

17.0 Slick Rock, Colorado, Disposal Site

17.1 Compliance Summary

The Slick Rock, Colorado, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I Disposal Site (site) was inspected on May 20, 2020. No changes were observed on the disposal cell or in the associated drainage features. Inspectors identified several routine maintenance needs but found no cause for a follow-up or contingency inspection. Groundwater monitoring is not required.

17.2 Compliance Requirements

Requirements for long-term surveillance and maintenance of the site are specified in the site-specific Long-Term Surveillance Plan (LTSP) (DOE 1998) in accordance with procedures established to comply with the requirements of the U.S. Nuclear Regulatory Commission (NRC) general license at Title 10 *Code of Federal Regulations* Section 40.27 (10 CFR 40.27). Table 17-1 lists these requirements.

Table 17-1. License Requirements for the Slick Rock, Colorado, Disposal Site

Requirement	LTSP	This Report	10 CFR 40.27
Annual Inspection and Report	Sections 3.0 and 6.2	Section 17.4	(b)(3)
Follow-Up Inspections	Section 3.4	Section 17.5	(b)(4)
Maintenance and Repairs	Section 4.0	Section 17.6	(b)(5)
Groundwater Monitoring	Section 2.5	Section 17.7	(b)(2)
Corrective Action	Section 5.0	Section 17.8	--

17.3 Institutional Controls

The 62-acre site, defined by the property boundary shown in Figure 17-1, is owned by the United States and was accepted under the NRC general license in 1998. The U.S. Department of Energy (DOE) is the licensee and, in accordance with requirements for UMTRCA Title I sites, is responsible for the custody and long-term care of the site. Institutional controls (ICs) at the site include federal ownership of the property, administrative controls, and the following physical ICs that are inspected annually: the disposal cell and associated drainage features, entrance gate and sign, perimeter fence and signs, site markers, and survey and boundary monuments.

17.4 Inspection Results

The site, 5 miles northeast of Slick Rock, Colorado, was inspected on May 20, 2020. The inspection was conducted by D. Marshall, D. Miller, and K. Meadows of the Legacy Management Support contractor. The purposes of the inspection were to confirm the integrity of visible features at the site, identify changes in conditions that might affect conformance with the LTSP, and evaluate the need, if any, for maintenance or additional inspection and monitoring.

17.4.1 Site Surveillance Features

Figure 17-1 shows the locations of site features in black and gray font, including site surveillance features and inspection areas. Site features that are present but not required to be inspected are shown in italic font. Observations from previous inspections that are currently monitored are shown in blue text, and new observations identified during the 2020 annual inspection are shown in red. Inspection results and recommended maintenance activities associated with site surveillance features are described in the following subsections. Photographs to support specific observations are identified in the text and in Figure 17-1 by photograph location (PL) numbers. The photographs and photograph log are presented in Section 17.10.

17.4.1.1 Entrance Gate and Sign

Access to the site is from San Miguel County Road T11. Entrance to the site is through a chained and locked gate. The wire entrance gate was locked and is worn but remains functional. The entrance sign is next to the gate (PL-1). No maintenance needs were identified.

17.4.1.2 Perimeter Fence and Signs

A four-strand barbed-wire perimeter fence encloses the disposal cell, drainage structures, and much of the site. The top and bottom strands are smooth wire to allow wildlife to pass over and under, and the middle two strands are barbed wire. A T-post along the northeast perimeter fence identified in the 2019 inspection was repaired.

There are 32 perimeter signs, attached to steel posts set in concrete, positioned along the property boundary; they are set back 5 feet (ft) and cut in at the southwest corner. Some cracking of the printed overlay is beginning to appear on several signs, and several signs still display bullet damage, but all remain legible. The concrete bases on perimeter signs P14 and P15 are slightly undercut by erosion but remain stable. No other maintenance needs were identified.

17.4.1.3 Site Markers

The site has two granite site markers. Site marker SMK-1 is just inside the entrance gate, and site marker SMK-2 is on top of the disposal cell (PL-2). Erosion near site marker SMK-1 is being monitored and will be repaired if it threatens the integrity of the marker. No immediate maintenance needs were identified.

17.4.1.4 Survey and Boundary Monuments

The site has three survey monuments. Survey monument SM-2 was set in a low area and is frequently covered by several inches of soil. A T-post and rocks have been placed next to the monument to assist in locating this feature. Six boundary monuments delineate the corners of the site boundary (PL-3). Boundary monument BM-5 is difficult to locate. A T-post was installed for ease of location after the inspection. No other maintenance needs were identified.

17.4.1.5 Aerial Survey Quality Control Monuments

Aerial survey quality control monuments are planned to be installed before the next inspection.

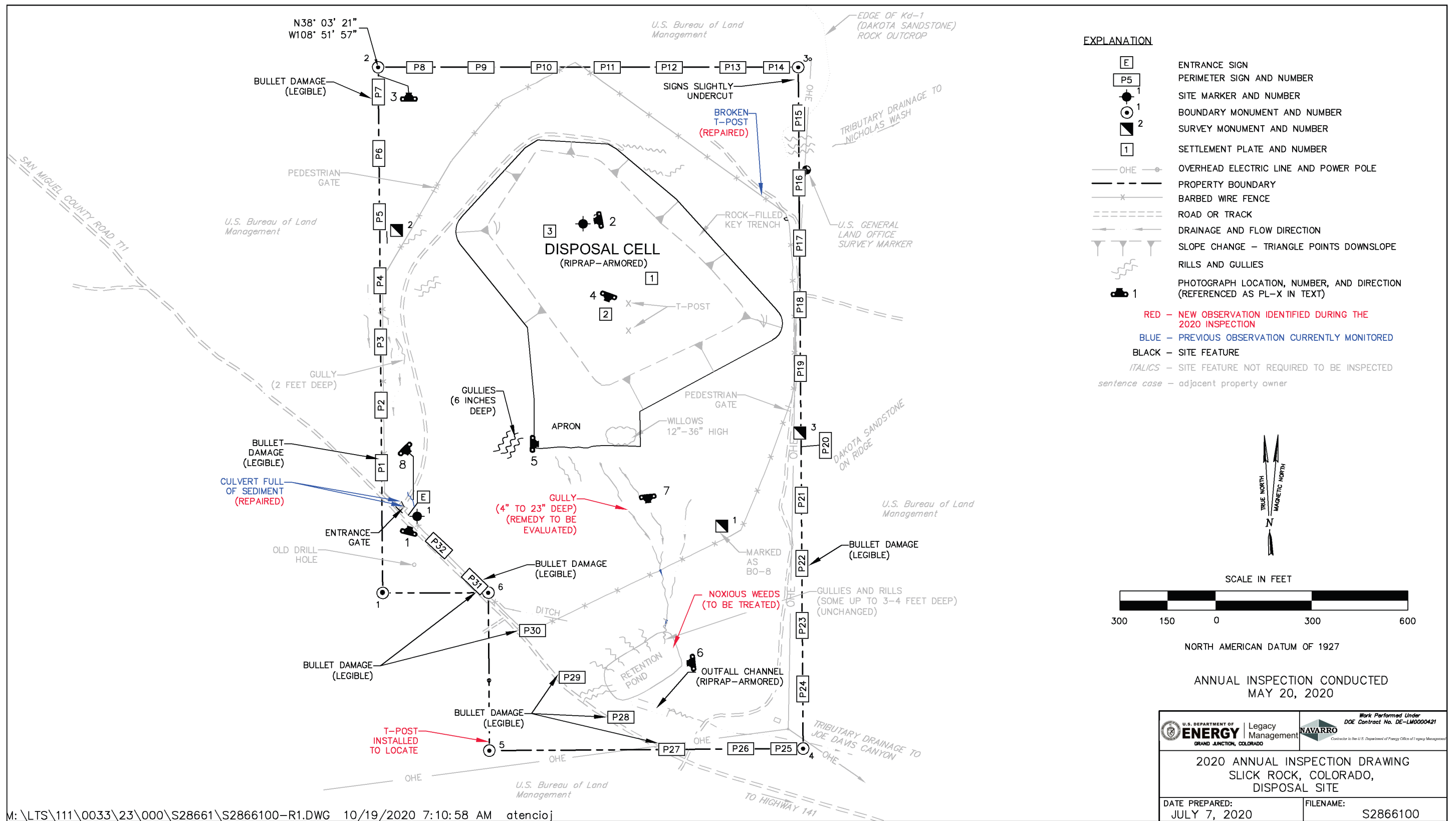


Figure 17-1. 2020 Annual Inspection Drawing for the Slick Rock, Colorado, Disposal Site

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17.4.2 Inspection Areas

In accordance with the LTSP, the site is divided into three inspection areas to ensure a thorough and efficient inspection. The inspection areas are (1) the disposal cell, including side slopes, key trench, and apron; (2) the area between the disposal cell and the site boundary; and (3) the outlying area. Inspectors examined specific site surveillance features within each area and looked for evidence of erosion, settling, slumping, or other modifying processes that might affect the site's conformance with LTSP requirements.

17.4.2.1 Disposal Cell, Key Trench, and Apron

The disposal cell, completed in 1996, occupies 12.9 acres and is armored with riprap, consisting of rounded, cobble-sized river rock to control erosion and deter animal and human intrusion (PL-4). The inspection found no evidence of erosion, settling, slumping, rock degradation, or other modifying processes that might affect the integrity of the disposal cell. No other maintenance needs were identified.

At the toe of the disposal cell side slopes is a key trench that encloses the disposal cell. The key trench, designed to convey stormwater runoff away from the disposal cell, is as much as 5 ft deep and 20 ft wide and filled with rock. Stormwater runoff from the key trench discharges to an apron at the south (downslope) corner of the disposal cell. The apron extends 50 to 200 ft beyond the key trench. The key trench and apron are covered with rounded cobble- and pebble-sized river rock. Willow brush (a deep-rooted species) is growing on a portion of the apron but is not considered to be detrimental to the integrity of the disposal cell (PL-5). No other maintenance needs were identified.

17.4.2.2 Area Between the Disposal Cell and the Site Boundary

The area around the disposal cell includes the retention pond. Surface drainage from the disposal cell flows south from the apron into the retention pond, which is constructed in a channel tributary to Joe Davis Canyon. An outflow channel below the pond is lined with rounded riprap for a short distance. The pond was dry at the time of inspection (PL-6).

The site was originally graded for sheet flow from the apron to the retention pond. Rills have been developing since 1998 on the northwest side of the retention pond and now are 3 ft deep or deeper adjacent to the pond and shallower farther upslope. Most of the rills are stabilizing. One gully identified in an earlier inspection appears to have deepened (PL-7). Stabilization options will be evaluated before the next inspection. No other maintenance needs were identified.

Erosion rills and gullies are present in several other areas of the site but do not affect the disposal cell or any site features. Vegetation in the reclaimed areas was healthy. Noxious weeds are controlled to comply with State of Colorado and San Miguel County requirements. Noxious weeds were identified growing on the east side of the retention pond area and will be treated before the next inspection.

The two occluded culverts identified in the 2019 inspection were cleaned out following the inspection (PL-8). No other maintenance needs were identified.

17.4.2.3 Outlying Area

The area beyond the site boundary for a distance of 0.25 mile was visually observed for erosion, changes in land use, or other phenomena that might affect the long-term integrity of the site. No such impacts were observed. The natural, undisturbed areas outside the site support grass and scattered pinyon and juniper trees. Steep hillsides north and northeast of the site slope eastward into Nicholas Wash. The primary land use is grazing. The areas north and northeast of the site also are routinely used for firewood cutting and recreation, such as hunting and off-road use by all-terrain vehicles.

17.5 Follow-Up Inspections

LM will conduct follow-up inspections if (1) a condition is identified during the annual inspection or other site visit that requires a return to the site to evaluate the condition or (2) a citizen or outside agency notifies LM that conditions at the site are substantially changed. No need for a follow-up inspection was identified.

17.6 Maintenance and Repairs

The installation of a T-post at boundary monument BM-5 for ease of location was completed following the inspection.

Inspectors documented minor maintenance needs that will be completed before the next inspection. They include:

- Treatment of noxious weeds growing near the retention pond.
- Evaluation of stabilization options to address the growing erosional gully between the disposal cell apron and retention pond.

17.7 Groundwater Monitoring

In accordance with the LTSP, groundwater monitoring at this site is not required. Groundwater at the site qualifies for supplemental standards because it is designated as limited use, a designation given to groundwater that is not a current or potential source of drinking water. Groundwater in the uppermost aquifer is designated as limited use because of low yield. The aquifer does not yield enough water to be used for beneficial purposes; with no complete exposure pathways at the site, monitoring is not required. All monitoring wells were abandoned in 2001, and the standpipes in the disposal cell were abandoned in 2002.

17.8 Corrective Action

In accordance with the LTSP, corrective action is taken to correct conditions that threaten the integrity of the disposal cell or compliance with 40 CFR 192. No need for corrective action was identified.

17.9 References

10 CFR 40.27. U.S. Nuclear Regulatory Commission, "General License for Custody and Long-Term Care of Residual Radioactive Material Disposal Sites," *Code of Federal Regulations*.

40 CFR 192. U.S. Environmental Protection Agency, "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings," *Code of Federal Regulations*.

DOE (U.S. Department of Energy), 1998. *Long-Term Surveillance Plan for the Burro Canyon Disposal Cell, Slick Rock, Colorado*, DOE/AL/62350-236, Rev. 0, Ver. 4, May.

17.10 Photographs

Photograph Location Number	Azimuth	Photograph Description
PL-1	15	Entrance Sign
PL-2	260	Site Marker SMK-2
PL-3	—	Boundary Monument BM-2
PL-4	200	Settlement Plate on Disposal Cell
PL-5	90	Willows on Disposal Cell Toe
PL-6	265	Retention Pond
PL-7	175	Erosional Gully
PL-8	135	Cleaned-Out Culvert

Note:

— = Photograph taken vertically from above.



PL-1. Entrance Sign



PL-2. Site Marker SMK-2



PL-3. Boundary Monument BM-2



PL-4. Settlement Plate on Disposal Cell



PL-5. Willows on Disposal Cell Toe



PL-6. Retention Pond



PL-7. Deep Erosional Gully



PL-8. Cleaned-Out Culvert

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