

STATE OF MARYLAND
DEPARTMENT OF GEOLOGY, MINES AND WATER RESOURCES
 The Johns Hopkins University
 BALTIMORE 18, MARYLAND

P#
G-4
102

WELL COMPLETION REPORT

This report must be submitted within 30 days after completion of the well

WELL DESCRIPTION

WELL LOG
 State the kind of formations penetrated, their depth, their thickness, and if water-bearing

CASING AND SCREEN RECORD
 State the kind and size of casing, liner, shoe, screen, and other accessories (if no casing used, give diameter of well)

Permit Number Four (4)

Name of Owner
Columbian Carbon Co.

GW-1512, L. D. Shaffer #1
 Started drilling 7-14-54
 Completed Drig. 10-15-54
 Elev. 2486.36' G
 Garrett County, Maryland

FEET
 from.....to.....

DIAM. (inches)
FEET
 from.....to.....
 An't run An't pulled

PUMPING TEST
 Hours Pumped.....
 Pumping Rate
 Gallons per Minute.....

Log of Well

Soil	0	-	7
Lime	7	-	35
Slate	35	-	280
Slate & Shells	280	-	455
Lime	455	-	673
Slate & Shells	673	-	2940
Brown Shale	2940	-	3048
Slate & Shells	3048	-	3143
Brown Shale	3143	-	3572
Tulley Lime	3572	-	3587
Slate & Shells	3587	-	3593
Brown Shale	3593	-	3650
Slate & Shells	3650	-	3791
Brown Shale	3791	-	3993
Lime	3993	-	4046
Brown break	4046	-	4047
Lime	4047	-	4071
Shale	4071	-	4077

10-3/4" D.P.
 Ran at 39'DEM

8-5/8" 24# casing
 Ran with H.E.W.
 packer at 504'DEM

7" 23# casing
 ran with 7" shoe. Ran tubing to
 float in 7" casing. Noticed gas
 when 33 jts. were in. Pumped 325
 sacks Aquapel into hole. No
 circulation or returns. 7" set
 down on bottom. Aquapel circulated
 when they had 20 jts. in hole. Pipe
 froze on bottom when cement was
 drilled out. Picked pipe up 38' and
 cleaned out hole. Dumped 16 sacks
 cement on bottom-set pipe back down.

2-3/8" 4# tubing
 ran with 2" cage as siphon string

WATER LEVEL
 Distance from land surface to
 water:
 Before Pumping.....Ft.
 When Pumping.....Ft.

APPEARANCE OF WATER
 Clear.....
 Cloudy.....
 Taste.....
 Odor.....

Height of Casing Above Land
 SurfaceFt.

PUMP
 Type.....
 Capacity
 Gallons per Minute.....
 Gallons per Hour.....
 Pump Column Length.....Ft.

4079'DEM-4087'SLM

Chert	4085	-	4160
Slate	4160	-	4208
Criskany Sand	4208	-	4351

TOTAL DEPTH - - - 4351'

F. water 7' hole full
 F. water 50' hole full

REMARKS
 well shut in 10-20-54

Gas logs: 4101-0' show
 4110-17' 60/10 ... 2" 327.0F
 4217-1' 61/10 ... 2" 337.5F

Before refracting gas logged
 70/10 ... 2" 353.0F

Final open flow after refracting
 10/10 H. 4" 2,142.3F

see reverse side for Refracting record

Well Was Completed
 Date 10-20-54
 Well Driller L. E. Campbell
Columbian Carbon Co.
 Signature

G4
2 of 2

Petrofracing Record

10-20-54 - Pumped 27 bbls. into formation and broke down one time. First started pumping at 1800#. Broke down to 1200# and then built up to 1700# with two trucks. Pumped in 500 gallons mud acid and displaced to bottom. Colled 2000 gallons of crude oil mixed with 4,000# sand. Pumped in at 2600# pressure maximum. Displaced it with approximately 20 bbls. crude oil. Ran 150 gallons Fixafrac - pumped to bottom and could not tell any difference in pumping pressure. Mixed 2,000 gal. crude oil - added 4,000# sand to it and pumped in. Started pumping at 2,600# and built up to 4300# when finished pumping gel. Displaced to bottom. Flushed with another 30 bbls. crude oil. Shut in at 1100# pressure.

Before Petrofracing gas gauged 70/10 W. 2" 353 MCF - 66 hour pressure 1410#.

Final open flow after Petrofracing 12/10 M. 4" 2,144 MCF - 24 hour pressure 1400#.