

NOTES: This Map is For Well Location Only & Does Not Represent A Complete Property Survey. No Dwellings Or Surface Coal Operations Within 2000'.

REF: FB 2040 PG 1-8
FB 2011 PG 85

REF: INV 4276/604

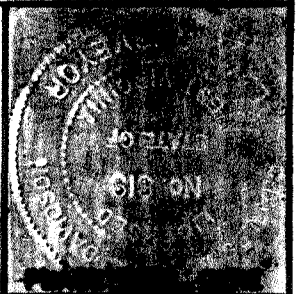
Form map # P23-S01

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

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION BM Hall in Base
Of An 18" Maple 84' SE of
Well X-77-7469 Elev 3273.55

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) Charles Davidson
 R.P.E. _____ L.L.S. 812



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE February 2, 1996
 OPERATOR'S WELL NO. 7469
 API WELL NO. 47 075 0000 47W

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

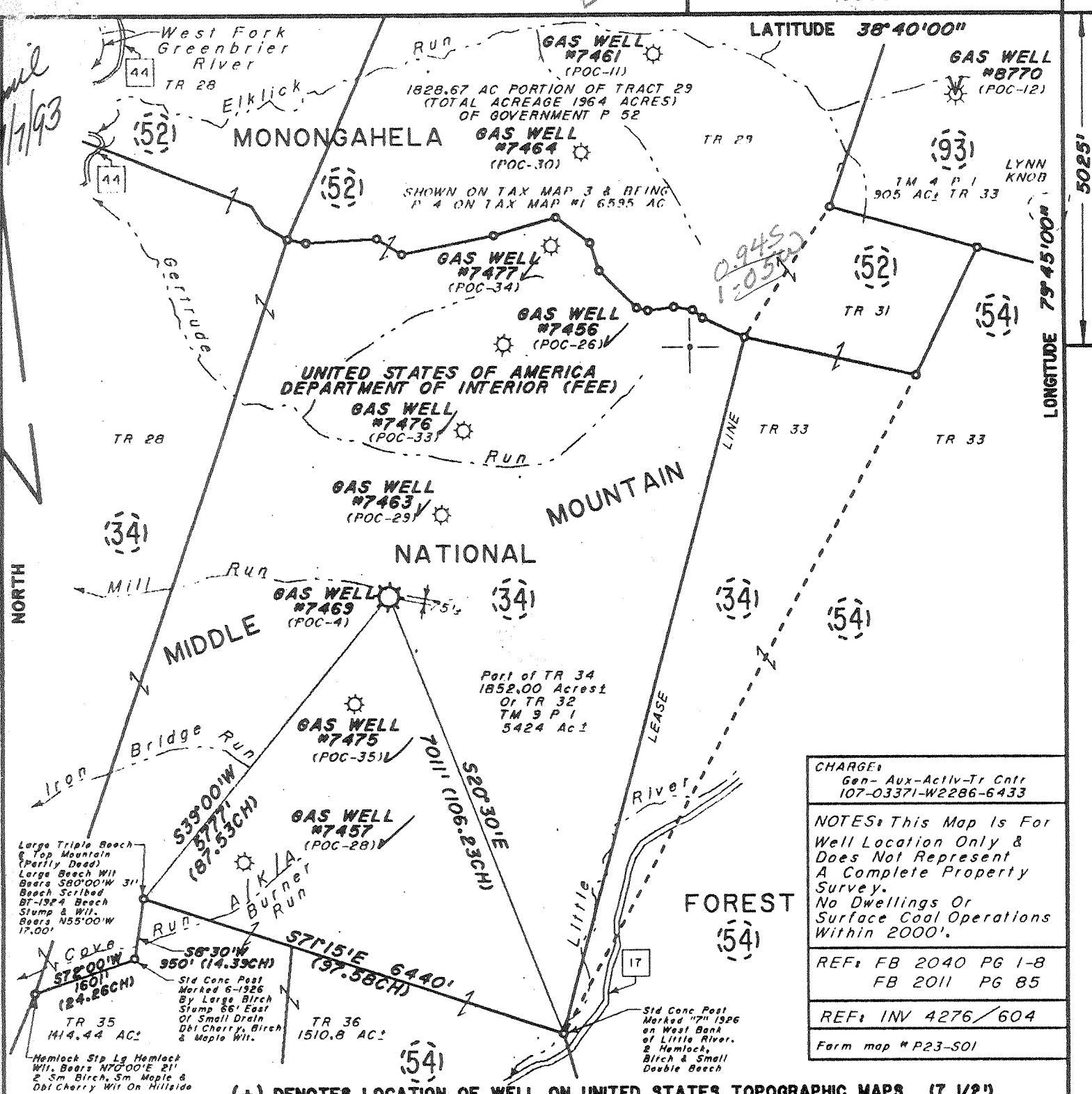
LOCATION: ELEVATION 3210.34' WATER SHED Mill Run Of West Fork Of Greenbrier River
 DISTRICT Greenbank COUNTY Pocahontas
 QUADRANGLE Wildell, WV COORDINATES LAT: 38°39'10" LONG: 79°46'09"

SURFACE OWNER United States of America Dept of Interior ACREAGE 1852.00 ±
 OIL & GAS ROYALTY OWNER USA Dept of Interior LEASE ACREAGE 48,212.33
 COAL OWNER _____ LEASE NO. 30700

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Storage Recondition
Re-work existing well

PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION Oriskany ESTIMATED DEPTH 5866' DEC 6 1996
 WELL OPERATOR COLUMBIA GAS TRANSMISSION CORP DESIGNATED AGENT Richard L. City
 ADDRESS PO Box 1273, Charleston, WV 25325-1273 ADDRESS PO Box 1273, Charleston, WV 25325-1273
DEEP WELL

POCAHONTAS COUNTY NAME PERMIT



CHARGE:
Gen-Aux-Activ-Tr Cntr
107-03371-W2286-6433

NOTES: This Map is For Well Location Only & Does Not Represent A Complete Property Survey. No Dwellings Or Surface Coal Operations Within 2000'.

REF: FB 2040 PG 1-8
FB 2011 PG 85

REF: INV 4276/604

Form map # P23-S01

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

FILE NO. _____
DRAWING NO. _____
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEVATION RM Nail in Base Of An 18" Maple 84' SE Of Well X-77-7469, Elev. 3279.55

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) Charles Paul Davidson
R.P.E. _____ L.L.S. 819

PLACE SEAL HERE

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION



DATE February 2, 1993
OPERATOR'S WELL NO. 7469
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 3210.34' WATER SHED Mill Run Of West Fork Of Greenbrier River
DISTRICT Greenbank 2 COUNTY Pocahontas
QUADRANGLE Wildell, WY Dubois COUNTY Pocahontas COORDINATES LAT: 38°39'10" LONG: 79°46'09"
SURFACE OWNER United States of America Dept of Interior ACREAGE 1852.00 ±
OIL & GAS ROYALTY OWNER USA Dept Of Interior LEASE ACREAGE 48,212.33
COAL OWNER _____ LEASE NO. 90700

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Storage Recondition
Chert & Muscovite Sandstone
PLUG AND ABANDON CLEAN OUT AND REPLUG
TARGET FORMATION _____ ESTIMATED DEPTH 5840 Rowth & Ferrisite
WELL OPERATOR COLUMBIA GAS TRANSMISSION CORP DESIGNATED AGENT ROBERT C WEIDNER
ADDRESS PO Box 1273, Charleston, WV 25325-1273 ADDRESS PO Box 1273, Charleston, WV 25325-1273

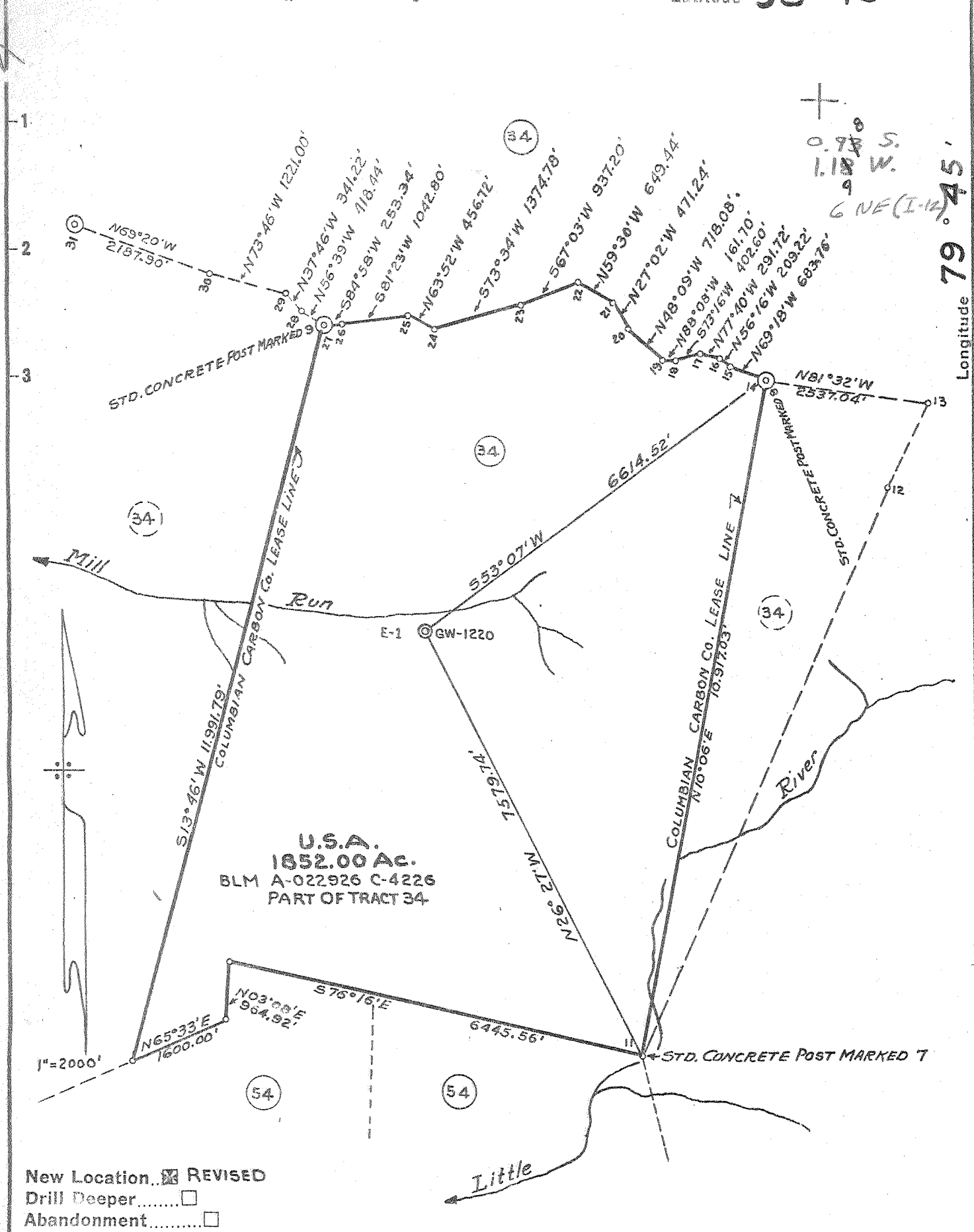
POCAHONTAS COUNTY NAME PERMIT

FORM 9-78

90 (261)

Latitude 38° 40'

Longitude 79° 45'



U.S.A.
1852.00 Ac.
BLM A-022926 C-4226
PART OF TRACT 34

New Location... REVISED
 Drill Deeper.....
 Abandonment.....

Company **COLUMBIAN CARBON COMPANY**
 Address **Box 873 CHARLESTON W.V.A.**
 Farm **UNITED STATES OF AMERICA**
 PART OF **A-022926**
 Tract **34** Acres **1852.00** Lease No. **C-4226**
OF TR. 34
 Well (Farm) No. **E-1** Serial No. **GW-1220**
 Elevation (Spirit Level) **3222.14**
 Quadrangle **DURBIN 6 E.S. S-100 W-120**
 County **POCAHONTAS** District **GREENBANK**
 Engineer **R.D. Anderson**
 Engineer's Registration No. **2074**
 File No. _____ Drawing No. **W-12-55**
 Date **JULY 18 1955** Scale **1"=2000'**

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. **POCA-H-REVISED**

+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on border of original tracing.

Samples 6-D (0-5321')

5-5 261

Greenbank District, Pocahontas County, W. Va.
 By Columbian Carbon Co., Box 873, Charleston, W. Va. (23)
 Drilled under permit Poca-4, Durbin Quadrangle.
 On 1852 acres, on Mill Run.
 Elevation, 3222.14' L.
 Surface and minerals owned by Director, Bureau of Land Management,
 Washington, 25, D. C.
 Drilling commenced Aug. 8, 1955; completed Jan. 1, 1959.
 Well was not shot.
 Open flow, 20/10ths Merc. in 7" 23#.
 Volume, 7,043,000 cu. ft.
 Rock pressure, 1402 lbs. in 72 hrs.
 Well was not acidized or fractured.
 Fresh water at 55', 1 - 10" bailer/hr.; 95', hole full.
 14" casing, 21'; 10 3/4" casing, 608' 5" (40#); 8 1/2" casing, 2348' 9" (22' left in)
 7" casing, 5699' 5".
 Midget bottom hole packer, 8 1/2", set at 2332' SIM.
 No coal was encountered.
 Casing record: 8-30-55. Ran 10 3/4" casing with Midget bottom hole
 packer at 603' SIM. 20 bags of Aquagel. Circulation and returns.
 10-19-55. Ran 8 1/2" casing with Midget bottom hole packer at 2332' SIM.
 28 sacks Aquagel.
 12-6-55. Ran 7" casing at 5672' SIM with guide shoe on bottom, 3
 centralizers and flot shoe between 1st and 2nd joints. Cemented
 with 150 sacks.
 Perforated 5536-66' with 4 shots per foot - gas gauged 34/10 W. 2", 246 M.
 Gas pays: 5536-56' - 246 M.; 5685-89', inc. from 246 M. to 327 M.;
 5693-96', inc. from 298 M. to 327 M.; 5695-5705', inc. from 327 M.
 to 332 M.; 5705-06', inc. from 332 M. to 353 M.; 5721-24', inc. from
 348 M. to 377 M.; 5742-45', inc. from 377 M. to 389 M.; 5745-48',
 inc. from 389 M. to 395 M.; 5764-69', inc. from 386 M. to 391 M.;
 5769-75', inc. from 391 M. to 413 M.; 5775-76', inc. from 413 M. to
 425 M.; 5779-81', inc. from 425 M. to 430 M.; 5782-93', inc. from
 430 M. to 762 M.; 5793-5802', inc. from 762 M. to 778 M.; 5812-14',
 inc. from 762 M. to 778 M.; 5818-21', inc. from 778 M. to 1602 M.;
 5821', inc. from 1602 M. to 5454 M.; 5821-30', inc. from 5454 M. to
 7043 M.
 Gas well. Record to Dept. of Mines dated Jan. 15, 1959.
 Record from Allen Feb. 2, 1959.

	Top.	Bottom.
Soil	0	10
Line	10	376
Slate and line	376	417
Sand	417	531
Slate	531	597
Line (600' SIM = 603' SIM)	597	660
Line and sand	660	706
Line	706	908
Slate	908	916
Line	916	1000
Slate	1000	1198
Line	1198	1256
Red line	1256	1280
Slate	1280	1290
Line	1290	1340
Slate and shells	1340	1380

UNITED STATES OF AMERICA NO. E-1 (04-1220) WELL (Contd.)

	Top.	Bottom.	
Line	1380	- 1498	
Slate and shells	1498	- 1555	
Line	1555	- 1657	
Slate and shells	1647	- 1990	
Line	1990	- 2045	
Slate and shells	2045	- 2319	SLM
		2326	SLM
Line	(SLM) 2326	- 2343	
Slate and shells	2343	- 2406	
Line	2406	- 2438	
Slate and shells	2438	- 2476	
Line	2476	- 2579	
Slate and shells	2579	- 2674	
Line	2674	- 2712	
Slate and shells	2712	- 2935	
Line	2935	- 2969	
Slate and shells	2969	- 3110	
Line	3110	- 3130	
Slate and shells	3130	- 3200	
Line	3200	- 3227	
Slate and shells	3227	- 3356	
Line and shells	3356	- 3593	
Sand	3593	- 3625	
Line and slate	3625	- 4855	
Black shale	4855	- 4870	
Brown shale	4870	- 4960	
Tully Lime	4960	- 4990	
Brown shale	4990	- 5135	
Line	5135	- 5164	
Brown shale	5164	- 5478	
The following are from sample determinations:			
Onondaga lime	5478	- 5527	
Chert	5527	- 5610	
Shale and chert (5640' SLM=5672' SLM)	5610	- 5672	
Griskany Sand	5672	- 5830	
Total depth		5830	



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

Quadrangle Durbin 6 SW

Permit No. Poca-4

WELL RECORD

Oil or Gas Well Gas

Company Columbian Carbon Company
Address Box 873, Charleston 23, W. Va.
Farm United States of America Acres 1852
Location (waters) Mill Run
Well No. E-1 GW-1220 Elev. 3222.14'
District Greenbank County Pocahontas
The surface of tract is owned in fee by Director, Bureau of Land Management
Address Washington 25, D. C.
Mineral rights are owned by Same
Address _____

Drilling commenced 8-8-55
Drilling completed 1-1-59
Date Shot Not shot From _____ To _____
With _____

Open Flow 20 /10ths Water in _____ Inch
7" /10ths Merc. in _____ 23# Inch
Volume 7,043,000 Cu. Ft.
Rock Pressure 1402 lbs. 72 hrs.
Oil _____ bbls., 1st 24 hrs.

WELL ACIDIZED Not acidized

WELL FRACTURED Not fractured Fract Hal. 7-31-59

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer <u>Midget</u>
16			<u>Bottom Hole Packer</u>
<u>1 1/4"</u>	<u>21'</u>	<u>21'</u>	Size of <u>8 5/8"</u>
<u>10 3/4" 40#</u>	<u>608' 5"</u>	<u>608' 5"</u>	Depth set <u>2332' SLM</u>
<u>8 1/2" 24#</u>	<u>2348' 9"</u>	<u>22'</u>	
<u>8 1/2" 23#</u>	<u>5699' 5"</u>	<u>5699' 5"</u>	
<u>5 3/16"</u>			
<u>3"</u>			Perf. top _____
<u>2"</u>			Perf. bottom _____
Liners Used			Perf. top _____
			Perf. bottom _____

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
See reverse side.

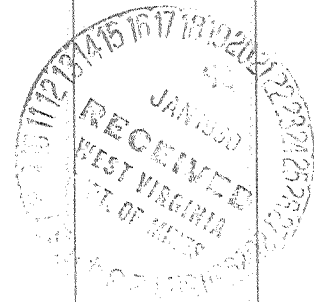
COAL WAS ENCOUNTERED AT none FEET _____ INCHES _____
FEET _____ INCHES _____ FEET _____ INCHES _____
FEET _____ INCHES _____ FEET _____ INCHES _____

RESULT AFTER TREATMENT _____

ROCK PRESSURE AFTER TREATMENT _____

Fresh Water 55' 95' Feet _____ Salt Water _____ Feet _____

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Soil			0	10			
Lime			10	376	Fresh water	55'	1-10" bailer/hr
Slate & Lime			376	417	" "	95'	Hole full
Sand			417	531			
Slate			531	597			
Lime			597	660	600' DLM - 603' SLM		
Lime and Sand			660	706			
Lime			706	908			
Slate			908	916			
Lime			916	1000			
Slate			1000	1198			
Lime			1198	1256			
Red Lime			1256	1280			
Slate			1280	1290			
Lime			1290	1340			
Slate & Shells			1340	1380			
Lime			1380	1498			
Slate & Shells			1498	1555			
Lime			1555	1647			
Slate & Shells			1647	1990			
Lime			1990	2045			
Slate & Shells			2045	2319	DLM		
				2326	SLM		
Lime			2326	2343			
Slate & Shells			2343	2406			
Lime			2406	2438			
Slate & Shells			2438	2476			
Lime			2476	2579			
Slate & Shells			2579	2674			



(over)

F 59

Formation	Color	Hard or Soft	Top 9	Bottom	Oil, Gas or Water	Depth Found	Remarks
Lime			2674	2712			
Slate & Shells			2712	2935			
Lime			2935	2969			
Slate & Shells			2969	3110			
Lime			3110	3130			
Slate & Shells			3130	3200			
Lime			3200	3227			
Slate & Shells			3227	3356			
Lime and Shells			3356	3593			
Sand			3593	3625			
Lime and Shale			3625	4855			
Black Shale			4855	4870			
Brown Shale			4870	4960			
Tully Lime			4960	4990			
Brown Shale			4990	5135			
Lime			5135	5164			
Brown Shale			5164	5478			
The following are from sample determinations:							
Onondaga			5478 ⁵⁵¹⁰	5527 ⁵⁵⁴⁹			
Chert			5527 ⁵⁵⁴⁹	5610 ⁵⁶⁴²			
Shale and Chert			5610 ⁵⁶⁴²	5672	5640' DLM - 5672' SIM		
Oriskany Sand			5672	5830			
Total depth:				5830'	Pays: 5536-66' - 246M 5685-89' incr. from 246M to 327M. 5693-96' " " 298M to 327M. 5696-5705' " " 327M to 332M. 5705-06' " " 332M to 353M 5721-24' " " 348M to 377M. 5742-45' " " 377M to 389M. 5745-48' " " 389M to 395M. 5764-69' " " 386M to 391M. 5769-75' " " 391M to 413M. 5775-76' " " 413M to 425M. 5779-81' " " 425M to 430M. 5782-93' " " 430M to 762M. 5793-5802' " " 762M to 778M. 5812-14' " " 762M to 778M. 5818-21' " " 778M to 1602M. 5821' " " 1602M to 5454M. 5821'-30' " " 5454M to 7043M.		
			5478	5672			
			3227	3227			
			2256	2450			
Perforated 5536-66' with 4 shots per foot - gas gauged 34/10 W 2" - 246M.							
<u>CASING RECORD</u>							
8-30-55	Ran 10 3/4"	casing with Midget Bottom Hole Packer		at 603 SLM.		20 bags of aquagel.	
	Circulation and returns.						
10-19-55	Ran 8 5/8"	casing with Midget Bottom Hole Packer		at 2332' SLM.		28 sacks aquagel.	
12-6-58	Ran 7"	casing at 5672' SLM with guide shoe on bottom, 3 centralizers and float shoe between 1st and 2nd joints. Cemented with 150 sacks.					

Date January 15, 1959

APPROVED Columbian Carbon Company, Owner

By R. B. Anderson, General Manager
(Title)

RECEIVED
WV Division of
Environmental Protection

075-0004-F
Issued 07/09/93

FORM WW-2B

JUN 23 93

Page 1 of 1

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

Expires 07/09/93

- 1) Well Operator: COLUMBIA GAS TRANSMISSION CORPORATION 10450 (2) 679
- 2) Operator's Well Number: 7469 (Glady Storage) API#47-075-00004 3) Elevation: 3210.34'
- 4) Well type: (a) Oil / or Gas X /
(b) If Gas: Production / Underground Storage X /
Deep XX / Shallow
- 5) Proposed Target Formation(s): Chert and Oriskany Sandstone
- 6) Proposed Total Depth: 5840 feet
- 7) Approximate fresh water strata depths: 55 ft. and 95 ft.
- 8) Approximate salt water depths: 602' ? (bailing water)
- 9) Approximate coal seam depths: unknown
- 10) Does land contain coal seams tributary to active mine? Yes / No X /
- 11) Proposed Well Work: Remove existing wellhead and tubing. Pull approximately 600' of 7" casing; perforate and squeeze the existing 10-3/4" casing. Install 600 ft. of new 7" casing in the existing string. Install a new wellhead. Drill an additional 10-15' o
- 12) 6-1/4" hole to 5840'. CASING AND TUBING PROGRAM Install new tubing.

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	14"	Unknown	Unknown	21'	21'	Unknown
Fresh Water	10-3/4"	Unknown	40 lb./ft.	608'5"	608'5"	to surf. with 20 sks. gel. (set on midget packer)
Coal						
Intermediate	8-1/4"	Unknown	24 lb./ft.	2348'9"	22'	(set on midget 28 sks packer) gel.
Production	7"	J-55?	23 lb./ft.	5699'5"	5699'5"	150 sks. (171ft ³)
Tubing	2-3/8"	J-55	4.6 & 4.7 lb./ft.		5889'	Siphon string
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
 (Type)

17461

0273295
12

RECEIVED
Environmental Protection
JUN 23 1993
Permitting
Office of Oil & Gas

- 1) Date: June 14, 1993
- 2) Operator's well number
Well 7469
- 3) API Well No: 47 - 075 - 00004 -FRAC
State - County - Permit

STATE OF WEST VIRGINIA
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 U.S. Forest Service
Address Monongahela National Forest
P. O. Box 1548, Elkins, WV 26241
 - (b) Name _____
Address _____
 - (c) Name _____
Address _____
- 6) Inspector Phillip Tracy
Address Rt. 2, Box 37-A
Montrose, WV 26283
Telephone (304)-636-8798

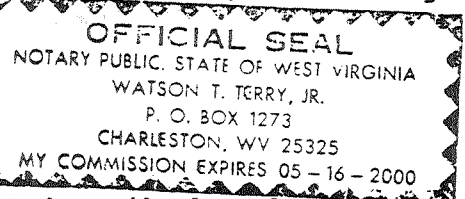
- 5) (a) Coal Operator:
 - Name _____
Address _____
 - (b) Coal Owner(s) with Declaration
Name U.S. Dept. of Interior, Bureau of Land Mgt.
Address P.O. Box 631
Milwaukee, WI 53201-0631
 - Name _____
Address _____
 - (c) Coal Lessee with Declaration
Name _____
Address _____

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 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)
 I certify that as required under Chapter 22B 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 22B 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: [Signature]
 Its: DIRECTOR, DRILLING & MAINTENANCE
 Address P. O. BOX 1273
CHARLESTON, WV 25325-1273
 Telephone 304-357-2459

Subscribed and sworn before me this 21 day of June, 1993
Watson T. Terry, Jr. Notary Public
 My commission expires May 16, 2000

*can file
d. 6/15/93
office in Elkins, WV.*

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

FEB 07 1995

Permitting
Office of Oil & Gas

Well Operator's Report of Well Work

Farm name: MONONGAHELA NAT'L FOREST Operator Well No.: 7469

LOCATION: Elevation: 3,210.34 Quadrangle: WILDELL

District: GREENBANK County: POCAHONTAS
Latitude: 5025 Feet South of 38 Deg. 40Min. 0 Sec.
Longitude 5500 Feet West of 79 Deg. 45 Min. 0 Sec.

Company: COLUMBIA GAS TRANSMISSION
1700 MacCORKLE AVENUE S.E.
CHARLESTON, WV 25314-0000

Agent: ROBERT C. WEIDNER

Inspector: CRAIG DUCKWORTH
Permit Issued: 07/09/93
Well work Commenced: 09/16/93
Well work Completed: 12/10/93
Verbal Plugging
Permission granted on:
Rotary Cable Rig
Total Depth (feet) 5866
Fresh water depths (ft)

Salt water depths (ft)

Is coal being mined in area (Y/N)?
Coal Depths (ft):

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size	The wellhead and 547 ft of 7" casing (23 lb/ft J-55) were replaced. The 10 3/4" casing was perforated and squeezed from 781 ft - surface with 325 sacks Class A cement w/ 2% Calcium Chloride (Halliburton). Well was drilled an additional 36 ft. to a new total depth of 5866 ft (Ground level). Internal casing patches were installed in the 7" @ 4403-4423 ft and 4424-4444 ft (Homco), due to anomalies indicated on casing inspection logs.		

OPEN FLOW DATA

Producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/
Final open flow _____ MCF/d Final open flow _____ Bbl/
Time of open flow between initial and final tests _____ Hour
Static rock Pressure _____ psig (surface pressure) after _____ Hour

Second producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/
Final open flow _____ MCF/d Final open flow _____ Bbl/
Time of open flow between initial and final tests _____ Hour
Static rock Pressure _____ psig (surface pressure) after _____ Hour

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1) DETAILS OF PERFORATE 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: Richard L. Coty
Date: 2/5/95

Well was acidized 12/1/93 Halliburton

4000 gals 20% FE Acid / 12 gal HC-2,
4 gal HAI-65. 1200 psig surf 4 bbl/min.

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

22924

- 1) Well Operator: COLUMBIA GAS TRANSMISSION CORPORATION ¹⁷⁵ 10450 (2) 68'
- 2) Operator's Well Number: Glady Stg # 7469 (API 47-075-00004) 3) Elevation: 3,210.34 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 ⁴⁷⁵
- 6) Proposed Total Depth : 5866 feet
- 7) Approximate fresh water strata depths : 55', 95', 602'
- 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 /
- 11) Proposed Well Work : Columbia proposes to kill the well with a freshwater polymer based mud system. Remove the tubing and reconfigure the wellhead. The well will be cleaned out to TD and logged with cased and open hole logs. A 4-1/2" liner will be installed across the open hole and into the casing. The liner is intended to isolate the caving Needmore shale section. The liner will be cemented in place. The liner will be perforated and acidized across the Oriskany section as determined by the well logs. The well will then be cleaned up, flow tested and placed back in service.
- 12) **CASING AND TUBING PROGRAM**

Issued 12/04/96
Expires 12/04/98

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 Environmental Protection
 Division of
 Oil and Gas
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 Permitting
 Office of Oil & Gas

TYPE	SPECIFICATIONS	FOOTAGE INTERVALS		CEMENT	
	Size Grade	Weight per ft.	For drilling	Left in well	Fill - up (cu. ft.)
conductor	14" no record	no record	21'	21'	no record (midget pkr)
Fresh Water	10-3/4" no record	40#	608'5"	608'5"	370 cu ft
Coal					
Intermediate	8-1/4" no record	24#	2,348'9"	22'	(midget pkr) 28sks gel
Production	7" no record	23#	5,699'5"	5,699'5"	171 cu ft
Tubing					
Liners	4-1/2" no record	11.6#	~5866'-5,399'	~5866'-5,399'	3 80CS 10/11.1

PACKERS : Kind As mentioned above
 Sizes _____
 Depths set _____

0012125
38

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1) Date: 10/24/96
2) Operator's well number
GLADY WELL 7469
3) API Well No: 47 - 075 - 00004
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:
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 Phillip Tracy
Address Route 2, Box 37-A
Montrose, WV 26283
Telephone (304) - 636-8798

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
Name _____
Address _____
(c) Coal Lessee with Declaration
Name _____
Address _____

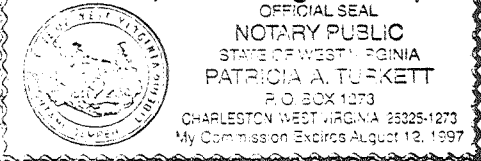
TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

_____ 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)

Copy of lease in Kanawha office

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: W.H. Frazier
Its: Senior Storage Engineer / Well Services
Address Route 3, Box 216
Elkins, WV 26241
Telephone 304/636-8129

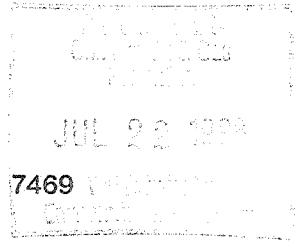
Subscribed and sworn before me this 24th day of November, 19 96
Patricia A. Turkett Notary Public
My commission expires August 12, 1997

WR-35

04-Dec-98
API # 47- 75-0004 W

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

Well Operator's Report of Well Work



Farm name: U.S. FOREST SERVICE Operator well No.: GLADY 7469
LOCATION: Elevation: 3,210.34 Quadrangle: WILDELL
District: GREENBANK County: POCAHONTAS
Latitude: 5,025 Feet South of 38 Deg. 40 Min. 0 Sec.
Longitude: 5,500 Feet West of 79 Deg. 45 Min. 0 Sec.

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

Agent: RICHARD L. COTY
Inspector: CRAIG DUCKWORTH
Permit Issued: 12/04/96
Well work Commenced: 04-15-98
Well work Completed: 05-14-98
Verbal Plugging
Permission granted on: _____
Rotary Cable Rig
Total Depth (feet) 5,866'
Fresh water depths (ft) See Original Records
Salt water depths (ft) See Previous
Is coal being mined in area (Y/N) ? N
Coal Depths (ft) : See Previous

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
STIMULATION; SEE OPPOSITE SIDE FOR DETAILS			

OPEN FLOW DATA

Producing formation ORISKANY SAND Pay zone depth (ft) 5,677'-5,830'
Gas : Initial open flow 29,945 MCF/d Oil : Initial open flow _____ Bbl/d
Final open flow N/A MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure 1846 psig (surface pressure) after 48 Hours
(TESTED 7/23/96)

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

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: W. H. Enaker
Date: 6/16/98

JUL 27 1998

POCA 0004 W

WR-35

04-Dec-98
API # 47- 75-0004 W

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

Well Operator's Report of Well Work

COLUMBIA began construction on Gladys Well 7469 on April 16, 1998 with a slickline check of the present TD of 5,866' GL. The slickline indicated an effective TD of 5,851'; fifteen feet short of the original TD. The original proposal to kill the well, remove the tubing and run a string of 4-1/2" casing to surface was modified to a "bullheaded" foamed acid job, due to the relatively stable wellbore conditions.

Halliburton Energy Services was moved in on May 5, 1998. The well was treated with a preliminary job consisting of 4,000 gals 75 Quality Halliburton 15% FE foamed acid @ 16 BPM and 1,500 psig. The acid was displaced with 9,500 gals equivalent 75 Quality foamed water and 84 gals water flush. The well was allowed to flow back into a flowback tank for cleanup.

The well was then acidized with 7 bbls Halliburton 28% FE acid as a spearhead. Then followed by 7,224 gals 75 Quality Halliburton 20% FE foamed acid @ 16 BPM, 2,300 psig. The rate was reduced to 8 BPM. The job was continued, pumping 9,408 gals 75 Quality Halliburton 15% FE foamed acid @ 8BPM with an average treating pressure of 2,250 psig. The foamed acid was displaced with 13,440 gals equivalent 75 Quality foamed water @ 8 BPM and 2,300 psig. This was flushed with 672 gals freshwater.

Additives in water: FE5A, BA-2, and BE-3S.

Additives in FE acid: FE1-A, HAI-81, SCA-130, PENN-88, and HC-2.

Recovered 139 bbls of 280 bbls total fluids on flowback, 5-5-98, through 5-6-98.

Fluids removed from location and transported for disposal @ Max Environmental (Allegheny Liquid Systems) in Pittsburgh PA on 5-12-98.

Remaining equipment was moved off location 5-14-98.