

STATE PLANE COORDINATES:

LATITUDE 37 52-30

NO. 20 - N. 315,751.71'
E. 1,897,551.03'

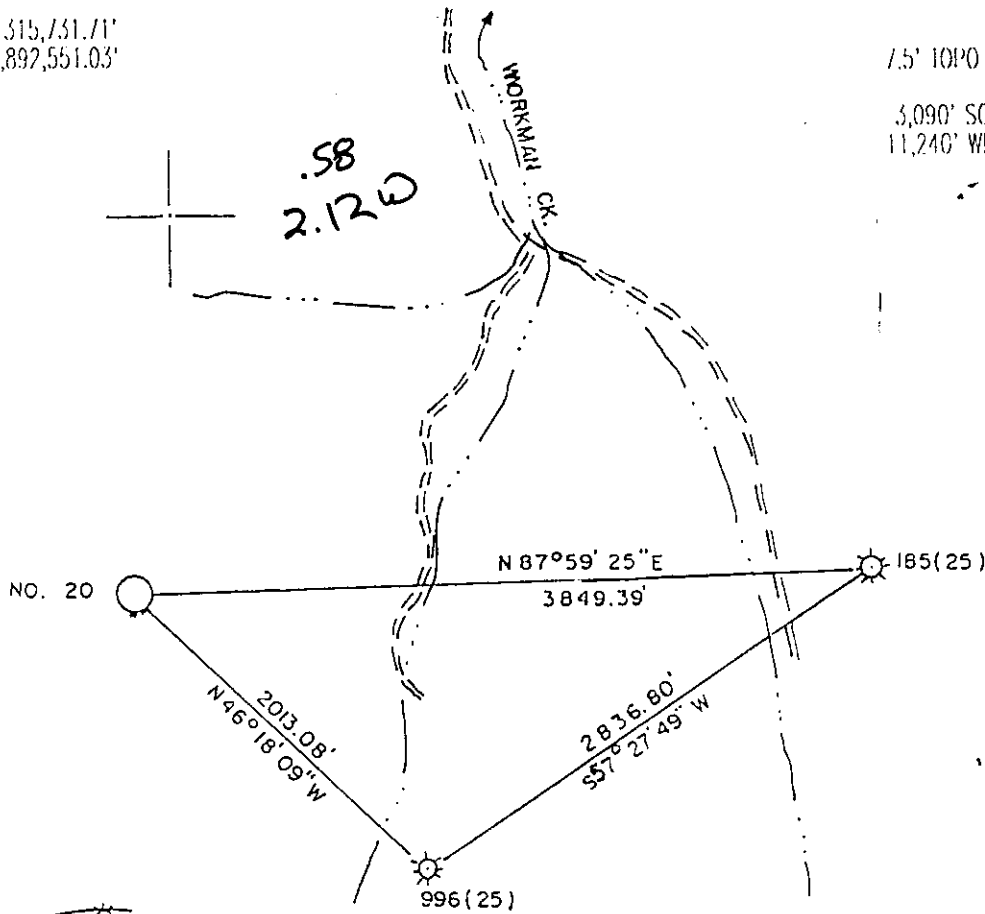
7.5' TOPO COORDINATES:

3,090' SOUTH
11,240' WEST

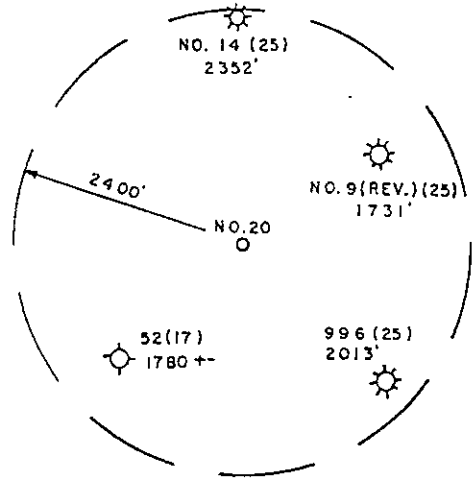
81-20-00

LONGITUDE

NORTH



STOVER FK.



IRISH LUCK
KNOB
X 3097'

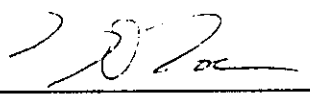
WELL REFERENCES:

N21-00W, 96.50' TO 12" POPLAR
S07-00W, 86.00' TO 3" LOCUST

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

FILE NUMBER: _____
 DRAWING NUMBER: _____
 SCALE: 1" = 1000'
 MINIMUM DIAMETER OF ACCURACY: 1 IN 2500
 PROVEN SOURCE OF ELEVATION: EXIST. WELL 996
 ELEVATION = 2571.04'

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. TOSHI, P.S. #674



PEACE STATE MINE

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

LAND SURVEYING SERVICES
 21 CEDAR LANE, BRIDGEPORT, WV 26301
 PHONE: 304 842 2018 OR 842 5762

DATE: AUGUST 07, 1998

OPERATORS WELL NO.: ROWLAND #20

API WELL NO. 41 - 081 - 01150

STATE COUNTY PERMIT

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

LOCATION: ELEVATION 2443.48' WATERSHED WORKMAN CREEK
 DISTRICT CLEAR Fork COUNTY RALPH
 QUADRANGLE FCCLS 7.5 MIN. LEASE NUMBER _____

SURFACE OWNER ROWLAND LAND COMPANY (TRACT #295) ACREAGE 1794.745
 OIL & GAS ROYALTY OWNER ROWLAND LAND COMPANY LEASE ACREAGE 33.000

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

TARGET FORMATION GORDON PLUG & ABANDON CLEAN OUT & REPLUG
 ESTIMATED DEPTH 4,200'

WELL OPERATOR DOMINION APPALACHIAN DEVELOPMENT 5735 DESIGNATED AGENT JOHN HASKINS SEP 14 1998
 ADDRESS P. O. BOX 1248, JANET W, WV 26378 ADDRESS P. O. BOX 1248, JANET W, WV 26378

COUNTY NAME RALPH PERMIT 1150

6-6 248

WR-35

10-Sep-98
API # 47- 81-01150

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

Reviewed: *[Signature]*

Well Operator's Report of Well Work

Farm name: ROWLAND LAND CO Operator Well No.: ROWLAND #20

LOCATION: Elevation: 2,443.48 Quadrangle: ECCLES

District: CLEAR FORK County: RALEIGH
Latitude: 3090 Feet South of 37 Deg. 52Min. 30 Sec.
Longitude 11240 Feet West of 81 Deg. 20 Min. 0 Sec.

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

Agent: JOHN T. HASKINS

Inspector: RODNEY DILLON
Permit Issued: 09/10/98
Well work Commenced: 10/05/98
Well work Completed: 10/19/98
Verbal Plugging
Permission granted on: N/A
Rotary X Cable Rlg
Total Depth (feet) 3775'
Fresh water depths (ft) None reported

Salt water depths (ft) None reported

Is coal being mined in area (Y/N)? N
Coal Depths (ft): 130, 310-312'

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
9 5/8"	69'	69'	None
7"	648'	648'	100 sks
4 1/2"	3690'	3690'	181 sks

OPEN FLOW DATA

Lower Weir 3556-3566
Producing formation Upper Weir Pay zone depth (ft) 3424-3450
Gas: Initial open flow 81 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 1320 MCF/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 23 Hours
Static rock Pressure 550 psig (surface pressure) after 72 Hours

Big Lime 3191-3196
Second producing formation Middle Maxton Pay zone depth (ft) 2458-2495
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: 2/11/99

MAR 2 1999

RA 1150

4		STAGE(S) 75Q foam & 28% HCL FRAC			DATE 10/19/98	
ZONES	PERFS	HOLES	BBL	BP	ISIP	
Lower Weir	3556-3566	15	137 75Q	2100	1600	
Upper Weir	3424-3450	15	197 75Q	575	1500	
Big Lime	3191-3196	7	90 28% HCL	1000	300	
Middle Maxton	2458-2495	16	125 75Q	1744	1500	
FORMATION	COLOR	HARD/SOFT	TOP	BOTTOM	REMARKS	
OVERBURDEN	GRAY/BROWN	MEDIUM	0	64		
SHALE	GRAY	SOFT	64	130		
COAL	BLACK	SOFT	130	131		
SANDY SHALE	GRAY	MED	131	250		
SHALE	GRAY	MED	250	310		
COAL	BLACK	SOFT	310	312		
SANDY SHALE	GRAY	MED	312	460		
SHALE	GRAY	MED	460	510		
SANDSTONE	WHITE	HARD	510	650		
SANDY SHALE	L GRAY	MED	650	730		
SHALE	GRAY	MED	730	780		
SANDSTONE	WHITE	HARD	780	1000		
SANDY SH	GRAY	MED	1000	1050		
SHALE	GRAY	MED	1050	1095		
SANDSTONE	WHITE	HARD	1095	1205		
SANDY SHALE	L GRAY	MED	1205	1255		
SANDSTONE	WHITE	HARD	1255	1330		
SANDY SHALE	L GRAY	MED	1330	1420		
SHALE	RED	MED	1420	1490		
SANDSTONE	WHITE	HARD	1490	1600		
SANDY SHALE	L GRAY	MED	1600	1720		
SANDSTONE	WHITE	HARD	1720	1840		
SANDY SAHLE	GRAY	MED	1840	1890		
SANDSTONE	WHITE	HARD	1890	2050		
SHALE	GRAY	MED	2050	2120		
AVIS LIME	D GRAY	MED	2120	2170		
SHALE	GRAY	MED	2170	2450		
M MAXTON	WHITE	HARD	2450	2480		
SANDY SHALE	L GRAY	MED	2480	2700		
L MAXTON	WHITE	HARD	2700	2820		
LIME & SHALE	L GRAY	MED	2820	2830		
BIG LIME	GRAY	MED	2830	3270		
BIG INJUN		HARD	3270	3315		
SANDY SHALE	GRAY	MED	3315	3380		
WEIR	WHITE	HARD	3380	3445		
SANDY SHALE	GRAY	SOFT	3445	3500		
WEIR	WHITE	HARD	3500	3535		
SHALE	GRAY	SOFT	3535	3775		
TD				3775		