(?) Weber sandstone. The lower part of the Woodside is the equivalent of the upper Park City (Phosphoria). The Woodside is cut by an unconformity above which lies a conglomerate. The conglomerate has been classed as the basal member of the Ankareh. The upper Ankareh consists of variegated shales and varicolored sandstones and is overlain directly by massive Nugget (Navajo) sandstone.

The erosion surface below the conglomerate, the conglomerate, and the overlying variegated beds are readily recognized from one end of the range to the other. At the western end the conglomerate and variegated beds were classed as the basal member of the Nugget by Boutwell (1912, 1933) and by Mathews (1931). At the eastern end these same beds were called Ankareh by Schultz (1920) and by Sears (1925). The conglomerate and variegated beds, therefore, constitute an important un-named lithologic unit which lies unconformably above the type Ankareh and below the restricted Nugget at the western end of the Uinta Mountains and unconformably above the Woodside and below the Nugget at the eastern end of the range.

The Jurassic formations of the western Uinta Mountains, from base upward are: (1) Navajo sandstone (Nugget of earlier reports), (2) Twin Creek limestone, (3) Preuss redbeds, (4) Stump sandstone, and (5) Morrison formation. Eastward along the mountains (1) the Navajo sandstone persists, (2) the Twin Creek limestone intertongues with the Carmel redbeds, (3) the Preuss redbeds grade into the cross-bedded Entrada sandstone, (4) the Stump sandstone grades into the Curtis shales and limestones, and (5) the Morrison formation thins and becomes less conglomeratic. At the west end of the mountains *Belemnites* occur in a sandstone (Stump) in the middle of the thick Beckwith formation of earlier reports, within 35 miles of Salt Lake City, and in the Curtis in all other sections to the east. At the eastern end of the Uintas the Curtis redbeds tongue out so that Navajo is directly overlain by Entrada, forming a single sandstone unit.

The equivalents of the Navajo, Carmel (Twin Creek), Entrada, and Curtis can be recognized in the Sundance formation of eastern Wyoming.

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New Developments in North and West-Central Texas in 1941

During the year 1941, the north and west-central Texas districts developed important new production in the following stratigraphic formations.

Ellenberger dolomite (Cambro-Ordovician), three new discoveries and three found by deeper drilling.

Mississippian limestone, five new discoveries and two by deeper drilling.

Bend (Pennsylvanian), two new discoveries.

Caddo (Pennsylvanian), nine new discoveries.

Strawn (Pennsylvanian), nine new discoveries and three by deeper drilling.

Canyon (Pennsylvanian), one new discovery and one by deeper drilling.

Cisco (Pennsylvanian), three new discoveries and two by deeper drilling.

Wolfcamp (Permian), one new discovery.

The only new producing zone discovered in the area was the Dothan limestone (Permian) in the Merkel pool in Taylor County. To date only one well is producing from this zone.

70. CONSTANTIN N. APSOURI, West Virginia Geological Survey, Morgantown, West Virginia

The So-Called "Chert Nodules" of the Oriskany Sandstone and the Problem of Phosphates

The Oriskany sandstone of New York is known in the central Appalachian region as the Ridgeley, overlying a lower member, called the Shriver. The topmost part of the Oriskany formation is generally bestrewn by round or elliptical black nodules described by modern stratigraphers as "chert nodules." These "chert nodules" were studied by the writer; they are phosphatic, the phosphate occurring in the form of collophane. X-ray diffraction pattern of the collophane is essentially the same as that of apatite.

Phosphates in the Oriskany formation are the result of complex factors prevailing in the Oriskany and Onondaga seas. The "chert nodules in the Oriskany" of New York were deposited in the westward-transgressing Onondaga sea, hence they occur in basal Onondaga. It is improbable that the genesis of phosphatic nodules is due to catastrophic events.