



**Department of Energy**  
National Nuclear Security Administration  
Albuquerque Operations Office  
Office of Los Alamos Site Operations  
Los Alamos, New Mexico 87544

Los Alamos Land Transfer Project Office

June 18, 2002

Richard Mayer  
U.S. Environmental Protection Agency (6PD-N)  
1445 Ross Avenue  
Dallas, Texas 75202

Dear Mr. Mayer:

Enclosed for your review are documents prepared by the Department of Energy (DOE), in support of the conveyance one tract of land, pursuant to DOE's mandate under Public Law 105-119. The tract will be conveyed to the New Mexico Department of Highways and Transportation, as the designee of the County of Los Alamos. The enclosed documents relate to the following tract:

- Tract C-2, part of the White Rock Y Tract

Enclosed are

- the Environmental Baseline Survey
- the environmental site assessment
- the notice required by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), together with supporting information from the Environmental Restoration Project
- the tract map

Please review the enclosed documents and provide your comments to me within 30 days of receipt of this letter. I would be pleased to meet with you or your staff to discuss these documents. Please let me know if I can be of assistance to you in your reviews.



13655

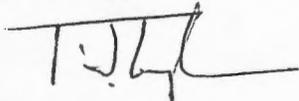
General

Richard Mayer  
June 18, 2002

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Please call me at 665-7203 if you have questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Taylor', with a horizontal line extending to the right.

Theodore J. Taylor  
Project Manager

Enclosures: as stated

Cc w/o enclosure:

T. Taylor, DIR, OLASO

E.D. Martinez, Acting Director, OLASO

E. Romero, Program Manager, OLASO

J. Bearzi, NMED/HWB

K. Rea, RRES-ECO, UC-LANL, MS M889

LandTran File

**Environmental Baseline Survey**

**For**

**C-2**

**White Rock Y-1 Tract**

Pursuant to the US Department of Energy

Cross-Cut Guidance on Environmental Guidance  
for DOE Real Property Transfers

May 31, 2002

# Environmental Baseline Survey

for

C-2

## White Rock Y-1 Tract

### Executive Summary

This document, “Environmental Baseline Survey for C-2, White Rock Y-1 Tract”, was prepared in accordance with the “Cross-Cut Guidance on Environmental Requirements for DOE Real Property Transfers” in preparation of transferring ownership of the C-2, White Rock Y-1 Tract parcel (hereafter referred to as “White Rock Y-1 Tract”) at Los Alamos National Laboratory from the US Department of Energy (DOE), National Nuclear Security Administration (NNSA)<sup>1</sup> to the New Mexico State Highway and Transportation Department (NMSHTD) pursuant to Public Law 105-119, Section 632. It discusses NNSA compliance with the environmental requirements associated with real property transfers. It also demonstrates that, although potentially contaminated, White Rock Y-1 Tract is in such condition that NNSA may issue deeds on the basis that “all remedial action necessary to protect human health and the environment has been taken”.

The methodology used to prepare this report was to:

- conduct an environmental site assessment of the White Rock Y-1 Tract consistent with the American Society of Testing and Materials (ASTM) “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” (ASTM E 1527-00) (see Appendix B),
- review historical and current information and documents pertinent to the White Rock Y-1 Tract,
- perform a physical examination of the White Rock Y-1 Tract, and
- consult with both University of California and NNSA staff to confirm existing information or develop additional information.

Based on this assessment, it has been determined that the White Rock Y-1 Tract was potentially contaminated by activities conducted from the late 1940s through the 1980s upstream of its location, and has:

- two potential release sites (PRS): Pueblo and Los Alamos Canyons.
- no record that hazardous substances were ever stored at this site, and
- no current requirements for future remedial clean-up activities.

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<sup>1</sup> Congress established the National Nuclear Security Administration (NNSA) within the DOE/NNSA to manage the nuclear weapons program for the United States. Los Alamos National Laboratory (LANL or Laboratory) is one of the facilities now managed by the NNSA. The NNSA officially began operations on March 1, 2000. Its mission is to carry out the national security responsibilities of the DOE/NNSA, including maintenance of a safe, secure, and reliable stockpile of nuclear weapons and associated materials capabilities and technologies; promotion of international nuclear safety and nonproliferation; and administration and management of the naval nuclear propulsion program.

Air quality at the tract is good. Neither hazardous nor radioactive air pollutant sources exist at the tract. The tract is part of New Mexico Region 3, an attainment area that meets National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Small quantities of hydrocarbon-generated ozone and carbon monoxide from vehicular highway traffic are the only emissions of criteria pollutants from within the tract.

The White Rock Y-1 Tract is transected by Los Alamos and Pueblo Canyons. Both canyons are natural ephemeral drainages in the vicinity of the tract. Los Alamos Canyon receives treated sanitary effluent from the County's Bayo Wastewater Treatment Plant at its confluence with Pueblo Canyon. This effluent-supported reach extends to the tract's eastern boundary. Because of this water discharge, the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) and LANL have identified wetlands on this tract. There are no known springs within the tract.

There is potentially one stream gage/surface water monitoring station within the White Rock Y-1 Tract, and it is operated by LANL. Until a final delineation of the parcel's boundary is made, it will not be apparent whether or not this stream gage is situated within the parcel, or just outside of its boundaries. There are neither production wells nor monitoring wells within the tract.

No threatened or endangered species have been observed using the White Rock Y-1 Tract. However, the tract does contain areas of environmental interest for the Mexican Spotted Owl.

White Rock Y-1 was used from the Paleo-Indian Period through the Nuclear Energy period, with the most intensive use dating to the Coalition and Classic periods. One hundred percent of the White Rock Y-1 Tract has been inventoried for historic and prehistoric cultural resources. Survey results indicate that no accessible cultural sites exist within the tract, although the possibility exists that subsurface archaeological deposits or unrecorded burials underlie State Road 502.

The NMSHTD intends to use this parcel only as right-of-way for the existing State Road 502. The land will remain undeveloped, and maintained in similar condition to what is now being done by DOE. Thus, any existing subsurface cultural resources will remain protected.

Based on this information, the University of California and DOE conclude that there are no outstanding environmental issues to prevent conveyance or transfer of White Rock Y-1 Tract to the NMSHTD.

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## **1.0 Purpose of the Environmental Baseline Survey**

On November 26, 1997, Congress passed Public Law 105-119. Section 632 of that law directed the Secretary of Energy to convey to the Incorporated County of Los Alamos, New Mexico, or to the designee of the County and transfer to the Secretary of the Interior, in trust for the Pueblo of San Ildefonso, parcels of land under the jurisdictional administrative control of the Secretary at or in the vicinity of Los Alamos National Laboratory. Such parcels, or tracts, of land must meet the suitability criteria established by the law, that is, they are not required for the national security mission before the end of 11/26/2007; can be restored or remediated by 11/26/2007; and are suitable for historic, cultural or environmental preservation, economic diversification, or community self-sufficiency. The DOE<sup>2</sup> identified 10 tracts of land for potential transfer to the County of Los Alamos or to San Ildefonso Pueblo. These 10 tracts of land have been further divided into sub-parcels for transfer purposes.

DOE's "Cross-Cut Guidance on Environmental Requirements for DOE Real Property Transfers (DOE/EH-413/9712) provides guidance on the types of information needed to support real property transfers. Information such as the presence of floodplains and wetlands; critical habitats; historic properties; and hazardous substances must be gathered and provided to the potential recipients of the property. This document provides the relevant environmental information as outlined in the Cross-Cut Guidance and provides references to more detailed information.

### **1.1 Boundaries of Property and Scope of Survey**

The White Rock Y-1 parcel is generally located at and around the intersection of State Road 502 and Highway 4 in Santa Fe County, NM. The portion of the parcel slated for transfer to NMSHTD is approximately 110.6 acres in area.

The legal property boundary description of this tract is provided by the Army Corps of Engineers Title Report, "White Rock Y Site at Los Alamos, New Mexico", September 15, 1998. The legal property boundary of the White Rock Y-1 Tract will be contained in the survey reports prepared by the Army Corps of Engineers just prior to transfer.

The scope of this Environmental Baseline Survey was to identify potential environmental issues associated with the White Rock Y-1 Tract that might impact transfer of ownership.

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<sup>2</sup> Congress established the National Nuclear Security Administration (NNSA) within the DOE to manage the nuclear weapons program for the United States. Los Alamos National Laboratory (LANL or Laboratory) is one of the facilities now managed by the NNSA. The NNSA officially began operations on March 1, 2000. Its mission is to carry out the national security responsibilities of the DOE, including maintenance of a safe, secure, and reliable stockpile of nuclear weapons and associated materials capabilities and technologies; promotion of international nuclear safety and nonproliferation; and administration and management of the naval nuclear propulsion program.

## 2.0 Survey Methodology

The methodology used to prepare this report was to:

- conduct an environmental site assessment of the White Rock Y-1 Tract consistent with the American Society of Testing and Materials (ASTM) "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (ASTM E 1527-00) (see Appendix B),
- review historical and current information and documents pertinent to the White Rock Y-1 Tract,
- perform a physical examination of the White Rock Y-1 Tract, and
- consult with both University of California and DOE/NNSA staff to confirm existing information or develop additional information.

## 2.1 Approach and Rationale

Historical and current information (see 2.1.1 below) for the White Rock Y-1 Tract was reviewed, and the site was physically visited and surveyed. After determining the nature and quality of available information, UC and DOE/NNSA staff were consulted to confirm existing information or develop new information as needed. Collectively, this survey addressed air quality, water quality (surface and groundwater), soil and sediment contamination, and any structures, waste sites, natural resources or other environmental concerns present at the site.

To conduct this assessment it was assumed that the White Rock Y-1 Tract boundaries were established and not subject to significant change. Environmental conditions and associated information were evaluated based upon those boundaries. Second, it was assumed that the nature and quality of the document reviews and site surveys were independent of, and unaffected by, the recipients' intended use as identified in the "Conveyance and Transfer Plan for Certain Land Tracts Administered by the U.S. Department of Energy Located at the Los Alamos National Laboratory, Los Alamos and Santa Fe Counties, New Mexico" (DOE September 2000). Lastly, it was assumed that a final inspection or "walk-through" of each parcel would occur prior to conveyance or transfer.

### 2.1.1 List and Description of Documents Reviewed

In addition to the documents listed below, the Environmental Site Assessment (Appendix B) identifies additional resources used in this evaluation.

1. "Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory", US Department of Energy, DOE/EIS-0238, January 1999.
2. "Final Environmental Impact Statement for the Conveyance and Transfer of Certain Tracts Administered by the US DOE and Located at Los Alamos National Laboratory", US Department of Energy, DOE/EIS-0293, October 1999

3. "Final Environmental Restoration Report to Support Land Conveyance and Transfer under Public Law 105-119", Los Alamos National Laboratory, LA-UR-99-4187, August 1999
4. "Combined Data Report to Congress to Support Land Conveyance and Transfer under Public Law 105-119", US Department of Energy, Unnumbered Report, January 2000.
5. "Conveyance and Transfer Plan for Certain Land Tracts Administered by the U.S. Department of Energy Located at the Los Alamos National Laboratory, Los Alamos and Santa Fe Counties, New Mexico", U.S. Department of Energy, Report to Congress Under Public Law 105-119, Unnumbered Report, September 2000.
6. "White Rock Y Site at Los Alamos, New Mexico", Army Corps of Engineers Title Report, September 15, 1998.
7. LANL Hazardous Waste Facility Permit, NM 0890010515-1, 11/8/89
8. "Environmental Surveillance at Los Alamos During 1999", Los Alamos National Laboratory, LA-13775-ENV, December 2000.
9. "Cross-Cut Guidance on Environmental Requirements for DOE Real Property Transfers", U.S. Department of Energy, DOE/EH-413/9712, October 1997
10. "Threatened and Endangered Species Habitat Management Plan," Los Alamos National Laboratory, August 1998.
11. "A Status Report on Threatened and Endangered Species, Wetlands, and Floodplains for the Proposed Conveyance and Transfer Tracts at Los Alamos National Laboratory, Los Alamos, New Mexico", Los Alamos National Laboratory, July 1998.
12. LANL Draft Watershed Management Plan
13. LANL Environmental Restoration Project Baseline, WBS 1.4.2.6.01.02.24.JG.
14. "Endangered Species Act", United States Code, Washington, D.C., Title 16, Conservation; Chapter 35, Endanger Species Act, December 1973.

### **2.1.2 Inspections of Properties Conducted and Personnel Contacted**

The Environmental Site Assessment (Appendix B) identifies personnel contacted during this evaluation.

### **3.0 Summary of Data**

The White Rock Y Tract consists of approximately 540 acres (218 hectares) and incorporates the alignments and intersections of State Road 502, State Road 4, and the easternmost portion of East Jemez Road. State Road 502 bounds the tract to the north, across from the Technical Area 74 Tract. The White Rock Y Tract shares its southern boundary with Pueblo of San Ildefonso lands, just south of East Jemez Road. State Road 4 and Bandelier National Monument lie to the east, and Technical Area 72 lies to the west.

The White Rock Y-1 Tract (see map, Appendix D) is generally located at and around the intersection of State Road 502 and Highway 4 in Santa Fe County, NM. The portion of the parcel slated for transfer to NMSHTD is approximately 110.6 acres in area.

The legal property boundary description of this tract is provided by the Army Corps of Engineers Title Report, "White Rock Y Site at Los Alamos, New Mexico", September 15, 1998. The legal property boundary of the White Rock Y-1 Tract will be contained in the survey reports prepared by the Army Corps of Engineers just prior to transfer.

### **3.1 History and Current Use**

Prior to LANL occupancy, there was little development in this remote area. Historical maps from the pre-LANL era (1924), an aerial photograph (1935) and historical accounts of life in the area show little development in the area until 1917 when the Los Alamos Ranch School for boys was established.

In the early 1920s, the Ranch School contracted with Sandoval County to build a road from Los Alamos mesa down to Otowi Crossing, at the Rio Grande. The road that was built to access the Ranch School ran near this parcel.

Even after LANL occupancy, this land tract had very little development and served instead to buffer Laboratory activities from the surrounding region. Current land use at the tract is limited to the power lines and roads constructed previously in support of LANL operations (DOE 1998b). Adjacent land uses to the north and south include activities associated with the use and maintenance of State Road 502.

### **3.2 Environmental Setting**

The predominant vegetation in the White Rock Y-1 Tract is pinyon-juniper woodland interspersed with shrubs, grasslands, and wildflowers. Los Alamos Canyon and its floodplain cross this tract. The tract includes a portion of a 100-year floodplain, with the water flow primarily routed into conduits and transported under State Road 4 and State Road 502. Wetlands are present in association with the streambed and associated floodplains. Flora and fauna are characteristic of the region. The tract contains suitable habitat for the bald eagle and Mexican Spotted Owl. Areas of environmental interest for the Mexican Spotted Owl (Los Alamos Canyon) are defined within this tract. Noise in the vicinity of the tract results from motor vehicles using State Road 4 and State Road 502. Lighting is primarily from motor vehicles.

### **3.2.1 Stormwater Runoff Patterns**

The White Rock Y-1 Tract is transected by Los Alamos Canyon and Pueblo Canyon. These canyons are natural ephemeral drainages in the vicinity of the tract; in addition, Los Alamos Canyon receives treated sanitary effluent from the County's Bayo Wastewater Treatment Plant at its confluence with Pueblo Canyon. This effluent-supported reach extends to the tract's eastern boundary. There are no known springs within the tract. The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) and LANL have identified wetlands on this tract.

### **3.2.2 Hazardous Materials and Waste Management**

There is no record of hazardous waste management on this parcel.

### **3.2.3 CERCLA-Related Contamination**

Pueblo and Los Alamos Canyons are known to contain residual contamination from historical operations at the Laboratory. Results of investigations conducted by LANL's Environmental Restoration (ER) Project to date indicate that the levels of contamination in Pueblo and Los Alamos Canyon sediments do not present a significant human health risk under the conditions of present-day land use, including construction workers, trail users and resource users. Moreover, concentrations of contaminants in sediments transported by floods have not been observed to be increasing over time. Therefore, no remedial action is currently required to remove contaminated sediments from these canyon bottoms.

### **3.2.4 Storage Tanks and Pipelines**

There is no historical record, employee recollection, or visible indication that there are or were underground storage tanks in service on this property. There are no known plans to install any underground storage tanks.

### **3.2.5 Wastewater Treatment and Disposal**

The White Rock Y-1 Tract is transected by Los Alamos Canyon and Pueblo Canyon. These canyons are natural ephemeral drainages in the vicinity of the tract; in addition, Los Alamos Canyon receives treated sanitary effluent from the County's Bayo Wastewater Treatment Plant at its confluence with Pueblo Canyon. This effluent-supported reach extends to the tract's eastern boundary. Wetlands are present in association with the streambed and associated floodplains.

### **3.2.6 Lead in Drinking Water**

Not applicable. There are no water resources available at this site, and there are no known sources of potential lead contamination associated with this site.

### **3.2.7 Oil Water Separator**

Not applicable. No current or historic uses of oil water separators are associated with this site.

### **3.2.8 Asbestos**

Not applicable. There are no records of any use or disposal of asbestos at this site.

### **3.2.9 Air**

The White Rock Y-1 Tract is part of New Mexico Region 3, an attainment area that meets National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Except for small amounts of carbon monoxide and ozone resulting from hydrocarbons emitted from motor vehicles, and airplanes, there are no sources of criteria pollutants within the tract itself.

### **3.2.10 Lead-Based Paint Surveys and Other Sources of Lead**

Not applicable. There are no known sources of lead at this site.

### **3.2.11 PCBs**

Not applicable. There are no known sources or records of PCBs being used or stored at this site.

### **3.2.12 Pesticides**

Not applicable. There are no records of pesticides being used or stored at this site.

### **3.2.13 Medical Wastes**

Not applicable. There are no records of medical wastes being generated or disposed at this site.

### **3.2.14 Ordnance**

Not applicable. There are no records of ordnance being used, stored, or disposed at this site.

### **3.2.15 Radioactive Materials and Wastes**

Not applicable.

### **3.2.16 Radon**

Not applicable.

### **3.2.17 Groundwater**

Not applicable. There are no supply or monitoring wells located on this site, and there is no known contamination at this site that would impact these resources.

## **3.3 Natural and Cultural Resources**

No threatened or endangered species have been observed using the White Rock Y Tract. However, the tract does contain areas of environmental interest for the Mexican Spotted Owl.

Flora and fauna are characteristic of the region. The tract contains suitable habitat for the bald eagle and Mexican Spotted Owl. Areas of environmental interest for the Mexican Spotted Owl (Los Alamos Canyon) are defined within this tract. Noise in the vicinity of the tract results from motor vehicles using State Road 4 and State Road 502. Lighting is primarily from motor vehicles.

One hundred percent of the White Rock Y Tract has been inventoried for historic and prehistoric cultural resources. Survey results indicate that no accessible cultural sites exist within the tract, although the possibility exists that subsurface archaeological deposits or unrecorded burials underlie State Road 502.

The NMSHTD intends to use this parcel only as right-of-way for the existing State Road 502. The land will remain undeveloped, and maintained in similar condition to what is now being done by DOE. Thus, any existing subsurface cultural resources will remain protected.

## **3.4 Identification of Uncontaminated Properties**

The White Rock Y-1 Tract, though potentially contaminated from activities conducted onsite from the late 1940s through the 1980s, does not have environmental contamination as defined by CERCLA 120(h)(4).

## **3.5 All Other Properties**

Not applicable. There are no other properties associated with this site.

## **4.0 Summary of Data for Adjacent Properties**

The adjacent properties consist of undeveloped lands. No apparent environmental liabilities were identified in any of the federal or state environmental databases searched for this assessment (see Attachment B). The database search to assess whether

environmental conditions on the subject property have been affected by any off-site source or sources identified no mappable<sup>3</sup> sites as being within the designated search radii.

Given the database search results and based on an inspection of the surrounding properties from publicly accessible areas, none of the neighboring operations is believed to pose a significant potential concern for environmental conditions on the subject property.

The environmental database search also identified 37 "orphan" sites (i.e., sites not mapped by the database search vendor because of poor or inadequate address information). Based on the area tour, none of these listed "orphan" sites is believed to be located in an area that would affect the subject property.

#### **4.1 History and Current Use**

The Los Alamos Ranch School for boys purchased a lease for land east of the White Rock Y-1 Tract in the 1920s. This leased land was used as a base for outdoor activities for the boys. As a result, the cabin came to bear the benefactor's name, Camp Hamilton, and was used by the Boy's School for nearly two decades. This cabin, left to ruin, is located on the TA-74 parcel, which abuts the White Rock Y-1 Tract to the north.

There was very little additional activity on the adjacent lands between the 1920s and the present day. The most significant development lies to the north of the parcel on its western edge; this is the location of a New Mexico State Highway and Transportation Department garage for heavy equipment used for road maintenance. There is one aboveground fuel storage tank at the garage, and it is equipped with a spill pad. Two transportable office buildings, used by NMSHTD, are also located next to the garage.

#### **4.2 Environmental Setting**

The adjacent lands are mostly undeveloped, serving as right-of-way for existing state roadways.

#### **4.3 Adjacent Properties with No Known or Suspected Releases**

See 4.2 above.

#### **4.4 Adjacent Properties with Known or Suspected Releases**

See 4.0 above.

#### **5.0 Conclusions and Recommended Courses of Action**

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<sup>3</sup> The term "mappable" means that the address information provided is sufficient for the database search vendor to pinpoint the site's location on a street map with a high degree of confidence.

DOE/NNSA and UC health and safety professionals have reviewed environmental conditions at this parcel and have determined that no special precautions are required.

Based on best available environmental information, the University of California and the Department of Energy conclude that there are no outstanding environmental issues to prevent conveyance or transfer of this tract, after the appropriate cultural resource mitigations have been accomplished. DOE/NNSA may issue deeds on the basis that "all remedial action necessary to protect human health and the environment have been taken".

### **5.1 Facility Matrix**

Not applicable. No structures exist on this parcel.

### **5.2 Property Categorization**

Not applicable. All lands at the White Rock Y-1 Tract are categorized the same.

### **5.3 Resource Map**

Not applicable. No hazardous materials were identified, and no wells are located on this property.

### **6.0 Certification of Environmental Baseline Survey**

Los Alamos National Laboratory staff and Environmental Contractors conducted this Environmental Baseline Survey under direction and guidance of the Ecology Group Office. The information contained in this document is accurate to the best of our knowledge.



Kenneth Rea, RRES-ECO  
LANL Land Transfer

**Appendix A**  
**CERCLA 120(h)**

**NOTICE OF CERCLA 120(h) INFORMATION FOR PROPERTY SUBJECT TO  
CONVEYANCE AND TRANSFER:**

**C-2, White Rock Y Tract**

**New Mexico State Highway and Transportation Department Portion**

**Purpose:**

The purpose of this document is to meet the reporting requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 120(h) for the conveyance and transfer of the parcel of land identified as that portion of the White Rock Y Tract being conveyed to the New Mexico State Highway and Transportation Department. *The information contained in this notice is required under authority of regulations promulgated under section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) 42 U.S.C. section 9620(h).* This report describes the methodology used to evaluate whether any hazardous substances meeting the CERCLA reporting requirements were stored, released, or otherwise managed at the White Rock Y Tract and identifies those materials.

CERCLA 120(h) and the implementing regulations at 40 CFR 373 require the DOE, when entering into the sale or transfer of real property, to disclose whether any hazardous substances [as defined by CERCLA] have been stored for more than one year in quantities greater than or equal to 1000 kg or the reportable quantity (RQ); any hazardous substances known to be released or disposed of [on the C-2 tract]; and any acutely hazardous wastes stored for one year or more and in quantities greater than or equal to 1 kg.

**Location:**

The White Rock Y parcel is generally located at and around the intersection of State Road 502 and Highway 4 in Santa Fe County, NM. The portion of the parcel slated for transfer to New Mexico State Highway and Transportation Department (the C-2 tract) is approximately 110.6 acres in area.

**Methodology:**

The information in this report and its attachments is based on a review of available records and interviews. The reviews conducted by the Laboratory's Water Quality Group, the Hazardous and Solid Waste Group, and the Air Quality Group, included a review of Laboratory and group files and databases on chemical inventories and usage; solid and hazardous waste management and storage; releases and spills; emergency response, and PCB equipment.

**Is there any record of a hazardous substance having been stored on site?**

No records of hazardous substances having been used, stored, released, or disposed on the C-2 tract have been observed. See Appendix C for information on Environmental Restoration Project activities and PRSs.

**Was the amount stored greater than or equal to 1,000 kg or the Reportable Quantity (RQ), whichever is greater; and, was the hazardous substance stored for one year or longer?**

No records of hazardous substances having been used, stored, released, or disposed on the C-2 tract have been observed. See Appendix C for information on Environmental Restoration Project activities and PRSs.

**Was the amount disposed of or released greater than or equal to the RQ?**

No records of hazardous substances having been used, stored, released, or disposed on the C-2 tract have been observed. See Appendix C for information on Environmental Restoration Project activities and PRSs.

**Current Regulatory Status:** The White Rock Y (C-2) tract does not currently have any operations that are included in the Laboratory's Hazardous Waste Facility Permit. However, any potential release sites (PRS) are subject to RCRA corrective action requirements and associated conditions in Module VIII of the Permit. See Appendix C for more information on PRSs.

**Appendix B**  
**Environmental**  
**Assessment**

# **ENVIRONMENTAL ASSESSMENT**

## **Land Transfer Parcel White Rock Y (C-2), New Mexico State Highway & Transportation Department Portion**

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**Prepared For: THE DEPARTMENT OF  
ENERGY**

**May 3, 2002**

Revision 0

## **EXECUTIVE SUMMARY**

This report presents a findings summary for an assessment of the actual and potential environmental concerns associated with the portion of the White Rock Y parcel slated for transfer to the New Mexico State Highway & Transportation Department (NMSHTD). This portion of the White Rock Y parcel (the C-2 tract) is generally located at and around the intersection of State Road 502 and Highway 4 in Santa Fe County, NM, and is approximately 110.6 acres in area. For linguistic ease, the portion of the White Rock Y parcel that is the subject of this report is hereinafter called the "White Rock Y, NMSHTD Portion" parcel. Exhibit 1 (at the end of this executive summary) provides a descriptive summary for the White Rock Y, NMSHTD Portion parcel and Exhibit 2 (also at the end of this executive summary) summarizes the known history of this site. Los Alamos National Laboratory conducted its assessment on August 28, 2000, and subsequently on April 29, 2002 at the request of the U.S. Department of Energy. The LANL site assessors for this assignment were Ms. Jennifer Pope and Ms. Virginia Smith.

This assessment (hereafter referred to as an environmental site assessment (ESA)) was conducted pursuant to a scope of work consistent with the American Society of Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E 1527-00); along with an additional off-site disposal practices review (including evaluating whether the subject site is listed as a potentially responsible party (PRP) at an off-site waste disposal site); and an examination of possible asbestos-containing materials (ACMs). A specific discussion of the tasks undertaken is set forth in Attachment A. LANL performed no soil, groundwater, surface water, air, building material, or other environmental sampling and analysis as part of this assessment.

It is LANL's understanding and agreement that the DOE may provide this report to the recipient of the subject parcel, as well as to the public. The parcel recipient may provide this report to third parties and other financing institutions and institutional lenders connected with the contemplated transaction (including, without limitation, any such party providing financing on or after consummation of the contemplated transaction and all assignees and participants of any of the foregoing), and that these parties may rely on the information in the report to the same extent as and subject to the same restrictions agreed to by DOE.

## 1.2 **LIMITATIONS**

All the information contained in this report, including any engineering conclusions, is based on the information made available to LANL's site assessor during the investigation, which we assume to have been provided in good faith. This report represents an assessment of the White Rock Y, NMSHTD Portion parcel performed in accordance with generally accepted industry standards regarding environmental assessments. LANL makes no other representations whatsoever, including those concerning the legal significance of its findings or as to other legal matters touched on in this report, including, but not limited to ownership of any property or the application of any law to the facts set forth herein. Except as otherwise may be requested by DOE, LANL disclaims any obligation to update the report for events taking place after the time during which we conducted our assessment.

**Exhibit 1. White Rock Y, NMSHTD Portion Parcel Description Summary**

# of Acres	# of Buildings (approx. total sq. ft)	# of Potential Release Sites (and remediation status)	Current Activities
Approximately 110.6 acres.	There is a LANL stream gauging station located downgradient of the LA Canyon weir. At the time this assessment was completed, the final survey map of the subject property was not available and so it is unclear whether or not the station is located on the White Rock Y, NMSHTD Portion parcel. The gauging station is not a building, but rather a small structure comprising no more than approximately 10 sq. ft.	Two: Portions of the stream channels and flood plains of Pueblo and Los Alamos Canyons. Pueblo Canyon is known to contain residual contamination from historical operations at the Laboratory. Results of investigations conducted by LANL's Environmental Restoration (ER) Project to date indicate that the levels of contamination in Pueblo Canyon sediments do not present a significant human health risk under the conditions of present-day land use, including trail users and resource users. The same situation is true for Los Alamos Canyon: it contains residual contamination from historical LANL operations, but the levels of contamination do not require immediate remedial actions with regard to present-day risk.	There is no substantive activity related to LANL operations on this parcel. The only LANL-related activities that could be conducted at this location would be 1) periodic sample collection from the stream gauging station, if it is, in fact, located on the subject property; and 2) collection of sediments and surface water by ER Project staff in FY02.

**Exhibit 2. White Rock Y, NMSHTD Portion Parcel Site History Summary**

<b>Site History Prior to LANL Occupancy</b>	Prior to LANL occupancy, there was little development in this remote area. Historical maps from the pre-LANL era (1924), aerial photographs of the area (1935), and historical accounts of life in the area show little development in the area until 1917 when the Los Alamos Ranch School for boys was established. Prior to LANL occupancy, State Road 502 was a two-lane, dirt road.
<b>Site History After LANL's Occupancy</b>	After LANL occupancy, this land parcel had no development related specifically to LANL. State Road 4 was constructed by the NNSHTD, and both State Highway 502 and State Road 4 were improved periodically. Otherwise, the land in this parcel served to buffer Laboratory activities from the surrounding region.

**ATTACHMENT A**

**ASSESSMENT METHODOLOGY**

This environmental assessment, consistent with the ASTM Practice E 1527-00 (with added evaluations of ACMs, and possible wetland areas), consisted, in general, of the following steps:

- We met with the following individuals at LANL to discuss parcel-specific environmental and occupational health and safety (EH&S) issues:
  - Mr. Albert Dye, ESH-19, PCB Database Manager;
  - Ms. Debra Archuleta, ESH-17, Asbestos Program Manager;
  - Mr. David Ortiz and Ms. Josie Encinias, ESH-5, Asbestos Management Program;
  - Ms. Louann Romero, ESH-19, HSTD Database Manager;
  - Mr. Harvey Decker, ESH-18, SPCC and SWPPP Plans;
  - Mr. William Flor, HAZMAT Spills Database Manager;
  - Mr. Terry Rust and Dr. Steve Reneau, Environmental Restoration, Potential Release Sites; and
  - Ms. Jean Dewart, ESH-17, Air Quality Program.
- We visited the parcel on September 6, 2000, and subsequently on April 29, 2002 to gather more detailed information concerning possible on-site contamination, and to determine the compliance status of the parcel. Before, during and after the September 6, 2000 visit, we interviewed LANL personnel about past and present site operations, raw materials and waste management practices, and significant environmental liability problems, if any. We did not repeat these interviews in April 2002 because there are no ongoing LANL operations on or near the parcel. We also observed actual site conditions in an attempt to identify and assess the status of potential liabilities such as past disposal areas, waste management units and systems, and sites of environmental releases.
- We reviewed ES&H-related files, correspondence, and other documents supplied by LANL.
- We visited the Los Alamos County Archives office in Los Alamos, NM to review aerial photographs of the area and to collect information on site use prior to the Manhattan Project.
- We performed a walk-by and drive-by survey of the immediate neighboring properties from publicly accessible areas for obvious signs of environmental concerns and how those concerns may have environmentally degraded the property under study, and to assess the proximity of the subject property to sensitive ecological areas (e.g., wetlands).
- We reviewed a search of the following computerized environmental databases to determine if hazardous sites or serious local environmental problems may exist on or immediately adjacent to the facility (see radius specifications):<sup>1</sup>

<sup>1</sup>The environmental database searches were completed for LANL by e Data Resources. The database-specific radii specified for these searches either match the ASTM E 1527-00 requirements or are larger than specified in E 1527-00.

### *Federal ASTM Records*

- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) (subject site and 0.5-mile radius);
- Emergency Response Notification System (subject site only);
- National Priority List (NPL) (subject site and 1-mile radius);
- RCRA Corrective Action Sites (CORRACTS) list (subject site and 1-mile radius);
- Resource Conservation and Recovery Information System (RCRIS) (subject site and 0.25-mile radius for generators and 0.5-mile radius for treatment, storage, and disposal facilities); and
- CERCLIS-No Further Remedial Action Planned (CERCLIS-NFRAP) (subject site and 0.25-mile radius).

### *Additional Federal Records*

- Biennial Reporting System (subject site only);
- PCB Activity Database System (subject site only);
- RCRA Administrative Action Tracking System (RAATS) list (subject site only);
- Toxic Release Inventory System (subject site only);
- Facility Index Data Base System (FINDs) (subject site only);
- Consolidated Docket Enforcement System (subject site and company name only);
- Hazardous Materials Incident Reporting System (subject site only);
- Delisted NPL Sites (subject site and 1-mile radius);
- Federal Superfund Liens (subject site only);
- Superfund Consent Decrees (subject site and 1-mile radius);
- Toxic Substances Control Act data base (subject site only);
- Materials License Tracking System (subject site only);
- Mines Master Index File (subject site and 0.25-mile radius);
- Records of Decision data base (subject site and 1-mile radius); and
- FIFRA/TSCA Tracking System (FFTS) (subject site only).

### *State ASTM Records*

- New Mexico State leaking underground storage tank (UST) database list (subject site and 0.5-mile radius);
- New Mexico State permitted solid waste facilities/landfill sites (subject site and 0.5-mile radius); and
- New Mexico State registered USTs (subject site and 0.25-mile radius).

### *Additional State Records*

- New Mexico State Aboveground Storage Tanks (subject site only).
- We attempted to obtain and review historical Sanborn Fire Insurance land use maps to establish past land uses of the subject property and the surrounding area consistent with the requirements of ASTM Practice E 1527-00. Sanborn Fire Insurance land use maps were not available for this facility or the surrounding area.

- We reviewed historical aerial photographs available from public agency sources to establish past land uses of several of the subject properties and the surrounding areas consistent with the requirements of ASTM Practice E 1527-00. Aerial photographs dated 1935, 1958, 1974, and 1991 were available from the Environmental Restoration, University of New Mexico Archives, and Los Alamos County photographic archives. In general, photographic information of the Laboratory and surrounds has been difficult to obtain and is sparse in nature. We have searched the archives listed above as well as a number of other public and private entities. Amongst the entities not listed above, the New Mexico State Archives, National Resource and Conservation Services Bureau, the State of New Mexico Forestry Division, New Mexico Aerial Surveys, Inc., and Pacific Western Technologies were all contacted regarding aerial photographs of the Los Alamos area.
- We located and reviewed abstracts of available historical city directories to establish past uses of several of the subject properties and the surrounding areas consistent with the requirements of ASTM Practice E 1527-00. A search of the county archives in Los Alamos yielded no historical or current city directories that gave addresses for the subject site. In most cases, older city directories listed names and phone numbers without the benefit of the listing address.
- We assessed possible issues of current or future environmental liability. This assessment evaluated operations, both past and present, with respect to: air pollution control (including, but not limited to, applicable requirements of the 1990 Clean Air Act Amendments); asbestos management; water supply and pollution control, including stormwater management; nonhazardous solid waste management; hazardous solid waste management; USTs; materials, products, and pesticide storage and handling practices (including Superfund Amendments and Reauthorization Act (SARA) Title III programs); polychlorinated biphenyls (PCBs) inventory management; past on-site or off-site waste disposal practices; and occupational safety and health (including hazards communication).
- We completed an assessment of the facility's potentially significant liabilities under the Superfund statute and related state statutes pertaining to potential on-site contamination and related to the off-site disposal of wastes.
- LANL performed no soil, groundwater, surface water, air, building material, or other environmental sampling and analysis as part of this environmental assessment. LANL did, however, review environmental surveillance, monitoring, and sampling results that have been collected over time and that were relevant to the parcel.

**ATTACHMENT B**

**ISSUES SUMMARY**

**TABLE Exhibit 3**

**Summary of Environmental Assessment Results for White Rock Y, NMSHTD Portion**

AREA	ISSUE	COMMENT/RECOMMENDATION/LIABILITY/COST
Air Pollution Control	There appear to be no environmental liability issues associated with air pollution control on this parcel.	None.
Asbestos Management	There appear to be no environmental liability issues associated with asbestos on this parcel.	There are no structures located on the subject property, with the possible exception of a LANL stream gauging station. There is no evidence to suggest that asbestos-containing materials were used in the construction of any stream gauging station.
Water Supply and Pollution Control, Including Stormwater Management	There appear to be no environmental liability issues concerning the water supply to or the wastewater discharges from this parcel.	None.
Nonhazardous Solid Waste Management	There appear to be no environmental liability issues associated with nonhazardous waste within the parcel.	No nonhazardous wastes have historically been or are generated by LANL at this parcel.
Hazardous Solid Waste Management	There appear to be no environmental liability issues associated with hazardous waste within this parcel.	No hazardous wastes have historically been or are currently managed by LANL on this parcel.
Underground Storage Tanks	There appear to be no environmental liability issues associated with USTs at this facility.	There is no historical record, employee recollection, or visible indication that there are or were USTs in service on this property. There is no plan to install any USTs.
Materials, Products, and Pesticide Handling and Storage Practices	There appear to be no environmental liability issues associated with current materials, products, and pesticide handling and storage practice at this parcel.	LANL handles no materials, products or pesticides within this parcel.
PCB Inventory Management	There appear to be no environmental liability issues associated with PCB inventory management at this land parcel.	LANL's PCB database shows that no PBC-containing equipment was used, stored or disposed on this parcel.

<p>Potential On-Site Contamination and Waste Disposal</p>	<p>There is no record, employee recollection, or visible indication that waste materials have been disposed on the subject property. LANL is currently not listed on the proposed or final NPL, in the CERCLIS or CERCLIS-NFRAP databases, or on the State's list of designated potential hazardous waste disposal sites. No USTs are known to have been located on this property. In addition, the site address is currently not listed in the state or federal reportable spills databases.</p>	<p>A site walk-through was conducted on April 29, 2002; no unusual or suspect site conditions were noted at that time. An aerial photo review indicated there was no unusually altered topography, unusually stressed vegetation, unusual ground depressions, or other visible indications of past spills, releases, or waste disposal. Site contacts reported responding to one site spill resulting from an overturned truck at State Road 4. Restaurant grease and hydraulic fluid was released from this spill; however, the spill was contained in the localized area adjacent to the road.</p>
<p>Past Off-Site Waste Disposal</p>	<p>To the best of LANL RRES-MAQ staff's knowledge, no issues or concerns have been raised regarding this facility's past off-site waste disposal practices. LANL has not received or filed notifications under the Comprehensive Environmental Response, Compensation, and Liability Act related to the disposal of any hazardous substances.</p>	<p>None of the off-site disposal facilities known to have received hazardous or nonhazardous wastes from LANL is currently listed on the proposed or final NPL, in the federal CERCLIS or CERCLIS-NFRAP databases, or in the respective state databases that are the equivalent of the federal CERCLIS and NPL databases.</p>
<p>Environmental Data Base Search Results</p>	<p>No apparent environmental liabilities were identified in any of the federal or state environmental databases searched for this assessment (see Attachment A). The database search to assess whether environmental conditions on the subject property have been affected by any off-site source or sources identified no mappable sites as being within the designated search radii. (NOTE: The term "mappable" means that the address information provided is sufficient for the database search vendor to pinpoint the site's location on a street map with a high degree of confidence.)</p>	<p>Given the database search results and based on an inspection of the surrounding properties from publicly accessible areas, none of the neighboring operations is believed to pose a significant potential concern for environmental conditions on the subject property.</p> <p>The environmental database search also identified 37 "orphan" sites (i.e., sites not mapped by the database search vendor because of poor or inadequate address information). Based on the area tour, none of these listed "orphan" sites is believed to be located in an area that would affect the subject property.</p>

**Appendix C**  
**Environmental**  
**Restoration**  
**CERCLA Report**



# Memorandum

Risk Reduction & Environmental Stewardship (RRES)  
Environmental Restoration (ER) Project, MS M992

To/MS: K. Ras/ESH-SWI, MS M889  
From/MS: P. Schumann, E/ER, MS M992  
Phone/FAX: 7-5840/5-4747  
Symbol: ER2002-0315  
Date: April 29, 2002

**SUBJECT: ENVIRONMENTAL RESTORATION (ER) PROJECT COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) 120(h) REPORT INFORMATION IN SUPPORT OF THE TRANSFER OF THE WHITE ROCK "Y"-1 SUB-PARCEL [MAP DESIGNATION C-2] TO THE NEW MEXICO HIGHWAY DEPARTMENT**

The purpose of this document is to transmit CERCLA 120(h) information to support the transfer of the White Rock "Y"-1 Sub-parcel (Map Designation C-2) to the New Mexico Highway Department

The ER Project has not submitted any previous documentation concerning CERCLA 120(h) requirements specific to this Sub-parcel.

Please note that the CERCLA 120(h) reports provided herein are based on the review of the four maps (Thiel, Vigil, Merrick and Thatcher/Vigil) provided to the ER Project in 1998, and the most current topographic and PRS information maintained by the Laboratory's Facility for Information Management, Analysis, and Display.

In addition, please note that the CERCLA 120(h) information provided relates only to the status of the PRS; other information relevant to current operations and activities, or other regulations at the parcel included in the transfer, are the responsibility of other Los Alamos National Laboratory organizations and is not included herein. The Site-Wide Issues Program Office is the source for this other information necessary to complete the CERCLA 120(h) report.

If you have any questions, please call me at 667-5840 or Kim Birdsall at 665-3486.

KB/eim

Attachment: ER Project Supporting Documentation for the White Rock "Y"-1 Sub-parcel [Map Designation C-2] CERCLA 120(h) Report

Cy (w/attach.):  
K. Birdsall, E/ER, MS M992  
M. Kirsch, E/ER, MS M992  
E. Louderbough, LC-GL, MS A187  
W. Neff, E/ER, MS M992



V. Smith, E/ER, MS M992  
P. Wardwell, LC-GL, MS A187  
L. Cummings, OLASO, MS A316  
D. Gregory, OLASO, MS A316  
M. Johansen, OLASO, MS A316  
E/ER File, MS M992  
IM-5, MS A150  
RPF, MS M707

Cy (w/o attach.):

J. Canepa, E/ER, MS M992

**ER Project Supporting Documentation  
For The White Rock "Y"-1 Sub-parcel [Map Designation C-2]  
CERCLA 120(h) Report**

**Location:** Pueblo Canyon

**Description:** The White Rock "Y"-1 Sub-parcel (Map Designation C-2) occupies approximately 111 acres of land bounded by Pueblo of San Ildefonso land to the east and south, proposed land transfer sub-parcels White Rock "Y"-3 and White Rock "Y"-2 to the west and proposed land transfer sub-Sub-parcel TA-74-2 South to the north. The Sub-parcel contains approximately one mile of State Highway 502, the State Highway 502 and Highway 4 interchange, and the rights-of-way flanking these improvements.

**History:** Although the White Rock "Y"-1 Sub-parcel contains no solid waste management units (SWMUs) within its boundaries, the Sub-parcel includes portions of the stream channels and flood plains of Pueblo and Los Alamos Canyons.

Pueblo Canyon is known to have received contaminants from multiple potential release sites (PRSs) within this watershed located upstream from this Sub-parcel. The most significant contaminant source was former Technical Area (TA) 45, where radioactive effluent was discharged between 1944 and 1964 into Acid Canyon, a small tributary to Pueblo Canyon located approximately 6 miles upstream from the southwestern boundary of the Sub-parcel. Other PRSs that may have contributed contaminants to Pueblo Canyon are located in TAs 0, 31, and 73. Contaminants may also have originated from residential and commercial areas in the Los Alamos townsite. The most significant chemical of potential concern (COPC) with regard to potential human health risk in the sediments of Pueblo Canyon is plutonium-239,240. Plutonium-239,240 and other COPCs have been distributed by floods along the full length of Pueblo Canyon downstream from Acid Canyon. Other COPCs identified in the sediments of Pueblo Canyon include 5 radionuclides, 8 inorganic chemicals, and 29 organic chemicals (see Table 1 attached). Plutonium-239,240 in Reach P-1 (approximately 6 miles upstream of the western boundary of the Sub-parcel) is measured at concentrations up to 7000 times the levels associated with fallout from worldwide nuclear tests. All other COPCs are found at much lower concentrations relative to background concentrations or detection limits.

The confluence of Los Alamos and Pueblo Canyons occurs within the White Rock "Y"-1 Sub-parcel. Because of this, lower Los Alamos Canyon is influenced by contaminants within the upper Los Alamos and Pueblo Canyon watersheds. In addition to the contaminant sources in Pueblo Canyon, Los Alamos Canyon is known to have received contaminants from multiple PRSs within the upper portion of the Los Alamos Canyon watershed upstream from this Sub-parcel. The most significant contaminant source in upper Los Alamos Canyon is PRS 21-011(k). PRS 21-011(k) is an outfall at former TA-21 that discharged radioactive effluent into DP Canyon, a tributary to upper Los Alamos Canyon.

**PR Project Supporting Documentation  
For The White Rock "Y"-1 Sub-parcel [Map Designation C-2]  
CERCLA 120(h) Report**

The most significant COPCs with regard to potential human health risk in the sediments of Los Alamos Canyon are cesium-137 and plutonium-239,240. These radionuclides and other COPCs have been distributed by floods along the length of Los Alamos Canyon. Other COPCs identified in upper Los Alamos Canyon include 9 radionuclides, 10 inorganic chemicals, and 23 organic chemicals. Four additional radionuclides, 11 inorganic chemicals and 2 organic chemicals have been identified in lower Los Alamos Canyon sediments. As supported by the conceptual model, lower Los Alamos Canyon contains a subset of the COPCs from both Pueblo and upper Los Alamos Canyons. Tables 2 and 3 present summaries of the COPCs in upper and lower Los Alamos Canyon, respectively.

**Is there any record of a hazardous substance having been stored on site?**

No. There is no information that suggests that hazardous substances were stored on site.

**Was the amount stored greater than or equal to 1,000 kg or the Reportable Quantity (RQ), whichever is greater?**

Not applicable.

**Was the amount disposed of or released greater than or equal to the RQ?**

Not applicable.

**Current Regulatory Status:** The White Rock "Y"-1 Sub-parcel contains no SWMUs within its boundaries. However, the Sub-parcel spans portions of both Los Alamos and Pueblo Canyons and contains the confluence of these two canyons. These canyons have been adversely impacted by contaminants transported downstream from PRSs within the Los Alamos and Pueblo Canyon watersheds. Both the Los Alamos and Pueblo Canyon watersheds are defined as Areas of Concern (AOCs), which are PRSs by definition. Neither of the two Canyons is currently on the Hazardous and Solid Waste Amendments (HSWA) module of LANL's Resource Conservation and Recovery Act permit; therefore, they are regulated under DOE's authority.

A risk assessment specific to the Sub-parcel has not been performed. However, based on an evaluation performed in portions of Pueblo Canyon upstream of the Sub-parcel (presented in the *Evaluation of Sediments in Pueblo Canyon: Reaches P-1, P-2, P-3, and P-4*), the levels of contamination in Pueblo Canyon sediments do not present a significant human health risk under the conditions of present-day land use, including scenarios for trail users, resource users, and construction workers. In addition, because concentrations of contaminants in sediments carried by floods are not increasing over time and present levels of contamination have not been shown to either cause an unacceptable risk in

**ER Project Supporting Documentation**  
**For The White Rock "Y"-1 Sub-parcel [Map Designation C-2]**  
**CERCLA 120(h) Report**

downstream areas or exceed regulatory standards, no immediate remedial action is required in the context of future remobilization of contaminated sediments.

In addition, human health and ecological risk evaluations performed and presented in the *Evaluation of Sediment Contamination in Upper Los Alamos Canyon: Reaches LA-1, LA-2 and LA-3* and the *Evaluation of Sediment Contamination in Lower Los Alamos Canyon: Reaches LA-4 and LA-5* (see references below) indicate that the levels of contamination in Los Alamos Canyon sediments do not require immediate remedial actions with regard to present-day risk. Similarly, the geomorphic assessments indicate that the concentrations of contaminants in sediments carried by floods have been stable or have declined for decades, and the redistribution of contaminated sediments will not result in future increases in contaminant concentration in downstream areas. ✓

However, at this time, the Department of Energy cannot certify that this Sub-parcel meets the Comprehensive Environmental Response, Compensation and Liability Act Section 120(h) requirement that all necessary remedial action has been taken prior to transfer.

**Future Actions Required:** The Environmental Restoration Project intends to complete all sediment, surface water and alluvial groundwater investigations in Los Alamos and Pueblo Canyons and begin the preparation of a surface aggregate report detailing these investigations in fiscal year 2002. This report is anticipated for completion by the end of fiscal year 2003.

**References:** "*Evaluation of Sediment Contamination in Upper Los Alamos Canyon: Reaches LA-1, LA-2, and LA-3,*" Environmental Restoration Project, September 1998, LA-UR-98-3974.

"*Evaluation of Sediment Contamination in Lower Los Alamos Canyon: Reaches LA-4 and LA-5,*" Environmental Restoration Project, September 1998, LA-UR-98-3975.

"*Evaluation of Sediment Contamination in the Pueblo Canyon: Reaches P-1, P-2, P-3, and P-4,*" Environmental Restoration Project, December 1998, LA-UR-98-3324.

"*Work Plan for Operable Unit 1049, Los Alamos Canyon and Pueblo Canyon,*" Environmental Restoration Project, November 1995, LA-UR-95-2053.

"*Supplement to Response to Request for Information for the Canyons Investigation Core Work Plan,*" Environmental Restoration Project, January 1998, EM/ER:98-020.

**ER Project Supporting Documentation  
For The White Rock "Y"-1 Sub-parcel [Map Designation C-2]  
CERCLA 120(h) Report**

*"Core Document for Canyons Investigations,"* Environmental Restoration Project, April 1997, LA-UR-96-2083.

*"Conveyance and Transfer Plan for Certain Land Tracts Administered by the U.S. Department of Energy Located at the Los Alamos National Laboratory, Los Alamos and Santa Fe Counties, New Mexico, Report to Congress Under Public Law 105-119,"* United States Department of Energy, September 2000.

*"Combined Data Report to Congress to Support Land Conveyance and Transfer Under Public Law 105-119,"* United States Department of Energy, January 2000.

*"Environmental Restoration Report to Support Land Conveyance and Transfer Under Public Law 105-119,"* Environmental Restoration Project, August 1999, LA-UR-99-4187.

*"Summary of ER Activities to Support Land Conveyance and Transfer at Los Alamos National Laboratory Under Public Law 105-119,"* Environmental Restoration Project, August 1999, LA-UR-99-1018.

*"TA-21 Operable Unit [1106] RFI Work Plan for Environmental Restoration, Volume II,"* Environmental Restoration Project, May 1991. LA-UR-91-962.

**TABLE 1**  
**SUMMARY OF PUEBLO CANYON COPCs**

COPC and Units	Background Value or Estimated Quantitation Limit	Maximum Result <sup>a</sup>	Reach with Maximum Result
<b>Radionuclides (pCi/g)</b>			
Americium-241	0.04	10.671	P-1
Cesium-137	0.90	1.53	P-1
Plutonium-238	0.006	2.078	P-1
Plutonium-239,240	0.068	502.01	P-1
Strontium-90	1.03	1.4	P-1
Tritium	0.093	1.21	P-1
<b>Inorganic Chemicals (mg/kg)</b>			
Antimony	0.83	[4.9]	[P-1 and P-4]
Cadmium	0.4	0.92	P-1
Copper	11.2	31.5	P-2
Lead	19.7	77.3	P-1
Mercury	0.1	0.65	P-1
Selenium	0.3	0.98 [1.1]	P-2 [P-1]
Silver	1.0	1.7	P-1
Zinc	60.2	113	P-1
<b>Organic Chemicals (mg/kg)</b>			
Aroclor-1254	0.033	0.238	P-1
Aroclor-1260	0.033	0.117	P-1
Aldrin	0.033	0.00211	P-1
δ-BHC	0.033	0.00197 [0.0023]	P-1 [P-3W]
α-Chlordane	0.0165	0.00497	P-1
γ-Chlordane	0.0165	0.00211 [0.0023]	Acid Cyn [P-3]
4,4'-DDT	0.033	0.00599	Acid Cyn
Acenaphthene	0.33	0.219 [0.344]	P-4 [P-4]
Acenaphthylene	0.33	0.44	P-1
Anthracene	0.33	0.369	P-4
Benz(a)anthracene	0.33	1.0	P-1
Benzo(a)pyrene	0.33	1.7	P-1
Benzo(b)fluoranthene	0.33	2.5	P-1
Benzo(g,h,i)perylene	0.33	0.86	P-1
Benzo(k)fluoranthene	0.33	0.95	P-1
Benzoic acid	0.33	0.75 [3.3]	Acid Cyn [P-1]
Bis(2-ethylhexyl)phthalate	0.33	2.8	P-1
Carbazole	0.33	0.18 [0.34]	P-1 [P-1]
Chrysene	0.33	1.2	P-1
Di-n-octylphthalate	0.33	0.094 [0.66]	P-4 [P-1]
Dibenz(a,h)anthracene	0.33	0.28 [0.66]	P-1
Dibenzofuran	0.33	0.18 [0.344]	P-4 [P-4]
Fluoranthene	0.33	1.9	P-1
Fluorene	0.33	0.294 [0.344]	P-4 [P-4]
Indeno(1,2,3-cd)pyrene	0.33	0.88	P-1
2-Methylnaphthalene	0.33	0.167 [0.66]	P-4 [P-1]
Naphthalene	0.33	0.374	P-4
Phenanthrene	0.33	1.505	P-4
Pyrene	0.33	2.2	P-1
a. Values in brackets indicate that the maximum result is reported as a nondetect.			

**TABLE 2**  
**SUMMARY OF UPPER LOS ALAMOS CANYON COPCs**

COPC and Units	Background Value or Estimated Quantitation Limit	Maximum Result <sup>a</sup>	Subreach with Maximum Result
<b>Radionuclides (pCi/g)</b>			
Americium-241	0.04	28	LA-2 East
Cesium-134	0.14	0.18	LA-2 East
Cesium-137	0.90	192.31	LA-2 East
Cobalt-60		0.206	LA-3
Europium-152	0.59	0.525 [0.59]	LA-3
Plutonium-238	0.006	2.01	LA-2 East
Plutonium-239,240	0.068	19.3	LA-1 East
Strontium-90	1.03	39.56	LA-2 East
Thorium-228	2.28	2.9	LA-3
Thorium-230	2.29	2.61	LA-3
Thorium-232	2.33	2.64	LA-3
Tritium	0.093	0.143 [0.454]	DP Canyon [LA-2 West]
Uranium-234	2.59	2.6	LA-2 West
Uranium-235	0.2	0.186	LA-2 East
Uranium-238	2.29	2.52	LA-2 West
<b>Inorganic Chemicals (mg/kg)</b>			
Antimony	0.83	0.5 [9.2]	LA-1 Central [LA-1 West]
Cadmium	0.4	0.86	LA-2 East
Chromium, total	10.5	38.4	LA-2 East
Copper	11.2	23.8	LA-1 East
Lead	19.7	61.9	LA-2 East
Mercury	0.1	0.31	LA-2 West
Selenium	0.3	0.65 [1.4]	LA-2 East
Silver	1.0	15.8	LA-2 West
Uranium, total	6.99	6.9	LA-2 West
Zinc	60.2	90.5	LA-2 East
<b>Organic Chemicals (mg/kg)</b>			
Aroclor-1254	0.033	1.5	LA-1 West
Aroclor-1260	0.033	1	LA-1 East
α-Chlordane	0.0165	0.0072	LA-1 West
γ-Chlordane	0.0165	0.0068	LA-1 West
4,4'-DDE	0.033	0.033	LA-2 East
4,4'-DDT	0.033	0.048	LA-1 Central
Acenaphthene	0.33	0.26 [0.355]	LA-2 East
Anthracene	0.33	0.96 [0.34]	DP Canyon [LA-3]
Benz(a)anthracene	0.33	0.368	LA-2 East
Benzo(a)pyrene	0.33	0.655	LA-2 East
Benzo(b)fluoranthene	0.33	0.622	LA-2 East
Benzo(g,h,i)perylene	0.33	0.298 [0.47]	LA-2 East
Benzo(k)fluoranthene	0.33	0.36	LA-3
Chrysene	0.33	0.41	LA-2 East
Dibenz(a,h)anthracene	0.33	0.029 [0.38]	LA-2 East [LA-2 West]
Dibenzofuran	0.33	0.036 [0.355]	DP Canyon [LA-2 East]

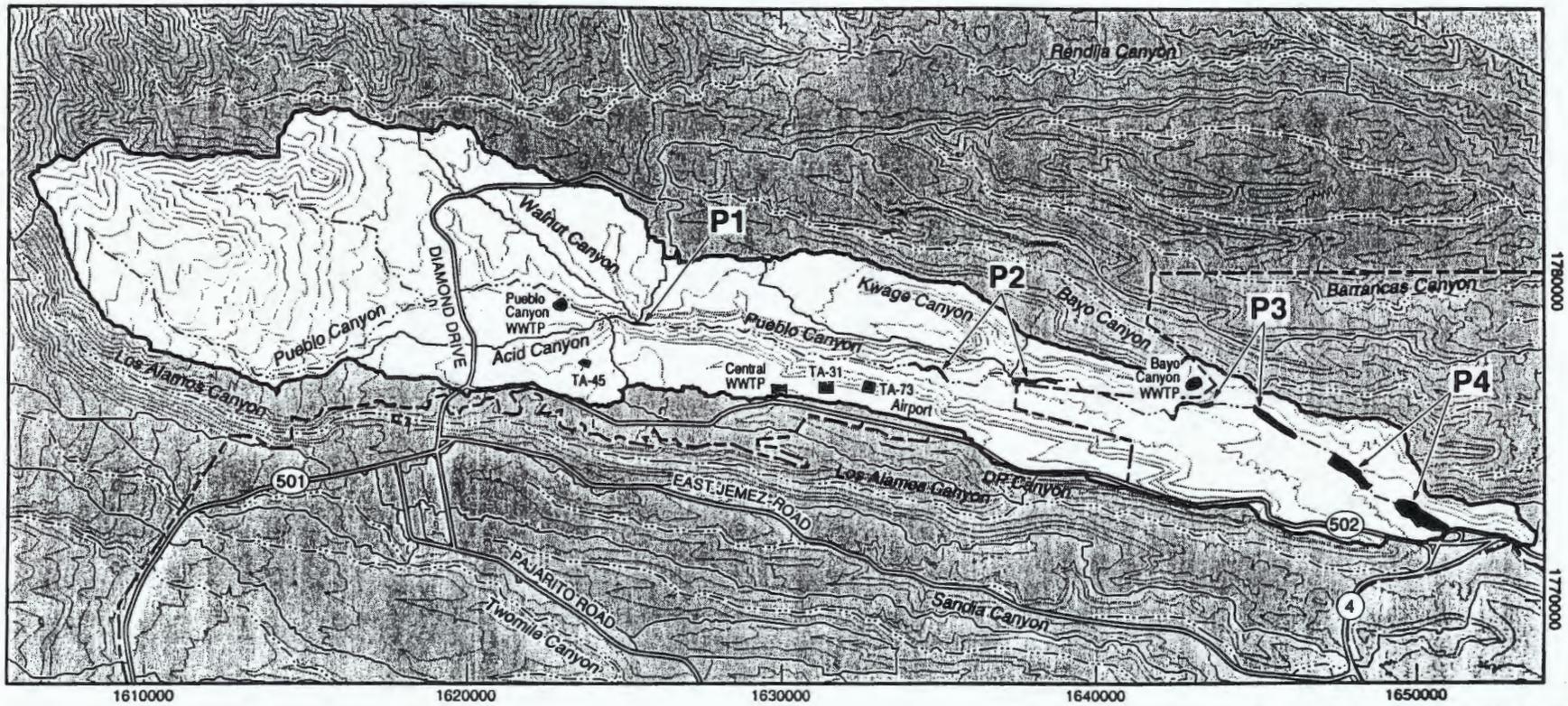
**TABLE 2**  
**SUMMARY OF UPPER LOS ALAMOS CANYON COPCs**

Di-n-butylphthalate	0.33	0.055 [0.34]	DP Canyon, LA-2 East
Fluoranthene	0.33	0.725	LA-2 East
Fluorene	0.33	0.066 [0.0355]	DP Canyon
Indeno(1,2,3-cd)pyrene	0.33	0.341	LA-2 East
Naphthalene	0.33	0.2 [0.355]	LA-2 West [LA-2 East]
Phenanthrene	0.33	0.432	DP Canyon
Pyrene	0.33	0.589	LA-2 East

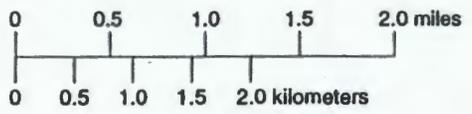
a. Values in brackets indicate that the maximum result is reported as a nondetect.

**TABLE 3**  
**SUMMARY OF LOWER LOS ALAMOS CANYON COPCs**

COPC and Units	Background Value or Estimated Quantitation Limit	Maximum Result <sup>a</sup>	Subreach with Maximum Result
<b>Radionuclides (pCi/g)</b>			
Americium-241	0.04	4.64	LA-4 West
Cesium-134	0.14	0.24	LA-5
Cesium-137	0.90	4.65	LA-4 West
Europium-152	0.59	0.408 [0.467]	LA-4 West
Plutonium-238	0.006	0.227	LA-4 West
Plutonium-239,240	0.068	13.8	LA-4 West
<b>Inorganic Chemicals (mg/kg)</b>			
Antimony	0.83	[5.3]	[LA-4 West]
Boron		6.8	LA-5
Cadmium	0.4	0.07 [0.53]	[LA-4 West]
Calcium	4420	7410	LA-4 West
Copper	11.2	10.8	LA-4 East
Lead	19.7	31.6	LA-4 West
Magnesium	2370	1940	LA-4 East
Potassium	2690	2880	LA-5
Selenium	0.3	0.4 [0.83]	LA-5 [LA-4 East]
Sodium	1470	1530	LA-5
Vanadium	19.7	20.6	LA-5
<b>Organic Chemicals (mg/kg)</b>			
Aldrin	0.033	0.00211	P-1
4,4'-DDT	0.033	0.00599	Acid Cyn
a. Values in brackets indicate that the maximum result is reported as a nondetect.			



F1.1-1 / PUEBLO CANYON REACH RPT / 081388



cARTography by A. Kron 6/25/98  
Source: FIMAD G106678 6/23/98

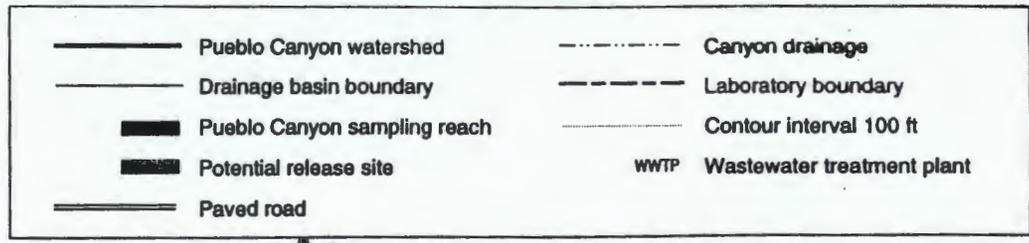
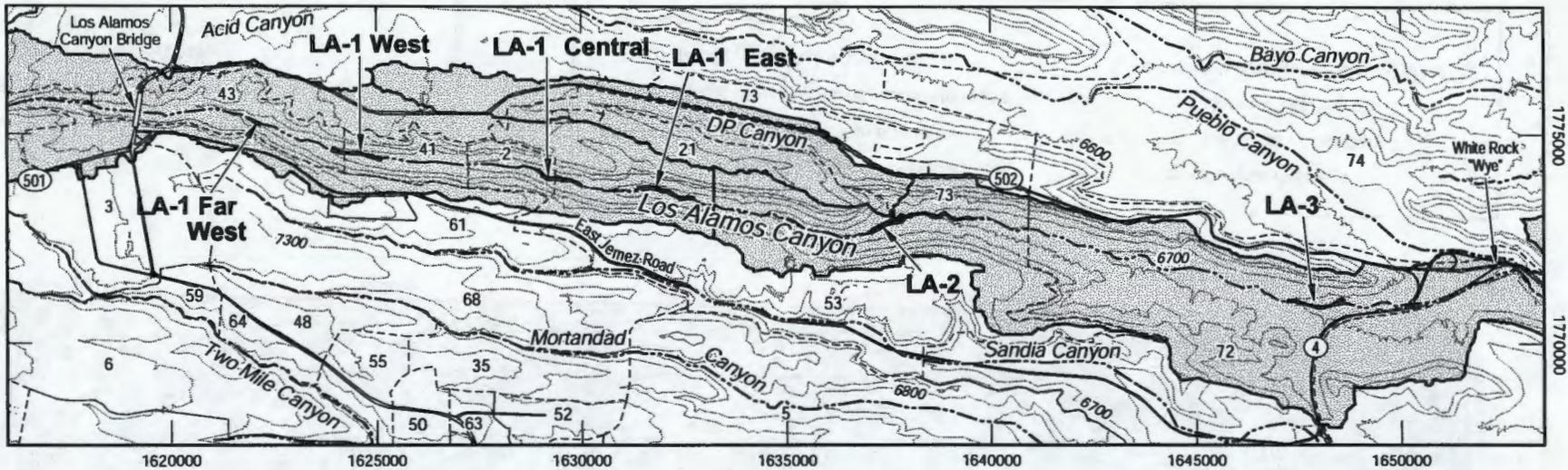


Figure 1.1-1. Pueblo Canyon watershed.



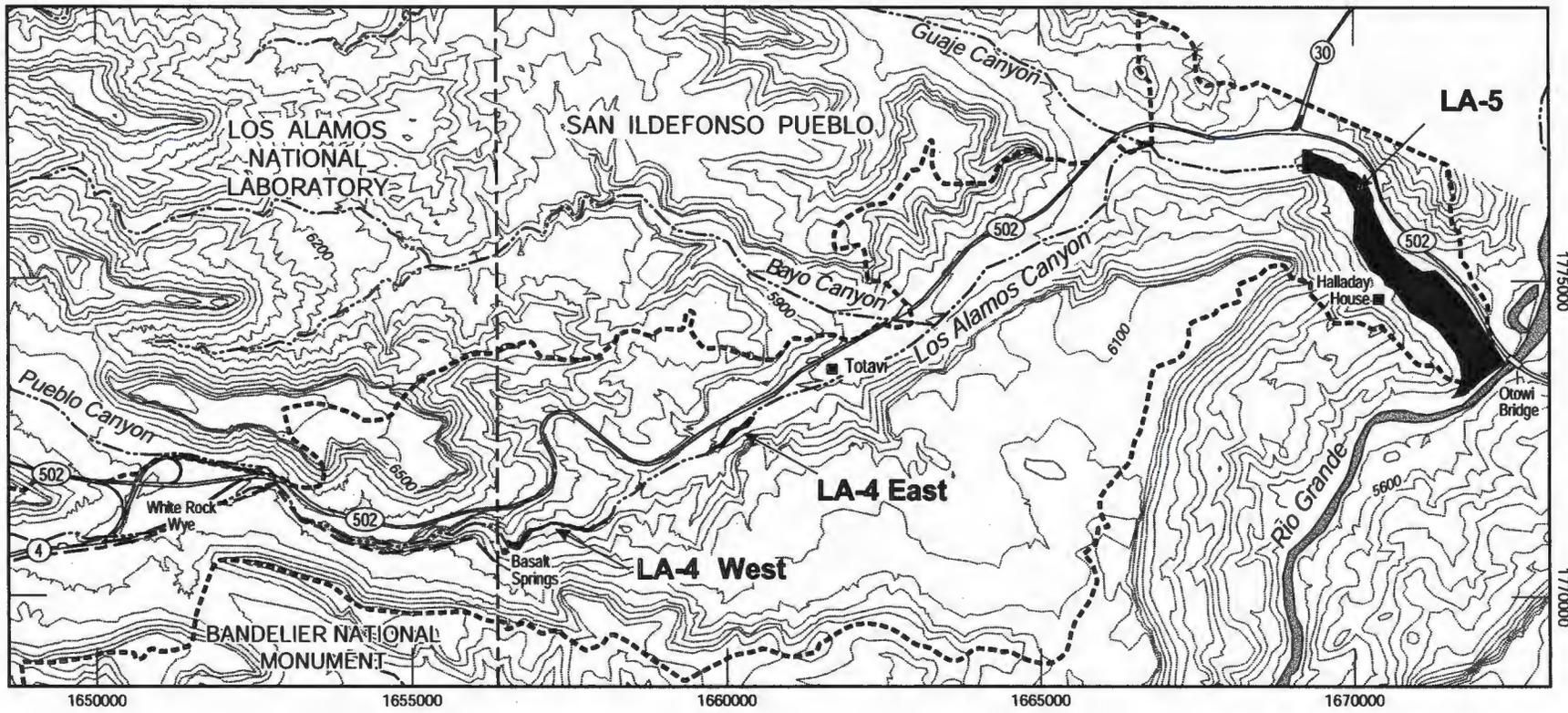
F1.1-1 / UPPER LOS ALAMOS CANYON REACH RPT / 102698

-  Los Alamos Canyon sampling reach
-  Watershed boundary
-  Drainage channel
-  Paved road
-  TA boundary
-  TA number
-  Contour interval 100 ft



cARTography by A. Kron 9/4/98  
 Source: FIMAD G106812 8/13/98

Figure 1.1-1. Map of the part of the upper Los Alamos Canyon watershed that includes Los Alamos National Laboratory, showing Laboratory technical areas and sampling reaches.



F1.1-2 / LOWER LOS ALAMOS CANYON REACH RPT / 100898

-  Sampling reach
-  Paved road
-  Drainage channel
-  Watershed boundary
-  Land ownership boundary
-  Contour interval 50 ft



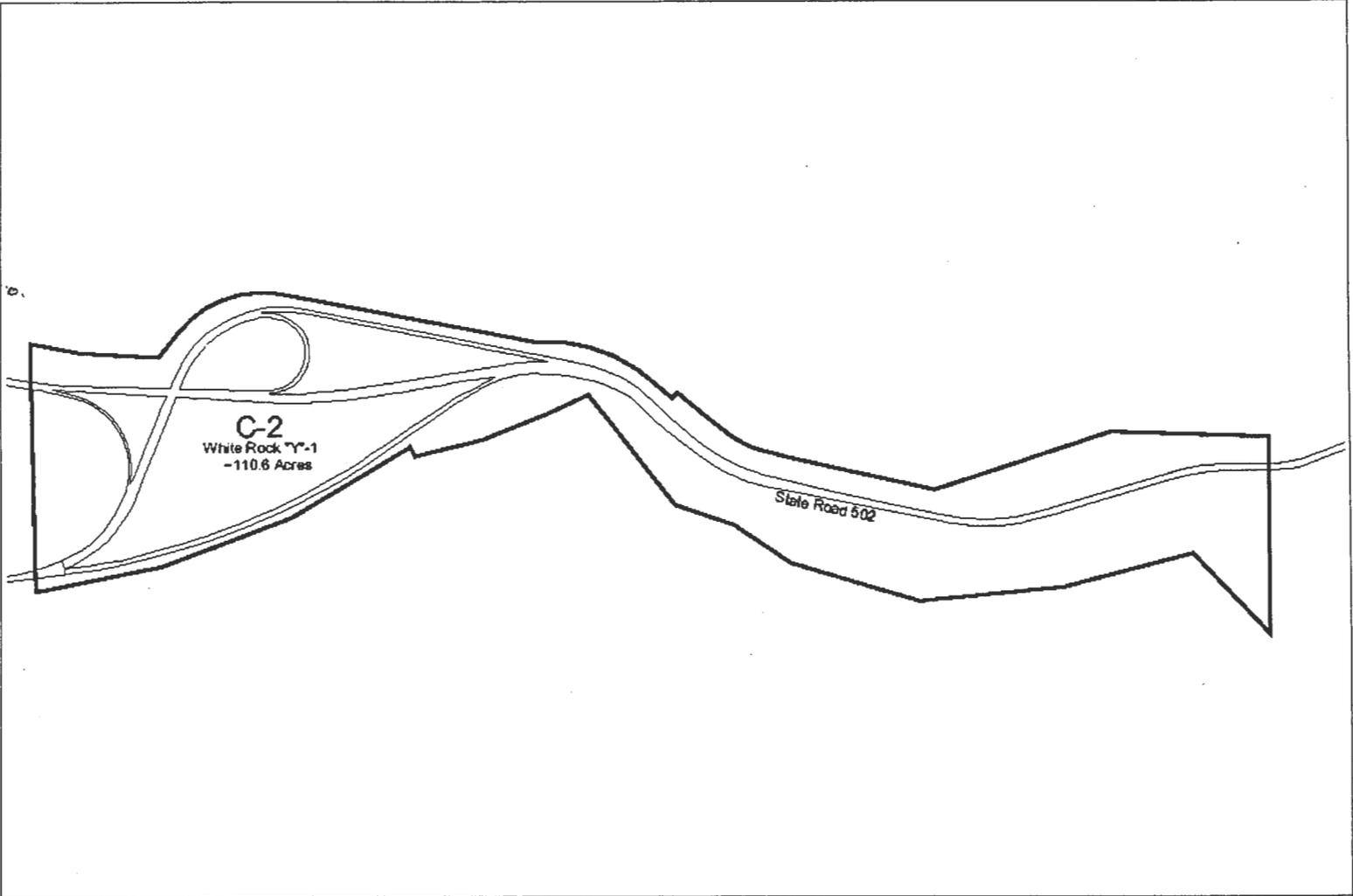
-  0.8 mi
-  1200 m
-  4000 ft

cARTography by A. Kron 9/4/98  
 Source: FIMAD G106857 8/21/98

Figure 1.1-2. Topographic map of the lower Los Alamos Canyon watershed between Pueblo Canyon and the Rio Grande showing sampling reaches.

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**Appendix D**  
**Site Map**



	Building		Roads
	Land Transfer		



THE DATA HEREIN HAS BEEN OBTAINED FROM SOURCES BELIEVED TO BE RELIABLE, BUT ITS ACCURACY AND COMPLETENESS ARE NOT GUARANTEED. THE DATA MAY CONTAIN SOME MINOR COORDINATE, DETECTED, ERRORS, AND/OR OMISSIONS.