

LATITUDE 57 55 00

7.5' TOPO COORDINATES:
 200' WEST
 12,600' SOUTH

LONGITUDE 81-22-50

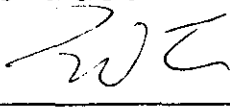

STATE PLANE COORDINATES:

#31(REV) - N. 321,384.68 E. 1,891,554.37

WELL REFERENCES:

S83 30E, 90.50' TO 8" RED OAK
 N28 30W, 126' TO POWER POLE

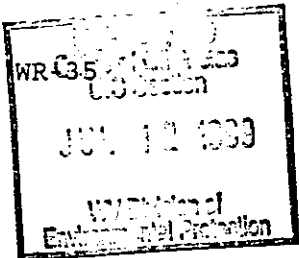
(1) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER: _____ DRAWING NUMBER: <u>DMR 51R.PCS</u> SCALE: <u>1" = 1000'</u> MINIMUM DEGREE OF ACCURACY: <u>1 IN 2500</u> PROVEN SOURCE OF ELEVATION: <u>EXIST. WELL #996</u> <u>ELEVATION 2371.04'</u>	I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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) _____ STEPHEN D. LOSH, P.S. #674	 PLACE SEAL HERE
--	---	--

STATE OF WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS #10 McJUNKIN ROAD NIRO, WV 25143 2506	LAND SURVEYING SERVICES 21 CEDAR LANE, BRIDGEPORT, WV 26350 PHONE: 304 842 2018 OR 842 5162	DATE: <u>NOVEMBER 06, 1998</u> OPERATORS WELL NO.: <u>ROWLAND LAND #31(REV.)</u> API WELL NO. <u>47-081-01159</u> STATE COUNTY PERMIT
WELL TYPE: OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> (If "GAS") PRODUCTION <input checked="" type="checkbox"/> STORAGE <input type="checkbox"/> DEEP <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>		
LOCATION: ELEVATION <u>2309.16'</u> WATERSHED <u>WORKMAN CREEK</u> DISTRICT <u>CLAR FORK</u> COUNTY <u>RALPH</u> QUADRANGLE <u>DOROTHY 7.5 MIN.</u> LEASE NUMBER _____		
SURFACE OWNER <u>ROWLAND LAND COMPANY</u> ACRES <u>8962.16</u> OIL & GAS ROYALTY OWNER <u>ROWLAND LAND COMPANY</u> LEASE ACRES <u>53,000</u>		
PROPOSED WORK: DRILL <input checked="" type="checkbox"/> CONVERT <input type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/> OTHER PHYSICAL CHANGE (SPECIFY) _____		
PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> TARGET FORMATION <u>WIR</u> ESTIMATED DEPTH <u>5650'</u>		
WELL OPERATOR <u>DOMINION APPALACHIAN DEVELOPMENT</u> DESIGNATED AGENT <u>JOHN HASKINS</u> <u>DEC 1 - 1998</u> ADDRESS <u>P. O. BOX 1248 JANI 11W, WV 26378</u> ADDRESS <u>P. O. BOX 1248 JANI 11W, WV 26378</u>		

COUNTY NAME RAL PERMIT 1159

6-6 248



10-Dec-98
API # 47- 81-01159

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

Reviewed AS

Farm name: ROWLAND LAND CO. Operator Well No.: ROWLAND LAND 31

LOCATION: Elevation: 2,309.00 Quadrangle: DOROTHY

District: CLEAR FORK County: RALEIGH
Latitude: 12600 Feet South of 37 Deg. 55Min. 0 Sec.
Longitude 200 Feet West of 81 Deg. 22 Min. 30 Sec.

Company: DOMINION APPALACHIAN DEVE
P. O. BOX 1248
JANE LEW, WV 26378-0000

Agent: JOHN T. HASKINS

Inspector: RODNEY DILLON
Permit Issued: 12/10/98
Well work Commenced: 5/22/99
Well work Completed: 6/04/99
Verbal Plugging
Permission granted on: _____
Rotary X Cable _____ Rig

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
9 5/8"	20'	20'	0
7"	892'	892'	140 sks
4 1/2"	3605'	3605'	270 sks

Total Depth (feet) 3672'
Fresh water depths (ft) None reported

Salt water depths (ft) None reported

Is coal being mined in area (Y/N)?
Coal Depths (ft): 350-351, 540-542'

OPEN FLOW DATA

Weir 3304-3311'
Producing formation Lower Maxton Pay zone depth (ft) 2600-2608'
Gas: Initial open flow 900 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 1841 MCF/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 20 Hours
Static rock Pressure 440 psig (surface pressure) after 24 Hours

Second producing formation Middle Maxton Pay zone depth (ft) 2320-2327'
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

* Commingled

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.

For: Larry J. Cavallo
By: Larry J. Cavallo; Manager of Engineering
Date: 7/7/99

RAL 1159

JUL 19 1999

3	STAGE(S) 75Q foam	FRAC	DATE	6/4/99	
ZONES	PERFS	HOLES	BBL	BP	ISIP
Weir	3304-3311	16	390 foam	1743	1424
Lower Maxton	2600-2608	16	291 foam	2794	1385
Middle Maxton	2320-2327	16	352 foam	1462	1027

FORMATION	COLOR	HARD/SOFT	TOP	BOTTOM	REMARKS
OVERBURDEN			0	20	
SHALE			20	30	
SANDSTONE			30	120	
SANDY SHALE			120	290	
SANDSTONE			290	320	
SANDY SHALE			320	350	
COAL			350	351	
SANDY SHALE			351	450	
SANDSTONE			450	520	
SANDY SHALE			520	540	
COAL			540	542	
SANDY SHALE			542	730	
SANDSTONE			730	810	
SANDY SHALE			810	1000	
SANDSTONE			1000	1720	
SANDY SHALE			1720	1980	
AVENCLIFF			1980	2020	
RED SHALE			2020	2120	
UPPER MAXTON			2120	2320	
SANDY SHALE			2320	2375	
MIDDLE MAXTON			2375	2395	
SANDY SHALE			2395	2430	
RED SHALE			2430	2460	
SANDY SHALE			2460	2490	
SANDSTONE			2490	2580	
SANDY SHALE			2580	2650	
LOWER MAXTON			2650	2675	
SANDY SHALE			2675	3130	
CLAY LIME			3130	3160	
CLAY INJUN			3160	3270	
SANDY SHALE			3270	3315	
UPPER WEIR			3315	3671	
SANDY SHALE				3672 TD	