

County: Loudoun

VDMR Well No: W-886

Well No: Leesburg #1

Farm: W. Martin

Driller: Bear Creek Mining Co.

Location: 9 miles south of Leesburg, Loudoun County, 3/4 mile south of
Goose Creek.

Elevation: 340'

Total Depth: 240'

Drilling Commenced:

Well Completed:

Sample Description by: E. C. Toewe, September 1963

GEOLOGIC SUMMARY

<u>Depth</u>	<u>Thickness</u>	<u>Description</u>
0-27.0	27.0	No core recovery
27.0-240.0	213.0	Diabase, light gray to black, medium-grained. Plagioclase 45-70%, pyroxene 30-50%, magnetite, biotite, and pyrite 2-5%. Some amphibole is present in the core, but since it is not readily distinguishable from pyroxene, amphibole is included in the percentage of pyroxene cited in the log. Chalcopyrite is present throughout the core in very minor amounts. Shear planes lined with black slickensides are very prominent in the upper 80 feet of the core, which shows intensive shearing. Below this 80-foot "shear zone", shear planes were noted at 80.3'-81.7', 91.8'-92.7', 109.6'-113.2', 121.5'-122.6', 125.9'-126.1', 130.7'-131.2', 140.7'-140.8', 149.8'-149.9', 157.2'-161.2', 188.4'-191.4', and 228.0'-232.8'. Chlorite is the only identifiable mineral along these shear planes. Black veins (chlorite) are common from 47.2'-68.4'. White veins of prehnite/datolite are present (228.1'-229.6', 231.7'-232.2', and 232.5'-232.7'), and one vein of barite cuts the core from 230.8'-230.9'. The diabase from this hole is dated as Triassic.

GEOLOGIC LOG

<u>Depth</u>	<u>Thickness</u>	<u>Description</u>
0-27.0	27.0	No core recovery
27.0-47.2	20.2	Diabase, dark gray, medium-grained. Plagioclase 55-60%, pyroxene 40-45%, magnetite 5%. Shear planes with black slickensides cut entire core in this interval. Sample R-2375, 35.0 feet: thin section contains, plagioclase feldspar (An 50-70) 55%, augite 30%, magnetite 7%, biotite 3%.
47.2-68.4	21.2	Diabase, dark gray to black, medium-grained. Plagioclase feldspar 50-60%, pyroxene 45-50%, magnetite 5-8%. Shear planes and dark veins dominate this interval. Sample R-2376, 63.7 feet. Thin section contains: plagioclase feldspar, retaining crystal outlines for the most part, but almost entirely altered to sericite 50%, urallite-hornblende 25%, augite 15%, magnetite 5%, biotite 3%, quartz 2%. Poor recovery 48.0'-52.0'.
68.4-80.3	11.9	Diabase, same as above, but dark veins absent.
80.3-157.2	76.9	Diabase, dark gray, medium-grained. Plagioclase feldspar 50-60%, pyroxene 45-50%, magnetite 2-5%. Shear planes with black slickensides cut the core at 80.3'-81.7', 91.8'-92.7', 109.6'-113.2', 121.5'-122.6', 125.9'-126.1', 130.7'-131.2', 140.7'-140.8', 140.8'-149.9'. Sample R-2377, 140.0 feet. Thin section contains: plagioclase feldspar (An 50-70) 55%, augite 30%, magnetite 6%, hornblende 5%, biotite 3%, quartz 1%.
157.2-161.2	4.0	Diabase, same as above, but cut by shear planes with black slickensides.

<u>Depth</u>	<u>Thickness</u>	<u>Description</u>
161.2-188.4	27.2	Diabase, dark gray to black, medium-grained. Plagioclase feldspar 50-60%, pyroxene 45-55%, magnetite 2-5%, biotite 1-2%.
188.4-191.4	3.0	Diabase, same as above, but shear planes with black slickensides cut the core.
191.4-223.5	32.1	Diabase, same as above, but shear planes absent.
223.5-224.5	1.0	Diabase, dark gray to black, slightly finer-grained than above. Mineralogy same as above.
224.5-233.0	8.5	Diabase, light to medium gray, medium-grained. Plagioclase feldspar 55-60%, pyroxene 40-45%, magnetite 5-8%. Shear planes with black slickensides cuts the core at 228.0'-232.8'. Light colored veins cut the core from 228.1-229.6', 230.8-230.9', 231.7-232.2', and 232.5-232.7'. Sample R-2378, 230.5 feet; thin section contains: plagioclase feldspar (An 50-70) 55%, augite 35%, magnetite 5%, biotite 3%, quartz 2%.
233.0-240.0	7.0	Diabase, dark gray to black, medium-grained. Plagioclase feldspar 50-55%, pyroxene 35-40%, magnetite 5-8%.

Virginia Division of Mineral Resources
September 27, 1963
E. C. Toewe - Geologist

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