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LONG-TERM SURVEILLANCE PLAN FOR THE BURRO CANYON DISPOSAL CELL SLICK ROCK, COLORADO

May 1998

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Uranium Mill Tailings Remedial Action Project

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LONG-TERM SURVEILLANCE PLAN FOR THE BURRO CANYON DISPOSAL CELL SLICK ROCK, COLORADO

May 1998

Prepared for
U.S. Department of Energy
Environmental Restoration Division
UMTRA Project Team
Albuquerque, New Mexico

Prepared by
Jacobs Engineering Group Inc.
Albuquerque, New Mexico

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LIST OF ACRONYMS

Acronym	Definition
BLM	U.S. Bureau of Land Management
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
LTSP	long-term surveillance plan
NGVD	National Geodetic Vertical Datum
NRC	U.S. Nuclear Regulatory Commission
QA	quality assurance
RAP	remedial action plan
UMTRA	Uranium Mill Tailings Remedial Action
UMTRCA	Uranium Mill Tailings Radiation Control Act

CHANGE HISTORY

Document version	Date	Pages/comments
Rev. 0, Ver. 1	11/1/96	Initial version.
Rev. 0, Ver. 1	3/10/97	Response to DOE comments.
Rev. 0, Ver. 2	6/3/97	Response to GJO comments. Reorganized document based on LTSP Guidance Document.
Rev. 0, Ver. 3	8/11/97	Sections 2.4 and 2.5 revised and Section 2.6 added in response to DOE comments.
Rev. 0, Ver. 4	5/4/98	Minor revisions

1.0 PURPOSE AND SCOPE

This long-term surveillance plan (LTSP) describes the U.S. Department of Energy (DOE) long-term care program for the Uranium Mill Tailings Remedial Action (UMTRA) Project Burro Canyon disposal cell in San Miguel County, Colorado.

The U.S. Nuclear Regulatory Commission (NRC) developed regulations for the issuance of a general license for the custody and long-term care of UMTRA Project disposal sites in 10 CFR Part 40. The purpose of this general license is to ensure that the UMTRA Project disposal sites are cared for in a manner that protects the public health and safety and the environment. Before each disposal site is licensed, the NRC requires the DOE to submit a site-specific LTSP. The DOE prepared this LTSP to meet this requirement for the Burro Canyon disposal cell. The general license becomes effective when the NRC concurs with the DOE's determination that remedial action is complete at the Burro Canyon disposal cell and the NRC formally accepts this LTSP. Attachment 1 contains the concurrence letters from NRC.

This LTSP describes the long-term surveillance program the DOE will implement to ensure that the Burro Canyon disposal cell performs as designed. The program is based on site inspections to identify threats to disposal cell integrity. Ground water monitoring will not be required at the Burro Canyon disposal cell because the ground water protection strategy is supplemental standards based on low yield from the uppermost aquifer. The LTSP is based on the UMTRA Project's long-term surveillance program guidance (DOE, 1996a) and meets the requirements of 10 CFR §40.27(b) and 40 CFR §192.03.

2.0 FINAL SITE CONDITIONS

Remedial action at the two former uranium processing sites in Slick Rock, Colorado, consisted of excavating and relocating the residual radioactive materials to the Burro Canyon disposal cell. The DOE constructed a disposal cell to control this residual radioactive material in accordance with 40 CFR Part 192. The Burro Canyon disposal site is fenced and its perimeter is marked with warning signs. The site completion report contains a detailed description of the final site conditions (MK-F, 1997).

2.1 SITE HISTORY

The Burro Canyon disposal cell is approximately 5 miles (mi) (8 kilometers [km]) by road northeast of the Slick Rock post office. It contains the tailings and mill debris from the two Slick Rock UMTRA Project processing sites (1 to 3 miles (mi) (1.6 to 4.8 km) northwest of the small community of Slick Rock in San Miguel County, Colorado (Figure 2.1).

Both processing sites are on the banks of the Dolores River. The North Continent mill was designed to extract vanadium and radium salts from locally mined ores. From 1931 until 1942, vanadium was extracted from ore by a sulfuric acid leaching process. In 1942, the extraction techniques included an initial salt-roast circuit with an acid-leach process to recover vanadium, uranium, and radium concentrates (Merritt, 1971). The tailings and milling wastes were then disposed of on the alluvial floodplain below the mill. The mill operations were discontinued in the early 1960s. Approximately 134,300 cubic yards (yd^3) (10,240 cubic meters [m^3]) of material was relocated from the North Continent site to the disposal cell.

The Union Carbide mill began operation in 1957 using a uranium-vanadium upgrading technique to process ore mined from the surrounding area. The milling process at the Union Carbide site included an initial step to dry-grind the coarse-grain sandstone, separating the fines from the coarser ore. The coarse ore fraction then was combined with a recirculated sulfuric acid solution. Following this step, a sand-slime separation process produced a second uranium product. The sand product was further acid-leached, washed, and discharged to the tailings pile. A third uranium product resulted from an ammonia neutralization step on part of the pregnant solution. All three products comprised the upgraded material, which was shipped to the Umetco mill at Rifle, Colorado, for further processing. Due to the process of separating the finer fraction for shipment offsite, the tailings pile at the Union Carbide site is composed of fine-grained sand with virtually no slimes. The Union Carbide mill closed in December 1961 (Merritt, 1971). Approximately 671,000 yd^3 (513,450 m^3) of material was relocated from the Union Carbide site to the disposal cell.

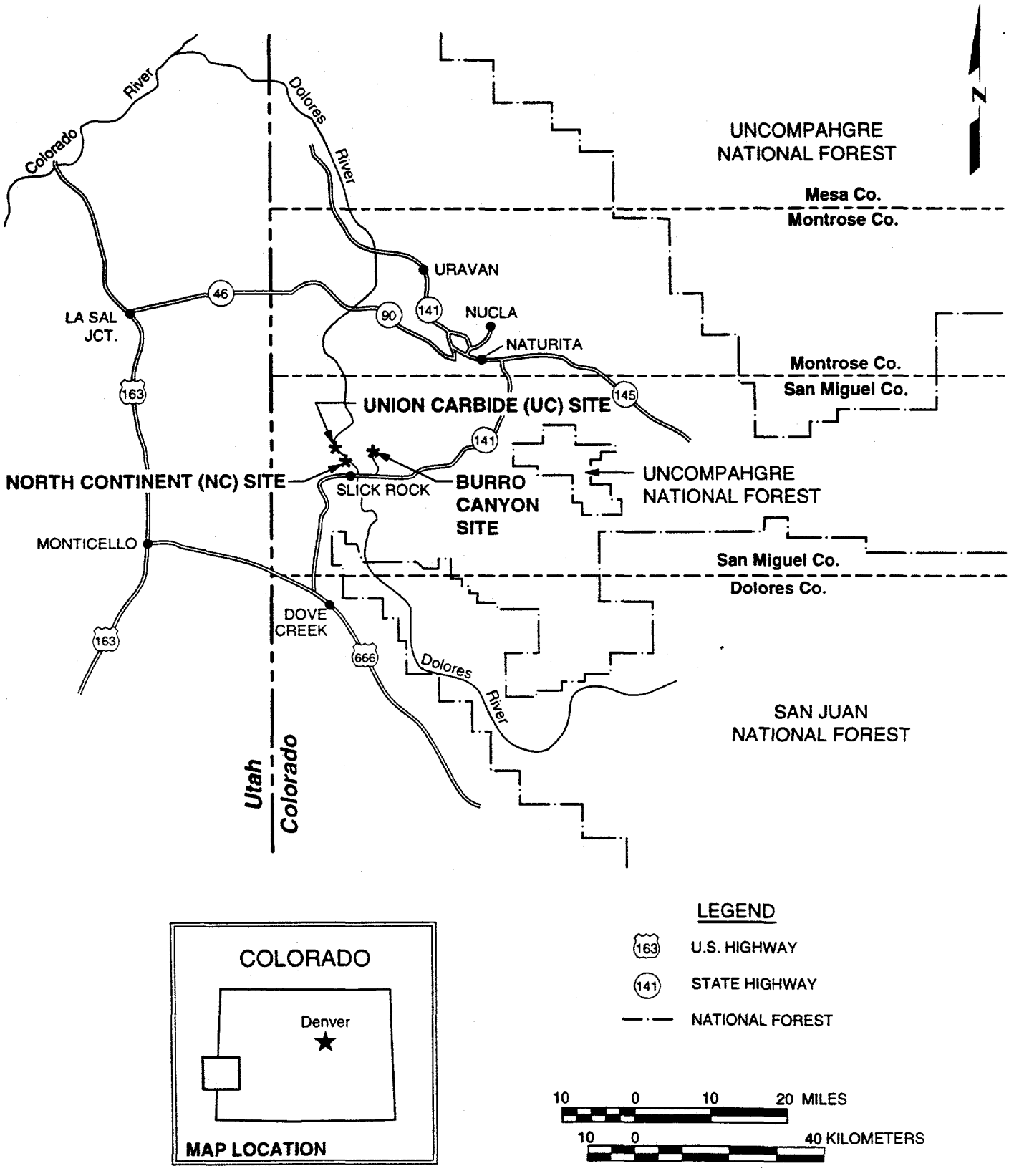


FIGURE 2.1
REGIONAL MAP SHOWING
LOCATIONS OF THE NORTH CONTINENT, UNION CARBIDE, AND BURRO CANYON SITES
NEAR SLICK ROCK, COLORADO

MAC: SITE/SRK/LTSP/SITELOC

Surface remedial action began in April 1995 and ended in December 1996. During 1995 and 1996, the DOE relocated uranium mill tailings and other residual radioactive materials (such as contaminated demolition debris, soils, and vicinity property materials) and placed them in the disposal cell. Disposal cell construction was completed in December 1996 with placement of a radon/infiltration barrier and frost- and erosion-protection layers. Approximately 805,300 yd^3 (614,000 m^3) of material were placed in the disposal cell.

The Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978 gave the DOE authority to perform remedial action at the Slick Rock processing sites (42 USC §7901 *et seq.)*. The DOE evaluated the environmental impacts associated with the remedial action in an environmental assessment (DOE, 1995). The NRC and the state of Colorado concurred with the DOE's remedial action plan (RAP) (DOE, 1996b) to comply with the requirements of 40 CFR Part 192, Subparts A through C.

The DOE prepared a completion report documenting compliance with the remedial action plan and the site as-built conditions (MK-F, 1997). The DOE also prepared a final audit report and certification summary and submitted it and the completion report to the NRC for concurrence. NRC concurrence on the certification report is included in the permanent site file.

2.2 GENERAL DESCRIPTION OF THE SITE VICINITY

The population of San Miguel County is approximately 4314 (DOC, 1991). The Slick Rock area is sparsely populated; 10 people live within 10 mi (1.6 km) of the sites. The dominant land use in the area is livestock grazing. Historically, mining was common and the area contains numerous abandoned mines and mining roads.

2.3 DISPOSAL SITE DESCRIPTION

This section briefly describes the Burro Canyon disposal cell. Detailed descriptions can be found in the site RAP (DOE, 1996b) and completion report (MK-F, 1997).

2.3.1 Site ownership and legal description

The Burro Canyon disposal site is located on federally owned land formerly administered by the U.S. Bureau of Land Management (BLM). The surrounding area is public land administered by the BLM, and is used primarily for grazing, hunting, and other recreational uses, with occasional mineral development as market conditions warrant. Attachment 2 provides a legal description of the disposal site. Plate 1 shows the final site boundary and identifies site ownership and the surrounding areas at the time of licensing.

2.3.2 Directions to the disposal site

The Burro Canyon disposal site can be reached by automobile via paved and graded dirt roads (Figure 2.2) by following these directions:

1. From Slick Rock take State Highway 141 east approximately 5 mi (8 km).

2. Turn left (north) onto the site access road. Travel approximately 0.75 mi (1.2 km) to the site. The site access point is marked by an entrance sign and a granite site marker located just inside the site fence.

A wire fence around the site perimeter restricts entry to the disposal site. The south access gate is kept locked; the key needed to enter the site may be obtained from the DOE Grand Junction Office.

2.3.3 Description of surface conditions

The Burro Canyon disposal site is located on approximately 62 acres (ac) (25 hectares [ha]) of land (Plate 1). The completion report (MK-F, 1997) contains a detailed description of final site conditions, including the results of the final site topographic survey. The site is enclosed with a four-strand wire fence that was placed during construction. The exclusion boundary is marked with warning signs, boundary markers, and survey monuments. The tailings and other contaminated materials are contained in a rock-covered disposal cell located in the center of the site.

During final site grading, all areas were contoured to promote drainage away from the disposal cell. The DOE used a mixture of grass species to revegetate disturbed areas of the disposal site not covered by riprap (MK-ECE, 1996).

At the completion of remedial action, the DOE documented final disposal site conditions with site maps, as-built drawings, and ground and aerial photographs (MK-F, 1997). This documentation illustrates baseline conditions for comparison to future disposal site conditions. Lithologic logs and construction data for monitor wells drilled on and around the disposal site provide detailed site hydrogeology data. Original drawings, site maps, well logs, and photographs are maintained in the Slick Rock permanent site file.

2.3.4 Permanent site-surveillance features

Survey and boundary monuments, site markers, and warning signs are the permanent, long-term surveillance features of the Burro Canyon disposal cell. Plate 1 shows the locations of these features. Table 2.1 provides their survey grid coordinates. Typical construction and installation specifications for these features are shown in the long-term surveillance guidance (DOE, 1996a) and subcontract documents (MK-ECE, 1996).

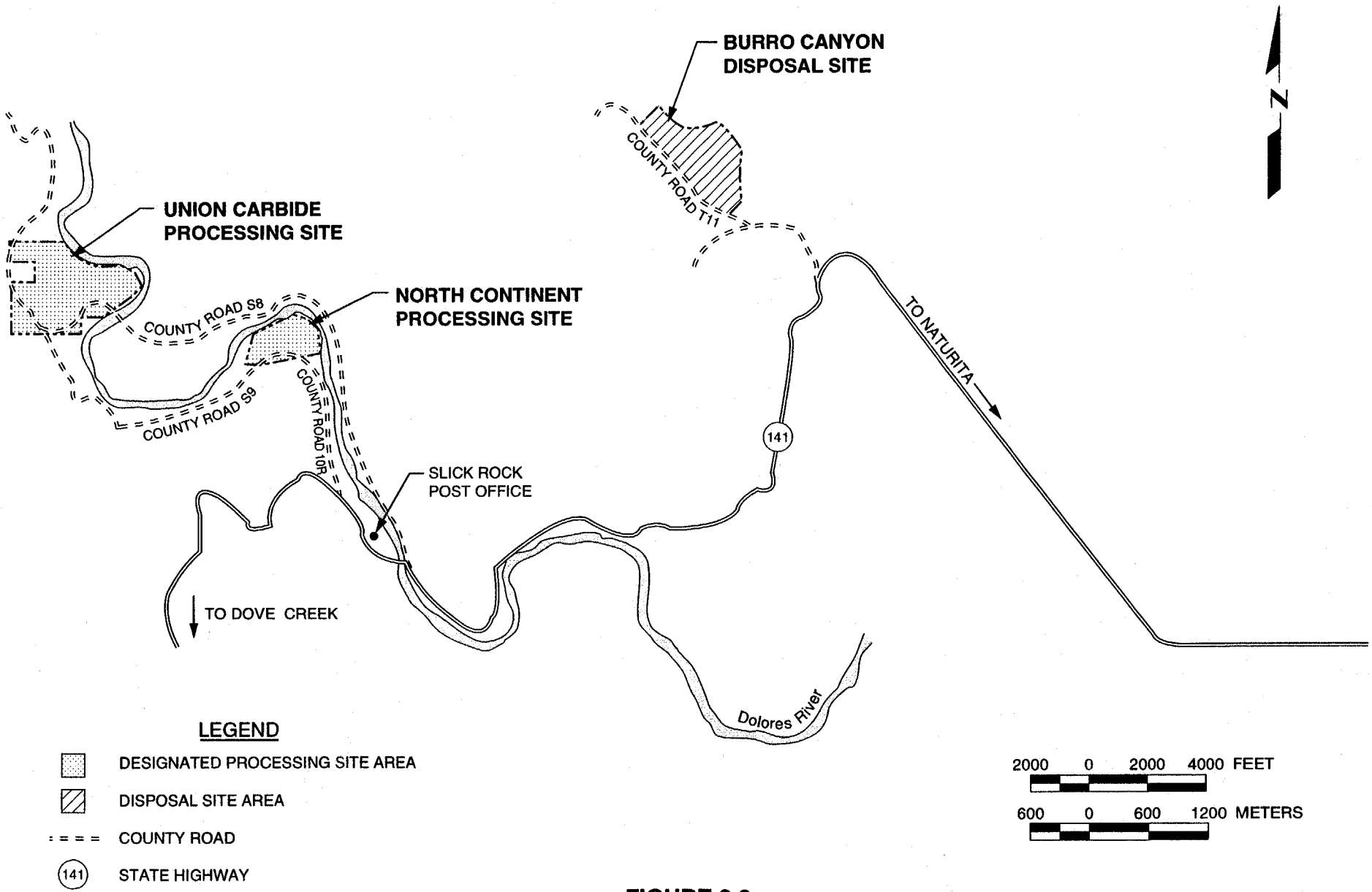


FIGURE 2.2
LOCATIONS OF PROCESSING AND DISPOSAL SITES
SLICK ROCK, COLORADO

MAC: SITE/SRK/LTSP/LOCPROC-BURRO

Table 2.1 Locations of permanent surveillance features, Slick Rock, Colorado, disposal site

Feature	Location coordinates
Site markers	
SMK-1	N 18,700; E 21,650
SMK-2	N 19,860; E 21,930
Survey monuments	
PM-1 (BC-S)	N 18,600; E 22,440
PM-2 (BC-N)	N 19,825; E 21,320
PM-3 (BC-C)	N 19,188; E 22,631
Boundary monuments	
BM-1	N 18,689; E 21,319
BM-2	N 20,335; E 21,312
BM-3	N 20,341; E 22,626
BM-4	N 18,203; E 22,636
BM-5	N 18,198; E 21,650
BM-6	N 18,691; E 21,648

From MK-ECE, 1997

Three survey monuments establish permanent horizontal control based on the Colorado State Plane Coordinate System (Central Zone) and are referenced to the Project Survey Control Point, which is located about 700 feet (ft) (210 meters [m]) east of the southeast corner of the site at an elevation of 7923.32 ft (2415.03 m) above National Geodetic Vertical Datum (NGVD). The three permanent survey monuments (PM-1, PM-2, and PM-3) are Berntsen RT-1 markers set in concrete with the monument approximately 4 inches (in) (9.6 centimeters [cm]) above ground level. Magnets in the markers will permit easier detection if they become buried over time. The survey monument identification number is stamped on the top of the metal cap.

Six boundary monuments lie along the final site boundary. These monuments are Berntsen Model A-1 survey monuments set in concrete with the monument approximately 1 inch (25 millimeter [mm]) above ground level. Magnets in the A-1 monuments will allow easier detection if they become buried. The boundary monument identification number is stamped on the top of the metal cap.

Two unpolished granite markers with an incised message identify the Burro Canyon disposal cell. The message includes a drawing showing the general location of the stabilized disposal cell within the site boundaries, the date of closure, the weight of tailings (1,140,000 dry tons [1,034,000 metric tons]), and the amount of radioactivity (175 curies of radium-226). Site marker SMK-1, near the south site access gate, is set in reinforced concrete that extends 3 ft (0.9 m) below the ground surface. Site marker SMK-2, at the crest of the disposal cell, is set in reinforced concrete that extends to the top of the frost-protection barrier.

The DOE warning signs (18 x 24 inches [610 x 460 mm]) indicate the disposal site perimeter. The site entrance sign displaying the DOE 24-hour telephone number is at the south access gate near site marker SMK-1. In addition to the entrance sign, perimeter-warning signs are located approximately 5 ft (1.5 m) inside the site fence at approximately 200 ft (60-m) intervals. The warning signs are mounted on steel posts with the tops of the signs approximately 6 ft (2.0 m) above the ground surface. The sign posts are embedded in concrete to a depth of approximately 3 ft (1.0 m) below ground surface.

2.4 DISPOSAL CELL DESIGN

The 12-ac (4.9-ha) disposal cell is on a small mesa top isolated from upland drainage runoff, in an area that is not subject to significant hazard from slope failure processes such as landslides, debris flows, mud flows, and rock falls. The geomorphic processes posing a potential hazard to the stabilized disposal cell are ephemeral drainage channel changes, low-gradient slope erosion, and wind erosion; however, these processes are not reasonably expected to affect the disposal cell within the next 1000 years, or in any case for at least 200 years.

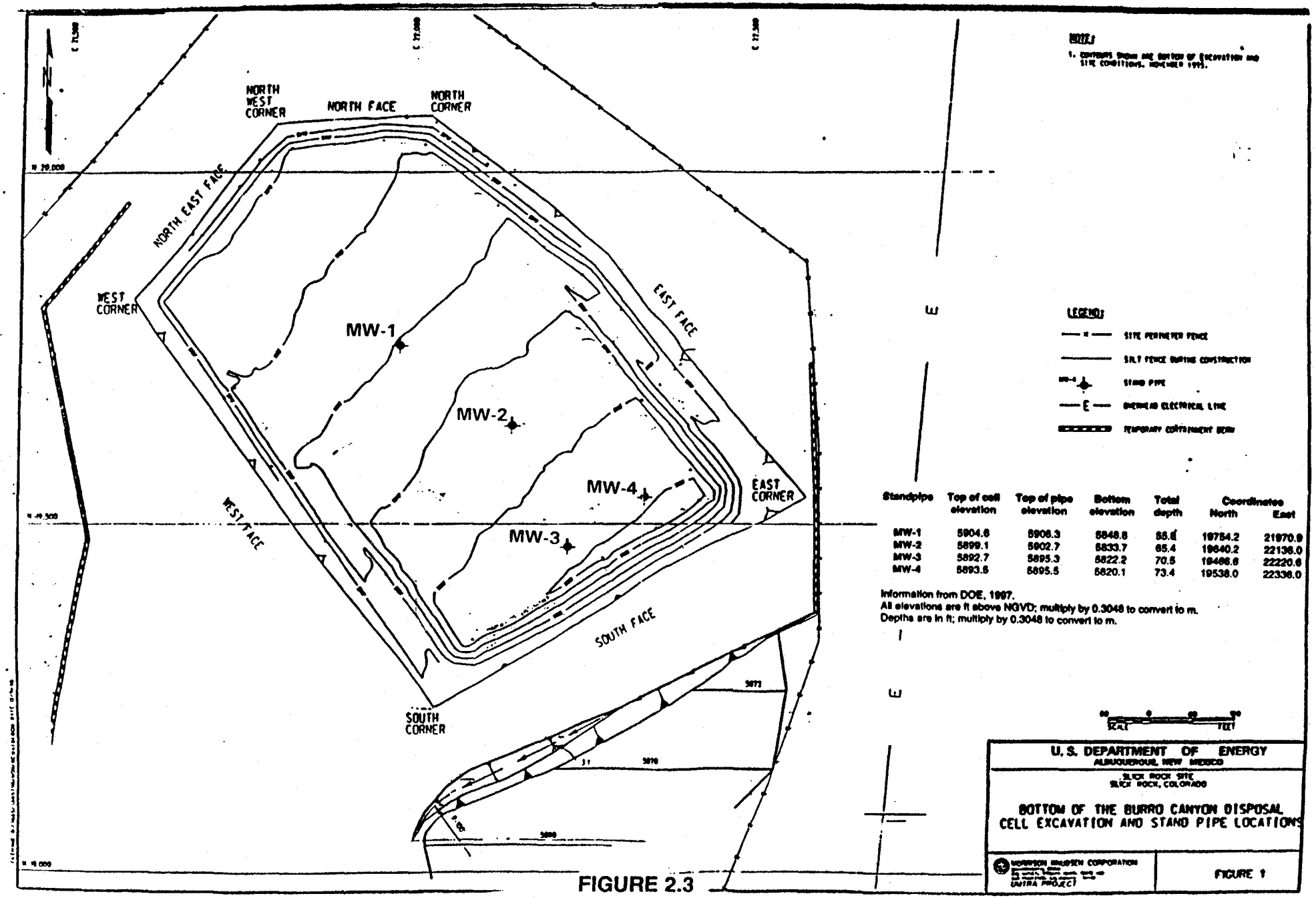
The disposal cell is constructed partially below grade and rises above the surrounding terrain to a maximum elevation of about 5895 ft (1797 m) above NGVD. The disposal cell contains approximately 805,300 yd^3 (614,000 m^3) of relocated material. The disposal cell is capped with a 5 ft (1.5-m)-thick multiple-component cover.

A 1.5 ft (0.45-m)-thick radon/infiltration barrier is placed over the contaminated materials. This barrier is constructed of on-site sandy clay. It is designed to reduce the radon-222 flux from the disposal cell to less than 20 picocuries per square meter per second and to minimize water infiltration into the tailings. A 2 ft (0.6-m)-thick layer of compacted soil lies on top of the radon/infiltration barrier to prevent adverse freeze-thaw effects to the clay barrier. The topslopes and sideslopes of the disposal cell are capped with rock to protect them from wind and water erosion and prevent damage to the underlying frost protection barrier. Due to the disposal cell's location, permanent drainage and interceptor ditches were not required at the Burro Canyon disposal site.

The erosion protection layer is 0.67 ft (0.20-m)-thick riprap on the topslopes and 1.0 ft (0.3-m)-thick riprap on the sideslopes. The erosion protection layer is placed over a 0.5 ft. (0.15-m)-thick layer of bedding sand to prevent penetration of the riprap rock into the underlying clay layers. The maximum topslope grade is 4 percent with 25 percent on the sideslopes. These grades, in conjunction with the bedding layer, allow excess surface water to run off the disposal cell and be conveyed to adjacent site grades, minimizing the risk of significant erosion. The components of both the topslope and sideslope covers are designed to minimize the potential for deep percolation of precipitation into the residual radioactive material. The riprap apron at the disposal cell toe is up to 5 ft (1.5 m) thick.

There is potential for lateral migration of transient water from the disposal cell through two thin sandstone layers (Kd-1 and Kd-2) in the Dakota Sandstone. The basal elevation of the Kd-1 is 5838 ft (1779 m) above NGVD within the wall of the cell excavation and the basal elevation of the Kd-2 is 5852 ft (1784 m) (DOE, 1997). To help prevent any surface expression of water from developing, the bottom of the disposal cell was excavated from 7 ft (2 m) to 20 ft (6 m) below the base of the Kd-1 sandstone layer. Four eighteen-inch diameter PVC standpipes were installed (MW-1, MW-2, MW-3, and MW-4) to monitor water levels in the disposal cell (Figure 2.3). Beginning in June 1996 manual water level measures were taken in all four standpipes. In late 1996, water levels appeared to have stabilized in MW-1 and MW-2, these standpipes, therefore, have been abandoned. In late 1996 data loggers were installed in MW-3 and MW-4 to provide a continual record of water levels, because water levels in MW-3 and MW-4 (particularly MW-4) are indicators used to evaluate potential water migration from the disposal cell. As of April 1997, the water level in standpipe MW-4 appears to have stabilized and has been on a downward trend for the last three-quarters (Figure 2.4).

The maximum observed water level in the disposal cell is 5843 ft (1781 m) above NGVD. This is 5 ft (1.5 m) above the basal elevation of the Kd-1



Standpipe	Top of cell elevation	Top of pipe elevation	Bottom elevation	Total depth	Coordinates North	Coordinates East
MW-1	5904.6	5906.3	5848.8	55.6	19754.2	21970.9
MW-2	5899.1	5902.7	5833.7	65.4	19640.2	22136.0
MW-3	5892.7	5895.3	5822.2	70.5	19466.6	22220.6
MW-4	5893.6	5895.5	5820.1	73.4	19538.0	22336.0

Information from DOE, 1997.
All elevations are ft above NGVD; multiply by 0.3048 to convert to m.
Depths are in ft; multiply by 0.3048 to convert to m.

FIGURE 2.3
STANDPIPE LOCATIONS AT THE BURRO CANYON DISPOSAL CELL NEAR SLICK ROCK, COLORADO

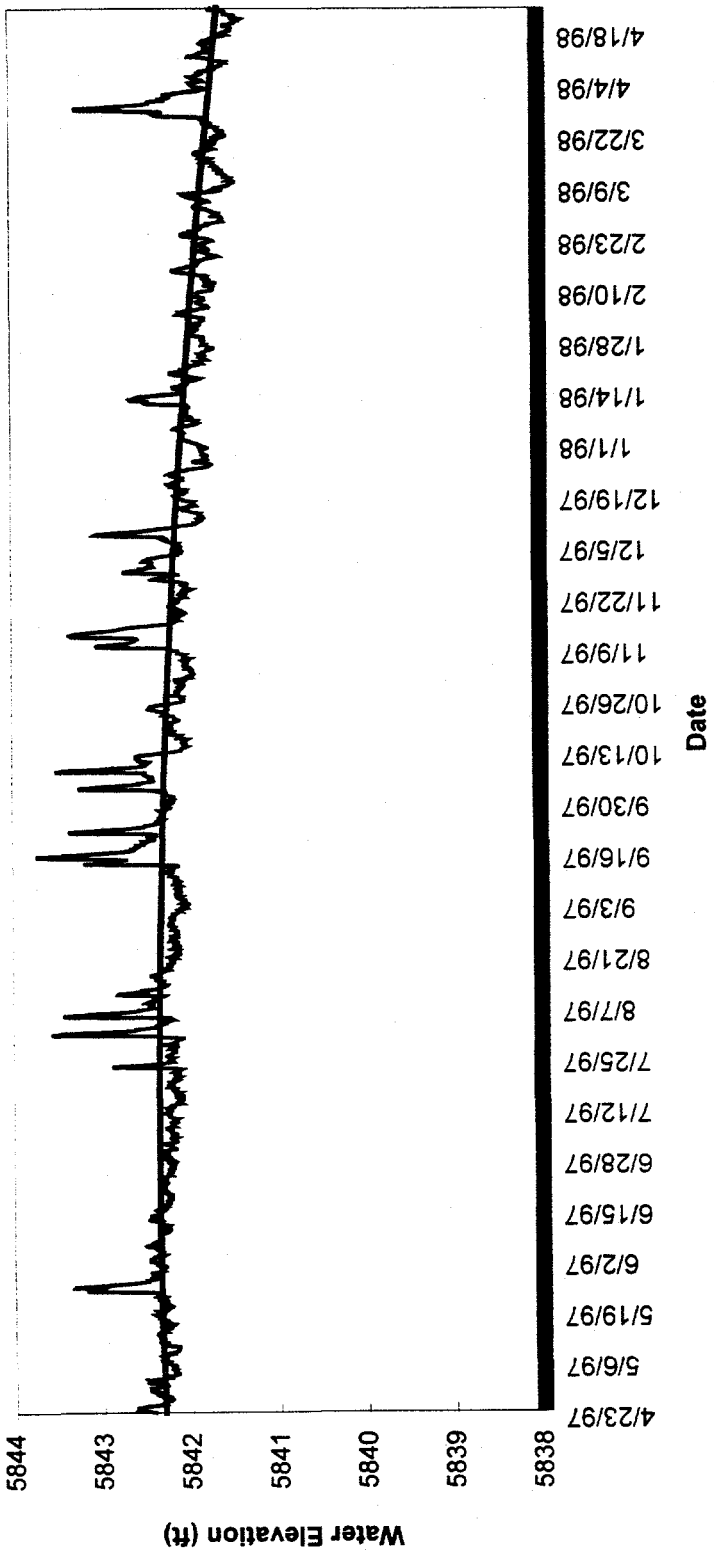


FIGURE 2.4
WATER LEVELS IN MW-4, BURRO CANYON DISPOSAL CELL NEAR SLICK ROCK, COLORADO

sandstone layer and 9 ft (2.7 m) below the basal elevation of the Kd-2. Calculation No. SRK-06-97-24-12-06-00 shows there is potential for lateral migration of transient drainage into the Kd-1 sandstone layer. However, this migration is not expected to result in a surface expression. There is no current potential for lateral migration into the Kd-2 sandstone layer.

2.5 GROUND WATER PROTECTION STRATEGY

To achieve compliance with the U.S. Environmental Protection Agency (EPA) ground water protection standards (40 CFR Part 192, Subpart A), the DOE applied supplemental standards for limited use ground water (40 CFR §192.2(g)). Supplemental standards are appropriate due to the low yield of ground water (less than 150 gallons per day [6.6×10^{-3} liters per second]) in the upper-most aquifer (upper sandstone unit of the Burro Canyon Formation). Ground water in this aquifer is not a current or potential source of drinking water because of the low yield. Pursuant to 40 CFR §192.03, the DOE has determined that concentration limits and ground water monitoring in the uppermost aquifer at point of compliance wells at the Burro Canyon disposal site would not further protect human health and the environment (DOE, 1995).

2.6 DISPOSAL CELL PERFORMANCE MONITORING

To evaluate the performance of the disposal cell the DOE will monitor water levels in MW-3 and MW-4 by automatic data loggers (GeoGuard Model No. 54060). To provide accurate measurement of water levels in the disposal cell, two-inch diameter PVC pipe, with a ten-foot screened interval at the base, has been installed, and adequately sealed, in each of the two standpipes. Water levels are to be measured every four hours in order to define the diurnal changes, and to collect adequate data for trend analysis. The data will be downloaded quarterly and put into a spreadsheet program for plotting. A trend analysis will be performed by plotting a linear regression line through the data obtained from each measurement period. The water level elevation and trend will be determined at the midpoint of the measurement period.

Compliance monitoring also will include visual inspections such as looking for physical evidence of mineralization, phreatophyte vegetation, and saturated zones at Kd-1 sandstone outcrops. The Kd-1 sandstone layer crops out approximately 450 ft (137 m) northeast of the east corner of the cell, and is downdip from the northeast cell face. At the present time the Kd-1 sandstone layer appears to be essentially dry. If water levels rose to a point where lateral migration could occur in the Kd-2 sandstone layer, the Kd-2 outcrops would be monitored also. The Kd-2 sandstone layer crops out above the Kd-1 along bluffs surrounding the disposal cell within 300 to 1000 ft (90 to 300 m) except on the east side. Precipitation in the area collects in the Kd-2 sandstone layer and migrates to the outcrop areas, where some seepage potentially may occur. Some vegetation appears to be supported near the Kd-2 outcrop by the moisture in this sandstone layer.

When a downward trend is consistently observed for three consecutive quarters at both MW-3 and MW-4 and the water level is at or below the base of the Kd-1

sandstone layer (elevation 5838 ft [1779 m] above NGVD), water level monitoring and visual monitoring will be discontinued and the standpipes will be decommissioned (with NRC approval) (Figure 2.5).

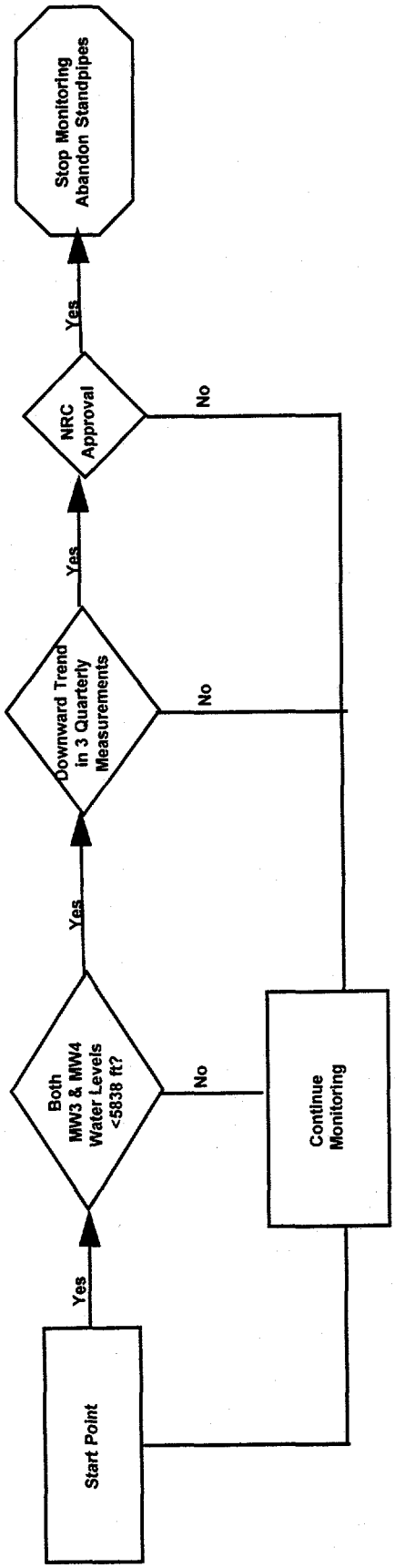


FIGURE 2.5
FLOW CHART OF MONITORING ACTIVITIES, BURRO CANYON DISPOSAL CELL, NEAR SLICK ROCK, COLORADO

3.0 SITE INSPECTIONS

The DOE will inspect the Burro Canyon disposal site to detect progressive change caused by slow-acting natural processes and to identify potential problems before the need for extensive maintenance, repairs, or corrective action. Inspections may also be conducted to follow up on events or conditions that have affected or potentially could affect the disposal site. The DOE will compare the findings from these inspections to initial baseline conditions to identify changes over time and to provide a basis for future inspections, repairs, and corrective actions. This process is shown in Figure 3.1. Custodial maintenance and repair are described in Section 4.0. Corrective action is detailed in Section 5.0.

3.1 INSPECTION FREQUENCY

The DOE will inspect the Burro Canyon disposal site annually. The DOE may schedule more frequent inspections if necessary. The DOE will notify the NRC of the inspection schedule.

3.2 INSPECTION TEAM

The inspection team will consist of a minimum of two inspectors qualified to inspect disposal cell integrity and make preliminary assessments of modifying processes that could adversely affect the disposal cell.

If problems are observed that require more investigation, follow-up inspections will be performed and teams will include one or more technical specialists in appropriate disciplines to assess the problems under investigation. For example, a follow-up inspection by a plant specialist may be required to evaluate reports of significant plant growth on the rock cover, or a soils scientist or geomorphologist may be needed to evaluate erosion processes.

3.3 SITE INSPECTION PROCEDURES

Before inspections, inspectors will conduct a preinspection briefing. The long-term surveillance program guidance (DOE, 1996a) contains information useful in preparing for inspections.

Site inspections will cover the disposal cell, the area surrounding of the disposal cell (permanent withdrawn area) area, and the immediate offsite areas. Site inspections must be thorough enough to identify any significant changes or active modifying processes that potentially could adversely impact the disposal cell. Surveillance will be performed to identify the unanticipated effects of modifying processes such as gully formation, slope erosion, changes to the rock cover, ephemeral drainage channel changes, and significant modifications by humans, animals, or plants.

Inspectors will evaluate the integrity of the disposal cell by walking a series of transects around the perimeter and over the rock cover. Sufficient transects, at

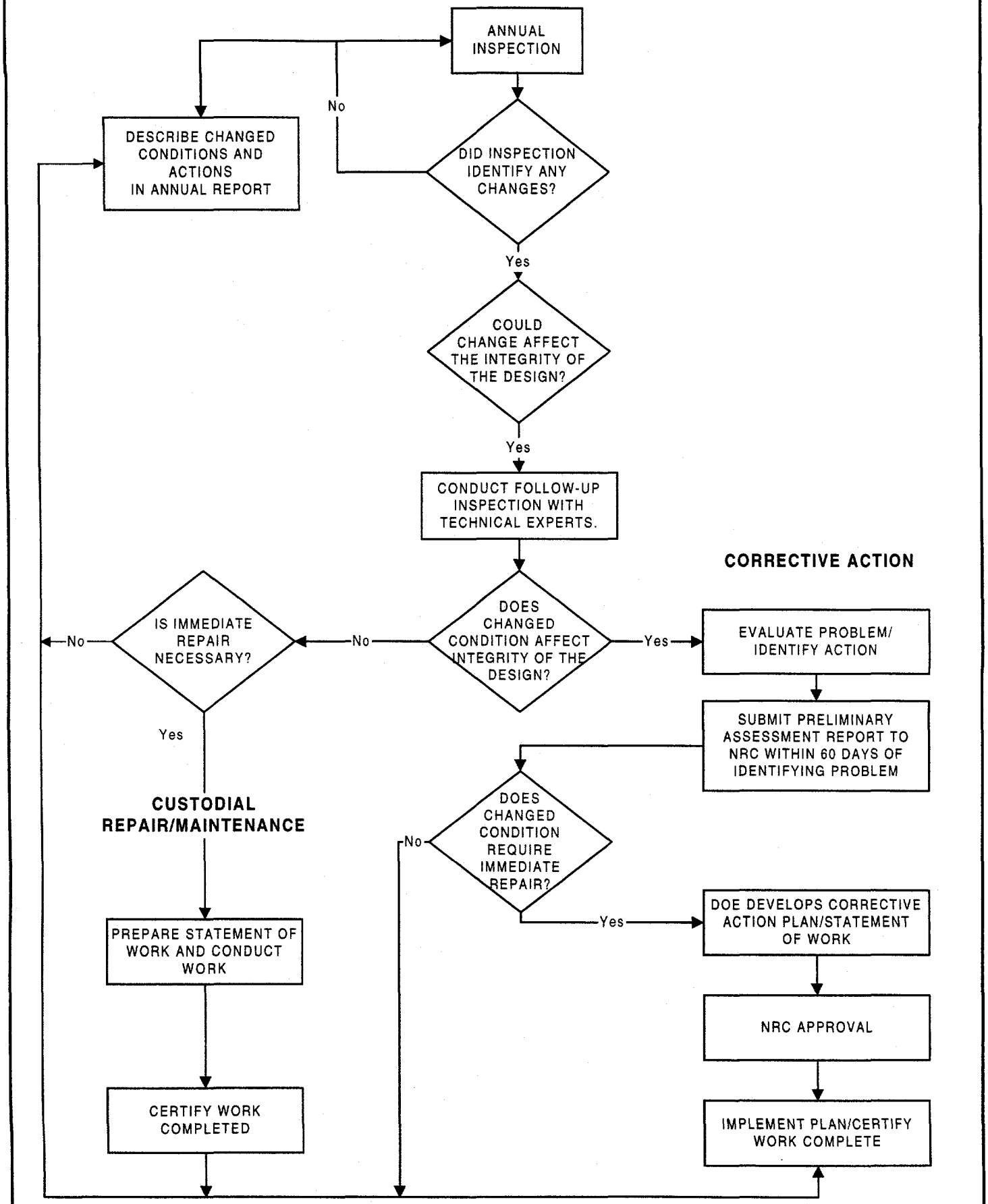


FIGURE 3.1
STEPS FOR FOLLOW-UP INSPECTIONS,
CUSTODIAL MAINTENANCE, AND CORRECTIVE ACTION
BURRO CANYON DISPOSAL SITE NEAR SLICK ROCK, COLORADO

group/wproc/slick/ltsp/rev1ver1/rev0ver4/fig3.1.vsd

approximately 150 ft (46-m) intervals, will be walked to ensure that the disposal cell is thoroughly covered and inspected. Diagonal transects of the topslopes will be made and the crest line will be walked. Additional transects will be walked along the sideslopes and rock apron. Transects along the entire length of the drainage ditch will be made to determine if it is functioning as designed and can be expected to continue to function properly. Inspectors will make efforts to vary the transect paths from one inspection to the next to ensure small anomalies are not overlooked. The sample inspection checklist in the LTSP guidance document lists items that should be examined during inspections (DOE, 1996a).

The disposal cell has a rock cover and there is no planned vegetation on the cell. However, remedial action of the areas surrounding the disposal cell included revegetation with grasses. The area surrounding the disposal cell will be monitored to determine the success of the revegetation efforts. Inspectors also will inspect this area for evidence of erosion caused by wind, sheetwash, or changes in drainage patterns.

Site inspections also will monitor damage to or disturbance of permanent site-surveillance features, fencing, gate, and locks.

From inside the disposal site, inspectors will visually survey the area approximately 0.25 mi (0.40 km) outside the disposal site boundary for evidence of land-use changes that indicate increased human activity such as new roads and paths. Inspectors will note the condition of and changes to site access roads, surrounding vegetation, and relevant geomorphic features like gullies or ephemeral drainage channels. Potential impacts to the site will be noted. Offsite DOE monitor wells will be inspected until they are properly decommissioned.

3.4 FOLLOW-UP INSPECTIONS

In addition to annual inspections, DOE may conduct follow-up inspections due to unusual or annual inspection findings or observations. DOE may also conduct follow-up inspections to investigate and quantify specific problems found during a previous inspection, other DOE-initiated activity, or confirmed reports of vandalism (intrusion, damage), unusual occurrences, or other significant threat to the disposal site. The DOE will monitor the disposal cell area for the occurrence of extreme natural events (e.g., earthquakes, tornadoes, floods) and vandalism to ensure such events are investigated in a timely manner to assess their effects on the disposal cell. To facilitate this, the DOE has requested notification from federal, state, and local agencies of discoveries or reports of any purposeful intrusion or damage at the disposal site as well as in the disposal site area. Notification agreements with the San Miguel County Sheriff's Office and the U.S. Geological Survey's National Earthquake Information Center are included in Attachment 3. The DOE will also monitor the weather for the occurrence of severe storms in the disposal cell vicinity. In addition, the DOE 24-hour telephone number is posted on the site entrance sign so the public can notify the DOE if problems are discovered. If an extreme natural event or vandalism has

occurred, the DOE will inspect the cell to assess the damage. The notification, response, and follow-up activities will be documented. This documentation will be included in the annual site report to the NRC and become part of the permanent site file.

The nature of the occurrence and the amount of firsthand knowledge available will determine the DOE's response. If a situation poses a threat to the public, the DOE will notify individuals who may be affected and appropriate federal, state, and local agencies, including the NRC. If necessary, the DOE will schedule a follow-up inspection to assess any potential effects from the unusual occurrence, and will take necessary response action. Follow-up inspections will be conducted to determine whether processes currently active at or near the site threaten site security or stability and to evaluate the need for custodial maintenance, repair, or other corrective action. The scope of these follow-up inspections may be broad and similar in nature to routine site inspections or focused on specific areas of concern.

3.5 QUALITY ASSURANCE

The DOE has developed and implemented a quality assurance (QA) plan (DOE, 1996c) for the site inspection program that meets the requirements of DOE Order 5700.6C. Site inspections will be conducted in accordance with this QA plan.

4.0 CUSTODIAL MAINTENANCE AND REPAIR

The DOE does not plan to conduct routine maintenance at the Burro Canyon disposal site. However, the DOE will perform needed custodial maintenance or repair as determined from site inspections.

Unscheduled custodial maintenance or repair at the Burro Canyon disposal site may include the following:

- Repairing or replacing deteriorated or vandalized warning signs, fencing, gate, locks, and monitor well caps
- Removing deep-rooted plants determined to be a threat to the integrity of the cover
- Reseeding areas surrounding the disposal cell

After the work is completed and before the contractors are released, DOE will verify that work was performed according to specification. The annual report to NRC will document repairs that are performed. Copies of records, reports, and certifications will be included in the permanent site file.

5.0 CORRECTIVE ACTION

Corrective action is repairs that are needed to address problems that affect the integrity of the disposal cell or compliance with 40 CFR Part 192. The NRC must approve the recommended action in advance. Site inspections are designed to identify problems at the developmental stage. Examples of conditions that might trigger corrective action are as follows:

- Surface rupture or subsidence of the disposal cell
- Development of rills, gullies, or slope instability on the disposal cell
- Deterioration of the erosion-protection rock on the disposal cell
- Tailings fluids originating from the disposal cell
- Gully development on or immediately adjacent to disposal site property that could affect the integrity of the disposal cell
- Damage to the cell cover or disposal site property from natural catastrophic events or vandalism
- Damage to the disposal cell cover from deep-rooted plant growth

The DOE will evaluate the factors that caused the problem and identify actions to mitigate the impact and prevent recurrence. An onsite inspection or preliminary assessment will include, but is not limited to:

- Identifying the nature and extent of the problem
- Reevaluating germane engineering design parameters

For conditions that warrant a follow-up inspection, DOE will submit a preliminary assessment or status report to NRC within 60 days of the inspection. The preliminary assessment report will evaluate the problem and recommend the next step (e.g., immediate action or continued evaluation). If the problem requires immediate repair, the DOE will develop a corrective action plan for NRC approval. Once the NRC approves the corrective action, the DOE will implement the plan. In some cases, corrective action could include temporary emergency measures instituted prior to completion of the normal approval process. If the problem does not require immediate repair, the problem will be documented in the annual report and assessed at the next annual inspection.

NRC regulations do not stipulate a time frame for implementing corrective action (except the finding of an exceedance in established ground water concentration limits, which does not apply at this site). The DOE does not consider assessing the extent of a problem and developing a corrective action plan to be initiation of the corrective action program.

In addition to the preliminary assessment report, the DOE may (as appropriate) prepare a progress report on each corrective action while it is under way or under evaluation.

After corrective action is complete, DOE will certify work and submit a certification statement and supporting documentation to the NRC for review and concurrence. A copy of the certification statement will become part of the permanent site file, as will reports, data, and documentation generated during the corrective action.

6.0 RECORD KEEPING AND REPORTING

6.1 PERMANENT SITE FILE

The DOE will maintain a permanent site file containing site inspection reports and other supporting documentation of long-term surveillance program activities. The information placed in the site file will include:

- Slick Rock Site Completion Report
- Documentation of disposal site performance
- Demonstration that licensing provisions were met
- Information needed to forecast future site-surveillance and monitoring needs
- Reports to stakeholders regarding disposal cell integrity

After the site is brought under the general license, the DOE will compile copies of site documentation required by the long-term surveillance program guidance for the Burro Canyon disposal site permanent site file (DOE, 1996a). Copies of deeds, custody agreements, and other property documents will be kept in the site file.

The DOE will maintain the surveillance and maintenance documentation identified in other sections of this LTSP, and it will become part of the permanent site file. The DOE will update the site file as necessary after disposal site inspections, maintenance activities, or corrective actions are complete. These records will be handled in accordance with DOE directives to ensure their proper handling, maintenance, and disposition. The archival procedures set forth in 41 CFR Part 101 and 36 CFR Parts 1220-1238 (Subchapter B) will be followed. The permanent site file information will be available for NRC and public review.

6.2 INSPECTION REPORTS/ANNUAL REPORTS

During site inspections, activities and observations will be recorded and described using site inspection checklists, maps, photographs and photo logs, and field notes. Documentary evidence of anomalous, new, or unexpected conditions or situations must describe developing trends and enable the DOE to make decisions concerning follow-up inspections, custodial maintenance, and corrective action. This information will be contained in the permanent site file at the DOE office. The DOE will prepare a site inspection report documenting the findings and recommendations from field inspections.

Site inspection reports will be submitted to the NRC within 90 days of the annual site inspection. Inspection reports will summarize the results of follow-up inspections and maintenance completed since the previous annual inspection.

If unusual damage or disruption is discovered at the disposal site during an inspection, a preliminary report assessing the impact must be submitted to the NRC within 60 days. If maintenance, repair, or corrective action is warranted,

the DOE will notify the NRC. The NRC will receive a copy of corrective action plans and of each corrective action progress report or the reports will be attached to the annual report.

The DOE also will provide copies of inspection reports and other reports generated under the long-term surveillance program to the state of Colorado as required in the cooperative agreement.

7.0 REFERENCES

DOC (U.S. Department of Commerce), 1991. *1990 Census of Population and Housing: Summary Social, Economic, and Housing Characteristics, Colorado*, U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census.

DOE (U.S. Department of Energy), 1996a. *Guidance for Implementing the Long-Term Surveillance Program for UMTRA Project Title I Disposal Sites*, DOE/AL-62350-189, Rev. 0, U.S. Department of Energy, Environmental Restoration Division, UMTRA Project Team, Albuquerque, New Mexico.

DOE (U.S. Department of Energy), 1996b. *Remedial Action Plan and Site Conceptual Design for Stabilization of the Inactive Uranium Mill Tailings Site at Slick Rock, Colorado*, UMTRA-DOE/AL-050508.0000, U.S. Department of Energy, Environmental Restoration Division, UMTRA Project Team, Albuquerque, New Mexico.

DOE (U.S. Department of Energy), 1996c. *Long-Term Surveillance and Maintenance Program, Quality Assurance Program Plan*, MAC-2152, Rev. 0, prepared by MACTEC Environmental Restoration Services, for the U.S. Department of Energy, Grand Junction Office, Grand Junction, Colorado.

DOE (U.S. Department of Energy), 1995. *Environmental Assessment of Remedial Action at the Slick Rock Uranium Mill Tailings Sites Near Slick Rock, Colorado*, DOE/EA-0376, U.S. Department of Energy, Environmental Restoration Division, UMTRA Project Team, Albuquerque, New Mexico.

Merritt, R. C., 1971. *The Extractive Metallurgy of Uranium*, Colorado School of Mines Research Institute, Golden, Colorado.

MK-ECE (Morrison Knudsen Corporation - Engineering, Construction, & Environmental Group), 1996. *UMTRA Project, Slick Rock, Colorado, Surveillance and Maintenance Subcontract Documents - Final Design for Review*, prepared by MK-ECE for the U.S. Department of Energy, Environmental Restoration Division, UMTRA Project Team, Albuquerque, New Mexico.

MK-F (MK-Ferguson), 1997. Slick Rock, Colorado, *Final Completion Report*, prepared by MK-F for the U.S. Department of Energy, Environmental Restoration Division, UMTRA Project Team, Albuquerque, New Mexico.

CODE OF FEDERAL REGULATIONS

10 CFR Part 40, *Domestic Licensing of Source Material*, U.S. Nuclear Regulatory Commission.

36 CFR Parts 1220-1238, *National Archives and Records*, Subchapter B - Records Management, National Archives and Records Administration.

40 CFR Part 192, *Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings*, U.S. Environmental Protection Agency.

41 CFR Part 101, *Federal Property Management Regulations*, General Services Administration.

DOE ORDERS

Order 5700.6C, *Quality Assurance*, 21 August 1991, U.S. Department of Energy, Washington, D.C.

UNITED STATES CODE

42 USC §7901 *et seq., Uranium Mill Tailings Radiation Control Act of 1978*, 8 November 1978.

ATTACHMENT 1

NRC CONCURRENCE DOCUMENTATION

(TO BE PROVIDED WHEN RECEIVED)

ATTACHMENT 2

SITE REAL ESTATE INFORMATION

REAL ESTATE DOCUMENTATION

INTRODUCTION

Remedial action at the Slick Rock, Colorado, Uranium Mill Tailings Remedial Action (UMTRA) Project site consisted of relocating the contaminated materials from two former mill processing sites near Slick Rock to the Burro Canyon disposal site.

JURISDICTIONAL TRANSFER OF THE DISPOSAL SITE

The disposal site is located on public land administered by the U.S. Department of the Interior (DOI) Bureau of Land Management (BLM). Under the requirements of the Uranium Mill Tailings Radiation Control Act (UMTRCA), as amended, the U.S. Department of Energy (DOE) acquired the disposal site land via a public land order (PLO). The PLO permanently transferred 61.25 ac (24.8 ha) from the public domain in San Miguel County, Colorado. Publication in the *Federal Register* (Vol. 60, No. 88, 21984, FR Doc. 95-10992) of PLO 7138 established the effective date of the transfer as 4 May 1995. As a result of the transfer, the land is no longer subject to the operation of the general land laws, including mining and mineral leasing laws. Transfer of the land to the DOE vested in the DOE the full management, jurisdiction, responsibility, and liability for the land and all activities conducted thereon, except that the DOI, through the BLM, retained the authority to administer any claims, rights, and interests in the land established before the effective date of the transfer.

LEGAL DESCRIPTION

The legal description in the PLO describes the disposal site area as follows:

> Township 44 North, Range 18 West, New Mexico Principal Meridian. Section 21: S1/2 S1/2 SE1/4 SW1/4; Section 28: NE1/4 NW1/4, N1/2 NE1/4 SE1/4 NW1/4, N1/2 S1/2 NE1/4 SE1/4 NW1/4, NE1/4 NW1/4 SE1/4 NW1/4, and N1/2 SE1/4 NW1/4 SE1/4 NW1/4. The area described contains approximately 61.25 ac (24.79 ha) of public land in San Miguel County, Colorado.

REPOSITORY

Real estate correspondence and related documents are maintained and filed by the Property Management Branch, Property and Administrative Services Division, Albuquerque Operations Office, P.O. Box 5400, Albuquerque, NM 87115, 505-845-5598.

References

42 USC §7901 *et seq.*, *Uranium Mill Tailings Radiation Control Act of 1978*, 8 November 1978.

after reconsideration, the head of the appropriate Examining Division section will send the applicant written notification of the reasons for refusal. The applicant may again request reconsideration. If the claim is refused again, the Chief of the Examining Division will notify the applicant in writing of the reasons. The Division Chief's decision constitutes final agency action.

Section 606.04 Compendium II of Copyright Office Practices.

II. Circumstances Leading to Modification

Although the Office's practice concerning appeals is long-standing, we have periodically considered modifying it. A number of commentators have criticized the current practice on the grounds that containment within the Examining Division leads to an overly closed system. Even under the existing practice, however, there has been some discussion of particular cases with the General Counsel or the Register. More recently, the Library of Congress appointed an Advisory Committee on Copyright Registration and Deposit, (ACCORD); in their meetings, members of this Committee criticized the appeals procedure and suggested that it be changed. Library of Congress, Advisory Committee on Copyright Registration and Deposit, 31 (1993).

The Copyright Office is committed to improving this procedure and will be publishing a Notice of Proposed Rulemaking seeking public comment on legal and administrative issues associated with establishing a more formal procedure at a later date. Meanwhile, as a first step, the Office has decided to establish a Board of Appeals within the Copyright Office as an interim system. By instituting this Board, we will gain experience in administering an alternative system.

After the Office has some practical experience with the new system, we will make a detailed proposal and seek public comment. Following review of these comments, the Copyright Office will publish the new appeal procedure as a regulation. Although we are now adopting as an interim system the Board of Appeals described below, the precise nature of the final appeal procedure will not be established until we publish final rules. Anyone who wishes to suggest specific guidelines for our consideration before the proposed rulemaking should submit them to the Board of Appeals, Copyright GC/I&R, P.O. Box 70400, Southwest Station, Washington, D.C. 20024.

III. Policy Decision

The Copyright Office's appeal procedure set out in § 606.04 of the Compendium is amended to read as follows:

Appeals of refusal to register; request for reconsideration. When the Copyright Office has refused to register a claim as submitted, it notifies the applicant in writing of the refusal to register. After such notification, the applicant may set forth in writing his or her objections to the refusal and request that the Office reconsider its action. The appeal letter should be addressed to the appropriate section of the Examining Division, Copyright Office, Washington, D.C. 20559. The first request for reconsideration must be received in the Copyright Office within 120 days of the date of the Office's first refusal to register, and the envelope containing the request should be clearly marked: FIRST APPEAL// EXAMINING DIVISION.

If the claim is refused after reconsideration, the head of the appropriate section of the Examining Division sends the applicant written notification of the reasons for refusal. The applicant may again request reconsideration in writing. This second appeal must be received in the Copyright Office within 120 days of the date of the Office's refusal of the first appeal, and be directed to the Board of Appeals at the following address: Copyright GC/I&R, P.O. Box 70400, Southwest Station, Washington, D.C., 20024. The Board of Appeals shall consist of the Register of Copyrights, the General Counsel, and the Chief of the Examining Division, or their respective designees. The Board shall consider the second appeal and render a final decision. The designated Chair of the Board of Appeals will write the applicant setting out the reasons for acceptance or denial of the claim. The Appeals Board's decision constitutes final agency action.

Dated: April 27, 1995.

Marybeth Peters,

Register of Copyrights.

Approved by:

James H. Billington,

The Librarian of Congress.

[FR Doc. 95-11045 Filed 5-3-95; 8:45 am]

BILLING CODE 1410-30-P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

43 CFR Public Land Order 7138

[CO-930-1920-00-4358; COC-61843]

Transfer of Public Land for the Slick Rock Disposal Site; Colorado

AGENCY: Bureau of Land Management, Interior.

ACTION: Public Land Order.

SUMMARY: This order permanently transfers 81.25 acres of public land to the Department of Energy in accordance with the terms of the Uranium Mill Tailings Radiation Control Act of 1978 (42 U.S.C. 7916 (1988)), as amended.

EFFECTIVE DATE: May 4, 1995.

FOR FURTHER INFORMATION CONTACT: Doris E. Chelius, BLM Colorado State Office, 2850 Youngfield Street, Lakewood, Colorado 80215-7076, 303-239-3706.

By virtue of the authority vested in the Secretary of the Interior by the Uranium Mill Tailings Radiation Control Act of 1978 (42 U.S.C. 7916 (1988)), as amended, it is ordered as follows:

1. Subject to valid existing rights, the following described public land is hereby permanently transferred to the Department of Energy, and as a result of this transfer, the land is no longer subject to the operation of the general land laws, including the mining and the mineral leasing laws, for the Slick Rock Disposal Site:

New Mexico Principal Meridian

T. 44 N., R. 18 W.,
Sec. 21, S½S½SE¼SW¼;
Sec. 28, NE¼NW¼, N½NE¼SE¼NW¼, N½S½NE¼SE¼NW¼, NE¼NW¼SE¼NW¼, and N½SE¼NW¼SE¼NW¼.

The area described contains approximately 81.25 acres of public land in San Miguel County.

2. The transfer of the above-described land to the Department of Energy vests in that Department full management, jurisdiction, responsibility, and liability for such land and all activities conducted therein, except as provided in paragraph 3.

3. The Secretary of the Interior shall retain the authority to administer any existing claims, rights, and interests in this land established before the effective date of the transfer.

Dated: April 21, 1995.

Bob Armstrong,

Assistant Secretary of the Interior.

[FR Doc. 95-10992 Filed 5-3-95; 8:45 am]

BILLING CODE 4310-JB-P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 15 and 90

[ET Docket 93-235; FCC 95-145]

Additional Frequencies for Cordless Telephones

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: By this action, the Commission makes available 15 new channel pairs for cordless telephones. This action is taken to relieve

ATTACHMENT 3

AGENCY NOTIFICATION AGREEMENTS

Jay Pape
Project Site Manager
Environmental Restoration Division
U.S. Department of Energy
P.O. Box 5400
Albuquerque, NM 87115

Dear Mr. Pape:

This letter is to concur with the U.S. Department of Energy (DOE) request for notification as set forth in the DOE's letter. As requested in your letter, this office will contact the DOE's Grand Junction Projects Office at (970) 248-6070 if any unusual event or anomaly is observed or reported at or around the DOE's Burro Canyon disposal site, San Miguel County, Colorado.

Sincerely,

Bill Masters
San Miguel County Sheriff
P.O. Box 455
Telluride, CO 81435
(970) 728-4442

cc:
J. Virgona (GJPO)
S. Hamp (ERD)
C. Jones (MACTEC-ERS)
M. Gawthrop (TAC)
W. Migdal (TAC)

IN UPDC

National Earthquake Information Center
World Data Center A for Seismology

Director
(303) 236-1510
Research
(303) 236-1506

U.S. Geological Survey
Box 25046, DFC, MS-967
Denver, Colorado 80225 USA
Telex: (WUTCO) 81060141231ESL UD

Operations
(303) 236-1500
QED
(800) 358-2663

Clinton C. Smythe
Engineering and Construction Group Leader
Uranium Mill Tailings Remedial Action
Project Office
2155 Louisiana NE, Suite 4,000
Albuquerque, NM 87110

Dear Mr. Smythe:

This letter is to confirm that the DOE Grand Junction Projects Office (24-hour phone line, (303) 248-6070 has been added to our notification list for the occurrence of earthquakes near the following locations:

Disposal Site	Latitude	Longitude
COLORADO		
Durango (Bodo Canyon)	N37.15	W107.90
Grand Junction	N38.91	W108.32
Gunnison (Landfill)	N38.51	W106.85
Maybell	N40.55	W107.99
Naturita (Dry Flats)	N38.21	W108.60
Rifle (Estes Gulch)	N39.60	W107.82
Slick Rock (Burro Canyon)	N38.05	W108.87
IDAHO		
Lowman	N44.16	W115.61
NEW MEXICO		
Ambrosia Lake	N35.41	W107.80
NORTH DAKOTA		
Bowman	N46.23	W103.35
OREGON		
Lakeview (Collins Ranch)	N42.2	W120.3
PENNSYLVANIA		
Canonsburg	N40.26	W80.25
Burrell VP	N40.62	W79.65
TEXAS		
Falls City	N28.91	W98.13
UTAH		
Mexican Hat	N37.10	W109.85
Salt Lake City (Clive)	N40.69	W113.11

National Earthquake Information Center
World Data Center A for Seismology

Director
(303) 236-1510
Research
(303) 236-1506

U.S. Geological Survey
Box 25046, DFC, MS-967
Denver, Colorado 80225 USA
Telex: (WUTCO) 510601412SESL UD

Operations
(303) 236-1500
QED
(800) 358-2663

We have entered the following selection criteria into our notification program:

1. Any earthquake of magnitude 3.0 or greater, within 0.3 degrees (about 20 miles) of any site shown above, or

2. Any earthquake of magnitude 5.0 or greater, within 1.0 degrees (about 70 miles) of any site shown above.

Sincerely,

Bruce W. Presgrave

Bruce Presgrave
U.S. Geological Survey
National Earthquake Information Center
P.O. Box 25046
Mail Stop 967
Denver Federal Center
Denver, Colorado 80225

Please address future correspondence to Stuart Koyanagi at the above address. I have moved to a different project.

Thank you + best regards,

Bruce Presgrave

NOTICE

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