17.0 Annual Inspection of the Slick Rock, Colorado, UMTRCA Title I Disposal Site

17.1 Compliance Summary

The Slick Rock, Colorado, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I Disposal Site was inspected on May 15, 2012, and was in good condition. The rock-covered top and side slopes of the disposal cell are in excellent condition. The site access road, entrance gate, fence, and site markers were in good to excellent condition; however, survey monument 2, northwest of the disposal cell, could not be located. During the 2011 inspection, most of the boundary monuments and survey monuments were not inspected due to inclement weather. There is a possibility the monument was missing before last year's inspection. The site was revisited with a GPS unit in July to determine the location of the missing monument. There are several minor erosional features on the site that have not increased in size since the last inspection, and there are active rills in areas west and south of the cell that continue to develop. Preexisting rills and gullies were inspected near perimeter signs P2, P3, and P5. Other rills occur southeast of the disposal cell and north of the retention pond. However, due to their locations, none of these erosional features pose a hazard to the disposal cell or are cause for concern. They will continue to be monitored. No maintenance needs or cause for a follow-up or contingency inspection was identified.

Numbers in the left margin of this report refer to items summarized in the "Executive Summary" table.

17.2 Inspection Requirements

Requirements for the long-term surveillance and maintenance of the site are specified in the *Long-Term Surveillance Plan for the Burro Canyon Disposal Cell, Slick Rock, Colorado* (DOE/AL/62350–236, Rev. 0, U.S. Department of Energy [DOE], May 1998; LTSP) and in procedures established by DOE to comply with the requirements of Title 10 *Code of Federal Regulations* Part 40.27 (10 CFR 40.27). Table 17−1 lists these requirements.

Table 17–1. License Requirements for the Slick Rock Disposal Site

Requirement	Long-Term Surveillance Plan	This Report
Annual Inspection and Report	Sections 3.0 and 6.2	Section 17.4
Follow-Up or Contingency Inspections	Section 3.4	Section 17.5
Routine Maintenance and Repairs	Section 4.0	Section 17.6
Groundwater Monitoring	Sections 2.5 and 2.6	Section 17.7.1
Corrective Action	Section 5.0	Section 17.8

17.3 Institutional Controls

The 62-acre site is owned by the United States of America and was accepted under the U.S. Nuclear Regulatory Commission general license (10 CFR 40.27) in 1998. DOE is the licensee and, in accordance with the requirements for UMTRCA Title I sites, is responsible for the custody and long-term care of the site. Institutional controls at the site include federal ownership of the property and the following features that are inspected annually: site markers,

survey and boundary monuments, warning/no-trespassing signs, a site perimeter fence, and a locked gate at the site entrance.

17.4 Inspection Results

The site, northeast of Slick Rock, Colorado, was inspected on May 15, 2012. D. Traub and L. Sheader of the S.M. Stoller Corporation, the Legacy Management Support contractor at the DOE office in Grand Junction, Colorado, performed the inspection. J. Nguyen, the DOE Office of Legacy Management site manager, and M. Cosby of the Colorado Department of Public Health and Environment accompanied the inspectors.

The purposes of the inspection were to confirm the integrity of visible features at the site, to identify changes in conditions that may affect site integrity, and to determine the need, if any, for maintenance or additional inspections and monitoring.

17.4.1 Site Surveillance Features

The locations of site surveillance features are shown on Figure 17−1. Inspection results and recommended maintenance activities associated with site surveillance features are included in the following subsections. Photographs to support specific observations are identified in the text and on the Figure 17−1 by photograph location (PL) numbers.

17.4.1.1 Entrance Gates, Entrance Signs, and Access Road

Site access is by an improved gravel and dirt road maintained by San Miguel County. The road is in good condition. Soil erosion under the fence along the county road continues to be monitored (PL–1).

The entrance to the site is through a barbed-wire gate that is secured with a DOE lock. The gate is in good condition.

17.4.1.2 Perimeter Fence and Perimeter Signs

The stock fence around the site is strung with four strands of wire with spacers. The top and bottom strands are smooth wire to allow wildlife to pass over and under, and the middle two strands are barbed wire. The stock fence is in good condition. There are several places around the perimeter where the top strand of the fence has been slightly stretched down by deer or elk.

Thirty-two perimeter signs, designated P1 through P32, are spaced at approximately 200-foot intervals around the site (PL–2). The signs, attached to steel posts set in concrete, are 5 feet inside the site boundary. Perimeter sign P30 was missing in July 2011 and was replaced in October 2011 using theft-resistant fasteners. All other signs are in good condition.

17.4.1.3 Site Markers

The two granite site markers, SMK–1 near the entrance gate and SMK–2 (PL–3) on the north-central part of the disposal cell, are in excellent condition. Erosion near SMK–1 is being monitored and may require remedial work if heavy rainfalls occur and erosion of the surrounding soil continues.

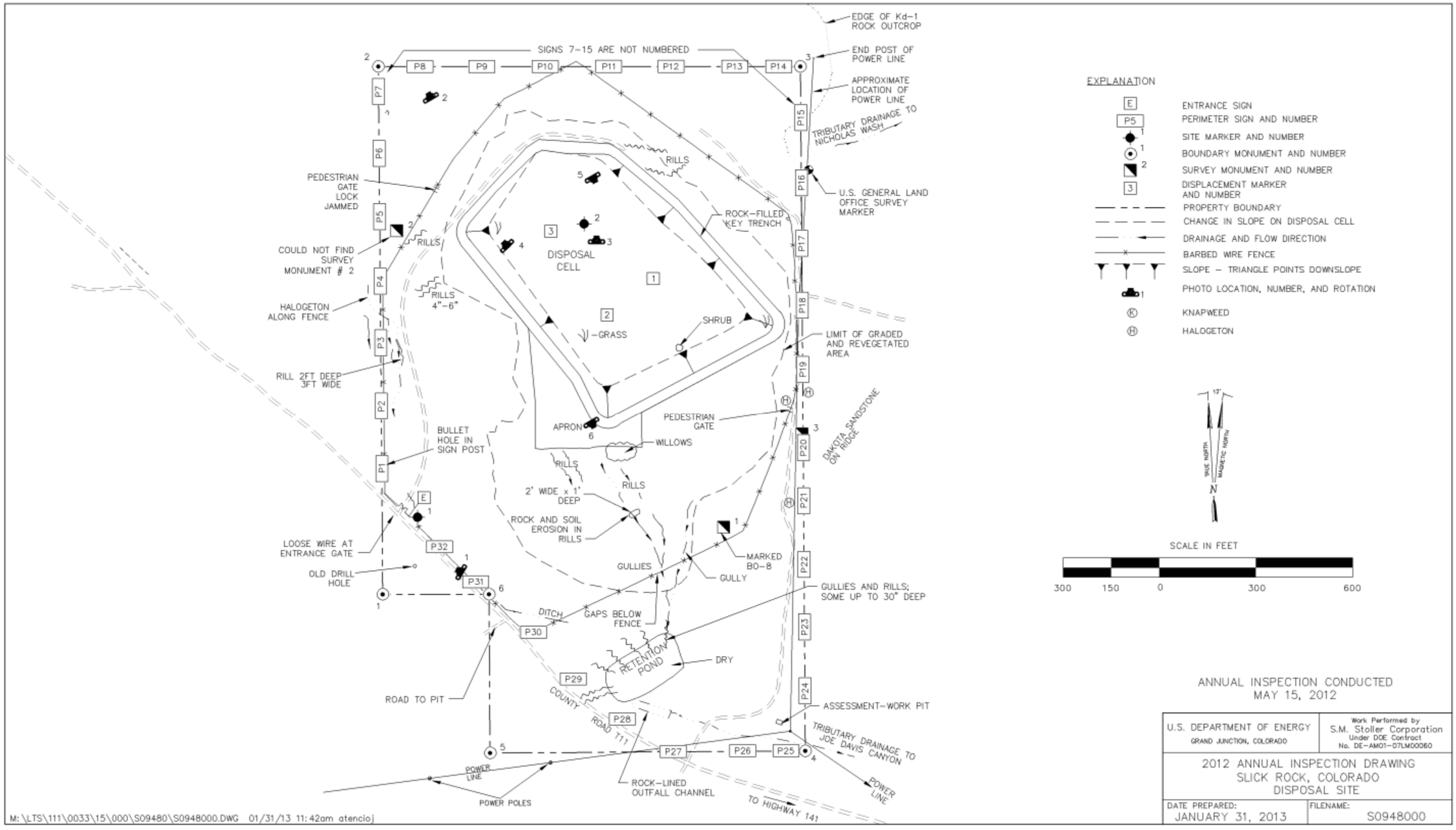

Figure 17–1. 2012 Annual Compliance Drawing for the Slick Rock Disposal Site

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17.4.1.4 Survey Monuments and Boundary Monuments

Six boundary monuments define the corners of the site boundary. Survey monument 2 could not be located despite a rigorous search. No ground disturbances or tire tracks were observed nearby. The locations of all boundary and survey monuments will be loaded into a GPS unit, which will be used to verify the location of the monuments. The remaining boundary and survey monuments were in excellent condition.

17.4.2 Inspection Areas

In accordance with the LTSP, the site is divided into three inspection areas (referred to as "transects" in the LTSP) to ensure a thorough and efficient inspection: (1) the rock-covered top of the disposal cell, including side slopes, the key trench, and the apron; (2) the area between the disposal cell and the site boundary, including the retention pond and the stock fence; and (3) the outlying area.

Within each area, the inspectors examined specific site surveillance features, drainage structures, vegetation, and other features. Inspectors examined each area for evidence of erosion, settling, slumping, or other disturbances that might affect the site's integrity, protectiveness, or long-term performance.

17.4.2.1 Disposal Cell, Diversion Channels, and Outflow Channel

Rock covering the disposal cell, key trench, and apron is rounded cobble- and pebble-sized material. The rock is in excellent condition (PL–4 and PL–5). No evidence of settling, slumping, or erosion was seen on any of the rock-covered surfaces of the disposal cell. No phreatophytes or other deep-rooted plant species were observed on the surface of the cell.

The top of the disposal cell is roughly pentagonal. Five side slopes descend from the disposal cell top at a maximum grade of 25 percent and are covered with riprap. At the base of the side slopes is a key trench that encircles the disposal cell. The key trench is as much as 5 feet deep and 20 feet wide and filled with riprap. South and downslope of the disposal cell, an apron of riprap extends for 50 to 200 feet beyond the key trench (PL–6). All side slopes, the key trench, and the apron are in excellent condition.

17.4.2.2 Area Between the Disposal Cell and the Site Property Boundary

The area around the disposal cell includes the retention pond. Surface drainage from the disposal cell flows south 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 cobblestones for a short distance. The pond, which was dry at the time of the inspection, and outflow channel are in good condition. Some of the gullies on the northwest side of the retention pond are as deep as 30 inches, but they do not present a hazard to the disposal cell or to any site features, so action is not warranted at this time. These erosional features will continue to be monitored during future inspections.

As noted during previous inspections, rills have formed downslope of the disposal cell apron, between the apron and retention pond. Some of these rill features contained evidence of recent runoff events, such as sedimentation and soil loss; however, they do not present a hazard to the

disposal cell. These features will be monitored during future inspections to determine if additional actions are warranted.

Inspectors have also monitored the size of rills east of perimeter signs P2 and P3 over the last several years. In 2008 the largest rill was noted to be approximately 2 feet wide by 2 feet deep, twice as deep as what was noted in 2007. No increase in size was noted during this inspection. This rill does not appear to have increased in size appreciably over the last year.

17.4.2.3 Outlying Area

The natural, undisturbed areas outside the disposal site support grass and scattered piñon and juniper trees. The primary land use is grazing. Steep hillsides north and northeast of the site slope eastward into Nicholas Wash. Areas north and northeast of the site also are routinely used for recreational purposes (e.g., hunting, four-wheeling, firewood cutting). No disturbances or evidence of land use changes in the outlying areas were noted. During the 2012 inspection, several mining claim stakes were noted adjacent to the boundary on the northwest corner of the site.

17.5 Follow-Up or Contingency Inspections

DOE will conduct follow-up inspections if (1) an annual inspection or other site visit reveals a condition that must be reevaluated during a return to the site, or (2) a citizen or outside agency notifies DOE that conditions at the site are substantially changed.

No need for a follow-up or contingency inspection was identified during the inspection.

17.6 Maintenance and Repairs

17A Survey monument 2 could not be located during the 2012 inspection. A GPS unit was programmed with the survey monument location and the monument was located on July 30th. The monument had been buried under approximately 4 inches of soil.

No additional maintenance needs were identified during the inspection.

17.7 Environmental Monitoring

17.7.1 Groundwater Monitoring

There are no monitoring wells at the site, and no groundwater monitoring is required.

17.8 Corrective Action

Corrective action is taken to correct out-of-compliance or hazardous conditions that create a potential health and safety problem or that may affect the integrity of the disposal cell or compliance with 40 CFR 192.

No corrective action was required in 2012.

17.9 Photographs

Photo Location Number	Azimuth	Description
PL–1	315	PL–1. View toward northwest along county road; fence line erosion.
PL–2	330	PL–2. Typical perimeter sign along west boundary of site.
PL–3	NA	PL–3. Site marker 2 on top of disposal cell.
PL–4	315	PL–4. Southeast face of cell, across apron.
PL–5	150	PL–5. Top of cell from northwest to southeast.
PL–6	150	PL–6. Willows growing at base of apron.

SRK 5/2012. PL–1. View toward northwest along county road; fence line erosion.

SRK 5/2012. PL–2. Typical perimeter sign along west boundary of site.

SRK 5/2012. PL–3. Site marker 2 on top of disposal cell.

SRK 5/2012. PL–4. Southeast face of cell, across apron.

SRK 5/2012. PL–5. Top of cell from northwest to southeast.

SRK 5/2012. PL–6. Willows growing at base of apron.