

Uranium Recovery Sites in New Mexico for the Radioactive and Hazardous Materials Committee

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U.S. Nuclear Regulatory Commission

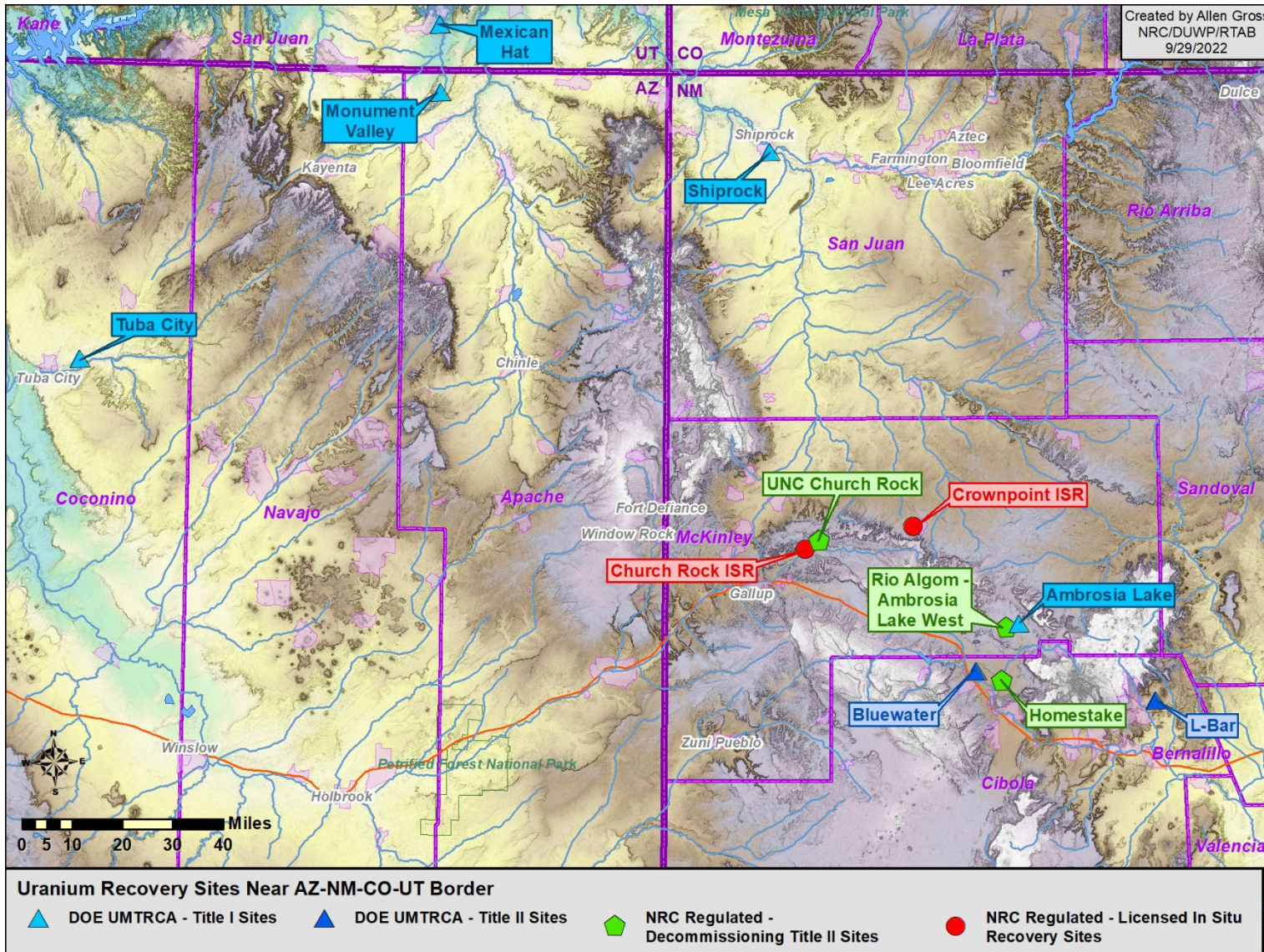
Presentation Outline

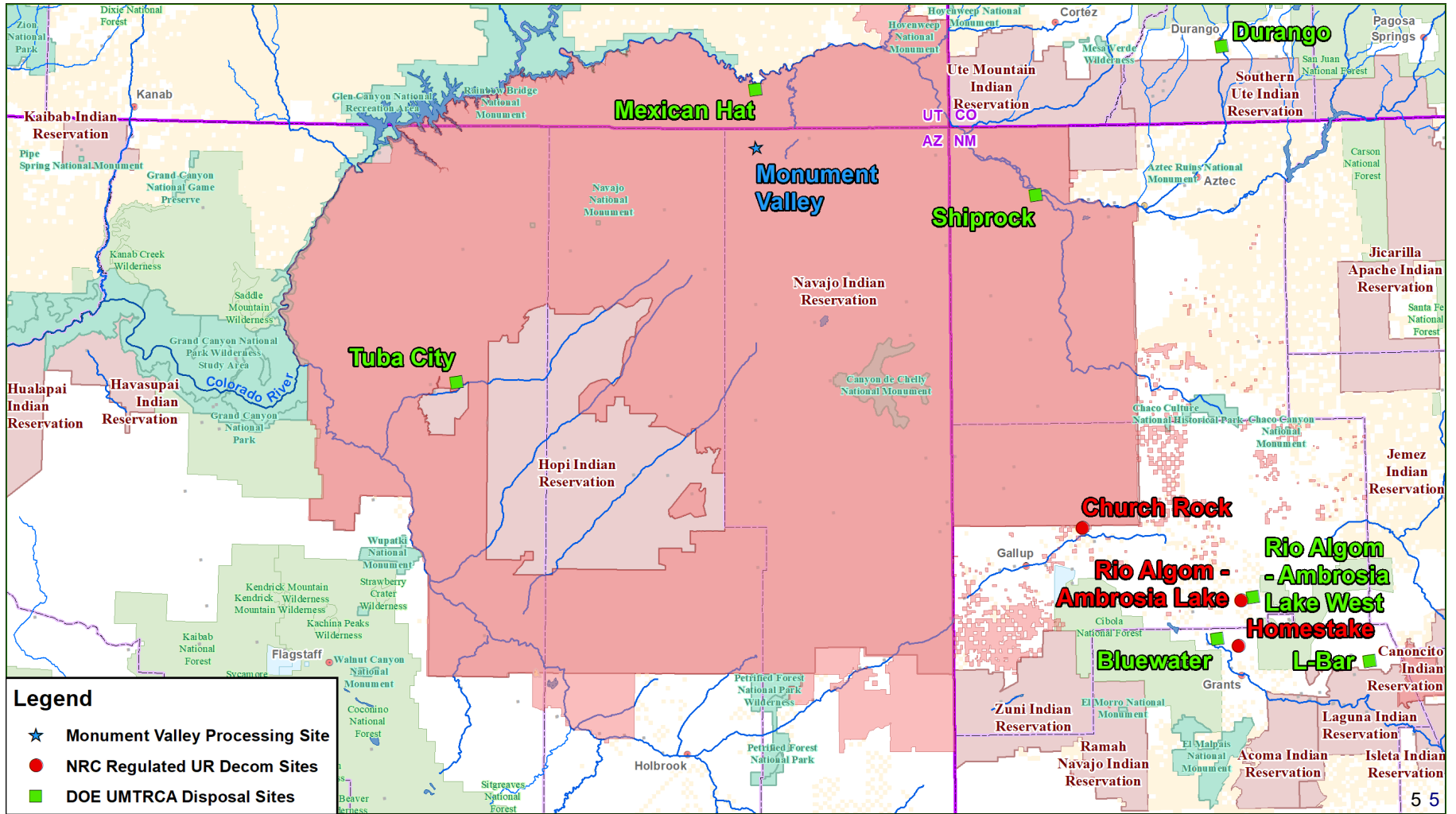
- Uranium recovery sites in New Mexico
 - Site locations
 - EPA/NRC/DOE roles and responsibilities with uranium recovery and at Church Rock site
 - UNC Church Rock
 - Homestake
 - Rio Algom Ambrosia Lake
 - NuFuels in situ recovery site (ISR) (not constructed)
- Department of Energy (DOE) uranium recovery sites in New Mexico – NRC has oversight of DOE for these sites



Uranium Recovery Sites in New Mexico

Uranium Mill sites in NM





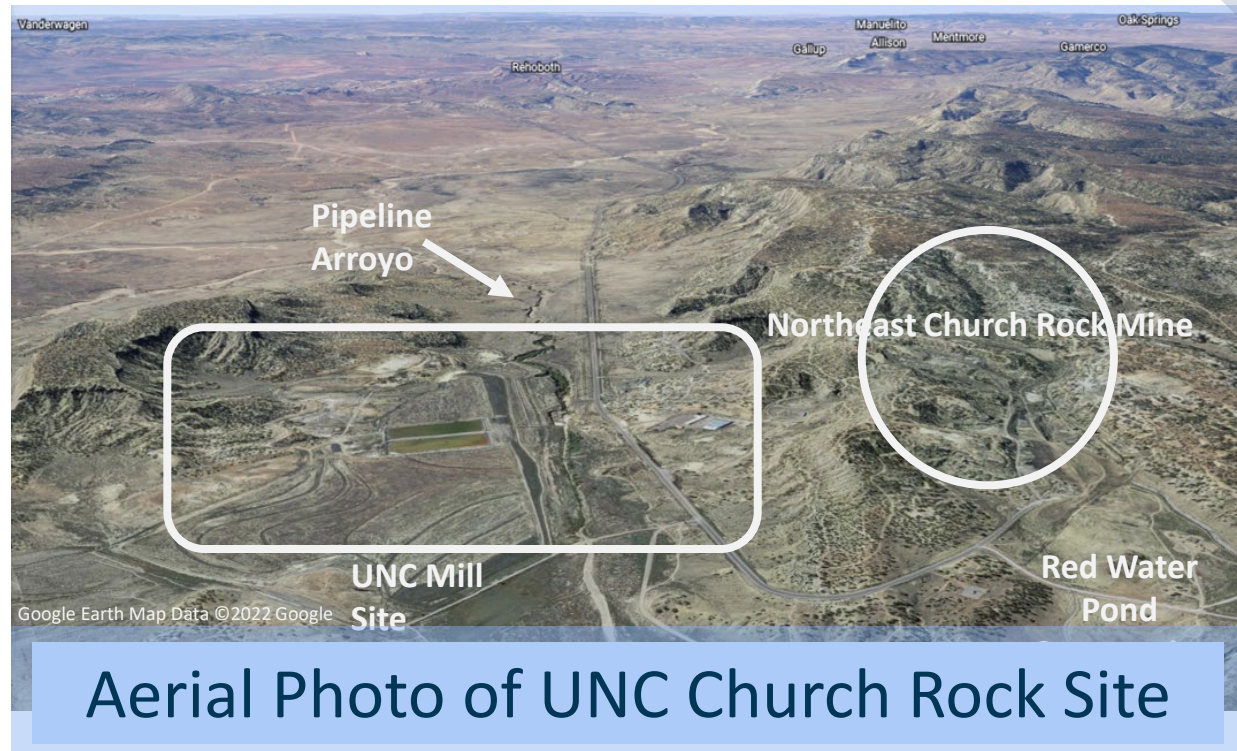
Former Uranium Mill Sites in Relation to Tribes and Pueblos

NRC/EPA/DOE Roles and Responsibilities

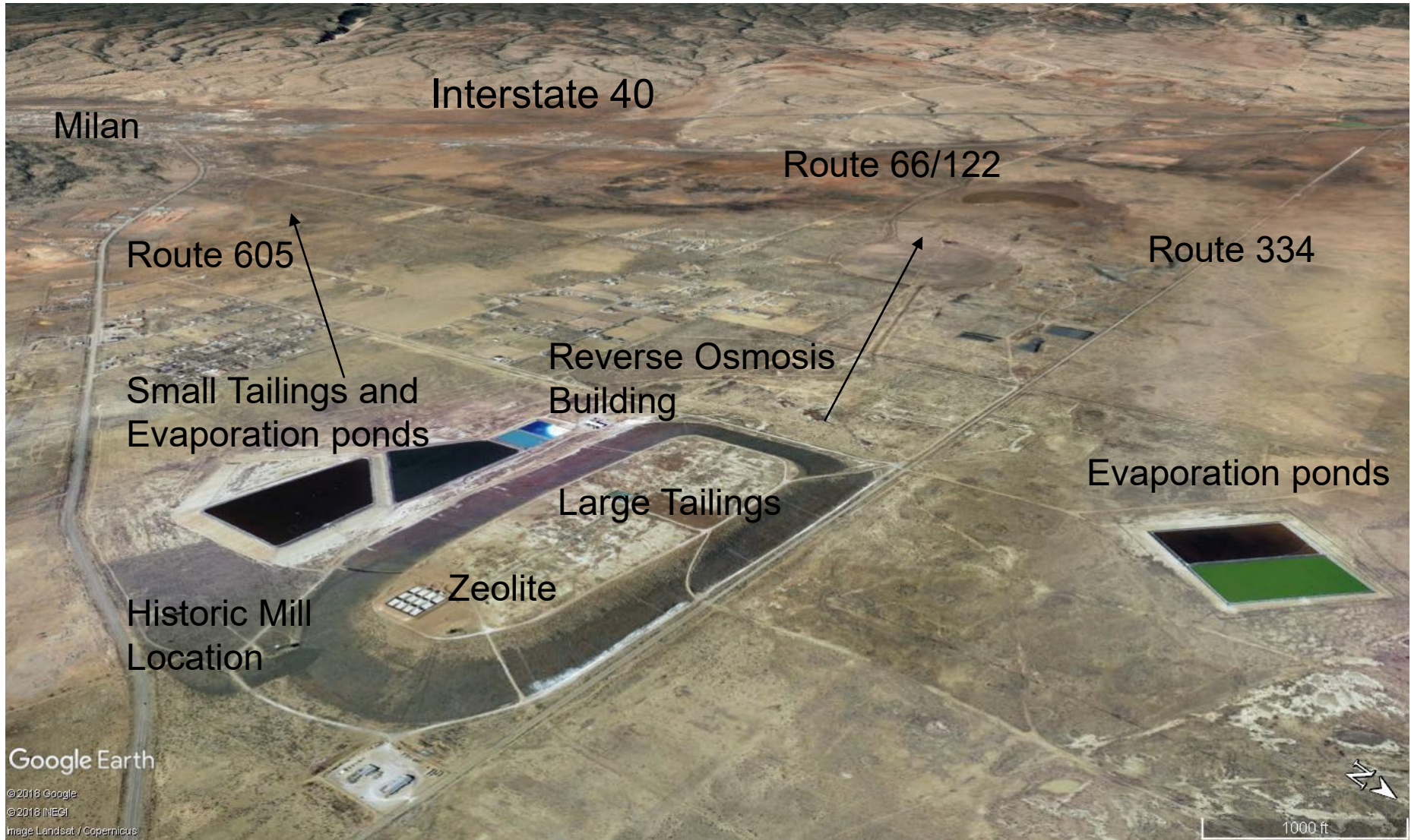
- NRC regulates uranium recovery facilities under the AEA and UMTRCA, such as:
 - ☐ Conventional
 - ☐ Heap Leach
 - ☐ In situ recovery (ISR)
- NRC does not regulate mining or exploration
- EPA
 - EPA regulates the UNC Churchrock mill site and Homestake mill site through CERCLA along with the NRC
 - EPA regulates the abandoned uranium mine sites on Navajo lands
- DOE
 - DOE takes the uranium mill tailing sites under long term care after license termination. The NRC oversees the DOE for these sites.

UNC Church Rock uranium mill tailings site

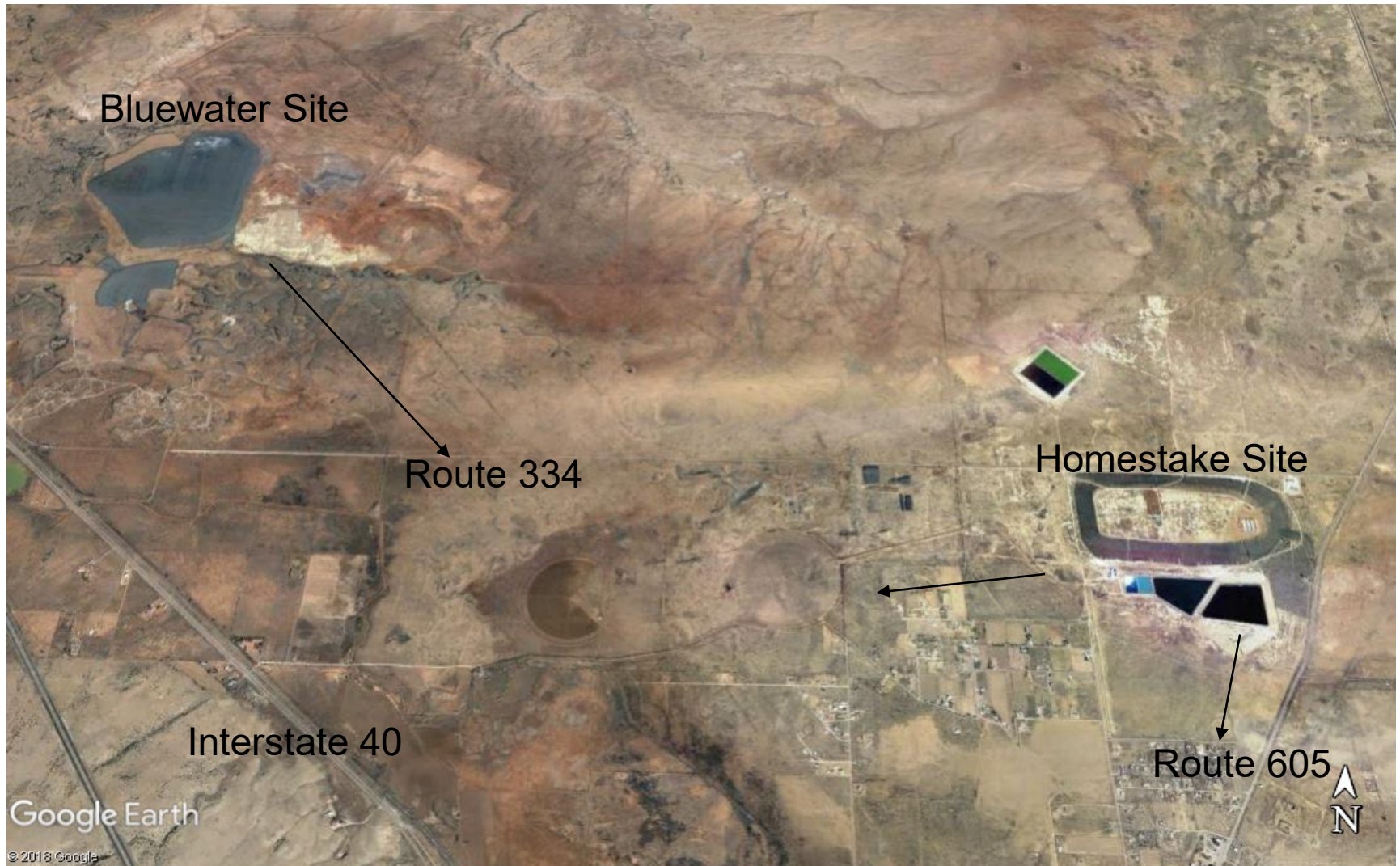
- UNC Church Rock mill tailings site
- Near Gallup, New Mexico
- Groundwater remediation and monitoring
- License amendment completed
 - Mine waste relocation
 - Improved surface water hydrology in the Pipeline Arroyo
 - Construction schedule dependent on EPA CERCLA actions



Homestake Site Grants, NM



Homestake and Bluewater Sites



Arrows depict groundwater flow

Homestake site

- Conventional mill tailings site located in Grants/Milan, NM
- Active groundwater corrective action program
 - Alternate concentration limit (ACL) application submitted on August 8, 2022. Staff did not acceptance application for full technical review and provided detailed comments in a public meeting on 6/15/23. Homestake indicated that they will resubmit in December 2023.
- Large tailings pile top cover design change proposed from rock to evapotranspiration cover. Homestake has resubmitted an application on 7/28/23 and NRC accepted for full technical review on 10/18/23. License amendment decision goal is April 2025.
- EPA superfund site CERCLA – coordination with EPA Region 6
- Coordination with the State of NM and DOE
- Monthly regulator meeting (EPA, DOE, State of NM)
- Virtual or in-person public meetings (every 2-3 months)

Rio Algom Ambrosia Lake site



Before and After Decommissioning and Reclamation



**Rio Algom – Ambrosia Lake
Former Mill Site in Grants, NM**



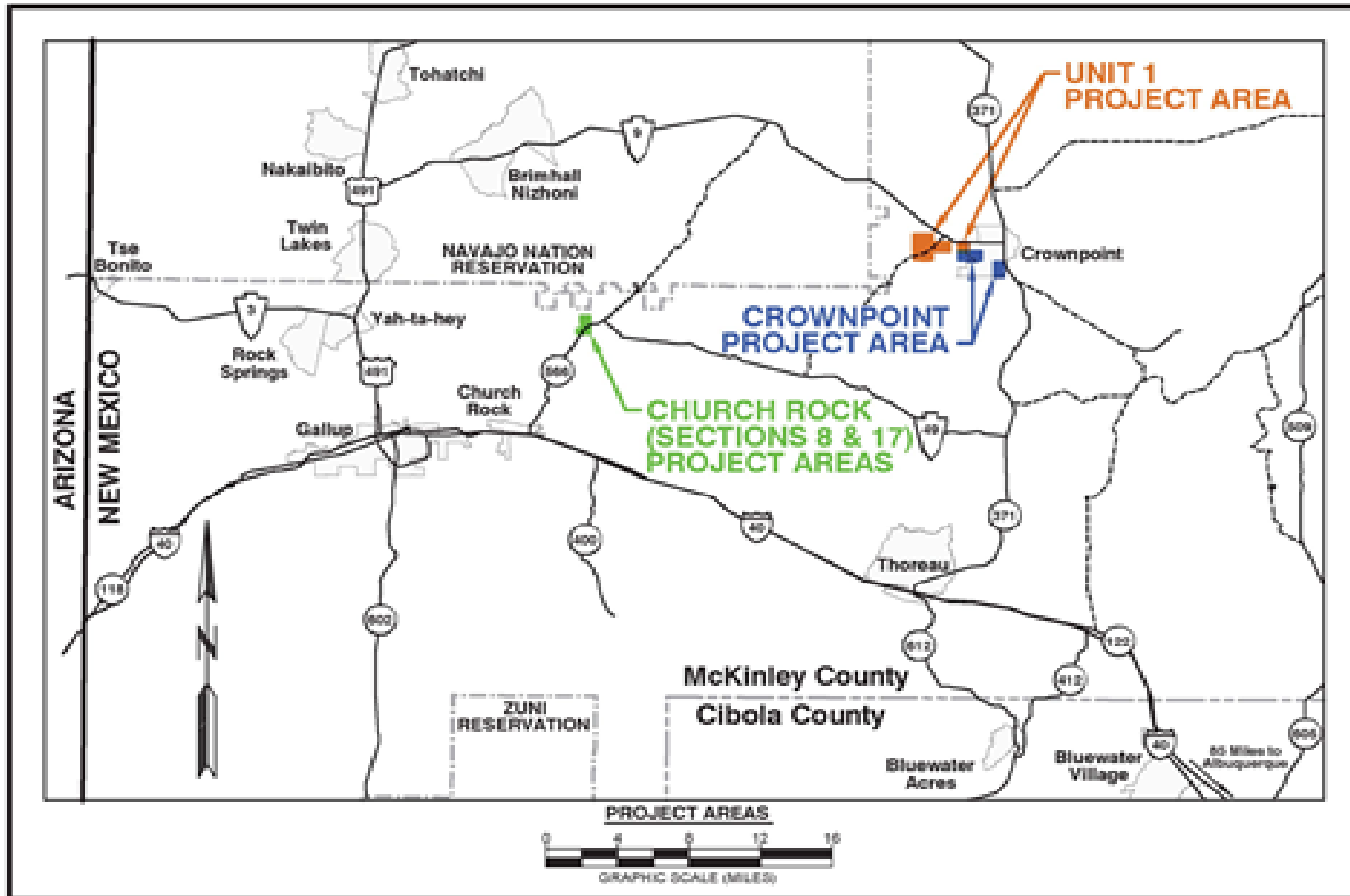
Rio Algom Ambrosia Lake West Title II site

- Conventional mill tailings site located near Milan, NM.
- Ongoing collaboration with the EPA on comingled mine and mill windblown material
- Characterization in process of potential areas for a fourth tailings impoundment for the disposal of wind-blown material at the site
- Ongoing groundwater monitoring
- Ongoing collaboration with the EPA, DOE, and NMED on the disposal of mine material (CERCLA material) at the site from nearby uranium mine sites in the San Mateo Basin
- Overall coordination with NMED, EPA, and DOE

NuFuels ISR site

- The Crownpoint Uranium Project is in McKinley County, New Mexico. The project is in three different project areas, Section 8 and Section 17 (adjacent Sections), Unit 1, and Crownpoint
- There has been no construction or operations
- Licensee: NuFuels, Inc., Docket No. 04008968, License SUA-1580, license renewal in abeyance
- In its letter dated May 6, 2023, NuFuels stated its intention to plans to submit a revised renewal package to the NRC by June 2026. The NRC staff is currently reviewing the NuFuel's proposal
- <https://www.nrc.gov/info-finder/materials/uranium/licensed-facilities/crown-point.html>

NuFuels ISR Site



DOE long term care sites

- Bluewater (Title II)
 - Tailings settlement assessment – DOE and U.S. Army Corps of Engineers assessing up to 4-feet of settlement on northern 20% portion of tailings pile (slimes portion). Future regrading to repair settlement is likely in northern portion of the pile.
 - Uranium plume assessment – DOE is working cooperatively with NMED and NRC to further assess contaminant plume downgradient from long-term care boundary
- L-Bar (Title II)
 - DOE assessing erosion issues
- Ambrosia Lake (Title I)

Bluewater Title II DOE Site

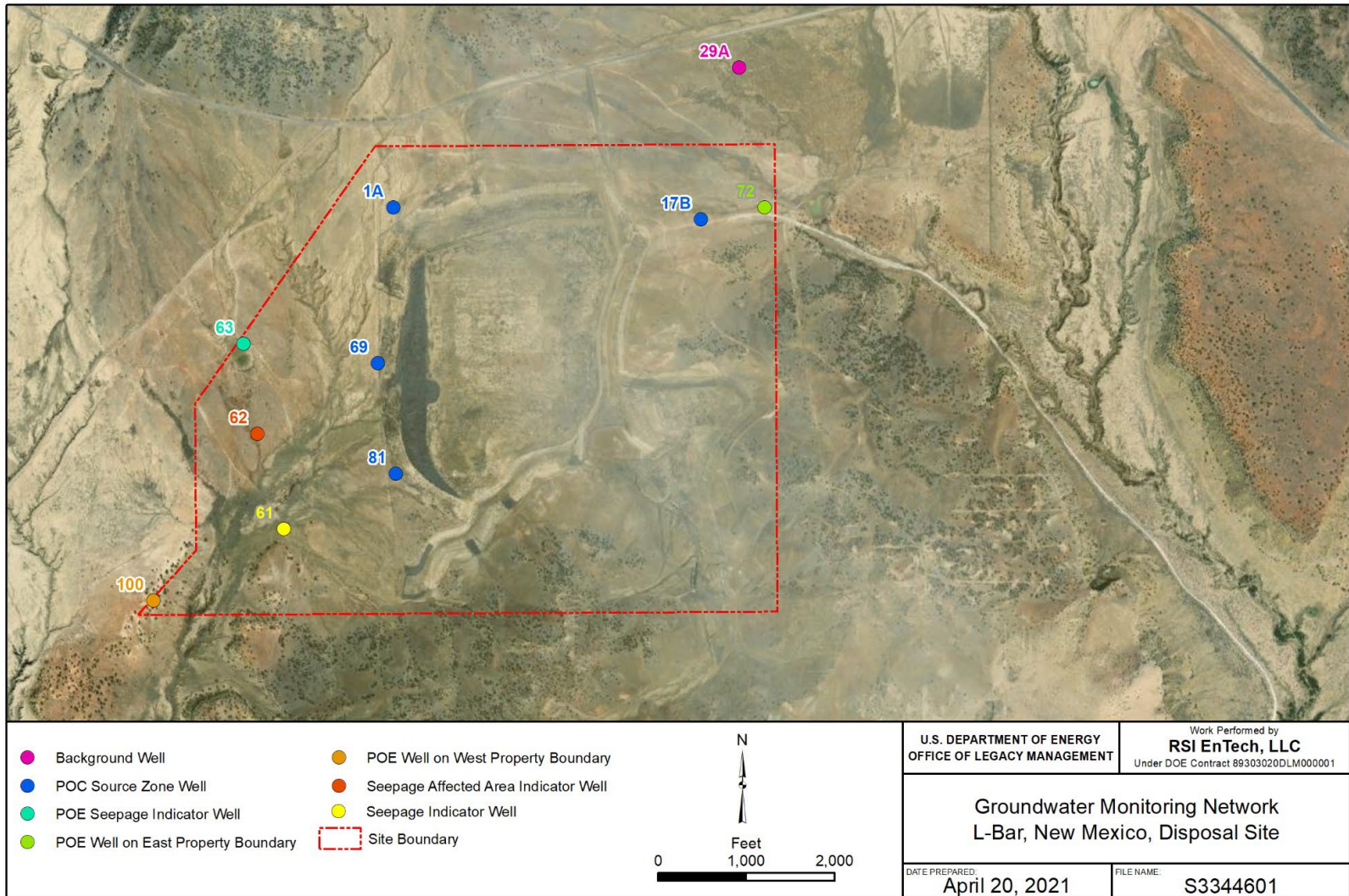
- Issues with settlement, DOE and US ACE plans to fix
- Off-site groundwater plume
- Collaboration with New Mexico and DOE



Google Earth Map Data ©2022 Google

Aerial Photo of Bluewater Site

DOE L-Bar site



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Questions?



Mount Taylor, New Mexico