____	PSI,	Total H2O		_____	Bbl.,	Total Sand	_____	#
Total N2	_____	Scf.	I.S.I.P.		_____	15 min.		_____	

4th STAGE: _____

Perforations from	_____	to	_____	Acid	_____	gal.	_____	HCL.	
Breakdown @	_____	PSI,	Avg. Rate		_____	BPM,			
ATP	_____	PSI,	Total H2O		_____	Bbl.,	Total Sand	_____	#
Total N2	_____	Scf.	I.S.I.P.		_____	15 min.		_____	



RDA 4274