

Arizona Geological Survey

News Release: Arizona Geological Survey Report on March 2008 Landslide along Highway 87 near Payson, Arizona

Contact: Michael Conway (520.770.3500 / Michael.conway@azgs.az.gov) or Mimi Diaz (602.708.8253; mimi.diaz@azgs.az.gov)

1 December 2008

TUCSON - The Arizona Geological Survey (AZGS) has delivered its geologic assessment of the March 21, 2008 landslide that temporarily closed Arizona's State Route (SR) 87 to the Arizona Department of Transportation.

The report, "*Reconnaissance Report on the Easter Weekend Landslide of 21 March 2008, SR-87, Gila County, Arizona,*" summarizes the landslide event, describes newly discovered paleo-landslide deposits along SR 87, and recommends follow-up studies as a first step towards mitigating future landslides. It is available as a free PDF file at www.azgs.az.gov.

The 21 March landslide buckled SR-87 near mile post 224, breaking the ground surface for about 45 ft along the southbound lane of SR-87, uplifting and buckling that lane and displacing the northbound lane about one foot to the east. As a result of unsafe road conditions, the Arizona Department of Transportation (ADOT) closed the highway for six days while repairs were made.

What triggered the landslide remains under investigation, but rainfall and water-saturated soils may have played a contributing role. On 17 March 2008, and just four days before the landslide occurred, 0.24 inches of rain fell in the space of 75 minutes on nearby Mt. Ord. An additional 14 inches of rain was recorded in the 2007-2008 precipitation year.

The landslide occurred in wet, clay-rich to sandy sediments that are part of an older and larger paleo-landslide deposit. The paleo-landslide deposit is about 1,500 feet wide at its head with a lateral extent of nearly one-mile. This ancient landslide occurred at least several thousand years ago.

Reconnaissance mapping by AZGS geoscientists, Mimi Diaz, Brian Gootee, and Ann Youberg, revealed up to three additional and previously unidentified paleo-landslide deposits in the hills adjacent to SR-87, just south of the site of the March 21 slope failure. (These ancient landslide deposits are collectively referred to as the Iron Dike landslides after nearby Iron Dike Mountain.)

AZGS and ADOT exchanged technical data throughout the highway repair process to help ensure the re-opened road would be safe. Further detailed mapping coupled with slope stability studies are required to assess what the potential may be for slope failure in these newly discovered paleo-landslide deposits.

-more-

AZGS recommendations for additional studies near mile post 224 on SR-87 focus on:

- Identifying the full extent of the March 21 landslide;
- The number and extent of other paleo-landslide deposits along this section of SR-87;
- The potential for failure, if any, on the slopes of paleo-landslide deposits along SR-87;
- The geologic-environmental conditions that might lead to further slope failure.

For more information contact the Arizona Geological Survey's Mimi Diaz (602)708-8253; mimi.diaz@azgs.az.gov or Michael Conway (520)770-3500; michael.conway@azgs.az.gov.

Printed copies of the report are available for \$4.00 at the Arizona Geological Survey's Map & Bookstore (520-770-3500), 416 W. Congress, Tucson, and at Explore Arizona! Outdoor Information Center (602-417-9300), One North Central Ave, Phoenix.

Background: The Arizona Geological Survey is charged by State statute, ARS-27-52, to "map, describe, and monitor known and potential geologic hazards and limitations to land and resource management" and to "provide technical advice and assistance in geology to other state and local government agencies engaged in projects in which the geologic setting, character, or mineral resources of the state are involved.