

Identification_Information:

Citation:

Citation_Information:

Originator: Steven J. Skotnicki

Publication_Date: 20020800

Title: Geologic map of the Avondale SW 7.5' quadrangle, Maricopa County, Arizona

Series_Information:

Series_Name: Arizona Geological Survey Digital Geologic Map

Issue_Identification: DGM-16

Geospatial_Data_Presentation_Form: Map

Publication_Information:

Publication_Place: Tucson, AZ

Publisher: Arizona Geological Survey

Description:

Abstract: The Buckeye Hills are located approximately 30-40 km west-southwest of Phoenix, Arizona, directly south of the Town of Buckeye (see figure 1). Regionally, the Buckeye Hills are sandwiched between two broad alluvial bajadas. To the north, a vast alluvial plain slopes southward toward the hills from the White Tank Mountains, while to the south, another broad bajada slopes northward from the Maricopa Mountains, also toward the hills. The Gila River skirts the northern edge of the bedrock as it flows west across the northern part of the quadrangle. Although some of the taller hills project over 600 feet above the surrounding plain, topographic relief in the map area is typically very low. Much of the bedrock has been eroded into low-relief pediments. From a distance these pediments deceptively resemble extensive alluvial plains. Several episodes of erosion, sedimentation, and entrenchment have resulted in a myriad of dissected alluvial deposits across the pediments. The Buckeye hills are composed chiefly of three distinct early Proterozoic granitic rocks: (1) a coarse-grained granite, (2) a medium- to coarse-grained granite and (3) a fine-grained granite. Two varieties of fine-grained granite were mapped in the Buckeye quadrangle to the west, but only one variety was seen in the Avondale SW quad. All of the granitic rocks are foliated. Minor, non-foliated pegmatite dikes (not mapped) cross-cut the fine-grained granite and appear to post-date deformation. Field work was carried out between November, 2001 and March, 2002. Two days a week were spent in the field for a total of about 36 days of fieldwork for the Buckeye and Avondale SW quads together. The surficial deposits in the southern part of the quadrangle were mapped using aerial photos from the BLM dated at 6/12/78. The Gila River flood plain was mapped using digital photos (not in stereo) obtained from the Maricopa County Flood Control District taken in 2001.

Purpose: This geologic mapping southeast of Tucson is part of continuing efforts by the AZGS to map the geology of the Phoenix - Tucson urban corridor. This map builds on and complements previous and concurrent geologic mapping efforts in the Tucson area and is intended to enhance our understanding of the geology of the area and to aid in assessing and understanding geologic hazards. Research is partially supported by the U.S. Geological Survey, National Cooperative Geologic Mapping Program, under USGS award number #01HQAG0098.

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 20020800

Currentness_Reference: publication date

Status:

Progress: Complete

Maintenance_and_Update_Frequency: Unknown

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -112.50

East_Bounding_Coordinate: -112.375

North_Bounding_Coordinate: 33.375

South_Bounding_Coordinate: 33.25

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: digital cartography

Theme_Keyword: digital geologic map

Theme_Keyword: surficial geology

Theme_Keyword: bedrock geology

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Avondale SW 7.5' quadrangle

Place_Keyword: Maricopa County

Place_Keyword: Arizona

Place_Keyword: U.S.A.

Place_Keyword: Buckeye Hills

Place_Keyword: Gila River

Access_Constraints: None

Use_Constraints: Not to be reproduced for commercial purposes

Point_of_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: Arizona Geological Survey

Contact_Position: GIS Technician

Contact_Address:

Address_Type: mailing and physical address

Address: 416 W. Congress St., # 100

City: Tucson

State_or_Province: Arizona

Postal_Code: 85701

Country: U.S.A.

Contact_Voice_Telephone: 520-770-3500

Contact_Facsimile_Telephone: 520-770-3505

Hours_of_Service: 8:00 a.m to 5:00 p.m., M-F

Native_Data_Set_Environment: Adobe® PDF format files

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report: Although no formal tests were performed, the location and existence of objects, as well as object attribution, were tested for accuracy against the paper source maps from which the source dataset was digitized by direct visual comparison between the source maps and the digital dataset.

Logical_Consistency_Report: Logically consistent

Completeness_Report: Data completeness reflects the content of the source maps.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: Skotnicki, S.J.

Title: Unpublished geologic field sheets from bedrock mapping in the Avondale SW 7.5' quadrangle, Maricopa County, Arizona (published here)

Publication_Date: unpublished material

Geospatial_Data_Presentation_Form: map

Source_Scale_Denominator: 24000

Type_of_Source_Media: paper maps

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 20020600

Source_Currentness_Reference: ground condition

Source_Citation_Abbreviation: bedrock mapping

Source_Contribution: source used to compile the new bedrock mapping for the Avondale SW 7.5' quadrangle

Source_Information:

Source_Citation:

Citation_Information:

Originator: Skotnicki, S.J.

Publication_Date: 20020600

Title: BLM ariel photos, approximately 1:30,000 scale, color, dated 19780612

Geospatial_Data_Presentation_Form: map

Other_Citation_Details: mylar sheets are same size as photos and are still attached to photos.

Source_Scale_Denominator: 30000

Type_of_Source_Media: color photos

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 19780612

Source_Currentness_Reference: publication date of photos

Source_Citation_Abbreviation: photos

Source_Contribution: source used to compile the new surficial mapping for the Avondale SW 7.5' quadrangle

Process_Step:

Process_Description:

(1) Field sheets were scanned as tiff images, registered and rectified in ArcInfo, then digitized using ArcEdit

(2) Mylar overlays containing surficial mapping were scanned as tiff images, registered and rectified in ArcInfo, then digitized using ArcEdit

(3) Some areas along the Gila River were mapped using digital images obtained on CD-ROM from the Maricopa County Flood Control District

(4) ArcInfo coverages were edited and appended using ArcEdit

(5) ArcInfo coverages were attributed using ArcView

Source_Used_Citation_Abbreviation: bedrock mapping

Source_Used_Citation_Abbreviation: photos

Process_Date: 20020600

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: Arizona Geological Survey

Contact_Person: Skotnicki, S.J.

Contact_Address:

Address_Type: mailing and physical address

Address: 416 W. Congress St., Suite 100

City: Tucson

State_or_Province: Arizona

Postal_Code: 85701
Country: U.S.A.
Contact_Voice_Telephone: 520-770-3500
Contact_Facsimile_Telephone: 520-770-3505

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: raster

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Planar:
Grid_Coordinate_System:
Grid_Coordinate_System_Name: Universal Transverse Mercator
Universal_Transverse_Mercator:
UTM_Zone_Number: 12
Transverse_Mercator:
Scale_Factor_at_Central_Meridian: 0.999600
Longitude_of_Central_Meridian: -112.000000
Latitude_of_Projection_Origin: 0.000000
False_Easting: 500000.000000
False_Northing: 0.000000

Planar_Coordinate_Information:
Planar_Coordinate_Encoding_Method: Coordinate pair
Coordinate_Representation:
Abscissa_Resolution: 1
Ordinate_Resolution: 1
Planar_Distance_Units: Meters

Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clarke 1866
Semi-major_Axis: 6378206.4000000
Denominator_of_Flattening_Ratio: 294.98

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview: This dataset includes two Adobe® PDF files that represent the text and plate 1 of a detailed, 1:24,000 layout scale geologic map of the Avondale SW 7.5' quadrangle.
Entity_and_Attribute_Detail_Citation: n/a

Distribution_Information:
Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: Arizona Geological Survey
Contact_Position: Publication Sales Department
Contact_Address:
Address_Type: mailing and physical address
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Resource_Description: AZGS DGM-16: Geologic map of the Avondale SW 7.5' quadrangle, Maricopa County, Arizona

Distribution_Liability: Although these data have been processed successfully on a computer system at the Arizona Geological Survey, no warranty expressed or implied is made regarding the accuracy or utility of the data on any other

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Standard_Order_Process:

Digital_Form:

Digital_Transfer_Information:

Format_Name: Adobe® PDF format

Digital_Transfer_Option:

Offline_Option:

Offline_Media: CD-ROM

Recording_Format: Joliet

Compatibility_Information: Windows 95/98/NT4.0/2000

Fees: \$15.00

Ordering_Instructions: Publications and maps may be purchased by mail or in person from the AZGS office in Tucson. Call for information or visit the AZGS website at www.azgs.state.az.us to view a list of publications and to print out an order form.

Metadata_Reference_Information:

Metadata_Date: 20020827

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: Arizona Geological Survey

Contact_Position: GIS Technician

Contact_Address:

Address_Type: Mailing and physical address

Address: 416 W. Congress St., # 100

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Postal_Code: 85701

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Hours_of_Service: 8:00 a.m to 5:00 p.m., M-F

Metadata_Standard_Name: FGDC CSDGM

Metadata_Standard_Version: FGDC-STD-001-1998