



Department of Energy

Grand Junction Projects Office
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Grand Junction, Colorado 81502-2567

SEP 25 1996

Mr. Joseph H. Holonich, Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards
Mail Stop T7J9
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: 1996 Inspection of the Spook, Wyoming, Title I Site

Dear Mr. Holonich:

Four copies of the 1996 annual inspection report for the Spook, Wyoming, Title I site are enclosed. This report is submitted to comply with reporting requirements of 10 CFR 40.27.

The report states that the site was inspected on August 13, 1996, and was in excellent condition. The report includes several minor observations, but there are no major problems or concerns at this site.

If NRC has questions about this report or the Department of Energy's inspection of the Spook site, please contact me at 970/248-6006.

Sincerely,

Joseph E. Virgona
Project Manager

Enclosures

cc w/o enclosures:
C. Jones, MACTEC-ERS
S. Hamp, ERD-UMTRA

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1996 Annual Inspection of the Spook, Wyoming, UMTRCA Title I Disposal Site

1.0 Introduction

This report presents the results of the U.S. Department of Energy's (DOE's) annual inspection of the Uranium Mill Tailings Radiation Control Act Title I disposal site at Spook, Wyoming.

The purpose of the annual inspection is to ensure that the disposal cell continues to comply with Uranium Mill Tailings Remedial Action (UMTRA) Project design standards.

The inspection was conducted on August 13, 1996, by C. A. Jones, Chief Inspector, and D.L. Langdon, Assistant Inspector, of Rust Geotech (Rust), operating contractor at the DOE Grand Junction Projects Office (GJPO). The inspection was conducted in accordance with procedures established by the GJPO to comply with requirement of 10 CFR 40.27.

2.0 Results of Inspection

2.1 Specific Site Surveillance Features

The road to the site is graded and hard packed; north of the Dry Fork of the Cheyenne River, it narrows to a seldomly used dirt track. Ruts are beginning to form in the track and may eventually make the road impassable to low clearance vehicles. The track is not graveled and may be difficult to negotiate in wet weather.

One entrance sign and 10 perimeter signs are at this site. All were in place and undamaged except for P3, which has a bullet hole. The missing cap, or finial, on the post for P3 was replaced during this inspection.

The 2 site markers, 8 boundary monuments, and 3 survey monuments were in excellent condition. Concrete bases around several of the boundary monuments rise an inch or so above the surface of the surrounding soil, but this appears to be an artifact of installation and is not a concern. There is no evidence of erosion around the boundary monuments, although minor sheet wash or deflation may have occurred before vegetation became established.

Ground-water monitoring is no longer required at this site. Therefore, the two monitor wells on site, MW-921 and MW-922, as well as several off-site wells (not inspected) should be abandoned in compliance with state ground-water protection laws. An old water supply well in the southeastern corner of the site should be included in the abandonment program.

2.2 Areal Features

The overall, or areal, condition of the site was inspected by dividing the site into three areas or transects: site perimeter, the disposal site itself, and outlying areas. Each of these transects was inspected by walking a series of traverses.

2.2.2 Transects

Site Perimeter

Inspectors walked the site perimeter counterclockwise, beginning at the entrance sign, to inspect the site boundary and to examine as-built features (signs and monuments) located along the property line. All as-built features were in good to excellent condition, as described above, and no erosion or other disturbance was found.

Four open boreholes along the site boundary, noted during previous inspections, were abandoned by the Wyoming Abandoned Mine Lands Office on August 15, 1995. No additional open boreholes were discovered during this inspection.

Disposal Site

The area inside the site boundary was inspected by a series of east-west traverses. The Spook site is unique among Title I sites in that tailings were backfilled into an open pit and covered with 40 to 60 feet of clean fill and topsoil. None of the observations and concerns routinely associated with above-grade disposal cells, such as quality of the riprap, instability of side slopes, or the presence of deep-rooted plants (biointrusion) above the radon barrier, apply to this site.

The surface of the site was generally in excellent condition. No evidence of settling was present over the old disposal pit. Vegetation, consisting of grasses and forbs, across the site was for the most part healthy and well-established, although there remain a few places where vegetation is sparse and has not spread from the seeding furrows. What is impressive is that the vegetation is now almost indistinguishable from that which grows across the road and on the surrounding hills and valleys. The same species are present and the overall health and density of vegetation is much the same. Efforts to restore the site to grassland appear to be successful. There was no evidence that the site had been grazed this year by livestock, but antelope spoor was abundant.

Minor gully erosion has been noted on this site during previous inspections. Because tailings at this site are deeply buried, minor gully erosion is not a threat to tailings containment. There is a concern, however, that erosion resulting from severe weather might degrade the contours of the site and displace soil and vegetation.

The most noticeable erosion on site is confined to two areas, both part of the same drainage system. One branch of this drainage system flows across the northern tip of the site from west to east; the other branch starts near the transformer platform (see below) and drains the east side of the site, flowing northward to join the first branch. Each branch contains one noticeable knickpoint, as noted during the 1995 inspection. Little has changed over the past year: neither knickpoint has increased in height or migrated upstream from its 1995 position.

A transformer platform remains along the southeast edge of the site. A power line extends from the transformer platform to a power pole by the old water supply well mentioned above. DOE has requested Pacific Power and Light (PP&L) to remove the derelict transformer platform and the power line leading to it. Another power line, which appears to be in service, crosses the south end of the site. This may mean that PP&L has an easement across the site, an easement that is not identified in the Long-Term Surveillance Plan (LTSP). DOE has asked PP&L about this easement but has not received a response.

Deep large-vehicle ruts in the southeast part of the site were examined. They are isolated and may be from final grading of the site. No erosion is associated with the ruts, and vegetation in and around the ruts is dense and well established. These ruts are no longer a concern.

Outlying Areas

The area beyond the site boundary out for a distance of about 0.25 mile was examined for erosion, disturbance, change in land use, or other feature of possible concern. None was seen. Pumping oil wells may have increased in number, but these are at a considerable distance from the site.

Southeast of the site, approximately 900 feet south-southeast of BM-3 and immediately downgradient of a former erosion control structure (a barrier of straw bales held by stakes), erosion continues to be active along one particular gully where vegetation is sparse. Immediately upstream from the headcut the gradient appears to flatten and vegetation is well established. The vegetation and change in gradient are expected to slow or halt upstream migration of the headcut.

3.0 Conclusions and Recommendations

3.1 Conclusions

This inspection found the Spook site in excellent condition. Specific site surveillance features are undisturbed and grassland vegetation is established over most of the site.

3.2 Observations and Recommendations

1. Ground-water monitoring is no longer required at this site, yet two monitor wells and one water supply well remain on site and several monitor wells remain off site. (See page 1.)

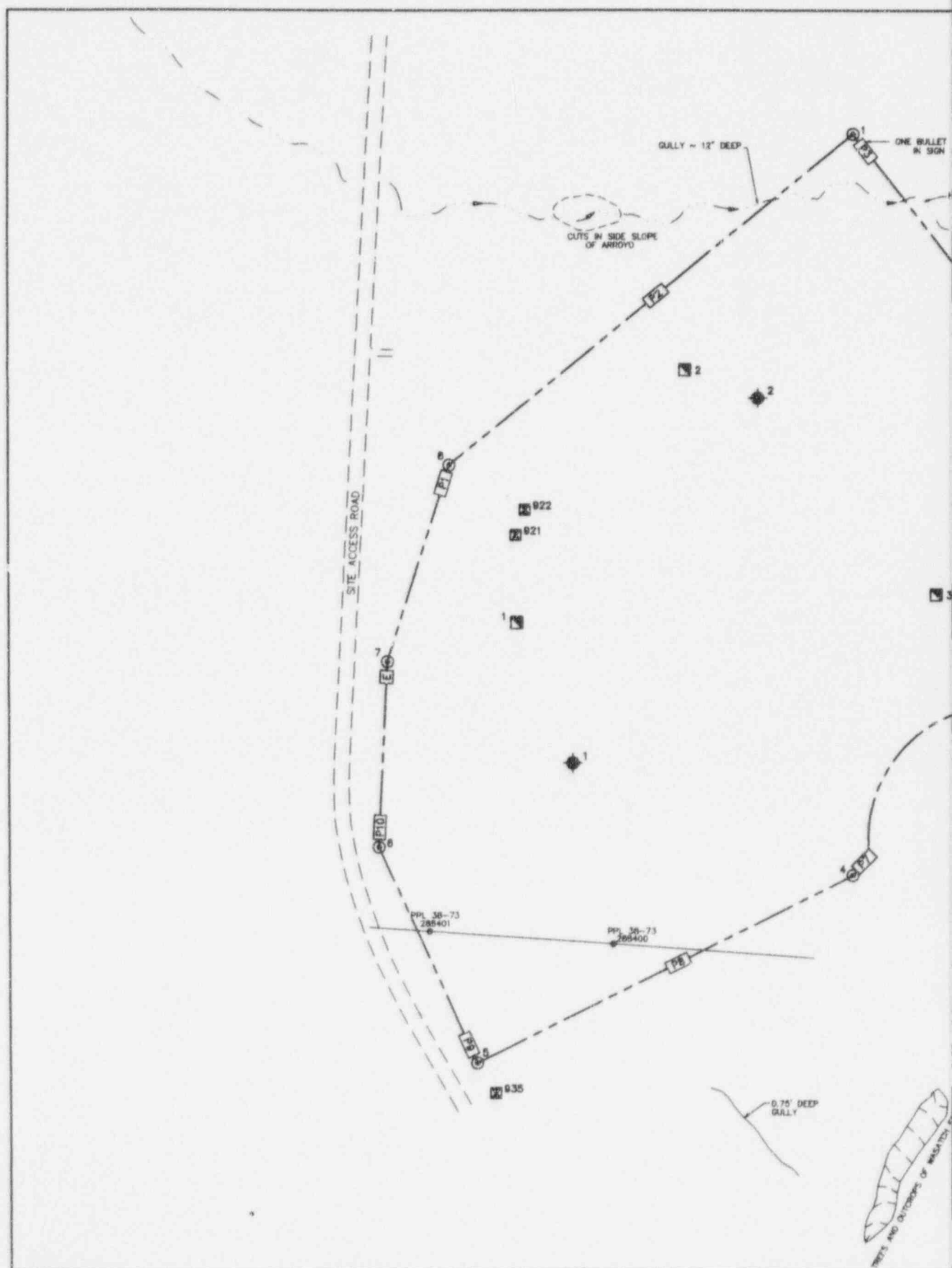
Recommendation: Abandon all wells in compliance with state ground-water protection laws.

2. A derelict transfer platform on site has not yet been removed by PP&L. PP&L has not confirmed whether it has an easement across the south end of the site. (See pages 2 to 3.)

Recommendation: DOE should renew its request to PP&L to remove the derelict transformer platform. DOE also should press PP&L for confirmation of the easement.

Monitoring of the following should continue:

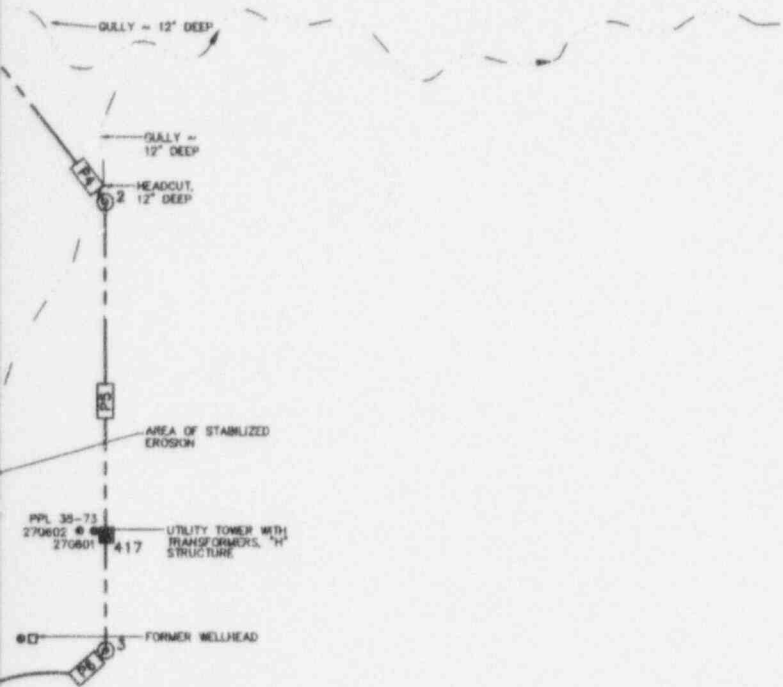
- Gully erosion at the north tip of the site and along the east edge of the site. (See page 2.)
- Revegetation against overgrazing or drought. (See page 2.)
- Erosion in the gully southeast of the site. (See page 2.)



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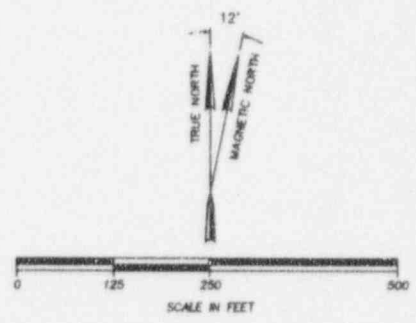
FILE

ADOUT, 30" DEEP



ANSTEC APERTURE CARD

Also Available on
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EXPLANATION

- [E] ENTRANCE SIGN
- [P10] PERIMETER SIGN AND NUMBER
- ◆ 1 SITE MARKER AND NUMBER
- ⊙ 1 BOUNDARY MONUMENT AND NUMBER
- ⊞ 1 COMBINED SURVEY MONUMENT/
BOUNDARY MONUMENT AND NUMBER
- ⊞ 827 MONITOR WELL AND NUMBER
- FORMER WELLHEAD
- ⌒ DEPRESSION
- PACIFIC POWER AND LIGHT
POWER POLES AND LINE
- PROPERTY BOUNDARY
- >— SURFACE DRAINAGE WITH FLOW DIRECTION
- ⊙ POWER POLE

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ATTACHMENT 1
SPOOK, WYOMING,
1996 INSPECTION DRAWING