

Jamie
1/8/97

LATITUDE $38^{\circ}42'50''$
 $38^{\circ}45'00''$

LONGITUDE $79^{\circ}42'30''$

UNITED STATES OF AMERICA
DEPARTMENT OF INTERIOR
TRACT #25

WELL #7446
API
083-00088

WELL #7447

WELL #7448

083-00092

EAST FORK OF GLADY FORK

MONONGAHELA NATIONAL FOREST

TRACT #23

CONC. POST C.A. 98

B.M. - US GOV'T DISK ON CONCRETE FOUNDATION OF LARGE CULVERT OVER GLADY CREEK AT MOUTH OF LOUK RUN. STAMPED #98 J.E.A. ELEVATION = 2923.0'

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

FILE NO. _____
DRAWING NO. 7447
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEVATION SEE NOTE ABOVE

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) *Edward Johnson*
R.P.E. _____ L.L.S. 798

PLACE SEAL HERE

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



DATE NOVEMBER 1, 1996
OPERATOR'S WELL NO. 7447
API WELL NO. 47 083 00078-W
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 3171' WATER SHED EAST FORK OF GLADY FORK
DISTRICT DRY FORK COUNTY GRANDOLPH
QUADRANGLE SINKS OF GANDY COORDINATES LAT: 38°41'17" LONG: 79°43'46"
SURFACE OWNER UNITED STATES DEPARTMENT OF INTERIOR ACREAGE 2326 ±
OIL & GAS ROYALTY OWNER U.S. DEPARTMENT OF INTERIOR LEASE ACREAGE 48212.3 ±
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
Remove storage well acidize workover Well drilled
PLUG AND ABANDON CLEAN OUT AND REPLUG
TARGET FORMATION Chickamauga ESTIMATED DEPTH 5408' in 1956
WELL OPERATOR COLUMBIA GAS TRANS. CORP. DESIGNATED AGENT RICHARD L. COTY JAN 21 1997
ADDRESS P.O. BOX 1273, CHALESTON, WV 25325-1273 ADDRESS P.O. BOX 1273, CHALESTON, WV 25325-1273

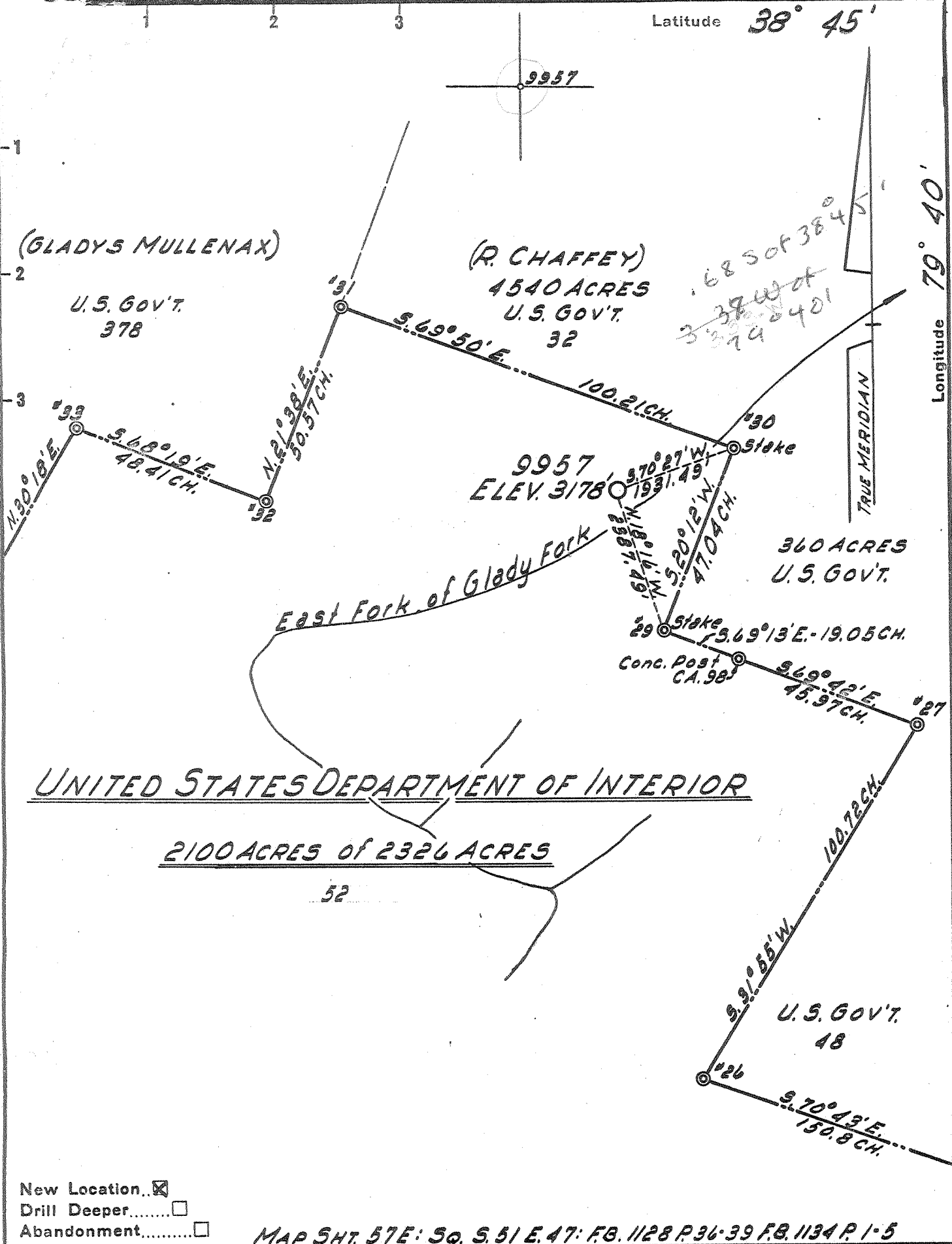
GRANDOLPH COUNTY NAME PERMIT 00018

FORM WW-6

0890 10511

Latitude 38° 45'

Longitude 79° 40'



UNITED STATES DEPARTMENT OF INTERIOR

2100 ACRES OF 2326 ACRES

52

- New Location...
- Drill Deeper.....
- Abandonment.....

MAP SH. 57E: SQ. S. 51 E. 47: FB. 1128 P. 36-39 FB. 1134 P. 1-5

Company HOPE NATURAL GAS CO.
 Address CLARKSBURG, WEST VA.
 Farm UNITED STATES DEPART. OF INTERIOR
 Tract _____ Acres 2326 Lease No. 62327
 Well (Farm) No. _____ Serial No. 9957
 Elevation (Spirit Level) 3178'
 Quadrangle SPRUCE KNOB-NW
 County RANDOLPH District DRY FORK
 Engineer Guy H. Bradley
 Engineer's Registration No. 2425
 File No. _____ Drawing No. _____
 Date JULY 20, 1955 Scale 1" = 2000'

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

WELL LOCATION MAP
FILE NO. RAN-78-R

+ 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 line of original tracing.

6-6 261
Deep Well



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

Quadrangle Spruce Knob

WELL RECORD

Permit No. RAN-78

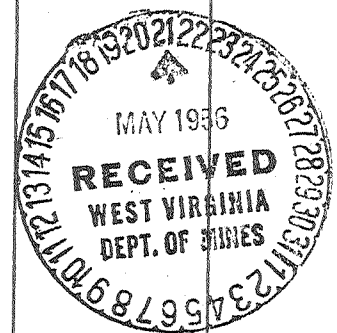
Oil or Gas Well Gas
(KIND)

Company Hope Natural Gas Company
Address Clarksburg, W. Va.
Farm U. S. Dept of Interior Acres 2326
Location (waters) East Fork of Glady Fork
Well No. 9957 Elev. 3178'
District DRY FORK County RANDOLPH
The surface of tract is owned in fee by _____
Address _____
Mineral rights are owned by _____
Address _____
Drilling commenced 10-14-55
Drilling completed 3-5-56
Date Shot Not _____ From _____ To _____
With Hydrafrac
Open Flow _____ /10ths Water in _____ Inch
_____ /10ths Merc. in _____ Inch
Volume 7,925 M Cu. Ft.
Rock Pressure 2005# lbs. _____ hrs.
Oil None bbls., 1st 24 hrs.
Fresh water 60' feet Hole Full feet
Salt water None feet _____ feet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packer
18	38	38	
10	641	641	Size of
8 1/4	1954	1954	
6 3/4	5070	5070	Depth set
5 3/16			
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
7" set in 60 bags cement
8" set in 35 bags cement
COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES
No Coal
_____ FEET _____ INCHES FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Surface			0	10			
Gravel			10	30			
Lime			30	200	Water	60	Hole Full
Sand			200	310			
Sandy Lime			310	370			
Broken Lime			370	430			
Lime			430	645			
Slate & Shells			645	2000			
Lime			2000	2045	Gas	5223 to 5401	Test 2,100M Natural. After Frac 7,925
Slate & Shells			2045	3106			
Dark Lime			3106	3220			
Slate & Shells			3220	3253			
Grey Slate			3253	3865			
Brown Shale			3865	4180			
Grey Shale			4180	4250			
Brown Shale			4250	4340			
Grey Shale			4340	4520			
Dark Shale			4520	4705			
TULLY LIME			4705	4721			
Black Shale			4721	5024			
Onondaga Lime			5024	5069			
CHERT			5069	5216			
ORISKANY			5216	5385			
HILDERBERG LIME			5385	5408			
Total Depth			5024 3178 1846	5408' 5216 3178 2038			



May 18, 1956
Joseph H. Bailey
Hope Natural Gas Company

(Over)

083-0078-w

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

- 1) Well Operator: COLUMBIA GAS TRANSMISSION CORPORATION 10450 (2) 369
- 2) Operator's Well Number: Glady Stg # 7447 (API 47-083-00078) 3) Elevation: 3,178 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: 5408 feet
- 7) Approximate fresh water strata depths: 60'
- 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 clean the wellbore out to the original TD. The well will be logged with cased hole logs and reperforated. The well will be hydra-jetted with coiled tubing and acidized across the Oriskany section. The well will then be cleaned up, flow tested and placed back in service.

Issued 01/13/97
Expires 01/13/99

RECEIVED
Division of Environmental Protection
DEC 27 1996
Permitting Office of Oil & Gas

23055

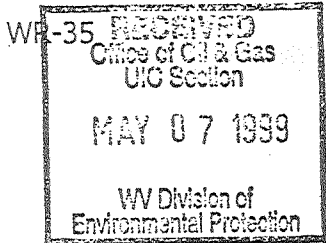
12) CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS		FOOTAGE INTERVALS		CEMENT	
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill - up (cu. ft.)
conductor	13-3/8"	no record	no record	38'	38'	no record
Fresh Water	10-3/4"	no record	no record	641'	641'	no record
Coal	8-1/4"	no record	no record	1,954'	1,954'	35 sks
Intermediate	7"	no record	no record	5,070'	5,070'	60 sks
Production	4-1/2"	J-55	11.6#	5,474'	5,474'	722 cu ft litepoz 1000 gal cealment
Tubing						
Liners						

PACKERS : Kind None
Sizes _____
Depths set _____

For Division of Oil and Gas Use Only
 Fee(s) paid: Plat Well Work Permit Reclamation Fund WPCP Agent
 Plat WW-5 WW-2B Bond Blanket (Type)

0017176



09-Jan-97
API # 47- 083-00078-W

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

Reviewed [Signature]

Well Operator's Report of Well Work

Farm name: U. S. FOREST SERVICE Operator Well No.: GLADY 7447

LOCATION: Elevation: 3,171.00 Quadrangle: GLADY

District: DRY FORK County: RANDOLPH
Latitude: 4,350 Feet South of 38 Deg. 42 Min. 30 Sec.
Longitude: 6,050 Feet West of 79 Deg. 42 Min. 30 Sec.

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

Agent: RICHARD L. COTY
Inspector: PHILLIP TRACY
Permit Issued: 01/13/97
Well work Commenced: 06/18/97
Well work Completed: 07/18/97
Verbal Plugging
Permission granted on: _____
Rotary _____ Cable _____ Rig
Total Depth (feet) 5,408'
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 & Up Tubing Size	Used in Drilling	Left in Well	Cement Fill Cu. Ft.
PERFORATIONS & STIMULATION; SEE BACK FOR DETAILS			

OPEN FLOW DATA

Producing formation ORISKANY Pay zone depth (ft) 5,216' - 5,385'
Gas : Initial open flow 8630 MCF/d Oil : Initial open flow _____ Bbl/d
Final open flow 9270 MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests 459 Days Hours
Static rock Pressure 1946 psig (surface pressure) after 4 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

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: William H. Foraker
Date: May 8, 1999

RAN 0078W

WR-35

09-Jan-97

API # 47- 083-00078-W

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

Well Operator's Report of Well Work

PERFORATIONS:

Re-perforated 4-1/2" casing on 6/27/97 and 6/30/97 with 6 shots per foot from 5,297'-5, 211'; 5,372'-5,378'; 5,322'-5,342'; and 5,307'-5,315'.

STIMULATION

- Acidized on 07-15-97
- Halliburton Foamed Acid Job.
- Treated with 5,670 gals equivalent 15% Halliburton 60-Quality FE Foamed Acid followed by 5,775 gals equivalent 10% Halliburton 60 Quality FE Foamed Acid. Flushed with 1,260 gals equivalent 60 quality foam and 3,360 gals H₂O.
- Total acid 2,084 gallons 28% Halliburton FE acid (uncut).
- Total nitrogen 175,000 scf.
- Additives: 20 gals FE-1A; 15 gals-HAI-81; 5 gals-SCA-130; 3 gals-FE5A; 24 gals-HC2; 18 lbs BA-2.