

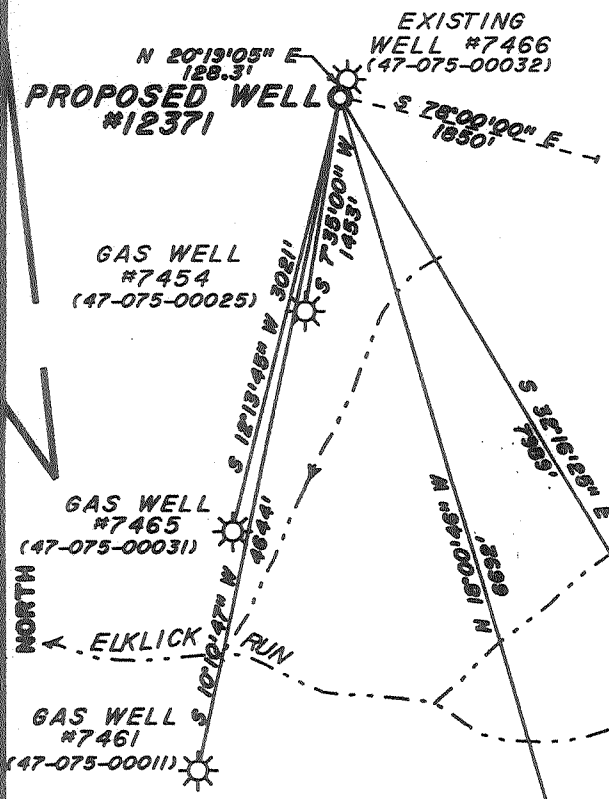
LATITUDE 38°42'30"

1250'

LONGITUDE 79°45'00"

7400'

UNITED STATES OF AMERICA
MONONGAHELA NATIONAL FOREST
PART OF TRACT #52



Proposed Downhole Location
MD= 7340' / TVD=6076'
Lat= 38°41'12"
Long= 79°44'55"

Call Of 4" X 4" X 3" Spruce Post In
Mound Of Stones Marked
"WLCO 23 FS"

Call Of 4" X 10" X 24" Stone In A
Mound Of Stones, Marked
"WLCO 24 FS"

WELL #8770

UNITED STATES OF AMERICA
MONONGAHELA NATIONAL FOREST
PART OF TRACT #33

2" X 18" X 24" Stone Found,
Marked "WLCO 22-52 FS".
Pointers Not Found.

2" X 18" X 26" Stone Found,
Marked "WLCO 21-52 FS".
Pointers Not Found.

NOTES:

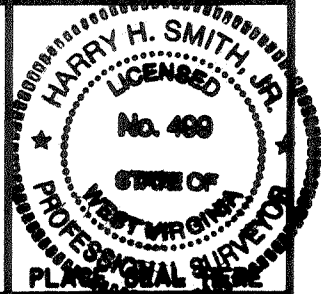
Bench Mark Description
Nail In Base Of A 18" Maple 84' Southeast
Of Columbia Gas Trans. Corp. Well #7469,
Elev. 3211.90

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS (7 1/2")

FILE NO. _____
DRAWING NO. 12371
SCALE 1" = 1320'
MINIMUM DEGREE OF ACCURACY 1/200'
PROVEN SOURCE OF ELEVATION See Above Notes

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) [Signature]

R.P.E. _____ L.L.S. 429



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



DATE JANUARY 19, 1998
OPERATOR'S WELL NO. 12371
API WELL NO.

47 075 00047
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 3560.0 WATER SHED Fox Run Of The West Fork Of Greenbrier River
DISTRICT Greenbank COUNTY Pocahontas
QUADRANGLE Wildell COORDINATES LAT: 38°41'16" LONG: 79°45'17"

SURFACE OWNER United States Of America Dept. Of Interior ACREAGE 1828.67
OIL & GAS ROYALTY OWNER USA Dept. Of Interior LEASE ACREAGE 20408.26
COAL OWNER USA Dept. Of Interior LEASE NO. 1090700

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 Oriskany ESTIMATED DEPTH 7340 MD
WELL OPERATOR COLUMBIA GAS TRANSMISSION CORP DESIGNATED AGENT RICHARD L COTY
ADDRESS PO Box 1273, Charleston, WV 25325-1273 ADDRESS PO Box 1273, Charleston, WV 25325-1273

MAR 06 1998

POCAHONTAS COUNTY NAME PERMIT

RECEIVED
 WV Office of Oil & Gas
 Permitting
JUL 30 1999
 WV Division of
 Environmental Protection

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

12-Jul-99
 API # 47- 75-00047
directional well
 Reviewed MS

Well Operator's Report of Well Work

Farm name: U.S. FOREST SERVICE Operator Well No.: GLADY 12371

LOCATION: Elevation: 3,560.00 Quadrangle: WILDELL

District: GREENBANK County: POCAHONTAS
 Latitude: 7400 Feet South of 38 Deg. 42Min. 30 Sec.
 Longitude 1250 Feet West of 79 Deg. 45 Min. 0 Sec.

Company: COLUMBIA GAS TRANSMISSION
 P. O. BOX 1273
 CHARLESTON, WV 25325-1273

Agent: RICHARD L. COTY

Inspector: CRAIG DUCKWORTH
 Permit Issued: 03/05/98
 Well work Commenced: 10-28-98
 Well work Completed: 6-15-99
 Verbal Plugging
 Permission granted on: _____
 Rotary X Cable Rig
 Total Depth (feet) 7275'
 Fresh water depths (ft) _____
 None Reported
 Salt water depths (ft) _____
 None Reported
 Is coal being mined in area (Y/N)? N
 Coal Depths (ft): None Reported

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
24"	8'	8'	1000# to surface
16"	148'	148'	150 sx Class A to surface
10-3/4"	2285'	2285'	575 sx Middle II, 200 sx Class A to surface
7-5/8"	6286'	6286'	125 sx Middle II, 110 sx Class A

OPEN FLOW DATA

Producing formation Oriskany Sand Pay zone depth (ft) 6286' to 7275'
 Gas: Initial open flow 9 M MCF/d Oil: Initial open flow - Bbl/d
 Final open flow 10 M MCF/d Final open flow - Bbl/d
 Time of open flow between initial and final tests 4 months -Hours
 Static rock Pressure 1700 psig (surface pressure) after 24 Hours

Second producing formation _____ Pay zone depth (ft) _____
 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

* Directional Plan Attached

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: COLUMBIA GAS TRANSMISSION CORP.

By: Paul C. Amick/ Sr. Storage Eng.

Date: 07/27/99

POCAHONTAS

AUG 09 1999

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 Office of Oil & Gas
 Permitting
JUL 30 1999
 WV Division of
 Environmental Protection

GREAT LAKES DIRECTIONAL DRILLING, INC.
 Mid Continent Region
 100 S. Broadway
 Georgetown, Kentucky 40324
 Off(502)867-7795 Fax(502)867-7796

-11 Jan 1999

Client.....: COLUMBIA GAS TRANSMISSION
 Field.....: Gladly Storage West Virginia
 Well.....: Gladly 12371
 Vert sect.: 102.00 deg az
 DD engr...: L.CHERNIK/C.BIRKET
 Units.....: FEET

Position calc.: Minimum Curvature
 DLS calc meth.: Lubinski
 Survey Date...: 11 Jan 1999
 KB Elevation...: 3577.00 ft
 Reference.....: N/A
 Magnetic decln.: -8.051 (W)

WELLHEAD coordinates....: 0,0

RECORD OF SURVEY
 (Calculated from a tie-in station at 175 MD)

Pg: 1

S	MEASURED T DEPTH	INCLN ANGLE	DIRECTION AZIMUTH	VERTICAL-DEPTHS TVD SUB-SEA	SECTION DEPART	COORDINATES-FROM WELLHEAD		DL/ 100
8	175.00	1.00	250.00	174.99 -3402.01	-1.30	0.52 S	1.44 W	<TIE
1	332.00	1.00	247.00	331.97 -3245.03	-3.58	1.53 S	3.98 W	0.03
1	430.00	1.00	262.00	429.95 -3147.05	-5.08	1.98 S	5.62 W	0.27
1	649.00	0.75	248.00	648.93 -2928.07	-8.07	2.78 S	8.84 W	0.15
1	803.00	0.75	252.00	802.91 -2774.09	-9.78	3.47 S	10.73 W	0.03
1	1118.00	0.75	342.00	1117.90 -2459.10	-12.59	2.15 S	13.33 W	0.34
1	1387.00	0.50	290.00	1386.88 -2190.12	-14.63	0.07 S	14.98 W	0.22
1	1572.00	0.75	272.00	1571.87 -2005.13	-16.63	0.25 N	16.95 W	0.17
1	1910.00	0.25	262.00	1909.86 -1667.14	-19.50	0.22 N	19.89 W	0.15
1	2345.00	1.00	300.00	2344.83 -1232.17	-24.00	1.99 N	24.11 W	0.19
1	2532.00	1.25	312.00	2531.79 -1045.21	-27.32	4.17 N	27.04 W	0.18
1	2748.00	1.50	294.00	2747.73 -829.27	-32.12	6.89 N	31.38 W	0.23
1	2874.00	1.50	302.00	2873.69 -703.31	-35.29	8.44 N	34.28 W	0.17
1	3062.00	1.50	302.00	3061.62 -515.38	-39.91	11.05 N	38.45 W	0.00
1	3282.00	3.50	312.00	3281.40 -295.60	-48.43	17.07 N	45.89 W	0.93
1	3532.00	4.75	302.00	3530.76 -46.24	-64.77	27.66 N	60.34 W	0.58
1	3728.00	3.50	317.00	3726.25 149.25	-77.30	36.34 N	71.30 W	0.84
1	3872.00	3.25	302.00	3870.00 293.00	-84.73	41.71 N	77.76 W	0.64
1	4059.00	1.75	307.00	4056.82 479.82	-92.30	46.24 N	84.54 W	0.81
1	4334.00	1.00	307.00	4331.74 754.74	-98.28	50.21 N	89.81 W	0.27
1	4552.00	1.25	272.00	4549.70 972.70	-102.35	51.44 N	93.70 W	0.33
1	4815.00	1.25	272.00	4812.64 1235.64	-108.00	51.64 N	99.44 W	0.00
5	4869.00	0.70	195.50	4866.63 1289.63	-108.60	51.34 N	100.11 W	2.37
5	4931.00	4.20	116.00	4928.57 1351.57	-106.42	49.98 N	98.17 W	6.66
5	4994.00	8.80	113.00	4991.15 1414.15	-99.45	47.09 N	91.66 W	7.32
5	5057.00	13.00	105.00	5053.00 1476.00	-87.63	43.37 N	80.37 W	7.07
5	5118.00	16.80	101.00	5111.94 1534.94	-71.96	39.91 N	65.09 W	6.45

Station Types: 1/SINGLE SHOT 5/STEERING TOOL 8/TIE-IN

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Office of Oil & Gas
Permitting

JUL 30 1999

Glady 12371

WV Division of
Environmental Protection

11 Jan 1999 Page 2

RECORD OF SURVEY

(Calculated from a tie-in station at 175 MD)

S T	MEASURED DEPTH	INCLN ANGLE	DIRECTION AZIMUTH	VERTICAL-DEPTHS TVD	SUB-SEA	SECTION DEPART	COORDINATES-FROM WELLHEAD		DL/ 100
5	5150.00	18.70	101.60	5142.42	1565.42	-62.21	37.99 N	55.52 W	5.96
5	5183.00	20.20	102.70	5173.53	1596.53	-51.22	35.68 N	44.78 W	4.68
5	5212.00	21.80	103.20	5200.61	1623.61	-40.83	33.35 N	34.65 W	5.55
5	5243.00	23.20	104.90	5229.25	1652.25	-28.98	30.46 N	23.15 W	4.98
5	5275.00	24.80	105.00	5258.48	1681.48	-15.98	27.10 N	10.57 W	5.00
5	5307.00	26.20	105.00	5287.36	1710.36	-2.22	23.54 N	2.73 E	4.38
5	5338.00	28.20	104.50	5314.93	1737.93	11.93	19.93 N	16.44 E	6.49
5	5368.00	29.30	104.20	5341.23	1764.23	26.35	16.36 N	30.42 E	3.70
5	5399.00	30.40	103.80	5368.12	1791.12	41.77	12.63 N	45.39 E	3.61
5	5429.00	31.50	102.60	5393.85	1816.85	57.19	9.11 N	60.41 E	4.20
5	5461.00	33.20	102.00	5420.88	1843.88	74.32	5.46 N	77.14 E	5.41
5	5491.00	35.00	102.00	5445.72	1868.72	91.13	1.96 N	93.59 E	6.00
5	5524.00	36.10	102.00	5472.57	1895.57	110.32	2.03 S	112.36 E	3.33
5	5555.00	36.70	105.00	5497.52	1920.52	128.71	6.32 S	130.24 E	6.06
5	5587.00	38.20	105.00	5522.93	1945.93	148.14	11.36 S	149.03 E	4.69
5	5619.00	40.30	104.60	5547.71	1970.71	168.36	16.53 S	168.61 E	6.61
5	5651.00	41.60	102.60	5571.88	1994.88	189.32	21.45 S	188.99 E	5.77
5	5682.00	43.20	102.60	5594.77	2017.77	210.22	26.01 S	209.39 E	5.16
5	5726.00	44.20	104.00	5626.58	2049.58	240.61	33.01 S	238.97 E	3.16
N	5730.00	44.06	104.16	5629.45	2052.45	243.39	33.69 S	241.67 E	4.58
5	5757.00	43.10	105.30	5649.01	2072.01	261.98	38.42 S	259.67 E	4.58
5	5789.00	43.50	106.00	5672.30	2095.30	283.89	44.34 S	280.80 E	1.95
5	5821.00	44.50	106.00	5695.32	2118.32	306.06	50.47 S	302.17 E	3.13
N	5847.00	45.59	106.84	5713.69	2136.69	324.40	55.67 S	319.82 E	4.78
5	5852.00	45.80	107.00	5717.18	2140.18	327.97	56.71 S	323.24 E	4.78
5	5883.00	48.40	106.50	5738.28	2161.28	350.60	63.25 S	344.99 E	8.47
5	5914.00	51.30	106.50	5758.27	2181.27	374.22	69.98 S	367.70 E	9.35
5	5945.00	53.50	107.00	5777.18	2200.18	398.69	77.06 S	391.22 E	7.21
5	5976.00	54.40	106.00	5795.42	2218.42	423.68	84.18 S	415.25 E	3.90
5	6008.00	56.10	106.00	5813.66	2236.66	449.91	91.43 S	440.52 E	5.31
5	6039.00	57.40	105.80	5830.66	2253.66	475.77	98.53 S	465.46 E	4.23
5	6071.00	57.50	105.50	5847.88	2270.88	502.69	105.80 S	491.43 E	0.85
N	6090.00	57.50	105.01	5858.08	2281.08	518.69	110.02 S	506.89 E	2.18
5	6102.00	57.50	104.70	5864.53	2287.53	528.80	112.61 S	516.67 E	2.18
5	6134.00	57.00	103.00	5881.84	2304.84	555.69	119.06 S	542.80 E	4.73
5	6164.00	56.90	103.00	5898.21	2321.21	580.83	124.71 S	567.30 E	0.33
5	6194.00	56.70	101.00	5914.63	2337.63	605.94	129.93 S	591.85 E	5.62
N	6200.00	56.70	100.75	5917.93	2340.93	610.95	130.88 S	596.78 E	3.50
5	6225.00	56.70	99.70	5931.65	2354.65	631.83	134.59 S	617.34 E	3.50

Station Types: 5/STEERING TOOL N/INTERPOLATED

POCA 0047

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Office of Oil & Gas
Permitting

JUL 30 1999

WV Division of
Environmental Protection

Glady 12371

11 Jan 1999 Page 3

RECORD OF SURVEY

(Calculated from a tie-in station at 175 MD)

S T	MEASURED DEPTH	INCLN ANGLE	DIRECTION AZIMUTH	VERTICAL-DEPTHS TVD	SUB-SEA	SECTION DEPART	COORDINATES-FROM WELLHEAD		DL/ 100
5	6256.00	56.80	98.50	5948.65	2371.65	657.73	138.69 S	642.94 E	3.25
5	6331.00	62.10	100.00	5986.76	2409.76	722.21	149.09 S	706.66 E	7.27
5	6362.00	65.00	101.00	6000.57	2423.57	749.96	154.15 S	733.95 E	9.79
5	6393.00	68.00	104.00	6012.93	2435.93	778.38	160.31 S	761.69 E	13.13
5	6419.00	68.50	104.30	6022.56	2445.56	802.51	166.21 S	785.11 E	2.20
5	6458.00	69.40	104.00	6036.57	2459.57	838.88	175.11 S	820.40 E	2.42
5	6490.00	69.00	103.00	6047.94	2470.94	868.78	182.09 S	849.49 E	3.18
5	6520.00	69.50	103.20	6058.56	2481.56	896.83	188.45 S	876.81 E	1.78
5	6551.00	68.90	101.90	6069.57	2492.57	925.81	194.75 S	905.10 E	4.37
5	6584.00	68.50	102.00	6081.56	2504.56	956.56	201.12 S	935.18 E	1.24
5	6616.00	69.00	101.00	6093.16	2516.16	986.38	207.06 S	964.40 E	3.31
5	6648.00	69.00	101.00	6104.63	2527.63	1016.25	212.76 S	993.73 E	0.00
5	6679.00	70.00	102.00	6115.48	2538.48	1045.28	218.55 S	1022.18 E	4.42
5	6710.00	71.20	101.00	6125.78	2548.78	1074.52	224.38 S	1050.83 E	4.92
5	6742.00	70.00	100.60	6136.41	2559.41	1104.70	230.04 S	1080.48 E	3.93
5	6775.00	69.00	101.00	6147.97	2570.97	1135.60	235.83 S	1110.84 E	3.24
5	6806.00	69.00	101.00	6159.08	2582.08	1164.54	241.35 S	1139.25 E	0.00
5	6837.00	69.70	100.40	6170.01	2593.01	1193.54	246.74 S	1167.76 E	2.89
5	6870.00	70.70	100.30	6181.19	2604.19	1224.57	252.31 S	1198.30 E	3.04
5	6903.00	70.20	100.00	6192.23	2615.23	1255.65	257.79 S	1228.91 E	1.74
5	6934.00	70.00	100.00	6202.78	2625.78	1284.79	262.86 S	1257.62 E	0.65
5	6966.00	69.00	99.00	6213.99	2636.99	1314.73	267.80 S	1287.18 E	4.28
5	6997.00	70.10	97.90	6224.82	2647.82	1343.72	272.07 S	1315.91 E	4.86
5	7029.00	69.80	97.70	6235.79	2658.79	1373.70	276.15 S	1345.69 E	1.11
5	7061.00	68.30	98.00	6247.23	2670.23	1403.50	280.23 S	1375.29 E	4.77
5	7093.00	67.70	98.00	6259.22	2682.22	1433.10	284.36 S	1404.68 E	1.88
5	7124.00	66.50	97.40	6271.28	2694.28	1461.58	288.19 S	1432.97 E	4.26
5	7156.00	66.00	97.20	6284.17	2707.17	1490.77	291.91 S	1462.03 E	1.66
5	7186.00	66.40	96.60	6296.27	2719.27	1518.11	295.21 S	1489.28 E	2.26
5	7219.00	68.30	97.00	6308.98	2731.98	1548.44	298.81 S	1519.52 E	5.87
5	7241.00	68.50	97.00	6317.08	2740.08	1568.81	301.31 S	1539.82 E	0.91
J	7275.00	68.50	97.00	6329.54	2752.54	1600.33	305.16 S	1571.22 E	0.00

^Station Types: 5/STEERING TOOL J/PROJECTED

Final closure from wellhead: 1600.6 FEET at 100.99

075-0047

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

- 1) Well Operator: COLUMBIA GAS TRANSMISSION CORPORATION
2) Operator's Well Number: Gladly Storage #12371 3) Elevation: 3,560.0 feet
4) Well type: (a) Oil / or Gas X /
(b) If Gas: Production / Underground Storage X /
Deep X / Shallow /
5) Proposed Target Formation (s): Oriskany
6) Proposed Total Depth: 7500 feet measured depth 5855 feet true vertical depth
7) Approximate fresh water strata depths: water noted @ 1,305' on API # 47-075-0032
8) Approximate salt water strata depths: none recorded
9) Approximate coal seam depths: NONE
10) Does land contain coal seams tributary to active mine? Yes / No X /

Issued 03/05/1998
Expires 03/05/2000
RECEIVED
Environmental Protection
FEB 17 1998
Permitting
Office of Oil & Gas

11) Proposed Well Work: Columbia proposes to drill a gas storage well and install casing as described below. Well will be deviated at approximately 5.3 degrees per 100 feet from 4797'. Maximum deviation should be approximately 77 degrees and will be held through the Oriskany. Drilling medium will be air/soap to the 7-5/8" casing point and then polymer drilling mud to TD. The well will be acidized across the Oriskany section. The well will then be cleaned up, flow tested and placed in service.

CASING AND TUBING PROGRAM

Table with columns: TYPE, SPECIFICATIONS, FOOTAGE INTERVALS, CEMENT. Rows include Conductor, Fresh Water, Coal, Intermediate, Production, Tubing, Liners.

PACKERS: Kind None
Sizes
Depths set

- For Division of Oil and Gas Use Only
Fee(s) paid: Well Work Permit Reclamation Fund WPCP
Plat WW-9 WW-2B Bond Agent

24914

286359

5

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WV Division of
Environmental Protection
FEB 12 1998

- 1) Date: 2/12/98
- 2) Operator's well number
GLADY WELL 12371
- 3) API Well No: 47 - 075 - 0047
State - County - Permit

Permitting
Office of Oil & Gas
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:
 - a) Name United States Forest Service
Address Monongahela National Forest
P. O. Box 1548, Elkins, WV 26241
 - b) Name _____
Address _____
 - c) Name _____
Address _____
- 6) Inspector Craig Duckworth
Address Box 107, Davisson Route
Gassaway, WV 26624 - 0107
Telephone (304) 626 - 0789

- 5) (a) Coal Operator :
Name _____
Address _____
- (b) Coal Owner (s) with Declaration
Name United States Dept. Of Interior, Bureau Of Land Mgt.
Address P.O. Box 631
Milwaukee, WI 53201-0631 Attn: Tim Abing
- (c) Coal Lessee with Declaration
Name _____
Address _____

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
 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)
- 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 COLUMBIA GAS TRANSMISSION CORP.
 By: William H. Forake
 Its: Senior Storage Engineer / Well Services
 Address Route 3, Box 216
Elkins, WV 26241
 Telephone _____

Subscribed and sworn before me this 12 day of February, 19 98

Sammy Jordan CPA
 My commission expires 7-30-07

Notary Public

