subsidence gave rise to widespread multistoried sheet sandstones up to 50 m thick.

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Depositional Facies and Uranium Occurrence, Triassic (Dockum Group), Texas Panhandle

Late Triassic (Dockum Group) rocks accumulated in relict Paleozoic basins bound by the Amarillo uplift on the north and the Glass Mountains on the south. Basins were reactivated by late Paleozoic or early Mesozoic tectonic activity that created the Gulf of Mexico.

More than 2,000 ft (600 m) of terrigenous clastics, derived mostly from older sedimentary rocks, accumulated within the basin. Source areas were in Texas, Oklahoma, and New Mexico. The Dockum Group accumulated in a variety of depositional systems including (1) braided and meandering streams, (2) alluvial fans and fan deltas, (3) highly constructive lobate deltas, (4) lacustrine systems including ephemeral and relatively long-lived lakes, and (5) mud flats.

Dockum sedimentation was cyclic, a reflection of alternately humid and arid climatic conditions. During humid climatic conditions lake level was relatively stable. Meandering streams supplied sediment to high-constructive lobate deltas in the central basin area; braided streams and fan deltas were dominant depositional elements within southern and northern basin areas. During arid climatic conditions base level was lowered, stream valleys evolved, and small fan deltas developed along ephemeral lake margins; evaporites, calcretes, silcretes, and soils developed on floors of ephemeral lakes and on delta platforms.

Uranium occurs within about 25 depositional facies. Highest uranium values are in lacustrine facies which developed under arid climatic conditions. Channel-lag facies of meander-belt systems generally exhibit consistently higher uranium values than other depositional facies. Crevasse-channel and crevasse-splay deposits locally contain mineralized carbonized wood. Delta-front sandstones of high-constructive lobate deltas contain uranium. Radioactive minerals are present within conglomeratic parts of the valley-fill sequence. Although a relation exists between uranium occurrence and depositional facies, prediction of uranium occurrence is difficult because of a complex groundwater history.

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Recent Salt Sedimentation in Playa Lakes of Ebro Basin, Spain

In the Ebro River Valley in the northeastern part of the Iberian Peninsula, a playa-lake area covering 65 sq km of Tertiary sedimentary rocks is known as "Los Monegros." Many of the lakes coincide with east-west fault lines, in some of which the scarps are 8 to 10 m high. Year round sampling of 15 of the lakes has been conducted.

In the emerged zone of the playa efflorescences of 5-cm long thenardite crystals occur locally with salts such as halite and blöedite and minor amounts of calcite, dolomite, mica, quartz, and others.

On the highest part of the emerged zone, pulverulent salt crusts are formed of thenardite, gypsum, and halite. The saline crusts as well as the efflorescences are weak and ephemeral, appearing and disappearing quickly, depending on climatic factors such as rain and wind.

The silt which constitutes the habitual sediment of the playa lakes is formed mainly of gypsum with a variable proportion of quartz, micas, calcite, and dolomite. The imbibition waters of the silt precipitate halite and/or blöedite. This silt is commonly on top of a rich layer of organic matter, in which it is not unusual to find halite crystals. In some playa lakes the silt is covered by an algal mat, reddish in hue, with abundant cracks, air bubbles, and tepees.

There are two types of precipitates in the playa lakes: one of halite with thenerdite and blöedite subordinate, and the other of thenardite with blöedite, gypsum, and halite and, in some, traces of glauberite. Salt crystals locally accumulate in bar form several centimeters thick parallel with the coast line.

Hydrochemically, the water in the playa lakes has the following characteristics: (1) the concentration of SO_4 is much greater than that of Ca^{+2}; (2) the concentration of Cl^- is less than that of Na^+; (3) the concentration of anion sulfates, not counting those which theoretically combine with calcium cation, is greater than the concentration of sodium cations not counting those which theoretically combine with chloride anion; (4) the relation: $[(K^+) + (Mg^{+2})/(Na^+)] = 0.30 - 1$.

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Yellow Creek Field, Uinta County, Wyoming

Yellow Creek field extends from Sec. 11, T14N, R12W, 5.5 mi (9 km) northeast to the city of Evanston, Wyoming. The producing structure is a northeast-trending anticline on the hanging wall of the Medicine Butte thrust, an imbricate of the Late Cretaceous Absaroka thrust. Gas and condensate are produced from fractured Middle Jurassic Twin Creek Limestone at depths from 5,750 to 6,736 ft (1,725 to 2,020 m). The pay zones are estimated to have only about 2% porosity, and the thickness of the hydrocarbon column is at least 670 ft (201 m).

The first test, Utah Southern 1 Hatch, was off structure in SW¼ SE¼ NW¼, Sec. 28, T6N, R8E, Summit County, Utah, and abandoned in 1952 in Jurassic-Triassic Nugget Sandstone at a depth of 8,637 ft (2,591 m). No shows were reported. In 1976 Amoco drilled the discovery well, Amoco-Gulf WI Unit 1, in SE¼ SW¼ SW¼, Sec. 2, T14N, R121W, to 8,063 ft (2,419 m) in the Nugget. Initial flowing potential of 120 BOPD and 2.75 MMCFGD was obtained from the Twin Creek. In 1977 Amoco 1 Champlin 375 Amoco A, in SW¼ SE¼, Sec. 17, T15N, R120W, within the city limits of Evanston, became a Twin Creek discovery called Evanston field. Recently this well was completed for 222 BOPD and 1.48 MMCFGD. Subsequent discoveries between Yellow Creek and Evanston by Mountain Fuel, Mesa, and Amoco in 1978 indicate a single field. Currently, Yellow Creek has six successful completions with a combined