2002 Annual Compliance Report
Maybell, Colorado, Disposal Site

Compliance Summary

The site, inspected on August 5, 2002, was in excellent condition. The site did not have boundary monuments at all property corners as specified in Uranium Mill Tailings Remedial Action Project guidelines. Therefore, the property was surveyed in 2002 based on real estate records, and boundary monuments were set at all property corners. Minor fence repairs were performed near the northeast corner of the property. Additional riprap was placed to control erosion near the northeast corner of the property. Deep-rooted plants on the cell top and in a drainage ditch were cut and treated with herbicide. Settlement plates were resurveyed, and no settlement was detected. Inspectors identified no additional maintenance requirements and no cause for a follow-up or contingency inspection.

Compliance Requirements

Requirements for the long-term surveillance and maintenance of the Maybell, Colorado, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I disposal site are specified in the *Long-Term Surveillance Plan for the Maybell, Colorado, Disposal Site* (DOE/AL/62350−247, Rev. 2, U.S. Department of Energy [DOE], Albuquerque Operations Office, July 1999) and in procedures established by the DOE Grand Junction Office to comply with requirements of Title 10 *Code of Federal Regulations* Part 40.27 (10 CFR 40.27). These requirements are listed in Table 11–1.

Table 11–1. License Requirements for the Maybell, Colorado, Disposal Site

Requirement	Long-Term Surveillance Plan	This Report
Annual Inspection and Report	Section 3.0	Section 1.0
Follow-up or Contingency Inspections	Section 5.0	Section 2.0
Routine Maintenance and Repairs	Section 4.0	Section 3.0
Ground Water Monitoring	Section 2.6	Section 4.0
Corrective Action	Section 5.0	Section 5.0
Settlement Plate Monitoring	Section 3.5.2	Section 6.0

Compliance Review

1.0 Annual Inspection and Report

The site, northeast of Maybell, Colorado, was inspected on August 5, 2002. Results of the inspection are described below. Features and the photograph location (PL) mentioned in this report are shown on Figure 11–1. Numbers in the left margin of this report refer to items summarized in the Executive Summary table.

1.1 Specific Site Surveillance Features

Access, Fence, Gate, and Signs—Access to the site is via County Road 53. The gravel road was in good condition. County Road 53 ends near the northwest corner of the site. From that point, a track continues to the northwest past an abandoned open pit mine (Robb Pit) to the UMETCO Maybell UMTRCA Title II site.

A drainage swale crosses the county road between the entrance gate and perimeter sign P26. A shallow gully has formed in the bottom of the swale, but the road was passable.

A standard 3-strand barbed wire stock fence in good condition surrounds the cell. The site fence is set inside the property boundary except where it coincides with the boundary at the southwest corner of the site and for a distance along the southern boundary of the site. A portion of the
11A fence near boundary monument BM–4A had been cut prior to the 2002 inspection; the strands were repaired and stretched.

The tubular metal entrance gate is located in the perimeter fence line along the north side of the site. It was locked and in excellent condition. The entrance sign, mounted on a t-post in the fence line near the entrance gate, was secure and legible.

There are 26 perimeter signs around the site, and all were in good condition and legible. Prior
11B site drawings indicated 24 signs based on as-built drawings, but 26 signs were verified by a global positioning system survey in 2002.

Site Markers and Monuments—The site has two site markers, 27 boundary monuments, and two survey monuments. The surface of the concrete base of site marker SMK–2 has hairline fractures that could lead to spalling and will be sealed in 2003. All other markers and monuments were in excellent condition.

At the time of the 2002 inspection, four boundary monuments (shown as BM–1A through BM–4A on Figure 11–1) were present along the property boundary. Only one boundary monument (BM–2A) is at a corner, and one (BM–1A) is at a fence corner but not on the property boundary. This configuration was at variance with Uranium Mill Tailings Remedial Action Project specifications that require boundary monuments at actual property corners. Therefore, the property was resurveyed in September 2002 based on real estate records, and 23 new boundary monuments were installed—BM–1 at a section line and the remainder (BM–2 through BM–23)
11C on property corners. The resurveyed property boundary and all 27 boundary monuments are shown on Figure 11–1.

Settlement Plates—There are nine settlement plates on top of the disposal cell. Elevations of the settlement plates were resurveyed in May 2002.

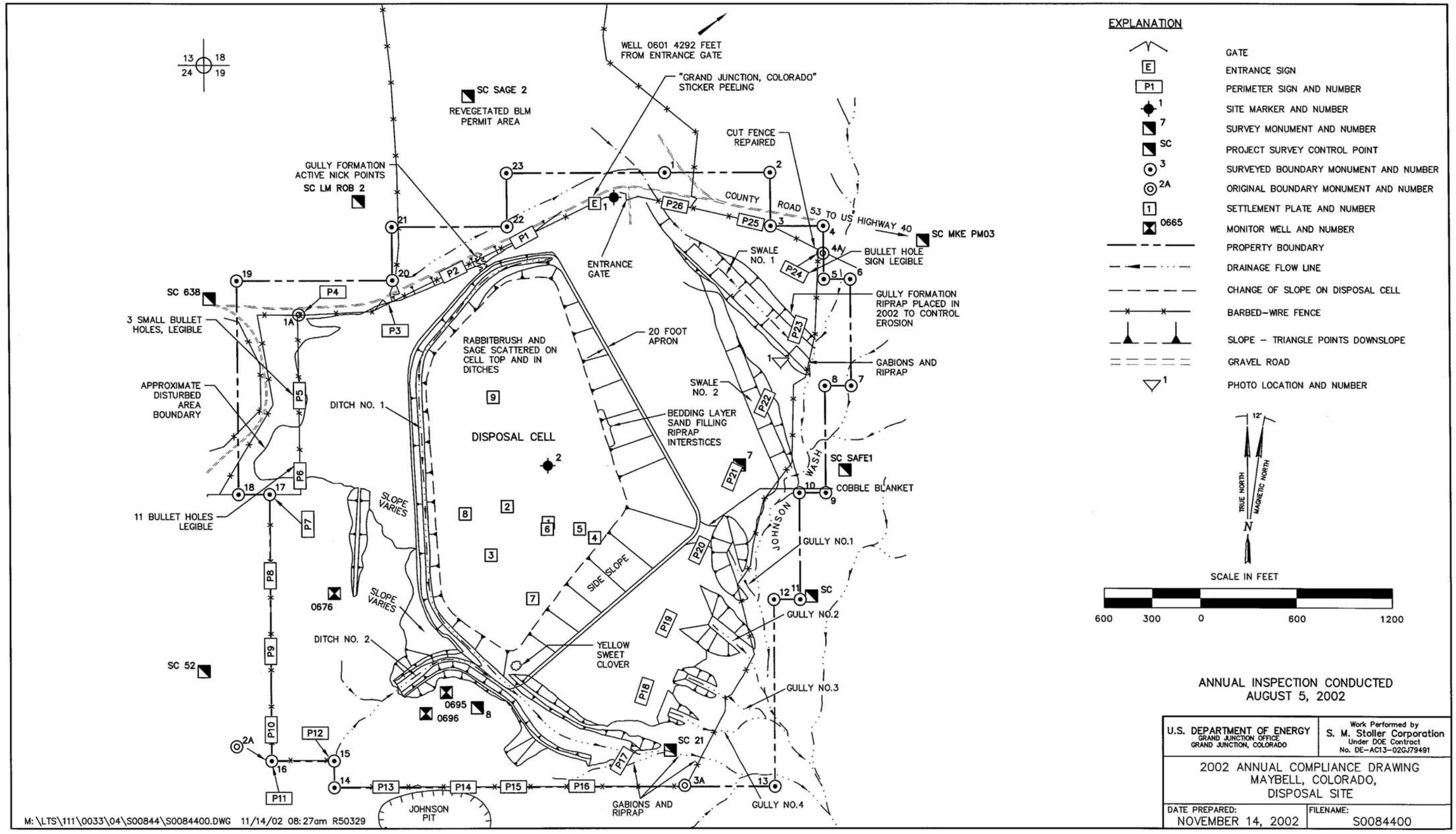

Figure 11–1. 2002 Annual Compliance Drawing for the Maybell, Colorado, Disposal Site

Monitor Wells—Four monitor wells are in the Long-Term Surveillance and Maintenance Program monitoring network. All four wells contain data loggers. Water level is the only parameter monitored at these wells.

11D In 2002, the LTSM Program decommissioned 18 monitor wells that had been left on the site by the remedial action contractor. Eleven monitor wells remain on the adjacent Ross property, to which DOE did not maintain access. Mr. Ross requested that ownership of these wells be transferred to him. Three wells remain on the Simones property south of the DOE property. The State Engineer reassigned ownership of these wells to the property owner during the time when DOE did not maintain access agreements to the wells. DOE will consider transferring ownership of the wells on the Ross and Simones properties to the respective property owners and execute a hold harmless agreement and acceptance of all future responsibility for the wells with the recipients.

1.2 Transects

To ensure a thorough and efficient inspection, the site was divided into three areas referred to as transects: (1) the disposal cell; (2) the other areas on site; and (3) the outlying area.

Disposal Cell—The disposal cell is armored with rock for erosion protection. The rock was in excellent condition. There was no evidence of slumping or settling on the cell top or on the side slopes. Along the east intersection of the side slope and top slope, bedding sand was observed in the interstices of the large riprap.

11E Some plants were observed on the cell top, including the deep-rooted species tamarisk and rabbitbrush. Tamarisk was observed in Ditch Number 1, also. The tamarisk and rabbitbrush were cut and treated with herbicide.

No moisture was evident on the surface at locations (east and southeast side slopes) identified in the Long-Term Surveillance Plan as areas of potential seeps.

Other Areas On Site—Establishment of vegetation in graded and disturbed areas between the disposal cell and the site boundary is progressing. Inspectors found no evidence of livestock on site. Evidence of wildlife was abundant.

11F The outfalls below the four numbered gullies north of the Ditch Number 1 appeared to be stable. Additional erosion had occurred where the riprap was placed in previous years on the north bank of Swale Number 1, and more riprap was placed in the Swale Number 1 outlet and on the north bank in spring 2002 (PL–1). These locations were self-armoring and may stabilize.

Outlying Area—The area outward for a distance of 0.25 mile from the site boundary was visually inspected. No erosion, development, or other disturbance was seen.

2.0 Follow-Up or Contingency Inspections

No follow-up or contingency inspections were required in 2002.

3.0 Routine Maintenance and Repairs

A portion of fence near boundary monument BM–4A was repaired. Additional riprap was placed in Swale Number 1.

4.0 Ground Water Monitoring

Ground water at this site is contaminated as a result of widespread, naturally occurring uranium mineralization. The ground water is of limited use and cannot be cleaned up by methods reasonably employed in public water systems. Supplemental standards have been applied, and monitoring is not required.

As a best management practice, and for a limited time, DOE monitors water levels at selected wells. The purpose for monitoring water levels is to detect a rise in water level that could be due to drainage from the disposal cell.

Four wells are used for these water level measurements. Monitor well 0601, the upgradient or background well, is approximately 0.8 mile northeast of the site. Monitor well 0676, a crossgradient well, is west of the disposal cell. Monitor wells 0695 and 0696 are downgradient wells south of the disposal cell; well 0696 is a backup to well 0695.

Water levels are monitored by data loggers installed in each well. Data are downloaded quarterly. Water level measurements through October 3, 2002, are shown in Figure 11–2. Breaks in two of the hydrographs are due to data logger malfunction. Measurements are not shown for backup monitor well 0696.

Water levels continue to rise at a similar rate in all wells. Data from background well 0601 indicate that rising water levels are regional and cannot be related to any local effect around the disposal cell. A regional rise in water level can reasonably be attributed to long-term precipitation patterns.

5.0 Corrective Action

Corrective action is action 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 2002.

6.0 Settlement Plate Monitoring

Slimes from the former Maybell mill were placed in the south central part of the disposal cell. The slimes were compacted before the radon barrier was completed; however, further consolidation could occur. Therefore, nine settlement plates were installed on the top of the disposal cell, primarily over the portion in which the slimes were placed, to detect any significant settlement due to potential consolidation.

11G Results of the August 2000 baseline resurvey and the May 2002 survey are provided in Table 11–2. Elevation changes between 2000 and 2002 were insignificant. If no significant settlement occurs, DOE will complete a 5-year requirement for annual surveys in 2004.

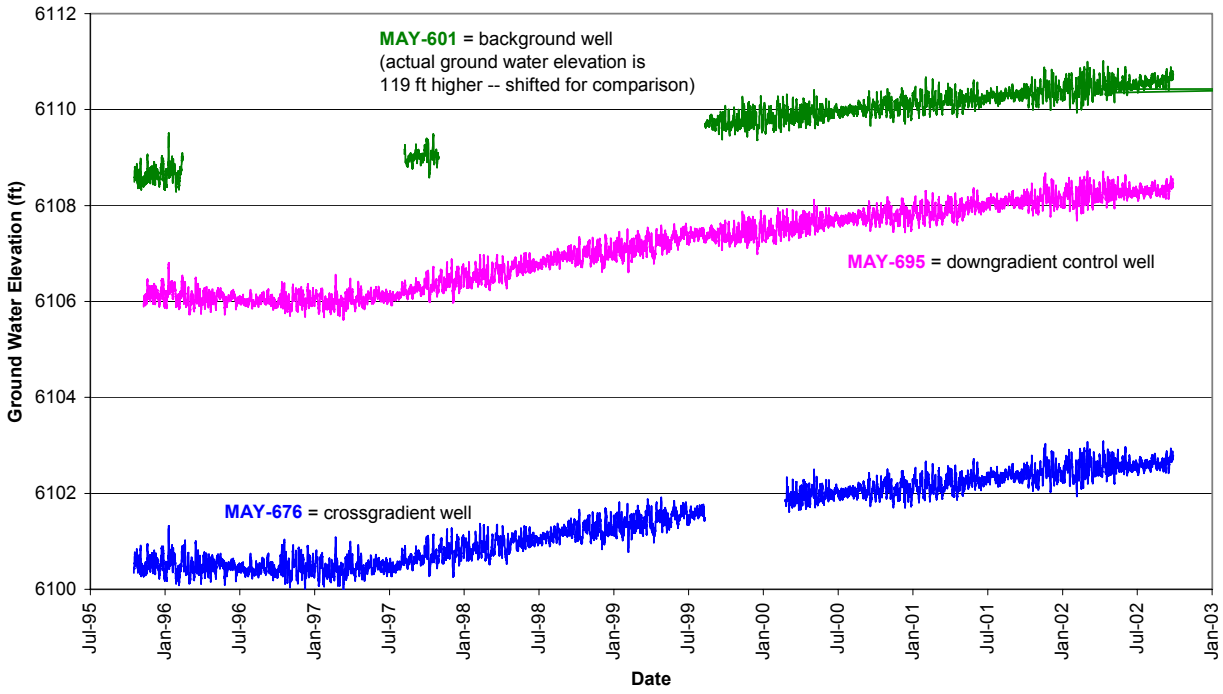

Figure 11–2. Water Level Measurements at the Maybell, Colorado, Disposal Site

Table 11–2. Results of the 2002 Settlement Plate Survey at the Maybell, Colorado, Disposal Site (elevation in feet above mean sea level)

Settlement Plate Location	Surveyed Elevation May 7, 2002	Baseline Elevation August 31, 2000	Difference in Elevation (feet)
SP–1	6,243.59	6,243.65	-0.06
SP–2	6,236.99	6,237.03	-0.04
SP–3	6,231.55	6,231.58	-0.03
SP–4	6,251.51	6,251.52	-0.01
SP–5	6,249.20	6,249.22	-0.02
SP–6	6,243.18	6,243.23	-0.05
SP–7	6,236.89	6,236.89	0.00
SP–8	6,229.59	6,229.60	-0.01
SP–9	6,241.20	6,241.17	+0.03

7.0 Photographs

Table 11–3. Photograph Taken at the Maybell, Colorado, Disposal Site

Photograph Location Number	Azimuth	Description
PL–1	20	Erosion protection rock installed on the north side of Swale Number 1.

PL–1. Erosion protection rock installed on the north side of Swale Number 1.

End of current section