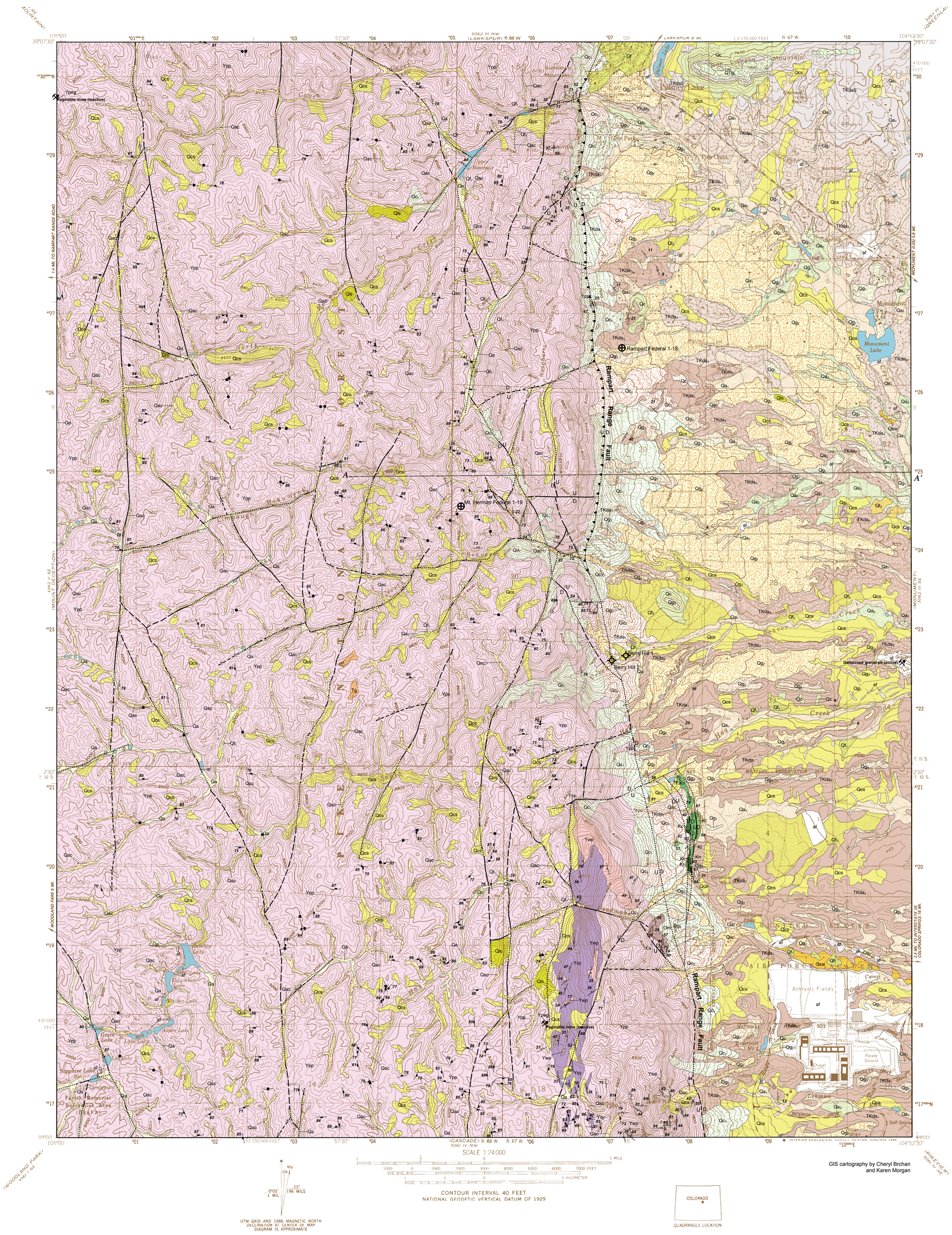
COLORADO GEOLOGICAL SURVEY
DEPARTMENT OF NATURAL RESOURCES
DENVER, COLORADO

OPEN-FILE 06-6
GEOLOGIC MAP OF THE PALMER LAKE QUADRANGLE
EL PASO COUNTY, COLORADO
Plate 1 of 2
Booklet accompanies map



GEOLOGIC MAP OF THE PALMER LAKE QUADRANGLE, EL PASO COUNTY, COLORADO

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2007

LIST OF MAP UNITS

The complete description of map units and references are in the accompanying booklet

SURFICIAL DEPOSITS

HUMAN-MADE DEPOSITS

- af — **Artificial fill (latest Holocene)**

ALLUVIAL DEPOSITS

- Qa — **Stream-channel, flood-plain, and terrace alluvium, undivided (Holocene and late Pleistocene)**
- Qa_1 — **Alluvium one (late to early Holocene)**
- Qa_2 — **Alluvium two (late Pleistocene)**
- Qac — **Stream alluvium and colluvium, undivided (Holocene to late Pleistocene)**
- Qsw — **Sheetwash alluvium (Holocene and late Pleistocene)**
- Qf_1 — **Alluvial fan deposit one (late Holocene)**
- Qf_2 — **Alluvial fan deposit two (early Holocene to late Pleistocene)**
- Qf_3 — **Alluvial fan deposit three (late Pleistocene)**
- Qf — **Alluvial fan deposit (Holocene to late Pleistocene)**
- Qg_1 — **Gravel deposit one (middle Pleistocene)**
- Qg_2 — **Gravel deposit two (early middle Pleistocene)**
- Qg_3 — **Gravel deposit three (early Pleistocene)**
- QTg_4 — **Gravel deposit four (early Pleistocene or late Eocene?)**
- Tg — **Gravel (late Tertiary)**

MASS-WASTING DEPOSITS

- Qcs — **Colluvium and sheetwash alluvium deposits, undivided (Holocene and late Pleistocene)**
- Qc_1 — **Colluvium deposit one (Holocene to late Pleistocene)**
- Qc_2 — **Colluvium deposit two (middle to late Pleistocene)**
- Qc — **Colluvium deposits, undivided (Holocene to late Pleistocene)**
- Qls — **Landslide deposits (Holocene to late Tertiary)**

BEDROCK

TERTIARY AND UPPER CRETACEOUS CONTINENTAL SEDEMENTARY ROCKS

- TKda — **Dawson Formation, undivided (Upper Cretaceous to middle? Eocene)**—Shown only on cross sections
- $TKda_5$ — **Dawson Formation, facies unit five (early to middle? Eocene)**
- $TKda_4$ — **Dawson Formation, facies unit four (Paleocene)**
- $TKda_3$ — **Dawson Formation, facies unit three (Paleocene)**
- $TKda_1$ — **Dawson Formation, facies unit one (Upper Cretaceous to Paleocene)**

MESOZOIC SEDIMENTARY ROCKS

- Kl — **Laramie Formation (Upper Cretaceous)**
- Kfh — **Fox Hills Sandstone (Upper Cretaceous)**—Shown only on cross sections
- Kp — **Pierre Shale (Upper Cretaceous)**—Shown only on cross sections
- Kn — **Niobrara Formation (Upper Cretaceous)**
- Kc — **Carlile Shale, including Codell Sandstone Member (Upper Cretaceous)**
- Kcgg — **Graneros Shale, Greenhorn Limestone, and Carlile Shale, undivided (Upper Cretaceous)**—Shown only on cross sections
- Kdp — **Dakota Sandstone and Purgatoire Formation (Lower Cretaceous)**—Shown only on cross sections
- Jmr — **Morrison Formation and Ralston Creek Formation (Upper Jurassic)**— Shown only on cross sections

PALEOZOIC AND LATEST MESOZOIC SEDIMENTARY ROCKS

- TrPr — **Lower Triassic?, Permian, and Pennsylvanian rocks, undivided)**—Shown only on cross sections
- Om — **Manitou Limestone (Lower Ordovician)**
- Cs — **Sawatch Sandstone (Upper Cambrian)**

MESOPROTEROZOIC IGNEOUS ROCKS OF THE PIKES PEAK BATHOLITH

- Ypeg — **Pegmatite (Mesoproterozoic)**
- Ywp — **Windy Point Granite (Mesoproterozoic)**
- Ysy — **Syenite (Mesoproterozoic)**
- Ypp — **Pikes Peak Granite (Mesoproterozoic)**

SYMBOLS

- **Contact—Approximately located**
- **High-angle fault—Dashed where approximately located; dotted where concealed; queried where inferred. U on upthrown side; D on downthrown side. Tic indicates direction of dip; tic number indicates field measurement of dip magnitude.**
- **Thrust fault—Dotted where concealed. Barbed teath are on overthrust block side of fault**
- **Strike and dip of bedding or contacts**
  - **Inclined—Showing direction and angle of dip**
  - **Overturned—Showing direction and angle of dip**
- **Strike and dip of fractures**
  - **Inclined—Showing direction and angle of dip**
  - **Vertical**
- **Strike and dip of joints**
  - **Inclined—Showing direction and angle of dip**
  - **Vertical**
- **Primary igneous foliation—Showing direction and angle of dip**
- **Shear fracture with slickenslide lineation—Showing direction and angle of dip, and trend and plunge of lineation**
- **Mine or gravel pit**
- **Proposed oil and gas test well**
- **Existing oil and gas exploratory well (abandoned)**
- **Water**
- A — A′ **Line of cross section**

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