

TA 18

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**PRS 18-006**

**URANIUM SOLUTION PIPE**

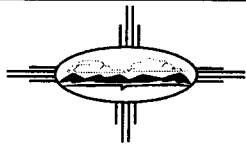
**TA-18**

**No SRS Ranking**

**Non-HSWA**



1552



*Los Alamos National Laboratory  
Environmental Restoration Project*

2110199



VG-97-058 (1)

Unit Type: Underground Solution Pipe  
SRS: None  
PRS 18-006 not on Watercourse List

**Los Alamos National Laboratory  
Environmental Restoration Project  
Proposed VCA Fact Sheet  
PRS 18-006 - Underground Solution Pipe**

**Description:**

This potential release site (PRS) is an underground stainless steel pipe formerly used for storage of uranium solution. The storage pipe, measuring 6 in. in diameter and 100 ft long, is buried approximately 4 ft below grade near an experimental reactor facility at TA-18. The solution—uranyl sulfate—was periodically pumped from the storage pipe to an above-ground reactor vessel for nuclear criticality experiments. The reactor vessel was decommissioned, and the solution was removed from the storage pipe in 1974. This PRS is not listed in the HSWA module of the Laboratory's RCRA operating permit and did not receive a site ranking score.

**Contaminants:**

Some residual radioactive contamination is present in the storage pipe. The pipe was rinsed after the fuel was removed. Sampling of the residual rinsate revealed uranium isotopes, fission products, metals, and volatile organic compounds. The rinsate had a pH of 12.8.

**Rationale:**

The pipe overlies a shallow aquifer; depth to water is 8 to 10 ft. Existing groundwater monitoring data do not suggest that any release has occurred, but the potential remains. The facilities at TA-18 are active, and no date has been set for decommissioning those facilities; except for removal by the ER Project, the solution pipe will remain in place for the foreseeable future.

**Voluntary Corrective Action:**

A trench will be excavated to expose the pipe. The pipe will be severed into two or three pieces, and the segments removed from the trench. Field radiological screening will be used to identify any contaminated soil, which will be removed from the trench. Verification samples of soil from adjacent to the pipe will be collected to verify that no residual contamination remains. All aspects of health and safety will be addressed by a site-specific health and safety plan.

**Expected Waste Types and Volumes:**

All contaminated waste generated by this cleanup is expected to be low-level radioactive waste. If any residual rinsate solution remains in the pipe, it will be neutralized before disposal to eliminate toxic characteristics. The rinsate will be sampled to characterize it for disposal. If sampling indicates the presence of RCRA waste, the pipe will be decontaminated and decontamination wastes will be disposed of appropriately. Decontamination wastes are expected to be less than 30 cubic feet. The volume of the storage pipe is approximately 20 cubic feet. No contaminated soil is expected, but, if present, should not exceed 10 cubic feet. An additional 10 to 15 cubic feet of contaminated personal protective equipment (PPE) may be generated.

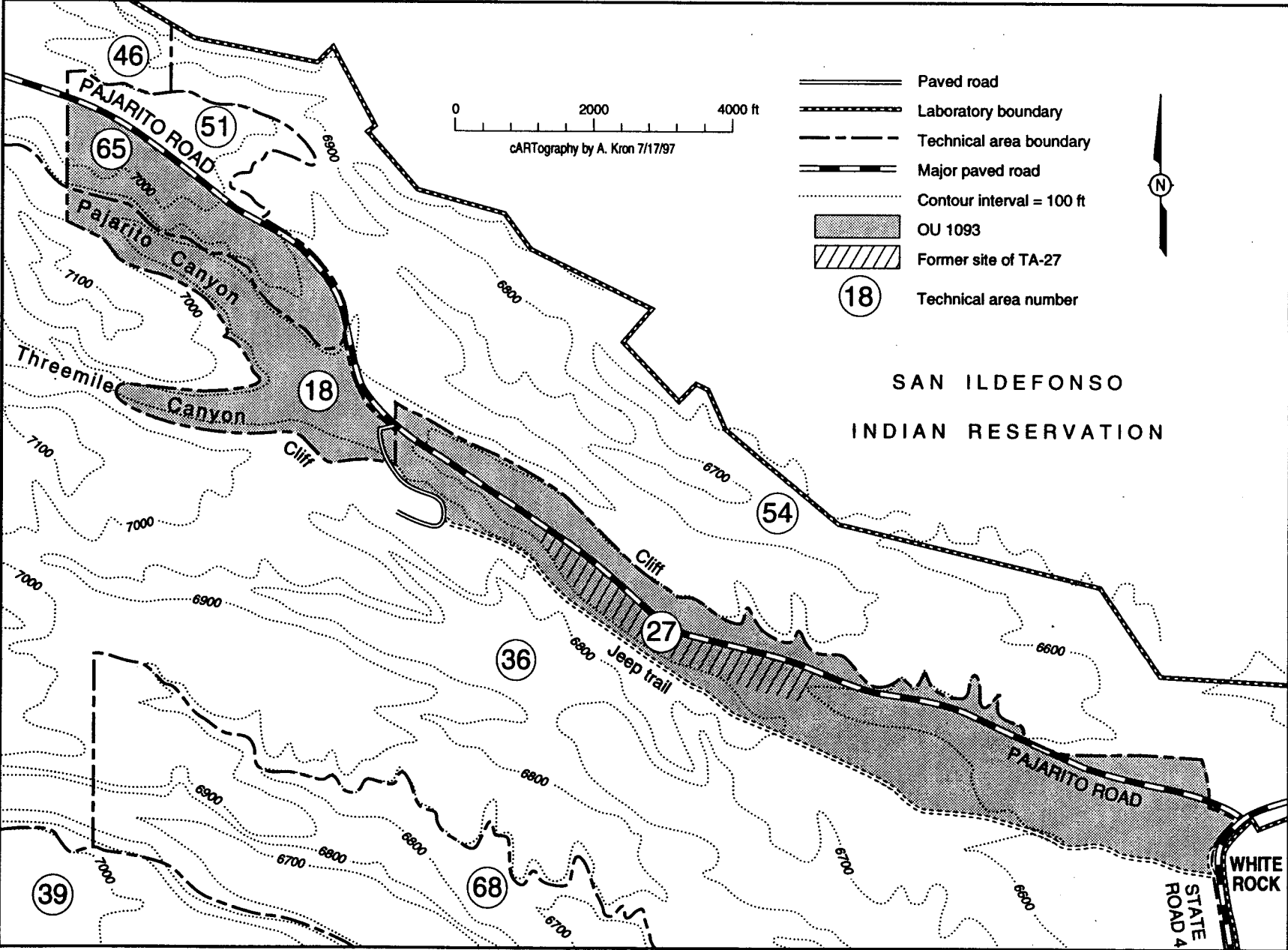
**Cost:**

It is anticipated that the cleanup will cost approximately \$200,000.

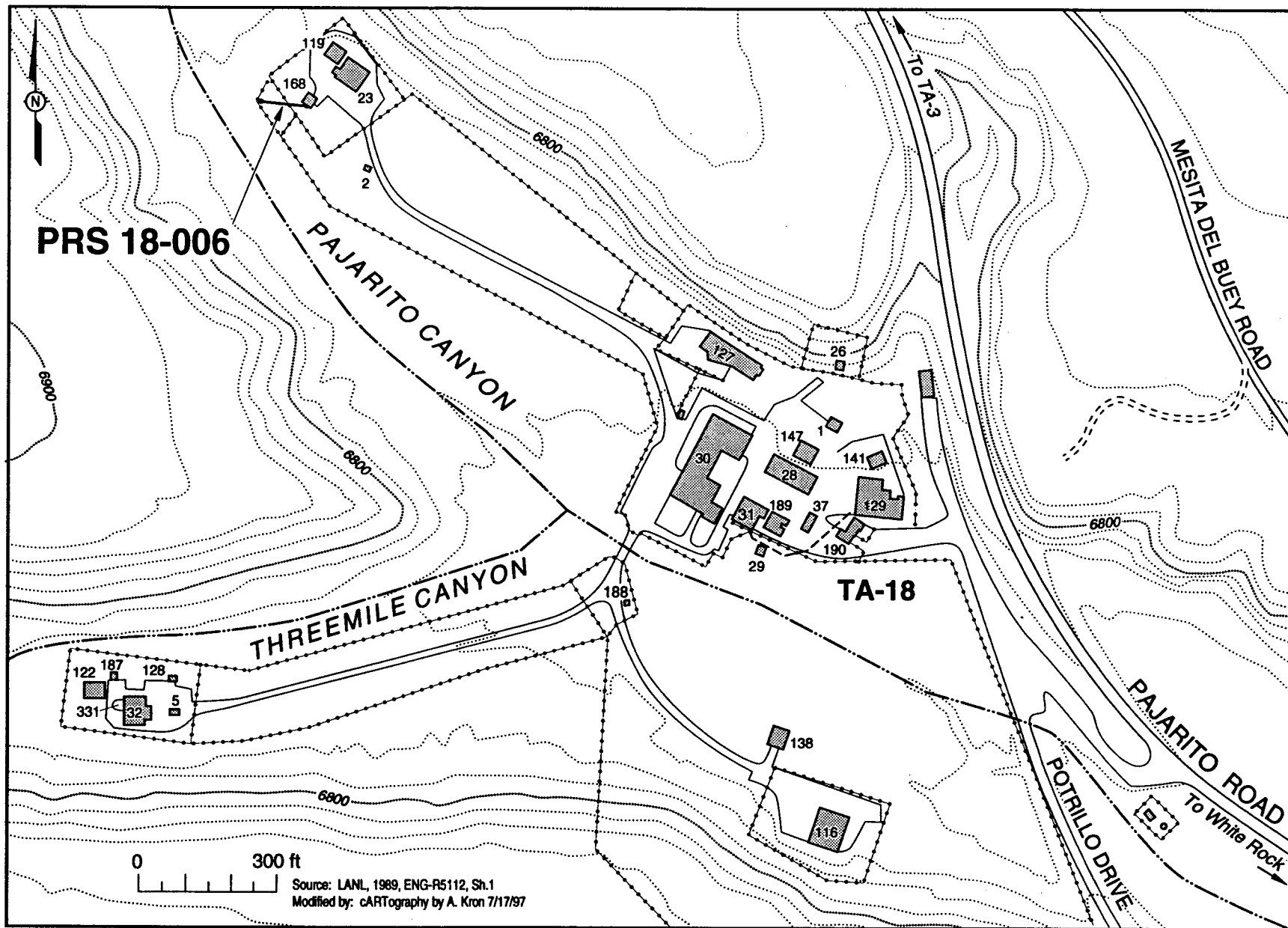
**Schedule:**

The VCA is scheduled to occur in August 1997. The completion report will be submitted by September 30, 1997.

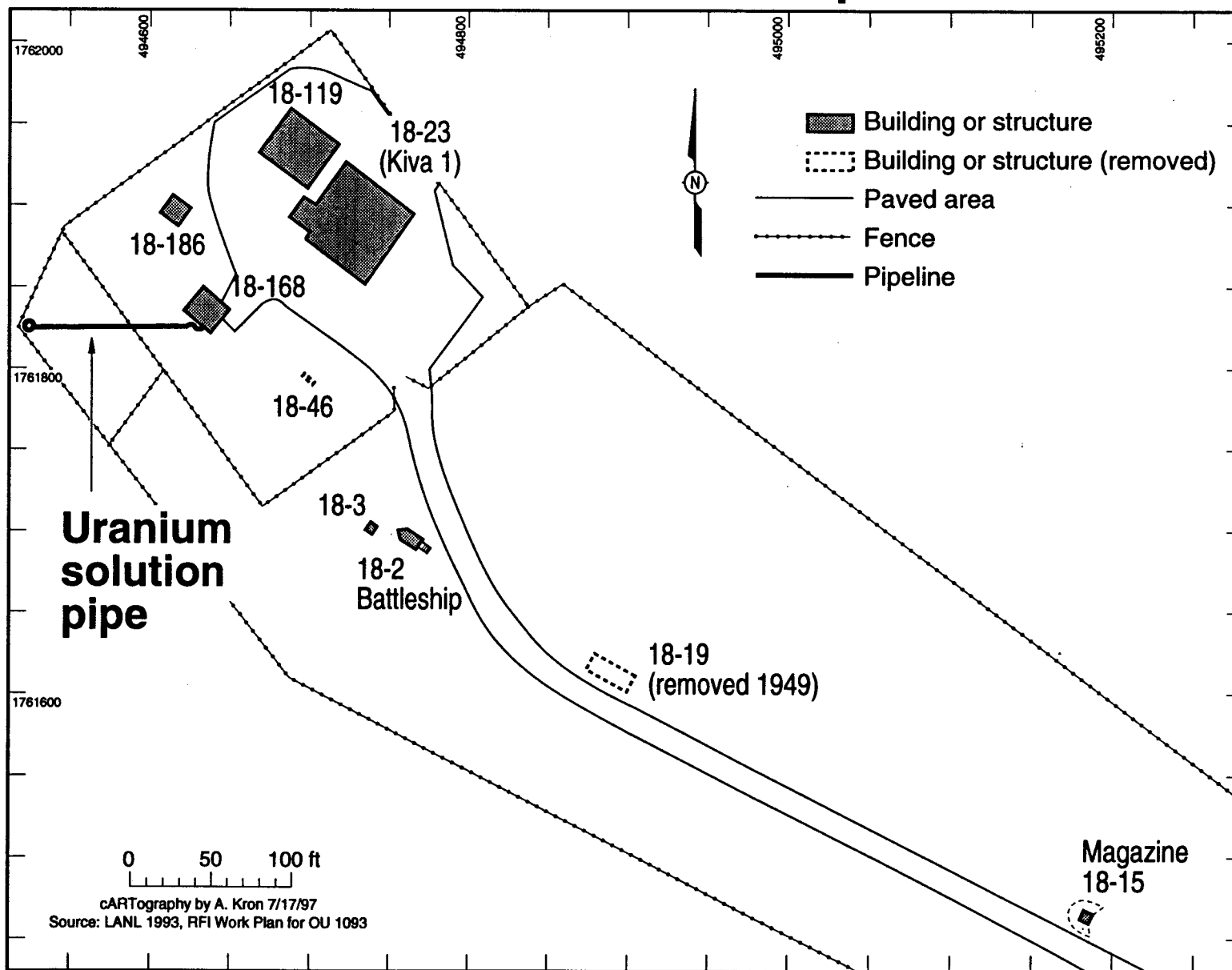
# Location of Operable Unit 1093



# Location of PRS 18-006 at TA-18



# Uranium Solution Pipe



# PRS Description

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- **PRS 18-006 is an abandoned stainless steel pipe**
  - ◆ **stored liquid fuel (uranyl sulphate) for Kinglet reactor**
  - ◆ **pipe dimension: 6 in. diameter by 100 ft length**
  - ◆ **wrapped with 1-in. thick polyurethane**
  - ◆ **capacity 560 liters**
  - ◆ **stainless steel, Schedule 40 (1/4 in. thick)**
  - ◆ **extends west from Building TA-18-168**
  - ◆ **buried 3 ft deep at west end, 5 ft deep at east end**

