UTAH GEOLOGICAL AND MINERAL SURVEY
UTAH DEPARTMENT OF NATURAL RESOURCES
in cooperation with
THE UNITED STATES GEOLOGICAL SURVEY

Plate 1
Utah Geological and Mineral Survey Map 129
Geologic Map of Crater Island SW Quadrangle

Base from U.S. Geological Survey, Crater Island SW Quadrangle 1967

SCALE 1:24 000

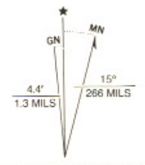
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

Field mapping by author 1979, 1988; assisted by Andrew P. Lush, 1979.
Patricia H. Speranza, Cartographer



UTM GRID AND 1990 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

GEOLOGIC MAP OF THE CRATER ISLAND SW QUADRANGLE, BOX ELDER COUNTY, UTAH

by
David M. Miller
U.S. Geological Survey
1990

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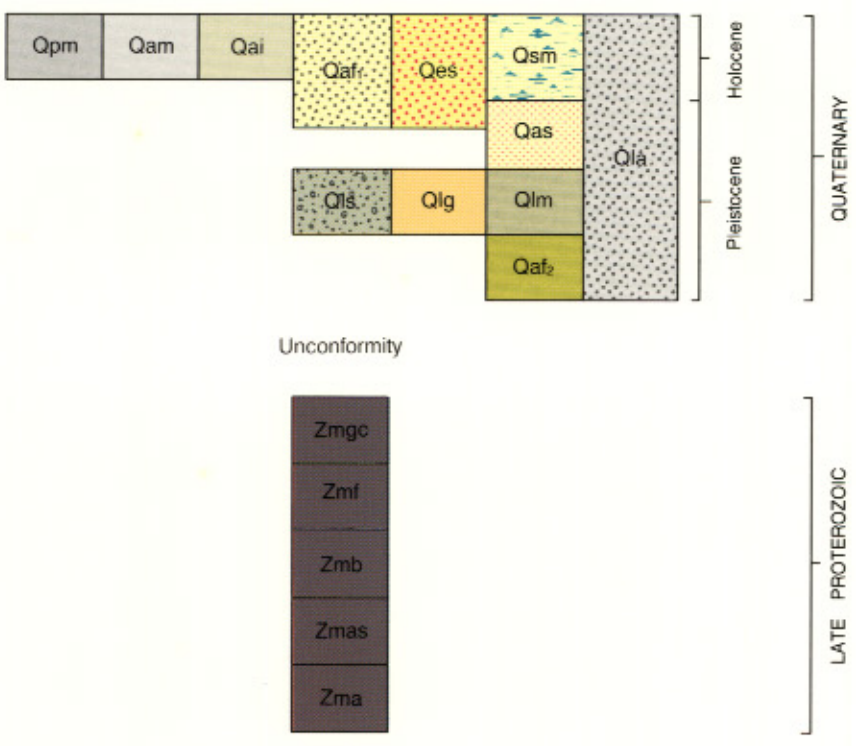
CORRELATION OF MAP UNITS



MAP SYMBOLS

CONTACT

Dashed where gradational; dotted where covered

HIGH-ANGLE FAULT

36

Dashed where location inferred; dotted where covered; bar and ball on downthrown side; dip indicated

LOW-ANGLE FAULT DISCORDANT TO BEDDING

Dashed where location inferred; dotted where covered; teeth on hanging wall

STRIKE AND DIP OF BEDDING

19

STRIKE AND DIP OF FOLIATION

11

TREND AND PLUNGE OF LINEATION

16

TRACE OF LAKE SHORELINE

B — B
Bonneville

P
Provo
(double line indicates two parallel barrier crests)

PV — PV
Pilot Valley
(location inferred)

G — G
Gilbert
(location inferred)

DESCRIPTION OF MAP UNITS

Qpm Playa mud (Holocene)—*White to tan mud, silt, and halite of plastic consistency underlying nearly flat expanses over most of east half of Crater Island SW quadrangle.*

Qam Alluvial mud (Holocene)—*Tan to brown mud and silt in distal parts of alluvial drainage systems from Silver Island Mountains, southeast of the quadrangle. Generally gradational into playa mud (Qpm).*

Qai Alluvial silt (Holocene)—*Thin sheets of unconsolidated, poorly sorted, brown silt with subordinate fine sand and clay. Deposited by streams and sheet floods along margins of the playa. Gradational into playa mud (Qpm), and interfingers with and is overlain by eolian sand (Qes).*

Qaf1 Alluvial fan deposits (Holocene and Pleistocene)—*Unconsolidated, poorly sorted cobble- and pebble-gravel, sand, and silt. Deposited as alluvial cones at mouths of streams, as alluvial floodplains bordering streams, and as sediments in stream channels.*

Qes Eolian sand (Holocene and Pleistocene)—*Unconsolidated fine sand and silt overlying and interfingering with lacustrine, alluvial, and playa deposits. Primarily consists of reworked regressive sandy marl deposits of Lake Bonneville. Forms thin sand sheets and small dunes less than 1 meter (3 ft) thick in most places.*

Qsm Spring mud and silt (Holocene)—*Dark-colored, organic-rich sand, silt, and mud in heavily vegetated areas surrounding freshwater springs.*

Qla Lacustrine and alluvial deposits, undivided (Holocene and Pleistocene)—*Varied, complexly interlayered deposits with lacustrine and alluvial origins. In most places, unit consists of wave-cut notches in alluvial fans and thin lacustrine gravel scattered on alluvial fan deposits.*

Qas Alluvial sand and silt (Pleistocene)—*Red sand and silt beds deposited on lacustrine marl (Qlm) and overlain by shoreline sand (too thin to be mapped) deposited during Gilbert stage of Lake Bonneville.*

Qls Lacustrine sand (Pleistocene)—*Brown, moderately sorted, unconsolidated medium and coarse sand and fine gravel. Crops out mainly between Provo and Bonneville levels. Supports conifer woodland.*

Qlg Lacustrine gravel (Pleistocene)—*Moderately to well-sorted pebble, cobble, and sand deposits, with sand and silt matrix. Generally unconsolidated, but in places cemented by tufa. Interfingers with lacustrine sand (Qls). Locally includes poorly exposed underlying marl.*

Qlm Lacustrine marl (Pleistocene)—*White and buff, unconsolidated marl, clay, silt and sand. Overlies lacustrine sand at elevations above Provo level, where the marl unit contains much sand and silt. Locally includes thin interbedded and (or) overlying gravel.*

Qaf2 Alluvial fan deposits (Pleistocene)—*Unconsolidated, poorly sorted gravel and sand forming narrow piedmonts flanking the Pilot Range. Overlain by deposits of Lake Bonneville.*

McCoy Creek Group of Misch and Hazard (1962) (Late Proterozoic) — Divided into:

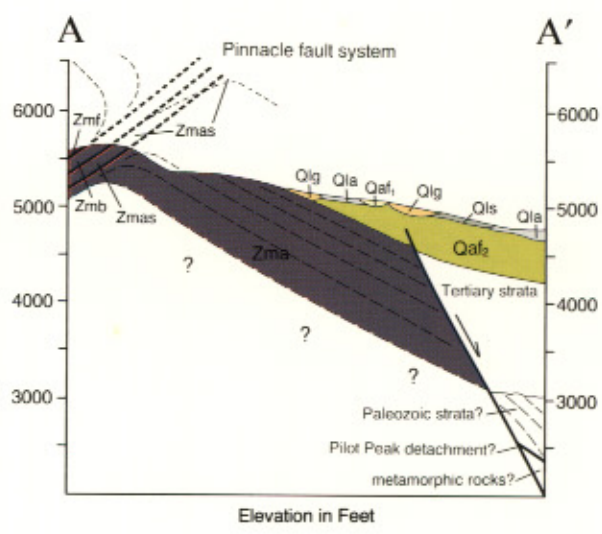
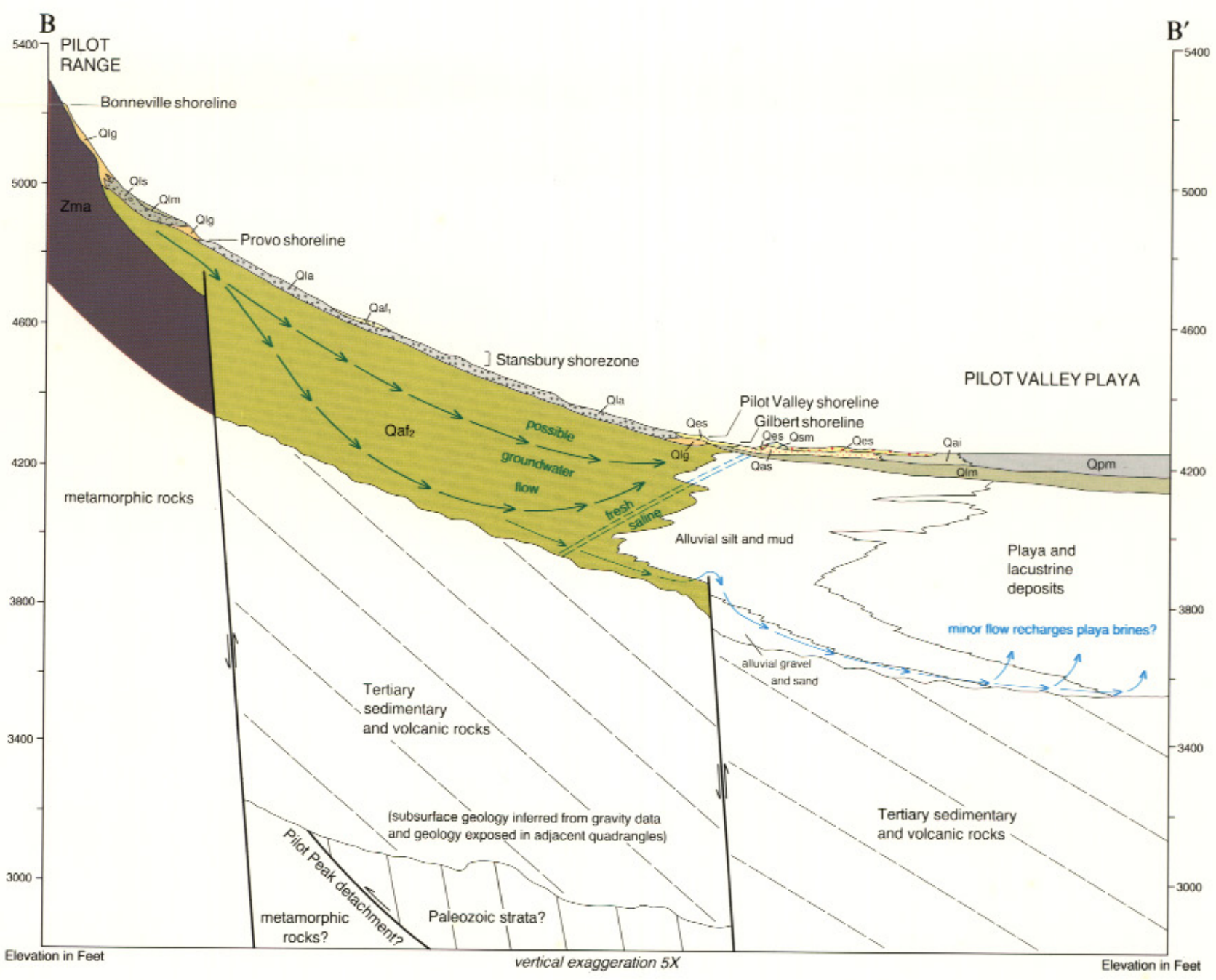
Zmgc Conglomerate subunit of Unit G—*Brown phyllite and less common quartzose conglomerate.*

Zmf Unit F—*Thick-bedded, gray quartzite forming cliffs and steep slopes. Contains conglomerate channels near top that include phyllite rip-up wedges as clasts.*

Zmb Unit B(?)—*White and gray, massive to laminated marble.*

Unit A(?)—*Divided into:*

Zmas Schist subunit—*Light green amphibole schist and minor brown mica schist.*

Zma Lower subunit—*Interbedded tan flaggy quartzite, mica schist, and brown phyllite.*

FORMATION		SYMBOL	THICKNESS feet (meters)	LITHOLOGY
McCoy Creek Group Unit G conglomerate subunit		Zmgc	1250 (380)	
McCoy Creek Group Unit F		Zmf	1400 (430)	
McCoy Creek Group Unit B		Zmb	510 (155)	
McCoy Creek Group Unit A	schist subunit	Zmas	200 (60)	
	lower subunit	Zma	1275 (390)