



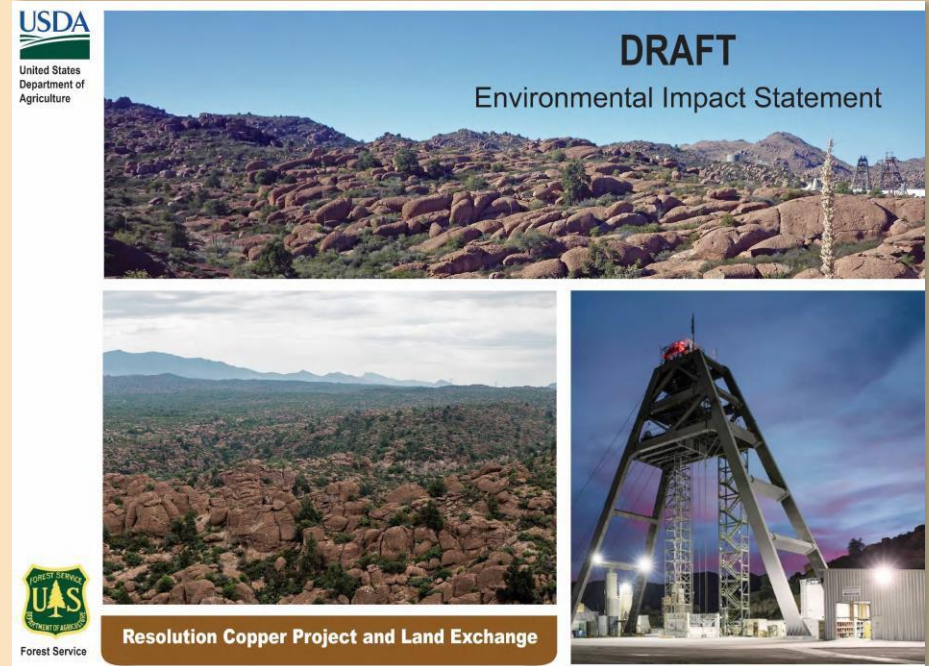
# **DRAFT EIS Update**

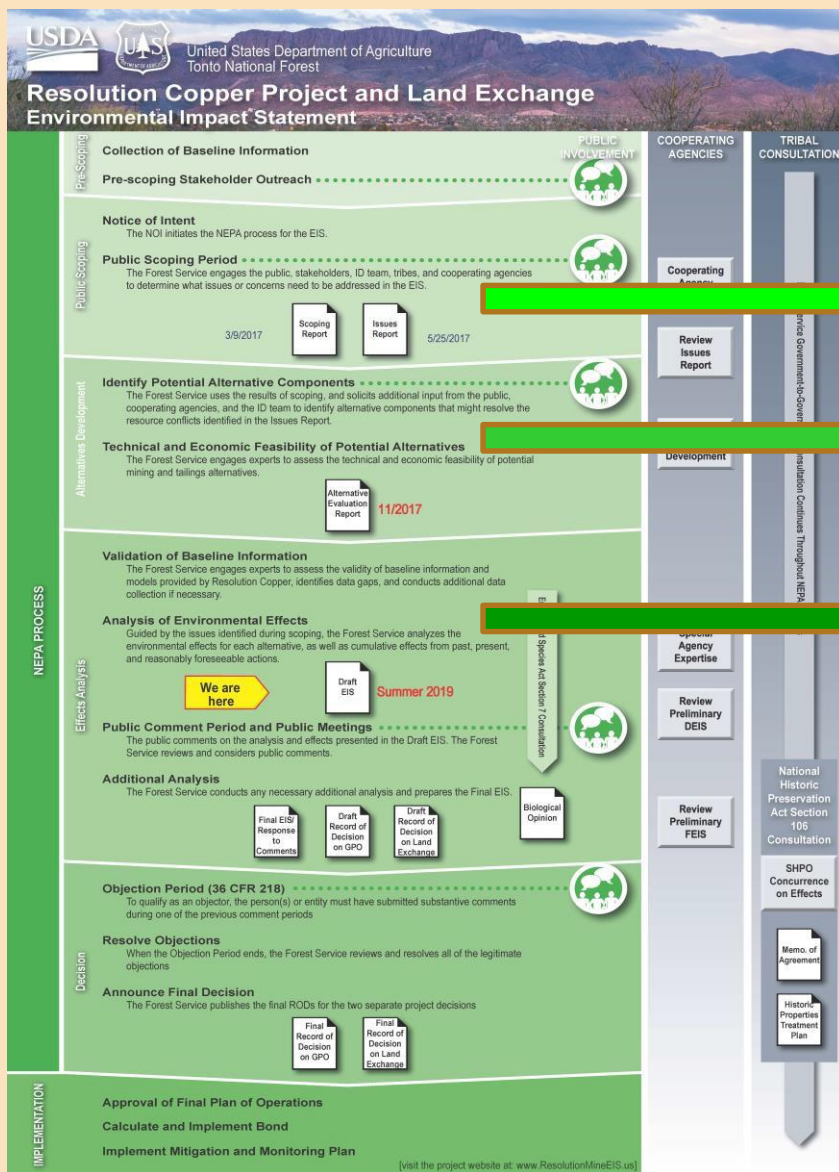
**As presented to stakeholders**

**On March 13-14, 2019**

# OVERVIEW

- ✘ Alternatives Studied
- ✘ Major Impacts





Scoping/Issues  
Alternatives  
Analysis

## ISSUES

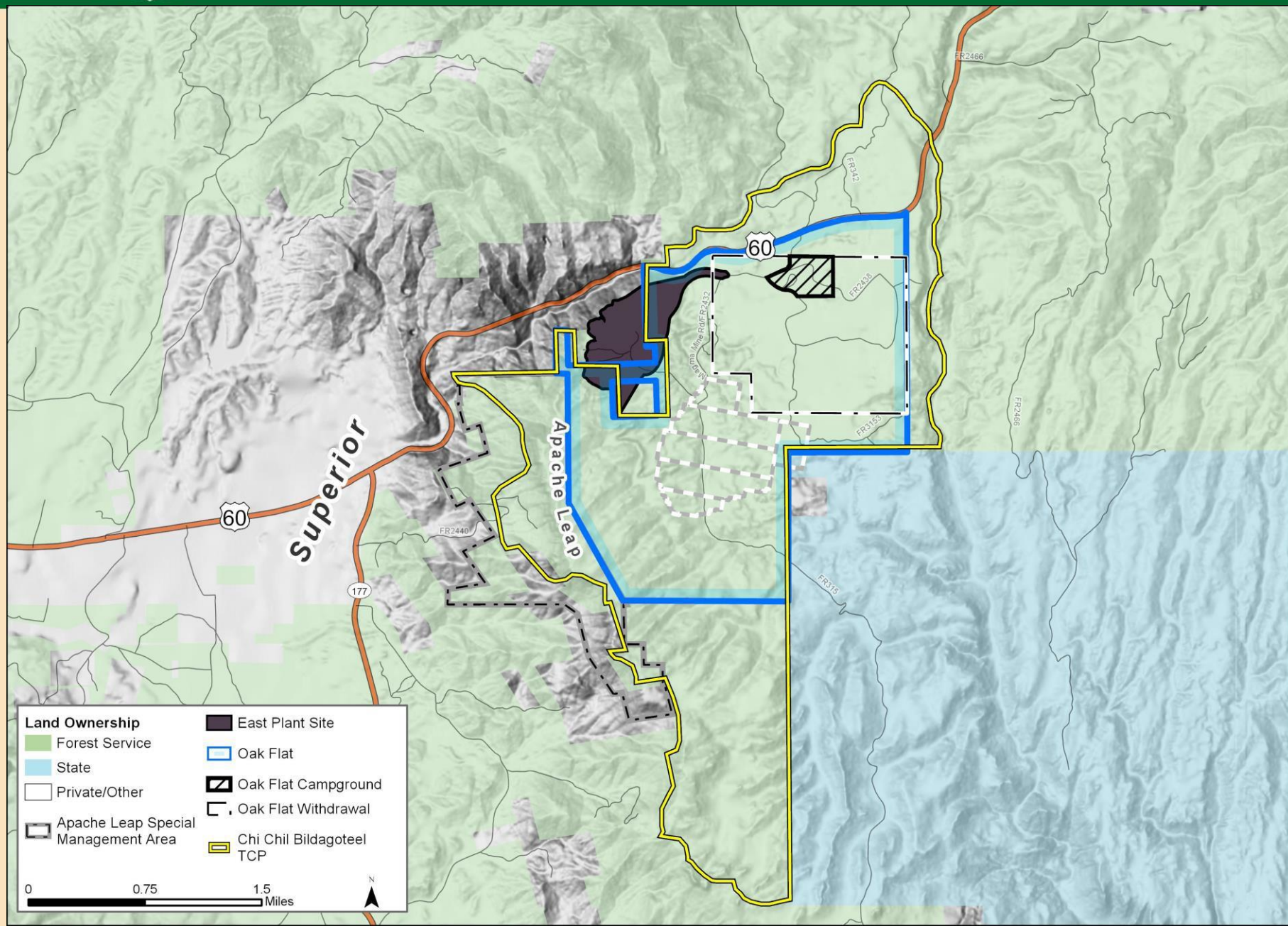
- ✘ Tribal values
- ✘ Cultural resources
- ✘ Socioeconomics
- ✘ Environmental Justice
- ✘ Tailings safety
- ✘ Dewatering impacts
- ✘ Water quality
- ✘ Water use
- ✘ Air quality
- ✘ Subsidence impacts
- ✘ Wildlife
- ✘ Vegetation
- ✘ Scenery
- ✘ Transportation
- ✘ Noise/Vibration
- ✘ Recreation



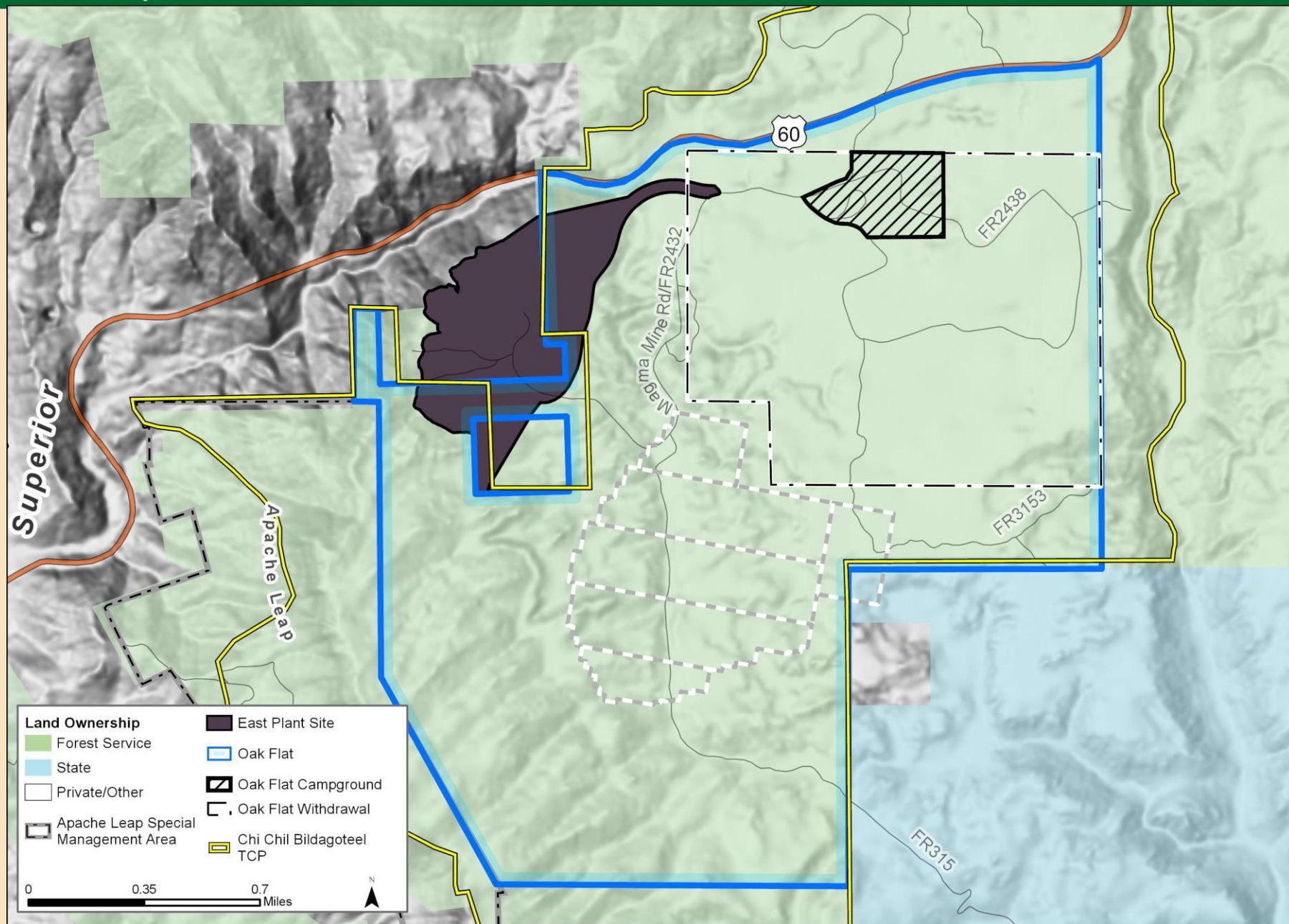


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# Resolution Copper Project and Land Exchange Environmental Impact Statement







## ALTERNATIVES DEVELOPMENT

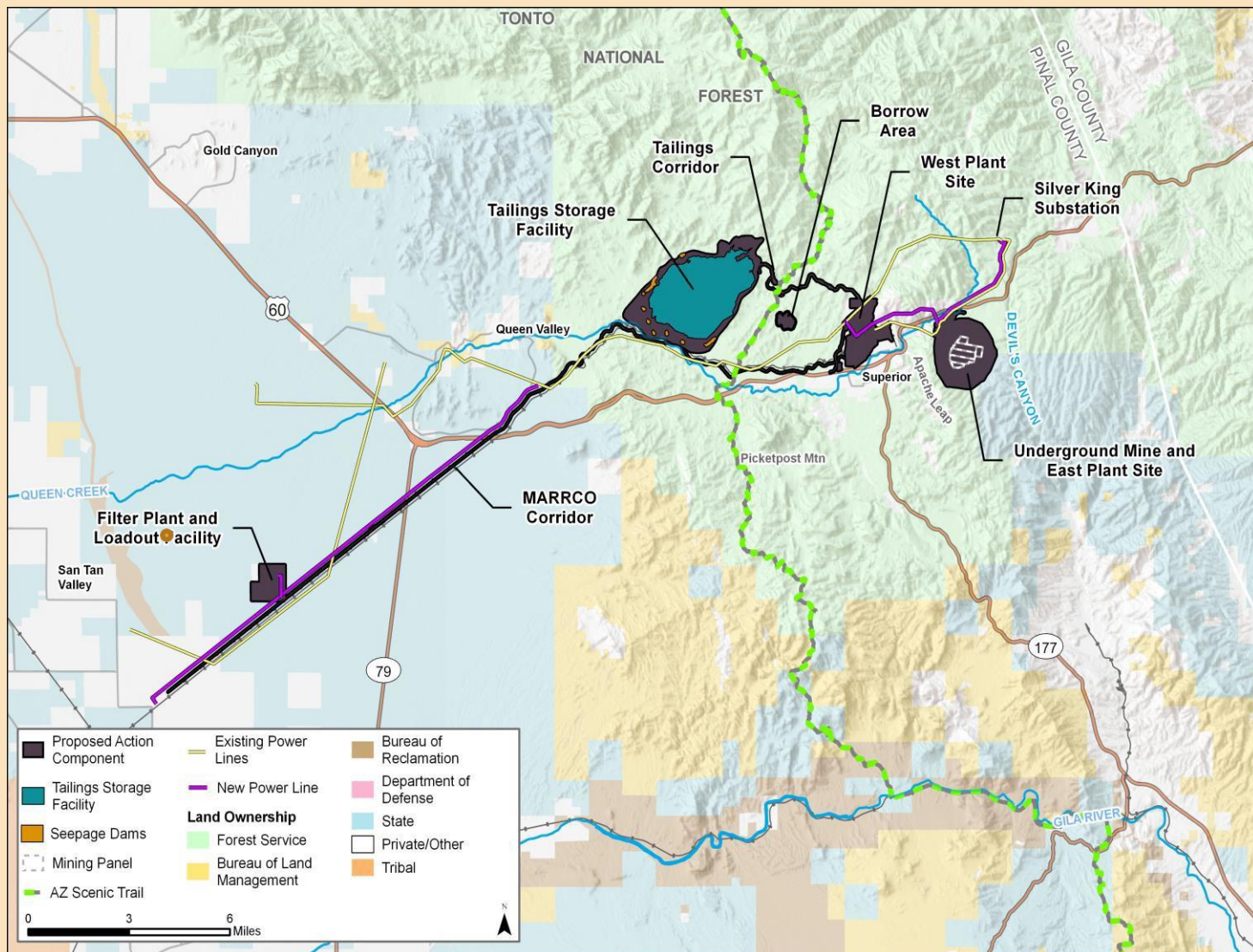
### ✘ What was eliminated from detailed study:

- + Alternative mining techniques
- + Use of brownfield sites
- + Upstream tailings dam

### ✘ Key successful alternative developments:

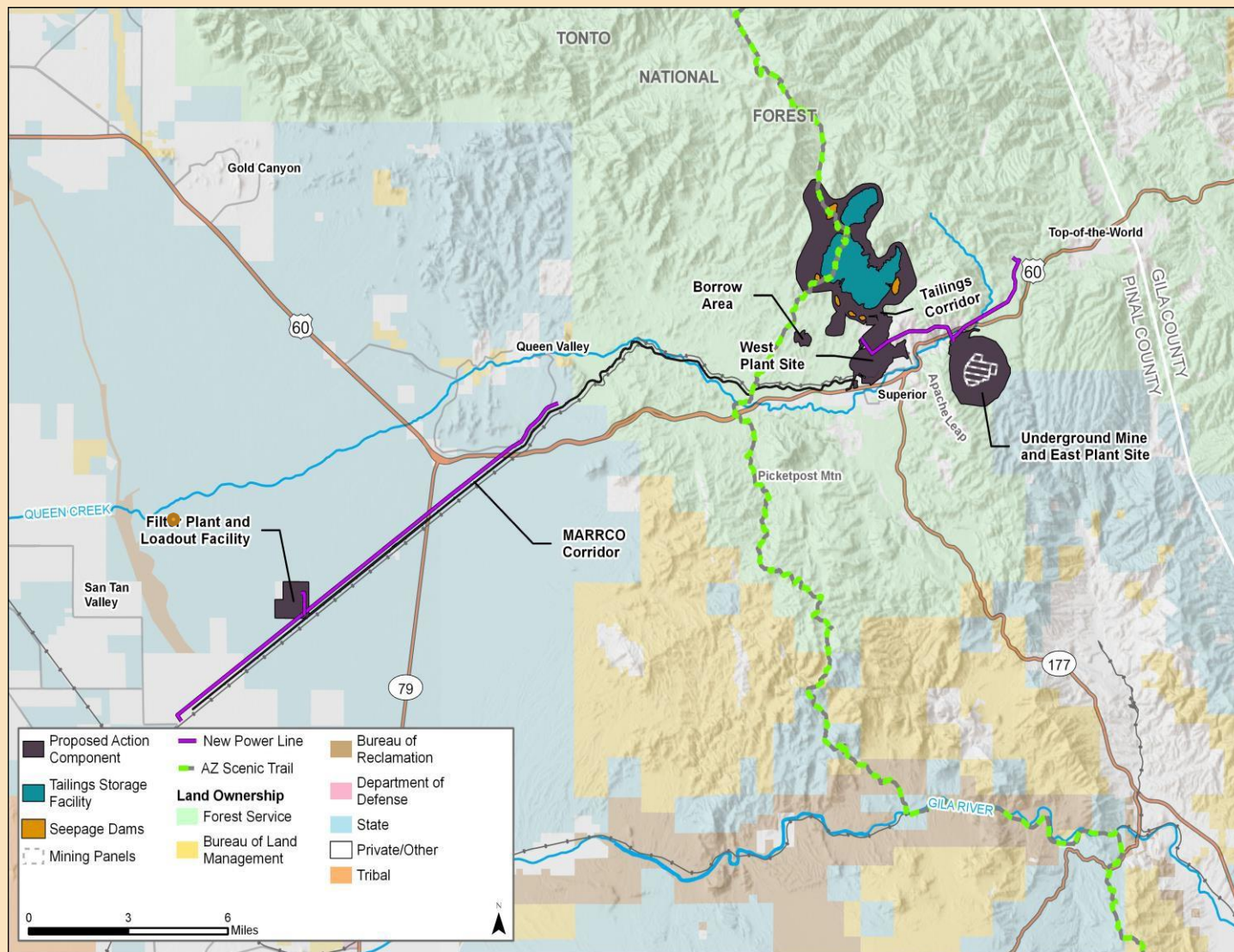
- + 4 alternative tailings locations
- + Includes a location that is off Federal Lands
- + 3 different tailings methods, including dry stack



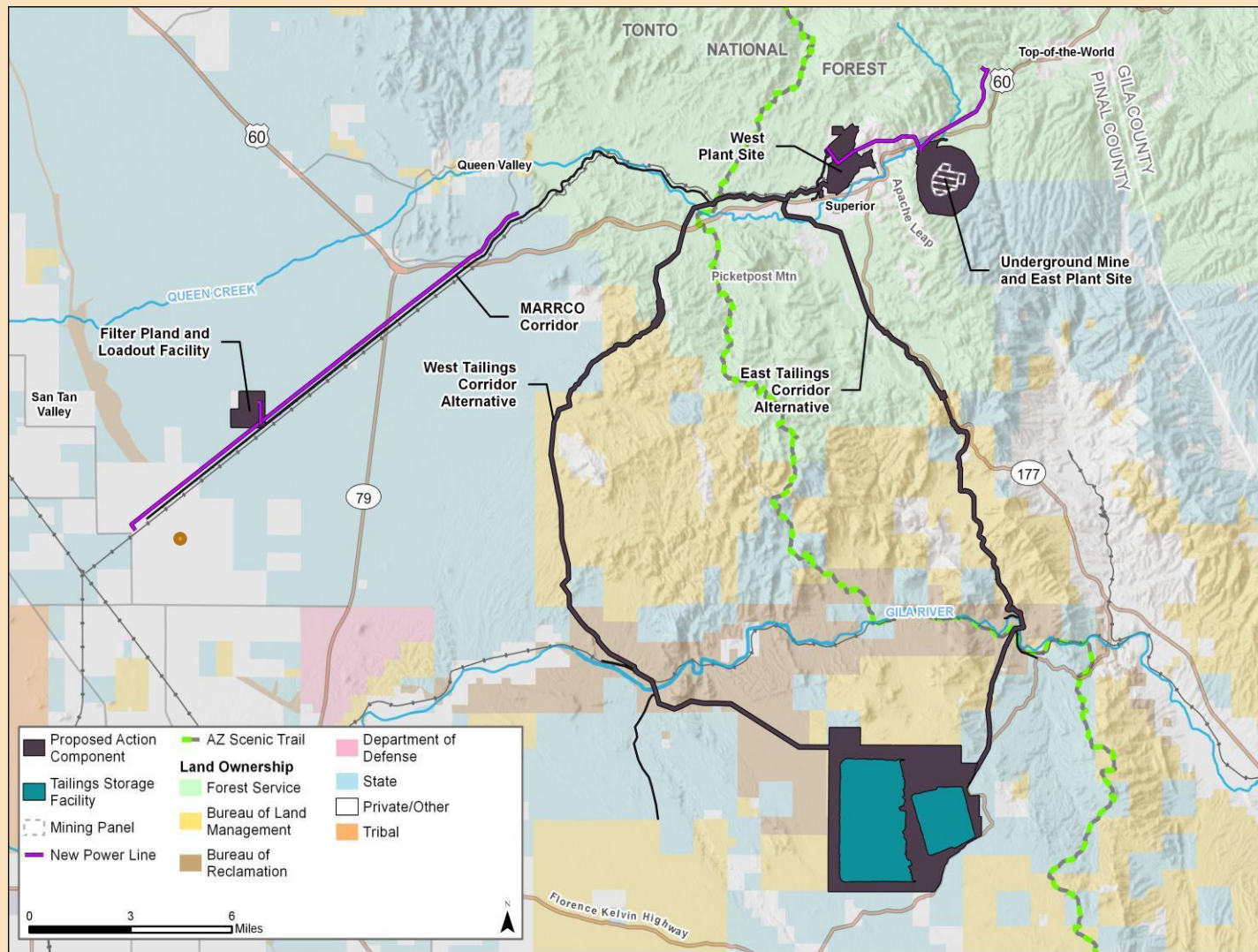


## ALTERNATIVES 2 AND 3 – NEAR WEST



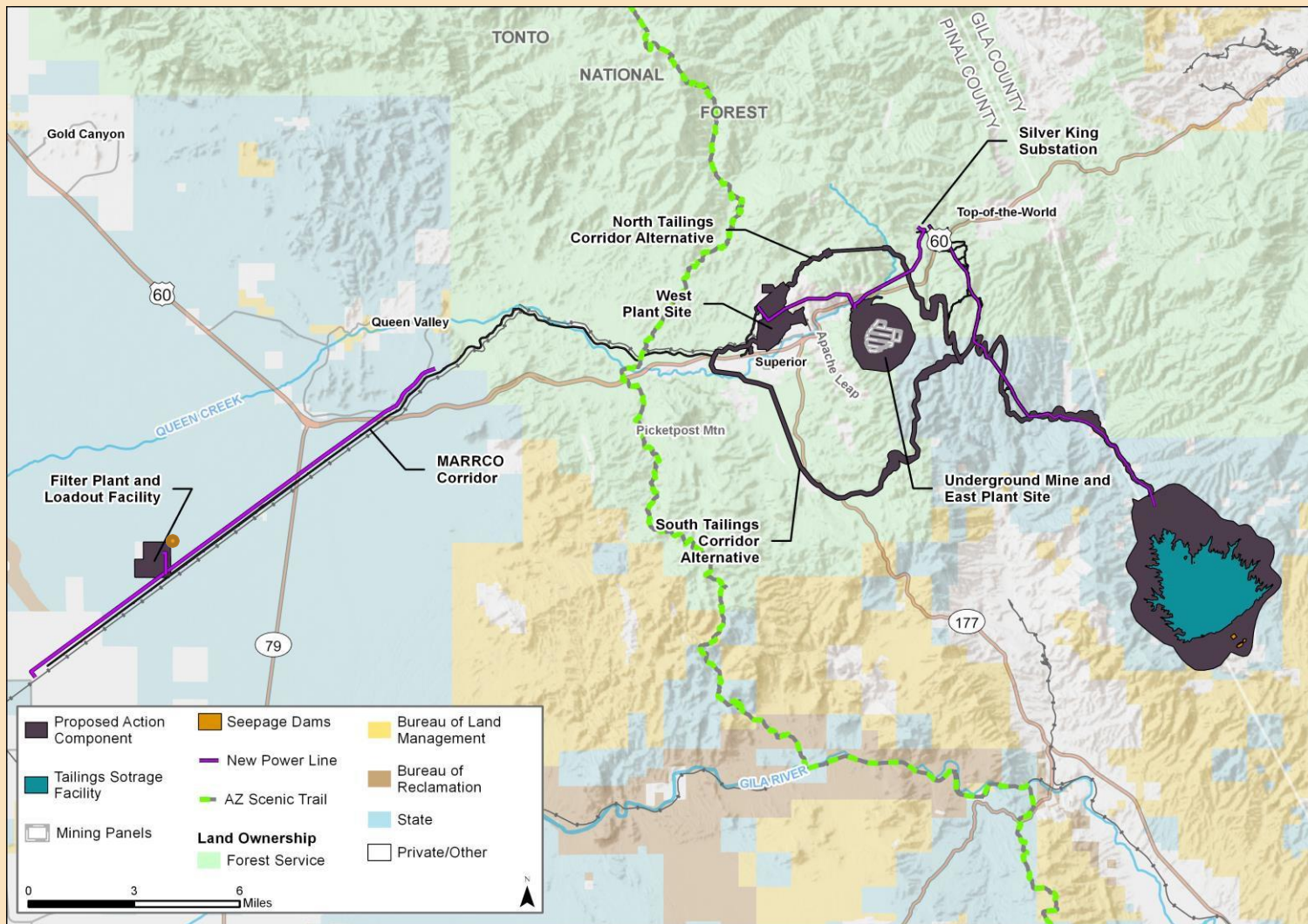


## ALTERNATIVE 4 – SILVER KING



## ALTERNATIVE 5 – PEG LEG





## ALTERNATIVE 6 – SKUNK CAMP





# OVERVIEW OF IMPACTS

## SUBSIDENCE

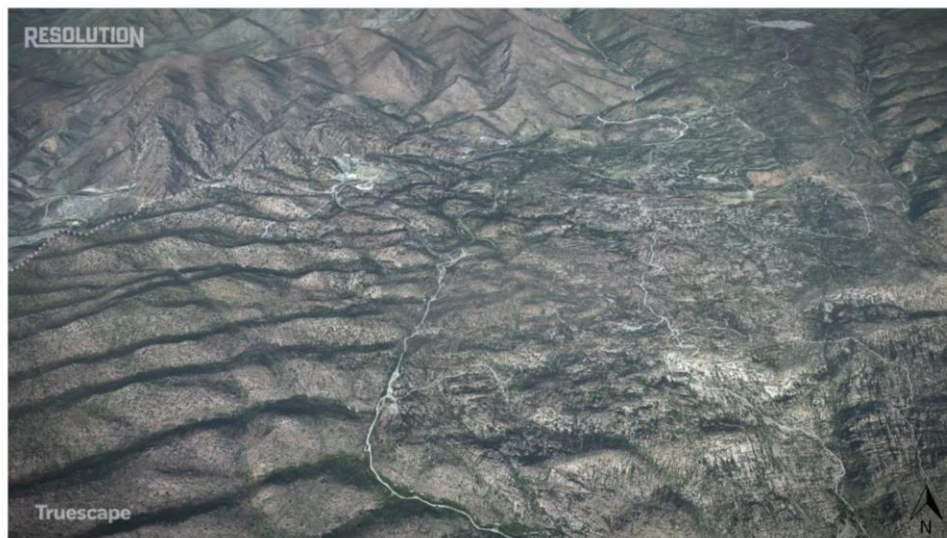
- ✘ We formed a Geology and Subsidence Modeling Workgroup
- ✘ Results:
  - + Subsidence crater = 1,000+ feet deep, 1 mile+ across
  - + “Fracture limit” extends within approx. 2,250 ft of Apache Leap
  - + No damage to Apache Leap, Devil’s Canyon, or US 60 is expected

Right: Existing view of Oak Flat

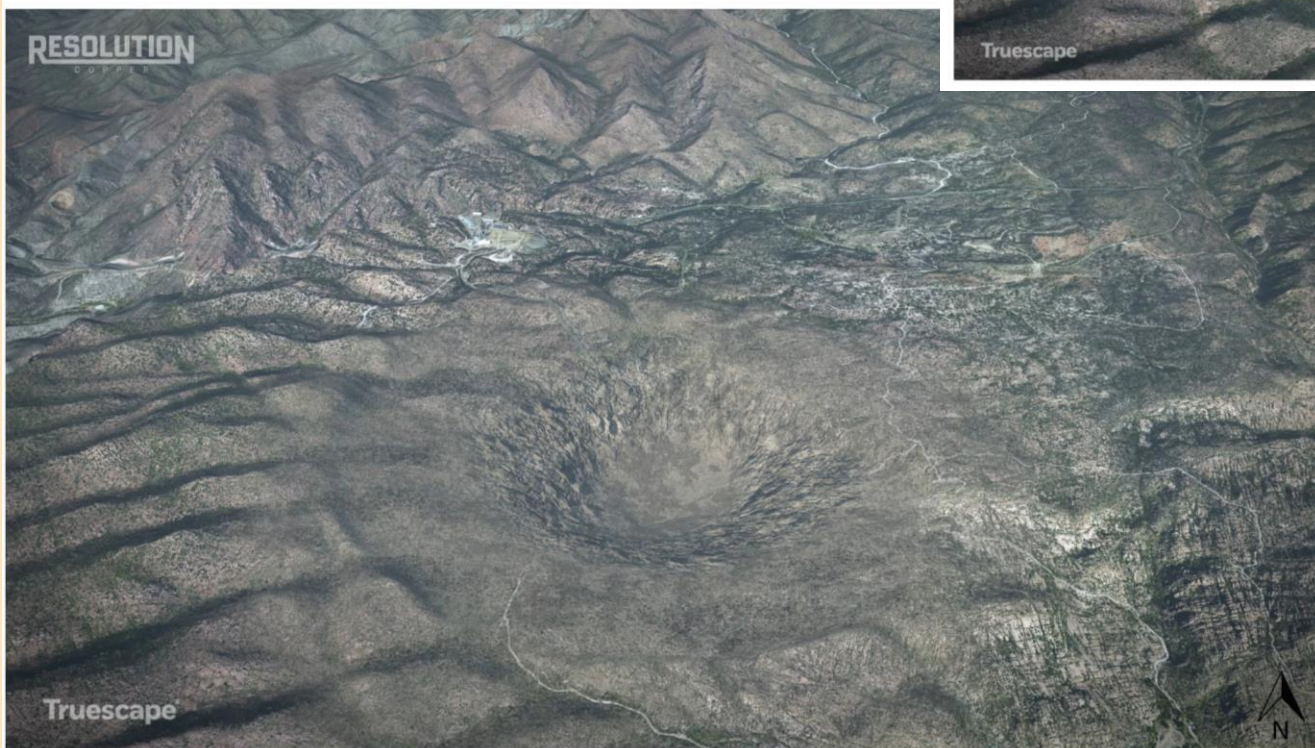
Below: Simulated subsidence at end of mining

Subsidence - Before Mining

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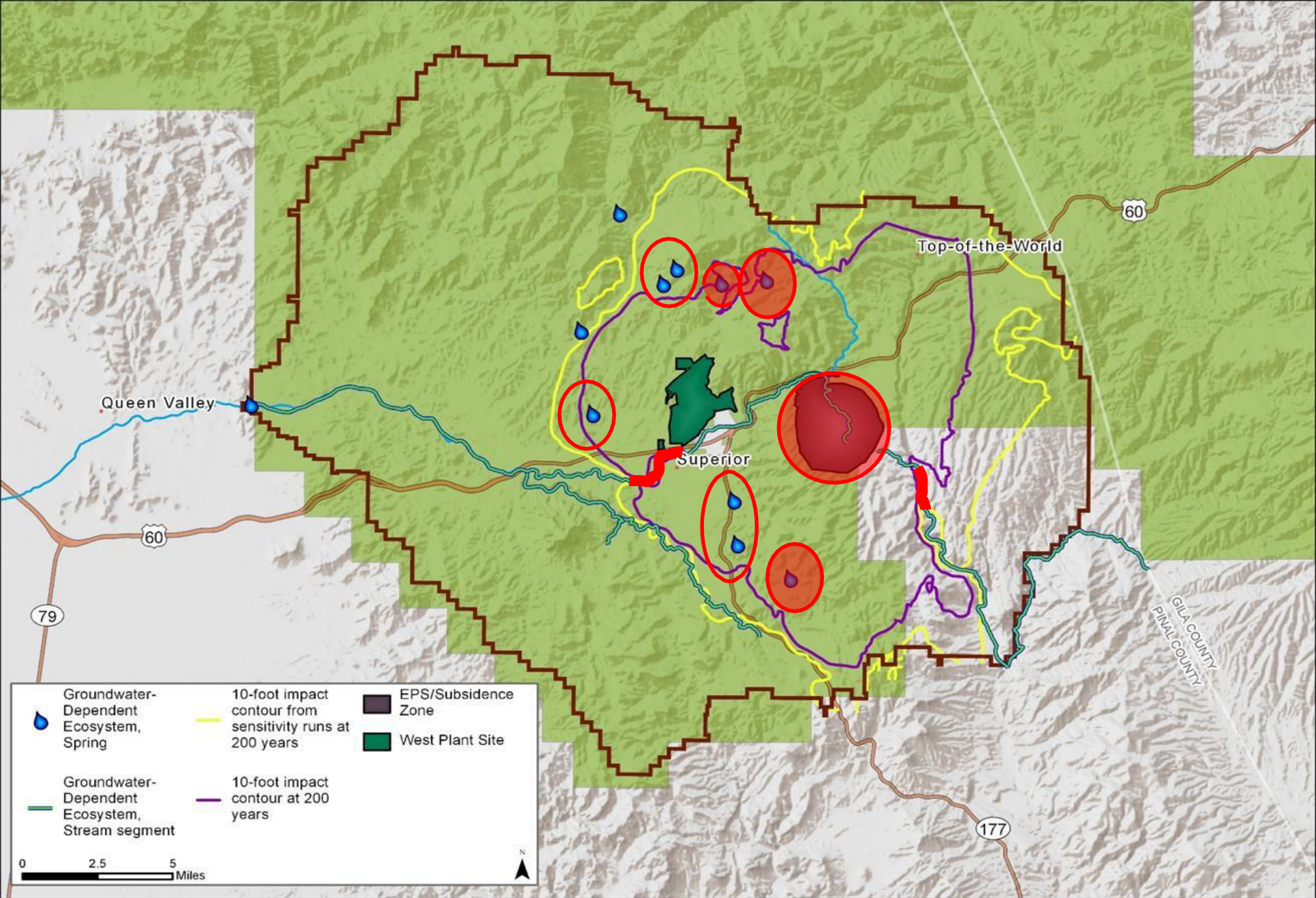
Subsidence - End of Mining





## GROUNDWATER – MINE SITE

- ✘ We formed a Groundwater Modeling Workgroup, included multiple agencies
- ✘ **Key concerns:** Groundwater-Dependent Ecosystems (GDEs) = Springs, Devil's Canyon, Queen Creek, Arnett Creek, Telegraph Canyon, Mineral Creek



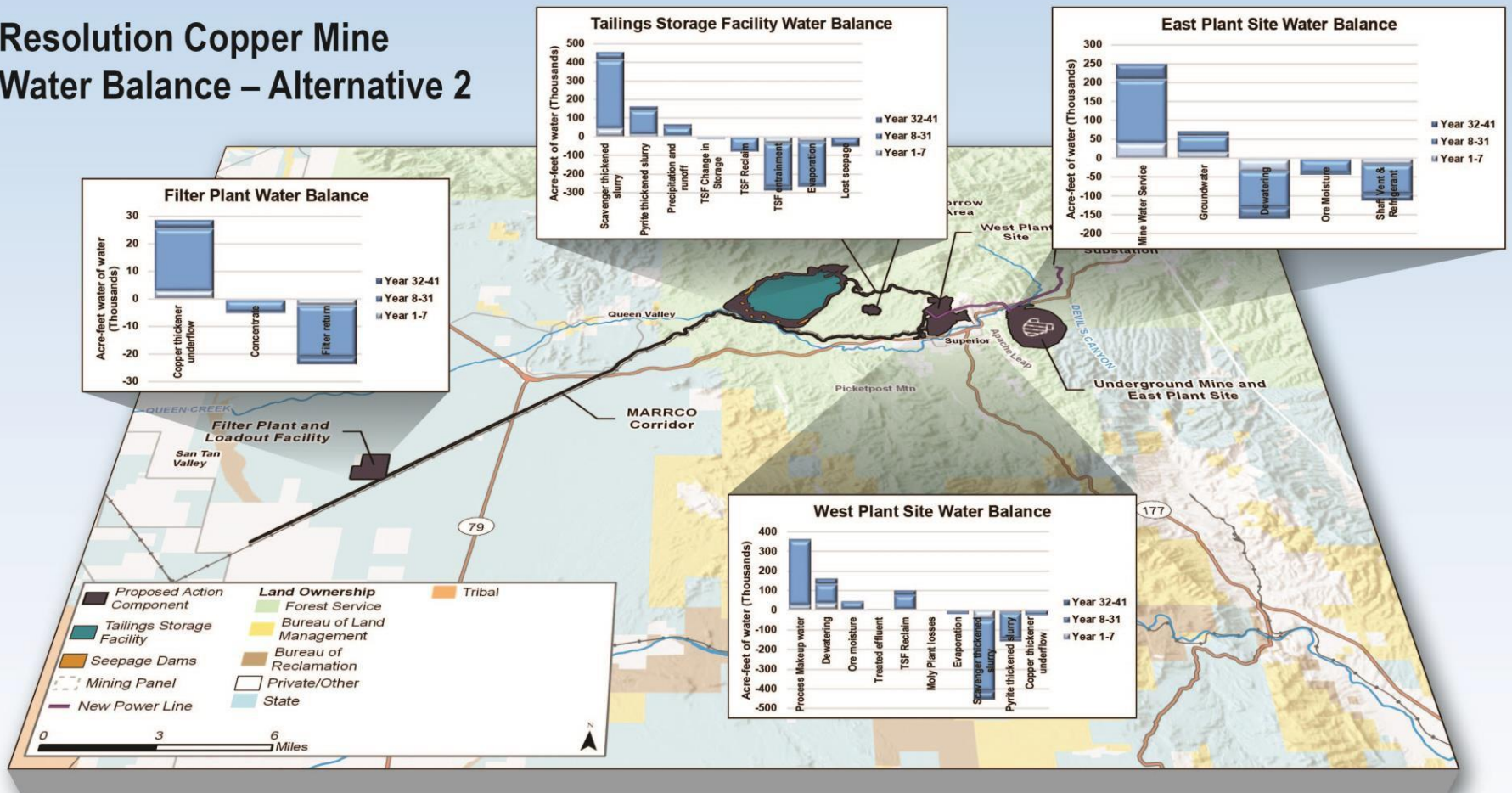
Proposed Action – 9 GDEs impacted; 3 more possible (inc. Devil's Canyon)

## WATER USE – DESERT WELLFIELD

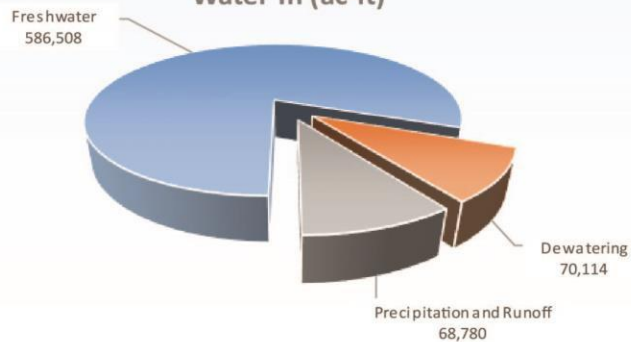
- ✘ **Key concerns:** fresh/makeup water needed to be pumped from East Salt River Valley (ESRV)
- ✘ The most water use = Alternative 2
- ✘ The least water use = Alternative 4



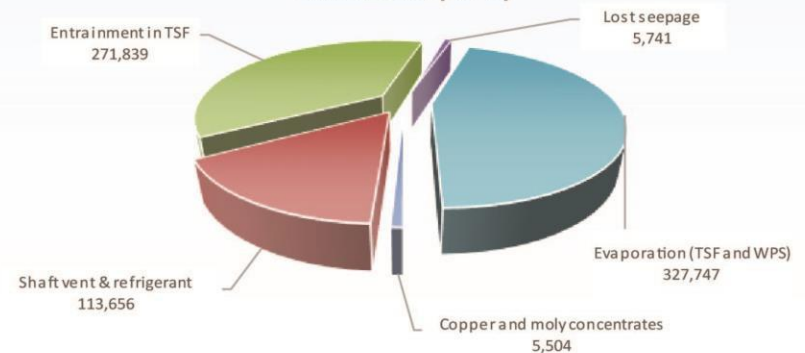
# Resolution Copper Mine Water Balance – Alternative 2



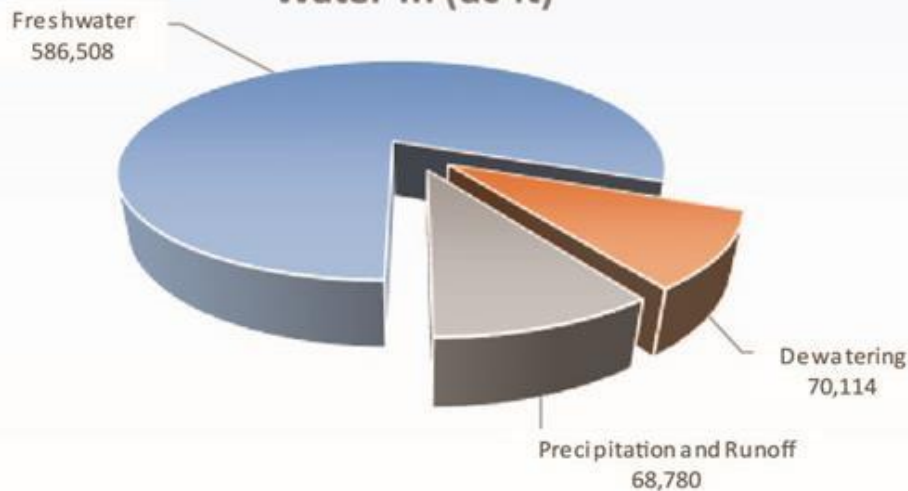
Resolution Copper Life-of-mine  
Water In (ac-ft)



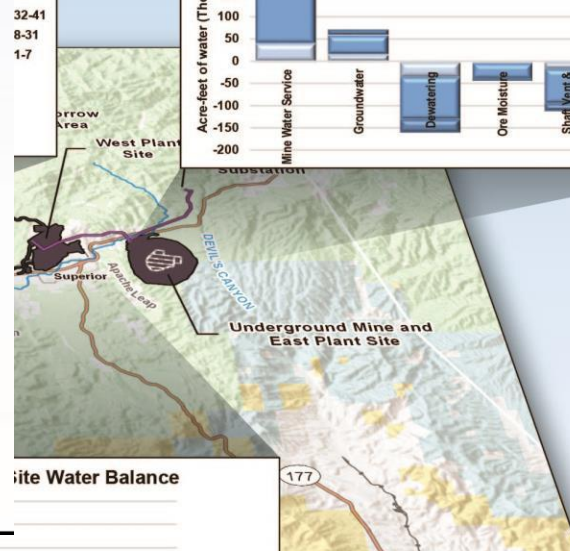
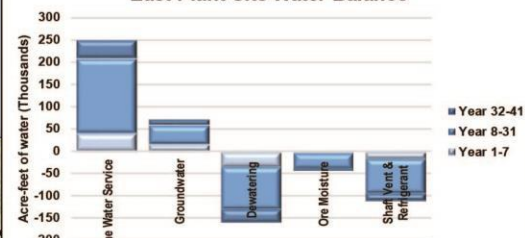
Resolution Copper Life-of-mine  
Water Out (ac-ft)



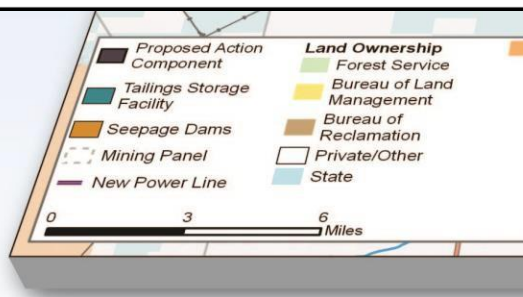
## Resolution Copper Life-of-mine Water In (ac-ft)



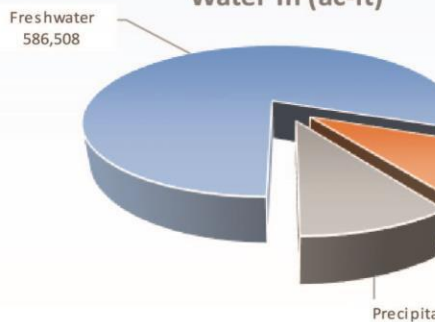
## East Plant Site Water Balance



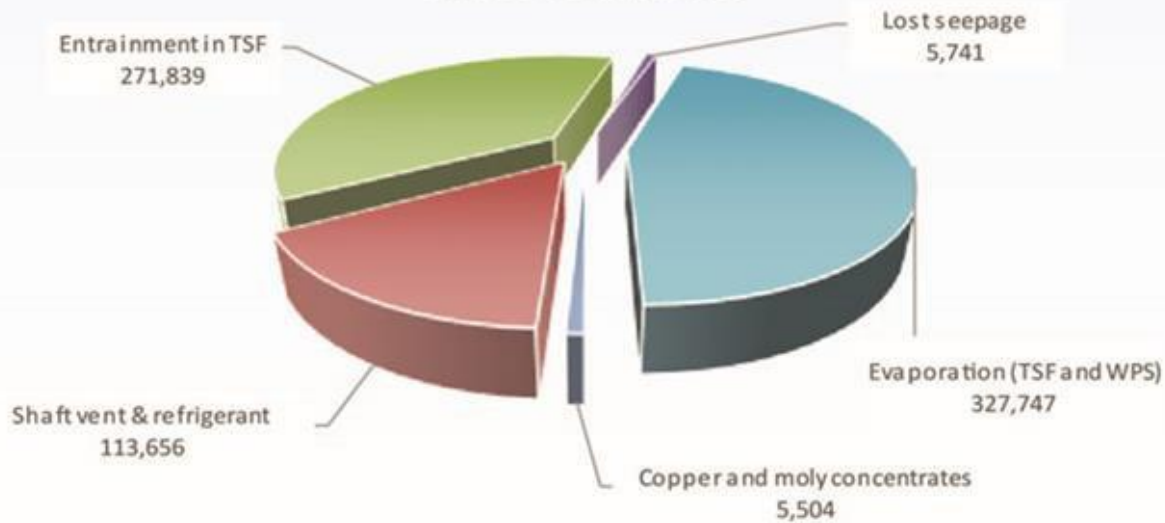
Site Water Balance



## Resolution Copper Life-of-mine Water In (ac-ft)



## Resolution Copper Life-of-mine Water Out (ac-ft)



## SURFACE WATER

- +Groundwater drawdown doesn't reach Queen Valley
- +Queen Creek would lose storm flow due to subsidence crater, Alternative 2/3 tailings, or Alternative 4 tailings

	Subsidence Alone	Alternative 2/3	Alternative 4
Queen Creek @ Magma Ave	-18.6%		
Queen Creek @ Boyce Thompson	-13.4%		-19.9%
Queen Creek @ Whitlow Ranch Dam	-3.5%	-6.5%	-8.9%



## AIR QUALITY

- + Modeled impacts will meet air quality standards at fenceline
- + Deposition of nitrogen/sulfur at Class 1 (wilderness) areas is below thresholds
- + Visibility impacts would be most prominent for Superstitions Wilderness
- + For a hiker looking out from the Wilderness, a plume could be perceptible up to 5% of the day

## SCENIC RESOURCES

- ✘ 31 Key Observation Points, selected by NEPA team
- ✘ Visual simulations (by Truescape)
  - + Block models
  - + Photo simulations with anticipated revegetation after closure
    - ✘ Revegetation color and efficiency is based on West Plant Site Reclamation efforts
    - ✘ Tailings color based on tailings created during pilot testing



## Block Models

Elevated view of each alternative tailings storage facility at year 41





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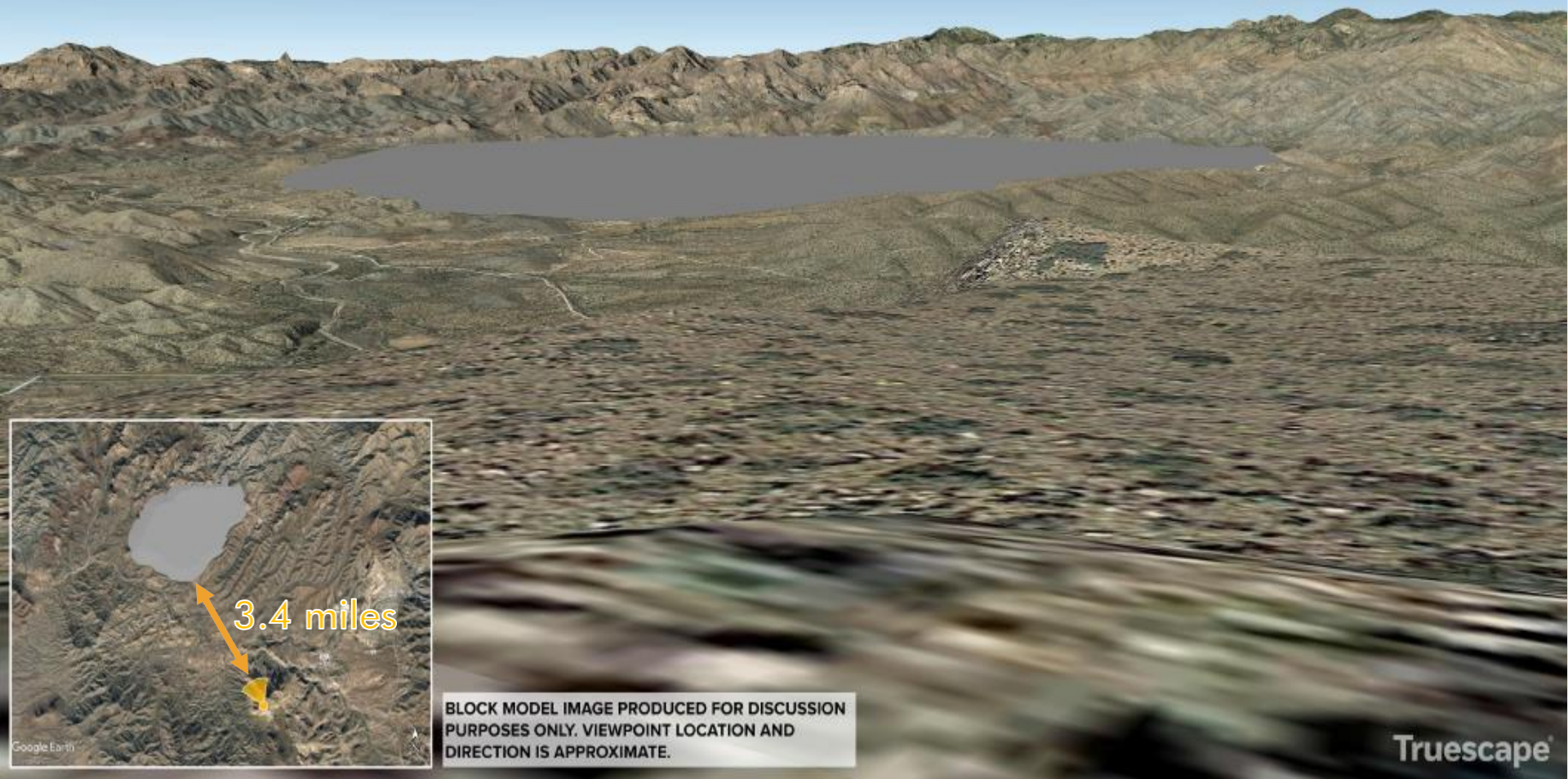
# ALTERNATIVE 2/3 – LOOKING NW FROM PICKETPOST

## ALTERNATIVE 2 - PICKET POST MOUNTAIN

YEAR ULTIMATE

33°15'27.34"N

111°9'29.00"W



BLOCK MODEL IMAGE PRODUCED FOR DISCUSSION  
PURPOSES ONLY. VIEWPOINT LOCATION AND  
DIRECTION IS APPROXIMATE.

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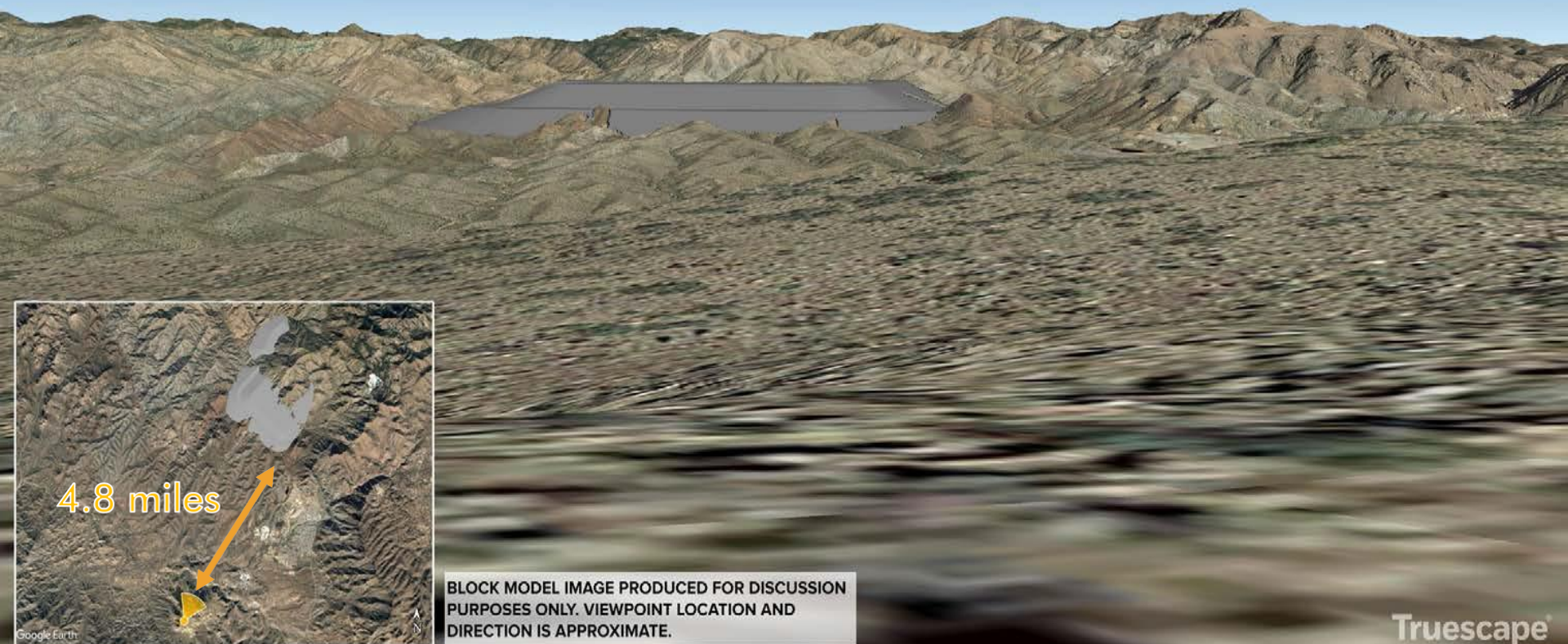
# ALTERNATIVE 4 – LOOKING NE FROM PICKETPOST

## ALTERNATIVE 4 - PICKET POST MOUNTAIN

YEAR ULTIMATE

33°15'27.34"N

111°9'29.00"W



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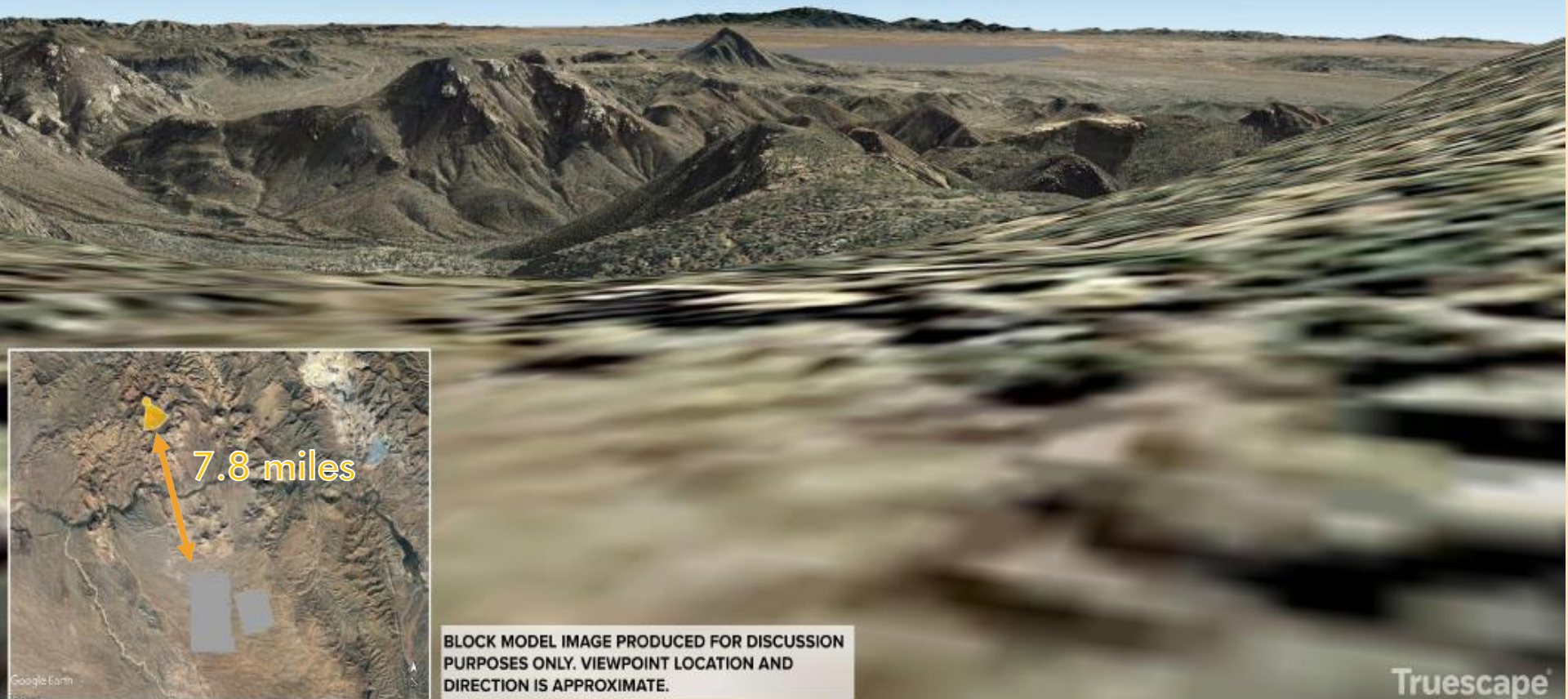
# ALTERNATIVE 5 – LOOKING SE FROM WHITE CANYON

ALTERNATIVE 5 - ARIZONA TRAIL – PEG LEG NORTH

YEAR ULTIMATE

33° 9'50.64"N

111° 8'58.56"W



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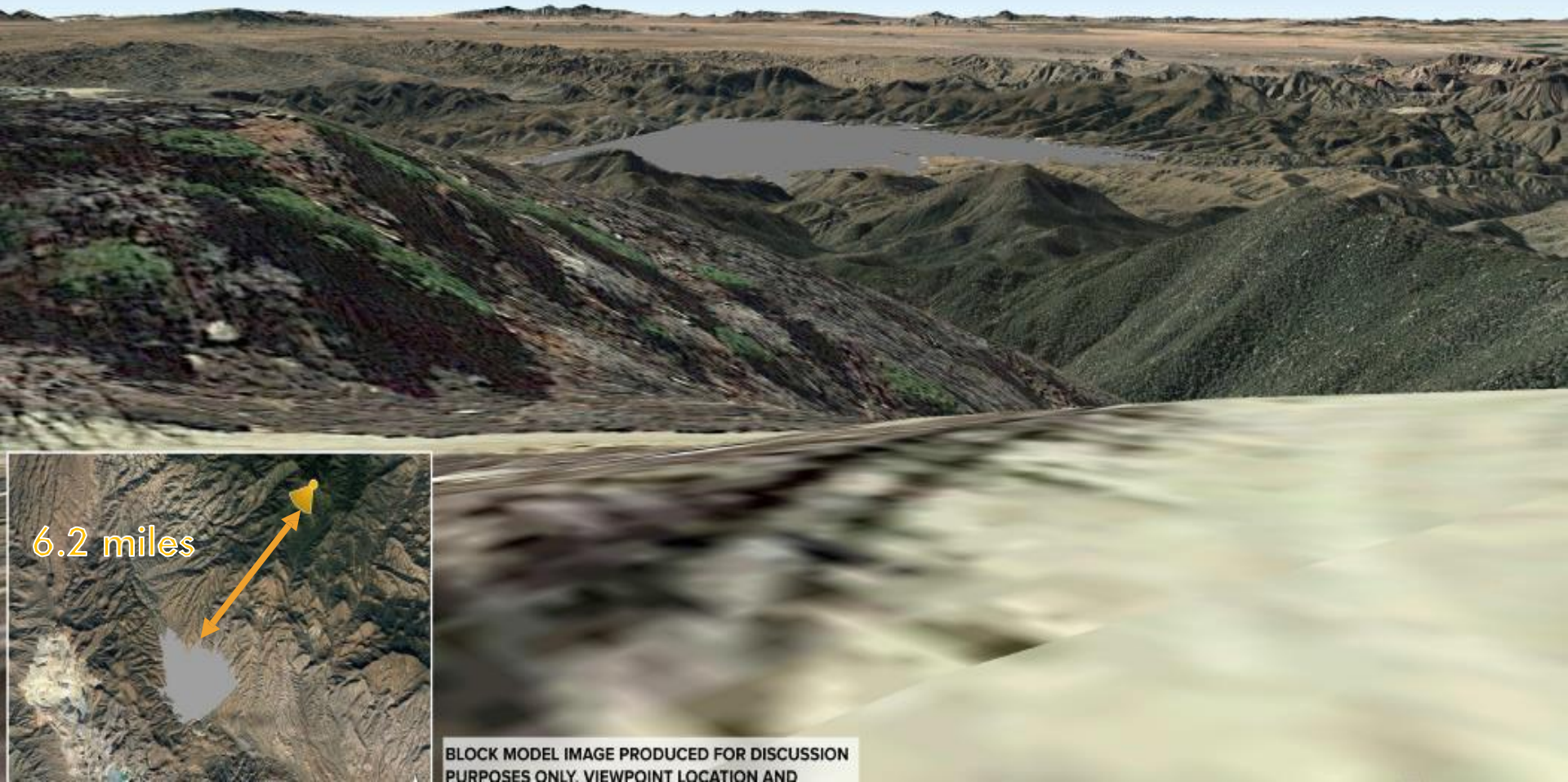
# ALTERNATIVE 6 – LOOKING SW FROM PINAL MTS

ALTERNATIVE 6 - PINAL PEAK

YEAR ULTIMATE

33°16'55.49"N

110°49'15.29"W



6.2 miles



BLOCK MODEL IMAGE PRODUCED FOR DISCUSSION  
PURPOSES ONLY. VIEWPOINT LOCATION AND

## RECREATION

- + Loss of 10.4 miles of road (EPS, WPS, subsidence); additional roads impacted by tailings sites
- + Impacts to Arizona Trail
- + Loss of 3 rock climbing sites

## WILDLIFE/VEGETATION

- + All alternatives would affect wildlife movement at a landscape scale
- + Arizona Hedgehog Cactus – East Plant Site
- + Acuna Cactus – Alternative 5 West Pipeline
- + Western Yellow-Billed Cuckoo –
  - ✗ Flow reductions in Devil's Canyon
  - ✗ Alternative 5 (Gila River crossing – proposed critical habitat)
  - ✗ Alternative 6 (Devil's Canyon, Mineral Creek crossing)
- + Southwestern Willow Flycatcher
  - ✗ Alternative 5 (Gila River crossing – critical habitat)





# Project website:

[www.ResolutionMineEIS.us](http://www.ResolutionMineEIS.us)