

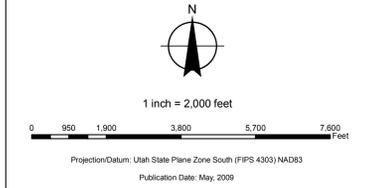
Adverse Construction Condition Breccia Pipes and Paleokarst



Utah Geological Survey Special Study 127
Geologic Hazards and
Adverse Construction Conditions
St. George-Hurricane Metropolitan Area
Washington County, Utah, 2008



City of Hurricane
147 N 870 W
Hurricane, UT 84737
GIS



Although this product represents the work of professional scientists, the Utah Department of Natural Resources, Utah Geological Survey and the City of Hurricane, makes no warranty, expressed or implied, regarding its suitability for a particular use. The Utah Department of Natural Resources, Utah Geological Survey and the City of Hurricane, shall not be liable under any circumstances for any direct, indirect, special, incidental, or consequential damages with respect to claims by users of this product.

Description
Caliche is a term applied to calcareous material of secondary origin that typically accumulates through pedogenic processes in the shallow subsurface of soils in arid and semiarid climates.

Caliche is of concern for three reasons: first, because thick, well-indurated caliche horizons approach the hardness of rock, making excavation difficult; second, because as the soluble salts accumulate, they reduce soil permeability, which can affect the operation of individual wastewater disposal systems, or other engineering or agricultural applications that require free-draining soils; and third, because CaCO₃ is soluble, caliche may be subject to dissolution if subjected to prolonged wetting, which may cause a loss of internal volume and result in localized land subsidence and sinkhole formation.

Using This Map
The Caliche-Susceptibility Map shows where strongly indurated caliche either is or may be present in the St. George-Hurricane metropolitan area. The map is intended for general planning purposes to indicate where adverse caliche conditions may exist and special studies may be required. The UGS recommends performing a site-specific geotechnical foundation/geologic-hazards study for all development at all locations in the study area. Site-specific studies can resolve uncertainties inherent in generalized mapping and help ensure safety by identifying the need for special foundation designs or mitigation techniques. The presence and severity of caliche conditions along with other adverse construction conditions and geologic hazards should be addressed in these investigations. If indurated caliche is present at a site, appropriate design recommendations should be provided. Where onsite wastewater disposal systems are planned, system installation must meet the requirements of Utah Department of Environmental Quality Rule R317-4-5, Soil and Ground Water Requirements (Utah Department of Environmental Quality, 2006).

See section 7, "Problem Soil and Rock", "Breccia Pipes and Paleokarst", in the full report for more detailed information.

Classification:
For a detailed explanation of the contents of this map, contact the Hurricane Planning Department for a copy of Special Study 127

Breccia Pipes and Paleokarst

BP/PK

Legend

- RCDR Babylon Section
- Hurricane City Limits
- Creek
- Canal
- Major Streets
- Dirt St.
- State Highway
- I-15
- Ramp
- Parcels
- Virgin River

Map Sources:
Parcels, Hurricane GIS Dept. Modified from Washington County GIS data downloaded Feb., 2009.
Streets, Hurricane City GIS Dept. Modified from Washington County GIS data downloaded Feb., 2009.
Aerial, USDA, National Agriculture Imagery Program (NAIP) 2006. Distributed by the Utah AGRC and reprojected to Utah State Plane, South (FIPS 4303), NAD 83 (CONUS), Survey Feet from the original. SID source file.