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Date: April 19, 1996
Refer to: EM/ER:96-220

Mr. Benito Garcia
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

SUBJECT: FINAL ACCELERATED CLEANUP REPORTS C-10-001

Dear Mr. Garcia:

Enclosed are the final reports and Certifications of Completion for the voluntary corrective actions completed in Fiscal Year 1995. The reports with potential release sites (PRSs) listed in the Hazardous and Solid Waste Amendments (HSWA) Module of the Los Alamos National Laboratory's Resource Conservation and Recovery Act operating permit contain our request for no further action (NFA). Upon your approval of these reports, we will submit a permit modification request for NFA of these PRSs.

For PRSs not listed in the HSWA Module, reports are included as informational copies for your records.

If you have any questions, please call David Bradbury at 505-665-6208.

Thank you for your timely attention to this matter.

Sincerely,

Jorg Jansen, Program Manager
Environmental Restoration

Sincerely,

Theodore Taylor, Program Manager
Los Alamos Area Office

JJ/TT/rfr

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Enclosures: (1) Final Reports for HSWA: C-9-001, 6-007(f), 8-005, 16-016(b), 18-001(a), 19-002, 21-013(c), 21-013(d), 21-013(e), 21-024(d), 21-024(e), 21-024(h), 31-001, 33-016, 39-007(a), and 69-001
(2) Final Reports for non-HSWA: C-0-036(a-d), C-0-041, C-10-001, C-21-027, C-36-001, 0-032, 1-001(f), 3-003(p), 3-022, 3-047(d), 3-051(c), 9-010(a-b), 16-011, 16-016(f), 20-003(c), 21-022(j), 39-002(c), 53-010, and 57-006
(3) Certifications of Completion

Cy (w/enclosures):
B. Driscoll, EPA, R.6, 6PD-N, (2 copies of HSWA)
D. Griswold, ERD, AL, MS A906
J. Harry, EM/ER, MS M992
B. Hoditschek, NMED-HRMB
R. Kern, NMED-HRMB
N. Naraine, EM-453, DOE-HQ
M. Shaner, P&PI, MS J591 (5 copies)
N. Weber, Bureau Chief, NMED-AIP, MS J993
J. White, ESH-19, MS K490
S. Yanicak, NMED-AIP, MS J993
RPF, MS M707

Cy (w/o enclosures):
T. Baca, EM, MS J591
D. Bradbury, EM/ER, MS M992
T. Glatzmaier, DDEES/ER, MS M992
D. McInroy, EM/ER, MS M992
G. Rael, ERD, AL, MS A906
W. Spurgeon, EM-453, DOE-HQ
T. Taylor, LAAO, MS A316
J. Vozella, LAAO, MS A316
EM/ER File, MS M992

Voluntary Corrective Action Completion Report for

Voluntary Corrective Action Report
PRS C-10-001
Radioactive Soil Contamination
Bayo Canyon

Field Unit 1

Environmental Restoration Program

August 30, 1995
Revision 0

A Department of Energy
Environmental Cleanup Program

Los Alamos
NATIONAL LABORATORY

LA-UR-96-402

Voluntary Corrective Action Report
Potential Release Site C-10-001
Radioactive Soil Contamination
Bayo Canyon

Description

This site is not included in the Hazardous and Solid Waste Amendments module to the RCRA Part B Permit for Los Alamos National Laboratory, EPA I.D. # NM0890010515. Potential Release Site (PRS) C-10-001, located in Bayo Canyon, consisted of two small sites of radioactive soil contamination (Figure 1). These sites are within an area where materials and soil associated with the firing sites at former TA-10, PRSs 10-001(a-d), were apparently bulldozed and left remaining even after decontamination and decommissioning (D & D) activities were conducted in 1963. The sites were discovered using hand-held radiation screening instruments during routine shrapnel removal operations in the summer and fall of 1994.

Corrective Action

The voluntary corrective action (VCA) was implemented in accordance with the VCA Plan for Potential Release Site (PRS) C-10-001 in Bayo Canyon. Field activities were conducted in three phases during August 1995. The initial phase of the VCA involved a survey at each of the sites to delineate the area with elevated radioactivity. The survey was conducted using a Ludlum Model 2221 with a shielded pancake Geiger-Mueller probe, Model 43-41. It was determined that removal of shrapnel with radioactive contamination during the fall of 1994 from one of the sites effectively removed the field-detectable radioactivity from that site. At the second site, soil from the area showing the highest level of radioactivity as determined by field screening was collected for radionuclide analysis. Analysis of the sample collected indicated that only strontium-90 was present at a concentration of 3,518 pCi/g.

The second phase of the VCA involved hand augering within and around the area of surface contamination to determine the extent of subsurface contamination and the appropriate mode of excavation. It was determined from the hand-augering activity that the area affected by the strontium-90 contamination was approximately 1 meter in diameter and 30 cm deep.

The third phase of the VCA involved excavation of the radioactive soil contamination and site restoration. Excavation was conducted using hand-held shovels. In order to guide the extent of the excavation with hand-held radiation-screening results, a correlation curve was developed to relate the hand-held instrument readings to known concentrations of strontium-90. The initial excavation was conducted in the area surrounding the area of highest field radiation-screening results. Soil was removed to a depth of 5-8 cm over an area approximately 3 meters long and 1 meter wide. Soil from a smaller area within the initial excavation was then removed to a depth of approximately 50

cm over an area approximately 1 meter long and 60 cm wide. Three confirmation samples were collected from the excavation and one additional confirmation sample was collected at the site where radioactive shrapnel had been found and removed. The confirmation sample locations are shown in Figure 1 and the results are shown in Table 1. All field-screening data are available upon request. The strontium-90 analysis was performed by determining the beta activity using proportional counting. Approximately 1 cubic meter of soil was removed. The excavated soil is currently contained in 55-gallon drums and will be characterized as low-level radioactive waste and disposed of at TA-54, Area G. Site restoration consisted of filling the excavation with clean fill material and replacing pine needles to both sites.

Table 1
Confirmation Sample Results for PRS C-10-001

Location ID	Sample ID	Concentration of Strontium-90 (pCi/g)
10-017	0110-95-0006	12.8 +/- 2.4
10-018	0110-95-0007	<0.54
10-019	0110-95-0008	<0.54
10-020	0110-95-0009	5.7 +/- 1.1

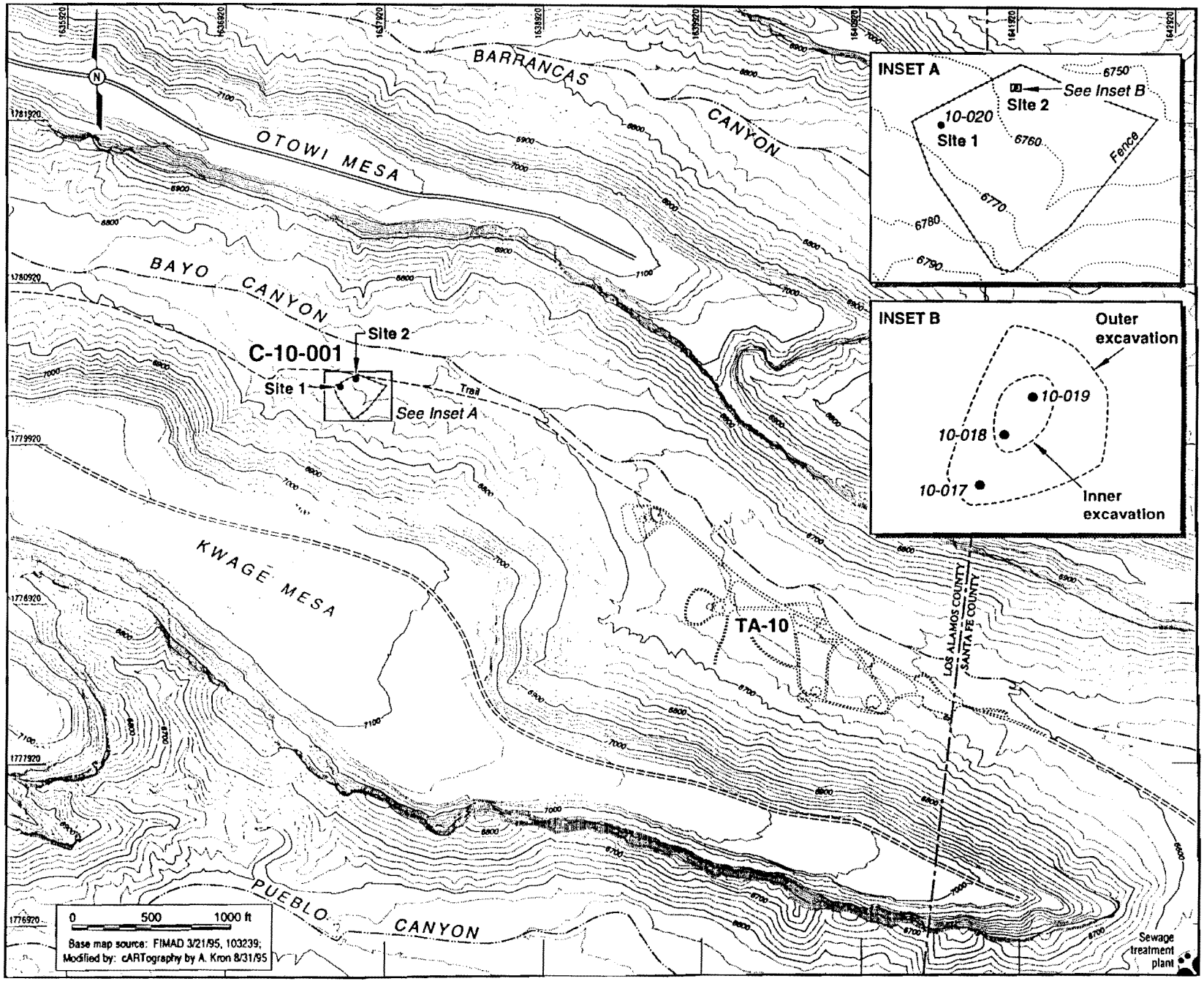

Figure 1. Location of C-10-001.

Certificate of Completion

I certify that all the work pertaining to the voluntary corrective action (VCA) conducted at PRS C-10-001 has been completed in accordance with the Department of Energy approved VCA plan entitled VCA Plan for Area of Concern C-10-001, Radioactive Soil Contamination in Bayo Canyon. Based on my personal involvement or inquiry of the person or persons who managed this cleanup, a review of all data gathered, and a visit to the site, to the best of my knowledge and belief, all criteria of the plan have been met or exceeded. I believe that the completion of this VCA is protective to both human health and the environment. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

GR Allen

Garry Allen
Field Unit One Project Leader
Environmental Restoration Project
Los Alamos National Laboratory

1 Sept 95

Date