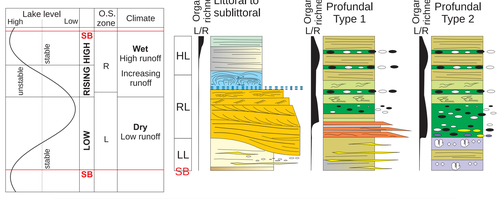
Plate 2-RMS AAPG
Salt Lake City 2013

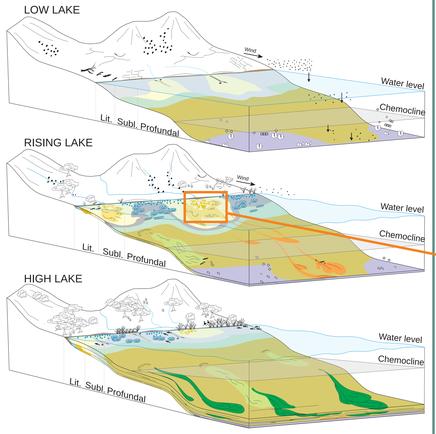
SEQUENCE STRATIGRAPHY

Low Lake- Dominant during dry climate, shoreline regresses, little sediment brought into the basin, oil shale can be rich, possible evaporites in lake center

Rising Lake- Induced by an increasingly humid climate, rapid increase in runoff leading to oil shale richening, erosion in margin of lake, rapid increase in oil shale richness in center of lake

Tänavsuu-Milkeviciene et al., 2012





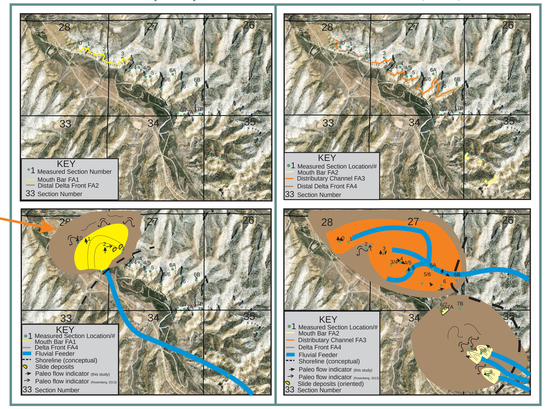
Littoral and sublittoral FA
- FA1: Shoreline mudstones
- FA2: Shoreline sandstones
- FA3: Carbonate shoals
- FA4: Delta deposits
- FA5: Microbial carbonates
- FA6: Littoral to sublittoral sandstones
- FA7: Littoral to sublittoral mudstones
- FA8: Littoral to sublittoral oil shale

Profundal FA
- FA9: Laminated oil shale
- FA10.1: Soft-sediment-deformed oil shale
- FA10.2: Oil shale breccias
- FA11: Siliciclastic turbidites
- FA12: Subaqueous evaporites

FACIES DISTRIBUTION AND DEPOSTIONAL MAPS

UPPER SANDSTONE UNIT (USS)

LOWER SANDSTONE UNIT (LSS)



CROSS SECTION A-A' EVACUATION CREEK

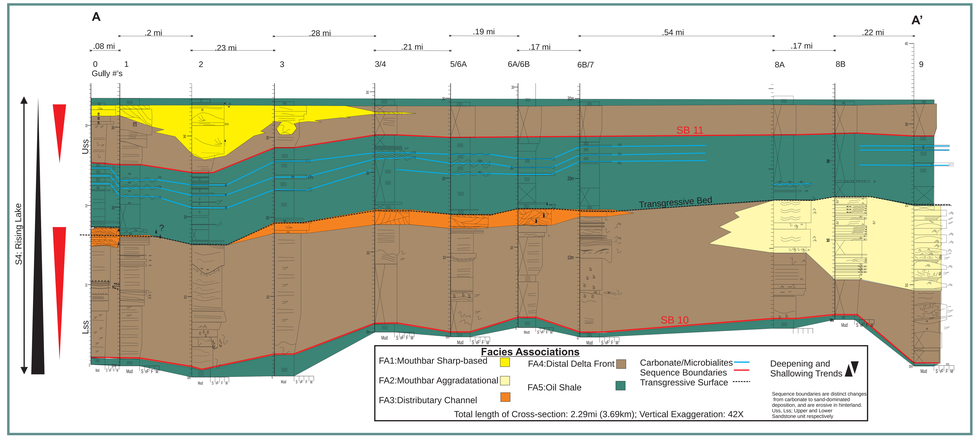
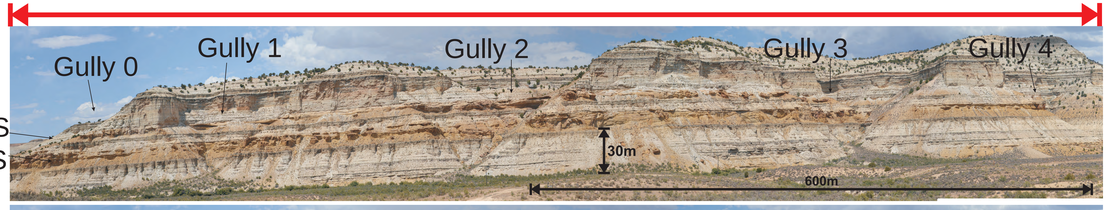
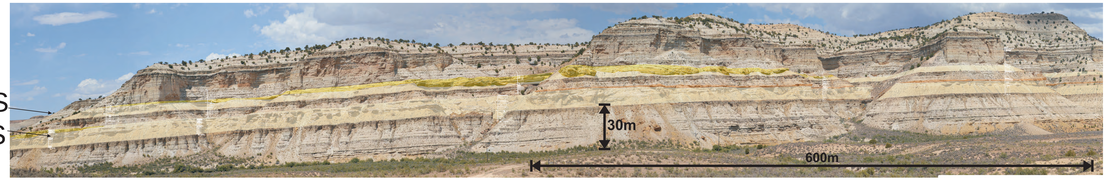
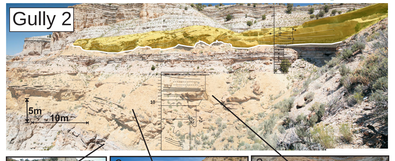


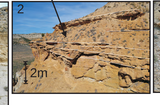
PHOTO PANORAMICS

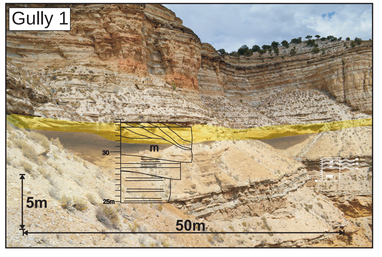




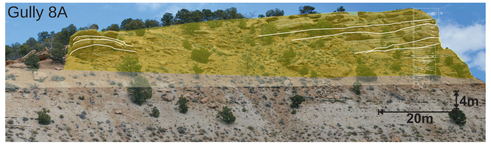
Sharp-based Mouthbars FA1

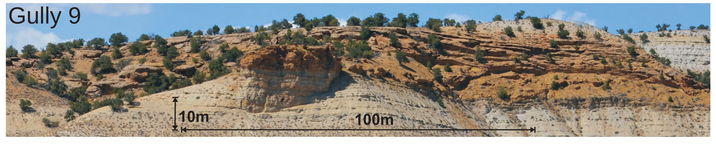


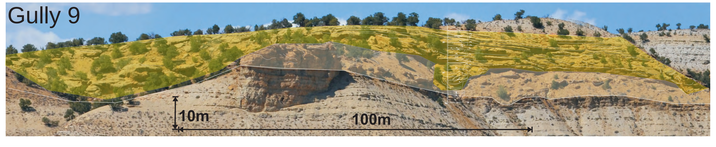




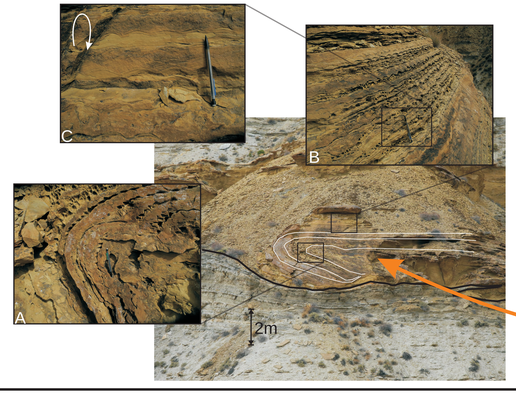
Aggradational Mouthbars FA2



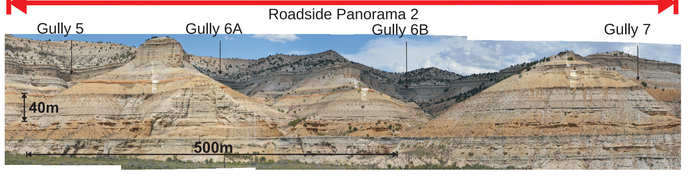


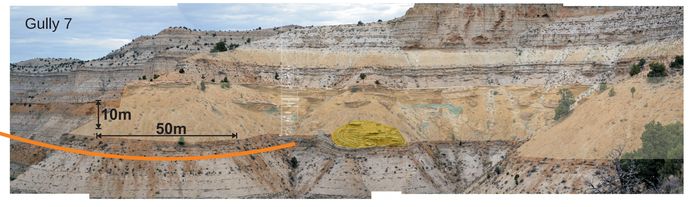


Cinnamon Roll: Mouthbar slide into distal delta front FA4



Distal Delta Front FA4





CONCLUSIONS

1. Sandstone deposition in the study interval of Evacuation Creek is deltaic in nature.

2. Areas of greater sand input are related to deltaic input and mainly represent mouthbars- Sharp-based (FA1) or Aggradational (FA2).

3. Deltaic FA's 1-4 have significant lateral variability.

4. Sharp-based mouthbars (FA1) are vertically more homogeneous hydrocarbon reservoir analogues, display vertically blocky grain size distribution, versus aggradational mouthbars (FA2), which are more heterogeneous, and are comprised of multiple coarsening upward units.

Acknowledments:

This project is part of the COSTAR Consortium Project, sponsored by: ExxonMobil, Total, and Shell, and the Green River Consortium at Colorado School of Mines, sponsored by: Anadarko, Bill Barrett, ConocoPhillips, Devon, EOG, Newfield, Platte River, and Statoil.