

Qal ALLUVIUM (HOLOCENE)--Unconsolidated deposits of clay, silt, sand, gravel, and locally, evaporite; deposited in modern perennial and ephemeral stream valleys and on flood plains.

Qc COLLUVIAL DEPOSITS (HOLOCENE)--Talus and slope wash deposits composed of material derived from the adjacent cliffs.

Qg RESIDUAL GRAVEL DEPOSITS (HOLOCENE AND PLEISTOCENE?)--Lag gravel, composed of Paleozoic and Mesozoic rock fragments with cobbles of Precambrian rock, found along stretches of Salitral Creek and the Rio Puerco

Qt TALUS, LANDSLIDE DEPOSITS, SLUMP BLOCKS AND COLLUVIUM (HOLOCENE AND PLEISTOCENE?)-- Generally fan-shaped deposits consisting of large angular rocks and blocks derived from Triassic, Jurassic, and Cretaceous formations

Qoa OLDER ALLUVIUM (HOLOCENE AND PLEISTOCENE?)--
Red-brown to orange, partially
consolidated clay, silt, sand, and very
minor lag gravel; forms blanket deposits
on surfaces, topographically above the
modern valley floor, which have been
interpreted as dissected pediments and old
piedmont alluvial plains

Qb BANDELIER TUFF, UNDIVIDED (PLEISTOCENE)--Gray to tan, orange weathering, nonwelded to densely welded ash consisting of rhyolitic tuff and pumice. The ash is characterized by bipyramidal quartz, chatoyant sanidine, and sparse to abundant inclusion of lithic fragments. Thickness incomplete, as much as 78 m exposed. Basal contact sharp and

Kd
unconformable
DAKOTA SANDSTONE (UPPER CRETACEOUS)--Three
descriptive units not mapped separately:
Upper unit--yellow-tan, fine-
grained sandstone which is parallel bedded
or crossbedded with thin sets of tabular
planar cross-stratification
Middle unit--thin, yellowish-tan, fine-
to very fine-grained moderately well-sorted,
flat-bedded, burrowed sandstone
interbedded with black carbonaceous shale
and siltstone. The burrows, which are
parallel to bedding surfaces, appear to be
those of the trace fossil Planolites
illustrated by Grant and Owen (1974, fig.

Lower unit--buff to rusty tan, medium- to fine-grained, moderately well-sorted, silicified, quartzose, locally calcareous sandstone; usually overlies less than 2 m of silicified to friable pebble conglomerate; contains minor light gray, kaolinitic mudstone lenses; this unit unconformably overlies the Burro Canyon(?) Formation. Thickness incomplete; top removed by erosion; as

much as 77 m of Dakota Sandstone exposed
BURRO CANYON(?) FORMATION (LOWER 'CRETACEOUS')--
White to tan, pable conglomerate,
conglomeratic sandstone, sandstone, and
locally, interbedded red sandstone pebbles
in conglomerate are primarily cherty
limestone, which contains abundant crinoid
fragments, and chert. The sandstones are
medium to fine grained, poor to well
sorted, though crossbedded, and contain
abundant kaolinite. A thin gray
tuffaceous quartzite (22 m) is locally
present at the top of the section. The contact
is sharp and may be unconformable.
Thickness 16-47 m, thinning to the south
as a result of pre-Dakota erosion.

Jmb MORRISON FORMATION (UPPER JURASSIC)
Brushy Basin Shale Member--Gray-green and orange claystone interbedded with drab olive-tan to rusty-tan, coarse- to fine-grained feldspathic sandstone and gray, dense, siliceous siltstone. Sandstone is dominant in the lower part of the member and may include equivalents of the Westwater Canyon Member. Claystone is dominant in the upper part of the member. Clay mineralogy shows a change from dominantly members of the smectite group (montmorillonite group) at the base of the member to kaolinite and mixed-layer illite at the top. The hard, dense siltstones are present only in the upper one-third of the member. Basal contact sharp; intertonguing with the underlying Recapture Member was not observed. Thickness 63-133 m.

Jmr Recapture Shale Member--Two descriptive
 units not mapped separately;
 Upper unit--interbedded light- to dark-
 reddish-brown, fine- to very fine-grained,
 moderately well-sorted sandstone and
 claystone; lower contact gradational.
 Thickness 84-106 m
 Lower unit--grayish-white, light-yellow to
 buff, and reddish-brown, fine- to very
 fine-grained sandstone interbedded with
 gray to reddish-brown shale and gray
 limestone. Locally thin and conformable.
 May (in part?) be equivalent to
 Summerville Formation (Ridgley, 1977).
 Thickness 3-17 m.

Jt TOD: TO LIMESTONE (MIDDLE JURASSIC)--Light- to dark-gray interbedded thin-bedded limestone and calcareous shale; massive gray limestone breccia; and gray to white gypsum. Contact with the underlying Entrada Sandstone is sharp to gradational. Thickness 0-10 m for interbedded limestone and shale, and

Je ENTRADA SANDSTONE (MIDDLE JURASSIC)--white, yellow, or reddish-orange, medium- to fine-grained, moderately well-sorted, calcareous sandstone, that is characterized by large-scale wedge-planar and trough cross-stratification. Contact with the underlying Chinle Formation is unconformable. Thickness 36-78 m

CHINLE FORMATION (UPPER TRIASSIC)


R cp Petrified Forest Member--Poorly exposed, reddish-brown, pale purple (mauve), and minor grayish-green claystone interbedded and intertonguing with reddish-brown to gray, fine- to coarse-grained sandstone and siltstone; minor lenses of grayish-green limestone pebble conglomerate. Crops out as color banded badland-type topography. A. 1911

R cos Polop Sandstone lentil and Saltillo Shale

Tongue, undivided--white, gray, yellowish-tan or orange, fine- to coarse-grained, quartzose to micaceous sandstone. Interbedded with dark-reddish-brown and grayish-green shale; sandstones are thin bedded, slabby or massive and are locally, carbonaceous. Contact with the underlying Cutler Formation is unconformable. Type locality for the Poleo Sandstone Lentil is Mesa Poleo and for the Salitral Shale Tongue is along the southwest rim of Mesa Montosa. Thickness as much as 94 m, but usually less than 64 m.

PC CUTLER FORMATION (PERMIAN) --Interbedded orange and dark- reddish-brown mudstone, limy siltstone, sandstone, and arkose; lenticular grayish-green, fine- to coarse-grained sandstone and arkosic sandstone; minor pebble conglomerate; contact with the underlying Madera Limestone is gradational. Section incomplete; top and base not exposed in same area. As much as 328 m thick.

IP m MADERA LIMESTONE (PENNSYLVANIAN)--Gray to white, fine- to coarse-crystalline, fossiliferous limestone; lenticular gray to tan arkosic sandy limestone; pink arkose; reddish-brown and minor light-gray shale; limestone is dominant in the lower part of the formation and arkosic rocks predominate in the upper part. Section incomplete; base not exposed. As much as 500 m thick

— CONTACT--Dashed where approximately located
U FAULT--Dashed where approximately located;
 dotted where concealed. U, upthrown side;
 D, downthrown side
U----- PROBABLE FAULT--U, upthrown side, D,downthrown
 side
 MONOCLINE--Axial trace of monoclinial flexure
 showing direction of plunge of axis;
 arrows indicate direction of dip; longer
 arrow indicates flatter dip
34 STRIKE AND DIP OF BEDS
✓ KALINTIR. PROSPECT

References

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