

# New Mexico Office of Natural Resources Trustee

## Natural Resource Damage Assessment: NASA White Sands Test Facility Groundwater Contamination

Radioactive & Hazardous Materials Committee  
September 15, 2023



Maggie Hart Stebbins, Trustee  
Kate Girard, Executive Director

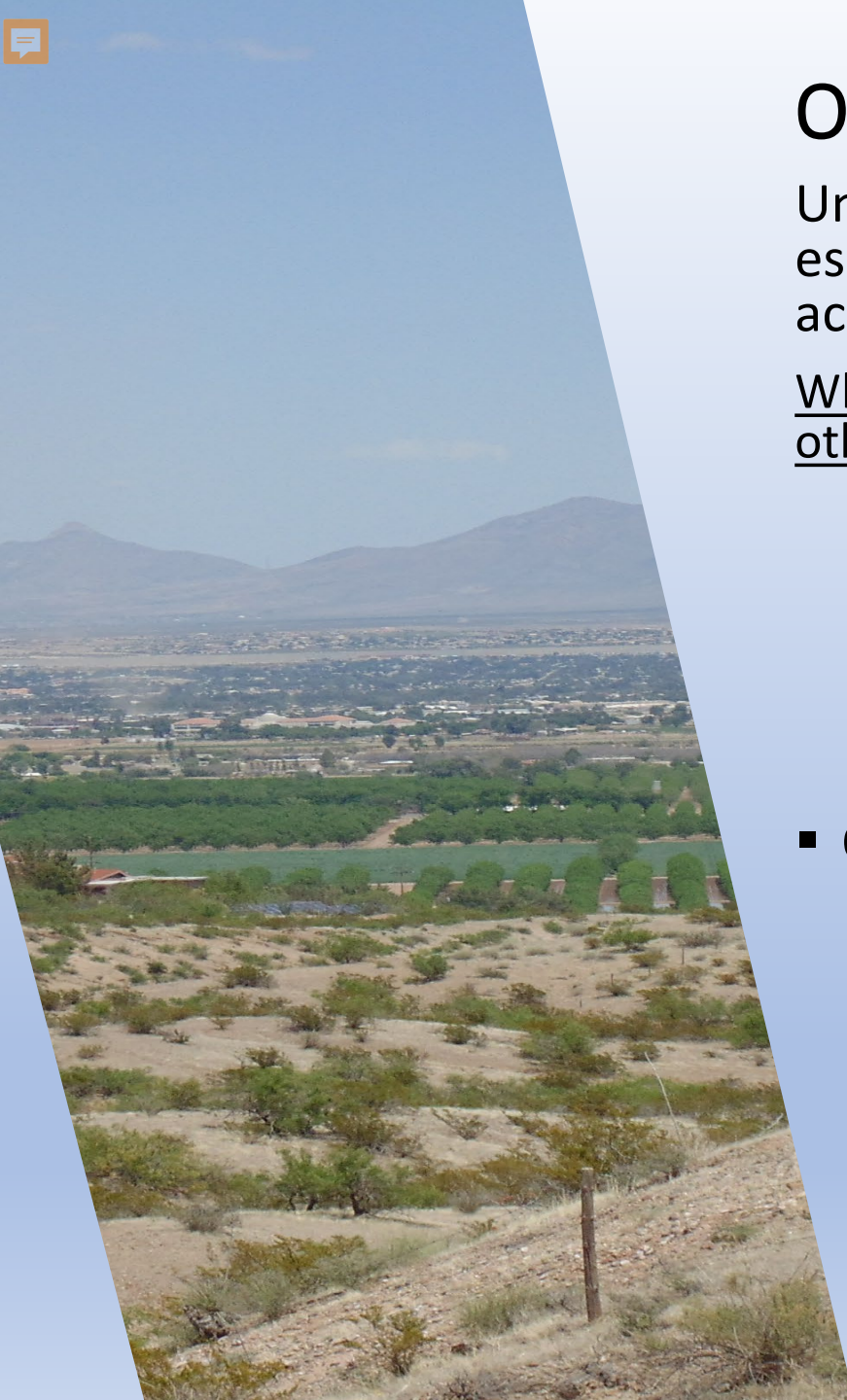




# ONRT Mission

**Restore** natural resources and the services they provide when they have been injured by the release of hazardous substances or oil.





# ONRT Mission

Under federal and state law, natural resource restoration is an essential component of the State's authority to hold polluters accountable.

When toxic substances pollute water, wildlife, fish, habitat, soils and other natural resources, laws require the party responsible to:

- clean up contamination to protect public health and the environment,
- restore natural resources to the way they were, pre-contamination, and
- compensate communities for lost natural resources and the services they provide – including cultural services
- ONRT's role established by:
  - New Mexico Natural Resources Trustee Act [NMSA 1978, §§ 75-7-1 et seq]
  - Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) [42 USC §§ 9601 et seq]
  - Oil Pollution Act of 1990 [33 USC §§ 2701 et seq]
  - Federal Water Pollution Control Act or Clean Water Act of 1972 [33 USC §§1321 et seq]

# Following a Release of Hazardous Substances into New Mexico's Environment, Responsibility is Shared:

## NMED: Remediation

Requires Responsible Party to:

Identify and Characterize the Release(s); and,  
Clean up contamination to protect public health and the environment.



## ONRT: Restoration

ONRT Uses the **NRDAR** Process to Require Responsible Party to:

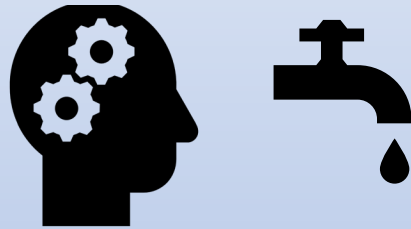
Restore Injured Natural Resources to Pre-Release Conditions to Compensate Public for harm that has Occurred Over Time.



# Natural Resource Damage Assessment



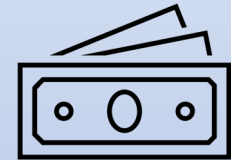
ONRT acts on behalf of the people of New Mexico to seek damages for injury to natural resources, and resulting service losses



Claimable categories of service losses include existence, bequest, option, and human use, e.g., as a drinking water source (we'll discuss these further later in the presentation)



All of these categories of loss have occurred at WSTF as a result of the contamination of a very large volume of groundwater due to releases of hazardous substances at the site



Recovered damages (money) is used to restore the injured resource, or replace/acquire the equivalent; restoration ideas are solicited from the public and projects are selected based on applying established criteria

# White Sands Test Facility (WSTF) NRDA

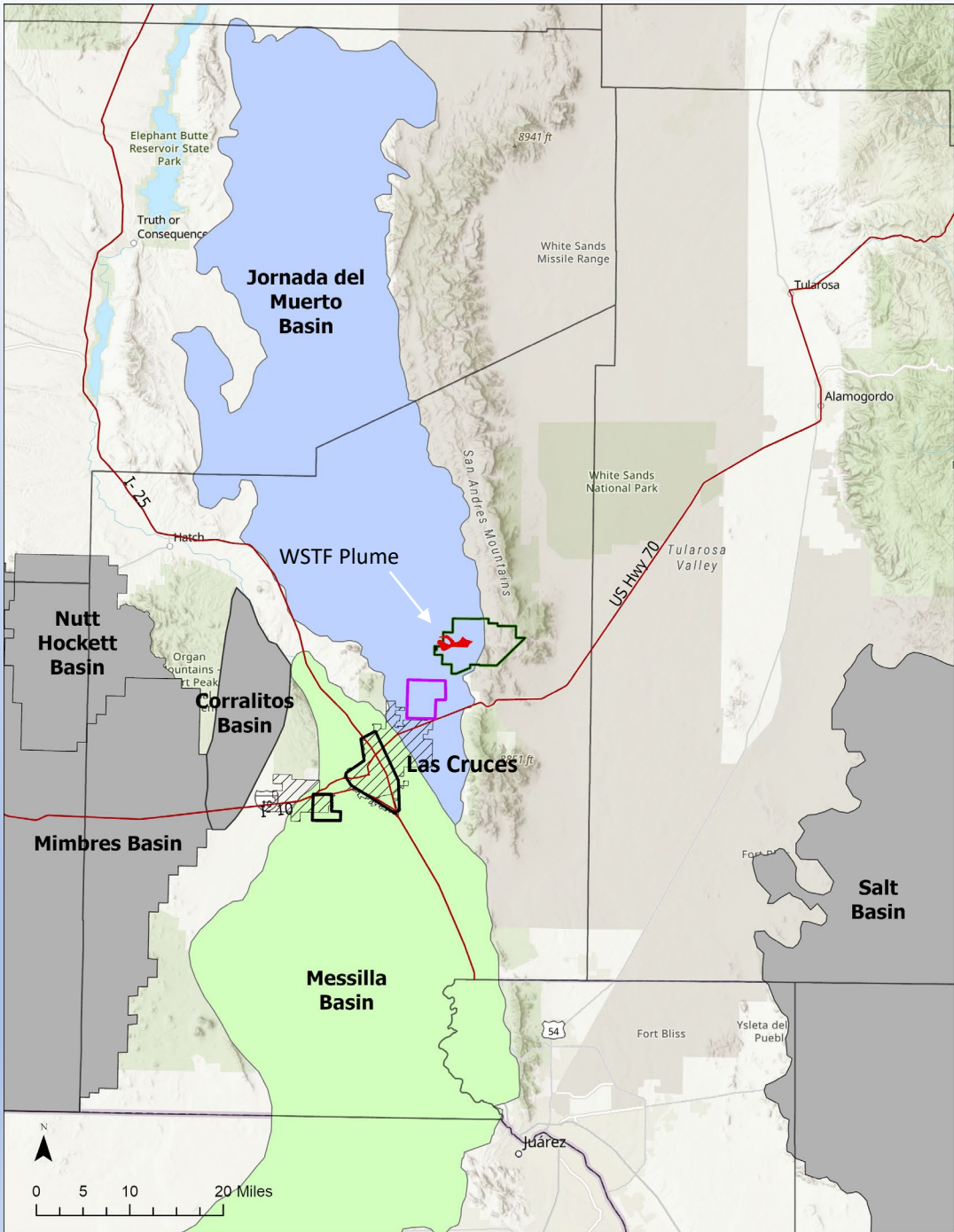
- Contaminants:
  - Trichloroethylene (TCE),
  - Perchloroethylene (PCE),
  - Nitroso dimethylamine (NDMA)
  - Freon
- Co-Trustees:
  - ONRT
  - NASA
  - US DOD/US Army
- Potentially Responsible Parties:
  - NASA
  - US Army
- Milestones:
  - 2016: Preassessment Screen complete
  - 2019: Damage Assessment
  - 2022: Pre-Publication Restoration and Compensation Determination Plan shared with NASA and DOD



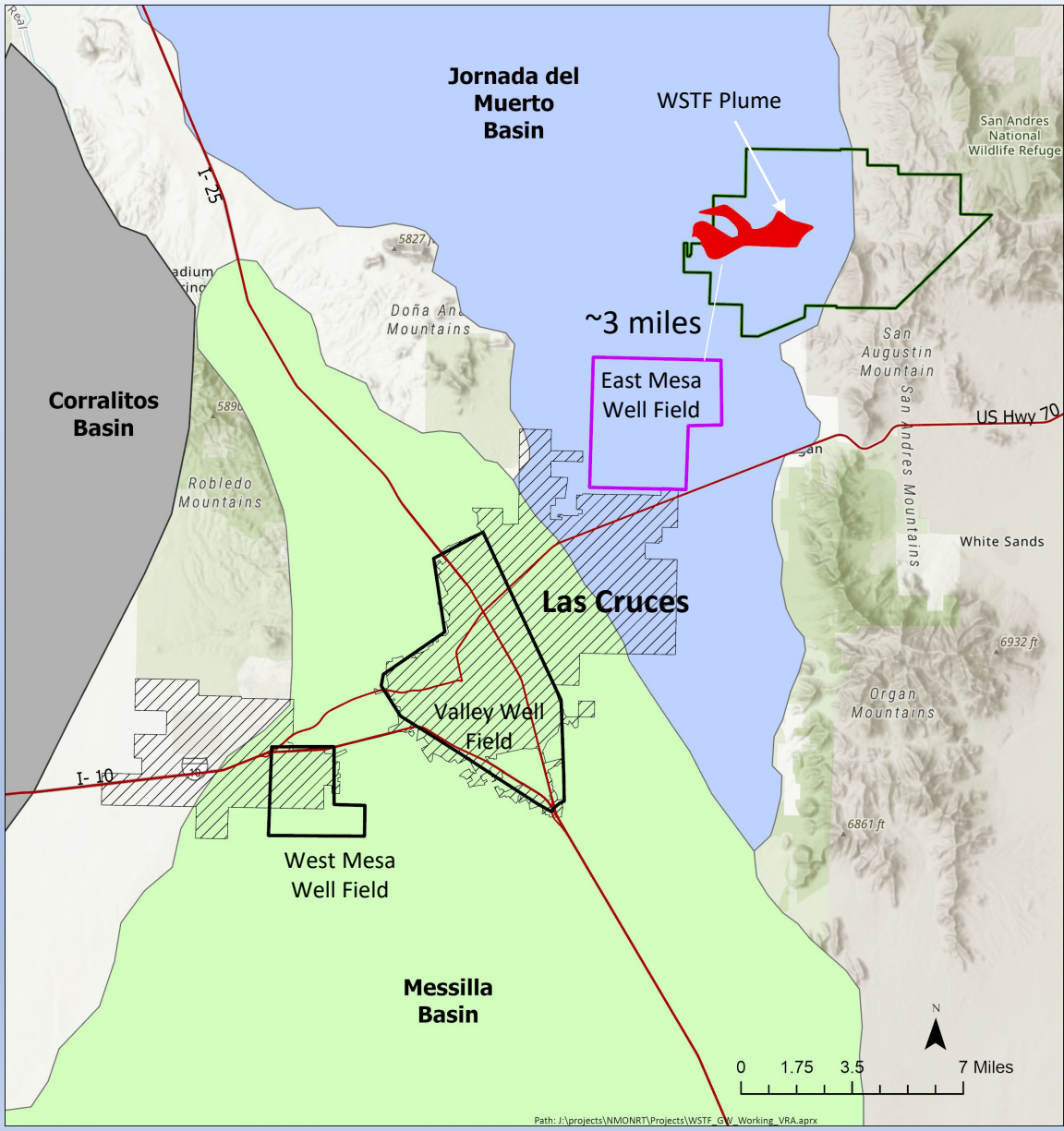
# WSTF Operations

- Established to support the NASA Apollo Space Program in the early 1960s
  - Testing spacecraft propulsion systems
- Over time, focus shifted to Space Shuttle program hazard tests
- Ongoing operations at the Site:
  - Field test facility under NASA's Lyndon B. Johnson Space Center, supporting United States space program, private industry, and foreign government agencies





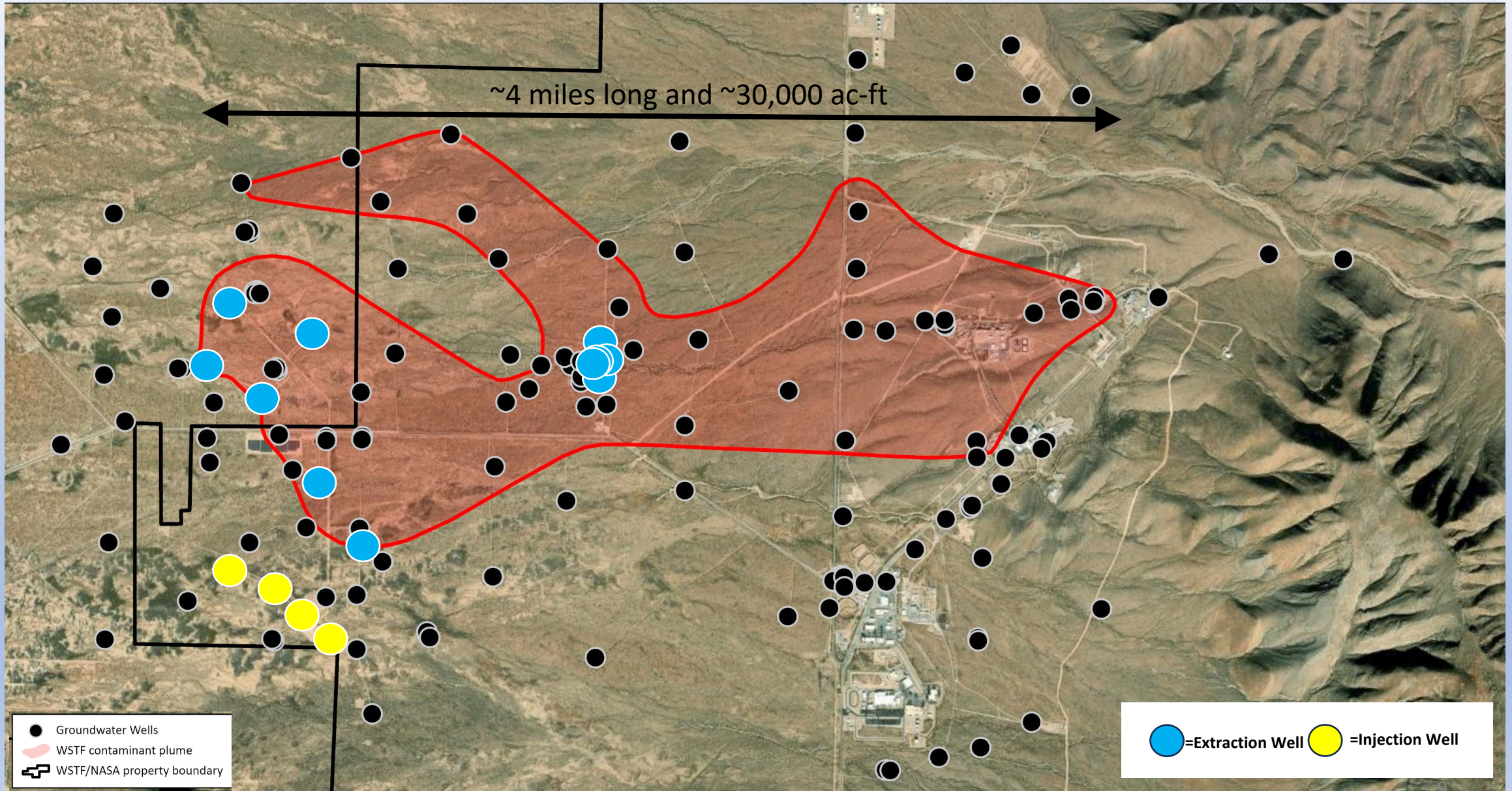
# Location of WSTF Groundwater Contaminant Plume Relative to Las Cruces



Path: J:\projects\NMONRT\Projects\WSTF\_GW\_Working\_VRA.aprx

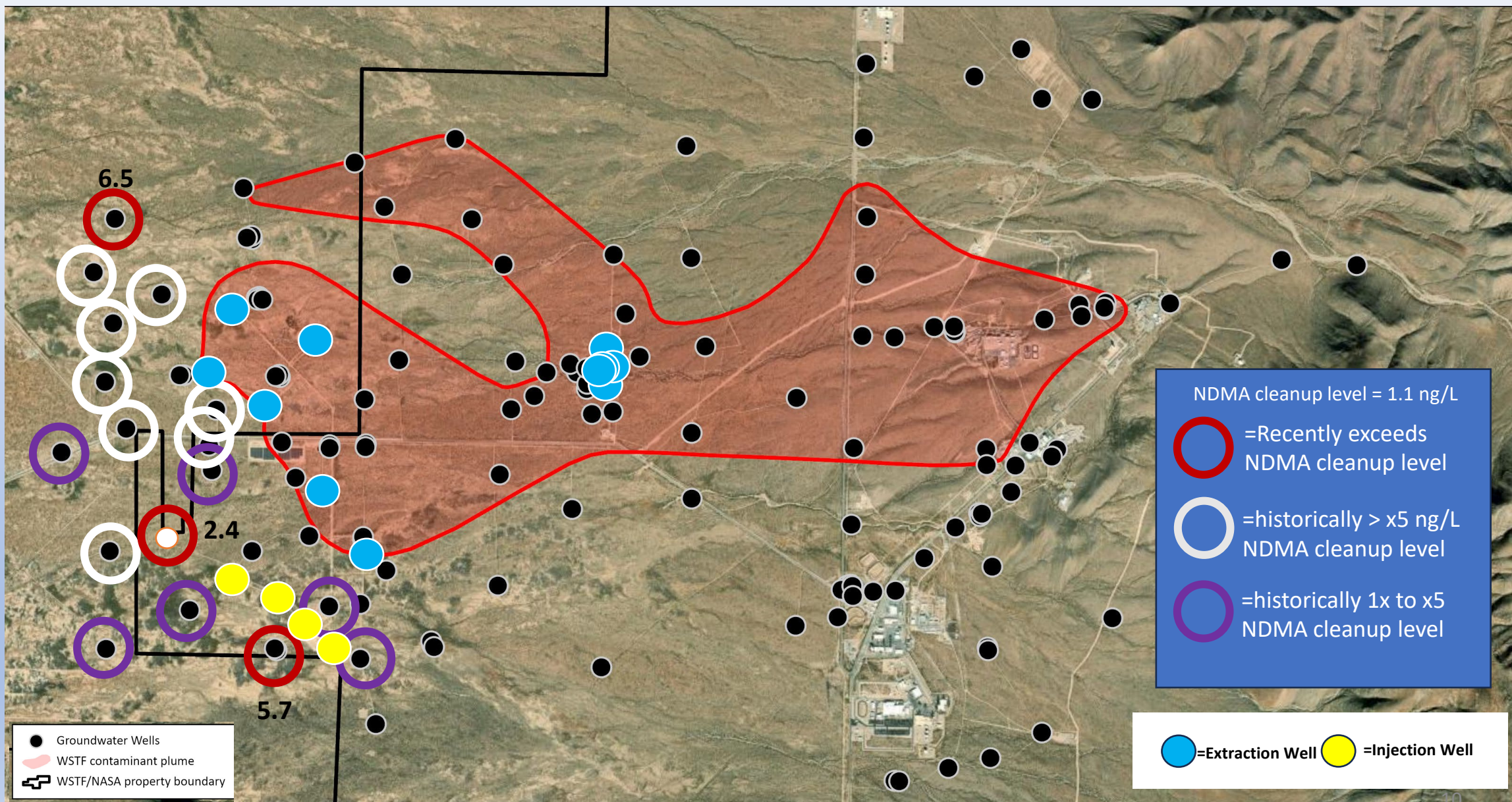


# Groundwater NDMA + TCE Contaminant Plume & Treatment System

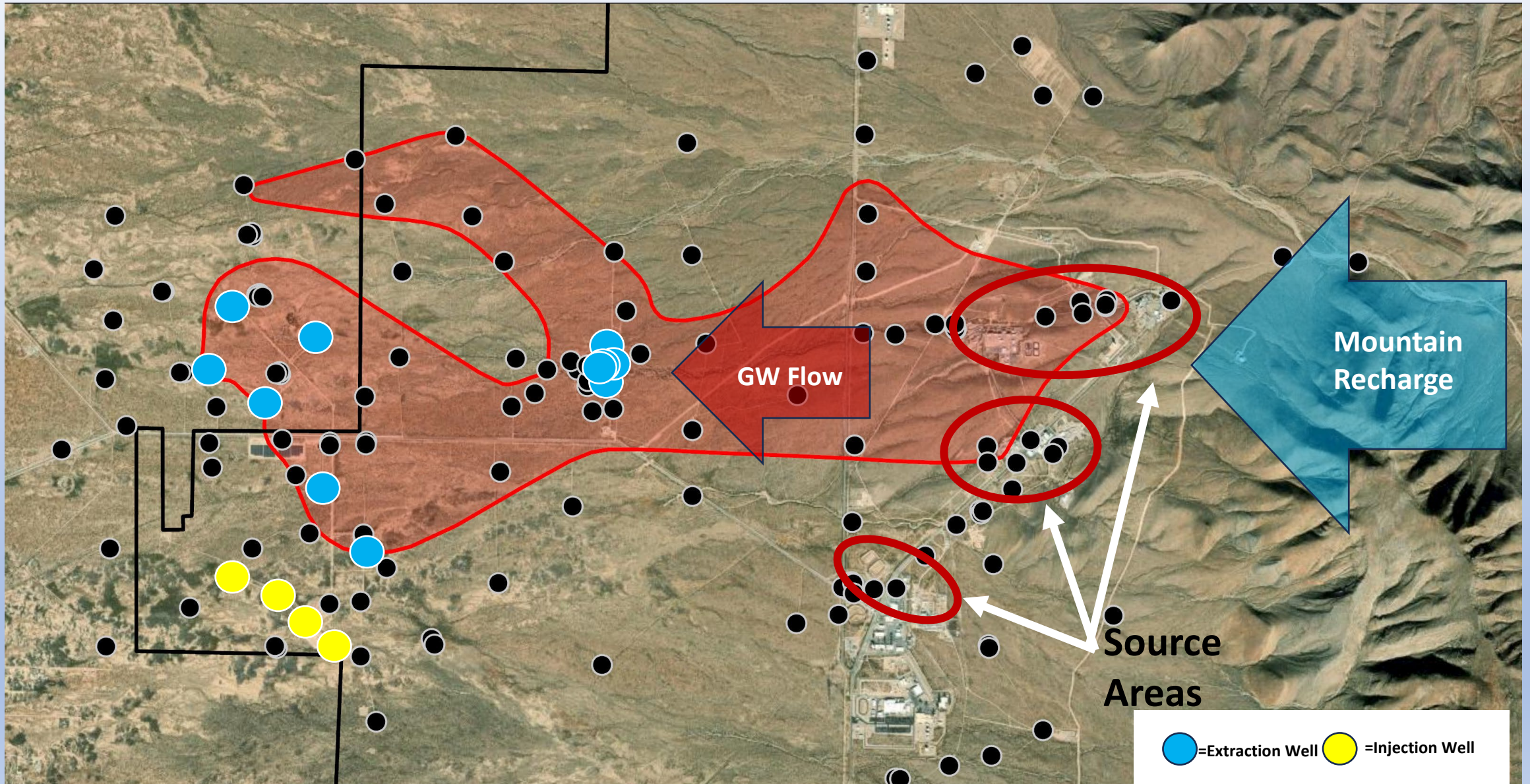


NDMA = N-Nitrosodimethylamine TCE = Trichloroethene

# Impacts are Likely Greater than Suggested by NASA's Plume Depiction

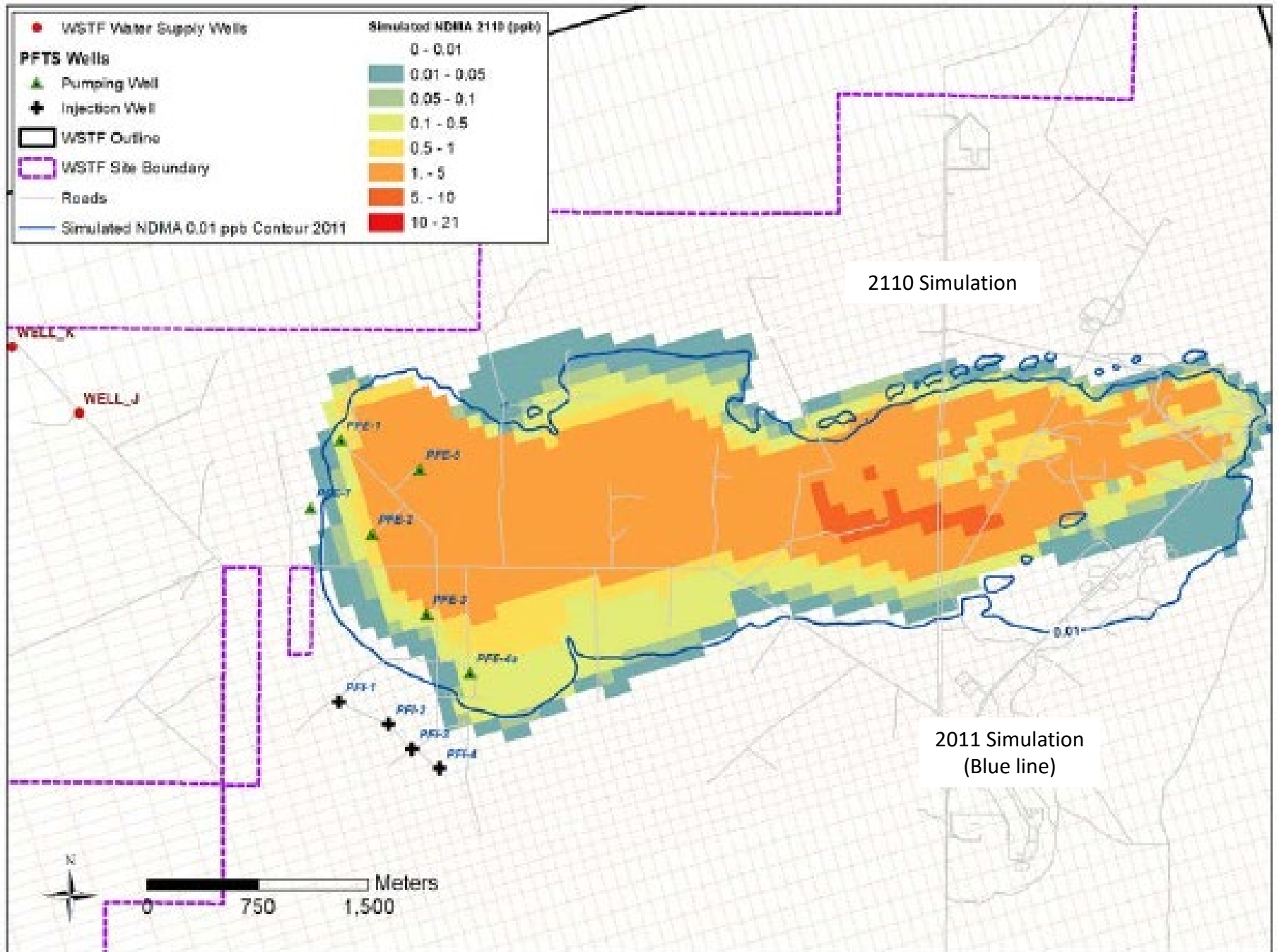


# Pathway of Contaminants

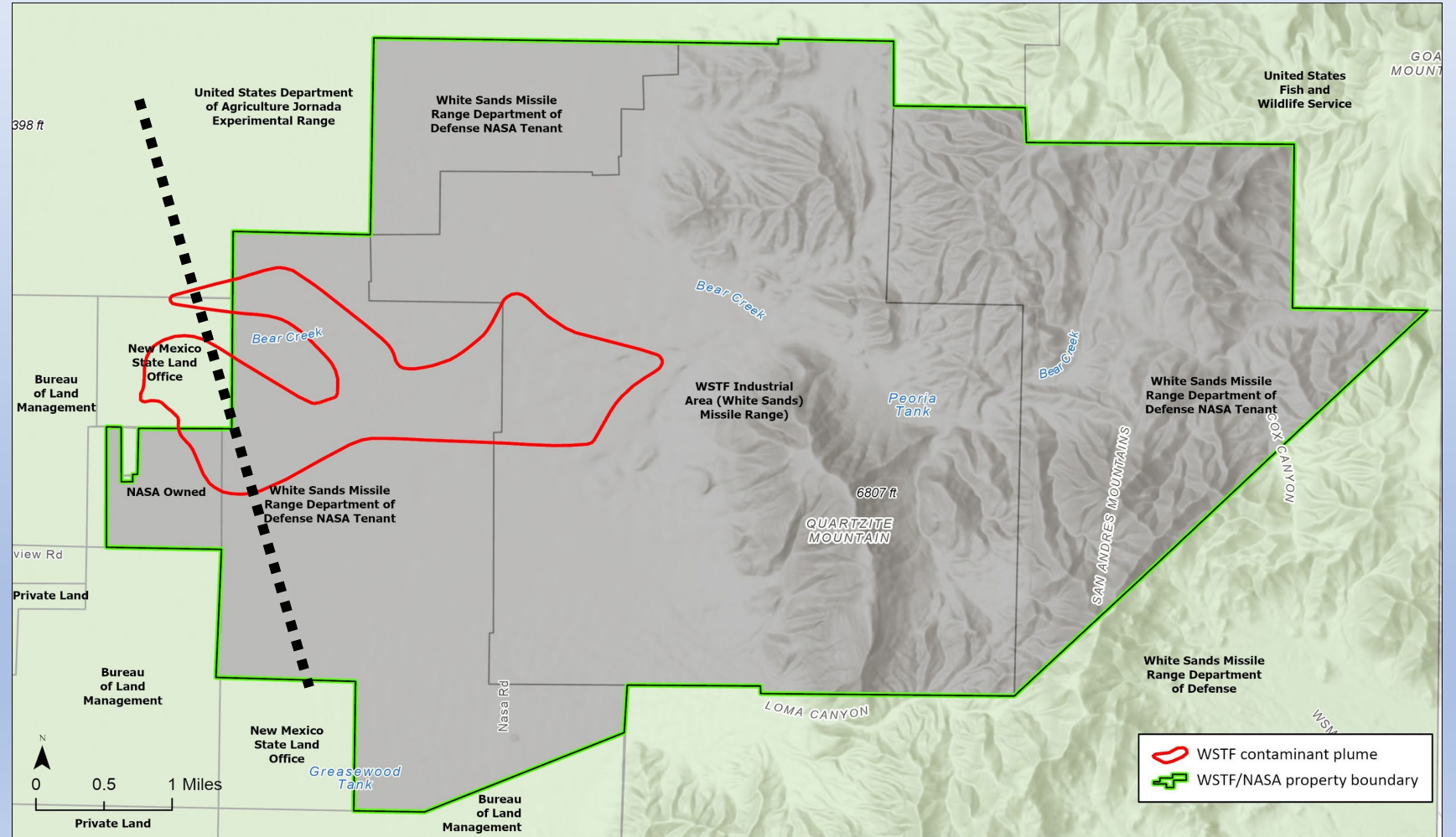
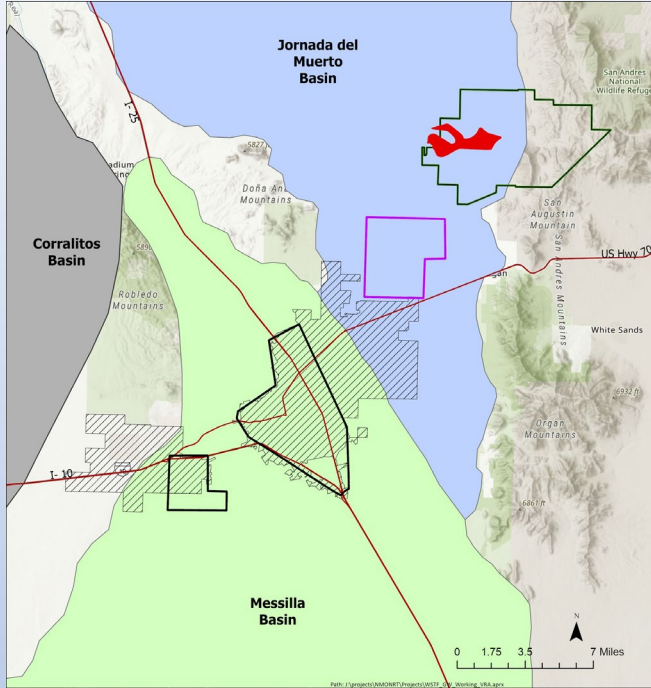


# Timeline of Contamination

NASA's modeling shows NDMA plume front is relatively constant over long period of time



# Service Losses to New Mexicans Resulting from the WSTF Plume



# The Ultimate Goal - Restoration!



Goal of NRDA is to implement restoration projects to make the New Mexico public whole



Examples of groundwater projects include

- Installing recharge enhancement structures
- Preventing future contamination (wastewater systems)
- Funding water conservation
- Providing alternative water supplies
- Removing invasive species



Once a claim is settled, ONRT seeks input from the public on restoration projects to spend the settlement money



ONRT applies established criteria to select projects

For example:

- Geographical nexus to the injured resource and public
- Consistency with regional/local plans

# Current Status/Next Steps



- ▶ NASA and the Army accept ONRT's invitation to participate in settlement discussions;
- or
- ▶ ONRT issues a formal demand and files a natural resources damages claim

Questions?

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