



# Silver Bow County Geology and Geologic Hazards

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# Collaborators

- Katie McDonald
- Mike Stickney
- Marv Speece & Bill Sill – Geophysical Engineering
- Various MBMG folks who have helped
- Funded by FEMA *Pre-disaster Mitigation Planning Grant* to Butte-Silver Bow Homeland Security and Emergency Management Department

# Purpose of study;

- Provide baseline geologic data for pre-disaster planning in Silver Bow County, as required by FEMA
- Increase public awareness of natural hazards
- Ulterior motive: use new geologic information to refine understanding of SW Montana history

# Deliverables

- 1:50,000 geological map
- Narrative of local geologic history
- Detailed maps showing
  - fault locations, sense of movement, magnitude of movement
  - Landslides
  - Mass wasting risks
- GIS package for analysis of relationships between geohazard potential and county infrastructure
- Public education program of unspecified nature

# Interesting findings

- New fossil specimens and localities



Gregson clay quarry

- Lots of faults and earth shaking



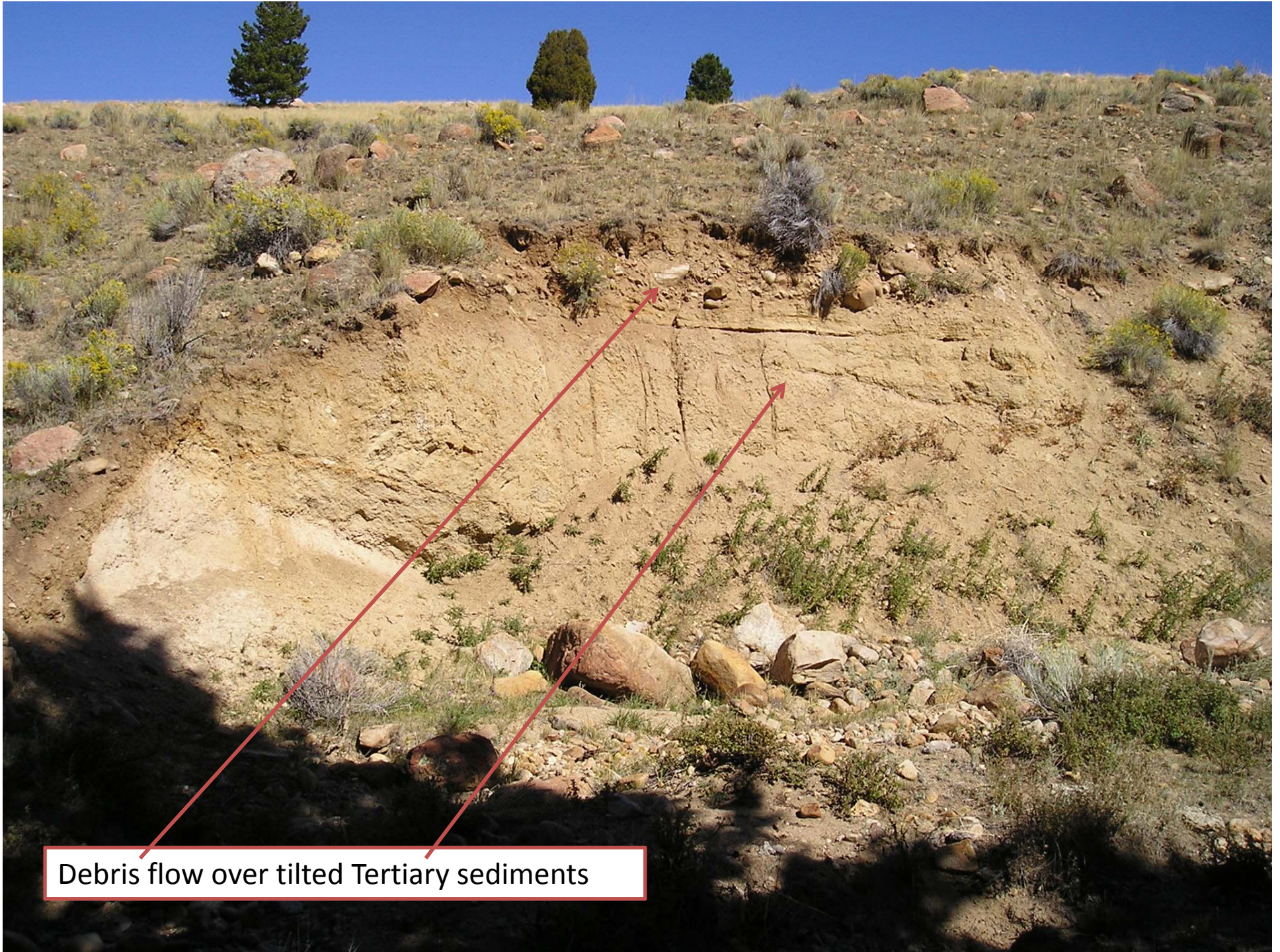
At all stratigraphic levels, including some near the top of the sed pile that contain recent-looking fossils/bones.

- Debris flows



Again, at all stratigraphic levels up to recent.





Debris flow over tilted Tertiary sediments

- **Unconformities** Again, at all stratigraphic levels up to recent.

Compare last slide to next slide:

Multiple internal unconformities also suggest repeated intervals of tectonism



