

CERTIFICATE
 I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

W. J. Barry R.P.E. No. 2074

Survey: 2-5-1963 W.S.G. N.B. No. 90 Pg. 6

- New Location .
- Drill Deeper
- Redrill
- Abandonment

Company	COMMONWEALTH GAS CORPORATION		
Address	P.O. BOX 1433 CHARLESTON, W. VA.		
Farm	FRANK A. HARDY ET AL		
Tract	Acres	1108	Lease No.
Well (Farm) No.	1	Serial No.	697
Elevation (Spirit Level)	784.39'		
Quadrangle	WINFIELD N.E. - EC		
County	PUTNAM	District	UNION
Engineer	<i>W. J. Barry</i>		
Engineer's Registration No.	2074		
File No.	Drawing No.		
Date	FEB. 14, 1963	Scale 1" = 660'	

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

WELL LOCATION MAP
 FILE NO. PUT-688

+ 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.

No Samples 6-6-1962 Deep Well



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 12

Quadrangle Winfield N. E.

Permit No. Put. 688

WELL RECORD

Oil or Gas Well Gas
(KIND)

Company COMMONWEALTH GAS CORPORATION
Address P. O. Box 1433, Charleston, W. Va.
Farm Frank A. Hardy et al Acres 1108
Location (waters) Clendenin Creek
Well No. 697 Elev. 784.39'
District Union County Putnam
The surface of tract is owned in fee by _____
Address _____

Mineral rights are owned by Frank A. Hardy et al
Rupert Route Address Lewisburg, W. Va.

Drilling commenced March 30, 1963
Drilling completed September 24, 1963
Date Shot _____ From _____ To _____
With _____

Open Flow _____ /10ths Water in _____ Inch
_____ /10ths Merc. in _____ Inch
Volume 896,000 Cu. Ft.
Rock Pressure 1308 lbs. 48 hrs.
Oil _____ bbls., 1st 24 hrs.

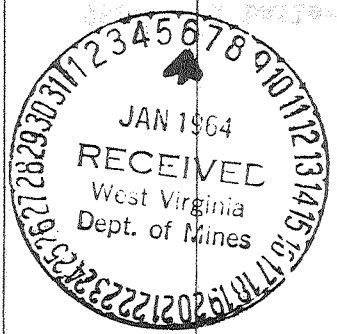
WELL ACIDIZED _____

WELL FRACTURED Densilog-Caliper-Gamma Ray-Neutron-Temperature - Fractured August 15, 1963 by
Donell 29,000# sand 1003 bbl. water and detergent - Treating press. 3900# to 4200# Inj. rate
RESULT AFTER TREATMENT 180,000 before fracturing - 896,000 cu. ft. after frac. 20 gal. per min.
ROCK PRESSURE AFTER TREATMENT 1308#
Fresh Water 25 Feet 950 Salt Water 1620 Feet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16	20' 8"	20' 8"	Kind of Packer _____
13	793' 11"		Baker upside down
10	1067' 8"		Size of <u>5"</u>
8 1/4	2163'	2163'	
6 1/2			Depth set <u>4885' 7"</u>
5 3/16	4949'	4949'	
3			Perf. top <u>4990'</u>
2	4993' 6"	4993' 6"	Perf. bottom <u>4993' 6"</u>
Liners Used			Perf. top _____
			Perf. bottom _____

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
85 sacks cement through leak in 5-1/2" casing
COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Surface			0	12			
Gravel bed			12	18			
Red Rock			18	25			
Sand rock			25	35	Water	25'	1 1/2 bailer
Blue slate			35	45			
Red rock			45	58			
Blue slate			58	65			
Red rock			65	75			
Blue slate			75	110			
Red rock			110	119			
Blue slate			119	130			
Red rock			130	160			
Blue slate			160	172			
Red rock			172	184			
Blue slate			184	202			
Red rock			202	245			
Blue slate			245	258			
Red rock			258	270			
White slate			270	280			
Red rock			280	300			
Blue slate			300	330			
Red rock			330	360			
Blue slate			360	406			
Sand			406	420			
Blue slate			420	490			
Red rock			490	515			
Blue slate			515	538			
Red rock			538	560			
Blue slate			560	590			
Red rock			590	605			



Formation	Color	Hard or Soft	Top 12	Bottom	Oil, Gas or Water	Depth Found	Remarks
Sand			605	620			
Blue slate			620	635			
Red rock			635	675			
Blue slate			675	700			
Slate & shells			700	720			
Blue slate			720	745			
Red rock			745	760			
Blue slate			760	840			
Sand			840	855			
Black slate			855	865			
White slate			865	925			
Sand			925	965			
Blue slate			965	975			
Broken sand			975	1060	Water	950'	1 bailer per hr.
Blue lsate			1060	1125			
Sand			1125	1220			
Blue slate			1220	1395			
Slate & shells			1395	1572			
SALT SAND			1572	1796	Water	1620'	Hole full
LYTLE LIME			1796	1817			
BIG LIME			1817	1974		1837'	S.L.M.
White slate			1974	1981			
ENJUN SAND			1981	2040			
Slate & shells			2040	2092			
Sand			2092	2106			
Slate & shells			2106	2160			
Lime shell			2160	2171		2163	S.L.M.
Slate & shells			2171	2453			
Brown shale			2453	2476			
BEREA SAND			2476	2490		2486'	S.L.M.
Slate			2490	2958			
Lime shell			2958	2971			
Slate & shells			2971	3710	Gas	3690'	Show
BROWN SHALE			3710	3780		3733'	S.L.M.
Slate & shells			3780	3830			
Lime shell			3830	3900			
White slate			3900	3940			
BROWN SHALE			3940	4250	Gas	3980	Show
Slate & shells			4250	4610			
BROWN SHALE			4610	4855			
CORNIFEROUS LIME			4855	4946	Gas	4943-4945	Show
DRISKANY SAND			4946	5004	Gas	4986-4989	21/10 W - 1"
Shaley lime			5004	5011			
Chert							
		TOTAL DEPTH		5011			
					FINAL GAUGE	896,000 cubic feet	
					4855	4946	
					784	784	
					<u>4071</u>	<u>4162</u>	

Date December 19, 1963

APPROVED COMMONWEALTH GAS CORPORATION, Owner

By W. J. Grady (Title) Land & Eng. Dept.