

1.0 Introduction

1.1 Purpose and Scope

The Durango Uranium Mill Tailings Remedial Action (UMTRA) Project site is a former uranium-ore processing site located near the city of Durango, Colorado. The former processing site consists of two geographically contiguous, but hydrogeologically separate, areas: the mill tailings area and the raffinate ponds area. Both areas are located on the west bank of the Animas River immediately southwest of the intersection of U.S. Highways 160 and 550, southwest of the city of Durango, in La Plata County, Colorado (Figure 1–1 and Plate 1).

The U.S. Department of Energy (DOE) completed surface remediation of abandoned uranium mill tailings and other contaminated surface residual radioactive material (RRM) associated with the former milling operation at the site by relocating the materials to the Bodo Canyon disposal cell, approximately 1.5 miles southwest of the Durango processing site. Surface remedial action began in November 1986 and was completed in May 1991. After the tailings piles and contaminated soils were removed, the mill tailings and the raffinate ponds surface areas were contoured and reseeded with native grasses.

DOE's goal is to implement a cost-effective ground water compliance strategy that is protective of human health and the environment. This Site Observational Work Plan (SOWP) documents the site-specific strategy that will allow DOE to comply with U.S. Environmental Protection Agency (EPA) ground water standards at the Durango site and provides a mechanism for stakeholder participation, review, and acceptance of the recommended remedial alternative. The SOWP is based on UMTRA Project programmatic documents mentioned in Section 1.2.

Compliance requirements for meeting the regulatory standards at the Durango site are presented in Section 2.0. Site background information, including an overview and history of the former milling operation and current water and land use, is reviewed in Section 3.0. Results of field investigations conducted at the site are presented in Section 4.0. Site-specific characterization of the geology, hydrology, and geochemistry are synthesized in the site conceptual model in Section 5.0. Potential human health and ecological risks associated with ground water contamination are summarized in Section 6.0, and the proposed compliance strategy to clean up the ground water is presented in Section 7.0.

1.2 UMTRA Project Programmatic Documents

Programmatic documents that guide preparation of the SOWP include the *UMTRA Ground Water Management Action Process* (MAP) (DOE 2001a), the *Final Programmatic Environmental Impact Statement for the Uranium Mill Tailings Remedial Action Ground Water Project* (PEIS) (DOE 1996), and the *Technical Approach to Groundwater Restoration* (TAGR) (DOE 1993a). The MAP states the mission and objectives of the UMTRA Ground Water Project and provides a technical and management approach for conducting the project. The PEIS is the programmatic decision-making framework for conducting the UMTRA Ground Water Project. DOE will follow PEIS guidelines to assess the potential programmatic impacts of the Ground Water Project, to determine site-specific ground water compliance strategies, and to prepare site-specific environmental impact analyses more efficiently. Technical guidelines for conducting the ground water program are presented in the TAGR.

Relationship to Site-Specific Documents

The surface Remedial Action Plan (RAP) (DOE 1991) provides early site characterization information. This information has been updated in developing this SOWP to strengthen the site conceptual model. After a ground water compliance strategy is selected for this site, a Ground Water Compliance Action Plan (GCAP) will be prepared to document the remediation decision. The GCAP will be the concurrence document for compliance with Subpart B of 40 CFR 192 for the Durango uranium-ore processing site and will provide details of the required ground water monitoring program.

A baseline risk assessment (BLRA) (DOE 1995a) was prepared that identified potential public health and environmental risks at the site. Potential risks identified in the risk assessment are considered and updated in this SOWP to ensure that the proposed compliance strategy is protective of human health and the environment.

After a proposed compliance strategy is identified in the SOWP and described in the GCAP, a site-specific National Environmental Policy Act (NEPA) document (e.g., environmental assessment [EA]) will be prepared to evaluate any potential effects of implementing the proposed compliance strategy.

Since most of the contaminated materials and RRM were removed from the processing site and stabilized off site, the Long-Term Surveillance Plan (LTSP) required as part of the licensing agreement for disposal sites is not applicable. When DOE relocated RRM, the original processing site was cleaned up to meet EPA standards. The U.S. Nuclear Regulatory Commission (NRC) did not license the processing site or require an LTSP (Statements of Consideration for 10 CFR 40, April 30, 1992). In lieu of the LTSP, DOE will prepare a Long-Term Management Plan (LTMP), which also will contain information on ground water monitoring and specify all other long-term surveillance activities and reporting requirements necessary for the site. The LTMP will be a stand-alone document to guide long-term surveillance activities at the Durango processing site.

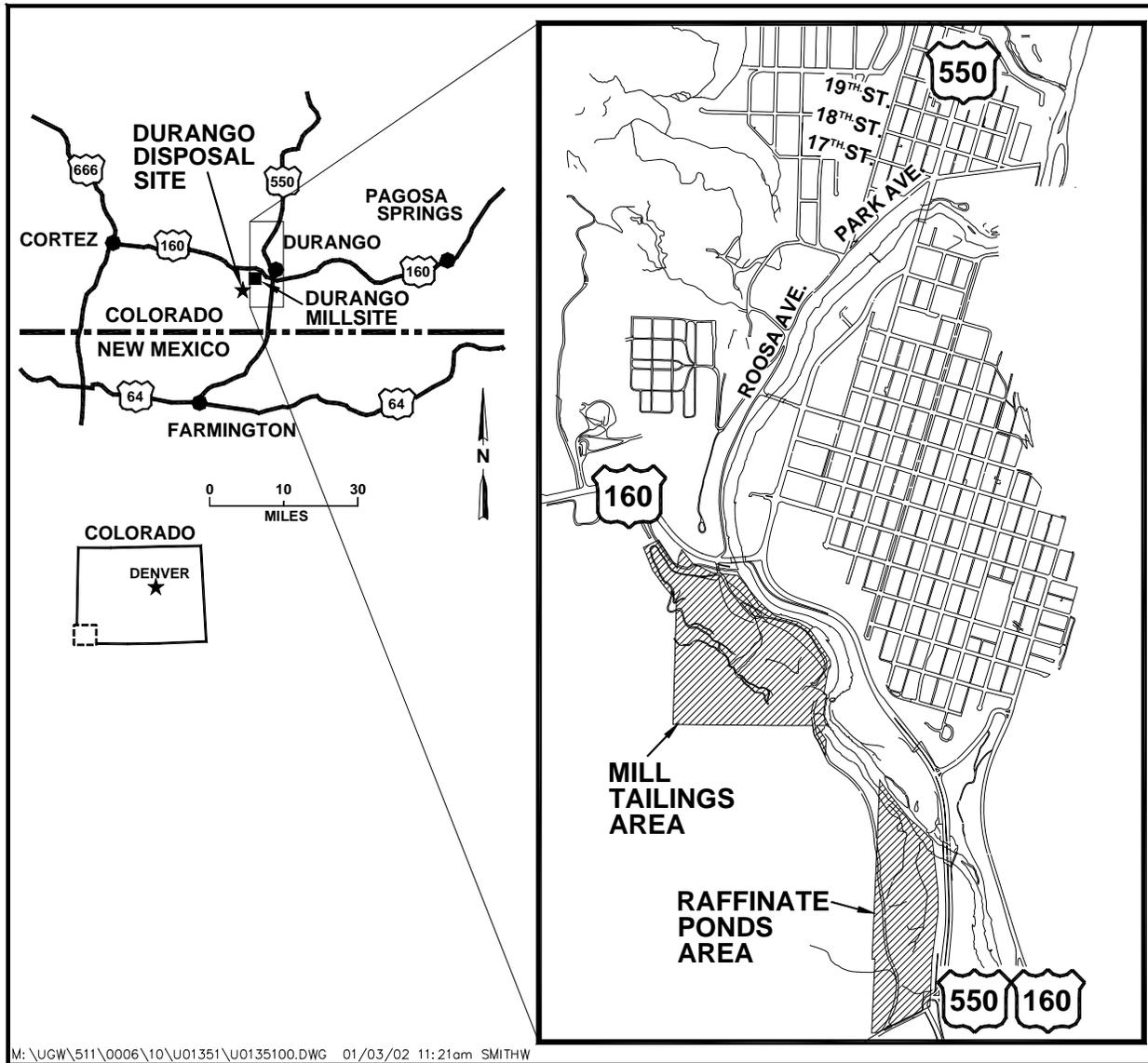


Figure 1-1. Site Location

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