White Tank Mountains
Flood Hazard Map - NW Section

by
John J. Field and Philip A. Pearthree
1991

E X P L A N A T I O N

Map Unit Description

H_1 **Flood Hazard:** Highest; high-velocity channelized flow and sheetflow

Distribution: Entrenched reaches of major drainages and distributary flow areas on middle and upper piedmont

Soil Group*: Torrifluvents

Channel Pattern: Braided (anastomosing) or distributary

Surface Relief: Less than 2 ft; bar and swale topography

Surface Texture: Silt to very gravelly sand

Surface Color: Dull yellow-orange (10YR 6/4)

Desert Varnish: Unvarnished gravel

Vegetation:** Brittle bush, rabbit bush, bunch grass, creosote

Estimated Surface Age: Historical to late Holocene (0 to 2,000 yrs old)

H_2 **Flood Hazard:** Moderately high; dominantly sheetflow with minor channel flows

Distribution: Restricted to lower piedmont and small drainages heading on the piedmont

Soil Group: Torrifluvents

Channel Pattern: Distributary; incipient dendritic drainage in less active areas

Surface Relief: Less than 2 ft with uncommon, 4-ft arroyo cuts; smooth surface

Surface Texture: Sandy silt with 10% scattered gravel; less active areas have granule to pebble lag

Surface Color: Dull yellow-orange (10YR 6/4)

Desert Varnish: Unvarnished gravel

Vegetation: Creosote, brittle bush

Estimated Surface Age: Historical to late Holocene (0 to 2,000 yrs old)

I **Flood Hazard:** Intermediate; has not been subject to significant flooding for more than 1,000 yrs, but lack of topographic relief between these surfaces and active surfaces (H_1 and H_2) suggests that they could become flood prone with channel filling, avulsion, or human disturbance

Distribution: Adjacent to H_1 and H_2 in distributary flow areas and on lower piedmont

Soil Groups: Torrifluvents and Camborthids

Channel Pattern: Widely spaced, dendritic tributary drainages

Surface Relief: Less than 4 ft in distributary flow areas and less than 3 ft on lower piedmont; bar and swale topography well preserved in distributary flow areas

Surface Texture: Open desert pavement consisting of granules and small cobbles

Surface Color: Dull yellow-orange (10YR 6/4)

Desert Varnish: Unvarnished to weakly developed over 10% of the surface - brownish black (7.5YR 3/1) on top and orange (7.5YR 7/6) on undersides

Vegetation: Brittle bush, creosote, palo verde

Estimated Surface Age: Late Holocene to latest Pleistocene (1,000 to 15,000 yrs old)

L_1 **Flood Hazard:** Low; localized sheetflooding possible; flooding might occur if channels are altered by human disturbance because of low relief downslope from major distributary flow areas

Distribution: Downslope from and adjacent to distributary flow areas on middle and lower piedmont

Soil Groups: Camborthids and Haplargids

Channel Pattern: Moderately spaced, dendritic tributary drainages

Surface Relief: 1 to 10 ft; fairly smooth subdued bar and swale topography

Surface Texture: Open to closed desert pavement consisting of granules and cobbles

Surface Color: Bright brown (7.5YR 5/6) to orange (7.5YR 6/6)

Desert Varnish: Weakly to moderately developed over 50% of surface - brownish black (7.5YR 2/2) to grayish brown (7.5YR 4/2) on top and dull orange (5YR 6/4) to reddish brown (2.5YR 4/6) on undersides

Vegetation: Brittle bush, creosote, cane cholla

Estimated Surface Age: Latest Pleistocene to middle Pleistocene (15,000 to 250,000 yrs old)

L_2 **Flood Hazard:** Lowest; restricted to small channels and localized sheetflooding

Distribution: Upper and middle piedmont and adjacent to Hassayampa River

Soil Groups: Haplargids and Durorthids

Channel Pattern: Closely to widely spaced, dendritic tributary drainages; rounded interfluves in areas of highest relief

Surface Relief: 5 to 40 ft; fairly smooth surface; uncommon bar and swale topography

Surface Texture: Closed desert pavement consisting of cobbles and pebbles; uncommon salt-shattered cobbles; in places, surface is denuded and covered by petrocalcic fragments

Surface Color: Dull orange (7.5YR 6/4 to 5YR 6/3)

Desert Varnish: Well developed over 50 to 100% of undenuded surfaces - black (5YR 1.7/1) on top and dark red (10R 3/6) to dull orange (7.5YR 7/4) on undersides

Vegetation: Jumping cholla, brittle bush, creosote

Estimated Surface Age: Late Pleistocene to Pliocene (50,000 to 1,000,000 + yrs old)

M **Flood Hazard:** Mechanized disturbance; flood hazard unknown

B **Flood Hazard:** Bedrock outcrops; flood hazard low, but localized slope wash and debris flows possible in steepest areas

* Soil groups are taken from the Soil Conservation Service survey of the Aguila-Carefree area

** Only dominant plant types are listed

Channel bottoms of larger drainages heading in the White Tank Mountains

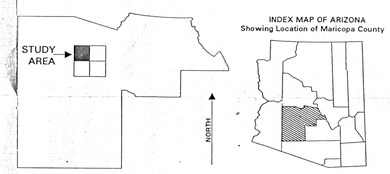
SCALE 1:24,000

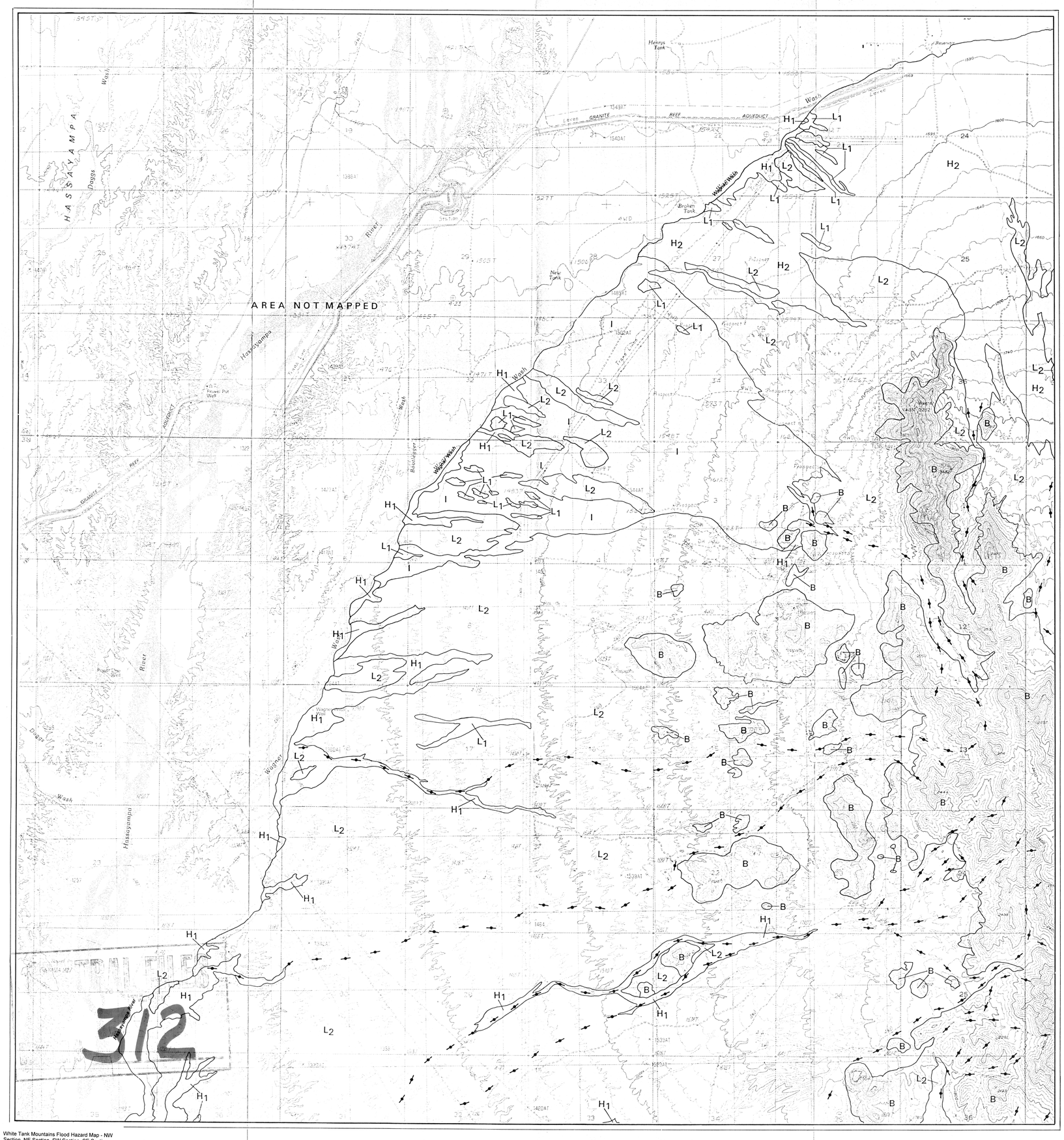
1 .5 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

TOPOGRAPHIC CONTOUR INTERVAL 5, 10, 20, 40 FEET





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White Tank Mountains Flood Hazard Map - NW Section, NE Section, SW Section, SE Section

John J. Field; Philip A. Peartree 1991

Drawer 312

White Tank Mountains
Flood Hazard Map - NE Section

by
John J. Field and Philip A. Pearthree
1991

E X P L A N A T I O N

Map Unit Description

H_1 **Flood Hazard:** Highest; high-velocity channelized flow and sheetflow

Distribution: Entrenched reaches of major drainages and distributary flow areas on middle and upper piedmont

Soil Group*: Torrifluvents

Channel Pattern: Braided (anastomosing) or distributary

Surface Relief: Less than 2 ft; bar and swale topography

Surface Texture: Silt to very gravelly sand

Surface Color: Dull yellow-orange (10YR 6/4)

Desert Varnish: Unvarnished gravel

Vegetation:** Brittle bush, rabbit bush, bunch grass, creosote

Estimated Surface Age: Historical to late Holocene (0 to 2,000 yrs old)

H_2 **Flood Hazard:** Moderately high; dominantly sheetflow with minor channel flows

Distribution: Restricted to lower piedmont and small drainages heading on the piedmont

Soil Group: Torrifluvents

Channel Pattern: Distributary; incipient dendritic drainage in less active areas

Surface Relief: Less than 2 ft with uncommon, 4-ft arroyo cuts; smooth surface

Surface Texture: Sandy silt with 10% scattered gravel; less active areas have granule to pebble lag

Surface Color: Dull yellow-orange (10YR 6/4)

Desert Varnish: Unvarnished gravel

Vegetation: Creosote, brittle bush

Estimated Surface Age: Historical to late Holocene (0 to 2,000 yrs old)

I **Flood Hazard:** Intermediate; has not been subject to significant flooding for more than 1,000 yrs, but lack of topographic relief between these surfaces and active surfaces (H_1 and H_2) suggests that they could become flood prone with channel filling, avulsion, or human disturbance

Distribution: Adjacent to H_1 and H_2 in distributary flow areas and on lower piedmont

Soil Groups: Torrifluvents and Camborthids

Channel Pattern: Widely spaced, dendritic tributary drainages

Surface Relief: Less than 4 ft in distributary flow areas and less than 3 ft on lower piedmont; bar and swale topography well preserved in distributary flow areas

Surface Texture: Open desert pavement consisting of granules and small cobbles

Surface Color: Dull yellow-orange (10YR 6/4)

Desert Varnish: Unvarnished to weakly developed over 10% of the surface - brownish black (7.5YR 3/1) on top and orange (7.5YR 7/6) on undersides

Vegetation: Brittle bush, creosote, palo verde

Estimated Surface Age: Late Holocene to latest Pleistocene (1,000 to 15,000 yrs old)

L_1 **Flood Hazard:** Low; localized sheetflooding possible; flooding might occur if channels are altered by human disturbance because of low relief downslope from major distributary flow areas

Distribution: Downslope from and adjacent to distributary flow areas on middle and lower piedmont

Soil Groups: Camborthids and Haplargids

Channel Pattern: Moderately spaced, dendritic tributary drainages

Surface Relief: 1 to 10 ft; fairly smooth subdued bar and swale topography

Surface Texture: Open to closed desert pavement consisting of granules and cobbles

Surface Color: Bright brown (7.5YR 5/6) to orange (7.5YR 6/6)

Desert Varnish: Weakly to moderately developed over 50% of surface - brownish black (7.5YR 2/2) to grayish brown (7.5YR 4/2) on top and dull orange (5YR 6/4) to reddish brown (2.5YR 4/6) on undersides

Vegetation: Brittle bush, creosote, cane cholla

Estimated Surface Age: Latest Pleistocene to middle Pleistocene (15,000 to 250,000 yrs old)

L_2 **Flood Hazard:** Lowest; restricted to small channels and localized sheetflooding

Distribution: Upper and middle piedmont and adjacent to Hassayampa River

Soil Groups: Haplargids and Durorthids

Channel Pattern: Closely to widely spaced, dendritic tributary drainages; rounded interfluves in areas of highest relief

Surface Relief: 5 to 40 ft; fairly smooth surface; uncommon bar and swale topography

Surface Texture: Closed desert pavement consisting of cobbles and pebbles; uncommon salt-shattered cobbles; in places, surface is denuded and covered by petrocalcic fragments

Surface Color: Dull orange (7.5YR 6/4 to 5YR 6/3)

Desert Varnish: Well developed over 50 to 100% of undenuded surfaces - black (5YR 1.7/1) on top and dark red (10R 3/6) to dull orange (7.5YR 7/4) on undersides

Vegetation: Jumping cholla, brittle bush, creosote

Estimated Surface Age: Late Pleistocene to Pliocene (50,000 to 1,000,000+ yrs old)

M **Flood Hazard:** Mechanized disturbance; flood hazard unknown

B **Flood Hazard:** Bedrock outcrops; flood hazard low, but localized slope wash and debris flows possible in steepest areas

* Soil groups are taken from the Soil Conservation Service survey of the Aguila-Carefree area

** Only dominant plant types are listed

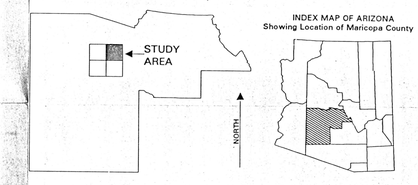
Channel bottoms of larger drainages heading in the White Tank Mountains

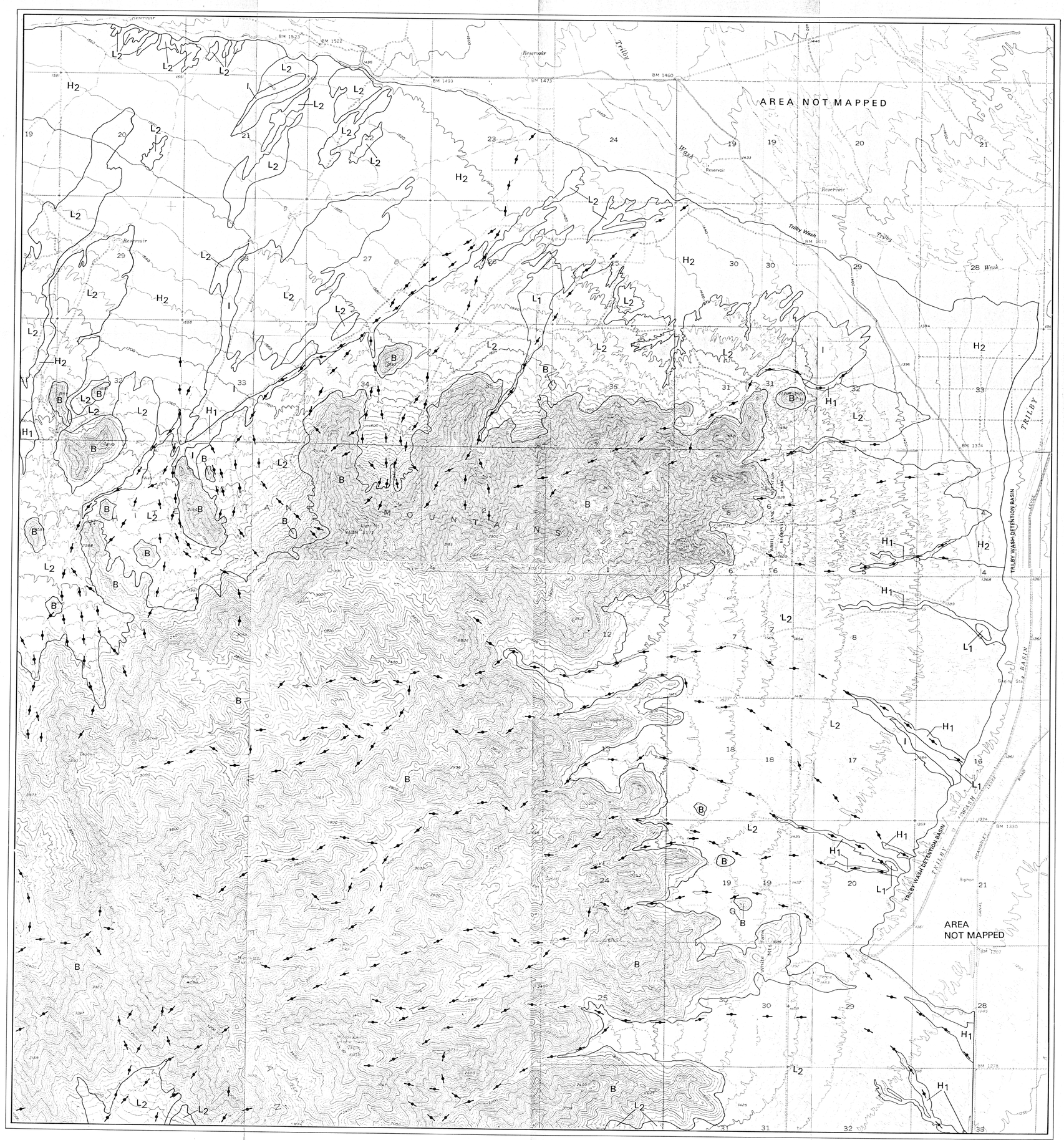
SCALE 1:24,000

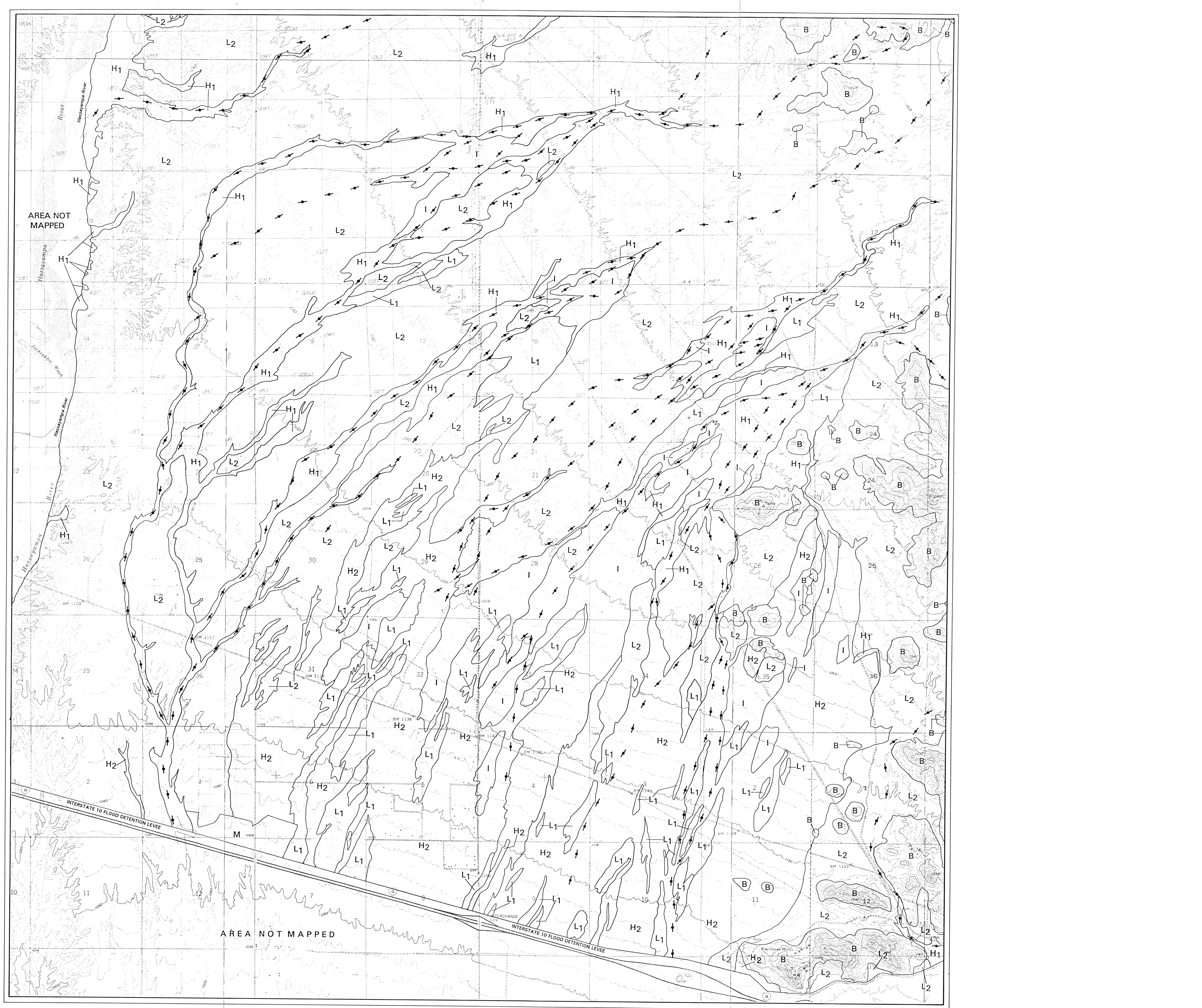
1 .5 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 .5 0 1 KILOMETER

TOPOGRAPHIC CONTOUR INTERVAL 5, 10, 20, 40 FEET

INDEX MAP OF ARIZONA
Showing Location of Maricopa County







White Tank Mountains
Flood Hazard Map - SW Section

by
John J. Field and Philip A. Pearthree
1991

E X P L A N A T I O N

Map Unit Description

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Distribution: Entrenched reaches of major drainages and distributary flow areas on middle and upper piedmont

Soil Group*: Torrifluvents

Channel Pattern: Braided (anastomosing) or distributary

Surface Relief: Less than 2 ft; bar and swale topography

Surface Texture: Silt to very gravelly sand

Surface Color: Dull yellow-orange (10YR 6/4)

Desert Varnish: Unvarnished gravel

Vegetation:** Brittle bush, rabbit bush, bunch grass, creosote

Estimated Surface Age: Historical to late Holocene (0 to 2,000 yrs old)

H_2 **Flood Hazard:** Moderately high; dominantly sheetflow with minor channel flows

Distribution: Restricted to lower piedmont and small drainages heading on the piedmont

Soil Group: Torrifluvents

Channel Pattern: Distributary; incipient dendritic drainage in less active areas

Surface Relief: Less than 2 ft with uncommon, 4-ft arroyo cuts; smooth surface

Surface Texture: Sandy silt with 10% scattered gravel; less active areas have granule to pebble lag

Surface Color: Dull yellow-orange (10YR 6/4)

Desert Varnish: Unvarnished gravel

Vegetation: Creosote, brittle bush

Estimated Surface Age: Historical to late Holocene (0 to 2,000 yrs old)

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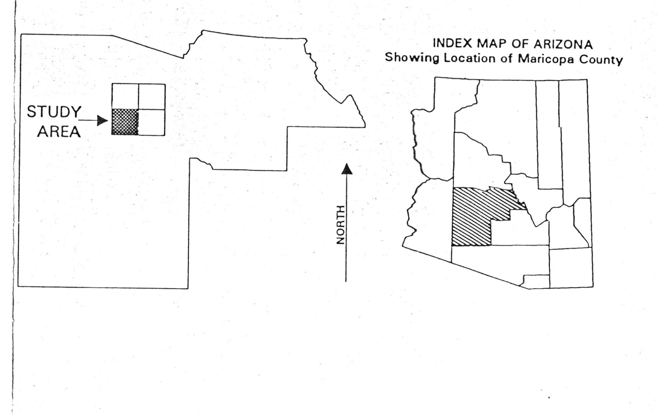

White Tank Mountains
Flood Hazard Map - SE Section

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1991

E X P L A N A T I O N

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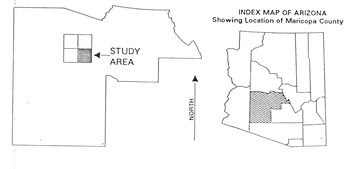
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