

New Location
 Drill Deeper
 Abandonment

Company COLUMBIAN CARBON COMPANY
 Address Box 873 CHARLESTON W. VA.
 Farm UNITED STATES OF AMERICA
 PART OF Tract 26f Acres 1757 Lease No. C-4542
 Well (Farm) No. K-1 Serial No. GW-1301
 Elevation (Spirit Level) 3076.22
 Quadrangle HORTON-5 5206 W272 - C
 County RAUNDOLPH District DRY FORK
 Engineer _____
 Engineer's Registration No. 2074
 File No. _____ Drawing No. W-8-59
 Date 24 MAR 1959 Scale 1"=1320'

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

WELL LOCATION MAP
 FILE NO. RAN-104

+ 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.

Samples Not bagged & Located yet

6-6 261

Deep Well

F59



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 10

Quadrangle Horton 5 SW

Permit No. RAN-104

WELL RECORD

Oil or Gas Well Gas
(KIND)

Company Columbian Carbon Company, Oper.
Address Box 873, Charleston 23, W. Va.
Farm United States of America Acres 1757
Location (waters) Glady Fork
Well No. K-1, GW-1301 Elev. 3076.22'
District Dry Fork County Randolph
The surface of tract is owned in fee by Director, Bureau of Land Management
Interior Bldg. Address Washington 25, D. C.
Mineral rights are owned by same

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16 3/8" 48#	28'5"	28'5"	Parmaco Anchor
13 3/4" 32#	750'2"	750'2"	Size of 2-3/8"
8 7/8" 23#	6458'1"	6458'1"	Depth set 6075'
5 3/16"			
3 2 3/8" 4.7#	6435'9"	6435'9"	Perf. top
			Perf. bottom
Liners Used			Perf. top
5-1/2" 15#	321'3"	321'3"	Perf. bottom

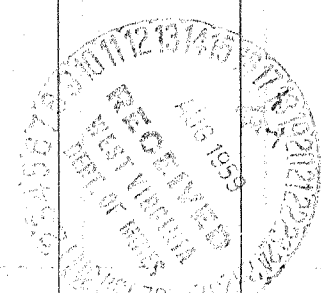
Drilling commenced 4-27-59
Drilling completed 6-1-59
Date Shot Not shot From _____ To _____
With _____
Open Flow /10ths Water in _____ Inch
/10ths Merc. in _____ Inch
Volume show Cu. Ft.
Rock Pressure _____ lbs. _____ hrs.
Oil _____ bbls., 1st 24 hrs.
WELL ACIDIZED not acidized

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
see reverse side
COAL WAS ENCOUNTERED AT none FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES

WELL FRACTURED see reverse side for fracturing record

RESULT AFTER TREATMENT total gas 2,565,000 cu. ft-Oriskany 2,186 MCF - Chert 379 MCF
ROCK PRESSURE AFTER TREATMENT 4 days Chert 1820# - Oriskany 1870#
Fresh Water 89' 610' 635-40' Feet Salt Water _____ Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Soil			0	10			
Lime & Slate			10	180	F. water	89'	2 blrs/hr.
Lime			180	210			
Broken Lime			210	520			
Gritty Lime			520	600			
Sand			600	630	F. water	610'	2-13"blrs/hr.
Sand & Lime			630	668	F. water	635-40'	hole full
Slate & Shells			668	750			
Lime			750	1135			
Shale and Lime			1135	1330			
Lime			1330	1510			
Lime and Shale			1510	1775			
Lime			1775	1900			
Shale and Lime			1900	2615			
Shale			2615	3005			
Shale and Lime			3005	3160			
Shale			3160	4210			
Shale and Lime			4210	4365			
Shale			4365	4795			
Shale, Slate & Lime			4795	5030			
Shale			5030	5860			
Lime			5860	5985			
Chert			<u>6007</u> 5985	<u>6085</u> 6100			
Shale			<u>6100</u> 6085	6140			
Oriskany			6140	6347			
Shale & Lime			6347	6410			
TOTAL DEPTH				6410'	Rotary=6396'	Landing Flange	



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Formation	Color	Hard or Soft	Top / 0	Bottom	Oil, Gas or Water	Depth Found	Remarks
<u>CASING RECORD</u>							
5-12-59	10-3/4"						casing ran at 707' DLM-cemented with 200 sacks.
6-4-59	7"						casing ran at 6396' Landing Flange with guide shoe, 5 centralizers and differential fill up collar - cemented with 225 sacks.
<u>Perforating and Fracturing Record</u>							
6-7-59							Perforated Chert 6041-46'; 6037-39'; 6020-36'; 6006-20' with 106 shots
7-6-59							Ran 3" tubing and set Baker Model A Packer at 5978'
7-8-59							Fractured the Chert. Show of gas before fracturing. Pumped in 1,000 gallons MCA. Loaded tubing with 1302 gallons water with Tergitol. Broke down with 1344 gallons water and Tergitol. Maximum pressure 3150#-broke to 2200#. Fractured with 10,240 gallons water and Tergitol with 15,000# 20-40 sand. Started sand at 1/2#/gallon. Increased sand to 1-3/4#/gallon at end of treatment. Pressure started at 2900#-held at 3700# when sand was cut off. Time 21 minutes - injection rate 487 gpm. Flushed with 2310 gallons water and Tergitol. Pressure started at 3700#-went to 5600# maximum. Total 16,204 gallons of fluid - 160 gallons Tergitol-20 minutes after shut in had 1300# pressure.
7-14-59							Cleaned out - gas gauged 3/10 W. 3" = 164 MCF from Chert.
7-15-59							Perforated Oriskany as follows: 6324-77' gas gauged 4/10 W. 3" = 190M (164 MCF from Chert) 6290-95' gas gauged 5/10 W. 3" = 212M (164 MCF from Chert) 6272-75' gas gauged 9/10 W. 3" = 285M (164MCF from Chert) 6207-56' gas gauged 10/10 W. 3"=300M (164MCF from Chert) 6175-77' gas gauged 10/10 W. 3"=300M (164MCF from Chert) 6141-57' gas gauged 10/10 W. 3"=300M (164 MCF from Chert)
7-21-59							Ran 3" tubing and set packer at 6078'
7-22-59							Fractured the Oriskany. Ran 1,000 gallons mud acid. Used 86 barrels water to fill hole and breakdown. Breakdown pressure 3700#. Started sand at 1/2#/gallon-gradually increased to 1-1/4#/gallon. Ran 75 perf balls. Cut back on sand to 1/2#/gallon-gradually increased to 1#/gallon. Ran 33 more perf balls. Maximum treating pressure 3100#. Used 490 barrels water and sand, 21,400# 20-40 sand, 50 barrels water to flush with, 220 gallons Tergitol.
							Final open flow Tubing (Oriskany) gas gauged 39/10 M. 3" 2,186,000 cu. ft. Braden Head (Chert) gas gauged 16/10 W. 3" 379,000 cu. ft.
							Total all gas 2,565,000 cu. ft.
							4 day rock pressure Braden Head(Chert).1820# - Tubing (Oriskany) 1870#

Date August 17, 19 59

APPROVED Columbian Carbon Co. Oper., Owner

By W. S. Moore, Mgr. of Prod.
(Title)