BRIGHAM YOUNG UNIVERSITY GEOLOGY STUDIES
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Figure 7

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EXPLANATION

Q — **QUATERNARY DEPOSITS**-Undifferentiated: bouldery alluvial fan deposits near mountains grading to silt in valley bottom; Lake Bonneville deposits, horizontally laminated, yellowish gray silts and clays; older, elevated bouldery alluvial fan deposits

Tc — **CONGLOMERATE (TERTIARY)**-Bouldery deposits derived from Conglomerate of Leamington Pass, largely unconsolidated

Tcm — **CONGLOMERATE (POST OLIGOCENE)**-Bouldery deposits derived from Conglomerate of Leamington pass, includes boulders from Oligocene volcanics, largely unconsolidated

Ti — **INTRUSION (OLIGOCENE)**-Glass rich basaltic sill intrusions in Permian rocks, phenocrysts of plagioclase and pyroxene; 0-50 m thick

Tm — **TUFF (OLIGOCENE)**-Pinkish gray, andesite crystal tuff with phenocrysts of plagioclase, biotite, pyroxene and amphibole in matrix of glass; 0-50 m thick

COPPEROPOLIS LATITE (OLIGOCENE)

Tcm — **MIDDLE AGGLOMERATE MEMBER**-Massive boulder agglomerate composed of rounded clasts of tuff and volcanic gravel. In adjacent areas this member is both underlain and overlain by thick flows of dark gray latite (Morris, 1977); 0-10 m thick

Tcm — **SAGE VALLEY LIMESTONE MEMBER**-Lenses of light gray, thin bedded, crystalline, algal limestone within the agglomerate member (Morris, 1977); 0-30 m thick

Tcf — **FERNOW QUARTZ LATITE (OLIGOCENE)**-Light to medium gray, medium grained, welded tuff containing phenocrysts of quartz, andesine, and biotite and flamme of black obsidian in a matrix of partly to wholly welded glass shards (Morris, 1977); 0-20 m thick

TKc — **CONGLOMERATE OF LEAMINGTON PASS (UPPER CRETACEOUS AND LOWER TERTIARY)**-Consolidated; pale red gray, poorly sorted conglomerate with red sandy matrix; clasts are rounded to subangular and range from 100% quartzite to 100% limestone in composition and from .02 to 1 m in diameter; 1050 m exposed

PCm — **PARK CITY FORMATION (PERMIAN)**-Yellowish light gray, medium bedded, fine to medium grained dolomite with some lenticular chert; top not exposed; approximately 570 m thick

Pdc — **DIAMOND CREEK SANDSTONE (PERMIAN)**-Yellowish gray to grayish orange, fine to medium grained friable sandstone with pale blue chert lenses near top; approximately 260 m thick

PIPo — **OQUIRRH FORMATION (PERMIAN AND PENNSYLVANIAN)**-Upper part is light olive gray medium bedded , fine to medium grained dolomite; lower part is medium to dark gray , medium bedded, silty limestone; both include some chert and thin beds of fine grained, pale reddish brown sandstone ; base not exposed; approximately 1700 m thick

Mgb — **GREAT BLUE FORMATION (UPPER MISSISSIPPIAN)**-Medium dark gray, thin to medium bedded limestone with some chert; some sandstone and shale beds in upper part; top not exposed; approximately 300 m thick

Mh — **HUMBUG FORMATION (UPPER MISSISSIPPIAN)**-Medium gray, medium to coarse grained limestone interbedded with pale yellowish brown, medium grained, quartzose sandstone; approximately 250 m thick

Mdr — **DESERET LIMESTONE (UPPER MISSISSIPPIAN)**-Dark gray, thin to medium bedded, fine grained, fissile and argillaceous limestone; base not exposed; approximately 160 m thick

Cu — **UNDIFFERENTIATED CARBONATES (UPPER AND MIDDLE CAMBRIAN)**-Unfossiliferous, pale red to pinkish-gray, irregularly bedded, sandy limestone; interbeds of medium light gray to grayish-orange, unfossiliferous dolomite; crystalline calcite common in vertical fractures; 100-300 m thick

Cwh — **WHEELER SHALE (MIDDLE CAMBRIAN)**-Slightly calcareous light olive gray to pale yellow brown shale ; interbeds of medium gray limestone up to 2 m thick, and calcareous siltstone up to one meter thick; Elrathia, Peronopsis and sponge spicules abundant; 10-30 m thick

Cs — **SWASEY LIMESTONE (MIDDLE CAMBRIAN)**-Medium dark gray to medium light gray, massively bedded limestone; 5 percent light brown silty laminae parallel to bedding; some calcite filling fractures; 150-200 m thick

Cw — **WHIRLWIND FORMATION (MIDDLE CAMBRIAN)**-Calcareous, olive gray to yellow gray, slightly silty shale; interbeds of medium gray limestone with Ehmaniella hash in upper 30 m; trace fossils common in lower 20 m; 30-50 m thick

Cd — **DOME LIMESTONE (MIDDLE CAMBRIAN)**-Massive, medium dark gray to light gray irregularly bedded limestone with some light brown silty laminae parallel to bedding; some shaley interbeds in upper portion; 50-60 m thick

Cc — **CHISHOLM FORMATION (MIDDLE CAMBRIAN)**-Olive gray to light olive gray, micaceous shale; 35 percent medium gray to light gray, irregularly bedded limestone interbeds up to 3 meters thick with abundant limonite stained oncolites, Glossopleura hash and trace fossils abundant; 60-80 m thick

Ch — **HOWELL LIMESTONE (MIDDLE CAMBRIAN)**-Massive, medium dark gray to medium light gray, irregularly bedded limestone with some siltstone partings; oncolites abundant near base and irregularly shaped silty markings common near top; 80-100 m thick

Cp — **PIOCHE FORMATION (MIDDLE AND LOWER CAMBRIAN)**-Calcareous, olive gray to light gray, very micaceous shale; massive, medium to coarse grained, grayish orange to grayish brown quartzite interbeds with Skolithus burrows; some phyllitic siltstone interbeds with abundant trace fossils; 180-230 m thick

Ct — **TINTIC QUARTZITE (LOWER CAMBRIAN)**-Grayish orange pink to dark yellow orange, evenly bedded, medium to coarse grained quartzite; some crossbedding; several pebble conglomerate interbeds near base; approximately 835 m thick

Pm — **MUTUAL FORMATION (PRECAMBRIAN)**-Pale reddish purple to grayish red purple, medium to very coarse grained, massive quartzite with some crossbedding; numerous interbeds of medium red granule and pebble conglomerates with rounded to subangular, fractured quartzite clasts; approximately 500 m thick

PCi — **INKOM FORMATION (PRECAMBRIAN)**-Micaceous, light olive gray to dusky purple phyllitic shale; arenaceous in upper part with interbedded thin, fine grained quartzite beds; 93 m thick

Yc — **CADDY CANYON QUARTZITE (PRECAMBRIAN)**-Partially exposed as a moderate brown to light brown, medium to coarse grained quartzite with 1-1/2 m thick, even bedding; minor amounts of purple shale and mudstone, 2000+ m thick

SYMBOLS

- Strike and dip of beds
- Strike and dip of overturned beds
- Strike of vertical beds
- Strike of horizontal beds
- Silicic breccia related to Leamington Canyon Fault
- Thrust fault, dashed where approximately located , dotted where concealed, sawteeth on upper plate
- Normal fault, dashed where approximately located, ball on downthrown block
- Strike-slip fault, dashed where approximately located
- Depositional contact, dashed where approximately located

SCALE 1:24000
1 MILE
1 KILOMETER
CONTOUR INTERVAL 80 FEET

Geology of the Chan
Juab and Millar
Janice M
19

Millard County
north of A7 (Fool Creek Pk)
Modified by field mapping by
Tim Lawton summer 1996
Map sent to Hintze May 1997

Hintze field check
6 May 97

Ly7
Lynndyl 30' sheet

L. F. Hintze

Cum

5120'

BSL @ 5,100' - 5,110' (See Cuttenden, & Crittenden agency)