Site Location and Facility Description

The Ambrosia Lake West uranium mill site ("the Facility") is located in McKinley County, New Mexico, about 25 miles north of the town of Grants (Figure 1). The mill was built by the Kermac Nuclear Fuels Corporation in 1957 and historically consisted of the mill site proper, uranium mill tailings ponds, and associated outlying evaporation ponds. The mill began processing uranium ore in 1958. By 1985, when the mill was placed on standby status following a drop in uranium prices, the Ambrosia Lake West mill had processed approximately 33 million tons of uranium ore.

The site was acquired by Rio Algom Mining, LLC (RAML) 2001, and remained in standby status until 2003, when RAML formally placed the site in reclamation status to reflect RAML's intent to pursue decommissioning and license termination.

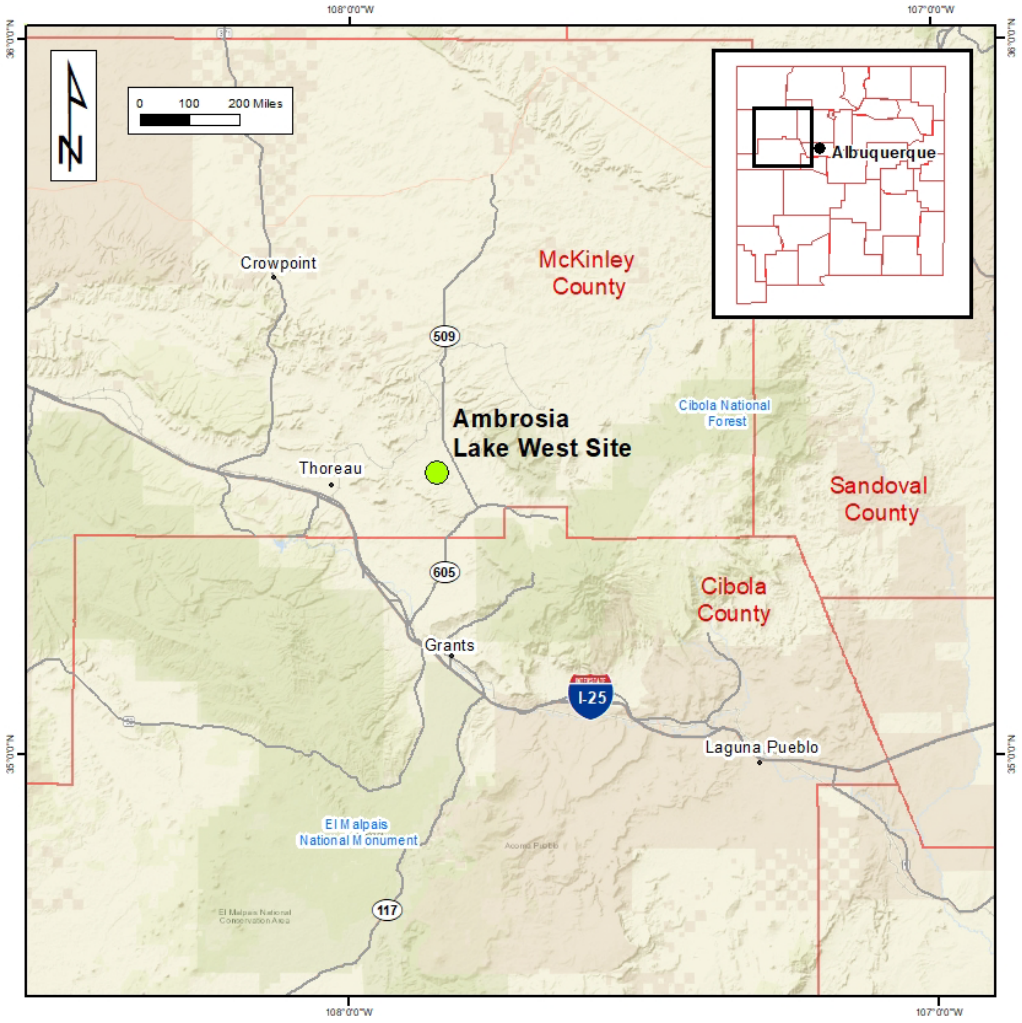

Figure 1 Map of the Ambrosia Lake area.

Surface Reclamation History

Uranium mill tailings generated during the Facility's operational period were disposed within the footprint of historical ponds 1 and 2. Disposal cell 1, which overlies historical pond 1, was completed in 1998, and contains approximately 30 million tons of uranium mill tailings covering 260 acres. Disposal cell 2, which overlies historical pond 2, was completed in 2016 and contains approximately 3 million tons of uranium mill

tailings covering 90 acres. Additionally, soil affected by windblown uranium mill tailings has been placed into disposal cell 3, which overlies historical pond 3.

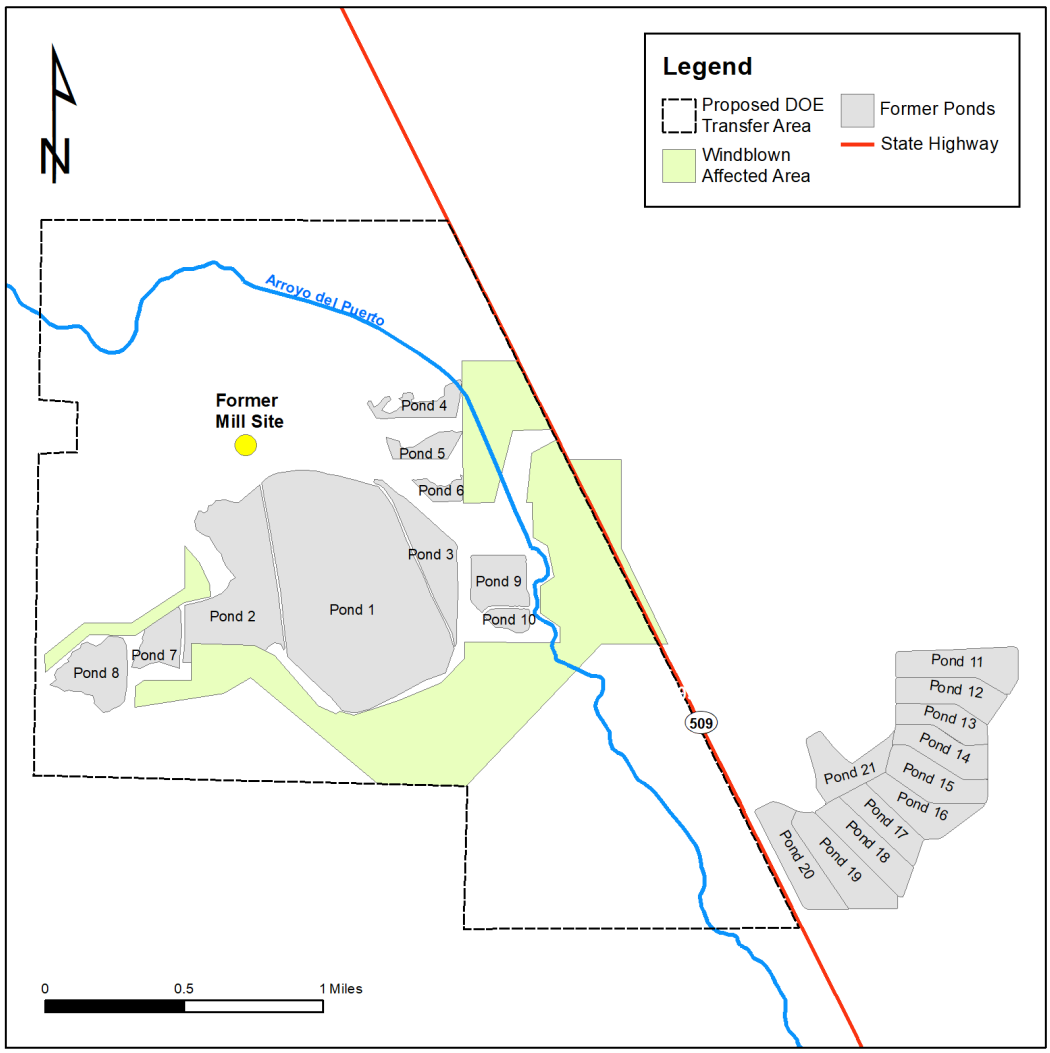

Figure 2 Major features of the former Ambrosia Lake West mill.

Former ponds 4–10 have been reclaimed using the Facility's alternate release criteria (ARC) remedy. The ARC remedy requires the application of clean fill and a rock cover within historical pond footprints to stabilize pond residues and maintain public doses at levels that are both As Low As Reasonably Achievable (ALARA) and less than the dose resulting from exposure to radionuclides at the concentrations stipulated in Criterion 6(6) of 10 CFR 40 Appendix A. The ARC remedy is only applied in parts of the Facility where it is possible to maintain permanent institutional controls.

Former ponds 11–21 have been reclaimed by the excavation and removal of pond-impacted sediment to disposal cell 2. In 2017, RAML submitted a dose assessment to NRC demonstrating that concentrations of 11e(2) byproduct material within the historical pond footprints are ALARA and would result in a dose to a hypothetical future member of the public less than that received as a result of exposure to the concentrations stipulated in Criterion 6(6) of 10 CFR 40 Appendix A. In the same 2017 submission, RAML requested a partial license termination for former ponds 11-21. NRC is currently reviewing RAML's partial license termination request.

Land adjacent to the former Ambrosia Lake West mill has also been affected by windblown tailings. The remedy for windblown-affected areas consists of excavation and removal of affected soil to disposal cell 3. Windblown remedial work has been performed intermittently since 2003 and is on-going.

Alternate Concentration Limits

The NRC approved a groundwater corrective action program for the Ambrosia Lake West mill in 1989. In 2000, RAML submitted an ACL petition for the Facility's uppermost bedrock units to NRC. Following approval of the Facility's ACLs in 2006, RAML ceased its groundwater corrective action program and began a groundwater stability monitoring program, which is on-going.

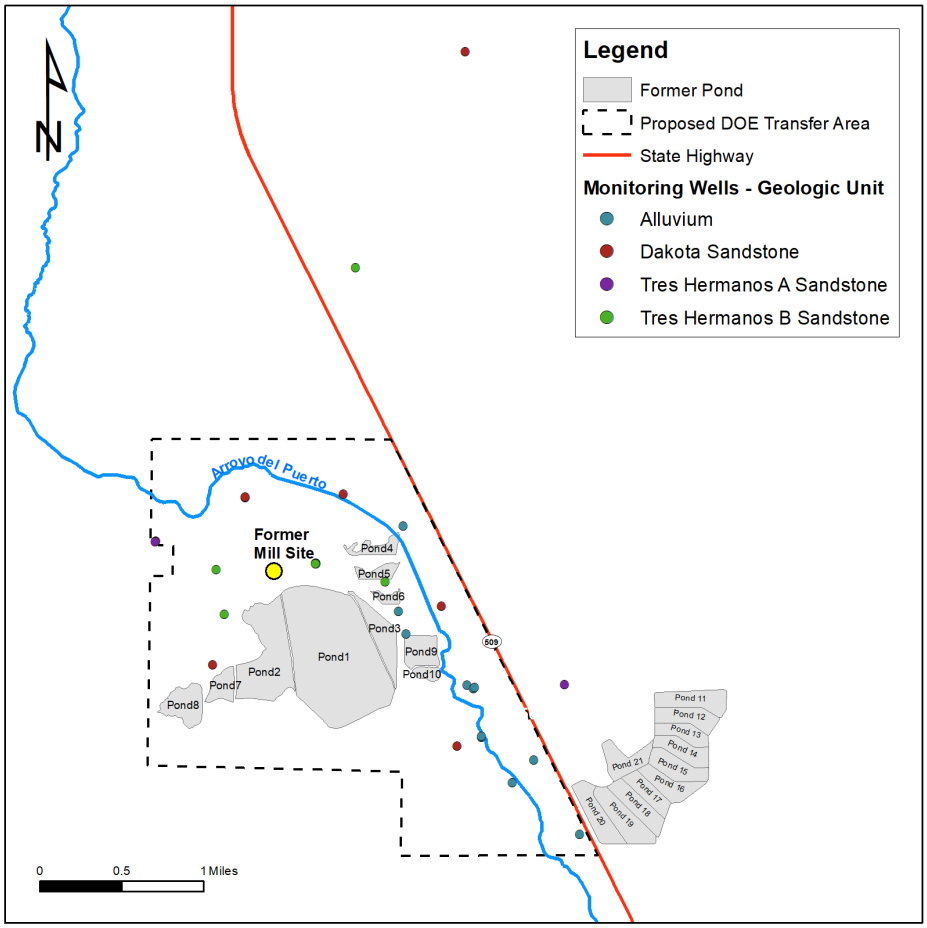

Figure 3 Monitoring well locations stipulated in the Ambrosia Lake West radioactive materials license.

Continuing Work

Additional characterization and remedial work – both on the surface and in the subsurface - is currently being performed at the Ambrosia Lake West site ahead of site transfer to the US Department of Energy under Title II of the Uranium Mill Tailings Radiation Control Act.

Additional Information

For more information about the Ambrosia Lake uranium recovery facility, visit the NRC uranium recovery website at http://www.nrc.gov/info-finder/materials/uranium/ or contact the NRC facility project manager, Tom Lancaster, at 301-415-6563 or Thomas.Lancaster@nrc.gov

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