COMMONWEALTH OF VIRGINIA
DEPARTMENT OF MINES, MINERALS AND ENERGY
DIVISION OF MINERAL RESOURCES

# INTERPRETIVE SEISMIC PROFILE ALONG INTERSTATE I-64

# IN CENTRAL VIRGINIA FROM THE VALLEY AND RIDGE TO THE COASTAL PLAIN

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(Modified from U.S. Geological Survey Chart OC-123, 1982)

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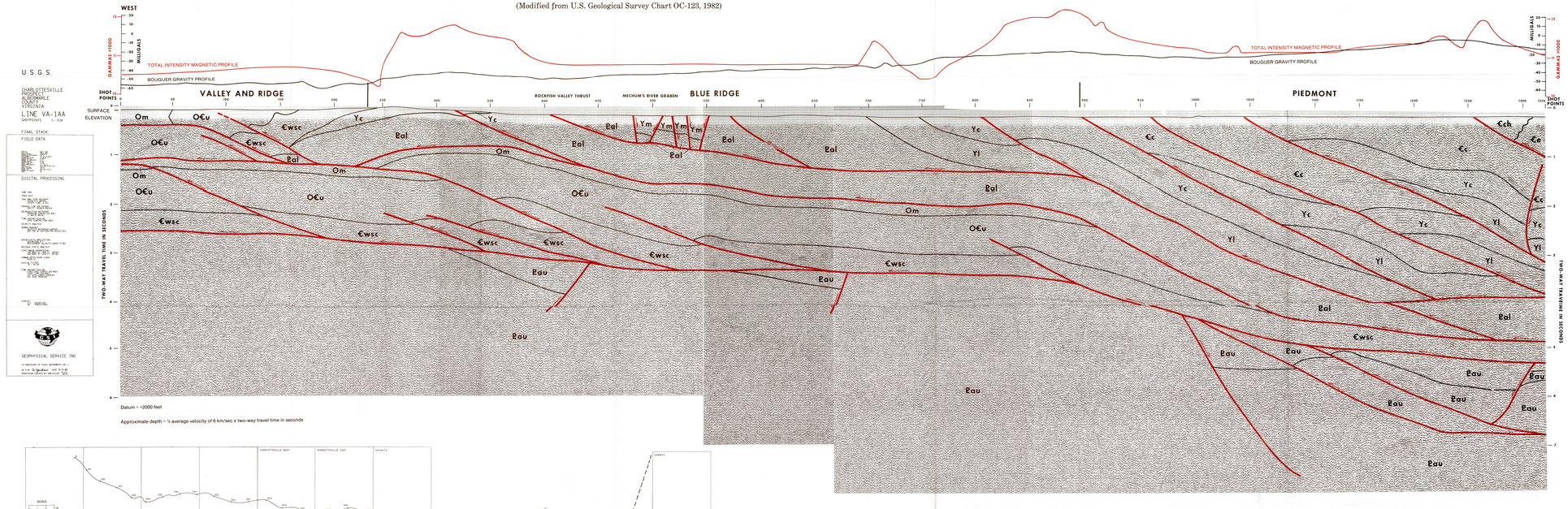


U.S.G.S.

CHARLOTTESVILLE
AND SCOTTSVILLE
QUADRANGLE
COUNTY
VIRGINIA

LINE VA-1AA
SHOTPOINTS 1 - 634

FINAL STACK
FIELD DATA

DIGITAL PROCESSING

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## EXPLANATION

**The nomenclature used is partly derived from the Virginia Division of Mineral Resources and may not agree with the U.S. Geological Survey usage.**

### Group 1

**Includes all sedimentary-rock sequences exposed in the Valley and Ridge and interpreted to be in the subsurface beneath the Blue Ridge and Piedmont**

- Om — **Martinsburg Shale** — *Argillaceous and calcareous shale, silty and sandy turbidites; about 4000 feet thick* — ORDOVICIAN
- O€u — **Ordovician and Cambrian Carbonate sequence, undivided** — *Limestone and dolomite, about 8000 feet thick* — CAMBRIAN
- €wsc — **Waynesboro Formation, Shady Dolomite, and Chilhowee Group, undivided** — *Shale, siltstone, sandstone, and dolomite; about 6000 feet thick* — CAMBRIAN AND CAMBRIAN(?)

### Group 2

**Includes all igneous and metamorphic rocks exposed in the Blue Ridge, the western part of the Piedmont, and in the subsurface beneath the Eastern Piedmont thrust sheet**

- €c — **Candler Formation** — *Phyllite and metagraywacke; about 13,000 feet thick (?)* — CAMBRIAN(?)
- Yc — **Catoctin and Swift Run Formations, undivided** — *Greenstone metabasalt flows, wrkose, sandstone, conglomerate, and felsic volcanic tuff; 4,000 to about 10,000 feet thick*
- Ym — **"Mechums River Formation"** — *Phyllite, schist, and metagraywacke*
- Yl — **Lynchburg Formation** — *Phyllite, schist, and metagraywacke; about 10,000 feet thick (?)*
- Pau — **Autochthonous basement rocks** — *Granite and granodiorite (?)*
- Pal — **Allochthonous basement rocks** — *Granite and granodiorite (?)*
- PROTEROZOIC Y
- PROTEROZOIC

### Group 3

**Includes all igneous and metamorphic rocks within the Eastern Piedmont thrust sheet, as well as minor occurrences of Triassic and the younger Coastal-Plain sedimentary units (which are too thin to show at the existing scale)**

- Tr — **Triassic sedimentrry sequence** — *Sandstone, siltstone, shale, coal, and basal conglomerate* — TRIASSIC
- Mp — **Petersburg granite** — *Granite* — MISSISSIPPIAN
- Oa — **Arvonia Slate** — *Slate, schist, and quartzite; about 3500 feet thick* — ORDOVICIAN
- €ch — **Chopawamsic Formation** — *Mafic and felsic volcanics; about 5000 feet thick*
- €m — **"Maidens Formation"** — *Biotite gneiss*
- €e — **"Ellisville Granodiorite"** — *Granite*
- €s — **"Sabot Amphibolite"** — *Amphibole-biotite gneiss*
- Ys — **"Slate Farm Gneiss"** — *Granite*
- CAMBRIAN
- PROTEROZOIC Y
- Pau — **Autochthonous basement rocks** — *Granite and granodiorite (?)*
- Pal — **Allochthonous basement rocks** — *Granite and granodiorite (?)*
- PROTEROZOIC

## QUADRANGLE INDEX AND SHOT POINT MAP