

(200)
T6711m
70 921

EXPLANATION



DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

THIS MAP CONCERNS WORK DONE BY THE U.S.
GEOLOGICAL SURVEY ON BEHALF OF THE DIVISION OF
RAW MATERIALS OF THE U.S. ATOMIC ENERGY COMMISSION

TRACE ELEMENTS
MEMORANDUM REPORT 920

Pleistocene(?)
and Recent

Upper Cretaceous

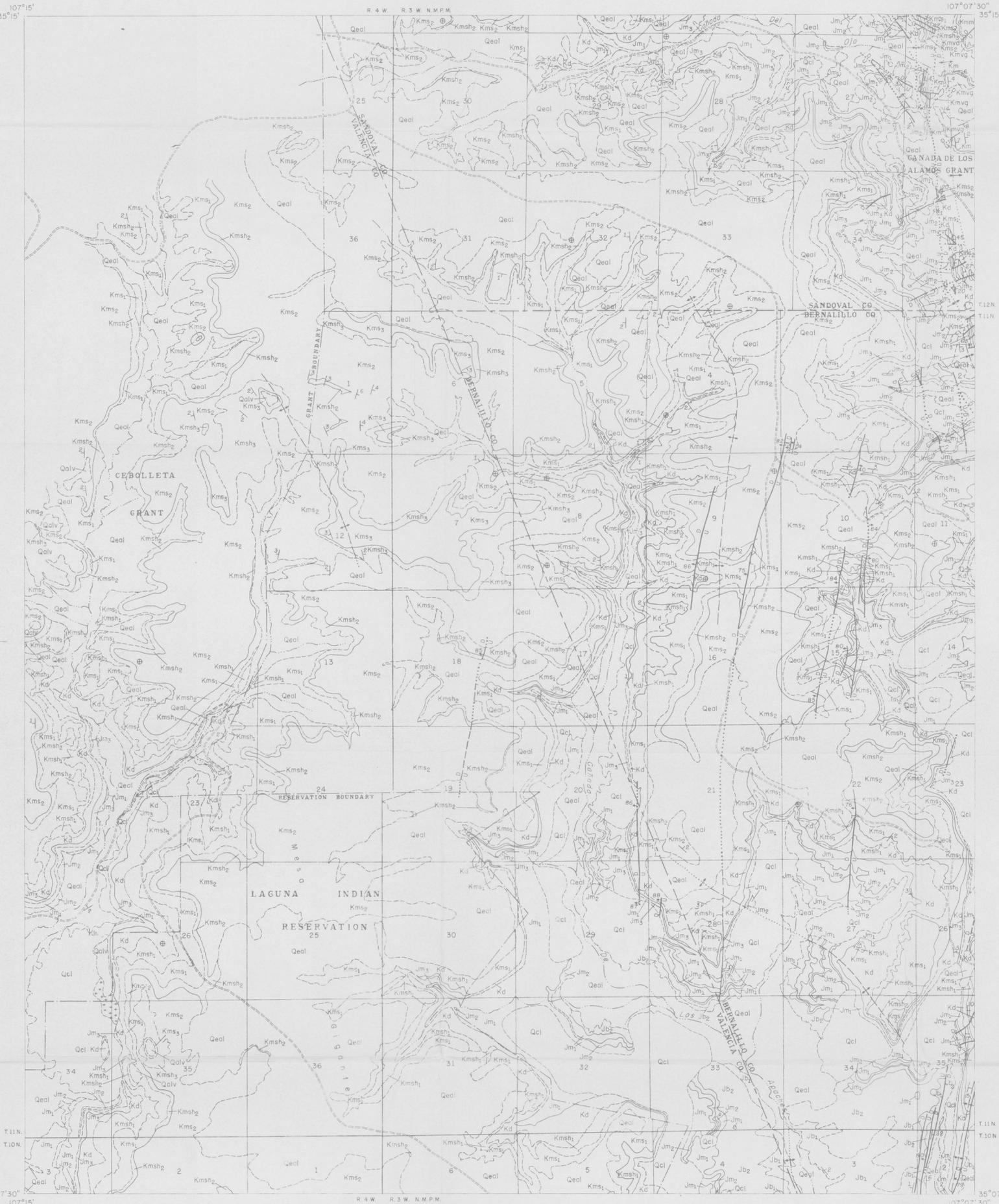
Upper Jurassic

JURASSIC

QUATERNARY

CRETACEOUS

JURASSIC



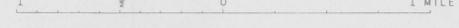
- Qeal**
Eolian and alluvial sand and silt on benches and mesa tops, in places forming dunes; valley fill and stream deposits.
- Qalv**
Alluvium, composed mainly of boulders and cobbles of basaltic lava.
- Qcl**
Colluvial deposits
- UNCOMFORMITY**
- Kms**
Millato tongue of Mancos shale
Brown shale, poorly exposed.
- Kmsv**
Dilco coal member of Mesaverde formation
- Kmsg**
Tan, fine-grained sandstone; forms bench in northeast corner of area.
- Kmsu**
Gallup sandstone member of Mesaverde formation
- Km**
Light-tan fine-grained poorly indurated flat-bedded sandstone about 25 feet thick overlain by gray-white fine-grained poorly indurated cross-bedded sandstone as much as 55 feet thick, and apparently lenticular.
Main body of Mancos shale
Brown to black slope-forming shale; thickness unknown.
- Kms3**
Kms2
Kms1
Kms0
Lower sandstones and shales of Mancos shale
Kms1, Kms2, Kms3 - gray and black shale, local tan siltstone, slope-forming; as much as 30 feet thick.
Kms0, Kms1, Kms2 - tan fine- to medium-grained, flatbedded bench-forming sandstone, as much as 50 feet thick. Kms2 generally forms a double bench, and is thereby, easily recognized.
- Kd**
Dakota sandstone
Tan fine- to coarse-grained crossbedded well indurated cliff-forming sandstone, and local conglomerate. Two or more beds of sandstone or conglomerate are prominent; these are interbedded with beds of black shale. The formation thickens from about 35 feet in northern part of quadrangle to more than 80 feet in the southern part of Laguna 4 SW.
- UNCOMFORMITY**
- Jm3**
Jm1
Jm2
Jm0
- Morrison formation**
Jm1 - variegated gray-green sandstone containing lenses of limestone and green sandstone. Near the bottom the unit grades downward into interbedded gray-green shale and maroon siltstone from 20 to 60 feet thick, which may be the Recapture member.
Jm2 - gray or tan crossbedded arkosic sandstone and local conglomerate containing abundant clay galls; ranges up to 60 feet in thickness, and occurs in layers and lenses throughout Jm1.
Jm3 - white or light-gray crossbedded arkosic sandstone containing thin lenses of gray-green shale and local conglomerate; ranges up to 125 feet in thickness. The Morrison formation ranges from 105 feet in thickness in the southeastern part of Laguna 4 SW to about 350 feet in the northeastern part of Laguna 4 SW. The Jm1 unit is present only where the Morrison formation exceeds 230 feet in thickness. The sandstones of Jm2 and Jm3 are the main uranium-bearing units in the nearby quadrangles; but no uranium deposits have been found in this quadrangle.
- Jb2**
Jb1
Bluff formation
Jb1 - red fine- to medium-grained crossbedded cliff-forming sandstone. Jb2 - light-tan fine- to medium-grained crossbedded cliff-forming sandstone. Near the top the crossbedding is planar and pyrite-hematite concretions are abundant. The boundary between Jb1 and Jb2 cuts across the bedding so that Jb1 is locally missing. The formation is 135 to 310 feet thick.
- Igneous rocks**
- Volcanic plug**
- Porphyritic, nonporphyritic, and scoriaceous olivine basalt.
- Contact**
(Dashed where approximately located)
- Fault, showing dip**
(Dashed where approximately located, dotted where concealed)
- High angle fault**
(Dashed where approximately located, dotted where concealed)
- Anticline**
Showing trace of axial plane. (Dashed where approximately located, dotted where concealed)
- Syncline**
Showing trace of axial plane. (Dashed where approximately located, dotted where concealed)
- Anticlinal bend of monocline**
Showing trace of axial plane; long arrow indicates horizontal or flatter limb; short arrow indicates steeper limb. (Dashed where approximately located, dotted where concealed)
- Synclinal bend of monocline**
Showing trace of axial plane; long arrow indicates horizontal or flatter limb; short arrow indicates steeper limb. (Dashed where approximately located, dotted where concealed)
- Strike and dip of beds**
- Horizontal beds**

MAPPED ON AERIAL PHOTOGRAPHS AND COMPILED WITH THE AID OF ARMY MAP SERVICE MAPS; SCALE NOT EXACT; LAND NET APPROXIMATE

GEOLOGY BY R.H. MOENCH AND W.P. PUFFETT, 1955

PRELIMINARY GEOLOGIC MAP OF THE LAGUNA 4 NW QUADRANGLE, VALENCIA, SANDOVAL, AND BERNALILLO COUNTIES, NEW MEXICO

SCALE 1:24,000



APPROXIMATE MEAN DECLINATION, 1954