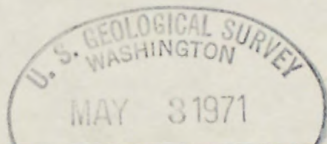
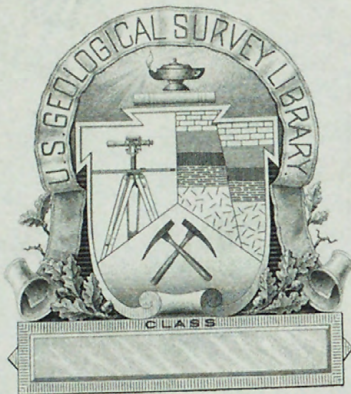


U. S. Geological Survey.

REPORTS-OPEN FILE SERIES, no. 974: 1967.



(200)
R290
No. 974



(200)
R290
[no. 974]

U.S. Geological Survey.

= Reports - open file series, no. 974

USGS LIBRARY - RESTON



3 1818 00082703 8

Cm
SL

PRELIMINARY LOG OF DRILL HOLE NEAR RIEGELSVILLE, PENNSYLVANIA

¹⁹³⁵⁻ by
Jack B. Epstein, John P. D'Agostino, Avery Ala Drake, Jr.,
and Nicholas Lampiris

227297

✓
U.S. Geological Survey.
Open-file Report

1967

accompanied

(200) Weld - Int. 2905
R290
E no. 974

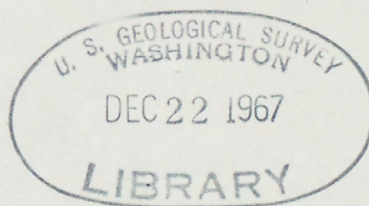
U. S. Geological Survey
Washington, D. C.
20242

For release DECEMBER 29, 1967

The U. S. Geological Survey is releasing in open file the following report. Copies are available for consultation in the Geological Survey Libraries, 1033 GSA Bldg., Washington, D. C. 20242; Bldg. 25, Federal Center, Denver, Colo. 80225; 345 Middlefield Rd., Menlo Park, Calif.:

1. Geologic reconnaissance in western Liberia, by Gerhard W. Leo and Richard W. White. 29 p., 1 pl., 1 fig., 1 table.
2. Preliminary log of exploratory hole drilled near Riegelsville, Pennsylvania, by Jack B. Epstein, John P. D'Agostino, Avery Ala Drake, Jr., and Nicholas Lampiris. 2 p., 1 fig., 1 log. Bureau of Topographic and Geologic Survey, Dept. of Internal Affairs, Harrisburg, Pa. 17120.

* * * * *



1 Preliminary log of drill hole near

2 Riegelsville, Pennsylvania

3 by

4 Jack B. Epstein, John P. D'Agostino, Avery Ala Drake, Jr.,

5 and Nicholas Lampiris

6 The U.S. Geological Survey, in cooperation with the Pennsylvania
7 Bureau of Topographic and Geologic Survey, completed drilling of a
8 476-foot hole to determine structural relations near Rieglesville,
9 Bucks County, Pennsylvania. Data from the drill hole substantiate the
10 interpretation of Drake and others (1967) that Precambrian rocks lie
11 tectonically (in fault contact) above lower Paleozoic carbonate rocks
12 in this vicinity. The drill-hole site is on Rattlesnake Hill, about
13 1.4 miles south-southwest of Rieglesville (fig. 1) at an altitude of
14 about 350 feet.

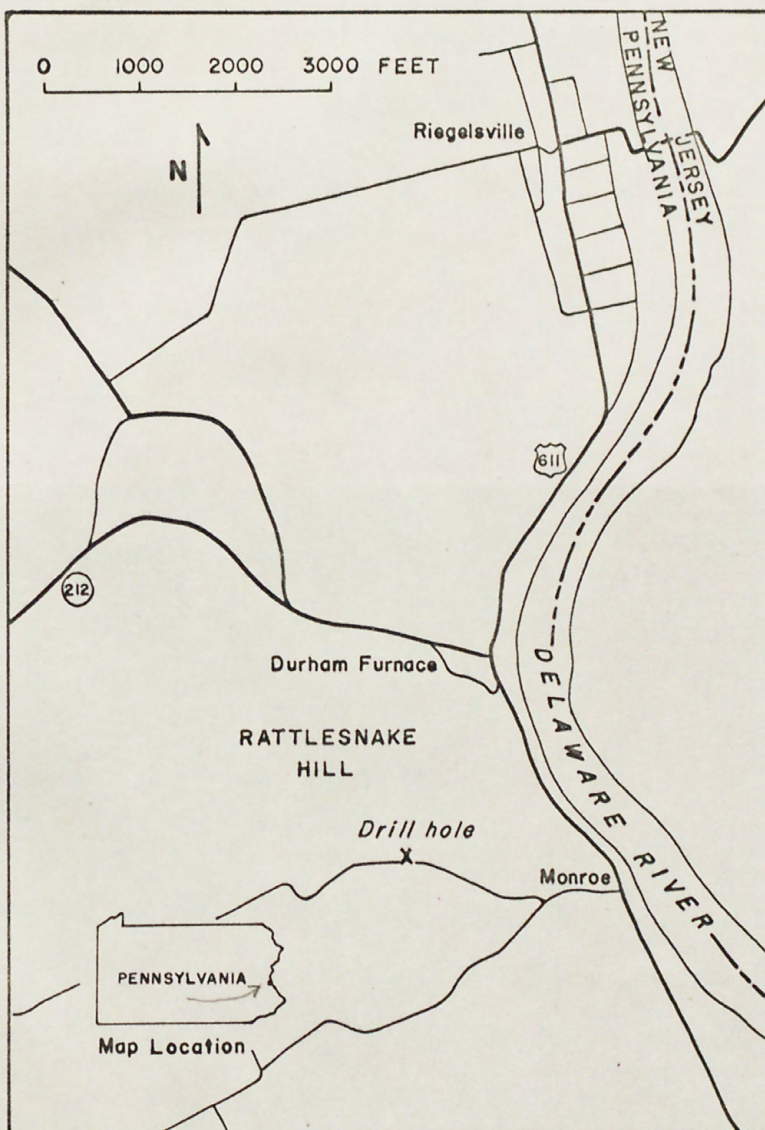
15 The Precambrian rocks consist of altered hornblende gneiss,
16 quartz-feldspar gneiss, and amphibolite, and lesser interlayered
17 pegmatite, serpentine marble, and serpentinite. Alteration minerals
18 are chlorite, calcite, sericite, serpentine, and pyrite. The rocks are
19 weakly mineralized, principally with magnetite. The magnetite occurs as
20 scattered fine grains and as rare coarser grains throughout the core.
21 Minor amounts of fine-grained pyrrhotite and pyrite, and some chalco-
22 pyrite, occur in small, 0.5- to 3-foot fracture zones. Hematite,
23 mostly in fine grains, is present to a depth of 96 feet.
24

1 The underlying Paleozoic rocks were penetrated at 392 feet; the
2 hole bottomed in these rocks at a depth of 476 feet. They consist
3 of cherty fine- to medium-grained, light- to medium-dark-gray
4 dolomite and calcitic dolomite of the lower part of the Leithsville
5 Formation of Middle(?) Cambrian age and are less mineralized than the
6 Precambrian rocks. Very small pyrite cubes and fine-grained chalcop-
7 pyrite are scattered throughout the core; minor concentrations occur
8 along shear surfaces and small mylonitized zones. Minor amounts of
9 pyrrhotite and malachite were noted. No major zones of mineralization
10 are present.

11 The hole was drilled by Sprague and Henwood, Inc., of Scranton,
12 Pa. Drilling began on August 17, 1967 and was completed on September
13 20, 1967. The cores are stored in U.S. Geological Survey Building 10,
14 Connecticut Avenue and Van Ness Street, Washington, D.C.

15 Reference cited

16 Drake, A. A., Jr., McLaughlin, D. B., and Davis, R. E., 1967, Geology
17 of the Riegelsville quadrangle, Pa.-N.J.: U.S. Geol. Survey Geol.
18 Quad. Map GQ-593.
19
20
21
22
23
24
25



BASE MODIFIED FROM RIEGELSVILLE
7 1/2-MINUTE QUADRANGLE, 1956

FIGURE 1. MAP SHOWING LOCATION OF DRILL HOLE

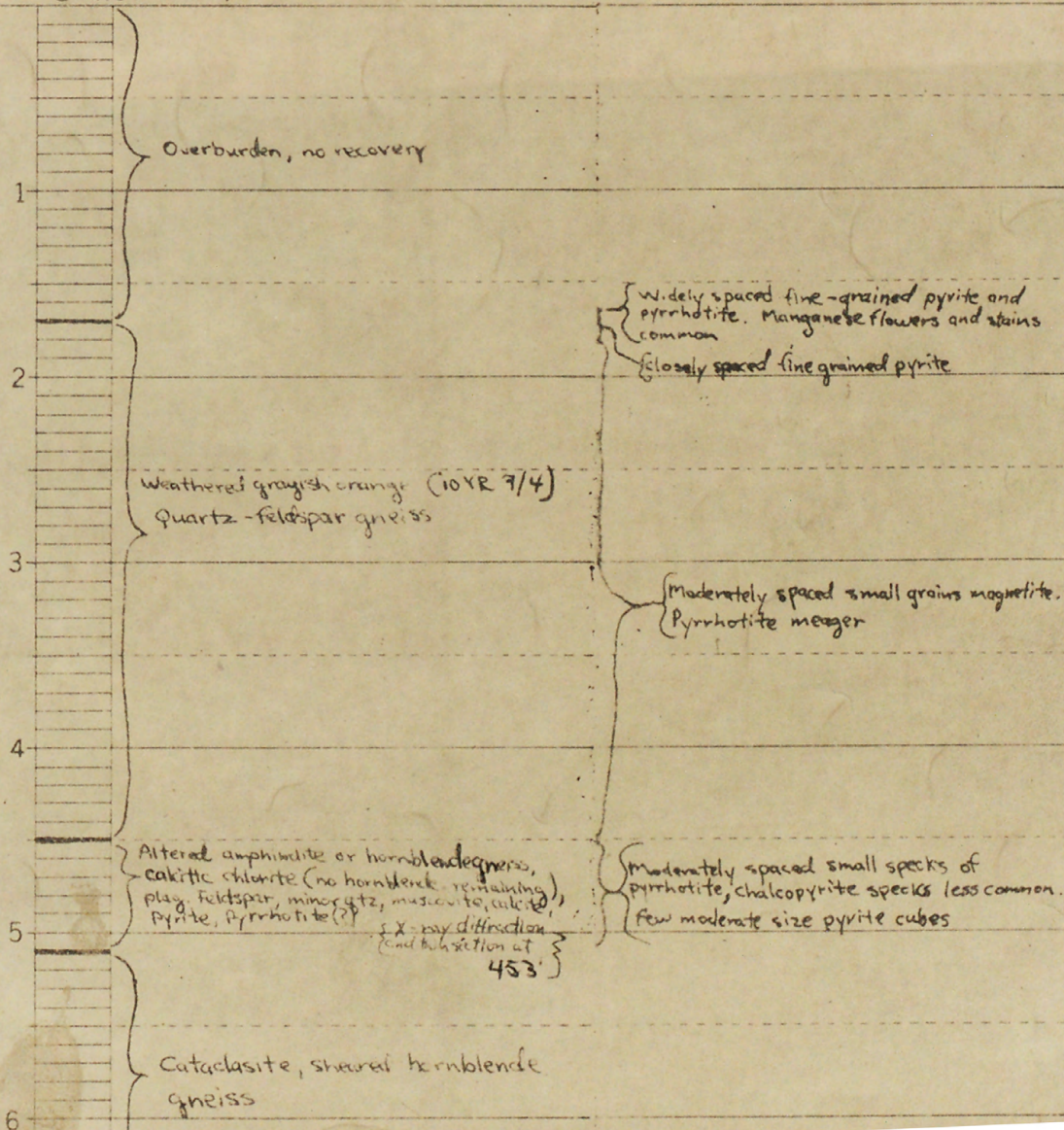
U.S.G.S. and Pa. T. and G.S.

Rattlesnake Hill Drill Hole

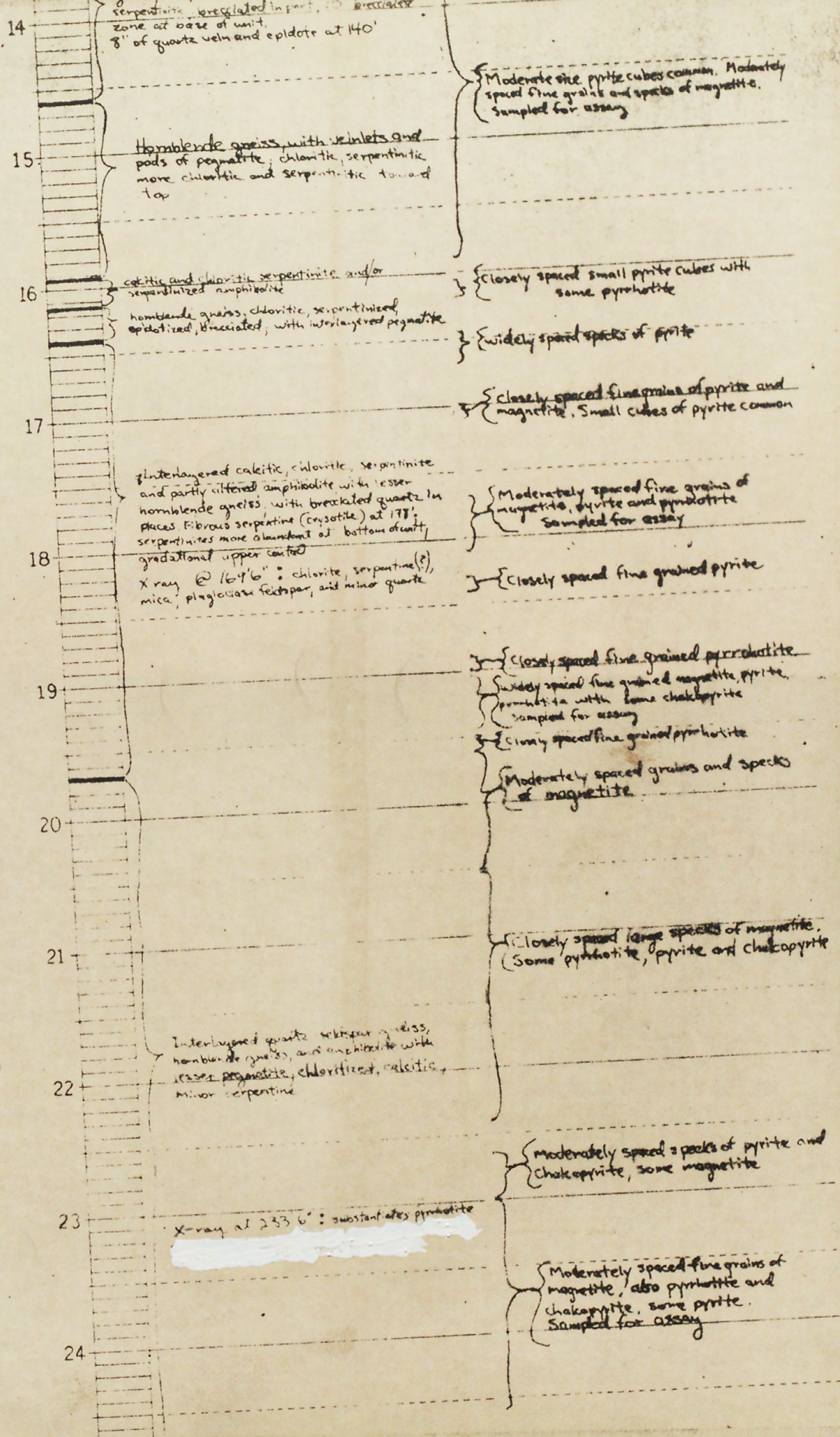
Bucks County, Pa.

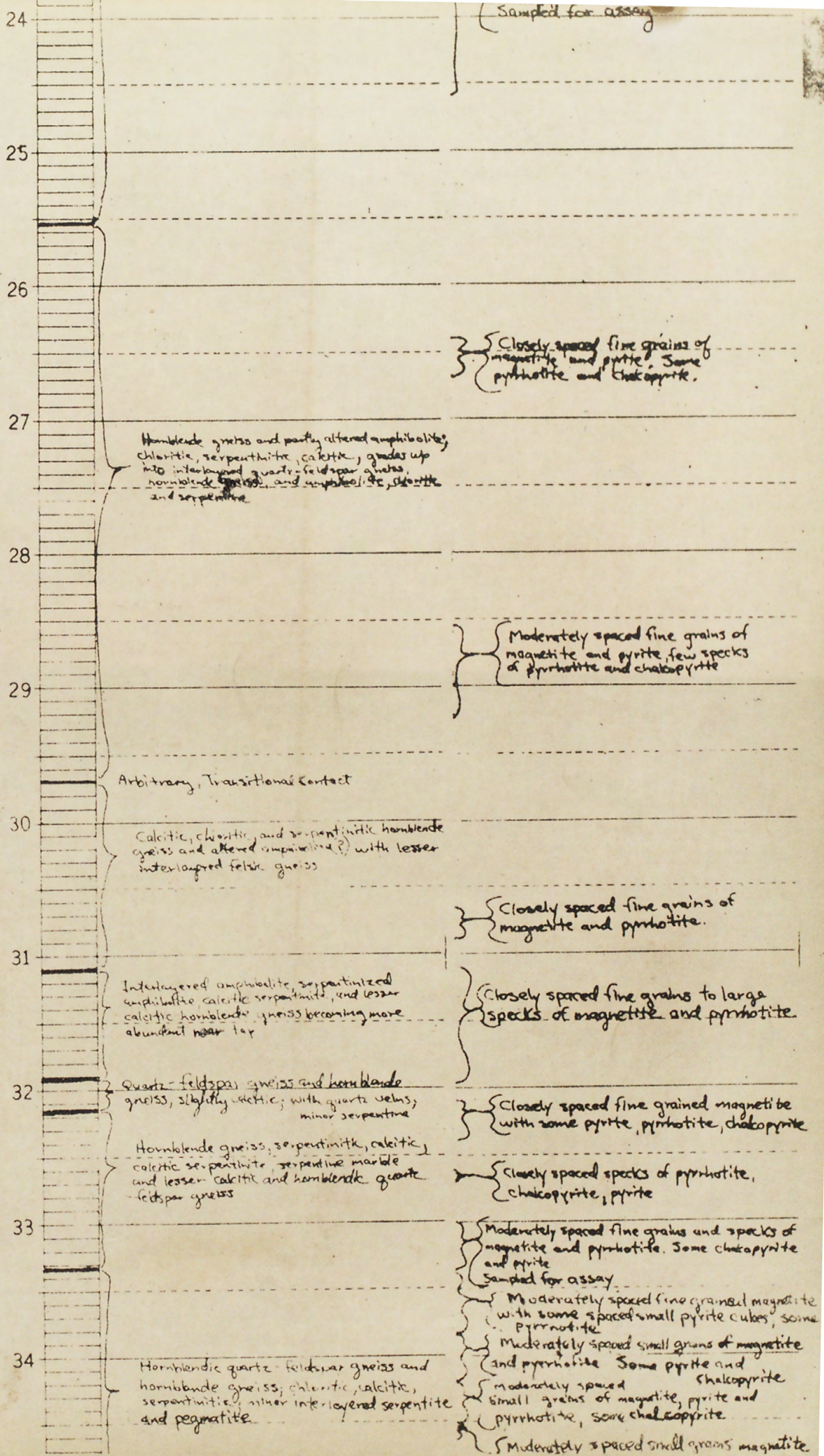
STATE		FIELD		FIELD																	
COUNTY		COMPANY		COMPANY																	
SEC.	WELL NO.	FARM	NO	FARM																	
T	R	DATE COM.	DATE COMPL.	DATE COM.	DATE COMPL.																
<table border="1"> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </table>																		FOOTAGE LOC.		FOOTAGE LOC.	
SHOT QUARTS		BETWEEN	SHOT QUARTS		BETWEEN																
ACID GALS.		BETWEEN	ACID GALS.		BETWEEN																
ALT		CASING		CASING																	
INT'L. PROD.		REMARKS		REMARKS																	
T. D.																					

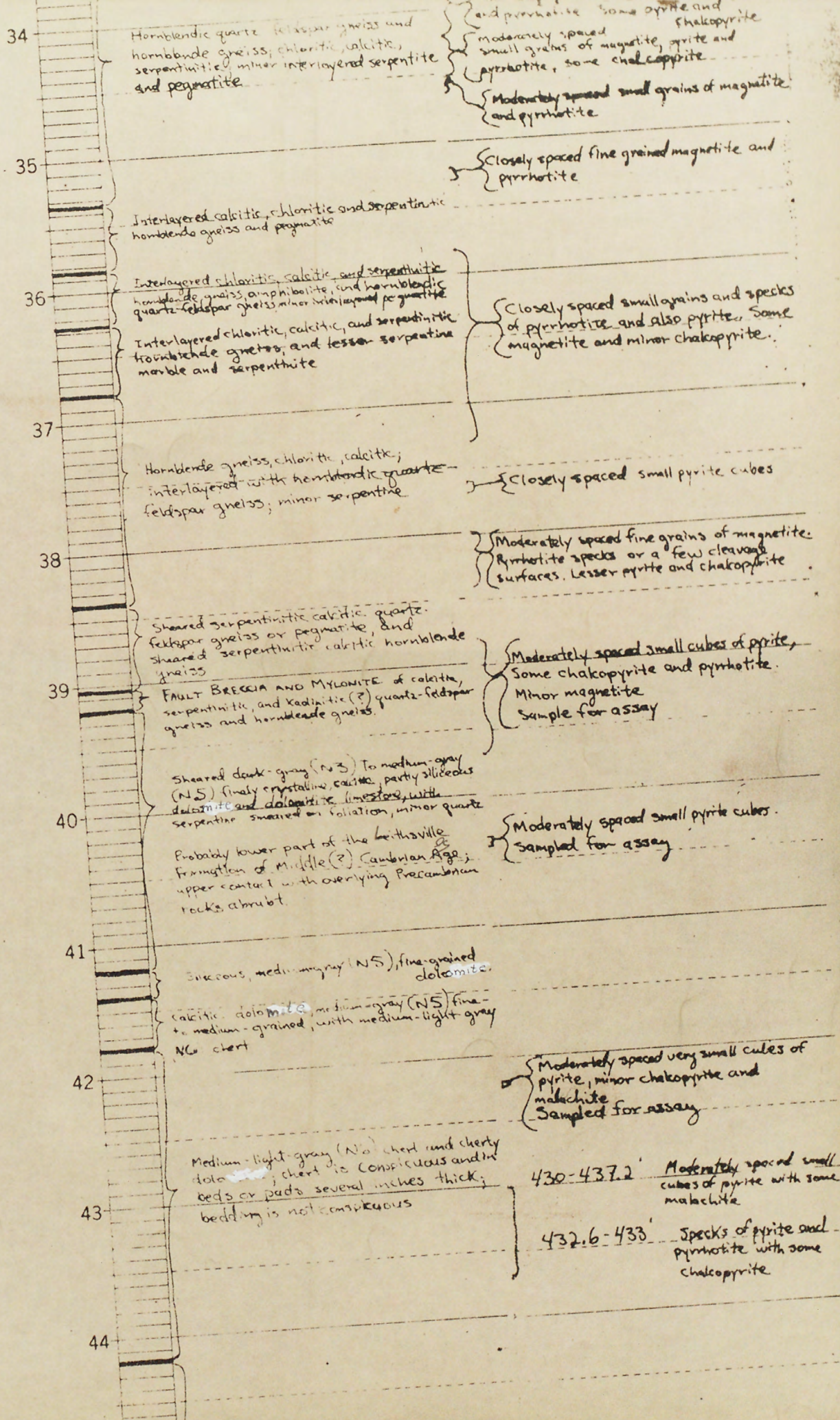
Scale: 1" = 10'



7	hornblende gneiss, chloritic, partly weathered and sheared	Moderately spaced small grains magnetite
		71-96' Moderately spaced specks of hematite
		79.5-80' closely spaced fine cubes of pyrite
8	Hornblende gneiss and amphibolite, chloritic, epidotized, with interlayers of albite (?) (moderate elongation (10 & 3/4) pegmatite, calcitic, minor serpentine on foliation planes	84.0-86.2' closely spaced small cubes of pyrite
9		90.5 to 95.0 Moderately spaced small cubes of pyrite
		95.0-95.5 closely spaced magnetite specks
10	Hornblende gneiss and quartz-feldspar gneiss, grading into pegmatite in places, minor epidote, with quartz filling, sheared and brecciated in places, with interlayered amphibolite, slightly calcitic, pyritic, chloritized, serpentized	Moderately spaced fine grains of magnetite and pyrite
		Closely spaced fine grains of magnetite and pyrite
		Closely spaced fine grained magnetite - some fine grained pyrite
11		Moderately spaced very fine grained pyrite and magnetite
		Moderately spaced fine grained pyrite. Some fine grained magnetite
12		
	Interlayered amphibolite, hornblende, gneiss, and lesser quartz-feldspar gneiss and pegmatite, somewhat brecciated, chloritic, serpentized, calcitic, epidotized. Thin hematite smears at 121' 8", 124' 7"	
13	Brecciated quartz-feldspar gneiss, chloritic	Closely spaced fine-grained pyrite
		1/4 - 1/2" hematite vein
		Some small pyrite cubes
		Closely spaced fine grained pyrite
14	Interlayered hornblende granite, quartz-feldspar gneiss, amphibolite, and pegmatite, chloritic, serpentitic, brecciated in part, 10" brecciated zone at base of unit, 8" of quartz vein and epidote at 140'	
		Moderate size pyrite cubes common. Moderately spaced fine grains and specks of magnetite. Sampled for assay
15	Hornblende gneiss, with veins and pods of pegmatite, chloritic, serpentinitic more chloritic and serpentinitic toward top	
16	calcitic and chloritic serpentinite and/or serpentinitized amphibolite	Closely spaced small pyrite cubes with some pyrrhotite
	hornblende gneiss, chloritic, serpentinitized, epidotized, brecciated; with interlayered pegmatite	widely spaced specks of pyrite







serpentine smeared on foliation, minor quartz

Probably lower part of the Keithville
Formation of Middle(?) Cambrian age;
upper contact with overlying Precambrian
rocks abrupt.

Moderately spaced small pyrite cubes.
Sampled for assay

Succineous, medium-gray (N5), fine-grained
dolomite

calcareous dolomite, medium-gray (N5) fine
to medium-grained, with medium-light gray
NG chert

Moderately spaced very small cubes of
pyrite, minor chalcopryite and
malachite
Sampled for assay

Medium-light-gray (NG) chert and cherty
dolomite; chert is conspicuous and in
beds or pads several inches thick;
bedding is not conspicuous

430-437.2' Moderately spaced small
cubes of pyrite with some
malachite

432.6-433' Specks of pyrite and
pyrrhotite with some
chalcopryite

calcareous, siliceous, and cherty, medium-
light-gray (NG) to medium-gray (N5)
dolomite and lesser chert

Moderately spaced small cubes of pyrite

5' of medium-dark-gray (N4) calcareous
shale interbeds or cleavage smears
above 461' 2"

1/2' of dark-gray (N3) to medium-
dark gray (N4) calcareous dolomite
with 1-2 mm "floating" quartz grains
below 461'. There is a 1/2" fault breccia
at base of this unit.

Moderately spaced very small cubes
of pyrite and some chalcopryite

loosely spaced very small cubes of pyrite

← 475' 6" bottom of core

Bottom of hole

USGS LIBRARY - RESTON



3 1818 00082703 8