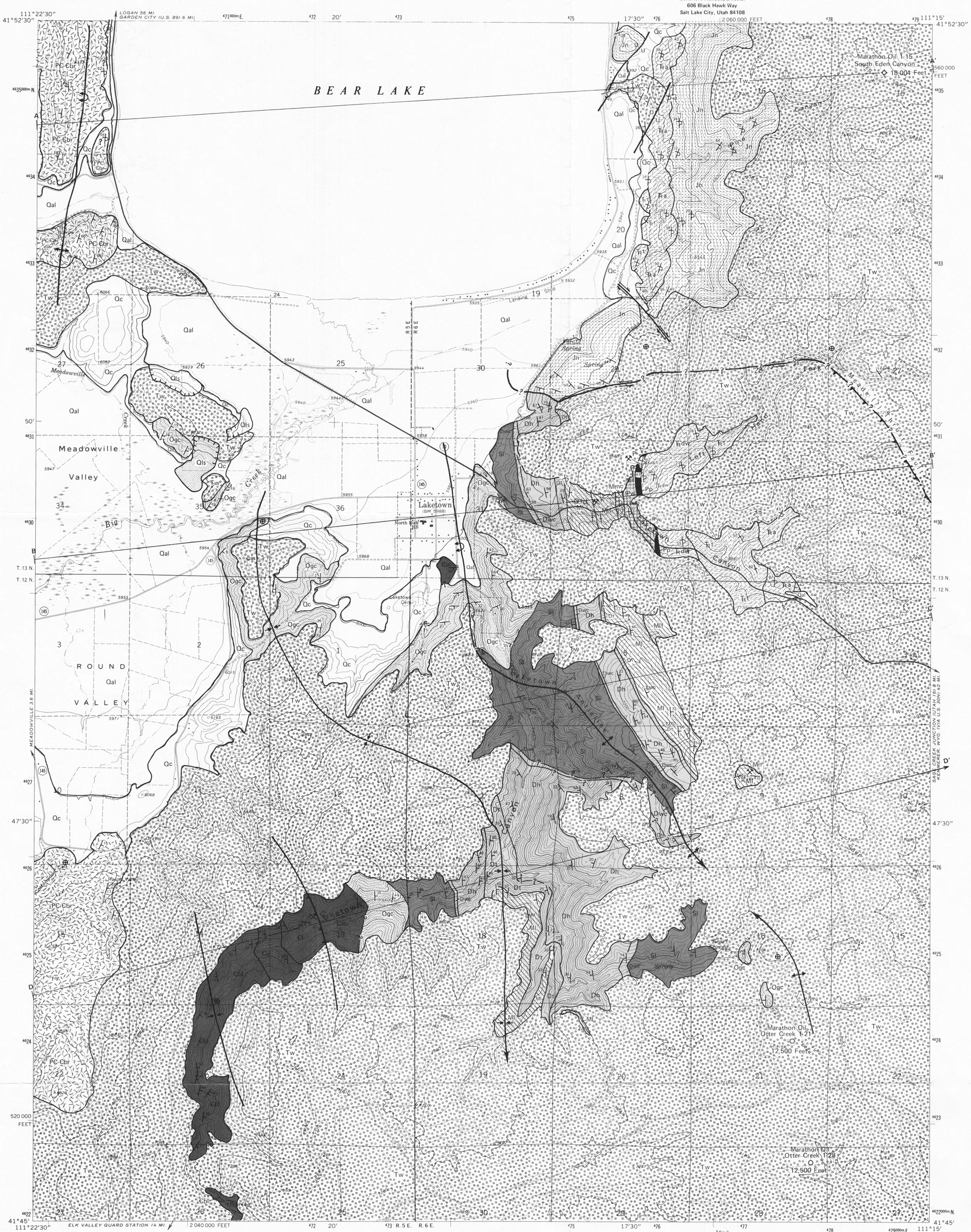
STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES AND ENERGY
UTAH GEOLOGICAL AND MINERAL SURVEY

Published and sold by
UTAH GEOLOGICAL AND MINERAL SURVEY
Genevieve Atwood, Director
606 Black Hawk Way
Salt Lake City, Utah 84108

MAP 58
GEOLOGIC MAP OF THE LAKETOWN QUADRANGLE, RICH COUNTY, UTAH



Base from U.S. Geological Survey
Topographic quadrangle: Laketown, Utah, 1969.

SCALE 1:24000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

16½° True North / Magnetic North
Approximate Mean Declination, 1965

Archives Approval No. 8100085
Appropriations No. 016103

ERA	SYSTEM	FORMATION	SYMBOL	THICKNESS IN FEET (METERS)	DESCRIPTION
CENOZOIC	QUATERNARY		Qal Qls Qc		Alluvium and lake deposits, landslide debris, colluvium.
	TERTIARY (EOCENE)	WASATCH FORMATION	Tw	1000+ (305+)	Gray to red shale, sandstone, and conglomerate; fresh-water limestone, locally pisolitic or oncolitic; not measured.
					MAJOR UNCONFORMITY
MESOZOIC	JURASSIC	TWIN CREEK LIMESTONE	Jtc	NOT EXPOSED	Limestone and shale, medium to light gray; weathers into long, splintery, dark colored fragments (Imlay, 1953). Approximately 2300 feet (701 meters) penetrated in Marathon Oil No. 1-15 South Eden Canyon well (NE corner of quadrangle).
		NUGGET SANDSTONE	Jn	1300 (?) (396 ?)	Quartz sandstone, white to red, fine to medium grained, cross-bedded; not measured.
	TRIASSIC	ANKAREH FORMATION	Ra	938+ (286+)	Shale, siltstone, and sandstone, gray to red, calcareous; thin-bedded shaly limestone.
		THAYNES FORMATION	Rt	1060 (323)	Massive limestone at base and top, gray to brown weathering; middle part gray to tan siltstone, shale, and thin-bedded limestone; fossiliferous.
		DINWOODY-WOODSIDE FORMATIONS UNDIVIDED	Rdw	1178 (359)	Siltstone and calcareous shale, drab colored; olive to brownish-gray, thin-bedded limestone; red bed tongues.
	PERMIAN	PHOSPHORIA FORMATION	Pp	218 (67)	Dark oolitic, pelletoidal, phosphatic shale at base, upper part yellowish chert.
	PENNSYLVANIAN	WELLS (?) FORMATION	IPw	579 (177)	Cherty limestone, gray to yellowish-brown, sandy; limestone breccia, and medium-grained calcareous quartz sandstone.
				287 (88)	Bioclastic limestone, bluish-gray, medium to thick-bedded; cherty in middle, dolomitic at top.
	MISSISSIPPIAN	MONROE CANYON LIMESTONE	Mmc	700 - 800 (213 - 244)	Dark phosphatic shale and thin, cherty limestone at base, interbedded yellowish-gray to brown thick-bedded sandy dolomite and calcareous sandstone.
		LITTLE FLAT FORMATION	Mlf	703 (214)	Cherty limestone, gray, thin-bedded.
		LODGEPOLE LIMESTONE	Ml		
PALEOZOIC	DEVONIAN	THREE FORKS FORMATION	Dt	233 (71)	Limestone, solution (?) breccia, and shale; reddish-orange, halite casts.
		HYRUM FORMATION	Dh	700 - 900 (213 - 274)	Dolomite, brown weathering, thick-bedded, cliff forming. Sandstone (Beirdneau Formation ?) at top, light-colored. Partial equivalent of Jefferson Formation.
		WATER CANYON FORMATION	Dwc	239 (73)	Dolomite and sandstone, gray to brown, thin-bedded, argillaceous; fish scales.
	SILURIAN	LAKETOWN DOLOMITE	Sl	1124 (343)	Dolomite, light gray, thick-bedded, cliff forming.
	ORDOVICIAN	GARDEN CITY LIMESTONE	Ogc	948 (289)	Platy limestone, gray, thin-bedded, fossiliferous; locally argillaceous with pastel-colored shaly partings. Flat pebble conglomerate. May include dark, cherty Fish Haven dolomite at top.
	CAMBRIAN	ST. CHARLES FORMATION	€sc	645+ (197+)	Dolomite, gray to tan, thick-bedded, base not exposed.
		NOUNAN FORMATION	€n	NOT EXPOSED	Limestone, massive to medium-bedded, blue-gray (Richardson, 1941).
		BLOOMINGTON FORMATION	€b	NOT EXPOSED	Limestone, and shale, thin-bedded, grayish, fossiliferous (Richardson, 1941).
		BLACKSMITH DOLOMITE	€bl	319+ (97+)	Dolomite and limestone, light to dark bluish-gray, cliff former; neither base nor top exposed.
		UTE FORMATION	€u	1103 (336)	Limestone, thin-bedded, gray; shale, green calcareous; fossiliferous.
		LANGSTON FORMATION	€l	594+ (181+)	Limestone and dolomite, tan to bluish-gray, thin to thick-bedded; base not exposed.
	PRECAMBRIAN CAMBRIAN	BRIGHAM QUARTZITE	PC-Cbr	THICKNESS UNKNOWN	Massive appearing quartzite, brownish to pinkish-gray, pebbly; partially exposed.

1000 / 500 / 0 FEET

EXPLANATION

CENOZOIC
- QUATERNARY: Qal Alluvium and lake deposits; Qls Landslide debris; Qc Colluvium
- TERTIARY: Tw Wasatch Formation
- *MAJOR UNCONFORMITY*

MESOZOIC
- JURASSIC: Jtc Twin Creek Limestone; Jn Nugget Sandstone
- TRIASSIC: Ra Ankareh Formation; Rt Thaynes Formation; Rdw Dinwoody-Woodside fomations
- PERMIAN: Pp Phosphoria Formation
- PENNSYLVANIAN: IPw Wells (?) Formation
- MISSISSIPPIAN: Mmc Monroe Canyon Limestone; Mlf Little Flat Formation; Ml Lodgepole Limestone

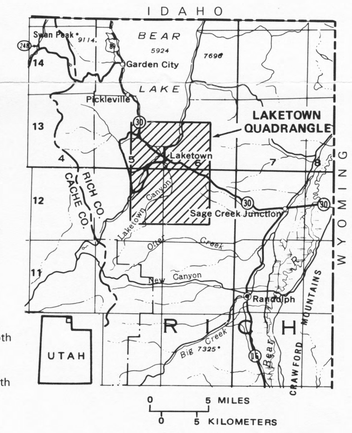
PALEOZOIC
- DEVONIAN: Dt Three Forks Formation; Dh Hyrum Formation; Dwc Water Canyon Formation
- SILURIAN: Sl Laketown Dolomite
- ORDOVICIAN: Ogc Garden City Limestone
- CAMBRIAN: €sc St. Charles Formation; €n Nounan Formation; €b Bloomington Formation; €bl Blacksmith Dolomite; €u Ute Formation; €l Langston Formation
- PRECAMBRIAN-CAMBRIAN: PC-Cbr Brigham Quartzite

LINE SYMBOLS (dashed where inferred, dotted where concealed)
- Contact
- Fault — Arrows show relative horizontal displacement
- Thrust Fault — Sawteeth on hanging wall
- High-Angle Fault — U, upthrown side; D, downthrown side

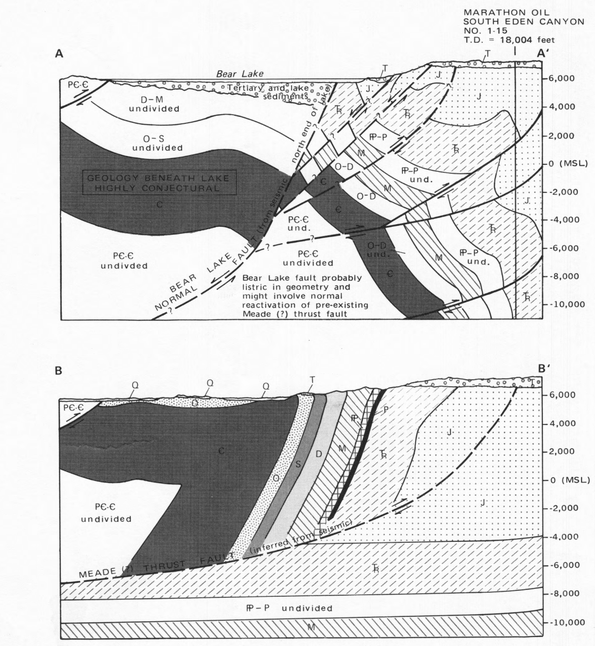
FOLDS — Showing trace of axial plane and direction of plunge
- Anticline
- Overturned Anticline
- Syncline

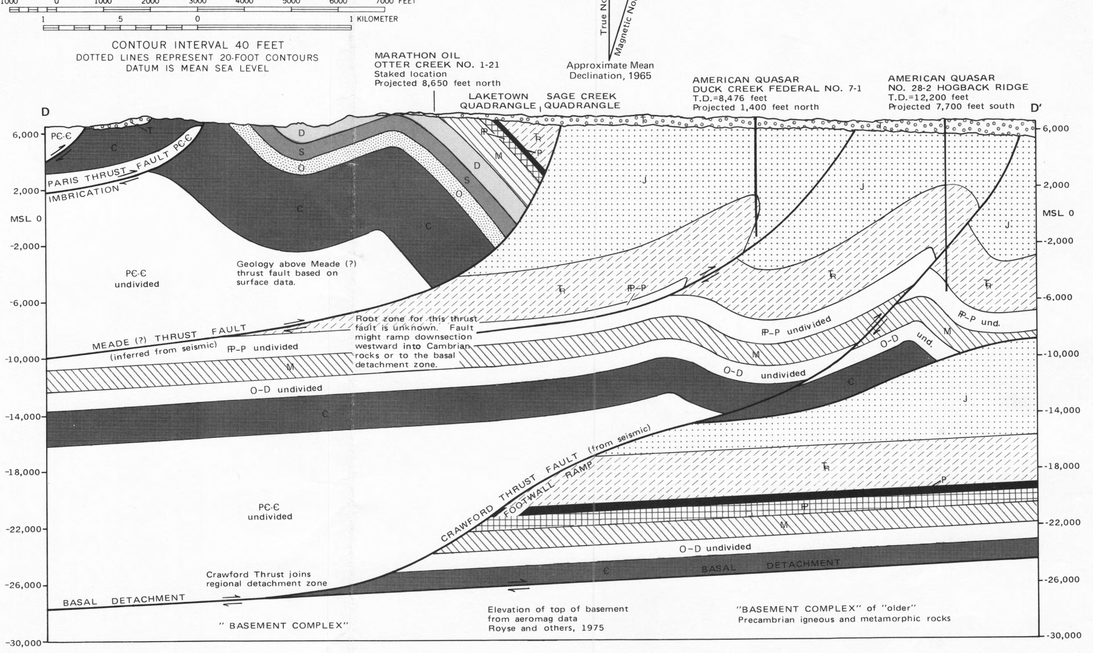
- Well drilled for oil and/or gas temporarily abandoned; total depth
- Staked well location; target depth
- Mineral Prospect — Mn = Manganese P = Phosphate

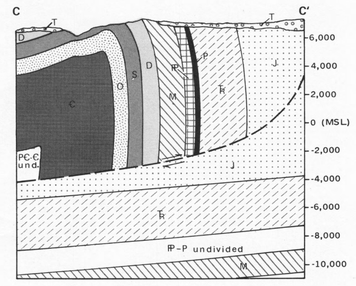
STRIKE AND DIP OF BEDS
- Horizontal
- Inclined (58)
- Vertical
- Overturned (64)



LOCATION MAP







EXPLANATION
FOR CROSS-SECTIONS ONLY

Q QUATERNARY
T TERTIARY
J JURASSIC
Tr TRIASSIC
P PERMIAN
IP PENNSYLVANIAN
M MISSISSIPPIAN
D DEVONIAN
S SILURIAN
O ORDOVICIAN
C CAMBRIAN
PC PRECAMBRIAN

ALL PERIODS UNDIVIDED
Not all Quaternary deposits are shown

5,000 Feet / 0 / 0 / 5,000 Feet

MAP 58

PRELIMINARY GEOLOGIC MAP OF THE LAKETOWN QUADRANGLE, RICH COUNTY, UTAH

June 1982

By GERARD L. VALENTI

Klaus D. Gurgel, Cartographic Editor
Sandra R. Stewart, Cartographer