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LONG-TERM SURVEILLANCE PLAN FOR THE CANONSBURG, PENNSYLVANIA, DISPOSAL SITE

October 1995

(Supersedes UMTRA-DOE/AL 350201.0000)

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October 1995

(Supersedes UMTRA-DOE/AL 350201.0000)

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

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LIST OF ACRONYMS

Acronym	Definition
DOE	U.S. Department of Energy
EIC	Earthquake Information Center
EPA	U.S. Environmental Protection Agency
IAA	interagency agreement
NRC	Nuclear Regulatory Commission
RRM	residual radioactive material
UMTRA	Uranium Mill Tailings Remedial Action
USACE	U.S. Army Corps of Engineers

1.0 INTRODUCTION

1.1 PURPOSE

This document establishes elements of the U.S. Department of Energy's (DOE) Long-Term Surveillance Plan for the Canonsburg, Pennsylvania, disposal site. The U.S. Nuclear Regulatory Commission (NRC) will use this plan in support of license issuance for the long-term surveillance of the Canonsburg site. The plan and its procedures and specifications are based upon *Guidance for Implementing the UMTRA Project Long-term Surveillance Program* (Guidance Document) (DOE, 1992). The rationale and procedures of the Guidance Document should be considered part of this plan.

1.2 SITE DESCRIPTION

The Canonsburg (CAN) site is located within the borough of Canonsburg, Washington County, in southwestern Pennsylvania. It lies approximately 20 miles [mi] (32 kilometers [km]) southwest of downtown Pittsburgh (Figure 1.1)

The Canonsburg site covers approximately 30 acres (74 hectares. The disposal cell contains approximately 226,000 tons (241,000 tonnes) of residual radioactive material (RRM). The DOE tasked the United States Army Corps of Engineers (USACE) to take title to the Canonsburg site. Title to the Canonsburg site subsequently was transferred to the federal government. Appendix A contains more detailed information on the real estate acquisition of the site.

Area C is southeast of the Canonsburg site, between Strabane Avenue and Chartiers Creek (see drawing CAN-LTSP-001 in the pocket of this document). Contaminated soils were removed from Area C during the remedial action, and the area was restored with uncontaminated fill material. After this cleanup, residual quantities of thorium-230 were detected at several Area C locations. The remedial action plan did not consider the ingrowth of radium-226 from thorium-230 as part of the Area C cleanup, and only two locations contained sufficient thorium-230 concentrations to result in radium-226 concentrations slightly above the U.S. Environmental Protection Agency (EPA) standards in Title 40, Code of Federal Regulations, Part 192 (40 CFR Part 192). The thorium-230 concentrations in Area C are covered with at least 6 feet (ft) (2 meters [m]) of uncontaminated fill material and pose no significant risk to human health and the environment. The DOE developed procedures that will allow the agency to impose restrictions on the future use of Area C prior to the transfer of the land in accordance with Section 104(e) of the Uranium Mill Tailings Radiation Control Act of 1978, Public Law 95-604 (42 USC §7901 *et seq.*). Land use restrictions will be adequate to ensure the long-term protection of human health and the environment.

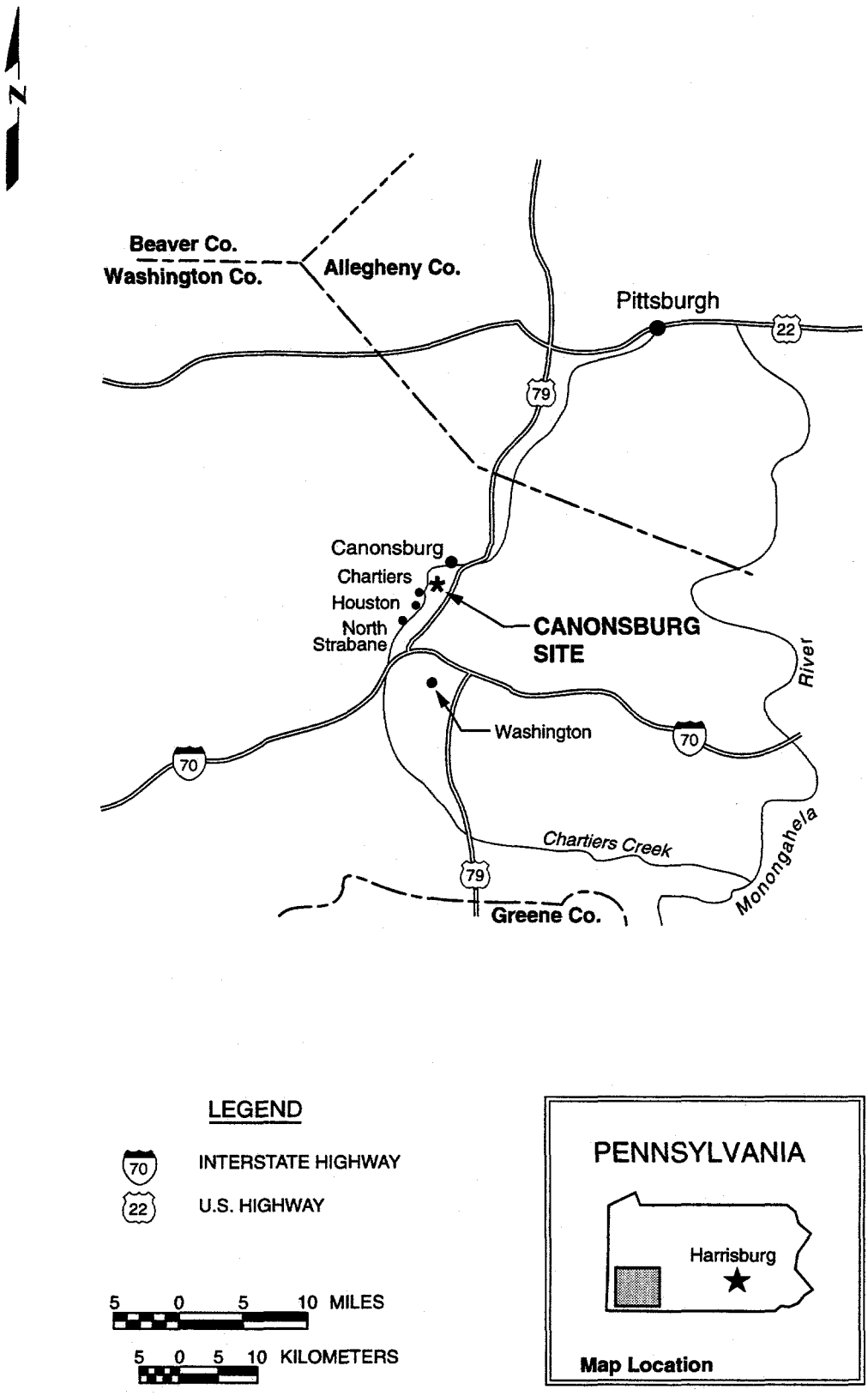


FIGURE 1.1
CANONSBURG, PENNSYLVANIA, SITE LOCATION MAP

2.0 FINAL SITE CONDITIONS

2.1 MONUMENTS, MARKERS, AND SIGNS

2.1.1 Survey monuments

Three permanent survey monuments were established at the Canonsburg site at the locations shown in drawing CAN-LTSP-001. The monuments were referenced to the nearest U.S. Geological Survey benchmark using second-order standards.

The monuments are precast concrete and were set in concrete poured into a hole extending at least 18 inches (46 centimeters [cm]) below the frost line (approximately 54 inches [137 cm]) deep.

Additional details are provided in Section 4.1 of the Guidance Document.

2.1.2 Boundary monuments

Boundary monuments were placed at the corners of the site's southern boundary (from creek to creek), as shown in drawing CAN-LTSP-001. The Berntsen Federal aluminum survey monuments (Model A-1) were set 12 to 16 inches (30 to 41 cm) below the frost line (total length is approximately 48 to 52 inches [122 to 132 cm]). The final locations of the boundary monuments were established to second-order standards and were linked to the survey monument system.

Additional details are available in Section 4.2 of the Guidance Document.

2.1.3 Site markers

Two granite site markers identify the Canonsburg site (Canonsburg, PA), the general location of the tailings on the site (site boundary and disposal cell), the date of closure (December 1985), the wet tonnage of tailings (266,000 tons) in the disposal area, and the curies of radioactivity (100 curies of radium-226). One site marker was placed at the site entrance and the other site marker was placed near the center of the crest of the disposal cell (drawing CAN-LTSP-001).

The site marker near the site entrance was set in a bed of reinforced concrete extending 12 inches (30 cm) below the frost line (approximately 48 inches [122 cm] below grade). The other marker was placed on the disposal cell surface without disturbing the cover system.

The site markers' elevation and position were determined by a survey of the same precision as used in establishing the survey monuments (see Section 2.1.1).

Additional details are available in Section 4.3 of the Guidance Document.

2.1.4 Signs

Signs displaying the international symbol indicating the presence of radioactive materials were attached to the outside of the fence at 500-ft (152- m) intervals around the site perimeter. The signs also indicate that 1) the site is government property, 2) the site contains uranium mill tailings, and 3) trespassing is forbidden. In addition, the name (DOE) and 24-hour telephone number (970/248-6070) of the responsible agency are given. The signs are metal, similar to highway signs.

Additional details are available in Section 4.4 of the Guidance Document.

2.2 EROSION CONTROL MARKERS

Due to the site's proximity to Chartiers Creek, three sets of erosion control markers were installed in the vicinity of the buried riprap wall (northeastern boundary) and one set near the southwestern boundary (drawing CAN-LTSP-001). The marker sets measure movement of the creek. Each set consists of two Berntsen A-1 monuments; one monument was placed 20 to 30 ft (6 to 9 m) inland from the ordinary high watermark and the other an additional 20 to 30 ft (6 to 9 m) inland from the first monument (i.e, toward the center of the site). Each monument is 5 ft (1.5 m) long and was placed 1 ft (0.3 m) below the frost line, leaving 1 ft (0.3 m) exposed above the land surface. Subsequent measurements to the ordinary high watermark were made along the bearing formed by each set of markers. The position of the erosion control markers was determined by a survey of the same precision as that used in establishing the site survey monuments (see Section 2.1.1).

The DOE and USACE have entered into an interagency agreement (IAA) (Appendices C and D) whereby the USACE will provide bank protection and erosion control measures if Chartiers Creek threatens the integrity of the Canonsburg disposal site. The role of the erosion control markers in the implementation of the IAA is described in Appendix E.

2.3 MONITOR WELLS

Seventeen monitor wells originally were installed at the Canonsburg disposal site to characterize the ground water quality and flow conditions upgradient, crossgradient, and downgradient of the site. The upgradient ground water quality and flow conditions represent background. Monitor wells 401, 402, 405 through 410, 412, 413, and 414 (Table 2.1) were completed in the unconsolidated surficial fill and alluvium; monitor wells 501 through 506 were completed in the underlying shallow bedrock of the Casselman Formation.

After disposal cell construction, monitor wells 410, 412, 413, 414, 504, 505, and 506 were selected to monitor postremedial action ground water conditions

at the disposal site (Figure 2.1). These wells evaluate ground water quality and flow conditions upgradient (wells 413 and 504), crossgradient (wells 414 and 505), and downgradient (wells 412, 413, and 506) from the disposal cell. Eight new monitor wells installed in October 1993 further evaluate ground water quality and flow conditions at the disposal site (Figure 2.1). Monitor wells 422 through 425 were completed in the unconsolidated fill and alluvium, and monitor wells 507 through 510 were completed in the underlying shallow bedrock.

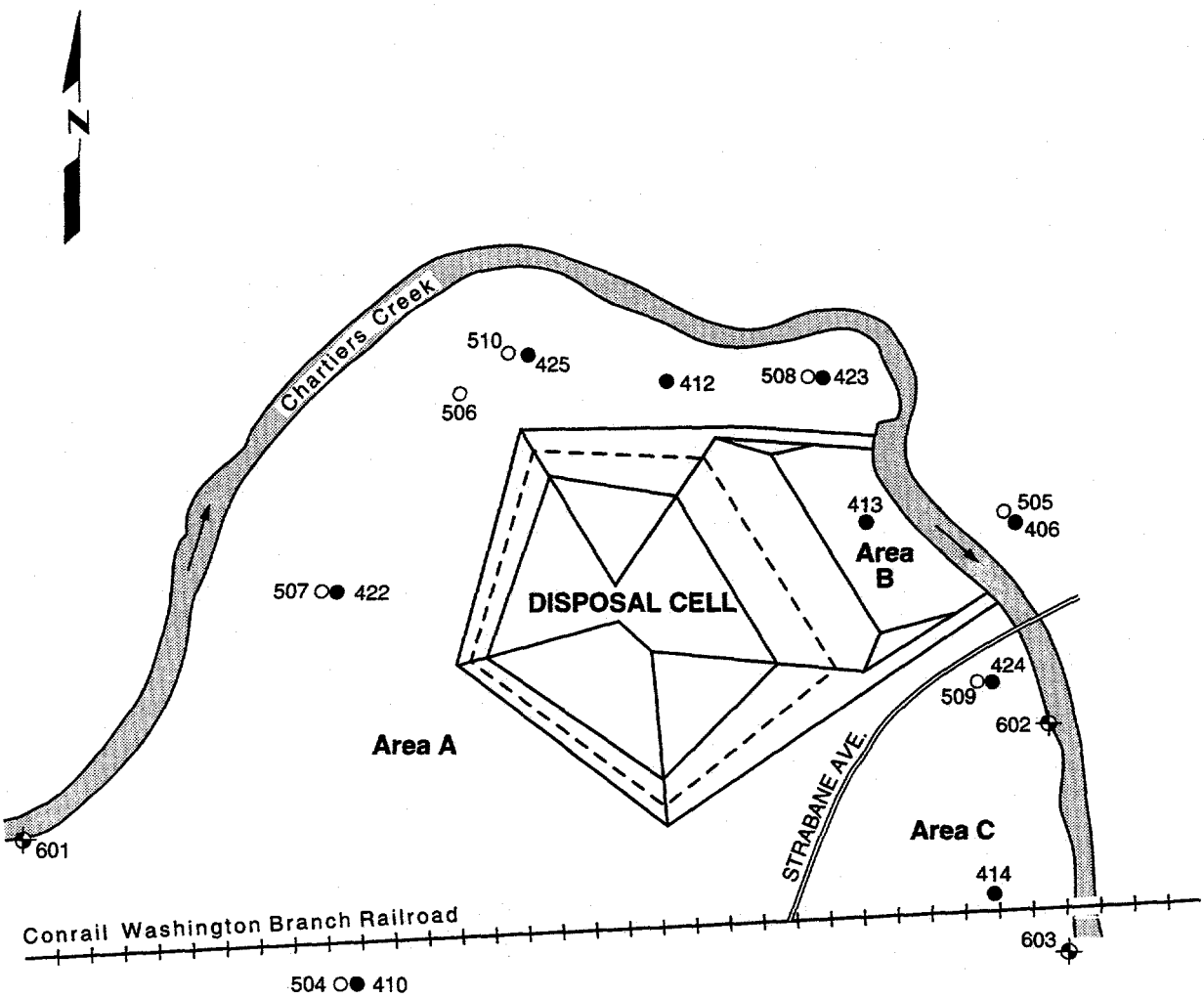
Ground water in the unconsolidated surficial fill and alluvium flows into Chartiers Creek, which surrounds the Canonsburg disposal site on the west, north, and east. Therefore, surface water samples collected at locations 601 through 603 along Chartiers Creek (Figure 2.1) evaluate the potential effects of ground water discharging from the disposal site into the creek.

All of the monitor wells at the Canonsburg disposal site were completed according to Uranium Mill Tailings Remedial Action (UMTRA) Project specifications as outlined in Section 5.0 of the Guidance Document. Table 2.1 summarizes well completion information for the seven monitor wells that monitor postremedial action ground water conditions at the disposal site and for the eight monitor wells installed at the disposal site in 1993. Completion records for all of the monitor wells are available from the UMTRA Project Team. The ground water monitoring program at the disposal site is described in Section 4.0 of this surveillance plan.

Table 2.1 Monitor well completion information

Well number	Well depth (feet)	Well depth (meters)	Screened interval depth (feet)	Screened interval depth (meters)	Formation of completion[a]	Flow relationship[b]
0406[c]	--	--	--	--	UM	DG
0410	17.0	5.2	11.4-16.0	3.5-4.9	UM	UG
0412	20.1	6.1	14.3-19.3	4.4-5.9	UM	DG
0413	12.2	3.7	7.0-12.0	2.1-3.7	UM	DG
0414	15.6	4.8	4.5-14.5	1.4-4.4	UM	CG
0422	23.5	7.2	15.0-20.0	4.6-6.1	UM	UG
0423	13.0	4.0	6.0-11.0	1.8-3.4	UM	DG
0424	17.0	5.2	10.0-15.0	3.0-4.6	UM	DG
0425	19.0	5.8	10.5-15.5	3.2-4.7	UM	CG
0504	26.5	8.1	19.9-24.9	6.1-7.6	SB	UG
0505	95.0	29.0	25.4-35.4	7.7-10.8	SB	DG
0506	90.0	27.4	21.0-26.0	6.4-7.9	SB	CG
0507	43.0	13.1	35.0-40.0	10.7-12.2	SB	UG
0508	32.0	9.8	25.0-30.0	7.6-9.1	SB	DG
0509	34.5	10.5	27.5-32.5	8.4-9.9	SB	DG
0510	38.0	11.6	30.0-35.0	9.1-10.7	SB	DG

[a]Formation of completion: UM = unconsolidated materials (surficial fill and alluvium); SB = shallow bedrock (Pennsylvanian Casselman Formation).
[b]Flow relationship: UG = upgradient; CG = crossgradient; DG = downgradient.
[c]Well and screened interval depths are not available.



LEGEND

410 ● MONITOR WELL IN UNCONSOLIDATED MATERIAL

504 ○ MONITOR WELL IN SHALLOW BEDROCK

603 ⊕ SURFACE WATER SAMPLING LOCATION

← DIRECTION OF STREAM FLOW

200 0 200 400 FEET

50 0 50 100 METERS

FIGURE 2.1
LOCATIONS OF MONITOR WELLS AND SURFACE WATER SAMPLING
CANONSBURG, PENNSYLVANIA, DISPOSAL SITE

MAC: SITE/CAN/LTSP/SWSAMPLOCS2

3.0 SITE INSPECTION

3.1 PHASE I INSPECTION

Phase I inspections are conducted annually immediately following mowing of the grass cover. The inspection procedures, photography procedures, preinspection familiarization, and other requirements are those described in Sections 3.7 and 6.0 of the Guidance Document. The inspection team consists of, at a minimum, a geotechnical engineer and a hydrologist. The initial inspection occurred in the spring of 1986.

3.2 PHASE II INSPECTION

As noted in Section 7.0 of the Guidance Document, once the Phase I inspection has identified a potential problem, the DOE shall notify the NRC and begin a Phase II inspection by submitting a preliminary assessment of the potential problem and a Phase II inspection plan. The DOE will implement the plan upon NRC approval. Once the Phase II inspection is completed, the DOE will recommend maintenance or other actions as needed.

4.0 GROUND WATER MONITORING

4.1 NEED FOR GROUND WATER MONITORING

The EPA ground water protection standards specify implementation of a ground water monitoring plan to evaluate the effectiveness of the remedial action and to demonstrate compliance with the ground water standards (40 CFR 192.03). However, the Canonsburg remedial action was completed about the time of the court remand of the ground water standards in 1985. The EPA has concluded (60 FR 2854) that modification of the existing Canonsburg disposal cell is not warranted to meet the ground water standards, as the disposal cell's design is adequate to provide long-term protection of human health and the environment. However, as a best management practice, the DOE will continue ground water monitoring at the Canonsburg site.

4.2 GROUND WATER CHARACTERIZATION

The Canonsburg site is underlain by up to 30 ft (9 m) of unconsolidated fill and alluvium that overlie claystones and shales of the Pennsylvanian Casselman Formation. Ground water occurring beneath the Canonsburg site is unconfined in the unconsolidated materials and semiconfined in the underlying bedrock. Ground water in the unconsolidated materials ranges from 1 to 4 m (3 to 14 ft) beneath the land surface. The unconsolidated materials are recharged by direct infiltration of precipitation and from southern ground water flow beneath the site. Ground water in the unconsolidated materials at the site flows into Chartiers Creek, which surrounds the site on the west, north, and east. The predominant ground water flow direction in the shallow bedrock aquifer generally is northeast.

No known ground water users are in the Canonsburg disposal site vicinity. The major water source for public consumption in Washington County is surface water.

The Canonsburg site was used to extract, concentrate, and process radioactive materials from the early 1900s until 1957. Solid and liquid wastes at the site consisted of various ores, concentrates, and RRMs. These wastes are contained in the disposal cell. Existing contamination, principally uranium, in ground water at the Canonsburg site is restricted within the site boundaries. The site is surrounded on three sides by Chartiers Creek, and shallow ground water generally discharges to surface water. However, no evidence exists of contamination related to the disposal site in the surface water in Chartiers Creek.

4.3 GROUND WATER MONITORING PROGRAM

The ground water monitoring program at the Canonsburg site is being conducted as a best management practice. In addition, a surface water monitoring program evaluates the potential effects of ground water discharging from the site to Chartiers Creek.

4.3.1 Current ground water monitoring program

The monitor wells and surface water sampling locations at the Canonsburg disposal site are described in Section 2.3 of this long-term surveillance plan. Monitor wells 410, 412, 413, 414, 504, 505, and 506 (Figure 2.1) monitor postremedial action ground water conditions at the disposal site. Following the determination of background and baseline ground water conditions at the site, these wells were sampled semiannually for 7 years (through 1992) and currently are sampled annually. This sampling frequency permits evaluation of trends in ground water quality and flow conditions.

Monitor wells 422, 423, 424, 425, 507, 508, 509, and 510, installed in October 1993, further evaluate ground water conditions at the Canonsburg disposal site (Figure 2.1). These wells were sampled in 1993 and 1994 to characterize further the background ground water quality and the nature and extent of ground water contamination at the disposal site.

Monitor wells 412, 413, and 414, completed in the unconsolidated materials, have the highest levels of site-related contamination. Contamination in wells 412 and 413, within the disposal site, is not expected to migrate to potentially accessible ground water areas. Wells 414 and 424 are in Area C, southeast of the disposal site. Well 424 recently was installed to evaluate further the extent of contamination associated with well 414. Two rounds of sample data from monitor well 424 should be verified by future sampling.

Current data indicate that the ground water in the shallow bedrock is not contaminated except in the immediate area of monitor well 506. Uranium concentrations have been consistently high in well 506 since sampling began in 1986. This monitor well was installed in an area containing contaminated material that was not put into the disposal cell, apparently resulting in the locally elevated uranium concentration. Monitor well 510 was installed immediately downgradient from well 506 to verify a possible local source of contamination. The uranium concentration in ground water at well 510 was less than the detection limit, indicating that the above assumption probably is correct.

4.3.2 Current surface water monitoring program

The surface water sample locations (601 through 603) along Chartiers Creek are shown on Figure 2.1. Locations 601, upstream from the site, and 602, adjacent to Area C, were sampled semiannually from 1989 through 1992 and

annually thereafter. Location 603, downstream from the site, was sampled in 1993 and 1994.

Unfiltered sample data from locations 601 and 602 were compared for the ground water constituents exceeding background ground water quality in monitor wells 412, 413, and 414. No statistical differences in water quality between the two sample locations were found. Uranium was not detected at either location. In a 1993/1994 evaluation of surface water data, uranium was not detected at sampling locations 601, 602, or 603. The surface water quality data base is limited but indicates that ground water contamination from the site is not affecting the water quality of Chartiers Creek.

4.3.3 Ongoing ground and surface water monitoring program

The DOE will continue to monitor ground water and surface water at the Canonsburg disposal site as a best management practice to evaluate potential contaminant trends within the unconsolidated materials underlying the disposal site and to ensure the protection of human health and the environment. The ongoing monitoring program will be performed annually for the next 2 years and will be limited to collecting ground water and surface water samples from selected monitor wells and locations along Chartiers Creek.

The new monitor well network will consist of wells 406, 410, 412, 413, 414, and 424 (Figure 2.1), which are all completed in the unconsolidated materials. Well 406 will be sampled to determine if ground water contamination is migrating across Chartiers Creek, and well 410 will be sampled to continue monitoring of background ground water quality. Wells 412 and 413, within the disposal site, will be sampled to verify that contamination in this area is not migrating to potentially accessible ground water areas. Wells 414 and 424, will be sampled to evaluate further the extent of contamination associated with well 414. The monitoring program will include measuring ground water levels in these monitor wells to obtain ground water flow patterns and variations in ground water elevations.

Monitor wells completed in the shallow bedrock aquifer will not be sampled because the ground water in the shallow bedrock is not contaminated (except for a local, immobile source of contamination in the area of well 506). The immobility of the contaminant source in the area of well 506 has been verified by the extremely low concentrations of uranium (less than the detection limit) detected in well 510 immediately downgradient from well 506. Ground water levels in monitor wells 504 and 505 will be measured during the monitoring of monitor wells 406 and 410 (Figure 2.1). These measurements will provide ground water flow patterns and variations in ground water elevations.

Samples will be collected from surface water sample locations 601, 602, and 603 (Figure 2.1) during the annual period of low flow to verify that ground water contamination from the site is not affecting the water quality of Chartiers Creek.

The constituents and radionuclides analyzed during the screening monitoring to determine background and baseline ground water and surface water quality are listed in Table 4.1. During subsequent sampling, the constituents and radionuclides were reduced to focus on hazardous constituents related to uranium processing activities. These constituents also are noted in Table 4.1. Based on further assessment, the constituents to be analyzed during the ongoing ground water and surface water monitoring are shown in Table 4.2. The monitoring program will be performed in accordance with the UMTRA Project procedures and quality assurance/quality control protocols outlined in Section 5.0 of the Guidance Document.

Monitor wells 412 and 413 are within the Canonsburg disposal site, and monitor well 424 is within Area C. Monitor well 414 lies within Tract 117 acquired by the USACE prior to remedial action (Figure A-1). The DOE has access to both locations for sampling these wells. Monitor wells 406, 410, 504, and 505 are outside the disposal site, and the USACE has obtained perpetual access easements to these wells for continued sampling. Monitor wells 425 and 510 are within the disposal site and will be kept open for possible future sampling. All other monitor wells inside and outside the disposal site will be abandoned in accordance with the applicable regulations.

4.4 CORRECTIVE ACTION

Trends or anomalies in ground water and surface water quality will be compared to background ground water and surface water quality and site-specific conditions. The DOE will notify the NRC if disposal cell performance is not or may not be protective of human health and the environment due to ground water or surface water quality. The DOE will submit a corrective action plan to the NRC to be implemented within 18 months of NRC notification.

4.5 MONITORING SCHEDULE AND REPORTING

Annual ground water and surface water monitoring will continue for the next 2 years, as a best management practice, to evaluate potential contaminant trends within the unconsolidated materials underlying the disposal site and to ensure the protection of human health and the environment.

Ground water monitoring program results will be reported annually in the Canonsburg Annual Inspection Report, the Annual Environmental Monitoring Report, and in additional reports as needed by the appropriate regulatory agencies. These reports will contain: 1) the results of the ground water monitoring program for the subject reporting period; 2) an evaluation of the results; and 3) a discussion of significant trends or anomalies in the ground water monitoring results.

Table 4.1 Constituents and radionuclides analyzed during screening monitoring to determine background and baseline water quality

Constituent	Constituent
Aluminum	Selenium[a]
Ammonium[a]	Silica
Antimony	Silver
Arsenic	Sodium[a]
Barium	Strontium
Beryllium	Sulfate[a]
Boron	Sulfur
Bromium	Thallium
Cadmium	Tin
Calcium[a]	Total alkalinity
Chloride[a]	Total dissolved solids[a]
Chromium	Total kjeldahl nitrogen (TKN)
Cobalt	Total organic carbon
Copper	Uranium[a]
Cyanide	Vanadium[a]
Fluoride	Zinc
Iron[a]	
Lead[a]	Radionuclides
Magnesium[a]	
Manganese[a]	Gross alpha[a]/beta
Mercury	Lead-210
Molybdenum[a]	Polonium-210
Nickel	Radium-226[a]
Nitrate[a]	Radium-228[a]
pH	Thorium-230
Phosphate	
Potassium[a]	

[a]These constituents and radionuclides are analyzed in the current ground water and surface water monitoring.

Table 4.2 Constituents to be analyzed during the ongoing ground water and surface water monitoring program

Constituent
Calcium
Chloride
Magnesium
Manganese
Molybdenum
Potassium
Sodium
Sulfate
Uranium

5.0 AERIAL PHOTOGRAPHY

One-time aerial photographs were obtained in the spring of 1986, prior to the Phase I inspection. The site as well as the area within 0.4 km (0.25 mi) of its boundary were photographed.

The aerial photography format was selected in concert with technical specialists providing the service. The objectives of the aerial photography are to provide a permanent record of site conditions at closure and to expedite preparation of a topographic map of the site. The photographs are available as a baseline on which to compare changes in site conditions over time. The specifications and procedures for flight planning, photography, and interpretation were those of Section 3.6 and Attachment 3 of the Guidance Document.

Photographic documentation can be found in the permanent site file at the DOE Grand Junction Projects Office in Grand Junction, Colorado.

6.0 CUSTODIAL MAINTENANCE AND CONTINGENCY PLANS

6.1 CUSTODIAL MAINTENANCE

Custodial maintenance for the Canonsburg property will consist of a vegetation control program to prevent the establishment of trees in the rock-lined ditches (Appendix B). The grass cover also will be maintained to prevent the establishment of shrubs and trees (principally on the disposal cell) and prevent erosion. Sign repair or replacement, access road maintenance, cover repair, and the like is performed as needed and as part of the contingency plan (see Section 6.2).

The grass cover was mowed first in 1987 and annually thereafter during the June/July time frame. Grass was mowed to a height of 4 to 6 inches (10 to 15 cm). Only one-half of the cover is mowed annually, in alternating strips to increase seed production and provide a continued, self-perpetuating cover source. Small shrubs or trees that may invade the disposal cell or areas immediately adjacent to the disposal cell will be removed.

6.2 CONTINGENCY PLAN

The DOE shall become aware of problems through Phase I/II inspections, detection/compliance monitoring, or contingency inspections. A contingency inspection will be triggered by reports from federal or state agencies or local authorities.

Sudden hazards that may affect the site include floods, earthquakes, tornadoes, hurricanes, and fire (loss of grass cover). To become aware of these unusual events, the DOE has established notification procedures with the following agencies and local authorities:

- National Weather Service, Coroapolis, Pennsylvania
- Earthquake Information Center (EIC), Denver, Colorado.
- Canonsburg Police Department, Canonsburg, Pennsylvania.
- North Strabane Township Police Department, North Strabane, Pennsylvania.

The National Weather Service shall notify the DOE at the 24-hour telephone number (970/248-6070) within 8 hours of a county notification of a flash flood warning, tornado warning, or hurricane alert. The EIC shall notify the DOE if the following seismic events occur (based on the Richter scale):

- 3 to 4 magnitude within 12 mi (20 km) of the site.
- 4 to 5 magnitude within 31 mi (50 km) of the site.
- 5+ magnitude within 186 mi (300 km) of the site.

The local police shall notify the DOE should human intrusion (e.g., fence destruction or removal), fire, or other unusual events occur.

Once notified, the DOE shall conduct an immediate (i.e., contingency) inspection, call state or local officials to verify the report and conduct the inspection, and/or institute site repair. A primary objective of a contingency inspection is to determine if it is necessary to initiate bank protection and erosion control measures for Chartiers Creek under the IAA between the DOE and USACE. The criteria for initiating measures under the IAA are described in Appendix E of this surveillance plan. Additional details on contingency inspections are provided in Sections 7.0 and 11 of the Guidance Document.

7.0 REPORTING AND RECORD KEEPING

The DOE will provide an annual report to the NRC summarizing, describing, and evaluating all long-term surveillance and maintenance actions and certifying continued compliance with licensing requirements. A copy of all inspection, monitoring, maintenance, and contingency repair reports for the reporting period shall be appended to the report. Details of the reports are available in Sections 5.7, 6.8, and 10.2 of the Guidance Document. The permanent site file is maintained by the DOE Grand Junction Projects Office in Grand Junction, Colorado.

8.0 LIST OF CONTRIBUTORS

The following individuals contributed to the preparation of this report.

Name	Contribution
Dale Jones	Document coordinator
E. Larsen, R. Heydenburg	Hydrogeologists
D. Erskine	Geochemist
J. Lommler	Engineer
S. Cox, M. Hansen, A. Holm, J. Ritchey	Document review
S.Cox	Document sponsor
K. Walston	Editing
E. Bond	Graphics
L. Sanchez	Text processing
S. Suniga	AutoCadd
P. Martinez	Real estate

9.0 REFERENCES

DOE (U.S. Department of Energy), 1992. *Guidance for Implementing the UMTRA Project Long-Term Surveillance Program*, UMTRA-DOE/AL-350125.0000, prepared by the U.S. Department of Energy, UMTRA Project Office, Albuquerque Operations Office, Albuquerque, New Mexico.

CODE OF FEDERAL REGULATIONS

40 CFR Part 192, *Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings*, U.S. Environmental Protection Agency (1994).

FEDERAL REGISTER

60 FR 2854, *Groundwater Standards for Remedial Actions at Inactive Uranium Processing Sites*, final rule, U.S. Environmental Protection Agency, 11 January 1995.

UNITED STATES CODE

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

APPENDIX A

REAL ESTATE ACQUISITION

A.1 GENERAL INFORMATION

Remedial action at the Canonsburg UMTRA site consisted of consolidation and stabilization of the contaminated materials. Under the requirements of the UMTRCA of 1978, as amended, the Commonwealth of Pennsylvania was responsible for acquiring the designated site. However, based on the remedial action plan approved by the DOE and the NRC, it was determined that additional "non-designated" land was required in order to complete the remedial action. These adjacent properties were acquired by the USACE Office in Pittsburgh, Pennsylvania, acting on behalf of the DOE. Each of the properties was acquired by the USACE in the name of the United States of America. A map showing the adjacent "non-designated" properties, as well as the designated land acquired by the Commonwealth, is on page A-2 (Figure A-1). Also included is a listing of the individual non-designated tracts acquired by the USACE (Figure A-2). Copies of each of the individual deeds may be inspected at the DOE's property management branch at the address given below for the repository of such documentation.

The Canonsburg designated site consisted of three parcels, A, B, and C (Figure A-1). The Commonwealth of Pennsylvania acquired each of these parcels through its Department of Environmental Resources. Upon completion of remedial action, and following NRC's concurrence with the DOE's completion report, the Commonwealth conveyed ownership of parcels A and B, via a title transfer, to the United States of America. Transfer of these parcels to the United States of America was completed 13 September 1995. Under Section 104 (e)(1)(B) of the UMTRCA, the Commonwealth has opted to donate Parcel C to another governmental entity for permanent public use.

Parcels A and B consisted of 10.60 and 4.20 acres, respectively. The two parcels lie within the legal description for the disposal site property, described below. In conjunction with the state's acquisition of the two parcels, the Borough of Canonsburg, in the city of Canonsburg, vacated George Street and Ward Avenue. The notices to vacate were recorded by the Borough and may be inspected in the Office of the Recorder of Deeds in and for Washington County, in the courthouse of said county, in Washington, Pennsylvania.

A.2 LEGAL DESCRIPTION

Disposal Site Boundary

A certain tract of land situate in the Commonwealth of Pennsylvania, Washington County, Borough of Canonsburg, on Chartiers Creek, a tributary of the Ohio River and more particularly bounded and described as follows:

Beginning at a point referred to as PT-Q in Plate 1 of CAN-LTSP-001 and located along the west corner of the former Parcel A, thence, S 69° 54' 32" W 299.71 feet to the real point of beginning, thence N 46° 32' 35" W 285.66 feet, thence

Figure A-1
Tract Map
Canonsburg, Pennsylvania, Site

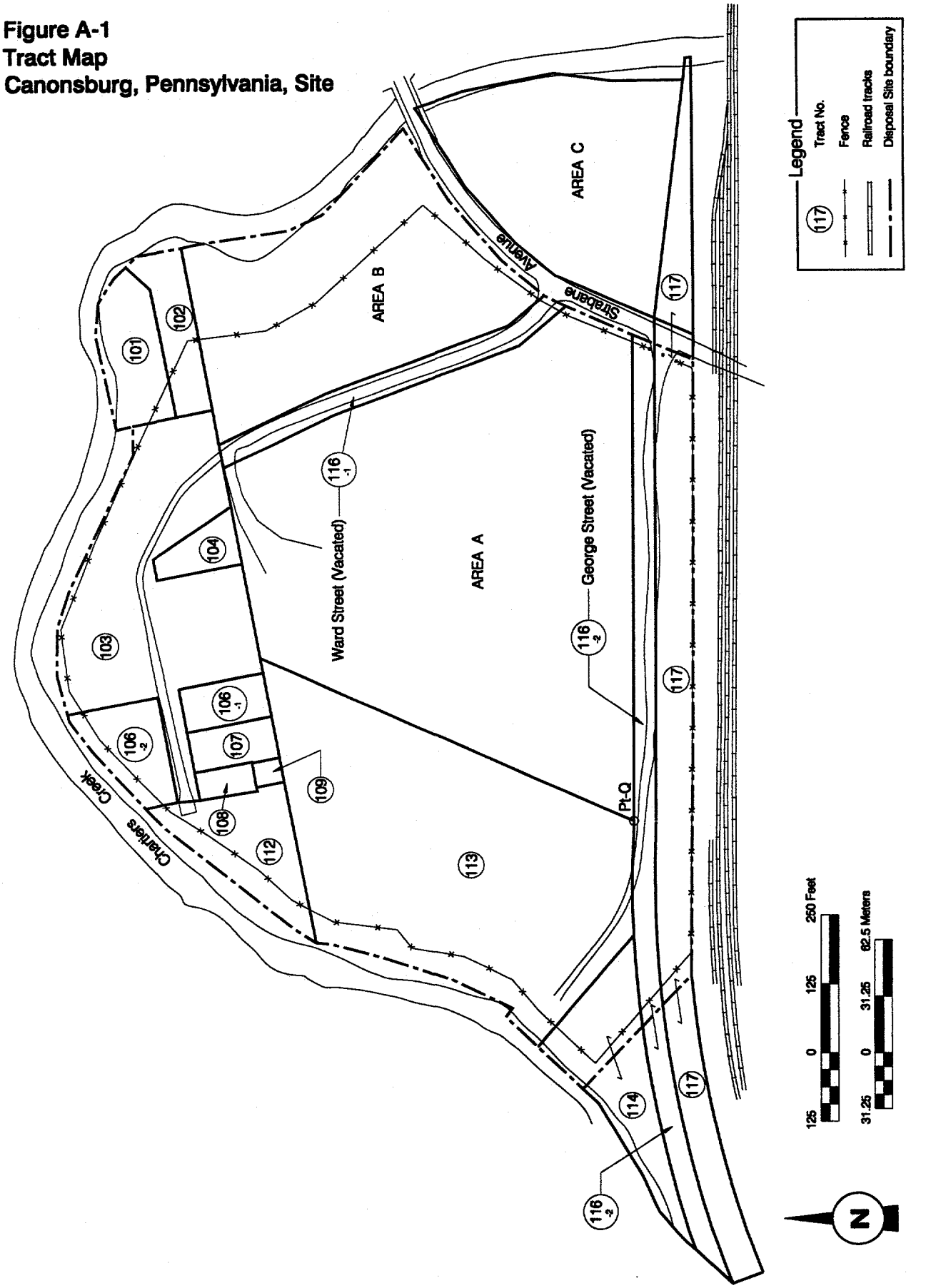


Figure – A-2. CANONSBURG ACQUISITIONS
USACE Acquired Properties

Tract No.	Acreage	Instrument Type	Instrument Date
101	0.68	DT	3/20/84
102	0.44	DT	3/27/84
103	3.07	WD	12/14/83
104	0.26	WD	12/14/83
106-1	0.28	WD	11/29/83
106-2	0.52	WD	11/29/83
107	0.27	WD	12/13/83
108	0.12	WD	12/13/83
109	0.05	WD	12/14/83
112	0.90	WD	11/29/83
113	6.15	WD	5/31/84
114	1.23	WD	12/22/83
116-1	0.62	VACATED WARD STREET	
116-2	1.57	VACATED GEORGE STREET	
117	3.28	QCD	11/7/84
125ML	17.85	DT	2/1/85

Notes: 1) Tract 125ML was a condemnation action to extinguish an oil and gas lease and other leasehold interests.
2) Title assemblies and original deeds are on file at the DOE's Property Management Division, Property and Administrative Services Division.
3) WD = Warranty Deed
DT = Declaration of Taking
QCD = Quit Claim Deed

N 43° 14' 25" E, 192 feet, thence N 52° 14' 44" W 19.69 feet, thence N 25 ° 39' 37 E 121.34 feet thence, N 18° 00' 31" E 130.00 feet, thence N 15° 15' 50" 98.02 feet, thence N 5° 23' 15" E 28.66 feet, thence N 38° 26' 11" E 301.55 feet, thence N 47° 33' 27"E 138. 41 feet, thence N 52° 54' 38" E 68.54 feet, thence N 74° 36' 19" E 85.18 feet, thence S 89° 23' 2" E 89.55 feet, thence S 72° 22' 30" 68.15 feet, thence S 64° 36' 26" E 274.35 feet, thence N 88°51' 13" E 51.71 feet, thence N 12° 59' 59" W 30.15 feet, thence N 77° 23' 21"E 173.99 feet, thence S 85° 24' 44" E 61.09 feet, thence S 56° 37' 49" E 53.98 feet, thence S 43° 57' 43" E 57.37 feet, thence S 9° 35' 15 " E 81.26 feet, thence S 13° 2' 30" E 28.82 feet, thence S 8° 46' 29" E 166.65 feet, thence S 24° 29' 29" E 68.10 feet, thence S 46° 37' 59" E 215.42 feet, thence S 58° 1' 31" W 154.3 feet, thence S 48° 55' 31" W 145.65 feet, thence S 39° 55' 31 W 100.47 feet, thence S 25° 45" 12" W 43.85 feet, thence S 23° 45' 9" W 130.95 feet, thence S 22° 25' 21 " W 118.32 feet, thence N 89° 51' 31" W 362.81 feet, thence N 89° 46' 34" W 291.53 feet, thence N 89° 16' 59" W 232.35 feet, thence N 89° 37' 29" W 232.25 feet to the point of beginning.

It is the intent of the above description to include Parcels A and B, which were a part of the same land as that in a Declaration of Taking filed by the Commonwealth of Pennsylvania filed in the Washington County Court of Common Pleas at Adsectum Docket No. 104, 1982 term. It is also the intent to include the vacated George and Ward Streets. Please note that Tract 114 and a portion of Tract 117 are not included as part of the disposal site boundary. These tracts, however, remain under the ownership of the DOE. Parcels A and B were acquired by the Commonwealth of Pennsylvania and were subsequently conveyed to the United States of America. The deed recordation information is as follows:

Filed: 13 September 1995 at Deed Book No. 2755, on Page 15, Washington County, Pennsylvania.

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) 845-6450.

APPENDIX B

VEGETATION CONTROL

B.1 BACKGROUND

Observations at the Canonsburg disposal site on 20 July 1990 indicated that trees were growing in the rock-lined ditches around the disposal cell (DOE, 1990). Six species of trees with some individuals up to 20 feet (6 meters) tall were observed. A tree control program was instituted at the site during the summer of 1992; all the large trees growing in the rock-lined ditches were cut down and their bases treated with the herbicide Roundup. Smaller trees, including seedlings and 1- to 2-year old trees, were also eliminated.

The growth of trees in the rock-lined ditches at the Canonsburg disposal site could result in the blockage of the ditches due to the accumulation of dead plant material. In addition, the uprooting of large trees could disrupt the rock cover in the ditches and reduce their flood control function. It is recommended that trees and other plant species growing in the rock-lined ditches be eliminated every 3 years. This control program can occur in conjunction with the plant control program at the Burrell vicinity property disposal cell.

B.2 VEGETATION CONTROL PROGRAM

The objective of the vegetation control program at the Canonsburg disposal site is to prevent the establishment of large trees such as those observed in the rock-lined ditches in 1990 and 1992. The growth of woody plants in the rock-lined ditches at the Canonsburg site will be monitored during the annual site inspections. Woody plants that have become established since the previous site inspection should be noted in the inspection report so they can be removed during the next plant removal program. The inspections of the rock-lined ditches will take more time if performed when there is no foliage on the plants, because the plants can easily be missed. It is recommended that a local vegetation control contractor remove the plants from the ditches at the Canonsburg site as needed. Trees that invade the ditches should be removed every 3 years. The annual site inspection may indicate that the invasion of trees in the ditches has slowed down. If this situation exists, the control measures will not be required as often.

REFERENCES

DOE (U.S. Department of Energy), 1990. "An Assessment of Plant Biointrusion at the Uranium Mill Tailings Remedial Action Project Rock-Covered Disposal Cells," UMTRA-DOE/AL-400622.0000, prepared by the U.S. Department of Energy, UMTRA Project Office, Albuquerque Operations Office, Albuquerque, New Mexico.

APPENDIX C

U.S. DEPARTMENT OF ENERGY/U.S. ARMY CORPS OF ENGINEERS COMMITMENT LETTERS FOR INTERAGENCY AGREEMENT

Department of Energy
Albuquerque Operations Office
P. O. Box 5400
Albuquerque, New Mexico 87185-5400

OCT 17 1994

Mr. John N. Goga
Acting Chief, Planning Division
U.S. Army Engineers District, Pittsburgh
Corps Of Engineers
Federal Building
1000 Liberty Avenue
Pittsburgh, PA 15222

Dear Mr. Goga:

On behalf of the U.S. Department of Energy (DOE) Uranium Mill Tailings Remedial Action (UMTRA) Project Office, we are forwarding the enclosed information regarding the Canonsburg, Pennsylvania, disposal site. We also appreciate the opportunity to exchange information and communicate with your agency as stated in your August 18, 1994, letter to Mr. Chernoff.

Pursuant to the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), Public Law 95-604, the DOE has the responsibility to perform, with the concurrence of the U.S. Nuclear Regulatory Commission (NRC), remedial action at 24 designated processing sites and associated vicinity properties. The Canonsburg site is one of the 24 designated processing sites. Remedial action at the Canonsburg site was completed in 1986. After site remedial action is certified complete by DOE and concurred upon by the NRC, the DOE will accept title to the disposal site and the residual radioactive material from the State of Pennsylvania (State). Area C will be donated to the community of Canonsburg by the State with the concurrence of the DOE and NRC. The DOE will then become the long-term custodian of the disposal site pursuant to a license issued by the NRC.

The Canonsburg disposal site and Area C were remediated to the radium (Ra-226) radiological standard established by the U.S. Environmental Protection Agency (EPA). Thorium (Th-230) ingrowth was not a consideration at the time the Canonsburg site was remediated. Only two grids, grids 0240 and 0809, were identified in Area C containing traces of elevated Th-230 (see enclosed Appendix A-1 through A-4 drawings). The TH-230 is covered by six to eight feet of clean fill and both grids are located at least 200 feet from Chartiers Creek. One grid, 0660, was found to have marginal concentrations of Th-230. Grid 0660 is also covered by six to eight feet of fill and is located at least 100 feet from Chartiers Creek. According to the U.S. Army Corps of Engineers (COE) preliminary plan for Area C excavation, none of these grids would be disturbed.

The slightly elevated Th-230 in Area C pose no significant risk to the public or environment given the small number of grids and the grid locations. We do not believe any special requirements for worker health and safety are necessary during excavations based on the COE preliminary construction plans. However, the NRC may impose excavation controls or other restrictions on Area C prior to the State donating the property to the community. The DOE has no intentions of placing any restriction on the use of Area C.

In July 1994, members of our staffs and the Pennsylvania Department of Environmental Resources met and discussed issues related to the Canonsburg disposal site and Area C. The issue of utmost concern to the NRC and DOE is the gradual erosion of the Chartiers Creek bank along the disposal site. The instability of the creek bank could ultimately threaten the integrity of the disposal cell. Although the erosion of the creek bank does not present an immediate threat to the cell, the DOE would prefer to develop a plan to assure the creek bank along the disposal site is stabilized at some point in time should it become necessary.

We believe that any improvements to the Chartiers Creek channel should be performed by the COE under its authority in Section 204 of the Flood Control Act of 1965, Public Law 89-298. We know the COE has initiated a General Reevaluation Report (GRR) effort to determine if it is economically feasible, among other considerations, to extend flood protection an additional 1.6 miles.

We understand there would be a need to coordinate the COE activities at the disposal site and Area C with the DOE if channel construction is initiated. It appears the DOE monitor wells, fencing, and riprap drainage system would be affected based on the COE preliminary construction plans. We further understand there is a possibility channel construction may not occur in the near future depending on the findings of the GRR. Therefore, the DOE proposes to enter into an Inter-Agency Agreement (IAA) with the COE to coordinate construction activities whether or not the project proceeds under Section 204 of Public Law 89-298.

A. In the event the COE proceeds with construction under authority of Section 204, the DOE proposes the following:

1. The DOE would perform the work and incur the costs to realign the security fence at the disposal site.

2. The DOE would perform the work and incur the costs to seal affected monitoring wells and to install new wells at both the disposal site and Area C.

3. The DOE would like the right to review and concur with COE plans to stabilize the creek bank and extend the riprap drainage system at the disposal site. The DOE in turn would likely have to seek NRC concurrence.

B. In the event the COE does not proceed with construction under Section 204 but it is determined by DOE under its long-term surveillance plan that action must be taken to stabilize the creek bank to protect the integrity of the disposal cell, the DOE proposes the following:

1. The COE be prepared to perform the stabilization work at the disposal site in accordance with plans developed by the COE for the Canonsburg-Houston Flood Protection Project.

2. The DOE and COE should reach an agreement with the local sponsor (Washington County) that once the stabilization work at the disposal site is completed the County would assume the maintenance responsibility as required by Public Law 89-298.

3. The DOE would fund the entire cost of the stabilization work, including all of the costs associated with item A above.

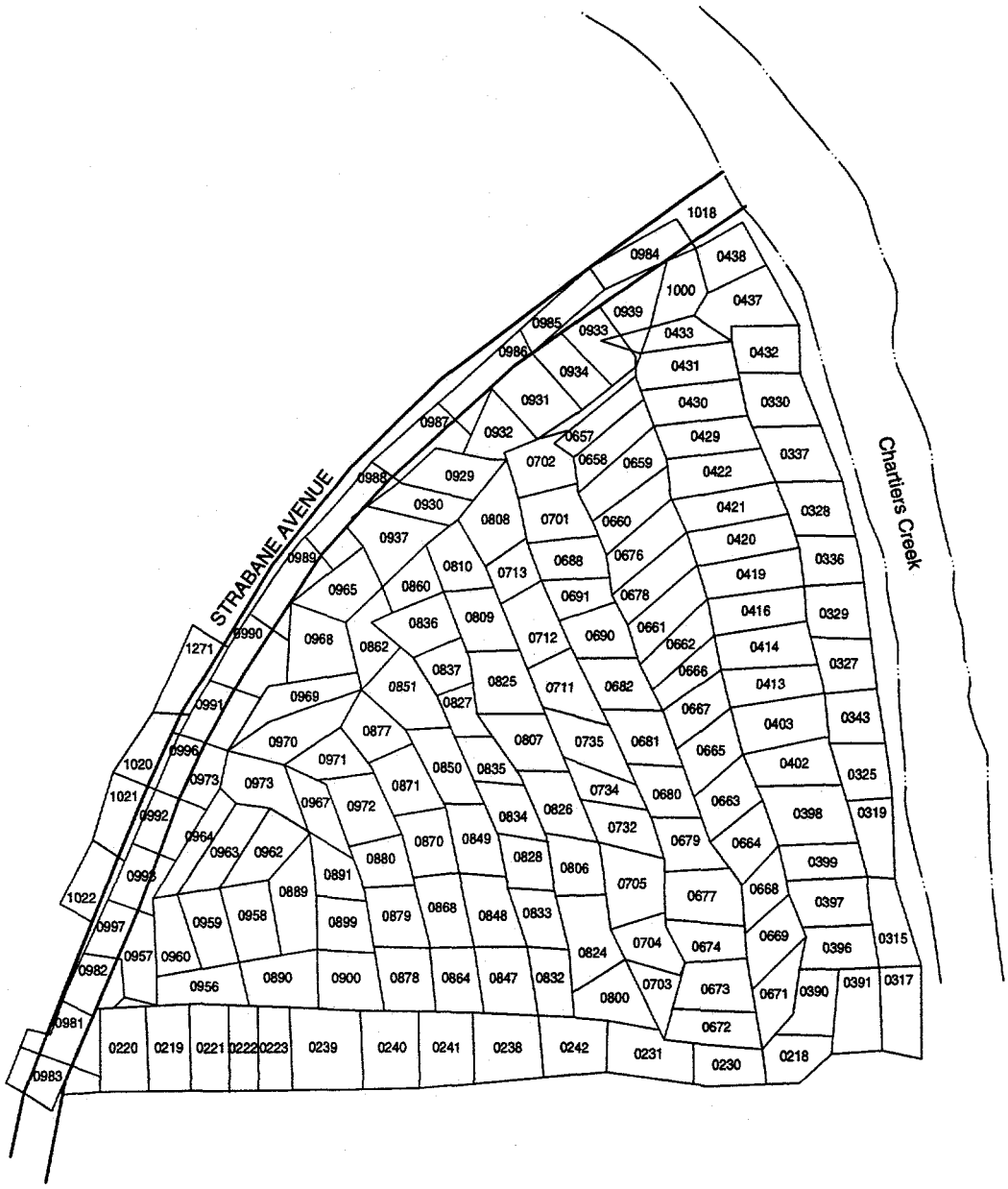
Representatives of the DOE Office of Chief Counsel and UMTRA Project Office would like to meet with appropriate COE staff within the next 30 days to discuss the IAA proposal. Mr. Michael Abrams of my staff will contact your office soon to arrange a meeting date. If there are any questions, please contact Mr. Abrams at (505) 845-5758.

Sincerely,

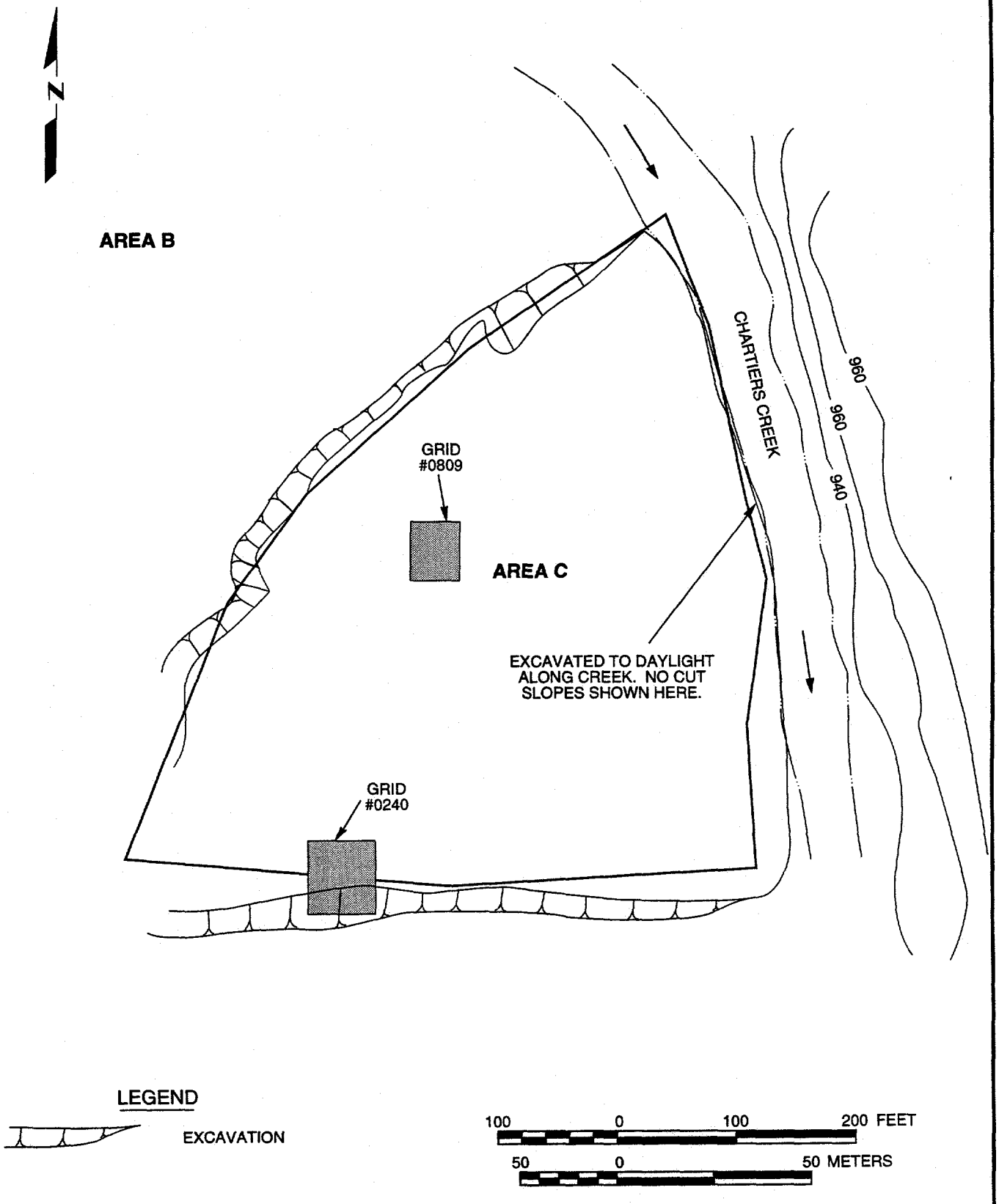
Charles A. Cormier
Acting Project Manager
Uranium Mill Tailings Remedial Action
Project Office

Enclosures

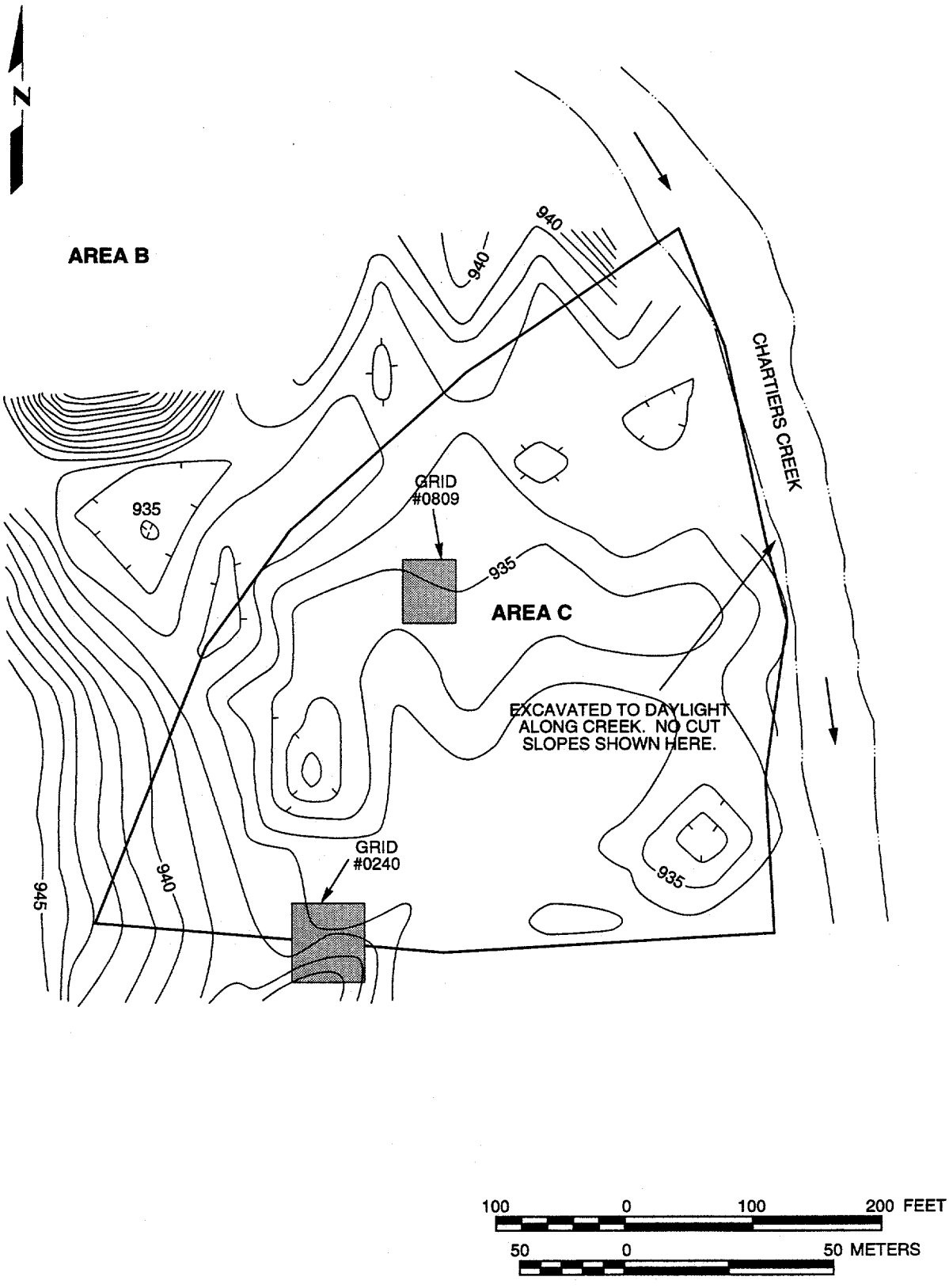
cc w/o enclosures:
D. Gillen, NRC-HQ
J. Yusko, PA DER
J. Virgona, GJPO
B. Shaw, CPD, AL
K. Landolt, OCC, AL
M. Abrams, UMTRA
J. Senger, TAC
C. Spencer, RAC



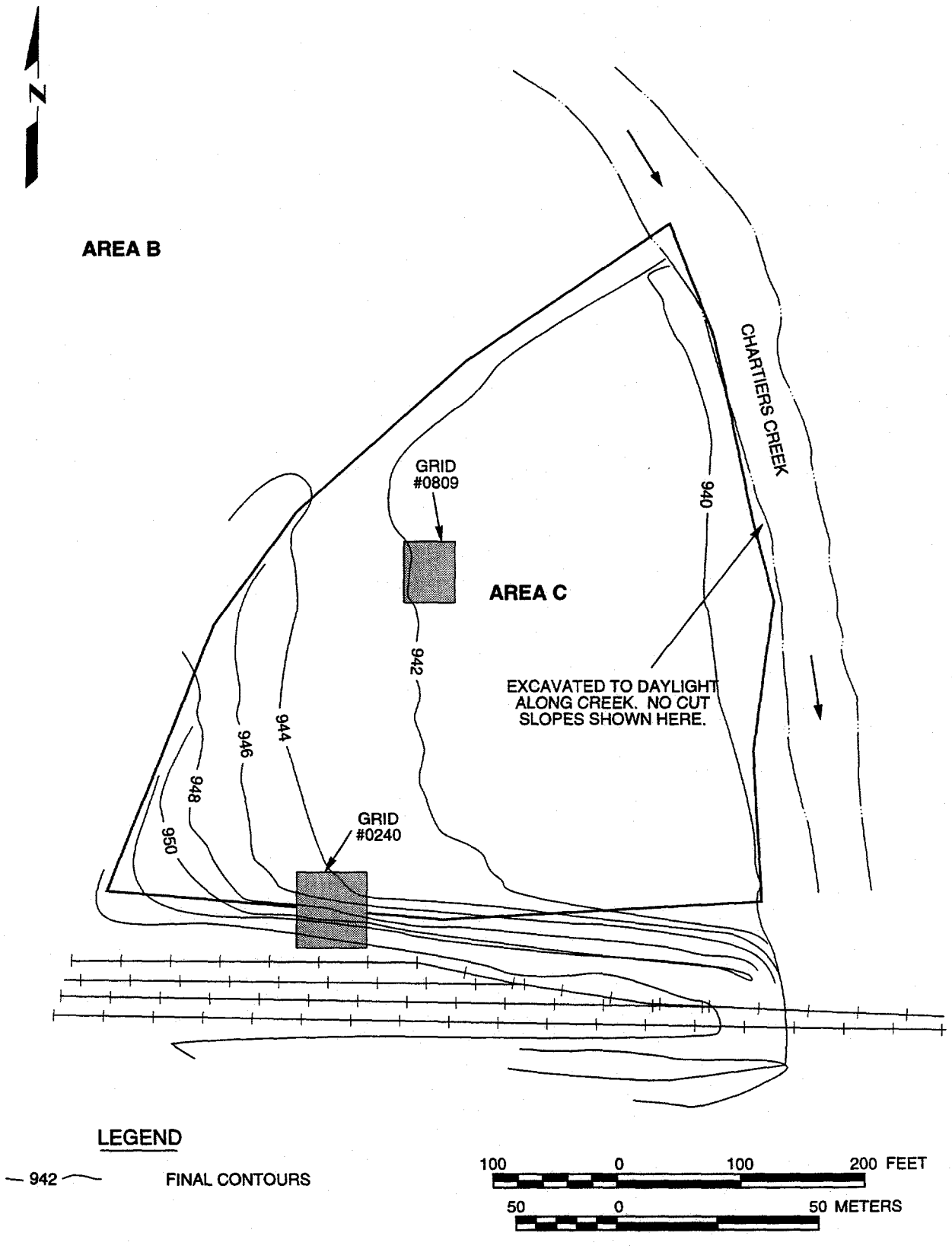
APPENDIX A-1
AREA C, NUMBERED GRID LOCATIONS
CANONSBURG, PENNSYLVANIA, SITE



APPENDIX A-2
AREA C, GRID LOCATIONS HAVING MAXIMUM Th-230 AVERAGES (58pCi/g)
CANONSBURG, PENNSYLVANIA, SITE



APPENDIX A-3
AREA C, CONTAMINATED MATERIAL EXCAVATION PLAN
CANONSBURG, PENNSYLVANIA, SITE



APPENDIX A-4
AREA C, AS-BUILT SITE GRADING PLAN
CANONSBURG, PENNSYLVANIA, SITE

DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
WILLIAM S. MOORHEAD FEDERAL BUILDING
1000 LIBERTY AVENUE, PITTSBURGH, PA 15222

December 6, 1994

REPLY TO ATTENTION OF
Planning Division

Mr. Charles A. Cormier
Acting Project Manager
UMTRA Project
U. S. Department of Energy
P.O. Box 5400
Albuquerque, New Mexico 87185-5400

Dear Mr. Cormier:

In response to your letter dated October 17, 1994 and a meeting held in Pittsburgh, Pennsylvania on November 16, 1994 between representatives of the Corps of Engineers, Pittsburgh District (the District) and representatives of the Department of Energy (DOE), the district is willing to enter into an Interagency Agreement (IAA) between our agencies. The proposed IAA would delineate the responsibilities of DOE and the District with respect to protecting the embankment side of your disposal site in Canonsburg, Pennsylvania along Chartiers Creek. The attendees at this meeting are listed on the enclosure.

As related in this meeting, the district is presently studying whether a feasible Section 205 flood protection project (a benefit to cost ratio of 1 or greater) could be constructed along a portion of Chartiers Creek that includes DOE's disposal site. If a feasible Section 205 project can be developed, it may include the area along your Canonsburg disposal area and, if so, slope protection would be placed where needed.

If a feasible project was designed along Chartiers Creek in the vicinity of the Canonsburg disposal site, the IAA would include but not necessarily limited to, the following:

1. The DOE would perform the work and incur the costs to realign the security fence at the disposal site.

2. The DOE would perform the work and incur the costs to seal affected monitoring wells and install new wells.

3. The DOE would reserve the right to review and concur with the District's plans in the area of their disposal site. Comments on the proposed plans shall be submitted to the District within 30 days after receipt and the absence of a reply after the 30 days will be construed as acceptance.

If a feasible Section 205 flood protection project along Chartiers Creek could not be developed for construction, the IAA would include but not necessarily limited to the following:

1. Upon receipt of funding from DOE, the District would prepare a set of plans and specifications to stabilize the banks, where needed, of Chartiers Creek in the vicinity of the disposal site to be held until such a time as DOE decides that construction is needed.

2. If it is determined that stabilizing construction should be undertaken, the District would, upon receipt of funding:

a. Obtain the necessary easements to complete the construction efforts; and

b. advertise, award and oversee the construction contract.

3. After construction, the District would periodically inspect the embankment along the disposal area and report to DOE the condition and recommended remedial action, if necessary. Upon receipt of funding, the Corps would perform the remedial maintenance effort.

We anticipate that we will have a preliminary indication of the possibility of a feasible Section 205 flood protection project in January 1995. At that time a decision will be made whether to continue with the study or to abandon the effort. Once this decision is finalized, we will notify your office of the outcome. If our decision is to continue with the study, a more detailed effort will be undertaken, to be completed by October 1995, at which time a final determination will be made as to the feasibility of a project that is acceptable to the local sponsor. As discussed at the meeting, it is estimated that an IAA could be developed by January 1996. If you have any questions, you may contact Mr. Tom Scott of this office at (412) 644-6737.

Sincerely,

Paul E Kokar for

John M. Miklaucic
Acting Chief, Planning Division

Enclosure

DOE meeting in PD Conf. Nov. 16, 1994

Tom Scott	Planning Division	644-6921
Frank Reginella	Engineering Div. (CEORP-ED-DZ)	644-4148
George Craig	~~District Counsel~~	644-6887
NANCY PIOTROWSKI	PLANNING DIVISION	644-6955
DONNA GOLDSTROM	REAL ESTATE DIVISION	644-5010
WALTER SHUTTER	REAL ESTATE - PGL	644-5045
~~Keith Landolt~~	~~Dept. of Energy~~	(505) 845-6940
Michael Abrams	DOE	(505) 845-5758
DAVID CARLSON	COE. GEOTECH	644-2844
Bill Lenart	Project Management	355-3160

1.11.2.5

UMT 59574

UMT2/NRC/0195-0001
MA: NRC EROSION

JAN 03 1995

UMTRA:SMS

ABRAMS for 01/3/95

Mr. Joseph J. Holonich, Chief
High-Level Waste and Uranium Recovery
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards
Mail Stop 5E-4 OWFN
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Holonich:

This transmittal addresses the remaining issues outlined in your letter dated March 8, 1994, to Albert R. Chernoff, regarding the UMTRA disposal site at Canonsburg, Pennsylvania. We provided our response to Issue 1, TH-230 in Area C, by earlier correspondence dated August 26, 1994.

Enclosed for review and consideration are the following documents:

- Slope and Bank Erosional Stability of the Canonsburg, Pennsylvania, UMTRA Disposal Site, report dated December 1994. (4 copies)
- Revision to Appendix J of the Canonsburg Final Completion Report, Replacement Pages, letter dated October 20, 1994, from MK-Ferguson Company to DOE. (6 copies)
- Letters dated October 17 and December 6, 1994, between the DOE and Pittsburgh District Corps of Engineers (COE). (1 copy)

The geomorphic report was not revised as suggested by the Nuclear Regulatory Commission (NRC). Instead, the above stability report was prepared based on subsequent discussions with your staff. The sensitivity analysis performed to determine slope stability used established soil characteristics observed on site and compared them to values calculated to cause failure. The report concludes residual radioactive material would not be removed from the containment area by natural erosion or mass wasting processes in the periods between annual site inspections. The DOE and COE have agreed to execute an Interagency Agreement (IAA) by January 1996 to address the long-term stability of the Chartiers Creek bank.

Issue 2 concerned verification data for residential and technology areas and Issue 3 concerned clarification of materials in the satellite cell. Below are our responses to both issues.

Issue 2a Response
The composite soil sample data is not available.

Issue 2b Response
Further excavation drawings were not prepared for the residential and technology areas. These areas were scanned during excavation with portable survey instruments prior to placement of contaminated vicinity property (VP) material. Composite soil sample data are not available.

Issue 2c Response
This additional statement and the response on page 2 of the DOE letter of August 26, 1993, will be included in the Completion Report (CR).

Issue 3 Response
As stated in the DOE letter of August 26, 1993, VP material was placed addressing only one compliance criteria. The calculations that demonstrate compliance may be found at the back of Appendix J of the CR. No other documentation exists.

We trust the above satisfactorily addresses all of NRC's remaining concerns. Therefore, enclosed for your signature are two original Certification Summaries for the Canonsburg disposal site. The UMTRA Acting Project Manager and Contracting Officer have already signed both originals. Please return one original to our office after execution.

We plan to meet with your staff in the near future to discuss in detail our proposed IAA with the COE. If there are any questions, please have your staff contact me at (505) 845-5758.

Sincerely,

OSB

Michael F. Abrams
Site Manager
Uranium Mill Tailings Remedial Action
Project Office

Enclosures

cc w/enclosures:
J. Yusko, DER, PA (1 copy)

cc w/o enclosures:
C. Smythe, UMTRA
D. Bierley, TAC
J. Senger, TAC
C. Spencer, RAC

APPENDIX D

U.S. DEPARTMENT OF ENERGY/U.S. ARMY CORPS OF ENGINEERS INTERAGENCY AGREEMENT

The U.S. Department of Energy/U.S. Army Corps of Engineers Interagency Agreement will be included when it is completed.

APPENDIX E

CRITERIA FOR INITIATING CONSTRUCTION UNDER THE U.S. DEPARTMENT OF ENERGY/U.S. ARMY CORPS OF ENGINEERS INTERAGENCY AGREEMENT

E.1 BACKGROUND

Because of the proximity of Chartiers Creek to the Canonsburg, Pennsylvania disposal site, erosion of the creek banks could adversely affect the disposal cell. This appendix presents the criteria for the initiation of bank protection and erosion control measures under the Interagency Agreement (IAA) between the U.S. Department of Energy (DOE) and the U.S. Army Corps of Engineers (USACE).

E.2 EROSION CONTROL MARKERS

Three sets of erosion control markers were installed in the vicinity of the buried riprap wall at the northeastern boundary and one set was installed near the southwestern boundary of the disposal site (see drawing CAN-LTSP-001 in the pocket of this document). The marker sets were installed to measure the rate of erosion of creek banks relative to the disposal site to predict effects to the disposal cell. The erosion markers are Berntsen A-1 monuments, 5 feet (ft) (1.5 meters [m]) in length with 1 ft (0.3 m) exposed above the land surface.

During routine and contingency inspections, the distances from the erosion control markers to the creek bank will be measured and recorded. These measurements will be used to determine the rate of creek bank erosion relative to the disposal site to predict when erosion may affect the disposal cell and adjacent areas.

E.3 SITE ACCESS CONTROL

The Canonsburg disposal site is enclosed by fencing to provide access control. When erosion of the creek banks adversely affects the integrity of the fencing, construction of bank protection and erosion control measures will be initiated under the IAA. Procedures for the notification of the Nuclear Regulatory Commission (NRC), USACE, and the DOE Grand Junction Projects Office (GJPO) to initiate construction under the IAA are described in Section E.5 below.

E.4 CONTINGENCY INSPECTION

A contingency inspection will be initiated by sudden events that may affect the disposal site. Sudden events include, but are not limited to, floods, earthquakes, tornadoes, hurricanes, and fire. Should sudden events occur, the DOE has established notification procedures with various agencies and local authorities. These notification procedures are presented in Section 6.2 of this long-term surveillance plan.

When notified that a sudden event has occurred, the GJPO will immediately dispatch a qualified individual to inspect the Canonsburg site. Qualifications for the inspector are presented in Section E.6 below.

E.5 EMERGENCY RESPONSE UNDER THE IAA

If a routine or contingency inspection identifies that creek bank erosion poses an immediate threat to the Canonsburg disposal site, the inspector will notify the USACE listed in Section E.6 to initiate an emergency response. Potential emergency situations and responses are described in the IAA to expedite any USACE emergency response. The inspector will then notify the NRC listed in Section E.6 of the emergency.

E.6 INITIATION OF CONSTRUCTION UNDER THE IAA

If the individual performing a routine or contingency inspection of the disposal site finds that erosion of the creek banks has adversely affected the access control fence that encloses the site, the inspector will immediately notify the NRC of the conditions observed. The NRC will send a representative to the site to confirm the site conditions and the need to initiate construction under the IAA. The inspector will then notify the USACE to initiate construction of bank protection and erosion control measures under the IAA.

The contact personnel, telephone numbers, and addresses for the above agencies are as follows:

1. NUCLEAR REGULATORY COMMISSION

Chief, High-Level Waste and Uranium Recovery Projects Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards
Mail Stop 5E-4 OWFN
U.S. Nuclear Regulatory Commission
Washington, DC 20555
(301) 415-6640 (24-hour access)

2. U.S. ARMY CORPS OF ENGINEERS

Chief, Planning Division
Department of the Army
Pittsburgh District, Corps of Engineers
William S. Moorhead Federal Building
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222
(412) 644-6737 (24-hour access)

3. GRAND JUNCTION PROJECTS OFFICE

Supervisory General Engineer
2597 B 3/4 Road
Grand Junction, Colorado 81503
(970) 248-6070 (24-hour access)

E.7 QUALIFICATIONS OF INSPECTORS

The individual dispatched by the GJPO to perform a contingency inspection of the disposal site will be a professional engineer with knowledge of the Canonsburg site.

NOTICE

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