



AGS Newsletter

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AGS Spring 2024 Big Sandy Valley Field Trip Basin evolution, deformation, and mineralization in the Big Sandy Valley, northwestern Arizona

Register at <https://www.arizonageologicalsoc.org/>

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When/Where: Saturday, 27 April 2024 to Sunday, 28 April 2024 (We recommend arriving the afternoon/evening of Friday, 26 April 2024 and either camp in Big Sandy Valley or find accommodation in Kingman)

Registration: This trip will be limited to 25 attendees, who will be selected by lottery after a ten-day open registration. Register at <https://www.arizonageologicalsoc.org/>

Transportation: You are responsible for your own transportation. To facilitate carpooling for Tucson- and Phoenix-area folks, AGS will communicate the list of attendees before the trip. High-clearance vehicles are required in the field, such as Cherokee or F-150 4x4's.

Disclaimer: All field trippers must sign an AGS liability release waiver.

Gear: Dress appropriately for daytime temperatures 75-90 degrees F. Boots or hiking shoes are required. AGS will supply some water, but please bring some with you.

Cost: \$25 for two lunches on 27 and 28 April. Cost of field guide is \$20 for a total of \$45. The fee would not be collected until after the lottery.

Description: This field trip, encompassing basin deposits, river integration, structural geology/tectonics, economic geology, and regional geology, will examine two generations of well-exposed basin deposits and associated faults and deformation in Big Sandy Valley, northwestern Arizona. Big Sandy Valley is situated along the margin between the Basin and Range Province and Transition Zone in Arizona within a ~90 km gap along the northwestern segment of the Laramide arc where no porphyry copper deposits have yet been defined. Two sedimentary lithium deposits were discovered in 2019 and continue to be advanced, while two subsurface porphyry copper prospects are being explored by junior mining companies.

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...By examining the spatial distribution and geometric configuration of Big Sandy basin deposits, trip participants will evaluate and make connections between basin structural evolution, depositional systems and basin sedimentation, and modern resource exploration, highlighting the role geologic mapping plays in the intersection of science, policy, and land use. Field trip stops examine four aspects of basin evolution and mineral resources: 1) evaluate the character, form, and depositional environments of two generations of basin deposits (the Miocene Tule Wash beds and late Miocene-early Pliocene Big Sandy Formation) through type exposures; 2) examine the character, provenance, and depositional mechanisms of spectacular rock-avalanche breccia deposits in the Tule Wash beds; 3) evaluate the structural setting of basin deposits, cross-cutting relationships between faults and folds, and implications for the style and timing of deformation; and 4) summarize regional geology and implications for porphyry copper and sedimentary lithium mineralization.

Trip Leaders

