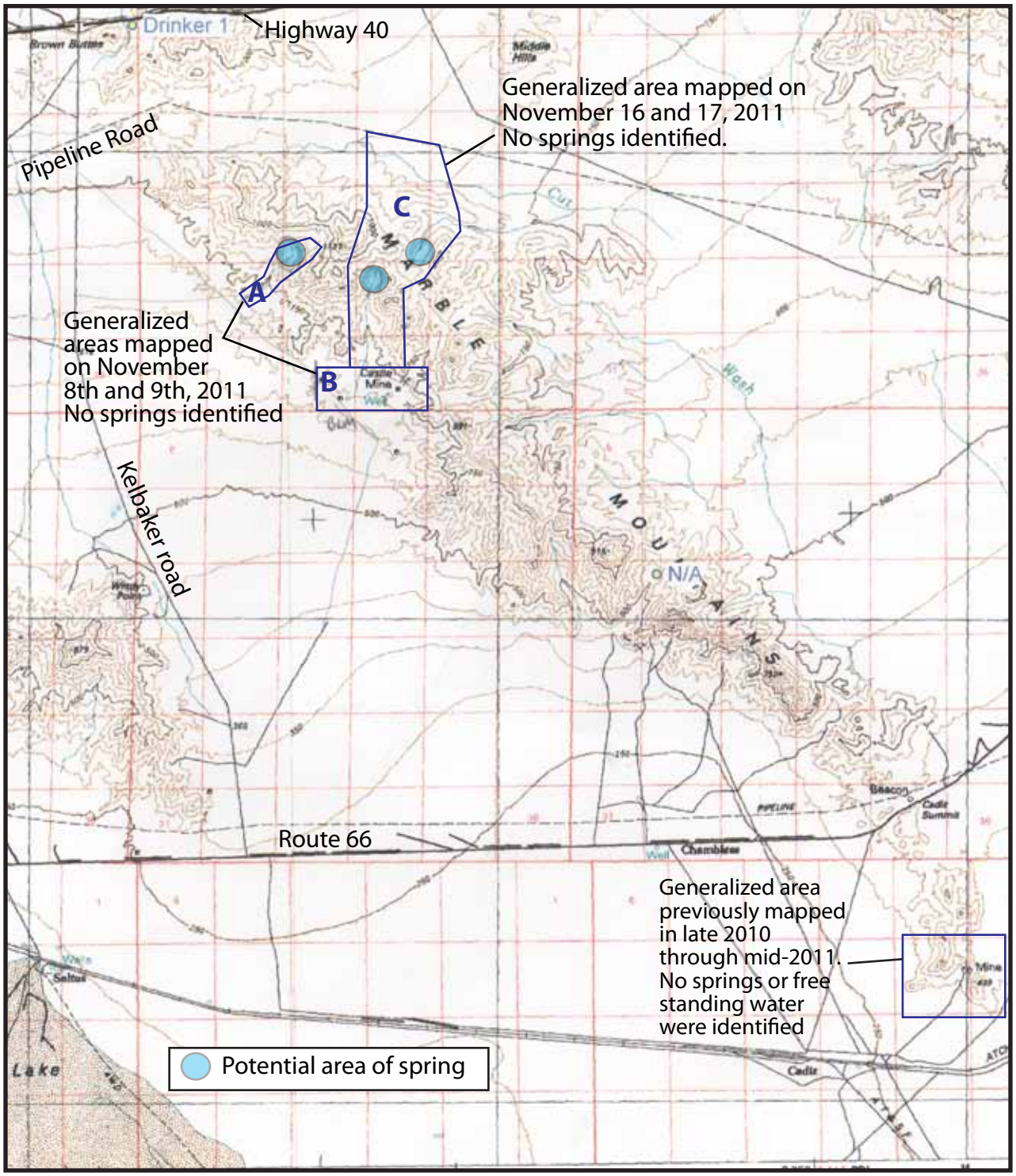
Appendix H4
Springs Fieldwork

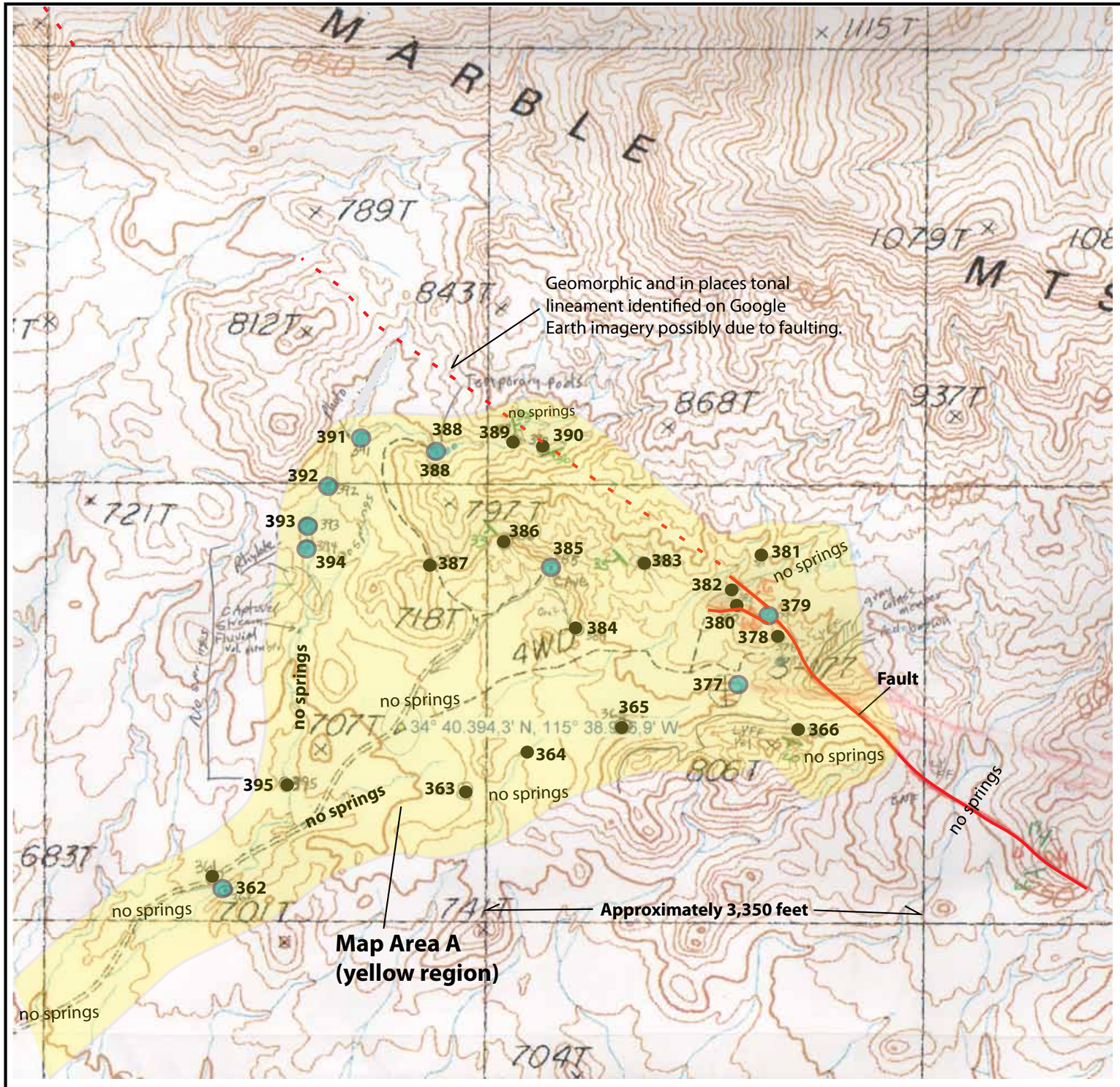


Base map source: USGS 250,000 scale topographic map.

0 2

Scale (miles) N

CADIZ GROUNDWATER PROJECT		JN 716-10
MAPPED REGIONS IN NORTHWESTERN MARBLE MOUNTAINS IN SEARCH OF SPRINGS - NOVEMBER 8, 9, 16 and 17, 2011		MDK 11/2011
	Kenney GeoScience	Plate 1



Symbol Descriptions

362 Location of map site with water filled tinaja (a depression that can hold water cut into bedrock - locally volcanic rocks). Most tinajas were 6 to 8 inches wide and 4-inches deep. The largest was at site 392 which was ~3 feet wide and 2 feet deep. During mapping, the water was fresh, with no odor, no biotic life, and no vegetation grew near the tinaja's. Water is likely temporary and associated with local recent precipitation.

One exception is site 385 which was not a tinaja, but instead moisture observed at the top of an approximately 15 foot deep cave at the base of a tall stream cliff.

395 Location of map site where no water was observed. In addition, no springs were observed between consecutive mapped sites as these areas were evaluated.

Base map source: USGS 24,000 scale topographic map - enlarged.

N

CADIZ GROUNDWATER PROJECT		JN 716-10
MAPPED REGION "A" IN NORTHWESTERN MARBLE MOUNTAINS IN SEARCH OF SPRINGS - NOVEMBER 9, 2011	Kenney GeoScience	MDK 11/2011
		Plate 2

Base map source: Google Earth Imagery.

0 ~1500

Scale (feet)

N

Symbol Descriptions

362 Location of map site with water filled tinaja (a depression that can hold water cut into bedrock - locally volcanic rocks). Most tinajas were 6 to 8 inches wide and 4-inches deep. The largest was at site 392 which was ~3 feet wide and 2 feet deep. During mapping, the water was fresh, with no odor, no biotic life, and no vegetation grew near the tinaja's.

One exception is site 385 which was not a tinaja, but instead moisture observed at the top of a 15 foot deep cave at the base of a tall stream cliff.

395 Location of map site where no water was observed. In addition, no springs were observed between consecutive mapped sites as these areas were evaluated.

CADIZ GROUNDWATER PROJECT		JN 716-10
MAPPED REGION "A" IN NORTHWESTERN MARBLE MOUNTAINS IN SEARCH OF SPRINGS - NOVEMBER 9, 2011		MDK 11/2011
	Kenney GeoScience	Plate 3

Base map source: Google Earth Imagery.

Symbol Description

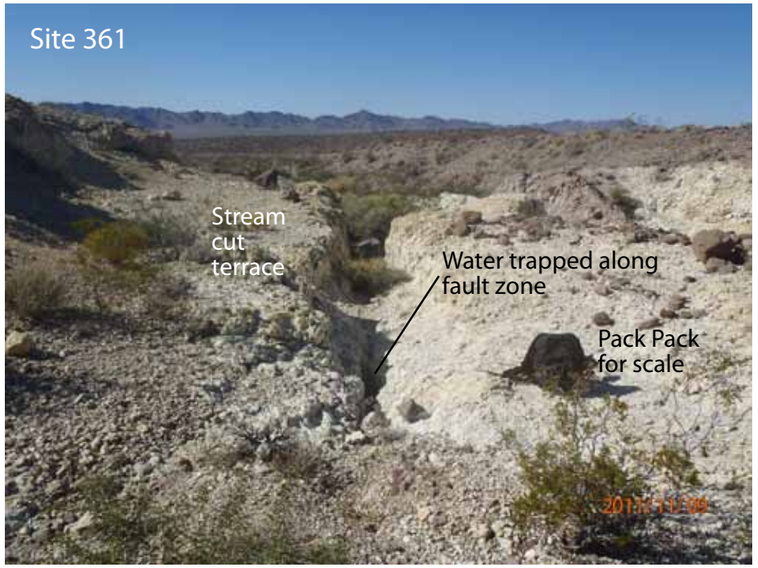
360 — Location of map site where no water was observed.

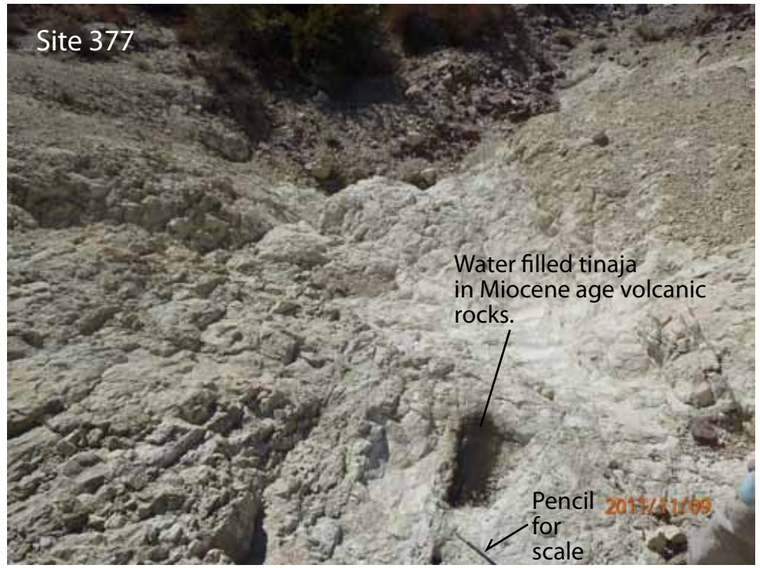
N

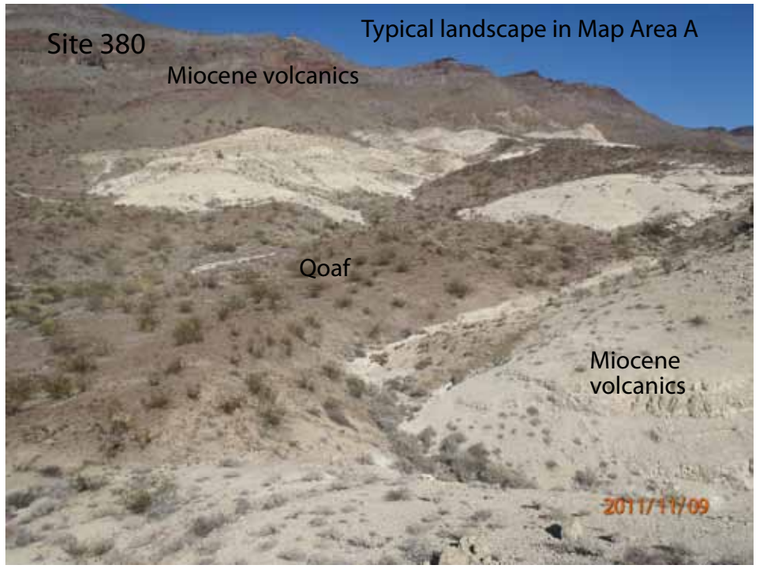
0 ~1000

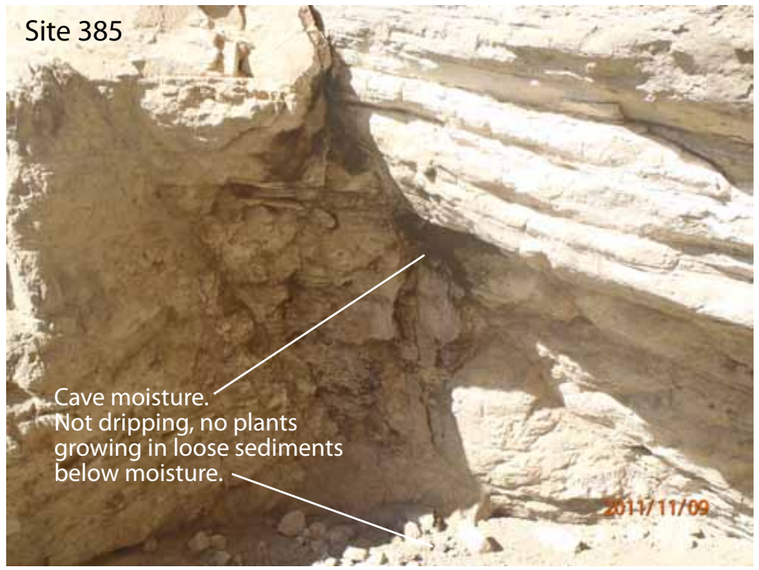
Scale (feet)

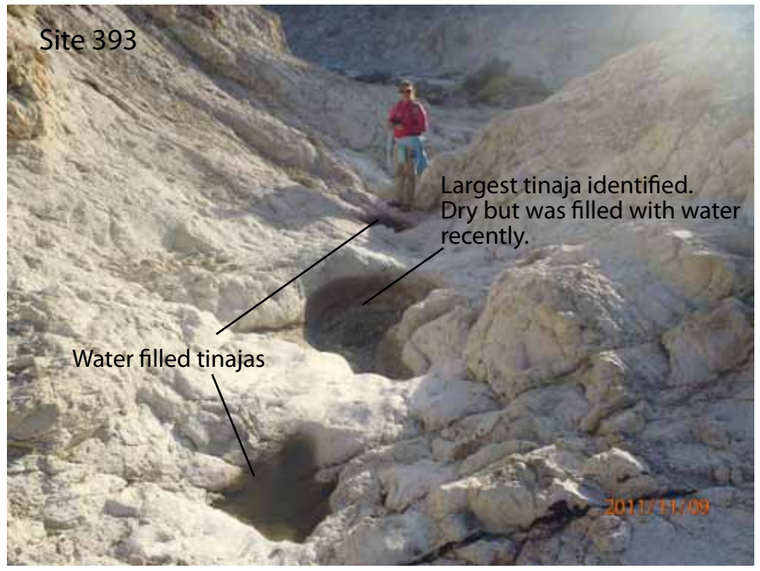
CADIZ GROUNDWATER PROJECT		JN 716-10
MAPPED REGION "B" IN NORTHWESTERN MARBLE MOUNTAINS IN SEARCH OF SPRINGS - NOVEMBER 8, 2011	Kenney GeoScience	MDK 11/2011
		Plate 4



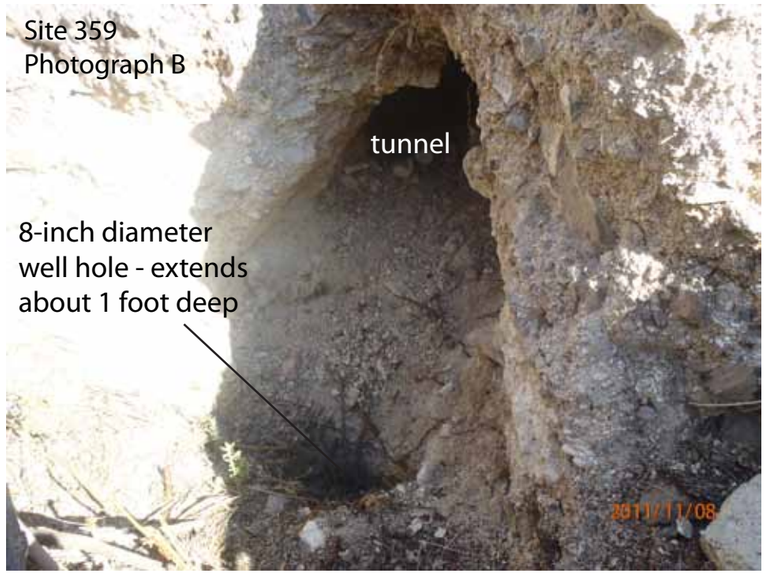


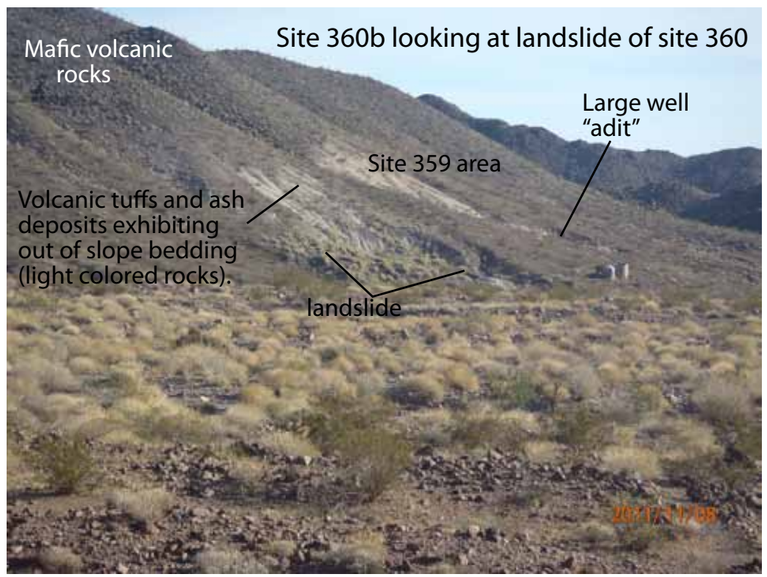






CADIZ GROUNDWATER PROJECT		JN 716-10
PHOTOGRAPHS IN MAP AREA "A" IN THE NORTHWESTERN MARBLE MOUNTAINS IN SEARCH OF SPRINGS - NOVEMBER 9, 2011		MDK 11/2011
	Kenney GeoScience	Plate 5





CADIZ GROUNDWATER PROJECT

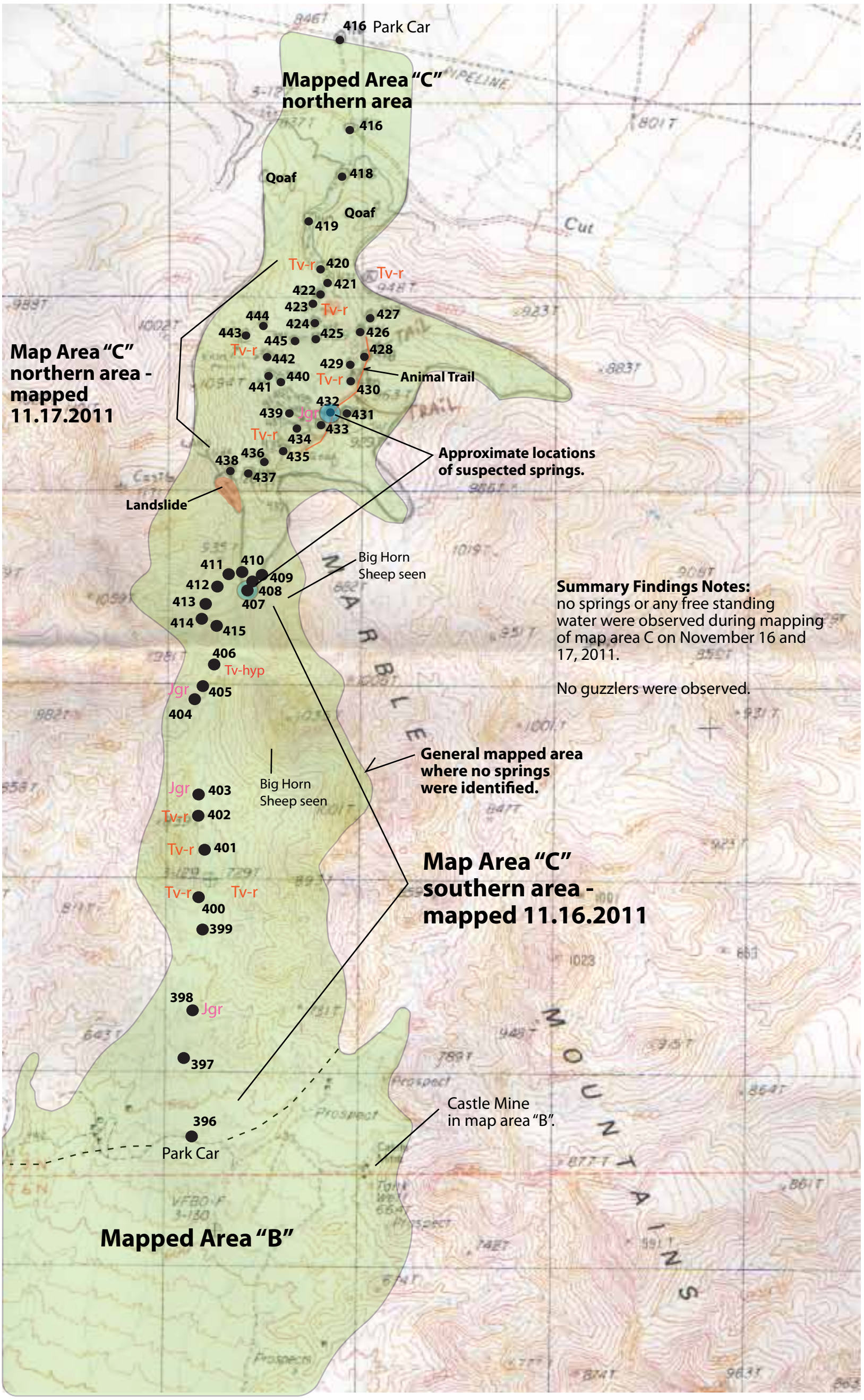
JN 716-10

PHOTOGRAPHS IN MAP AREA "B" IN THE
NORTHWESTERN MARBLE MOUNTAINS
IN SEARCH OF SPRINGS - NOVEMBER 8, 2011

MDK | 11/2011

Kenney GeoScience

Plate 6



USGS 7.5 minute Topographic Map

445 ● Location of map site where no water was observed. In addition, no springs were observed between consecutive mapped sites as these areas were evaluated during mapping (hiking).

0 ~1

Scale (miles)

N

CADIZ GROUNDWATER PROJECT		JN 716-10
MAPPED REGION "C" IN NORTHWESTERN MARBLE MOUNTAINS IN SEARCH OF SPRINGS - NOVEMBER 16 & 17, 2011	Kenney GeoScience	MDK 11/16&17/2011
		Plate 7

SYMBOLS

415 — Approximate field site location where no springs or free standing water were observed. In addition, no surface water was observed during mapping between site locations. Visual observations up various canyons did not exhibit any vegetation "clusters" suggesting the presence of a spring as indicated by "no springs".

Generalized Rock Types

Qoaf Quaternary Older Alluvium

Tv-r Tertiary (Miocene) volcanic rocks dominately siliceous (rhyolitic).

Tv-hyp Tertiary (Miocene) igneous rocks that cooled close to the surface (hypabyssal).

Jgr Jurassic igneous plutonic rocks.

Summary Findings Notes:
no springs or any free standing water were observed during mapping in the southern region of map area C on November 16, 2011.

No guzzlers were observed.

Base map source: Google Earth Imagery.

0 ~1300

Scale (feet)

N

CADIZ GROUNDWATER PROJECT

MAPPED REGION "C-Southern" IN THE NORTHERN MARBLE MOUNTAINS IN SEARCH OF SPRINGS - NOVEMBER 16, 2011

JN 716-10

MDK 11/2011

Kenney GeoScience

Plate 8

SYMBOLS

415 ○ Approximate field site location where no springs or free standing water were observed. In addition, no surface water was observed during mapping between site locations. Visual observations up various canyons did not exhibit any vegetation "clusters" suggesting the presence of a spring as indicated by "no springs".

Qoaf Quarternary Older Alluvial fan

Tv-r Tertiary (Miocene) volcanic rocks, dominately siliceous (rhyolitic).

Jgr Jurassic igneous plutonic rocks.

Summary Findings Notes:
no springs or any free standing water were observed during mapping in the northern region of map area C on November 17, 2011.

No guzzlers were observed.

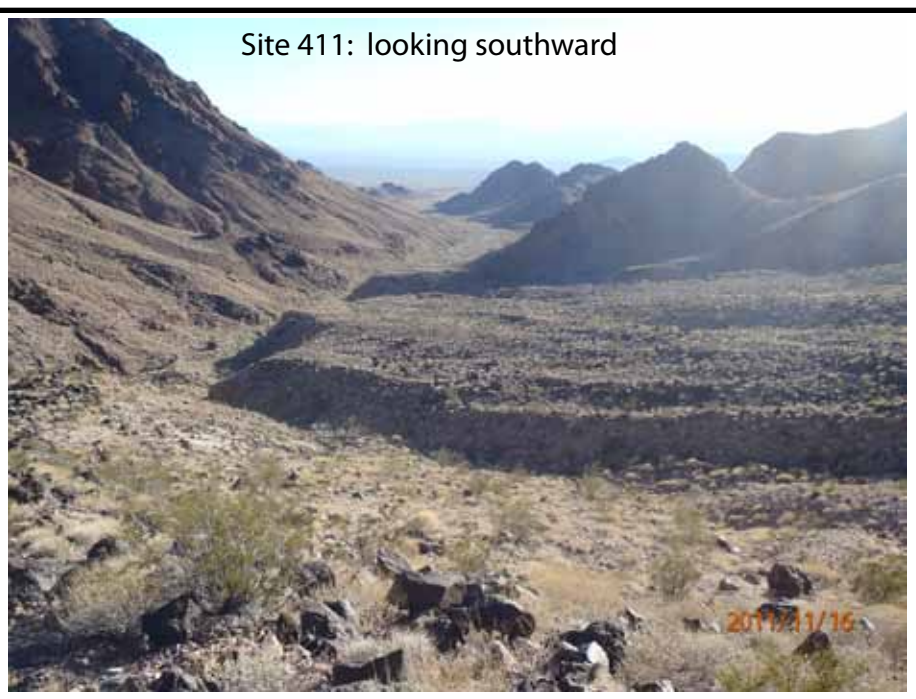
Site 438 is approximately 500' west of site 437 standing above the landslide - no springs observed at toe of slide (see Plate 7)

0 ~900
Scale (feet)

N

Base map source: Google Earth Imagery.

CADIZ GROUNDWATER PROJECT		JN 716-10
MAPPED REGION "C-Northern" IN THE NORTHERN MARBLE MOUNTAINS IN SEARCH OF SPRINGS - NOVEMBER 17, 2011		MDK 11/2011
	Kenney GeoScience	Plate 9



CADIZ GROUNDWATER PROJECT

JN 716-10

PHOTOGRAPHS OF MAPPED REGION "C-Southern" IN THE NORTHERN MARBLE MOUNTAINS IN SEARCH OF SPRINGS - NOVEMBER 16, 2011

MDK | 11/2011

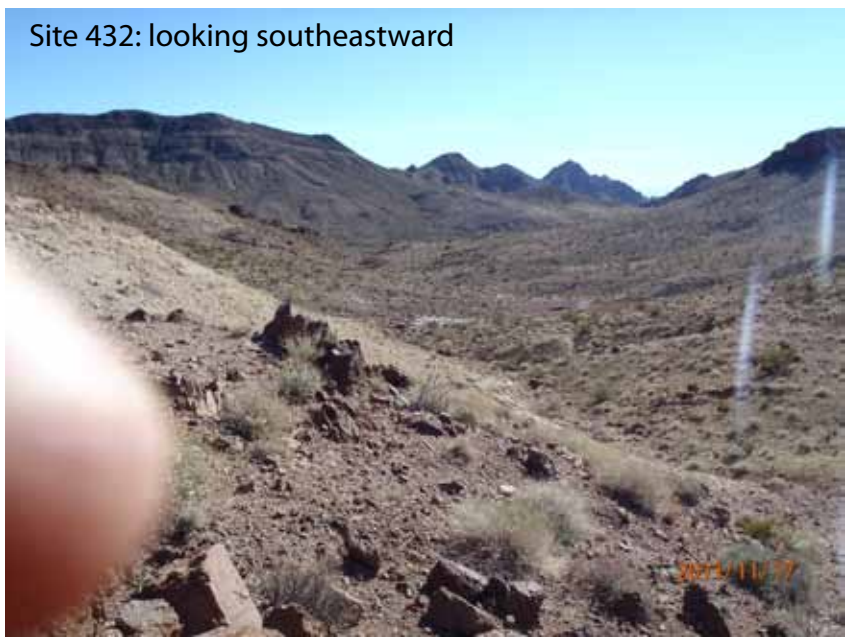
Kenney GeoScience

Plate 10

Site 427: looking east

Site 437: view to the south into southern map area C.

Site 432: looking southeastward



VSite 437: view to the east

Site 433: area of previously mapped spring;
dry watering hole dug out by animals in alluvium.

Site 437: view to the south in the southern region of map area C. Landslide is just to the right of this photograph.

Site 435: Tinaja in Tv-r; dry.

Site 438: Landslide in Tv

CADIZ GROUNDWATER PROJECT

JN 716-10

PHOTOGRAPHS OF MAPPED REGION "C-Northern" IN THE NORTHERN MARBLE MOUNTAINS IN EARCH OF SPRINGS - NOVEMBER 17, 2011

MDK 11/2011

Kenney GeoScience

Plate 11