



REFERENCE
DETAIL
1" = 100'

LAT: 39° 04' 51"
LONG: 79° 16' 06"
NOTE BOOK 2487 Pg. 60

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

FILE NO. _____
DRAWING NO. 21445 P.I.
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY 1 PART IN 200
PROVEN SOURCE OF ELEVATION U.S. GOV'T. BM
ELEV: 1746.0'

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 MINES.
(SIGNED) [Signature]
R.P.E. _____ L.L.S. 99



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

DATE JULY 24, 19 85
OPERATOR'S WELL NO. 21445
API WELL NO. _____

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

LOCATION: ELEVATION 2673.0' WATERSHED STAR RUN
DISTRICT UNION 3 COUNTY GRANT
QUADRANGLE BLACKBIRD KNOB, WV 255 034 SE 9 Davis

SURFACE OWNER DOLLY EVANS ESTATE ACREAGE 213.75
OIL & GAS ROYALTY OWNER DOLLY EVANS ESTATE LEASE ACREAGE 213.75
LEASE NO. 180912

PROPOSED WORK: DRILL X 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 8376'
WELL OPERATOR COLUMBIA GAS TRANS. CORP. DESIGNATED AGENT J. L. WEEKLEY
ADDRESS P.O. BOX 1273 175 ADDRESS SAME
CHARLESTON, WV 25325

DEC 2 1985

DEEP WELL 6-6 Jordan Run (370)

COUNTY NAME PERMIT



IV-35
(Rev 8-81)

Date August 13, 1986
Operator's
Well No. 21445-TPI
Farm Dolly Evans
API No. 47 - 023 - 0012

State of West Virginia
Department of Mines
Oil and Gas Division

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil ___ / Gas X / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas," Production X / Underground Storage ___ / Deep X / Shallow ___ /)

LOCATION: Elevation: 2680 Watershed Star Run
District: Union County Grant Quadrangle Black Bird Knob

COMPANY Columbia Gas Transmission Corporation
ADDRESS P. O. Box 1273, Charleston, WV 25325
DESIGNATED AGENT Robert C. Weidner
ADDRESS P. O. Box 1273, Charleston, WV 25325
SURFACE OWNER Dolly Evans, etal
ADDRESS Rt. 1, Maysville, WV 26833
MINERAL RIGHTS OWNER As above
ADDRESS _____
OIL AND GAS INSPECTOR FOR THIS WORK Phillip Tracy ADDRESS Elkins, WV
PERMIT ISSUED 12-2-85
DRILLING COMMENCED 1-25-86
DRILLING COMPLETED 3-12-86
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON _____

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	30	30	-
9 5/8	2027	2027	923
8 5/8			
7			
5 1/2	8628	8628	786
4 1/2			
3			
2	7873		On RTTS Tool
Liners used			

GEOLOGICAL TARGET FORMATION Oriskany Sandstone Depth 8650 feet
Depth of completed well 8650 feet Rotary X / Cable Tools _____
Water strata depth: Fresh 620 feet; Salt _____ feet
Coal seam depths: N/A Is coal being mined in the area? _____

OPEN FLOW DATA

Producing formation Oriskany Pay zone depth 8400-8469 feet
Gas: Initial open flow 3334 Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow 7700 Mcf/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests N/A hours
Static rock pressure 3263 psig (surface measurement) after 72 hours shut in
(If applicable due to multiple completion--)
Second producing formation _____ Pay zone depth _____ feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ Mcf/d Oil: Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ hours
Static rock pressure _____ psig (surface measurement) after _____ hours shut in

AUG 25 1986
AUG 20 1986
(Continue on reverse side)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Perforated 1 shot per foot w/ .48 expendable shots at $\left\{ \begin{array}{l} 8400' - 8424' \text{ (13 shots)} \\ 8436' - 8459' \text{ (8 shots)} \\ 8464' - 8469' \text{ (6 shots)} \end{array} \right.$

Broke down formation with 2500 gallons 15% FE-acid through RTTS tool.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Hampshire -	Soft	Gray	0	200	Little water
Red Rock -	Soft	Red	200	300	
Shale -	Soft	Brown	300	700	1" stream of fresh water
Sand -	Hard	Gray	700	1000	
Foreknobs -	Silty	Sand	1000	3080	
Scheer -	Dark Gray	Sandy Shale	3080	3700	
Shale -	Soft	Gray	3700	4800	
Shale -	Gray	Silty	4800	5910	
Brallier -	Shale		5910	7150	
Harrell -	Shale		7150	7400	
Tully -	Limestone		7400	7420	
Shale			7420	7920	
Upper Marcellus -	Shale		7920	8030	
Purcell -	Limestone		8030	8050	
Lower Marcellus -	Shale		8050	8176	Gas at 8405' 3340 MCFD
Needmore	Shale		8176	8282	
Oriskany -	Sandstone		8282	8485	
Helderberg -	Limestone		8485	8650 TD	T.D.

(Attach separate sheets as necessary)

COLUMBIA GAS TRANSMISSION CORPORATION

Well Operator

By: 

Date: 8-13-86

Note: Regulation 2.02(i) provides as follows:

"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."



1) Date: November 12, 1985
 2) Operator's Well No. 21445
 3) API Well No. 47 - 023 - 0012 / 2
 State _____ County _____ Permit _____

RECEIVED
NOV 13 1985

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

DIVISION OF OIL & GAS
DEPT. OF ENERGY

- 4) WELL TYPE: A Oil _____ / Gas X /
 B (If "Gas", Production X / Underground storage _____ / Deep X
- 5) LOCATION: Elevation: 2673' Watershed: Star Run
 District: Union 175 County: Grant Quadrangle: Blackbird Knob
- 6) WELL OPERATOR Columbia Gas Trans CODE: 10450 7) DESIGNATED AGENT Joseph E. Campbell
 Address P. O. Box 1273 Address P. O. Box 1273
Charleston, WV 25325 Charleston, WV 25325
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Donald Ellis
 Address 2604 Crab Apple Lane
Fairmont, WV 26554
- 9) DRILLING CONTRACTOR: Name _____ Address _____
- 10) PROPOSED WELL WORK: Drill X / Drill deeper _____ / Redrill _____ / Stimulate X
 Plug off old formation _____ / Perforate new formation _____
 Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, Oriskany 475
- 12) Estimated depth of completed well, 8376 feet
- 13) Approximate strata depths: Fresh, _____ feet; salt, _____ feet.
- 14) Approximate coal seam depths: _____ Is coal being mined in the area? Yes _____ / No X /
- 15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor	13-3/8	H	48#	X		90'	90'	To surface	Kind:
Fresh water									
Coal	9-5/8	K	36#	X		2000'	2000'	To surface	by rule 15.05
Intermediate									
Production	5-1/2	N	17#	X		8376'	8376'	500 SKS OR GAS REQ BY	
Tubing	2-3/8	N	4.7#	X		8376'		RULE 15.01	
Lin...									Perforations:
									Top Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-023-0012 Date November 25 1985

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.

Permit expires November 25, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>ALB</u>	Plat: <u>MH</u>	Casing: <u>MZ</u>	Fee: <u>406000</u>	WPCP: <u>MN</u>	S&E: <u>MN</u>	Other: _____
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NOTE: Keep one copy of this permit posted at the drilling location.

[Signature]
Director, Division of Oil and Gas

File

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.