

11,320'

LATITUDE 37°52'30"

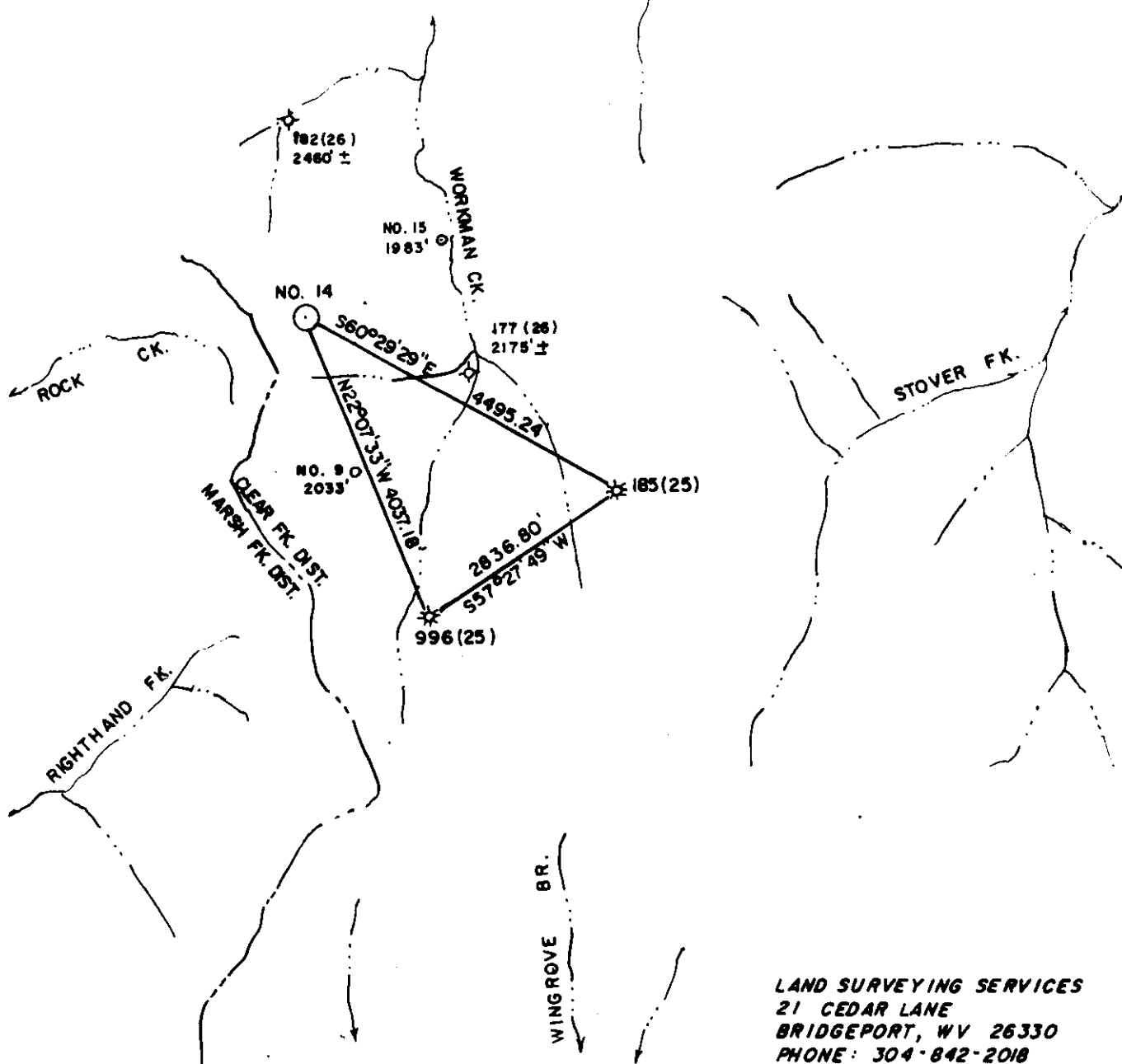
*Jamie  
7/18/97*

*0.155  
2.14W*

WELL REFERENCES:  
N43°W, 115' TO 5" POPLAR  
S81°30'E, 100.50' TO 4" LOCUST

NORTH

LONGITUDE 81° 20' 18"



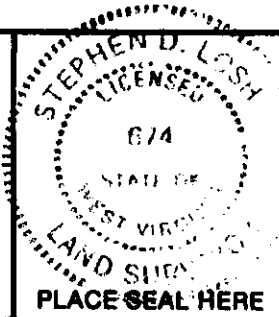
LAND SURVEYING SERVICES  
21 CEDAR LANE  
BRIDGEPORT, WV 26330  
PHONE: 304-842-2018

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

FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 2000'  
 MINIMUM DEGREE OF  
 ACCURACY 1 in 2500  
 PROVEN SOURCE OF  
 ELEVATION Exist. well #996  
Elev. = 2371.04'

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 REGU-  
 LATIONS ISSUED AND PRESCRIBED BY THE DEPART-  
 MENT OF ENERGY.

(SIGNED) [Signature]  
 R.P.E. \_\_\_\_\_ L.L.S. 674  
Stephen D. Losh



WEST VIRGINIA  
 DIVISION OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS  
 #10 McJUNKIN ROAD  
 NITRO, WEST VIRGINIA 25143-2506



DATE May 30, 1997  
 OPERATOR'S WELL NO. Rowland Land #14  
 API WELL NO. \_\_\_\_\_

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS,") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 2400' WATERSHED Workman CREEK  
 DISTRICT Clear Fork COUNTY Raleigh  
 QUADRANGLE Eccles 7.5 min.

SURFACE OWNER Rowland Land Co. (Tract #601) ACREAGE 654.875  
 OIL & GAS ROYALTY OWNER Rowland Land Co. LEASE ACREAGE 33,000

LEASE NO. \_\_\_\_\_  
 PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR  
 STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW  
 FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) 6-6 248

PLUG AND ABANDON  CLEAN OUT AND REPLUG   
 TARGET FORMATION Gordon ESTIMATED DEPTH 4200' **JUL 14 1997**  
 WELL OPERATOR Dominion Appalachian Development DESIGNATED AGENT John Haskins  
 ADDRESS P. O. Drawer R ADDRESS P. O. Drawer R  
Jane Lew, WV 26378 Jane Lew, WV 26378

FORM WV-6

COUNTY NAME

PERMIT



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

Well Operator's Report of Well Work

Farm name: ROWLAND LAND CO. Operator Well No.: ROWLAND #14  
LOCATION: Elevation: 2,400.00 Quadrangle: ECCLES  
District: CLEAR FORK County: RALEIGH  
Latitude: 740 Feet South of 37 Deg. 52Min. 30 Sec.  
Longitude 11320 Feet West of 81 Deg. 20 Min. 0 Sec.

Company: DOMINION APPALACHIAN DEVE  
P. O. DRAWER R  
JANE LEW, WV 26378-0000

Agent: JOHN T. HASKINS

Inspector: RODNEY DILLON  
Permit Issued: 07/08/97  
Well work Commenced: 7/21/97  
Well work Completed: 7/31/97  
Verbal Plugging  
Permission granted on: N/A  
Rotary X Cable Rig  
Total Depth (feet) 3700'  
Fresh water depths (ft) N/A  
Salt water depths (ft) N/A  
Is coal being mined in area (Y/N)? N  
Coal Depths (ft): N/A

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
9 5/8"	30'	0	Pulled
7"	885'	885'	130 sks
4 1/2"	3658'	3658'	190 sks

OPEN FLOW DATA

Producing formation Weir Pay zone depth (ft) 3366-3507'  
Gas: Initial open flow 49 MCF/d Oil: Initial open flow N/A Bbl/d  
Final open flow 1492 MCF/d Final open flow N/A Bbl/d  
Time of open flow between initial and final tests 22 Hours  
Static rock Pressure 450psig (surface pressure) after 168 Hours  
Big Lime 2978-2985'  
Second producing formation Upper Maxton Pay zone depth (ft) 2412-2442'  
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  
DOMINION APPALACHIAN DEVELOPMENT, INC.  
By: LARRY J. CAVALLO; Manager of Engineering  
Date: 10/10/97

OCT 17 1997

3	STAGE(S)	75Qfoam & HCL	FRAC	DATE	7/31/97
ZONES	PERFS	HOLE	BBL	BP	ISIP
Weir	3366-3507'	10	440 75Q	835	1300
Big Lime	2978-2985	8	60 28% HCL	2486	1631
Upper Maxton	3412-2442	14	425 75Q	1725	1352

FORMATION	COLOR	HARD/SOFT	TOP	BOTTOM	REMARKS
Sandy Shale	Brown	Medium	0	20	
Sandstone	Gray	Medium	20	95	
Sandy Shale	Gray/Brown	Medium	95	251	
Shale	Gray	Soft	251	281	
Sandy Shale	Gray	Medium	281	560	
Sandstone	Gray/Brown	Medium	560	590	
Sandy Shale	Gray	Medium	590	811	
Sandstone	Gray	Medium Hard	811	918	
Sandy Shale	Gray	Soft	918	1070	
Sandstone	Gray/White	Medium/Hard	1070	1690	
Sandy Shale	Gray/Red	Medium	1690	1886	
Sandstone	Gray	Medium	1886	1950	
Sandy Shale	Gray	Medium/Soft	1950	2060	Gas Ck 2040" No
Sandstone	Gray/White	Medium	2060	2100	Show
Sandy Shale	Red	Medium/Soft	2100	2380	2226' 1/10-1" H2O
Sandy Shale	Red/Gray	Medium	2380	2800	2504' 10/10-1" H2O
Lime	Gray	Medium	2800	3217	2660' 12/10-1" H2O
Sandstone & Shale	Red	Medium/Hard	3217	3300	2782' 12/10-1" H2O
Sandy Shale	Gray	Medium	3300	3365	3217' 12/10-1" H2O
Sandstone & Shale str.	Gray	Medium	3365	3415	3430' 15/10-1" H2O
Sandy Shale	Gray	Soft/Medium	3415	3460	3557' 15/10-1" H2O
Sandstone Shale Streak	Gray	Medium	3460	3525	3700' 22/10-1" H2O
Sandy Shale	Gray	Soft/Medium	3525	3700	
			TD	3700'	

STATE OF WEST VIRGINIA 591 1088  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

5735

- 1) Well Operator: DOMINION APPALACHIAN DEVELOPMENT, INC. 47850 (1) 331
- 2) Operator's Well Number: ROWLAND LAND # 14 (11492) 3) Elevation: 2400'  
Well type: (a) Oil \_\_\_/ or Gas X/  
(b) If Gas: Production X/ Underground Storage \_\_\_/  
Deep \_\_\_/ Shallow X/  
Proposed Target Formation(s): GORDON 4/1  
Proposed Total Depth: 4150 feet  
Approximate fresh water strata depths: 60,160,200  
8) Approximate salt water depths: N/A  
9) Approximate coal seam depths: 70,260,300,530,800,820  
10) Does land contain coal seams tributary to active mine? Yes \_\_\_/ No X/  
11) Proposed Well Work: DRILL & STIMULATE NEW WELL  
12)

Issued 07/08/97  
Expires 07/08/99

RECEIVED  
Office of Oil & Gas  
Permitting  
1997

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	11 3/4"		27#	30'	0	PULL NO CEMENT
Fresh Water						
Coal	8 5/8		20#	860'	860' CTS.	38 CSR 18-11.2.2
Intermediate						
Production	4 1/2	M-65	9.5#	4100'	4100'	38 CSR 18-11.1
Tubing						
Liners						

PACKERS : Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_

For Division of Oil and Gas Use Only

01/68 28/19  
 Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP  
 Plat  WW-9  WW-2B  Bond \_\_\_\_\_  Agent  
(Type)

1) Date: JUNE 10, 1997  
2) Operator's well number  
ROWLAND LAND #14 (11492)  
3) API Well No: 47 - 081 - 1088  
State County Permit

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served: 5) (a) Coal Operator:  
(a) Name ROWLAND LAND CO., LTD Name N/A  
Address SUITE 609-405 CAPITOL CHARLESTON, WV 25301 Address \_\_\_\_\_  
(b) Name \_\_\_\_\_ (b) Coal Owner(s) with Declaration  
Address \_\_\_\_\_ Name SAME AS SURFACE  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_ Name \_\_\_\_\_  
Address \_\_\_\_\_ Address \_\_\_\_\_  
6) Inspector RODNEY DILLON (c) Coal Lessee with Declaration  
Address BOX 131 Name CONSOLIDATED COAL COMPANY  
BRADLEY, WV 25818 Address P O BOX 1289  
Telephone (304)-256-6946 BLUEFIELD, Va 24605  
ATT: ED FANNING

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

\_\_\_\_\_ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR  
x Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

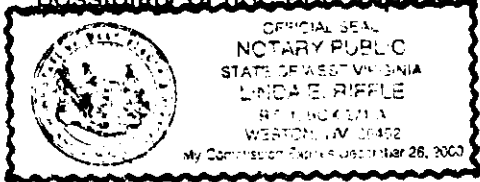
I certify that as required under Chapter 22 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_\_\_ on the above named parties, by:

- \_\_\_\_\_ Personal Service (Affidavit attached)
- x Certified Mail (Postmarked postal receipt attached)
- \_\_\_\_\_ Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Well Operator DOMINION APPALACHIAN DEVELOPMENT, INC.  
By: [Signature] JOHN T. HASKINS  
Its: SENIOR VICE PRESIDENT  
Address P O DRAWER R  
JANE LEW, WV 26378  
Telephone (304) 884-2000

Subscribed and sworn before me this 10<sup>th</sup> day of June, 1997

[Signature] Notary Public  
My commission expires December 26, 2000