



Department of Energy

Grand Junction Projects Office
Post Office Box 2567
Grand Junction, Colorado 81502-2567

SEP 24 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 Burrell, Pennsylvania, Vicinity Property Site

Dear Mr. Holonich:

Four copies of the 1996 annual inspection report for the Burrell, Pennsylvania, Vicinity Property 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 June 17 and 18. The site was in good condition except for continuing vegetation issues and the problem of a missing second site marker. Vegetation issues are being addressed in a separate biointrusion study. The Department of Energy (DOE) has decided not to request two site markers at Title II sites. DOE will extend this decision to the Burrell Vicinity Property. The change will be reflected in the Long-Term Surveillance Plan for this site when it is revised.

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

Sincerely,

Joseph E. Virgona
Project Manager

Enclosure

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

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1996 Annual Inspection of the Burrell, Pennsylvania, UMTRA Project Vicinity Property 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 Vicinity Property disposal site at Burrell, Pennsylvania.

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 June 17-18, 1996, by D.L. Scheuerman, Chief Inspector, and W.J. Waugh, 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

This report records site conditions at the time of the annual inspection. Subsequent to the inspection, on August 8, 1996, extensive maintenance was completed at the site. Problems corrected by this maintenance are noted in brackets throughout this report.

2.1 Site Access and Specific Site Surveillance Features

The site access gate and road, the entrance gate, and the pedestrian gate on the west were in good condition. The access road leads from Strangford Road southwest across a parcel of DOE land, identified as Tract 201-E, to the DOE's right-of-way across ConRail tracks and then on to the entrance gate at the site. The road is dirt and hard packed. The fencing on both sides of the gate at the Strangford Road entrance was improved in 1995 and was secured by a locked cable across the road. The new fencing and locked cable were in excellent condition.

The entrance sign has been damaged by an apparent attempt to pull the sign off the entrance gate. All perimeter signs were in place and legible. [The damaged entrance sign was replaced during maintenance completed on August 8, 1996.]

There is only one site marker at the site although the Long-Term Surveillance Plan (LTSP) says there are two. The one marker, SMK-1, is in excellent condition. Either a second site marker should be installed (at or near the crest of the disposal cell) or the LTSP should be revised to remove this discrepancy.

There are three survey monuments (SM) and seven boundary monuments (BM) at this site. SM-100 and SM-102, as well as BM-2 through BM-7, were all in excellent condition. SM-101 is in deep grass and its presence has never been confirmed during annual site inspections. BM-1 also was not found. It is in a remote and densely vegetated area and may be covered by silt from high stands of

the Conemaugh River. DOE does not consider the location of these two monuments to be a concern. A land survey to locate (or reestablish) these monuments can be completed any time should a need arise. Witness corners should be established to facilitate finding these monuments.

Two pairs of erosion control markers (ECMs 5 and 6 and ECMs 7 and 9) were inspected and are in excellent condition. There was no evidence of erosion or slope instability at either ECM pair.

Ten pairs of monitor wells were inspected. All were in good condition.

2.2 Areal Features

The overall, or areal, condition of the site was inspected by dividing the site into several small areas, called transects, and by walking each in succession.

Disposal Cell Transect

The disposal cell is covered with riprap that was in good condition. However, trees and large shrubs continue to grow on the top, north, and south side slopes of the disposal cell. A special study is in progress to determine a long-term, technically based management policy for these plants. This study will be completed this fiscal year. If this study, and its associated risk assessment, support control or removal of deep-rooted species, appropriate plant measures will be implemented.

Seeps along the base of the south side slope were inspected, but none were flowing at the time of the inspection. Flow appears to fluctuate in response to precipitation and will continue to be monitored.

Area Adjacent to Disposal Cell Transect

Along the base of the north side slope of the disposal cell there is a long, narrow depression that is often filled with snow melt or rainwater according to the season. There was no standing water in the depression at the time of this inspection; but the area was damp, indicating that it had recently held water. Review of the UMTRA Project Remedial Action Plan, following the 1995 inspection of the site, revealed that this area was designed to drain to the east. However, this drainage was not achieved by final grading when the site was constructed. The site is therefore not performing as designed. Water in this depression is situated above (upgradient from) the seeps along the southern edge of the disposal cell, and it may contribute to the flow of the seeps. It is recommended that the depression be drained.

The depression can be drained by constructing a low-cost, shallow trench, up to 2 feet deep and 150 feet long, to drain standing water to the east and away from the disposal cell and the seeps that lie beneath it. This trench would restore surface drainage to its intended design without significantly altering existing site contours. The U.S. Army Corps of Engineers inspected the depression on July 9, 1996, and determined that the area is an "artificially constructed feature" and is not a wetland under Section 104 of the Clean Water Act. There is, therefore, no regulatory impediment to the proposed action.

The graded area surrounding the disposal cell and inside the security fence is covered by thick grass, scattered trees and shrubs, and thickets of woody plants. Access to the four pairs of monitor wells

inside the security fence (east and south of the disposal cell) is maintained by annual mowing of the grass and other vegetation through a system of roads that lead to the wells. These roads were all in good condition. [Grass was mowed during maintenance completed on August 8, 1996.]

Site Perimeter Transect

This transect comprises the security fence and the bank above the Conemaugh River.

Condition of the security fence around the site was generally good. No animal burrowing beneath the fence was detected. With the exception of the damaged entrance sign mentioned above, no vandalism was observed. At places, especially along the southern edge of the site, the fence passes through nearly impenetrable wooded areas. In these areas, large tree branches as well as dense shrubbery overhang and grow through the fence. The fence will soon be damaged by this growth. To assure site security and extend the life of the fence, trees and shrubs should be periodically removed along the fence for distance of 5 to 6 feet. Once the existing growth is removed, periodic mowing along both sides of the fence with a bush-hog-type mower will keep the fence line free of heavy vegetation, increase the lifetime of the fence, and ensure that the integrity of the fence can be adequately inspected. [Note: Vegetation was cut on both sides of the fence, and vegetation growing up through the fence was treated with herbicides during maintenance completed on August 8, 1996.]

The seep along the security fence, about 60 feet east of perimeter sign P8 (just west of the disposal cell), was flowing at less than 1 gallon per minute at its source, just north of the fence. Water from this seep appears to originate off site and drain around the west end of the disposal cell and into the slough. It is not considered to be a concern except that it could, over time, undermine the stability of the security fence. For this reason, it will continue to be monitored.

Included in this transect is an area up to 200 feet wide between the southern fence line and the north bank of the Conemaugh River. This area includes the grade of an old Pennsylvania Railroad spur just outside the fence line and the steep bank that drops abruptly about 50 feet to the Conemaugh River. Woodland and thick understory vegetation (dominated by Japanese knotweed) cover most of this area. This area was inspected for seeps and stability of the steep bank. No seeps were noted along the bank, and the slope continues to be stable. The river does not appear to be cutting into the bank or changing its course.

Outlying Areas

The area beyond the site boundary, out for a distance of 0.25 miles, was examined for signs of erosion, development, or other change that might affect the site. Features of concern are north of the site and include the Strangford dump north of the ConRail tracks and a depression partly filled with water, known as "Blue Hole," in the west part of the dump area. Water stands in this hole all year long to a depth of a few feet.

A dirt road runs along the north side of the ConRail tracks. This road provides the DOE with access to monitor wells MW-421 and MW-521. It also provides access to a long, narrow wooded area along the railroad tracks that the public uses as an illegal dump. The area is well known locally as the Strangford dump. It appears that local authorities are making no attempt to control illegal dumping in the area. The area is not posted. Refuse in the dump consists mainly of household wastes: paint, solvents, construction materials, used oil, automobile batteries, old appliances, and wet garbage.

The Strangford dump is upgradient from the disposal cell and, at its closet point, less than 200 feet from the disposal cell. The volume of newly dumped material seems to increase each year. Some of it is tossed or falls into the "Blue Hole," which is just east of MW-421 and MW-521. The concern is that contaminants from illegal dumping doubtless find their way into groundwater and may eventually be detected in samples from DOE monitor wells that are downgradient from the dump. The area will continue to be monitored.

3.0 Conclusions and Recommendations

3.1 Conclusions

The Burrell disposal site was in good condition at the time of the inspection. The primary concern continues to be the increase in vegetation on the disposal cell and its long-term effect on the integrity and performance of the radon barrier. Other concerns include dense vegetation along the security fence, trash accumulation at the Strangford dump, and its eventual effect on ground-water chemistry at the site.

3.2 Observations and Recommendations

1. The site marker near the entrance gate is the only site marker at this site. The second site marker (on the crest of the disposal cell) was apparently never installed. The LTSP for this site states that two site markers are present. (See page 1.)

Recommendation: Install a second site marker on top of the disposal cell, or revise the LTSP to delete mention of a second site marker.

2. Deep-rooted vegetation, including both trees and large bushes, continue to grow on the disposal cell. A special study to evaluate the long-term effect of this vegetation on the radon barrier is in progress. (See page 2.)

Recommendation: Evaluate the findings of the special study and implement the study's recommendations.

3. The site is not performing according to design in one respect: A long, narrow, depression occurs along the toe of the north side slope of the disposal cell. This area was designed to drain to the east. Ponded water in this depression may be hydrologically connected to the seeps along the bottom of the south side slope and may be contributing to flow of these seeps. (See page 2.)

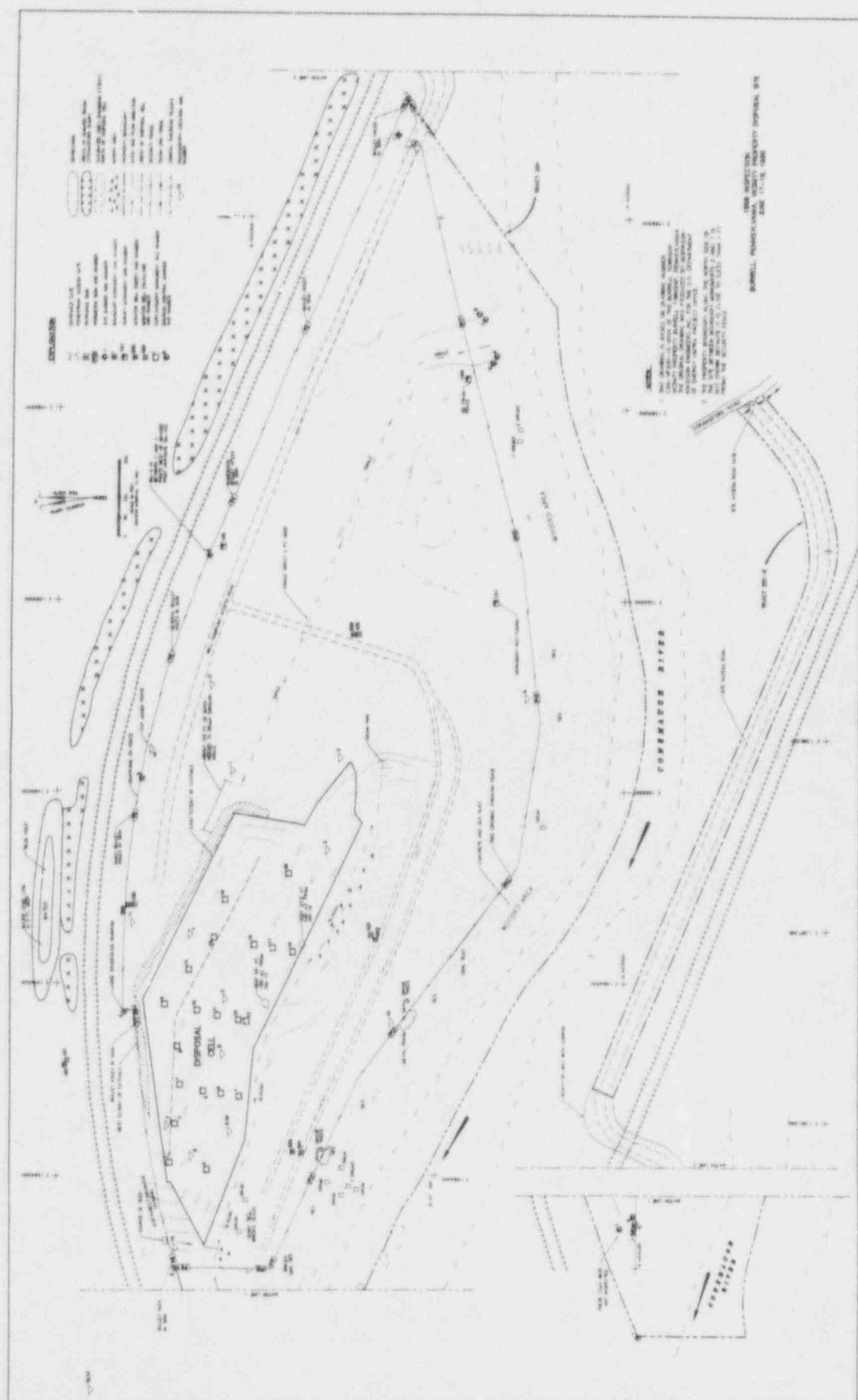
Recommendation: Restore surface drainage in this area so it conforms to design. This can be accomplished by construction of a low-cost, shallow ditch up to 2 feet deep and 150 feet long to allow rainwater and snow melt to drain to the east.

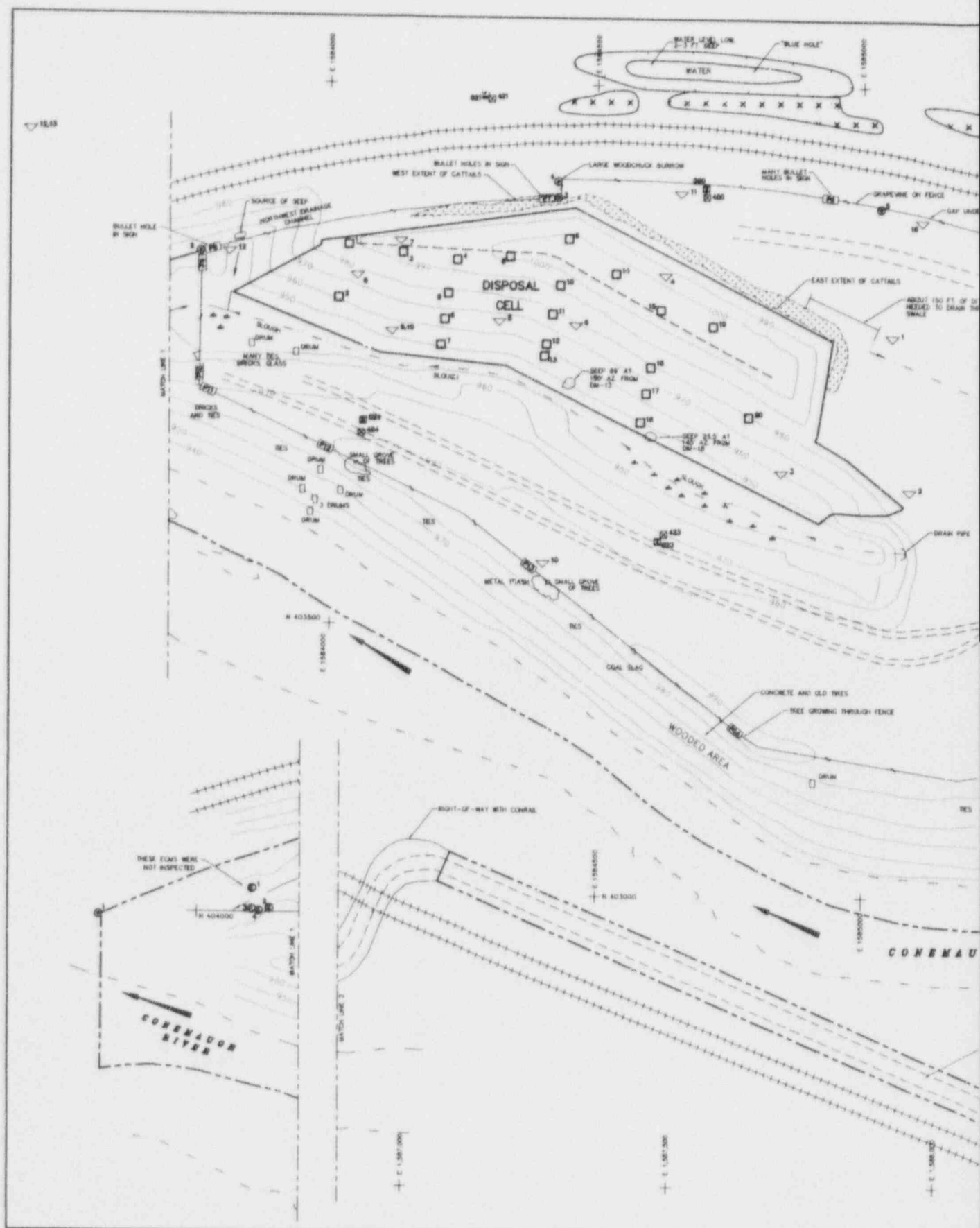
4. Heavy vegetation is interfering with the security fence, especially along the south edge of the site. The force and weight of the vegetation will eventually damage the fence, and the density of vegetation prevents a thorough inspection of the fence.

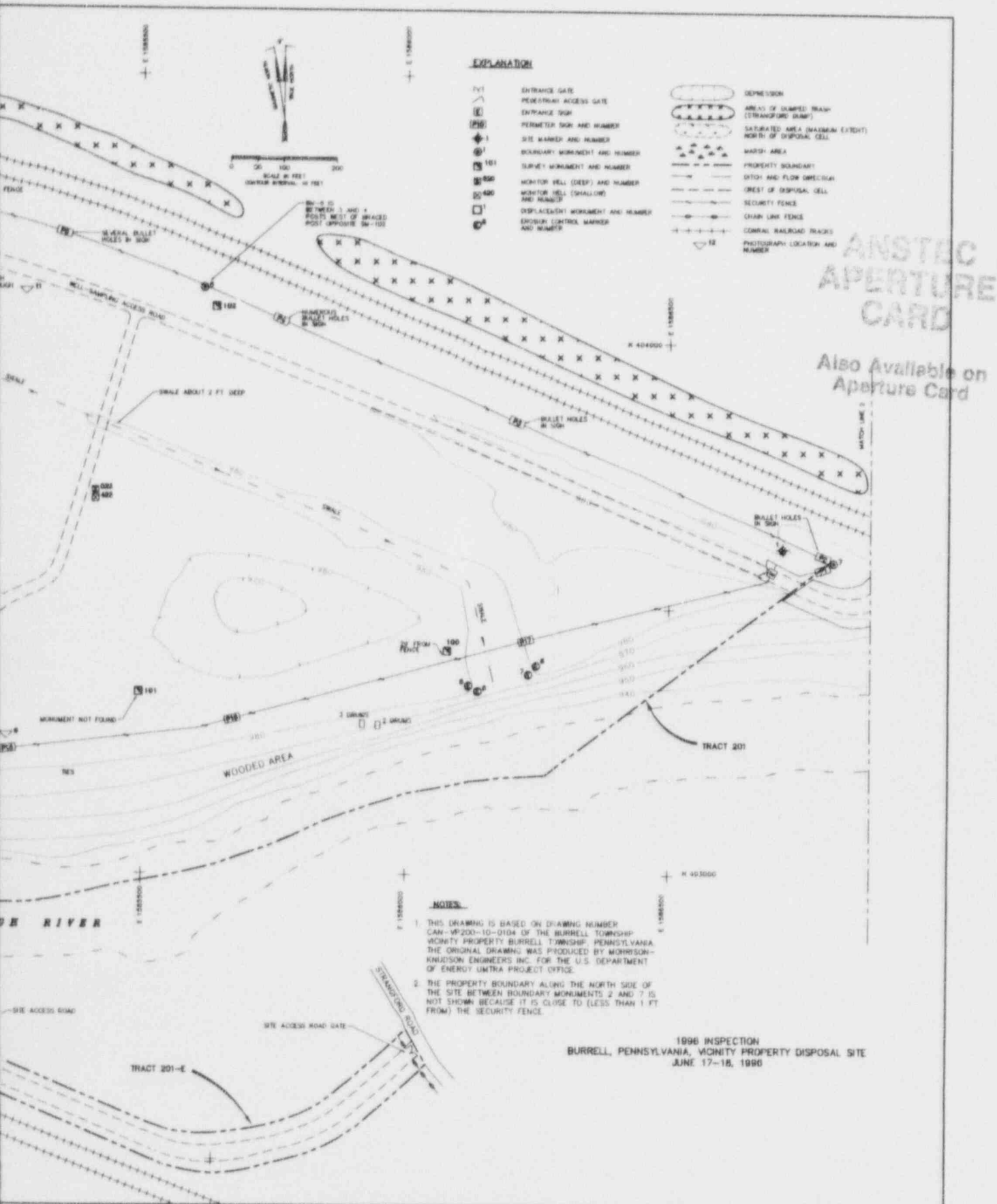
Recommendation: Cut vegetation along both sides of the security fence every 2 to 3 years, or as necessary, with a bush-hog-type mower.

The following will be monitored during future inspections:

- Seeps along the south side slope. (See page 2.)
- Effect of the seep west of perimeter sign P8 on the stability of the security fence west of P8. (See page 3.)
- Illegal dumping at the Strangford dump. (See pages 3 to 4.)







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