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GEOLOGICAL MAP OF THE CENTRAL PYRENEES 1:50.000

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SHEET 3

ARIÈGE – FRANCE

Geology by:

J.H. Allaart	A
W.E. Celosse	Ce
B. Chatab	Ch
H. Heetveld	He
H. Hoppener	Ho
J. Keizer	K
S.A. Manus	M
W.H. Nieuwenhuys	N
J. Prins	P
C.S. Vermeulen	V
W. ter Wee	W
H.J. Zwart	Z

Strike and dip of

cleavage	schistosity
0° - 20°	0° - 20°
21° - 40°	21° - 40°
41° - 60°	41° - 60°
61° - 90°	61° - 90°

Direction and plunge of

lineation	fold axis
0° - 20°	0° - 20°
21° - 40°	21° - 40°
41° - 60°	41° - 60°
61° - 90°	61° - 90°

⚒ - Economic deposits

Cu - Copper	Pb - Galena
Fe - Hematite	T - Talc
G - Gypsum	Zn - Sphalerite
Mn - Manganese	As - Mispickel

- Fossil locality
- Normal contact
- Transitional contact
- Unconformable contact
- Fault

QUATERNARY
- Alluvium
- Scree
- Alluvial fan
- Upper terrace } Fluvioglacial terraces
- Middle terrace } Fluvioglacial terraces
- Lower terrace } Fluvioglacial terraces
- Glacial deposits
- Terminal moraine

MESOZOIC and TERTIARY
- Limestones etc. undifferentiated; CENOMANIAN, UPPER CRETACEOUS, TERTIARY.
- ω Ophite (gabbros or diorites) } LOWER CRETACEOUS intrusives
- λ Lherzolite (peridotites) } LOWER CRETACEOUS intrusives
- Alpine metamorphism: marmorization and scapolitization
- Limestones, shales etc. undifferentiated; JURASSIC and LOWER CRETACEOUS
- Variegated mudstones, limy and dolomitic marls, gypsum; KEUPER
- Blue limestones, dolomites, limestone breccias; MUSCHELKALK
- Conglomerates, breccias, red and green shales, cavernous limestones; LOWER TRIASSIC
- β Basalt (melaphyre) flows in the TRIASSIC

CARBONIFEROUS
- Dark coloured shales; in the Arize massif dated as VISEAN (fauna of Larbont and Mondette)
- Black cherts, locally with phosphate nodules; in the Arize massif dated as LOWER VISEAN.

DEVONIAN
- Nodular limestones (griotte); locally dolomitized, or marmorized to white marble. This nodular limestone is dated as UPPER DEVONIAN in several localities in the Pyrenees.
- Blue spatic limestones, locally dolomitized; dated as MIDDLE DEVONIAN by its intercalation between Upper- and Lower Devonian
- Limy slates and slaty limestones; in the Arize massif dated as LOWER DEVONIAN
- *Grey and white limestones, locally dolomitized* } MIDDLE - and LOWER DEVONIAN; exact age unknown.
- *Grey slates* } MIDDLE - and LOWER DEVONIAN; exact age unknown.
- Slates and slaty limestones, S. of Aulus } MIDDLE - and LOWER DEVONIAN; exact age unknown.

SILURIAN
- Black ampelitic shales

CAMBRO-ORDOVICIAN
- Sericite phyllites
- Calcite and dolomite marbles

ISOCHEMICAL METAMORPHIC FACIES OF CAMBRO-ORDOVICIAN
- Micaschists
- Andalusite micaschists
- Limesilicate gneiss

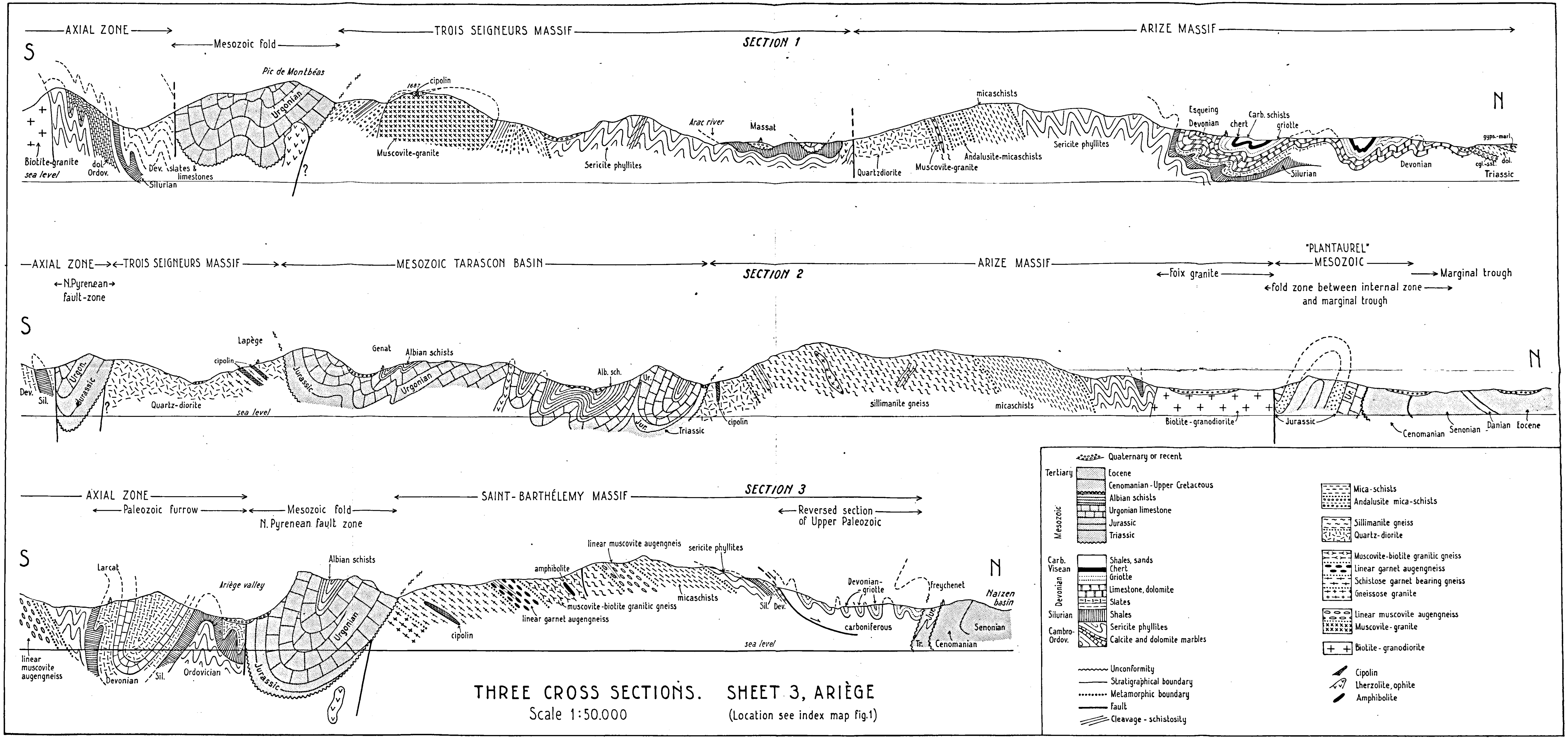
LATE CARBONIFEROUS INTRUSIVES
- Biotite granodiorite to quartzdiorite
- L Lamprophyre dykes
- υ Porphyrite dykes
- Contact aureole

MIGMATITE - QUARTZDIORITE SERIES
- Quartzdioritic gneiss
- Sillimanite gneiss
- Quartzdiorite and nebulitic quartzdiorite
- Homogeneous biotite gneiss

BASAL GNEISS SERIES
- Granitic biotite-muscovite gneiss
- Linear garnet augengneiss
- Folded garnet augengneiss
- *Schistose garnet bearing granitic gneiss*
- *Granite and gneissose granite; locally leucocratic*

MUSCOVITE-GRANITE and GNEISS SERIES
- Muscovite and muscovite-biotite granite
- Muscovite-biotite granitic gneiss
- Linear muscovite-biotite augengneiss
- Linear muscovite augengneiss with euhedral feldspar porphyroblasts
- P Pegmatites

- T Talc-chlorite rocks
- Ci Metamorphic marble (cipolin)
- δ Amphibolite
- π Peridotite
- α Chlorite-albite rocks
- Q Quartzdykes and masses



THREE CROSS SECTIONS. SHEET 3, ARIÈGE
Scale 1:50.000
(Location see index map fig.1)