

MAJOR LITHOLOGIES

	Sandstone
	Siltstone
	Light-gray or green claystone or shale
	Medium-gray or green claystone or shale
	Dark-gray or green claystone or shale
	Black claystone or shale
	Rust or purple claystone or shale
	Variegated claystone or shale
	Limestone or dolomite
	Muddy carbonate
	Coal
	No description available

MODIFIERS

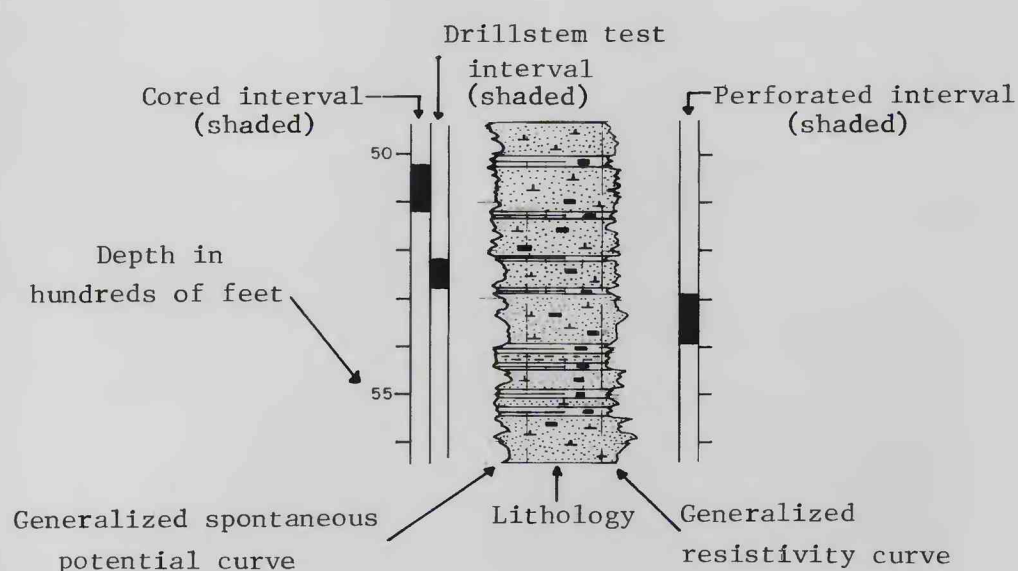
	Calcareous
	Dolomitic
	Trace of coal
	Arkosic
	Calcareous nodules
	Light-colored chert grains
	Dark-colored chert grains
	Pebbles of light-colored chert
	Pebbles of dark-colored chert
	Pebbles, undifferentiated
	Salt crystal cavities
	Pyrite

FOSSILS

	Ostracods
	Gastropods
	Fish remains
	Leaf
	Algal stromatolites
	Oolite
	Oncolite
	Fossils undifferentiated

DEPOSITIONAL ENVIRONMENTS

	FLUVIAL, CONTAINING SPARSE SMALL CHANNELFORM SANDSTONE UNITS--Gray, maroon, and purple banded claystone and silty claystone containing sparse nonpersistent silty and clayey sandstone units as much as about 10 m thick
	FLUVIAL, CONTAINING AS MUCH AS 30 PERCENT SMALL, CHANNELFORM SANDSTONE UNITS--Gray, medium- to coarse-grained poorly sorted conglomeratic sandstone interlayered with variegated mudstone. Sandstone units make up less than 30 percent of the facies, are as much as 20 m thick, and are nonpersistent. Sandstone units are horizontal and trough laminated with troughs as much as 1 m high. Pebbles mostly consist of dark-gray igneous rocks as much as 10 cm in diameter and comprise as much as 20 percent of the sandstone units
	FLUVIAL, CONTAINING PERSISTENT SANDSTONE UNITS--Fine- to coarse-grained moderately well sorted sandstone locally conglomeratic; interlayered with massive gray, purple, and maroon mudstone. Sandstone units are as much as 25 m thick, are fairly persistent sheet-like bodies, and are mostly parallel, nearly horizontal to parallel horizontal laminated and trough cross laminated. Fine-grained units are mostly parallel horizontal laminated. No large scale lateral accretion units were observed. Pebbles are mostly varicolored chert, quartzite, and silicified limestone, and are as much as 5 cm in diameter
	FLUVIAL, CONTAINING LARGE CHANNELFORM SANDSTONE UNITS--Fine- to coarse-grained feldspathic sandstone, locally conglomeratic, interlayered with gray siltstone, gray silty claystone, and dark-gray carbonaceous shale containing thin, nonpersistent coal beds. Sandstone units are commonly more than 50 cm thick and contain medium- to large-scale festoon crossbedding, even parallel laminae, and large-scale lateral accretion bedding
	MARINE SANDSTONE--Mostly fine-grained, well-sorted persistent sandstone units with sparse medium- to dark-gray organic-rich shale, carbonaceous claystone and coal. Sandstone is nearly horizontal and trough laminated containing troughs as much as 1 m high. Ophiomorph burrows are abundant in some places
	MARINE SHALE--Medium- to dark-gray organic-rich silty shale with sparse thin very fine grained sandstone and siltstone beds
	PALUDAL--Medium-gray to black carbonaceous claystone and coal with sparse, thin, sandstone and siltstone units
	FLUVIAL, CONTAINING ABUNDANT PALUDAL ROCK UNITS--Gray, medium- to coarse-grained poorly sorted conglomeratic sandstone, interlayered with gray claystone, gray carbonaceous claystone, and coal. Sandstone units are lenticular and as much as 20 m thick; they generally make up less than 30 percent of the facies
	LACUSTRINE AND PALUDAL--This facies is composed of zones of lacustrine rocks interlayered with zones of paludal rocks. The lacustrine rocks are composed of muddy carbonates, ostracodal limestone and ostracode-rich claystone. The paludal rocks are composed of carbonaceous claystone with coal beds as much as 1 m thick
	LACUSTRINE, CONTAINING ABUNDANT SANDSTONE AND SILTSTONE UNITS--Fine- to medium-grained gray sandstone, gray siltstone, and gray and green mudstone containing sparse carbonate-rich rocks such as muddy carbonates and ostracodal, oolitic, and algal limestone units. Sandstone and siltstone units, which comprise about 50 to 80 percent of the facies, are fairly persistent and have ripples and crossbeds as much as 1 m high. This facies occurs only in the lower part of the Green River Formation
	LACUSTRINE, CONTAINING ABUNDANT OSTRACODAL, OOLITIC, AND ALGAL LIMESTONE UNITS--Carbonate-rich rocks such as muddy carbonates and ostracodal, oolitic, and algal limestone units, interlayered with olive-green mudstone, medium- to dark-gray shale, siltstone, and fine-grained sandstone units. Much of the shale and muddy carbonate rock contains minor amounts of kerogen; thin beds average as much as about 30 gallons of oil per ton (125 L/tonne) according to Fischer assay. Siltstone and sandstone units are fairly persistent, well sorted, commonly ripple bedded, and are generally a few meters or less thick. Some sandstone units are nonpersistent, lens shaped in cross section, and average about 10 m thick. Fish, gastropod, and pelecypod remains are rare
	LACUSTRINE, CONTAINING ABUNDANT KEROGEN-RICH ROCKS--Laminated, kerogen-rich muddy carbonates containing sparse massive brown-weathering siltstone. Laminae are commonly contorted or broken. The saline minerals nahcolite, dawsonite, and halite are abundant in some sequences



KB 9063--Elevation of Kelly Bushing in feet
GL 6603--Elevation of ground level in feet
DF 8406--Elevation of derrick floor in feet

- Dry and abandoned well
- Producing gas well

REFERENCES FOR STRATIGRAPHIC NOMENCLATURE

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REMARKS

These cross sections were constructed as part of a program to evaluate the natural gas potential of tight reservoirs in the sedimentary basins of the Western United States. The program is sponsored jointly by the U.S. Geological Survey and the Department of Energy.

The purpose of the cross sections is to establish basinwide correlation of stratigraphic and facies units. Stratigraphic nomenclature was adopted from previously published reports. The facies interpretations are presented here for the first time.

Lithologies shown for the drill holes were simplified from Amstrat lithologic descriptions. The descriptions were reproduced as faithfully as space would permit. Inconsistencies or oversights in the descriptions were not changed. The irregular right side of the measured section represents relative resistance to surface weathering.

- KEY BED
- FACIES CONTACT
- UNCONFORMITY

EXPLANATION FOR MEASURED SECTION AND DRILL HOLES
CROSS SECTION A-A' OF UPPER CRETACEOUS AND LOWER TERTIARY ROCKS
NORTHERN PICEANCE CREEK BASIN, COLORADO

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