



Uranium Recovery Sites in New Mexico

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Presentation Outline

- NRC's mission
- Uranium recovery sites in New Mexico
- NRC Commission meeting in Gallup, NM on April 22
- NRC working with the State on uranium recovery sites in New Mexico
- Department of Energy (DOE) uranium recovery sites



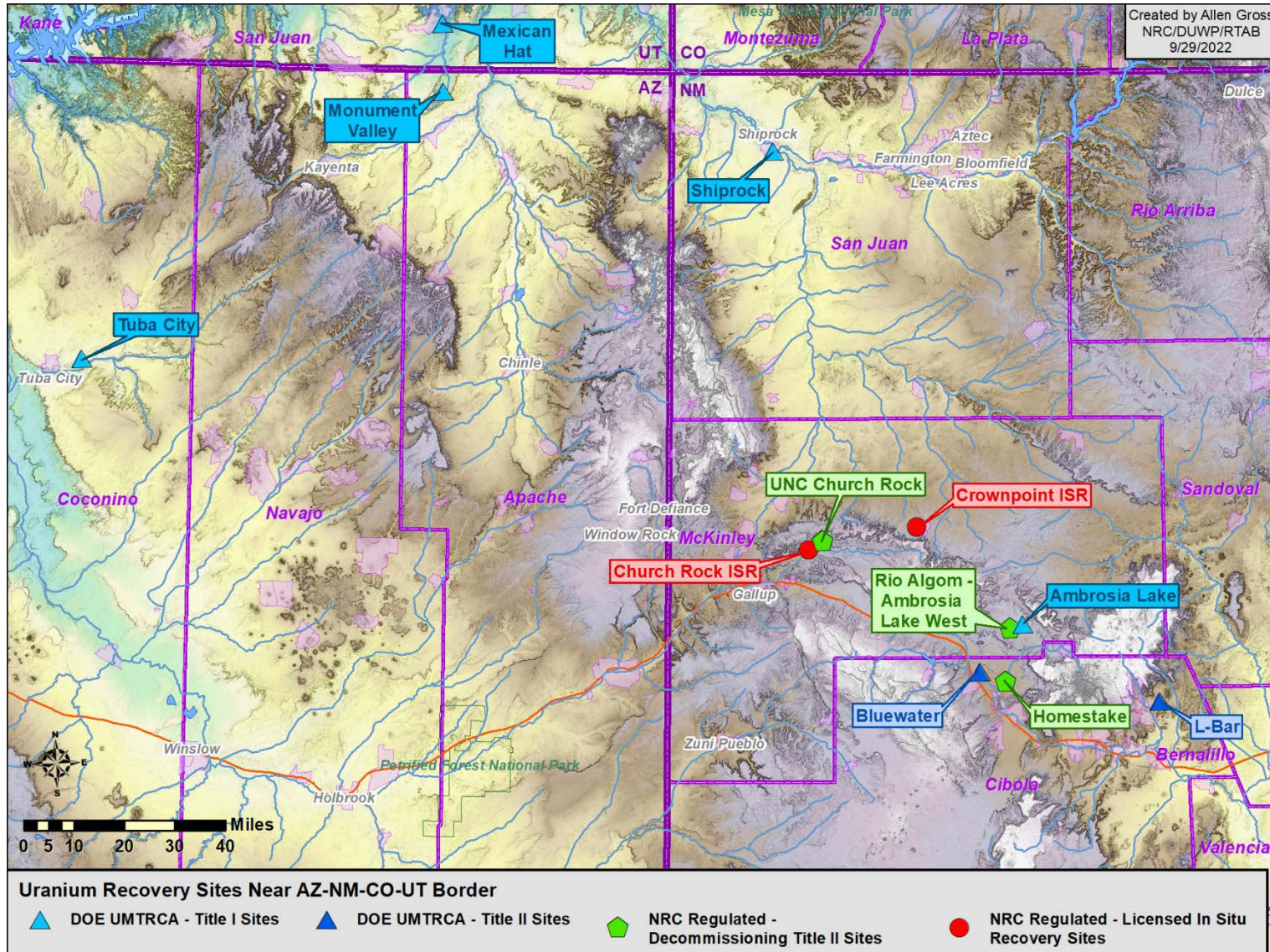
NRC's Mission

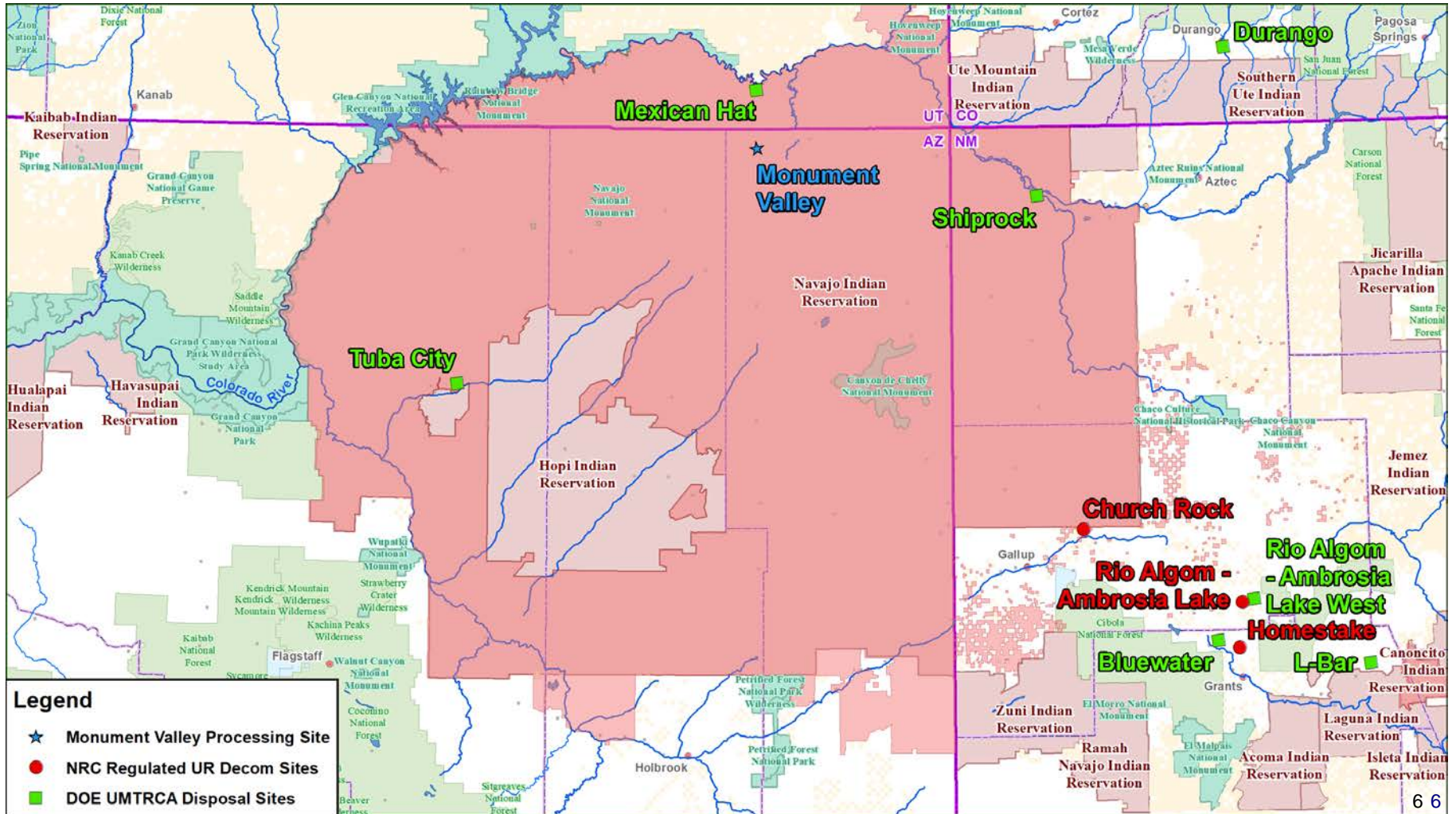
- The U.S. Nuclear Regulatory Commission (NRC) was created as an independent agency by Congress in 1974 to ensure the safe use of radioactive materials for beneficial civilian purposes while protecting people and the environment. The NRC regulates commercial nuclear power plants and other uses of nuclear materials, such as in nuclear medicine, through licensing, inspection and enforcement of its requirements.



Uranium Recovery Sites in New Mexico

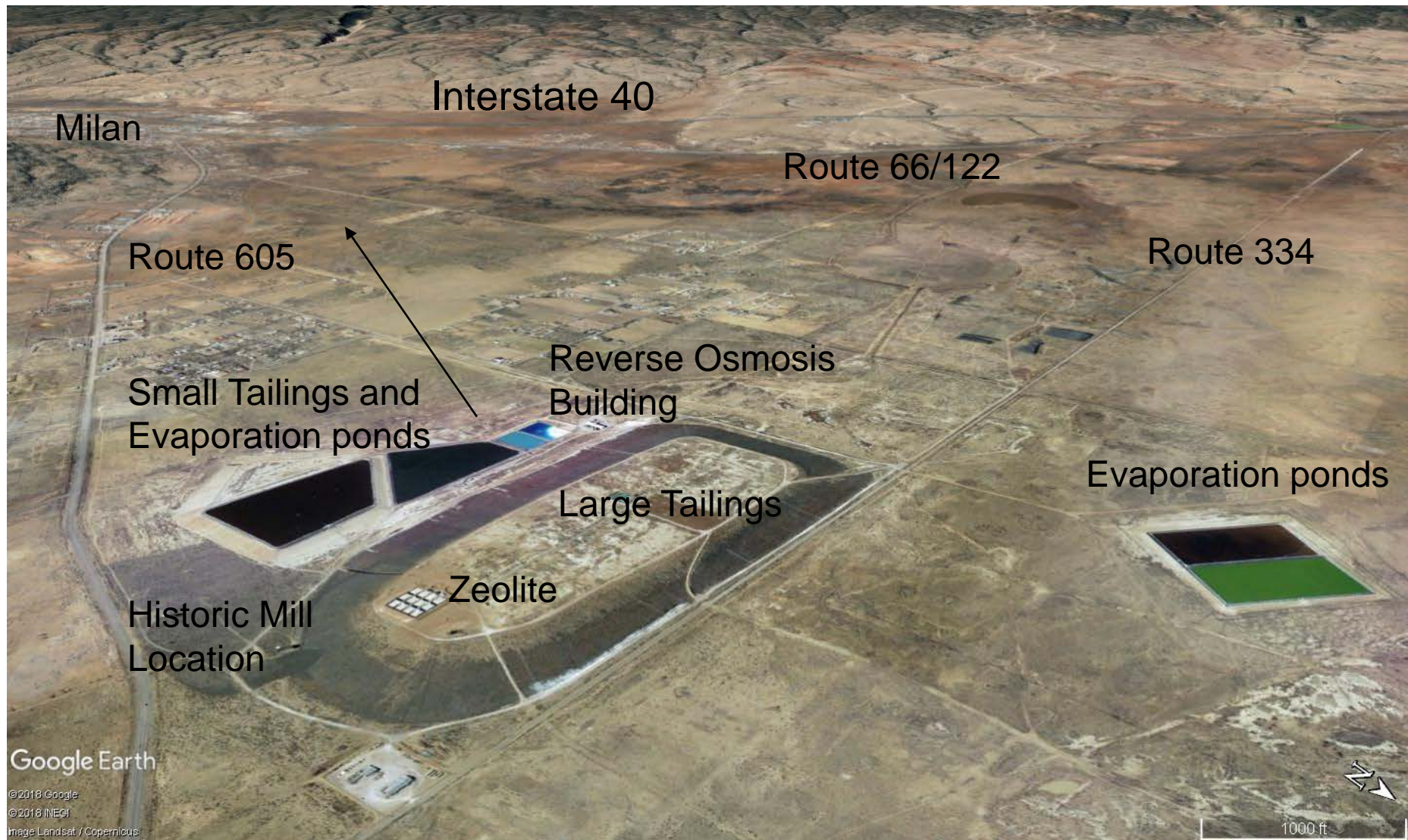
Uranium Mill sites in NM



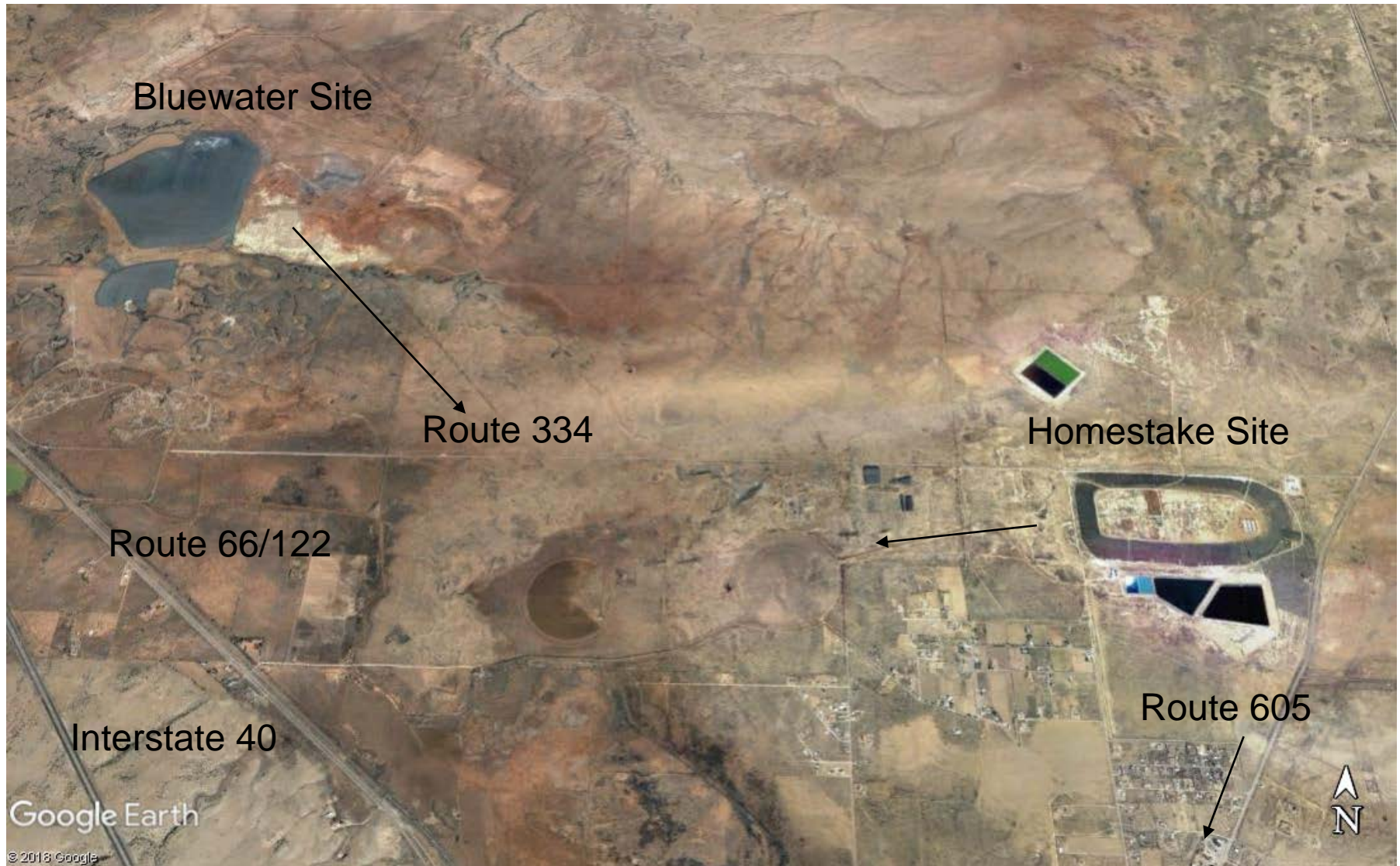


Former Uranium Mill Sites in Relation to Tribes and Pueblos

Homestake Site Grants, NM



Homestake and Bluewater Sites



Homestake Site 2022 Evaporation Ponds

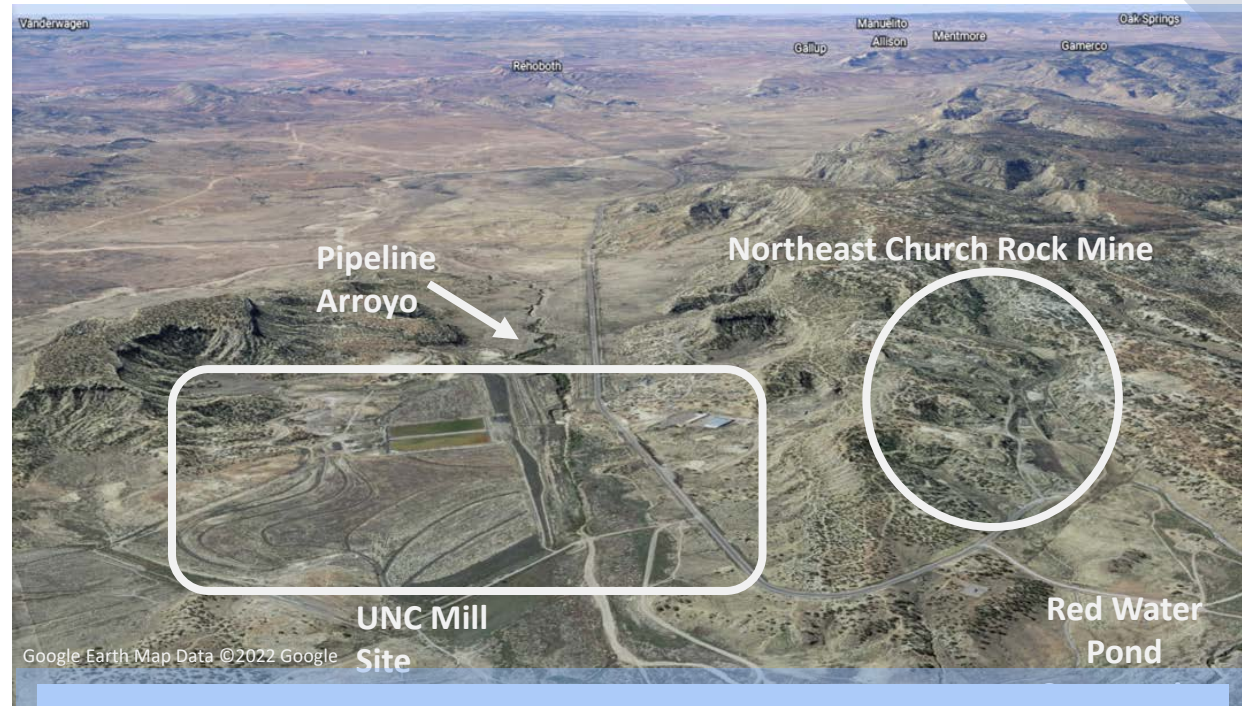


Homestake site

- 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 conducting an acceptance review.
- Large tailings pile top cover design change proposed from rock cover to evapotranspiration. NRC questions sent to Homestake on 9/28/22.
- EPA superfund site – coordination with EPA Region 6
- Coordination with the State of NM and DOE
- Monthly regulator meeting (EPA, DOE, State of NM)
- Monthly community outreach call and site status update

UNC Churchrock uranium mill tailings site

- UNC Church Rock mill tailings site
- Near Gallup, New Mexico
- Groundwater remediation
- License amendment in progress
 - Mine waste relocation
 - Improved surface water hydrology in the Pipeline Arroyo
 - licensing decision on hold



Aerial Photo of UNC Church Rock Site

UNC Churchrock site

- Conventional mill tailings site located in Churchrock, NM.
- Adjacent Northeast Churchrock uranium mine site – Number 1 Navajo priority site out of 523 abandoned uranium mines.
 - EPA led cleanup
- License amendment request to bring mine waste onto the NRC mill site:
 - Environmental Impact Statement (EIS) with consultation with Navajo Nation and coordination with the EPA, DOE, and State
 - Revised schedule due to extension of draft EIS comment period and additional outreach with Navajo Nation
 - Revised Safety Evaluation Report (SER) – on hold per Commission direction
 - Final EIS – on hold per Commission direction
 - License Amendment Decision – on hold per Commission direction

Commission Briefing April 22

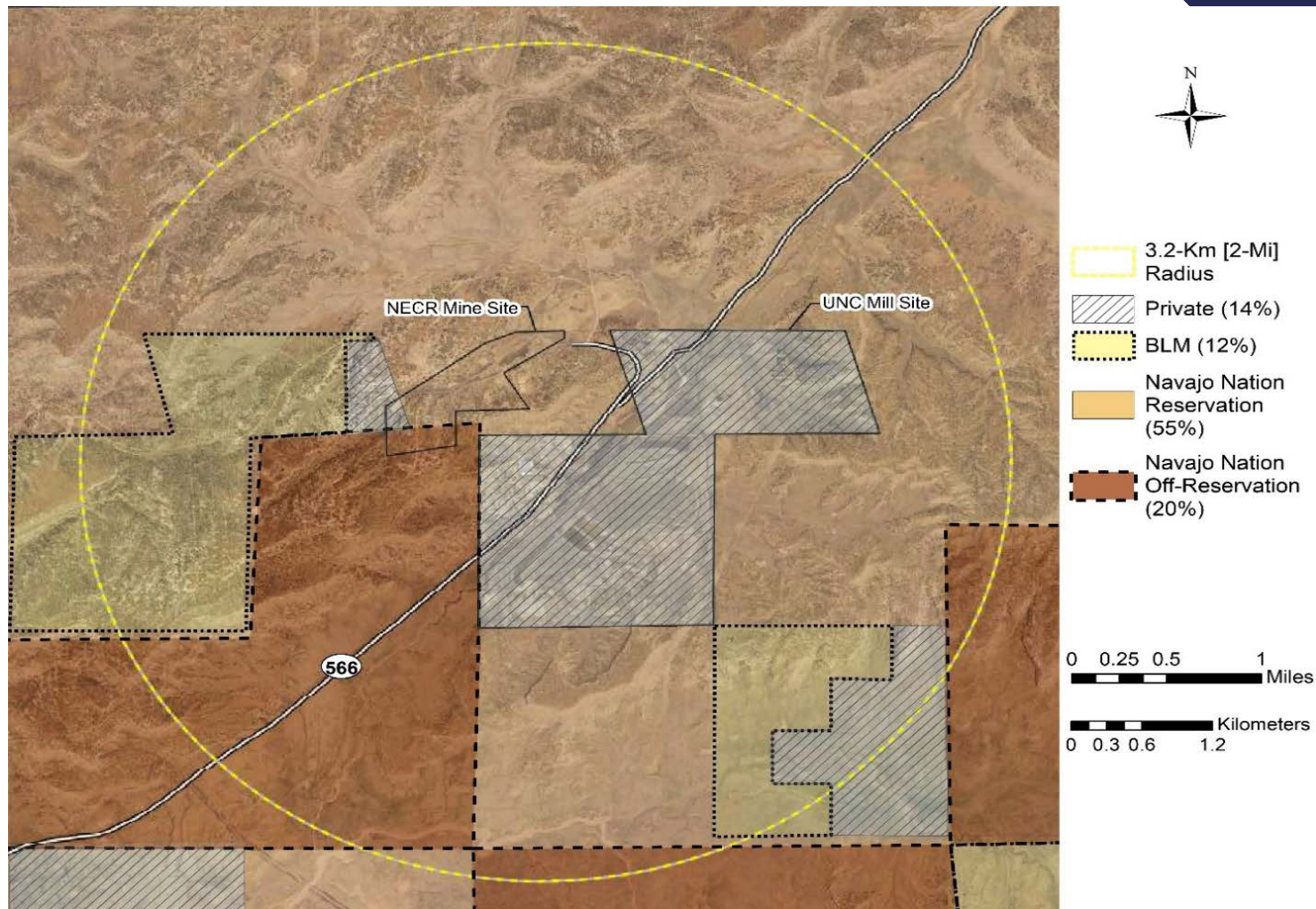
- First remote Commission briefing in decades held at Gallup, NM with a Community Meeting at a Navajo Shade House near the Churchrock site
- Discussion of the Ten-Year Plan to Address Impacts of Uranium Contamination on The Navajo Nation and Lessons Learned from the Remediation of Former Uranium Mill Sites
 - Presentations from the Navajo Nation, Navajo Community Leader, DOE, EPA, State of Washington, State of Utah, Spokane Tribe of Indians, and NRC
 - Slides – <https://www.nrc.gov/reading-rm/doc-collections/commission/slides/2022/20220422/index.html>

Commission Navajo Shade House Community Meeting



Source - Navajo Daily Times

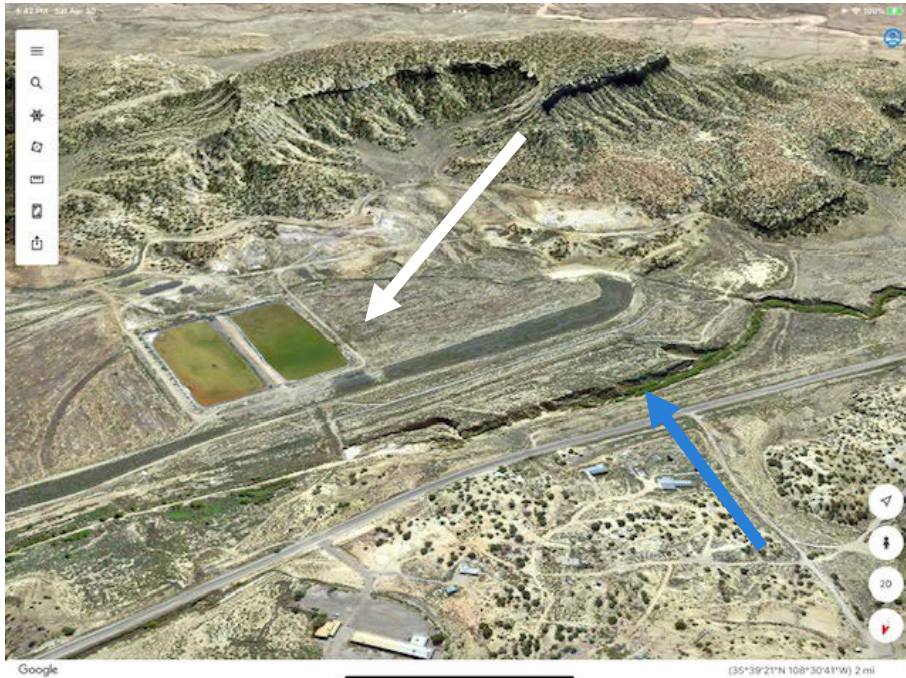
Land Ownership at Church Rock Site



UNC Churchrock site



Pipeline Arroyo



White arrow - evaporation ponds

Blue arrow - Pipeline Arroyo

Pipeline Arroyo



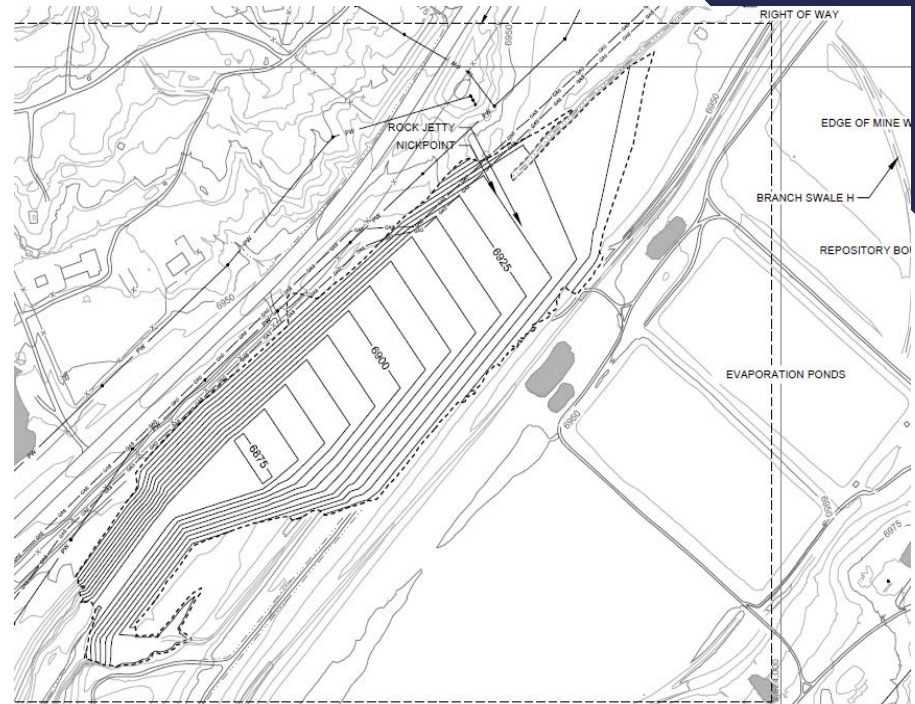
Pipeline Arroyo – looking downstream



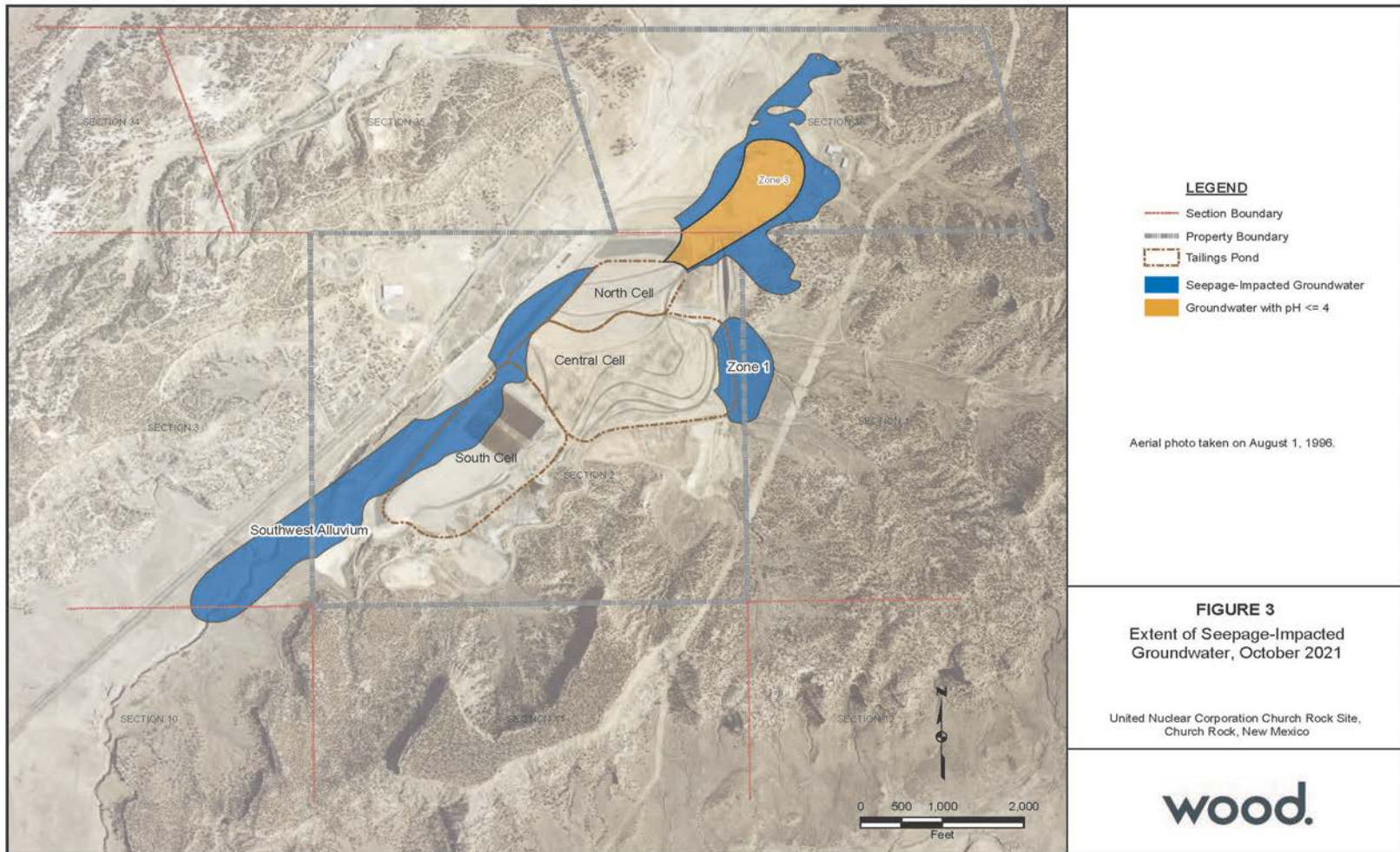
Pipeline Arroyo Improvements

Riprap Chute to Convey flow past rock outcrop

- Licensee plans to construct riprap chute
 - More than 1,000 feet long
 - Roughly 500 feet wide at max width
 - Average slope 5.3 percent (roughly a 53 foot drop over its length)
 - Median riprap diameter – 27 inches
 - Riprap placed 54 inches thick
- Convey surface runoff in a controlled manner



Church Rock Groundwater Contamination



P:\consulting\projects\19\WDC0080202.400.421_G.E. Church Rock

Rio Algom Ambrosia Lake site



Rio Algom Ambrosia Lake site



Before and After Decommissioning and Reclamation



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

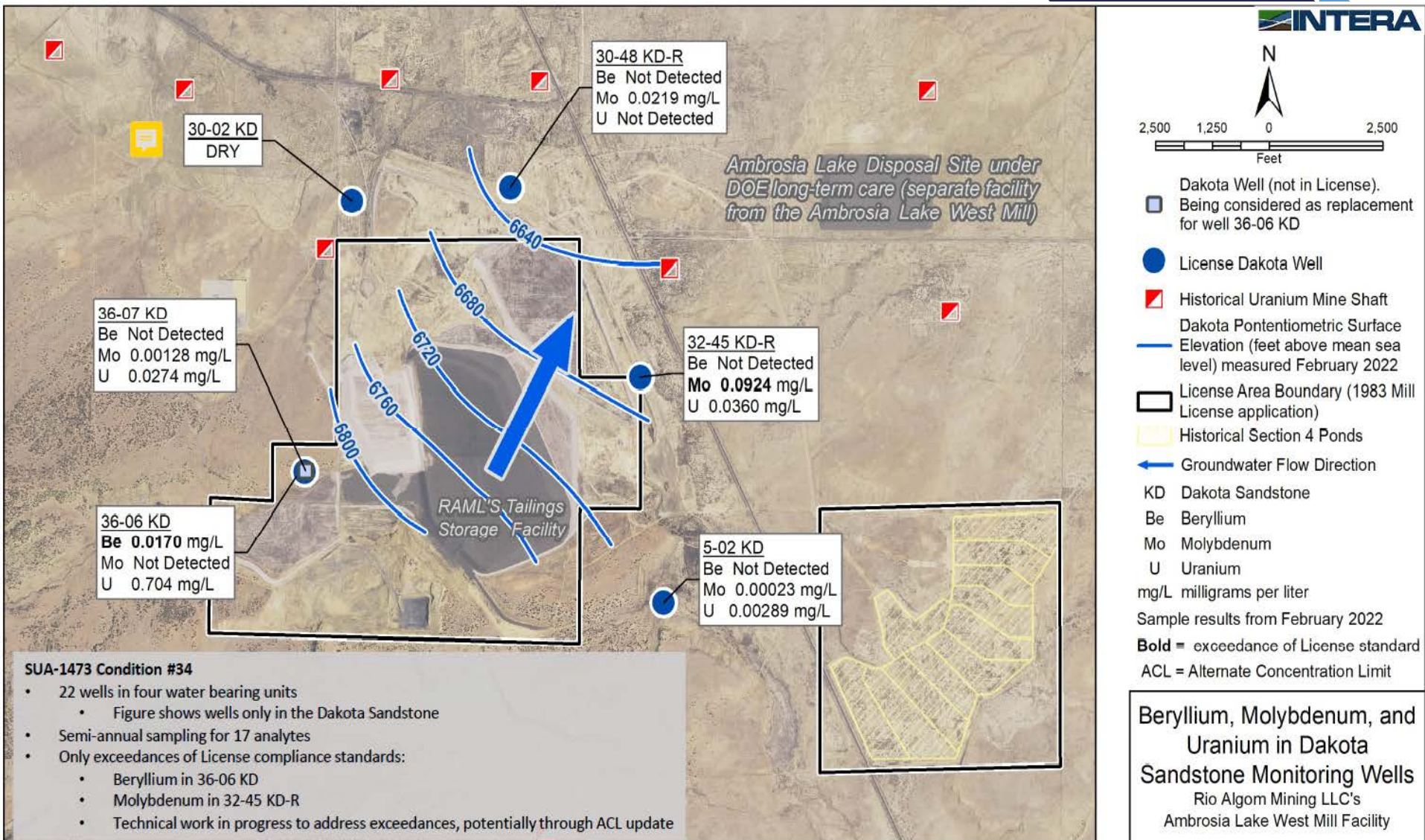




Rio Algom Ambrosia Lake site

- Conventional mill tailings site approximately 25 miles north of Grants, New Mexico.
- Windblown tailings characterization and cleanup
- Surrounding areas impacted by historical uranium mining material
- Ongoing collaboration with the EPA on comingled mine and mill windblown material
- Coordination with the State of NM and DOE
- Supplemental alternate concentration limits (ACL) license amendment request will be submitted in the future

Ambrosia Lake Groundwater Contamination



DOE long term care sites

- Bluewater (Title II)
 - Tailings settlement assessment – DOE and U.S. Army Corps of Engineers assessing up to 4-feet settlement on northern 20% portion of tailings pile (slimes portion)
 - Uranium plume assessment – DOE is working cooperatively with NM 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)
 - no issues

Bluewater Title II DOE Site

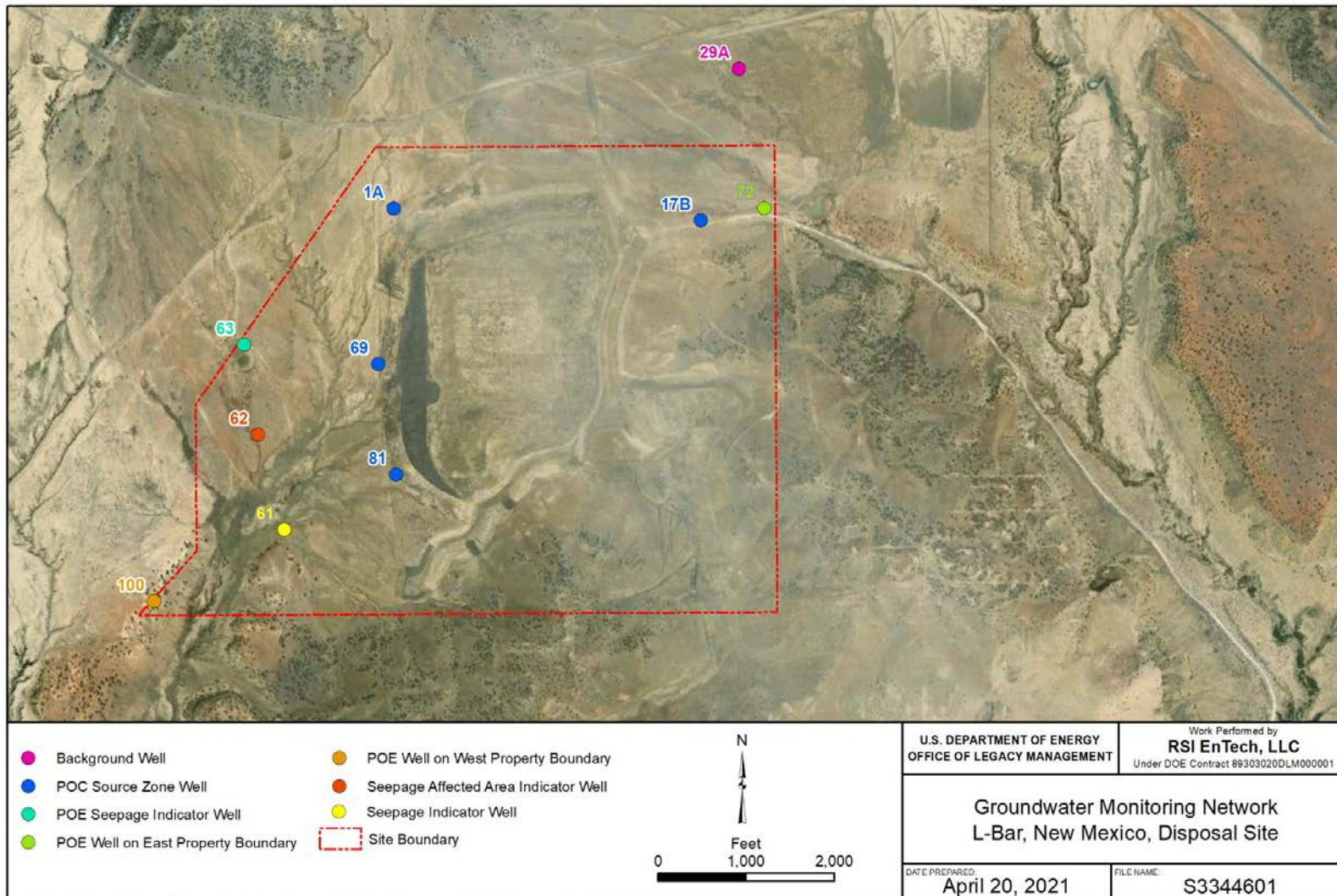
- Issues with settlement, DOE and US ACE plans to fix
- Off-site groundwater plume
- Community outreach and collaboration with New Mexico and EPA



Google Earth Map Data ©2022 Google

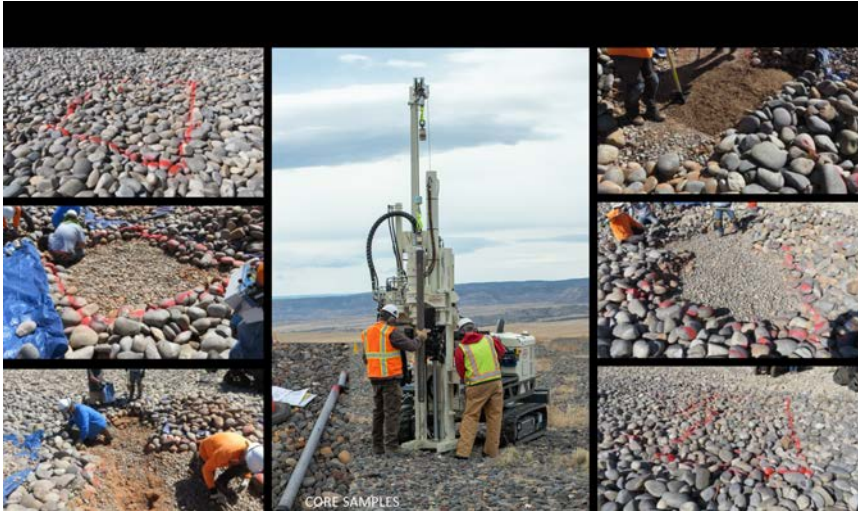
Aerial Photo of Bluewater Site

DOE L-Bar



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L-Bar erosion assessment



Questions?



Mount Taylor, New Mexico