

S 150 mi  
 W. 0.78 mi  
 2

- New Location
- Drill Deeper
- Abandonment

Company COLUMBIAN CARBON COMPANY  
 Address Box 873 CHARLESTON, W. Va  
 Farm UNITED STATES OF AMERICA  
 Tract 32a Acres 2405.24 Lease No. SLM-A-032818  
 Well (Farm) No. G-5 Serial No. GW-1280  
 Elevation (Spirit Level) 2,962.95'  
 Quadrangle HORTON-96W 6-150W-073 Slady 7.5  
 County RANDOLPH District DRY FORK  
 Engineer R. B. Anderson  
 Engineer's Registration No. 2074  
 File No. \_\_\_\_\_ Drawing No. W-22-57  
 Date OCT. 22, 1957 Scale 1" = 2000'

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

**WELL LOCATION MAP**  
 FILE NO. TRAN-97

+ 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

TRACT  
 3-20-58



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION 7

Quadrangle Horton 9 SW

Permit No. RAN-97

WELL RECORD

Oil or Gas Well Gas  
(KIND)

*Deep*

Company Columbian Carbon Company, Oper.  
Address Box 873, Charleston 23, W. Va.  
Farm United States of America Acres 2405.24  
Location (waters) Daniels Run  
Well No. G-5, GW-1280 Elev 2962.95' G 16  
District Dry Fork County Randolph  
The surface of tract is owned in fee by Director, Bureau of Land Management  
Interior Building Address Washington 25, DC  
Mineral rights are owned by same

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
13 3/8" 48#	37'2"	37'2"	none
10 3/4" 32#	742'9"	742'9"	Size of
8 1/2" 23#	5610'5"	5610'5"	Depth set
5 3/16"			Perf. top
3"			Perf. bottom
2 3/8" 4/6#	5581'1"	5581'1"	Perf. top
Liners Used (w/ 2" cage 11' off bottom - 10'6" anchor below cage)			Perf. bottom

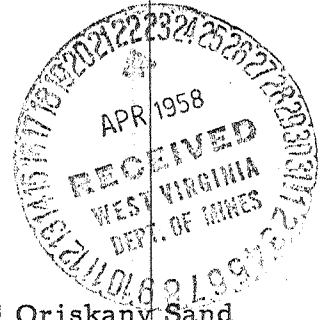
Drilling commenced - 12-4-57  
Drilling completed 2-1-58  
Date Shot not shot From \_\_\_\_\_ To \_\_\_\_\_  
With \_\_\_\_\_  
Open Flow \_\_\_\_\_ /10ths Water in \_\_\_\_\_ Inch  
\_\_\_\_\_ /10ths Merc. in \_\_\_\_\_ Inch  
Volume show before fracturing \_\_\_\_\_ Cu. Ft.  
Rock Pressure 2,000 lbs. 40 hrs.  
Oil \_\_\_\_\_ bbls., 1st 24 hrs.  
WELL ACIDIZED not acidized  
WELL FRACTURED see reverse side

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 79/10 M. 3" = 3,111 MCF  
ROCK PRESSURE AFTER TREATMENT 22 hours 1850#  
Fresh Water none Feet \_\_\_\_\_ Salt Water none Feet \_\_\_\_\_

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Soil			0	10			
Sand			10	40			
Lime			40	50			
Sand			50	100			
Lime			100	170			
Sand			170	215			
Lime			215	950			
Lime and Shale			950	1090			
Shale			1090	1290			
Lime and Shells			1290	1560			
Shale			1560	2350			
Shale and Lime			2350	2580			
Shale			2580	2990			
Shale and Lime			2990	4075			
Brown Shale			4075	4710			
Black Shale			4710	4745			
Gray Shale			4745	5028			
(the following formations are from samples)							
Onondaga			5028	5050			
Chert			5050	5086			
Brown Shale			5086	5108			
Onondaga			5108	5126			
Chert			5126	5199			
Chert & Shale			5199	5241			
Shale			5241	5274			
Oriskany Sand			5274	5494			
Sandy Lime			5494	5566			
Total Depth							

5108 5274 5494  
2963 2963 2963  
2145 2311 2531



Gas Pay: 5170' show and Oriskany Sand

Rotary = 5552' Landing Flange  
(over) 5566' Rotary = 5552' Landing Flange

Formation	Color	Hard or Soft	Top ↗	Bottom	Oil, Gas or Water	Depth Found	Remarks
Cable tools 0 - 711'							
Rotary tools 711' - total depth							
7" casing perforated as follows							
5518' - 5528' 2 shots/foot.							
5450' - 5455' 4 shots/foot.							
5349' - 5368' 2 shots/foot.							
5374' - 5392' 2 shots/foot.							
5274' - 5285' 4 shots/foot.							
5285' - 5290' 2 shots/foot.							
5290' - 5302' 4 shots/foot.							
5311' - 5318' 2 shots/foot.							
5318' - 5326' 4 shots/foot.							
5326' - 5334' 2 shots/foot.							
5334' - 5342' 2 shots/foot.							
5136' - 5160' 2 shots/foot. <i>OK</i>							
<u>Fracturing Record</u>							
R. n 3-1/2" tubing and set Baker Full Bore packer at 4650' - 19 hour pressure before fracturing 1950# - 40 hours 2,000#. Before fracturing had show of gas. Pumped in 1 barrel oil, 2,000 gallons MCA. Loaded tubing with oil. Displaced 500 gallons MCA with 2 pumps at 1500# - waited 5 minutes - displaced 500 gallons with 2 pumps at 1500#. - waited 5 minutes displaced 500 gallons with 2 pumps at 1500# - waited 5 minutes displaced 500 gallons MCA with 2 pumps at 1750#. Broke down with 8 pumps at 3500# pressure. Gelled 12,000 gallons kerosene. Pressure started at 3100# - in 2 minutes dropped to 2600# - raised to 2800#. Held rest of fracturing at 2800#. Started perforation balls after 4,000 gallons gel - used 381 perforation balls and 9,100# sand. Pumped in 100 barrels flush in five minutes.							
22 hour pressure after fracturing 1850#.							
Pulled 3" and 4" 2' siphon string. Final open flow 79/10 M. 3" = 3,111 MCF							
24 hours after running siphon string 1617#							
44 hours after running siphon string 1725#.							
<u>Casing Record</u>							
1-8-58 Ran 10-3/4" casing at 711' DLM. Cemented with 250 sacks. No circulation or returns. Pumped plug within 30' of bottom.							
2-3-58. Ran 7" casing 5552' Landing Flange - 250 sacks cement - maximum pressure 500# while cement was going around pipe. Pumped plug to float collar at 5530'. At 5530' pressured up to 1,000# - ran 5 centralizers - 1 bottom of Sand - 1 middle of Sand - 1 top of Sand - 1 bottom of Chert - 1 top of Chert.							

Date April 18, 19 58

APPROVED Columbian Carbon Co., Oper., Owner

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

WR-35

23-Jun-98  
API # 47- 083-00097 F

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

Well Operator's Report of Well Work

Farm name: U.S. DEPT. of INTERIOR Operator well No.: GLADY STG. 7431

LOCATION: Elevation: 2,962.95' Quadrangle: GLADY

District: DRY FORK County: RANDOLPH  
Latitude: 7,350 Feet South of 38 Deg. 50 Min. 0 Sec.  
Longitude: 3,000 Feet West of 79 Deg. 40 Min. 0 Sec.

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

Agent: RICHARD L. COTY  
Inspector: PHILLIP TRACY  
Permit Issued: 04/01/98  
Well work Commenced: 04-17-98  
Well work Completed: 05-26-98  
Verbal Plugging  
Permission granted on: \_\_\_\_\_  
Rotary \_\_\_\_\_ Cable \_\_\_\_\_ Rig  
Total Depth (feet) 5,566'  
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) 5,274'-5,494'  
Gas : Initial open flow 1,379 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 1496 psig (surface pressure) after 24 Hours  
(TESTED 06/07/96)  
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. Frazier  
Date: 7/17/98

RAN 0097F

JUL 27 1998

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

Well Operator's Report of Well Work

- COLUMBIA ran a slickline weight to check the TD on 04-17-98. The present TD is recorded as 5,566' GL. The slickline weight set down on fill material at 5,542' GL.
- WellTech Service Rig #20 was moved on location and rigged up 04-17-98.
- The well was killed with a polymer mud system (dextrid and xanathan gum) on 04-21-98.
- A total of 174 joints of tubing (5,466.70' threads off) was pulled and retired on 04-22-98. A well test bomb was recovered on sandline.
- The well was cleaned out to 5,534' KB on 04-24-98.
- Western Atlas ran a Vertilog, directional survey, SBT and GR/N on 04-27-98 and 04-28-98.
- A drillable 7" composite bridge plug was set @ 5,250' on 04-29-98.
- On 04-30-98 Halliburton was rigged up and squeeze pressure was applied (through 2-7/8" drillpipe and a RTTS Packer) to the Chert perforations @ 1,500 to 1,700 psi. The formation took less than 4 bbls fluid.
- On 05-01-98 Halliburton placed a balanced cement plug from 5,250' - 4,986', consisting of 50 sks of standard cement w/ 1% Halad 322. A pressure of 1,500 psi was held against the plug losing 145 psi in thirty minutes. The pressure was re-established with 2/10ths-bbl volume.
- The wellhead was modified with new flanged components on 05-04-98 and tested.
- The cement was tagged @ 5,056' on 05-05-98 and the well cleaned out to a TD of 5,536'.
- On 05-14-98 Western Atlas re-perforated the 7" casing @ 6 SPF. 5,417' - 5,437', 5,406' - 5,417', 5,350' - 5,364', 5,330' - 5,334' & 5,334' - 5,340', 5,310' - 5,330', 5,290' - 5,310'. Atlas set down @ 5,438'
- Halliburton Energy Services was moved in on May 18, 1998. The coiled tubing unit was set up and coiled tubing ran to 5,528' washing out approximately 100' of fill material. Western Atlas ran a gauge ring and set down at a depth of 5,522'. Re-perforating continued @ 6 SPF from 5,464' - 5,478', and 5,437' - 5,452'.
- The well was acidized 05-19-98 utilizing Halliburton coiled tubing and 15% FE acid across the perforated section using a selective injection packer (SIP). @ 5 foot intervals. Setting and releasing with 30 sets. A total of 309 bbls of 15% FE Acid was used during the job.
- Additives : FE1-A, HAI-81, SCA-130, PENN-88, and HC-2. AVERAGE RATE=1.5BPM  
AVERAGE TREATING PRESSURE=1,500 PSIG
- Recovered 149 bbls of 309 bbls total fluids on flowback, 5-19-98, through 5-20-98.
- Fluids removed from location and transported for disposal @ Max Environmental (ALS) Pittsburgh PA on 5-25-98.
- Solids resulting from cement operation were disposed of 5-12-98 @ NORTHWESTERN LANDFILL, INC., Parkersburg, WV 26101.
- Well Work Completed 05-26-98.