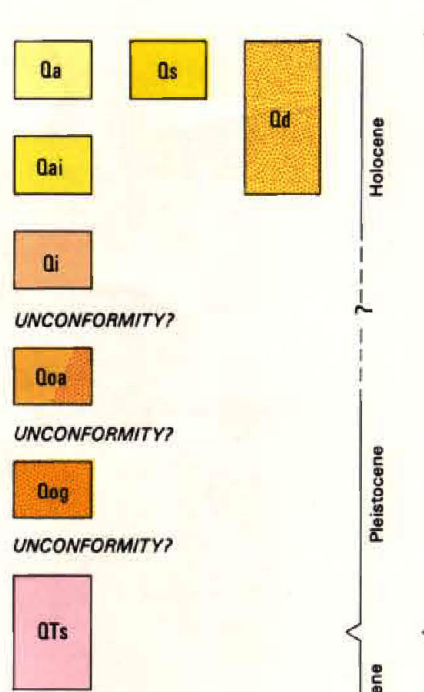
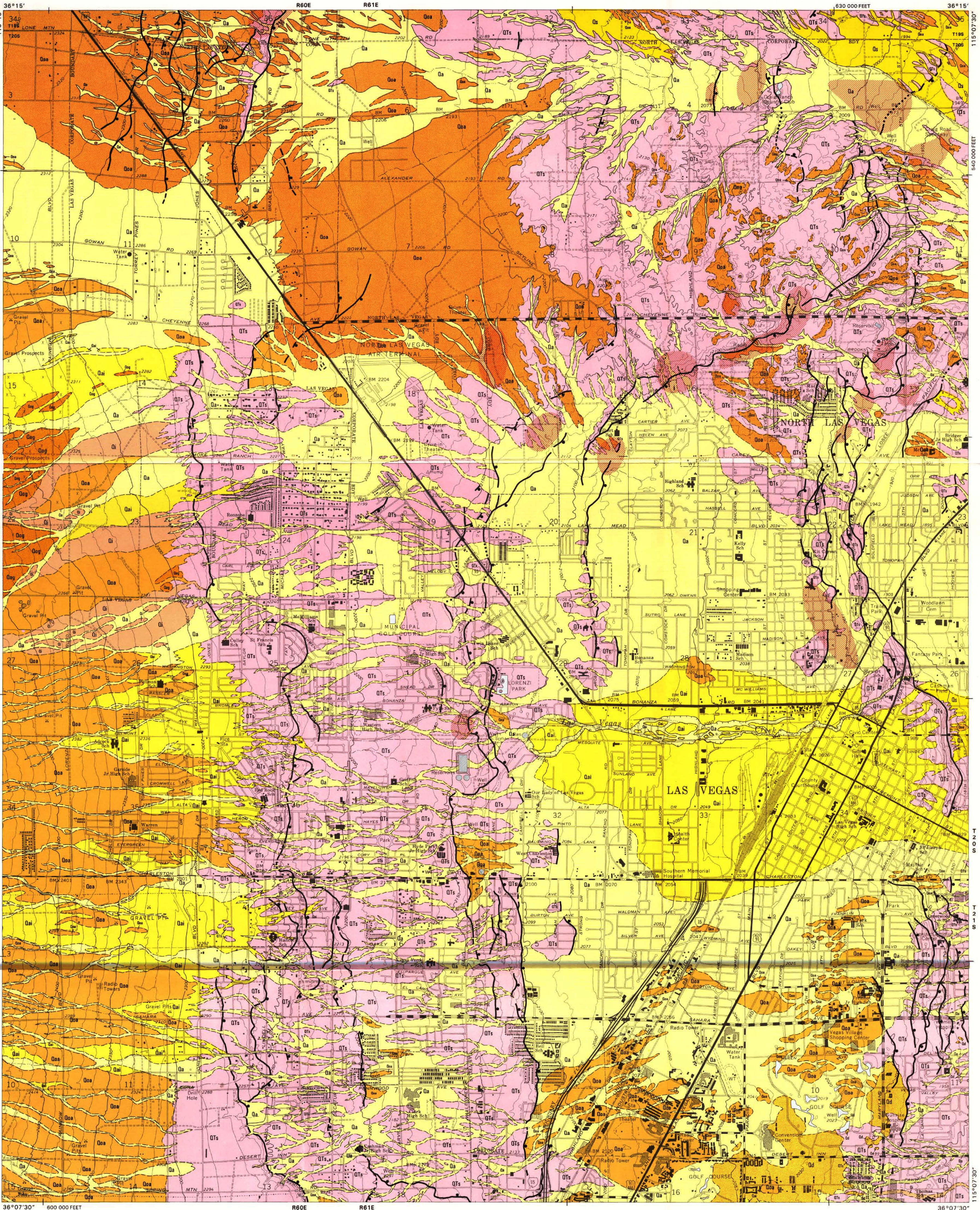


L
A
S
V
E
G
A
S
N
W
Q
U
A
D

G
E
O
L
O
G
Y



Qa Alluvium of active washes Pink to pale-brown fine sand to pebble to cobble gravel occurring in incised, active stream channels and on between-channel alluvial flats; unconsolidated to locally cemented by petrocalcic carbonate (case hardened). Clasts are mostly limestone and dolomite with subordinate quartzite. Sand-size sediment is mainly fragmental limestone and dolomite; quartz and feldspar are subordinate and detrital gypsum locally is an important component. Deposits are typically veneers in wash bottoms or on flat between-wash surfaces. Subject to flooding.

Qai Sheetwash alluvium Pink to brown sand, pebble to cobble gravel, and petrocalcic fragments occurring as thin veneers downslope from fault scarps; unconsolidated to slightly consolidated. Recycled from rock units exposed on upthrown sides of fault scarps. Active; subject to reworking by wind.

Qd Sand dunes Pink to pale-brown fine to medium sand occurring in small to large barchan dunes and dune fields; unconsolidated to moderately consolidated. Intermittently active to inactive and stabilized deposits derived from eolian reworking of many units including Qa, Qai, and Qoa. Composition is predominantly detrital limestone, dolomite, and gypsum with subordinate quartz and feldspar.

Qoi Intermittently active alluvium Pink to pale-brown sand and pebble to cobble gravel occurring mainly on between-channel alluvial flats and less commonly in incised washes; slightly to moderately consolidated. Deposits are lithologically similar to Qa; carbonate clasts are predominant. Unit grades laterally into Qa; contact between Qai and Qa in some places is arbitrary and may shift. Contains sediment transported and deposited during high-water stages of heavy flood discharges.

Qi Inactive alluvium Slightly to moderately consolidated alluvium sedimentologically similar to Qa and Qai but occupying a slightly higher terrace level. Unit has not been recently active, and surface clasts contain a slight desert varnish.

Qoa Older alluvium of Red Rock fan Pink to brown pebble to small cobble gravel with subordinate pebble-bearing sand; moderately to well consolidated to locally cemented; may locally contain a petrocalcic carbonate horizon (calcrete) 1 1/2-2 m thick at or near the surface. Clasts are predominantly limestone and dolomite with subordinate quartzite. Northeast of U.S. 95, the unit (stippled) consists of pink pebble-bearing silty sand to sandy silt containing predominantly reworked petrocalcic nodules and rare limestone clasts; commonly contains a thick near-surface calcrete. Surface of unit is slightly to well dissected, lacks channel-and-bar morphology, has well-developed desert pavement, and is dark colored and mottled on aerial photographs. Surface clasts have slight to moderate desert varnish; carbonate clasts are typically etched. Southwest of U.S. 95, unit can be divided into two terrace levels with slight topographic and surface morphology differences.

Qog Older gravel deposits Light gray to pink-brown, imbricated, clast-supported pebble to cobble gravel; consolidated to strongly cemented; capped by a matrix-supported petrocalcic (calcrete) horizon as much as 3 m thick. Clasts mostly consist of limestone and dolomite with subordinate quartzite. At the surface, carbonate clasts are strongly etched and broken and possess slight to moderate petrocalcic coatings; the petrocalcic horizon is eroded and petrocalcic fragments form varying proportions of the surface clasts, locally comprising lag veneers. Unit is moderately dissected with moderately preserved channel-and-bar morphology; unit represents early-generation alluvial-fan deposits derived from canyons to the west. Unit thickens westward to thicknesses greater than 10 m; eastward, it feathers out onto QTs.

QTs Consolidated sediments White and light-gray to light- and pale-red fine sand interstratified with silt, pebbly sand, pebble to small cobble gravel, and clay; moderately to well consolidated to strongly cemented layers of petrocalcic carbonate are common and have variable textures and fabrics; surface exposures are locally capped by a resistant petrocalcic crust. Fibrous and encrusting gypsum are common. Massive to flat laminated to shallowly trough laminated; scour-and-fill channel structures occur locally. Residual surface lag deposits are difficult to distinguish from remnants of Qoa. Unit was deposited by streams; lacustrine sediments have not been documented. Locally contains subsidence-induced fissures.

Geology mapped from black-and-white and color aerial photographs using a PG-2 stereographic plotter. The following photographs were used: 1) GS-VCM0, scale 1:20,000; 2) GS-VBFN, scale 1:20,000; 3) U.S. Army Corps of Engineers LV, scale 1:20,000; 4) U.S. Geological Survey in-house, scale 1:24,000.

--- Contact Dashed where approximately located. Hatchures indicate that a geologic unit occurs in an incised channel or in a cut-and-fill terrace or that a younger geologic unit truncates an older geologic unit with buttress unconformity.

— Fault scarp Ball on down-thrown side of escarpment. Locally active due to subsidence-induced movement.

● Area containing subsidence-induced fissures. (See Bell, J. W., 1981. Subsidence in Las Vegas Valley; Nevada Bureau of Mines and Geology Bulletin 95).

Jonathan C. Matti, Fred W. Bachhuber, Douglas M. Morton, and John W. Bell, 1987

Scale 1:24,000
CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

0 0.5 1 kilometer
0 1000 2000 3000 4000 5000 feet

**NEVADA BUREAU OF MINES AND GEOLOGY
MACKAY SCHOOL OF MINES**

Base map: U.S. Geological Survey Las Vegas NW 7 1/2' quadrangle, 1967
First edition, first printing, 1987; 1000 copies
Printing: Williams and Heric Map Corp., Washington, D.C.
Editing: Dick Measuring
Cartography: Leta J. Jicko
Typesetting: Raylene Buckley
Platemaker: Matt Stephens

For sale by the Nevada Bureau of Mines and Geology, University of Nevada-Reno, Reno, Nevada, 89557-0088.
Order Map 3Dg, 14.00