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1	REPORT	7/1/2000	DECOMMISSIONING COMPLETION REPORT FOR BUILDINGS 4, 46, 49, 50, 53, 54, 55, 56, 57, 69, 88 AT TA-2 OMEGA SITE FLOOD CONTROL PROJECT N/A N/A N/A		

SCANNED

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# Decommissioning Completion Report

For

Buildings 4, 46, 49, 50, 53, 54, 55, 56, 57, 69, 88

At TA-02  
Omega Site

Flood Control  
Project

July 2000



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## 1.0 Introduction

The University of California, Los Alamos National Laboratory was tasked to Decommission surplus facilities at TA-02 as directed by the Department of Energy (DOE) due to imminent flood danger. Tasks performed on this subcontract will be under the direction of the Laboratory's Environmental Restoration Project office (EM/ER) in compliance with DOE Order 5820.2A, Chapter V.

The eleven buildings at TA-02 were constructed over the life span of the Nuclear Reactor site. Among the buildings were a guard shack, a fuel storage area and a cooling tower. Most of these facilities have been out of service since the early 1990's and were in a state of disrepair. The Project Management Plan for decommissioning these facilities, #XXXXXXXXXXXXXXXXX, was approved in XXXXXXXXXXXXX. The decommissioning effort at TA-02 will continue through the next fiscal year with these eleven buildings completed and possibly building 44.

The hazards at these facilities have been characterized and decommissioning began in June 2000 with three storage buildings and eight other structures being completed in July 2000.

The Decommissioning of TA-02 was giving priority due to the fact that it is a Nuclear Reactor site and had Radiation and Contamination possibilities if large amounts of water rushed through the TA-02 site. The Cerro Grande Fire of May 2000, caused heavy deforestation on the hills that are above TA-02. The deforested area then was feared to not absorb rainwater due to the inch or more of ash that covered the ground. This rainwater would then run off in great amounts into Los Alamos Canyon. Since New Mexico is prone to sudden flash floods, DOE dictated that TA-02 needed to be secured for flooding.

This report is for the decommissioning of buildings TA-02-4, 46, 49, 50, 53, 54, 55, 56, 57, 69, and 88. All were completed in FY00 with special funds from DOE set aside for flood control work. At this time TA-02-44 is pending removal.

## 2.0 Description of Project

### 2.1 Building 2-4

Building 4 was a cinder block building standing approximately 12ft high, with a pitched roof and cast concrete foundation of about 4ft. It also has adjoining structure that was used a storage rack for nuclear fuel rods, which extends approximately 10ft into the hillside. This rack was formed out of steel tubes and cast concrete. This rack area possesses the highest potential for radiological hazards in that initial readings indicated 1000 Rad/hr, contact. The roofing material was found to contain Asbestos. The paint on the walls has been tested for lead and found to be negative. The building itself was a guard station or guard quarters at one time. Toward the latter part of the site's life span the building was utilized as storage space.

### 2.2 Building 2-46

Structure 46 was a surge tank utilized in the nuclear reactor process for the Omega West Reactor. The tank had a volume of 400 cubic feet. It is known to exhibit radiological hazards.

### 2.3 Building 2-49

Structure 49 was a cooling tower for the Omega West Reactor, with six stainless steel cross flow heat exchangers located in the bottom portion of the structure. The structure was approximately 40ft high and had a footprint of 400 sqft. A large fan on the top of the structure was utilized to evacuate water vapor and provide cooling through endothermic process. The cooling tower was made of transite and pressure treated wood. The wood was tested for ACM none was found, however the potential for arsenic and chromium contamination still exist. There is removable contamination within the heat exchangers as tritium, cobalt -60 and Sr-90. The cast re-enforced concrete foundation is to be left in place with all subterranean pipes to be capped at ground level and left in place, not excavated.

2.4 Building 2-50

Building 50 was a storage shed utilized in the storage of miscellaneous low level contaminated and low level radiological items used at TA-02. Thus there is a potential for low-level contamination. The shed was made of metal siding, and I-beams. The foundation was originally supposed to be left in place, however it was taken out later on with an addendum scope of work.

2.5 Structure 2-53

Structure 53 was a subterranean valve house used to control flow into and out of structures 54, 55, and 56. The valve house was approximately 13 cubic yds below ground made of reinforced concrete.

2.6 Structure 2-54

Structure 54 was one of three subterranean storage tanks for the reactor. The tank volume was 500 gallons. The associated piping between 54 and 53 was also removed.

2.7 Structure 2-55

Structure 55 was one of three subterranean storage tanks for the reactor. The tank volume was 500 gallons. The associated piping between 55 and 53 was also removed.

2.8 Structure 2-56

Structure 56 was one of three subterranean storage tanks for the reactor. The tank volume was 500 gallons. The associated piping between 56 and 53 was also removed.

2.9 Structure 2-57

Structure 57 was a small shed build next to 49 and made out of aluminum siding. This structure was used as a valve house that controlled the automatic sprinkler system for structure 49. There is a PCB containing light ballast present in this structure.

2.10 Structure 2-69

Structure 2-69 was a small pre-fabricated shack used by the guards of TA-02. This structure contained asbestos in the roofing materials, and also in the flooring materials. Additionally this building contains PCBs in a lighting ballast.

#### 2.11 Structure 2-88

Structure 88 was a small storage shed adjacent to structure 49. It was build out of aluminum siding.

### **3.0 Decommissioning Objectives**

#### 3.1 Work Scope

The scope of this project is the Decommissioning of 11 buildings located in TA-02. The buildings were used for support of the Omega West Reactor. The buildings are structure numbers 4, 46, 49, 50, 53, 54, 55, 56, 57, 69, and 88. The Decommissioning of these facilities includes removal and disposal of all building structural components, piping, and earth barricades, above ground as all associated asbestos wastes, radioactive waste, and hazardous materials. The scope will include the removal of foundations or footings from 4, 50, 53 ,54, 55, 56, and 69. The foundations will be left in place with all associated piping capped at ground level on 46, 49, 57, and 88. Project management and waste management activities are included in the Decontamination and Decommissioning (D&D) actions for each structure listed.

At the close of Decommissioning, shallow depressions will not remain where concrete slabs have been removed. All building footprints are to be erased back to the natural grade. Any trenches created from the excavation of subterranean structures will be backfilled to eliminate safety hazards, but will not be compacted to a test. The areas beneath the buildings, tanks, and other structures, will be readily accessible for RCRA Facility Investigation (RFI).

#### 3.2 Project Management/Oversight

The Project was awarded to SCIENTECH NES, which will provide site management and site safety including procedure preparation, health physics change control , quality assurance, environmental compliance, engineering, reporting, procurement, cost/schedule, and close out documentation.. The Project leader was Henry Nunes, under the E-D&D group leader Miguel Salazar. The point of contact for SCIENTECH NES was Debbie O'Connol.

### **4.0 Summary of Decommissioning**

#### 4.1 Building Characterization

Morris Knudsen published a preliminary characterization report in 1995., In June of 2000 NES ScienTech preformed a detailed characterization report on wastes at TA-02. Once the characterization was preformed the building was demolished according to the results of the characterization.

Building 4 contained Asbestos material in the roof, and radiological contamination in the storage tubes.

Building 46 contained low-level fixed contamination on the inside.

Building 49 contained RECA materials within its wood structure, and low level contamination within its heat exchangers.

Building 50 was clear.

Building 53 was clear

Structure 54 was considered to be radiological.

Structure 55 was considered to be radiological.

Structure 56 was considered to be radiological.

Structure 57 was clear,

Structure 69 contained Asbestos materials in the roof and floor.

Structure 88 was clear.

#### 4.2 Decommissioning Operations

Decommissioning Activities were started immediately after cleanup of the TA-02 site concluded. The building sequences is as follows, first 49 and 50, then 46, 53, 54, 55, and 56, while asbestos work was being preformed on 4 and 69. Then 69, then 4, then 4's storage rack area. A representative of NES would over see these operations at all times.

#### 4.3 Waste Types and Volumes

Volumes of each of the potential waste streams generated during this project will be documented as the actual volumes and will be calculated from each shipping manifest. The potential and anticipated waste types for this project are:

##### ACM Waste:

This waste stream will be comprised of non-friable ACM, which will be subjected to the applicable regulations under the Toxic Substance Control Act (TSCA) and the New Mexico Administrative Code (NMAC).

Examples of this type of waster are floor tiles and roofing felt.

##### PCB Waste:

This waste stream will be comprised of potentially PCB contaminated light ballast. Fluorescent light balsams are classified as PCB Bulk Waste under 40 CFR 761.3 and will be managed and disposed in accordance with these regulations.

##### Radioactive Waste:

This waste stream will be comprised of various materials which aware contaminated as a result of the Omega West Reactor operations Included in this waste stream are the fuel storage racks, cooling tower heat exchangers, and possibly the underground storage tanks and its associated piping and concrete. Radioactive waste will be transported and disposed at LANL's TA-54

#### Clean Demolition Debris:

This waste stream will be comprised of the clean, non-radioactive/non-hazardous debris generated as a result of the D&D activities. Examples of this waste stream are concrete, building materials, glass, and metal.

If required during the D&D activities, plastic barrier materials, personal protective equipment (PPE) and other supplies will be appropriately packaged and disposed.

Estimated waste volumes and identification of waste streams as a result of the NES characterization are as follow:

Clean demolition debris:	450 yds <sup>3</sup>
ACM/PCB waste:	7 yds <sup>3</sup>
Radioactive waste:	140 yds <sup>3</sup>

## 5.0 WASTE MANAGEMENT

### 5.1 Waste Management and Disposal

The procedure of ACM Waste Management and disposal was generated during this project, i.e., floors, tiles, roofing, felt, PPE, Plastic, drop panels, etc., was handled in accordance with 20 NMAC 9.1, Section 705. ACM waste will be double bagged and transported to the disposal facility in an enclosed vehicle. Keers Environmental (Keers), a subcontractor to NES, transported and disposed of the ACM and PCB waste at their Environmental Asbestos Monofill in Mountainair, NM.

The waste that was considered and tested to be clean was transported and disposed of in the Los Alamos County Landfill. The waste that was considered or possibly containing radiation was transported to and disposed at LANL site TA-54 by S.G. Western Construction, a subcontractor to NES. Although there was no recycling done on this project, the material was separated and disposed of in an effective manner. Approximately 500 yds<sup>3</sup> were taken to the Los Alamos landfill while 154 yds<sup>3</sup> were transported to TA-54. Only 7 yds<sup>3</sup> were asbestos PCP waste which included ballast's.

### 5.2 Waste Documentation

The LANL Waste Management Coordinator provided the Waste Profile forms (WPFs) and Chemical Waste Disposal Records (CDWRs) based on characterization data and process knowledge. All records of waste shipments from the TA-02, Omega West site, as a result of the D&D activities, will be transmitted to the LANL Waste Management Coordinator, within 2 weeks from the date of shipment. This process will be done in order for the documentation of the waste types, volumes for handling, manifesting, packing, transport and disposal.

## **6.0 Cost and Schedules**

### **6.1 Costs**

The cost initiative that we have received has reached a total of approximately \$721,772.10. This price is as of 7/14/00, which may include extra cost through the rest of the project for the completion of Omega site. This figure does not include the cost of the internal costs. We have an estimated spending price of \$978,926.00. Another \$180,000 is estimated to be added to this spending price. Since the project at the Omega Site is still in the process we can not give the exact figures for the total cost.

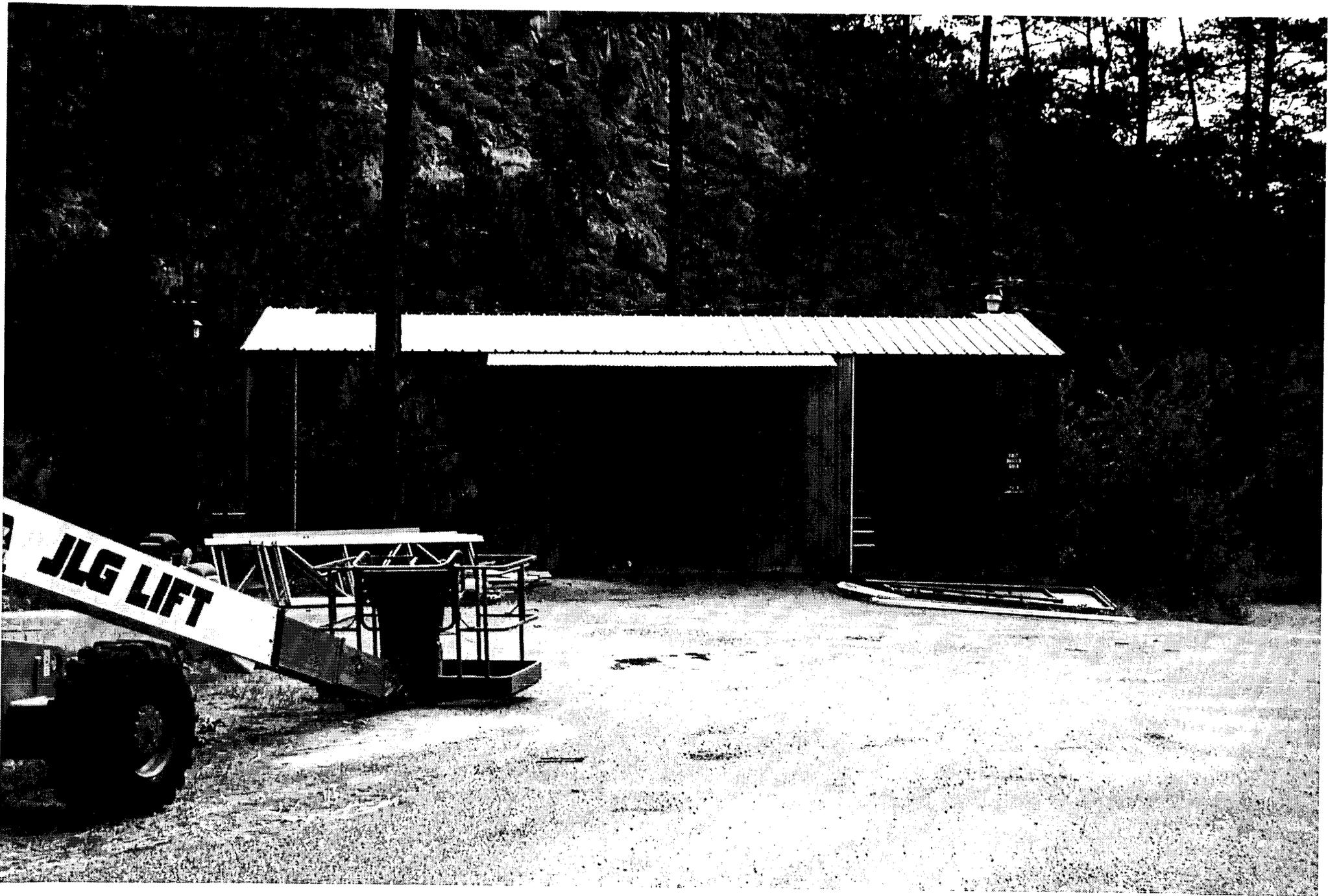
### **6.2 Schedule**

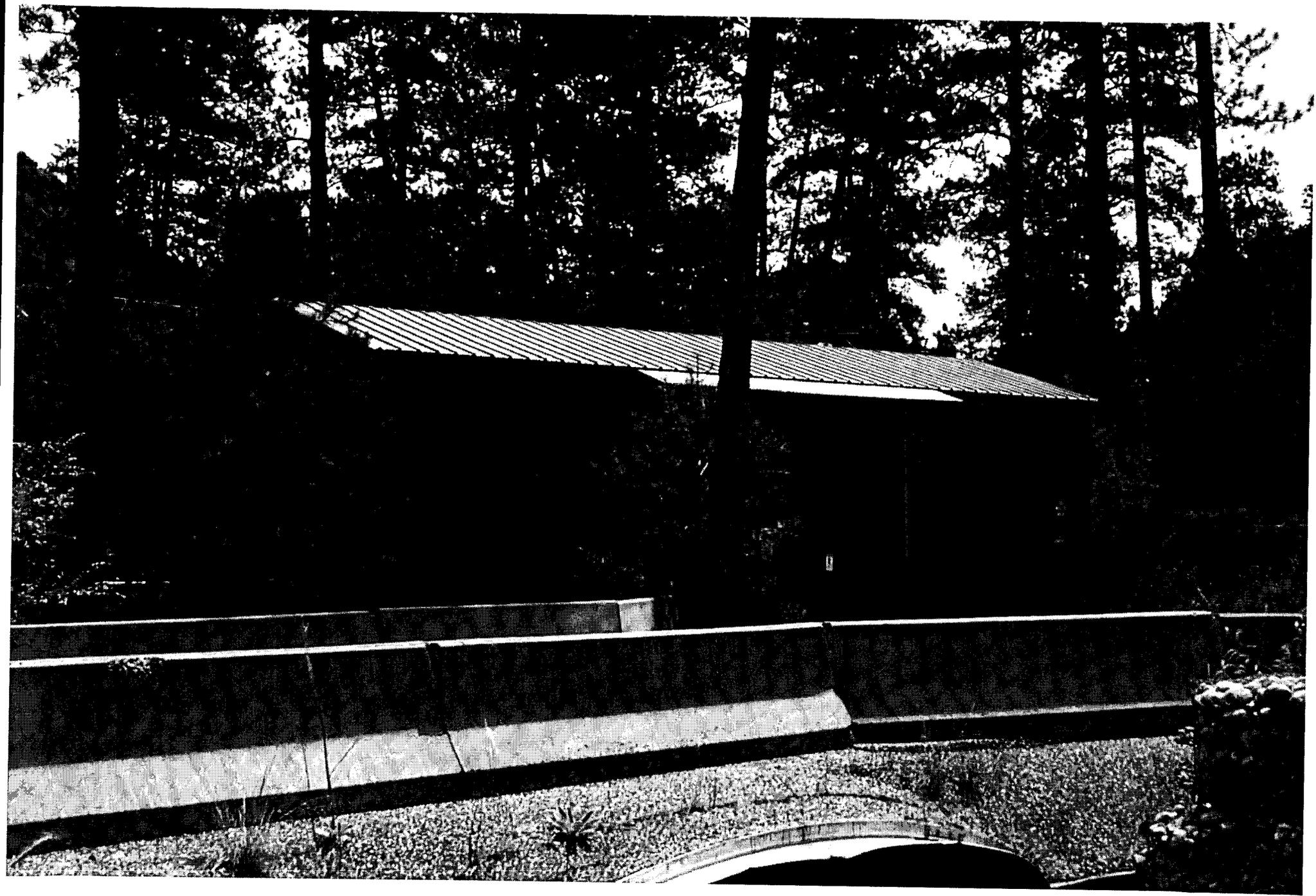
The schedule for the 11 structures started on time and finished ahead of the expected or projected time. The duration of the project started on June 22 of 2000 and ended on the day of July 15 of 2000, which was ahead of the scheduled date. The D&D of the structures took place on June 23 of 2000, and lasted through July 01 of 2000. The rest of the structures can be viewed on Attachment 1.

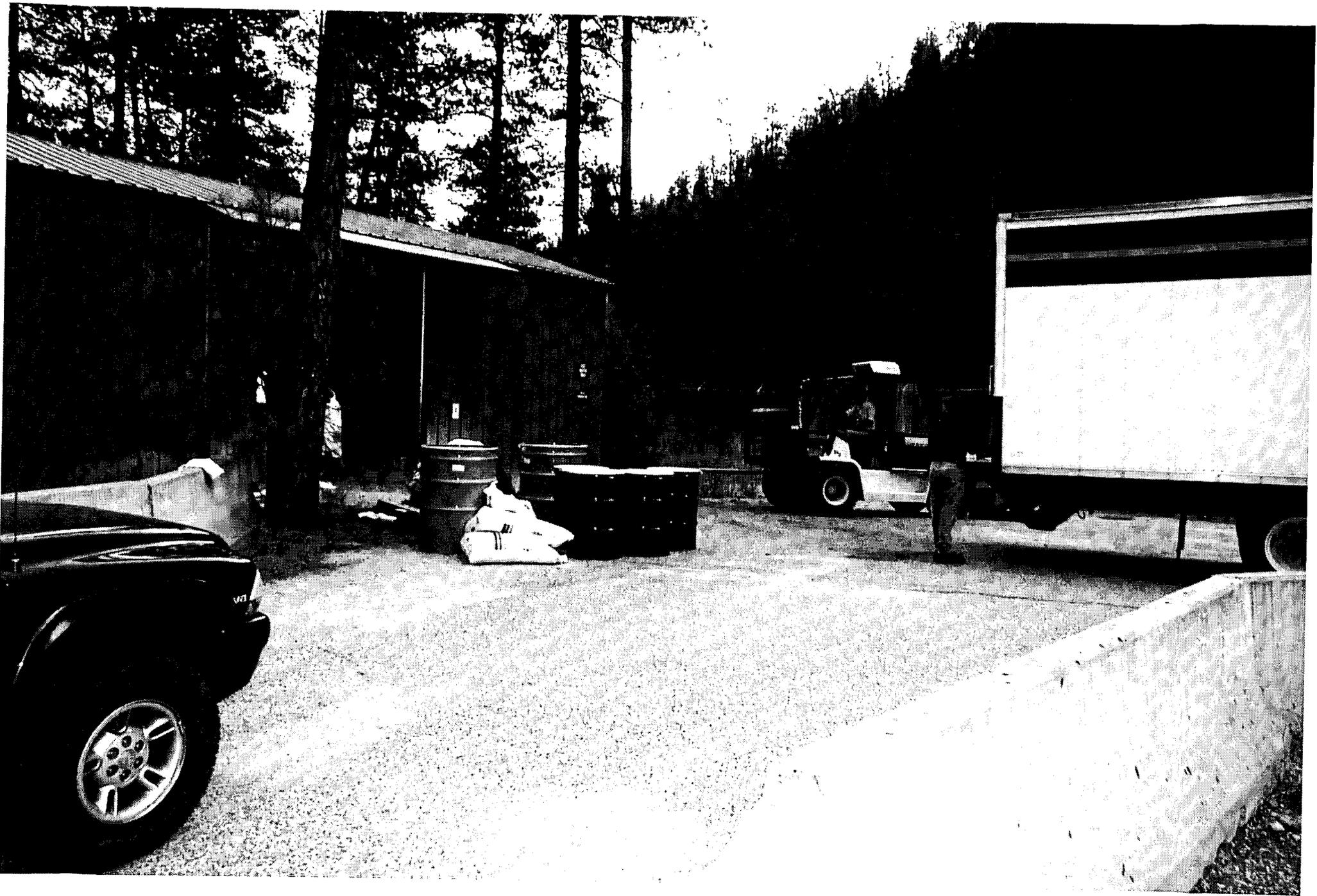
## **7.0 Lessons learned, Conclusions, and Recommendations**

## **8.0 Final Site Conditions**

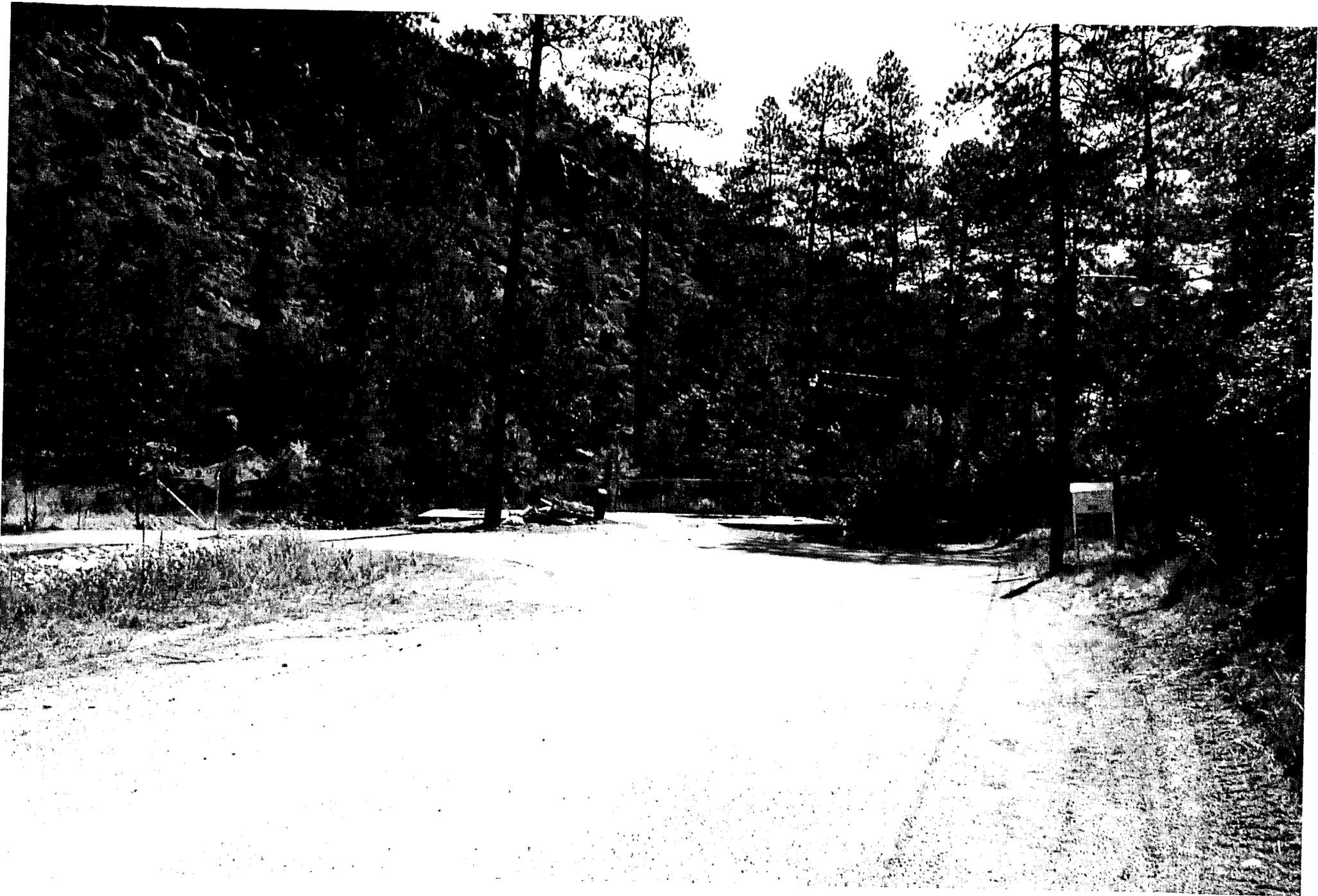
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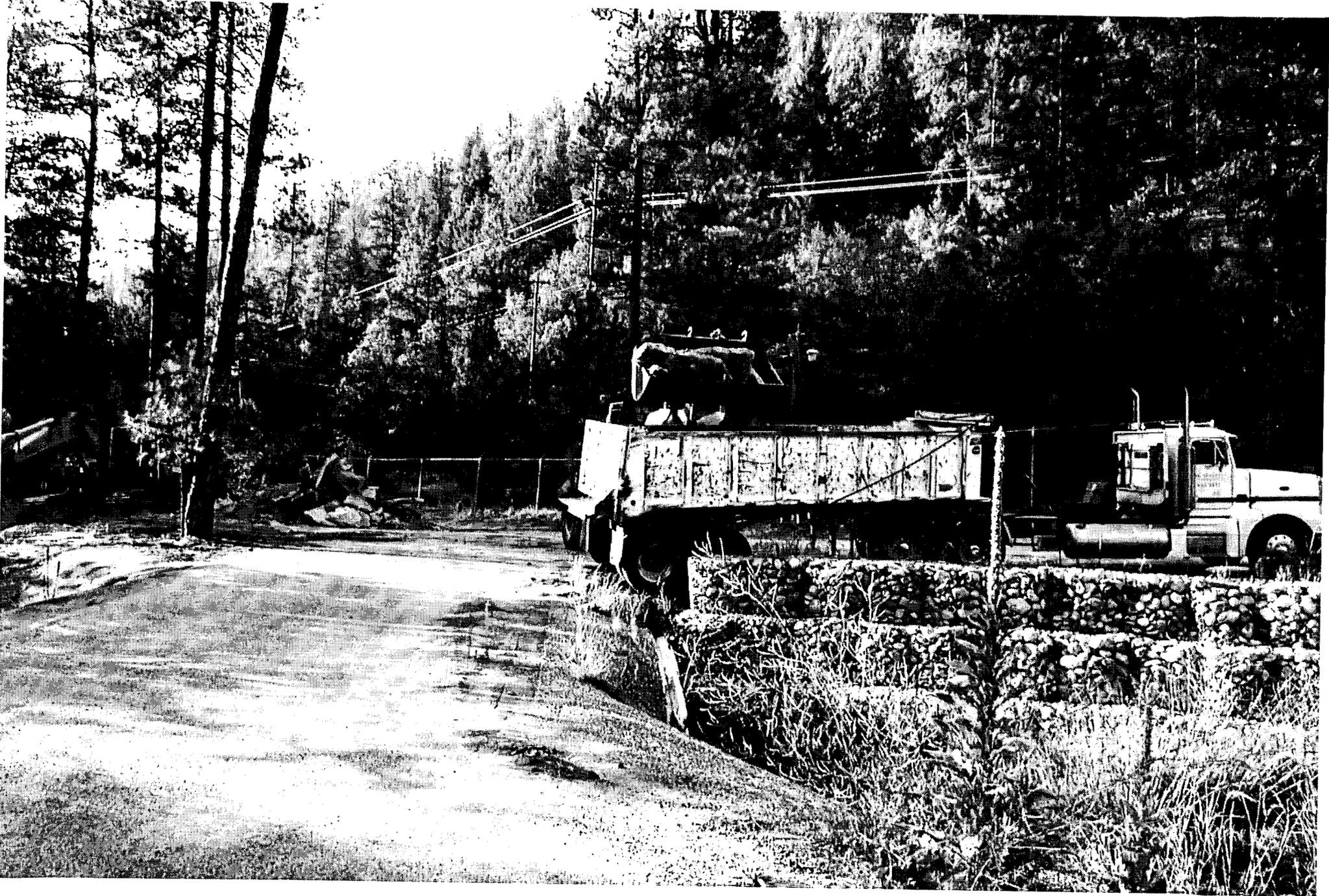




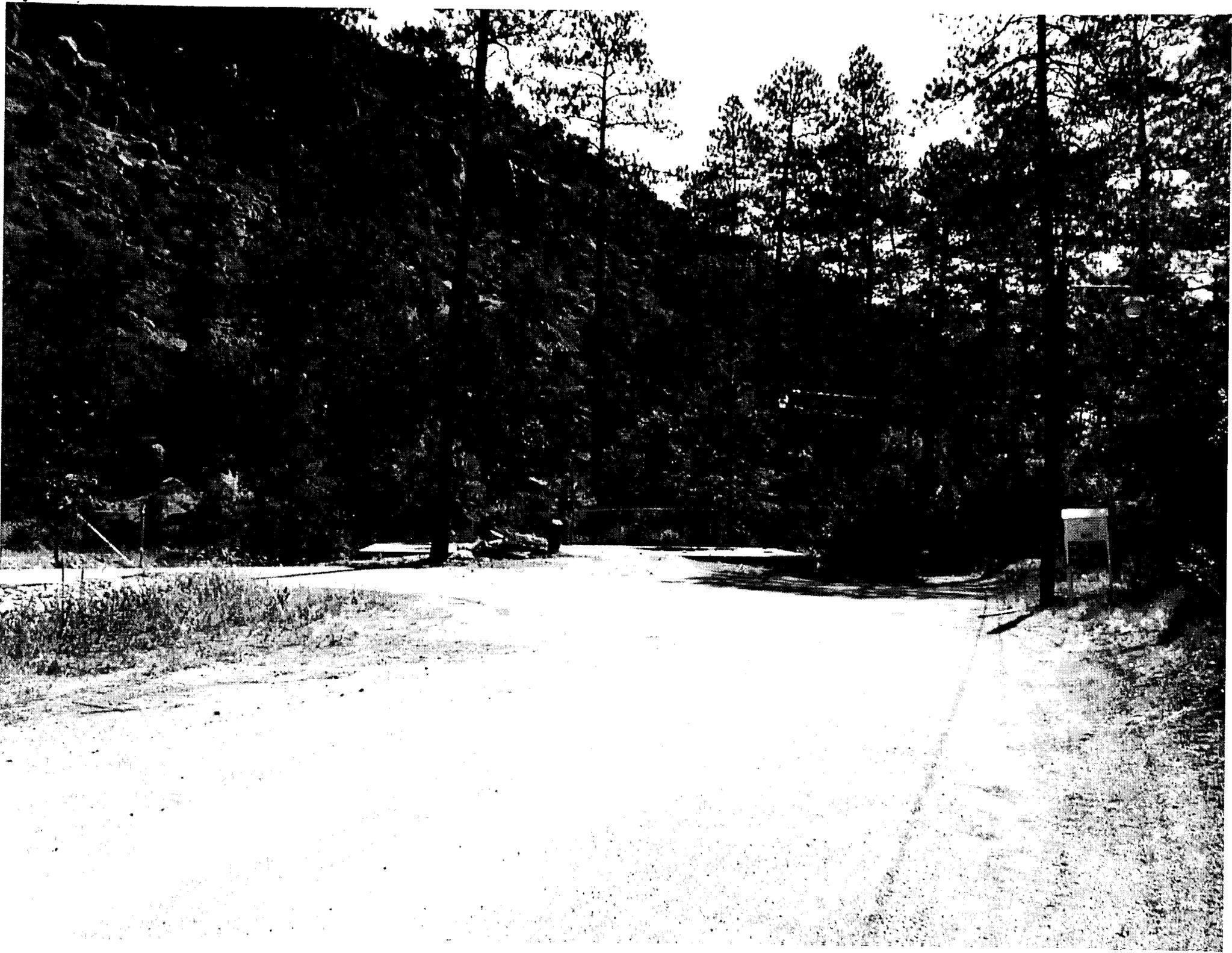




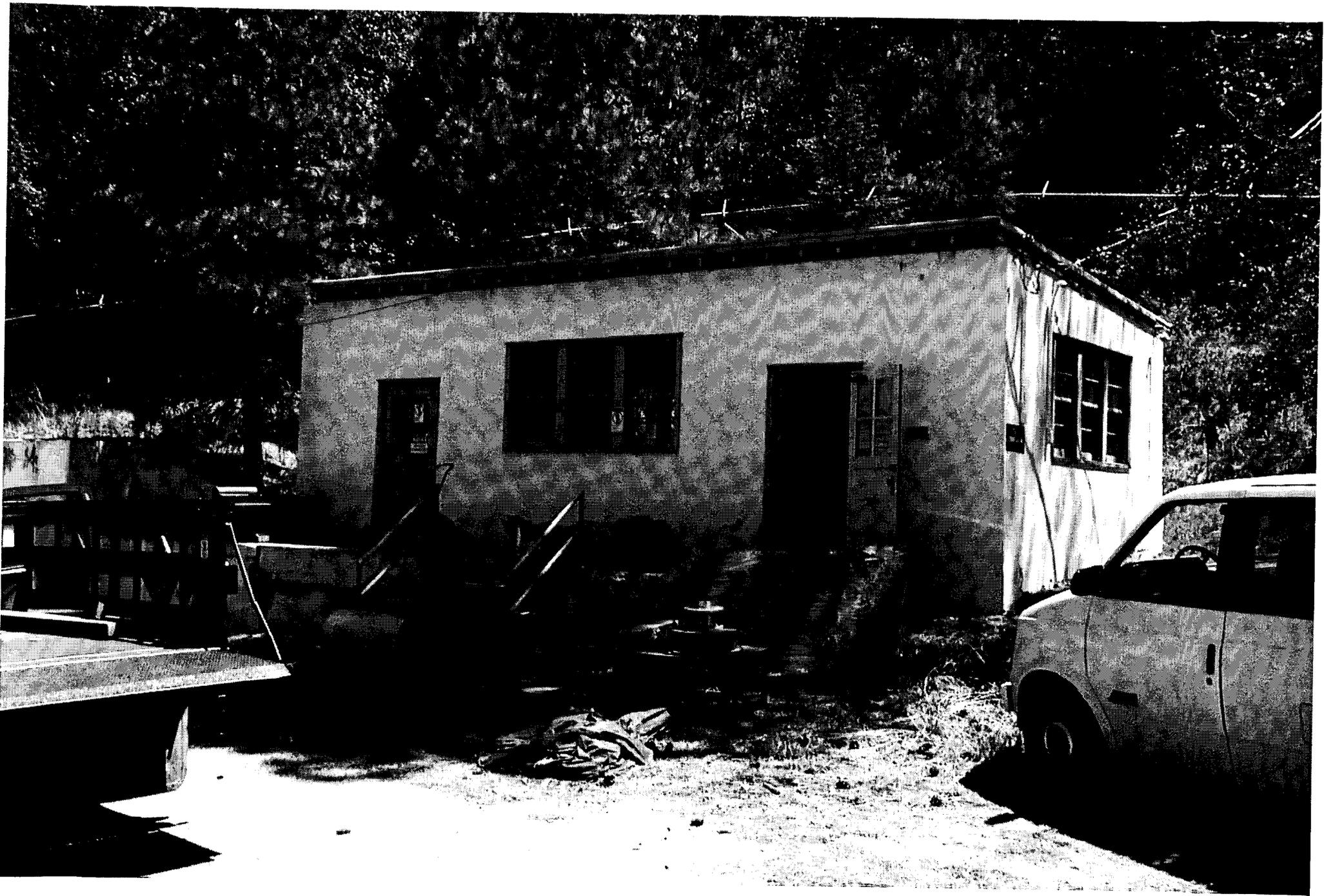


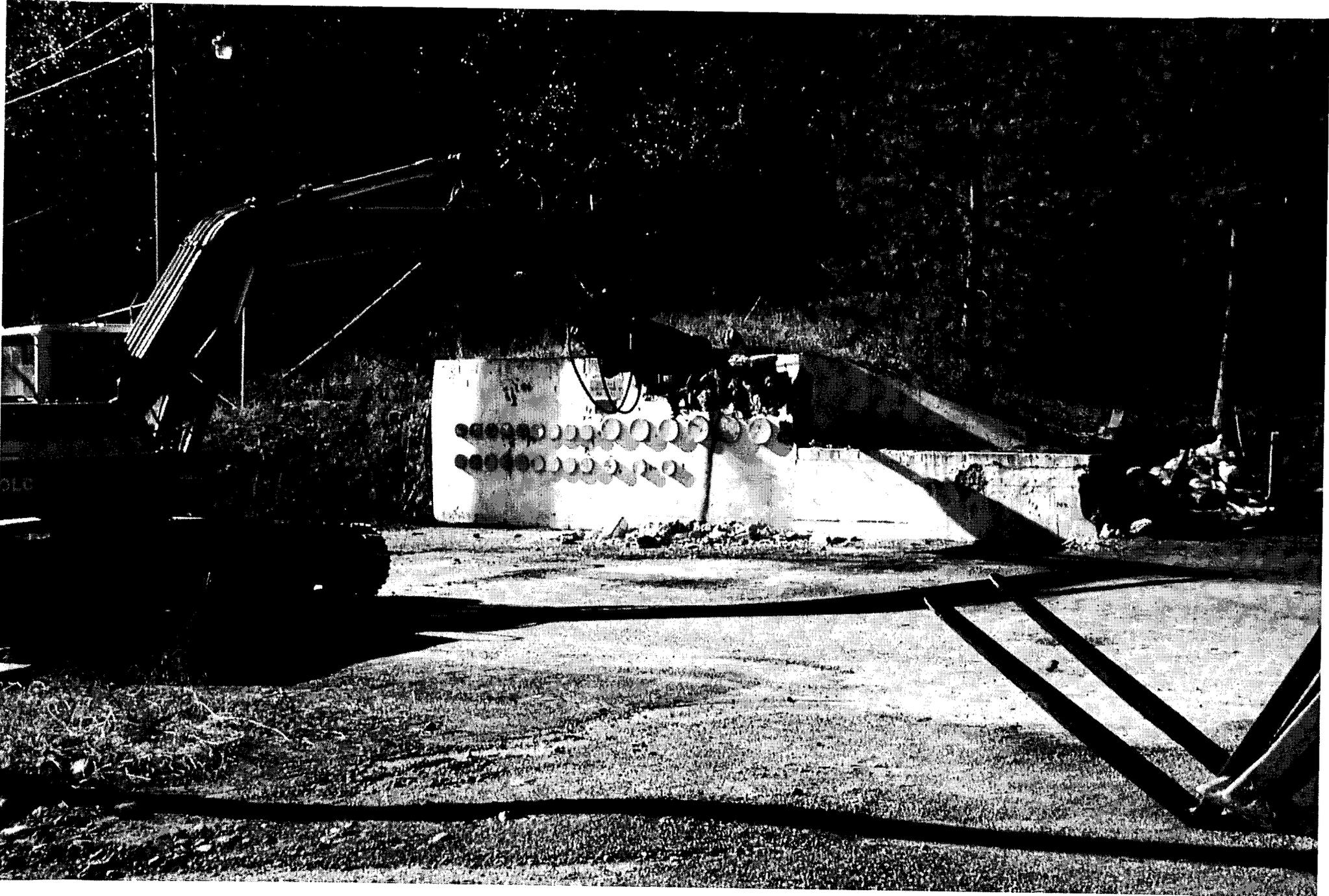






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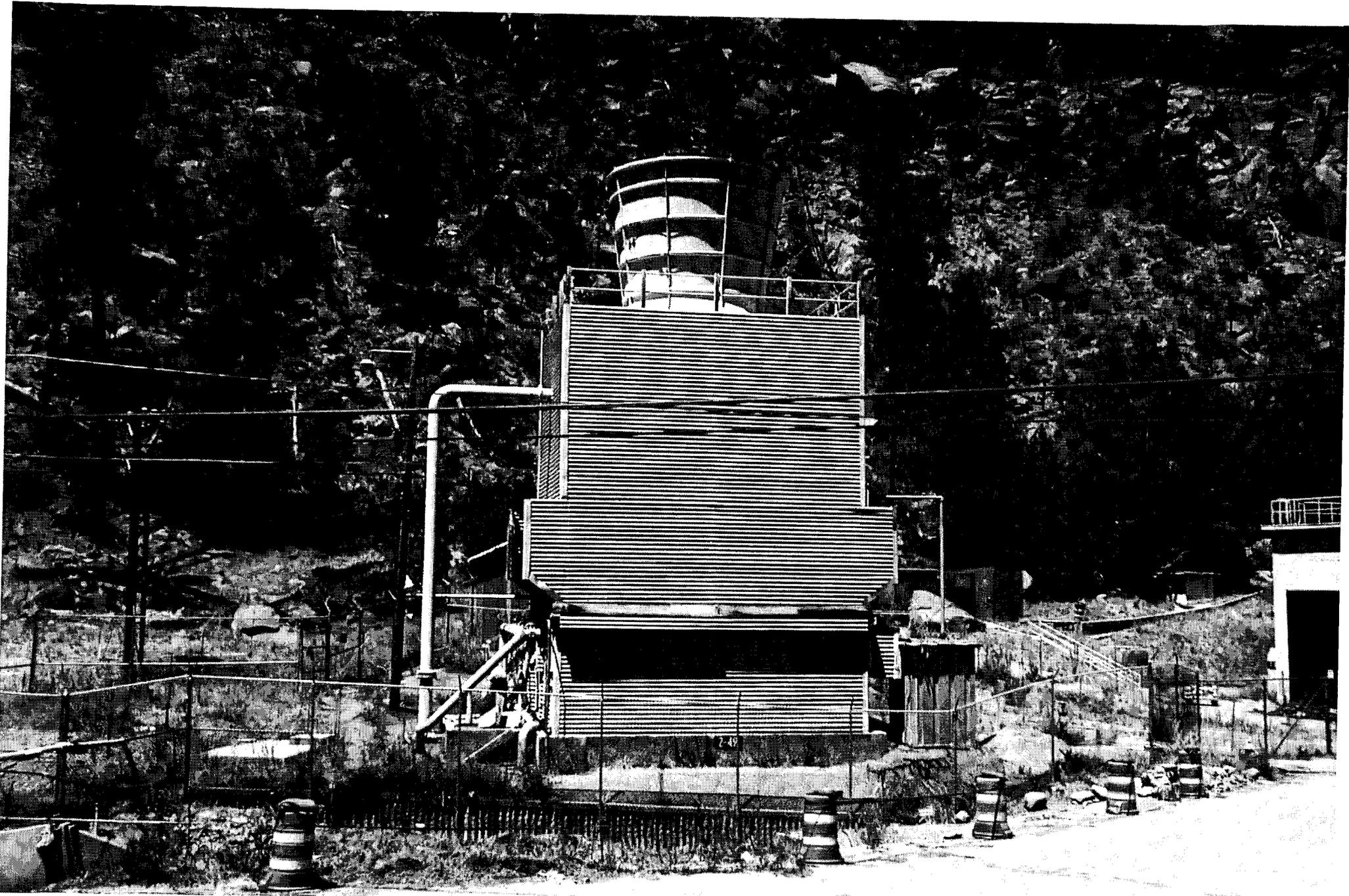
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2-46

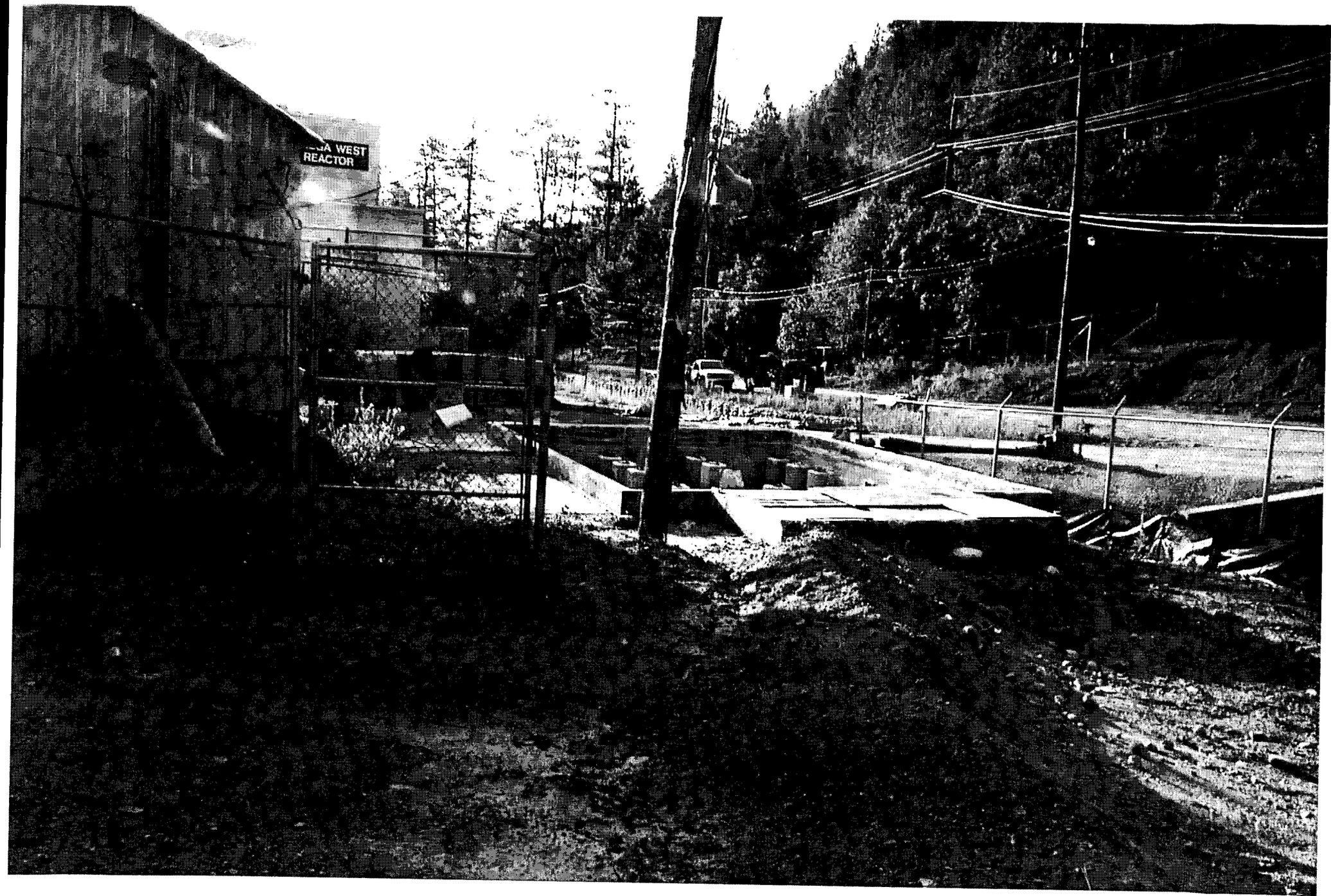


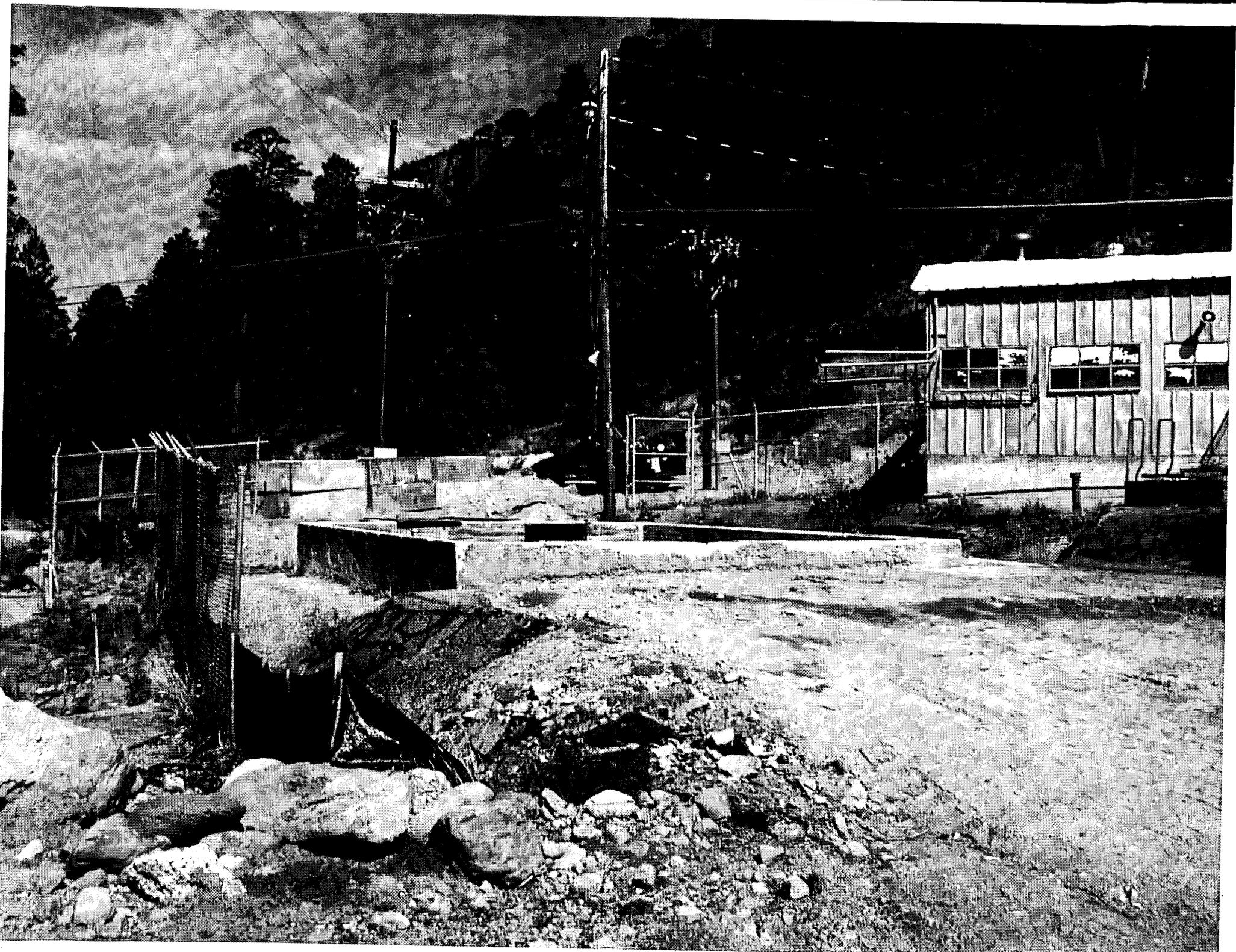
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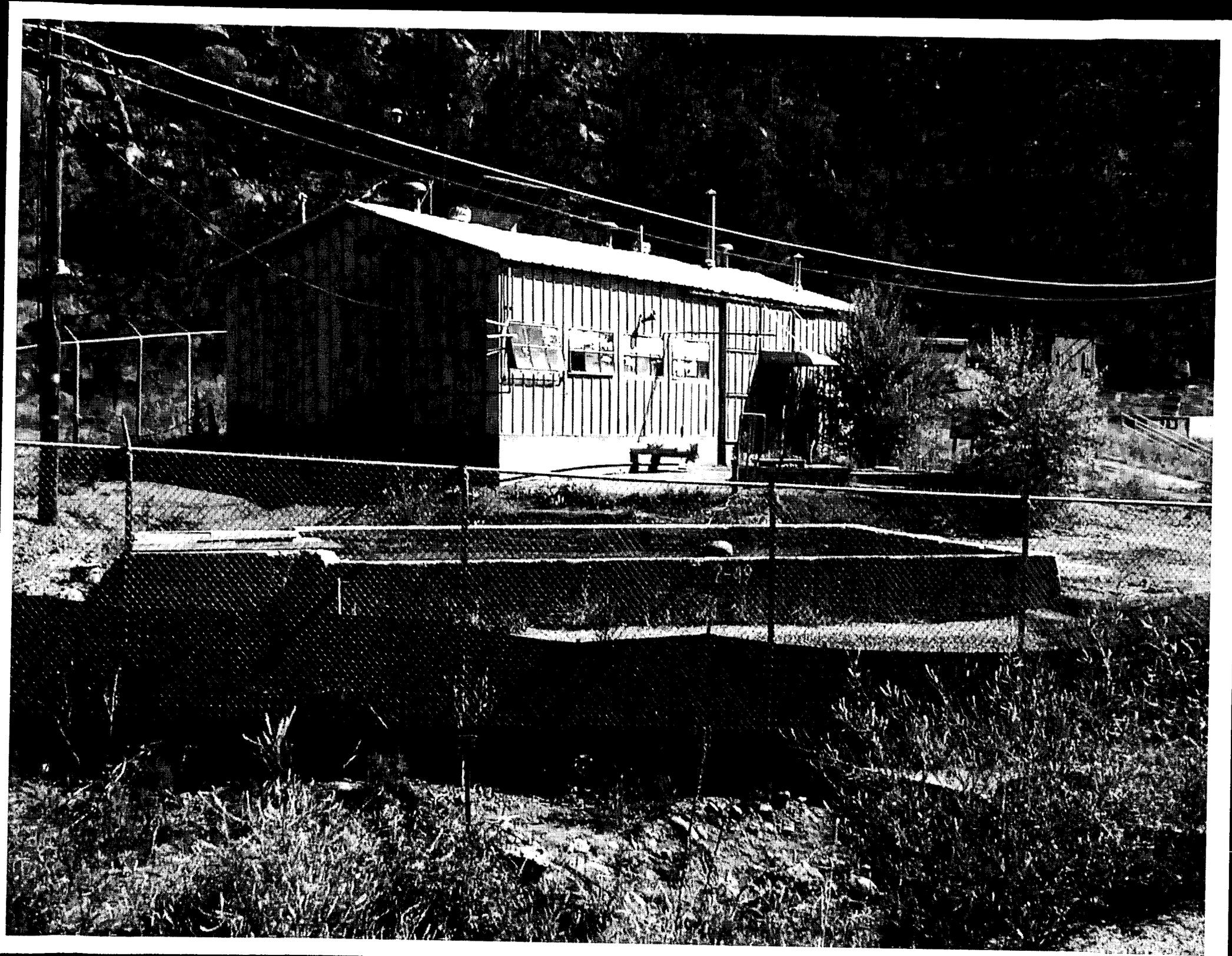


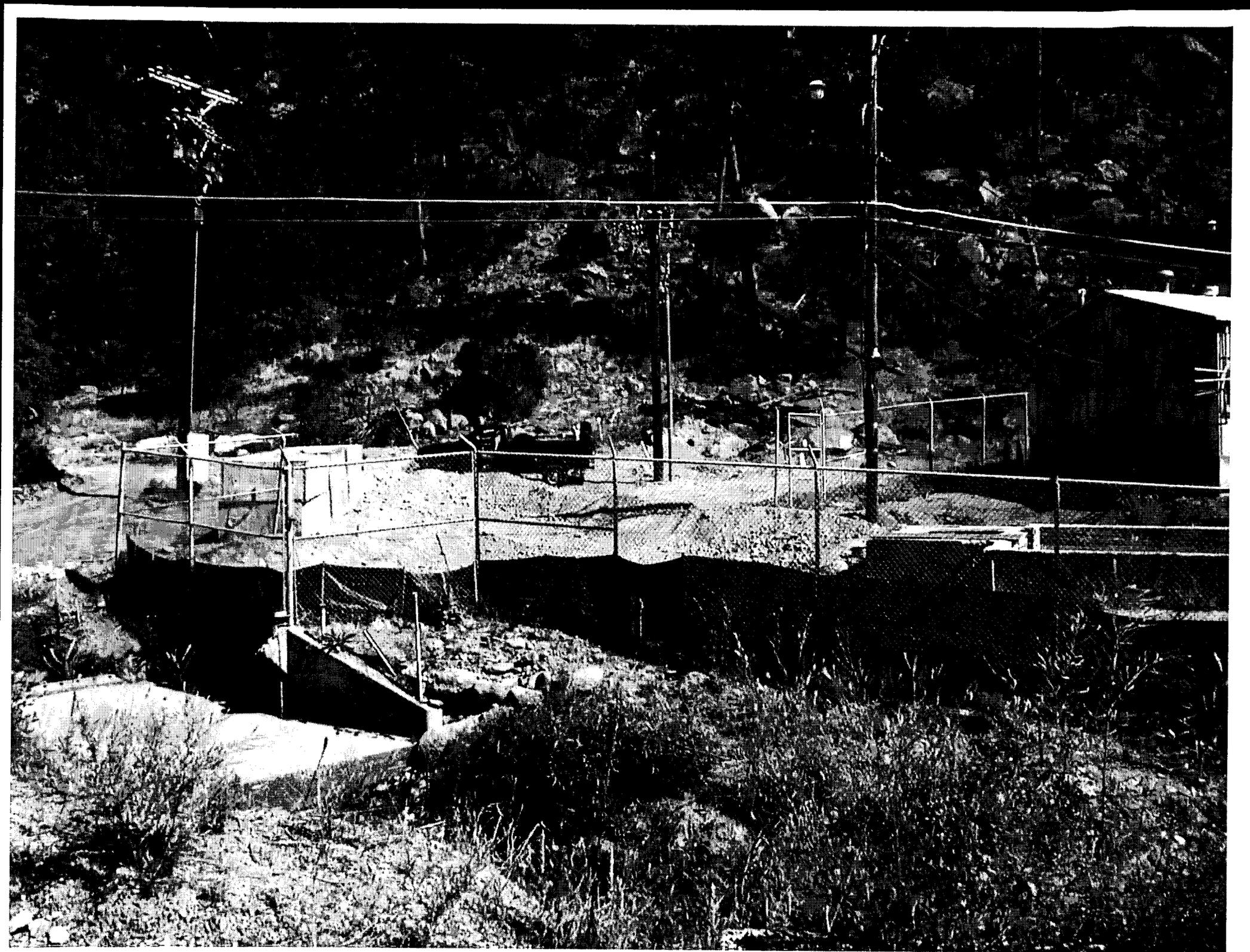


WEST  
REACTOR









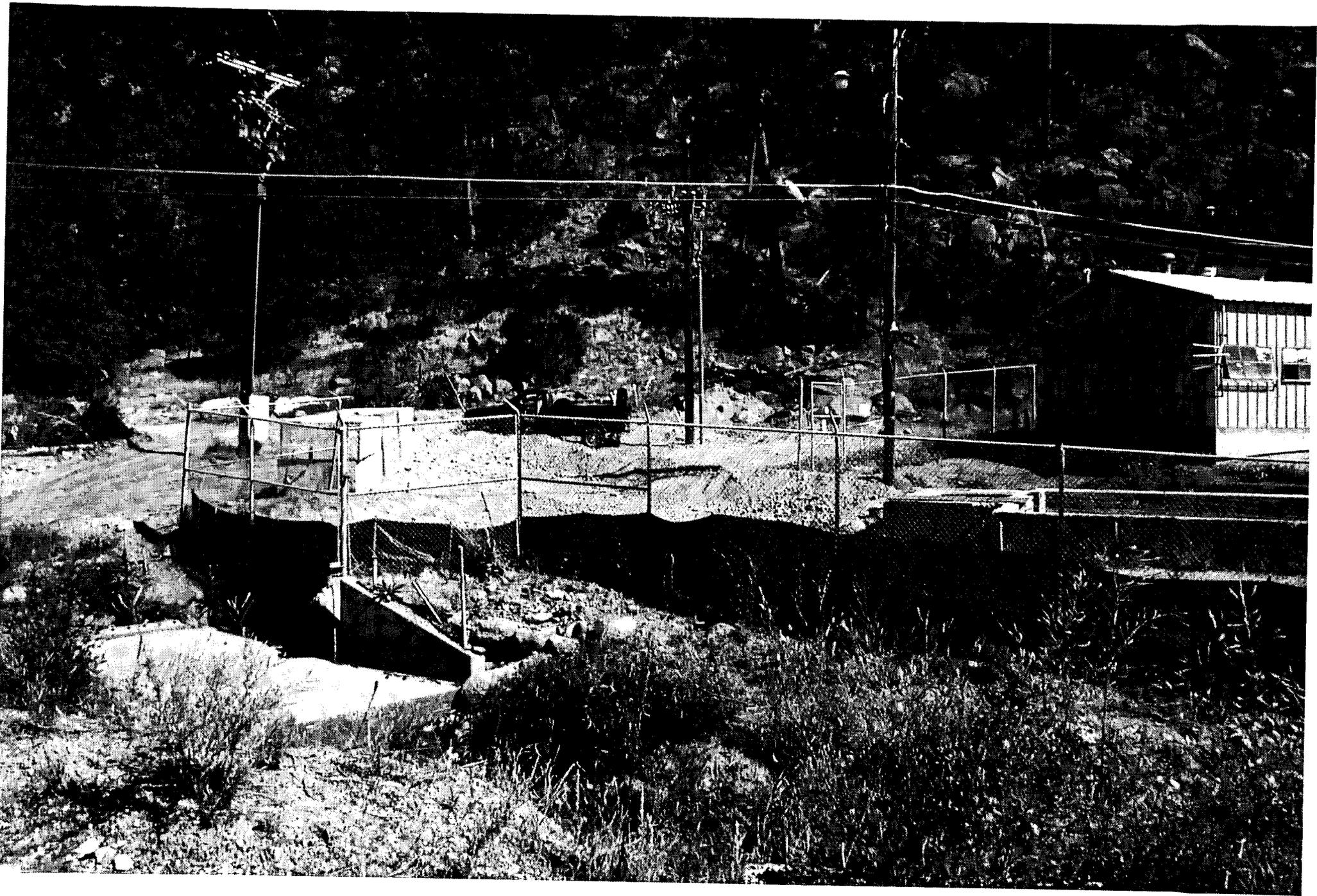
**TA-02-053**

STRUCTURE NO.  
TA-2-53  
DESIGNATION  
LIMBA-57

TA-2-53

OSHA 309  
0765  
CONFINED SPACE  
ENTER BY  
PERMIT ONLY



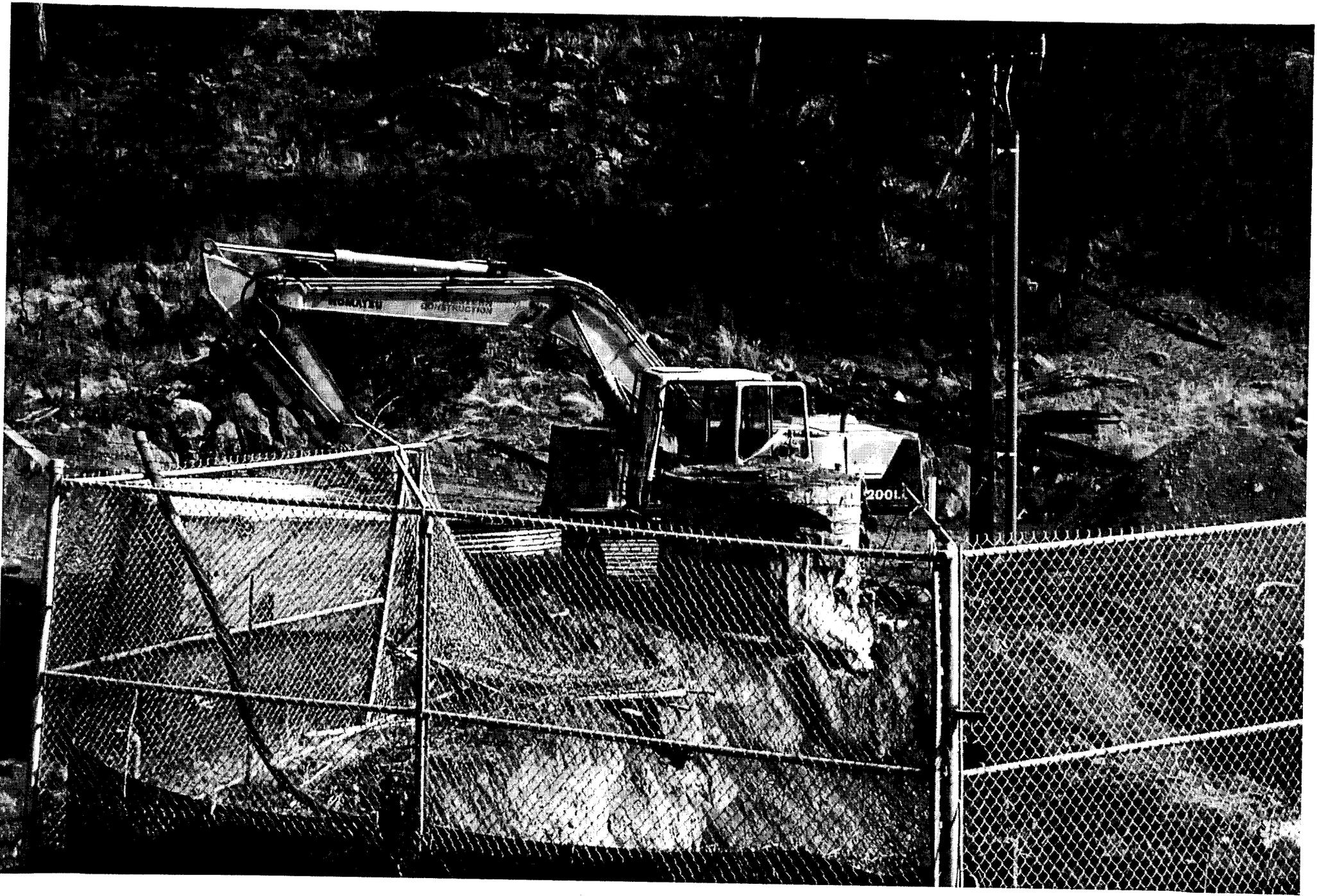


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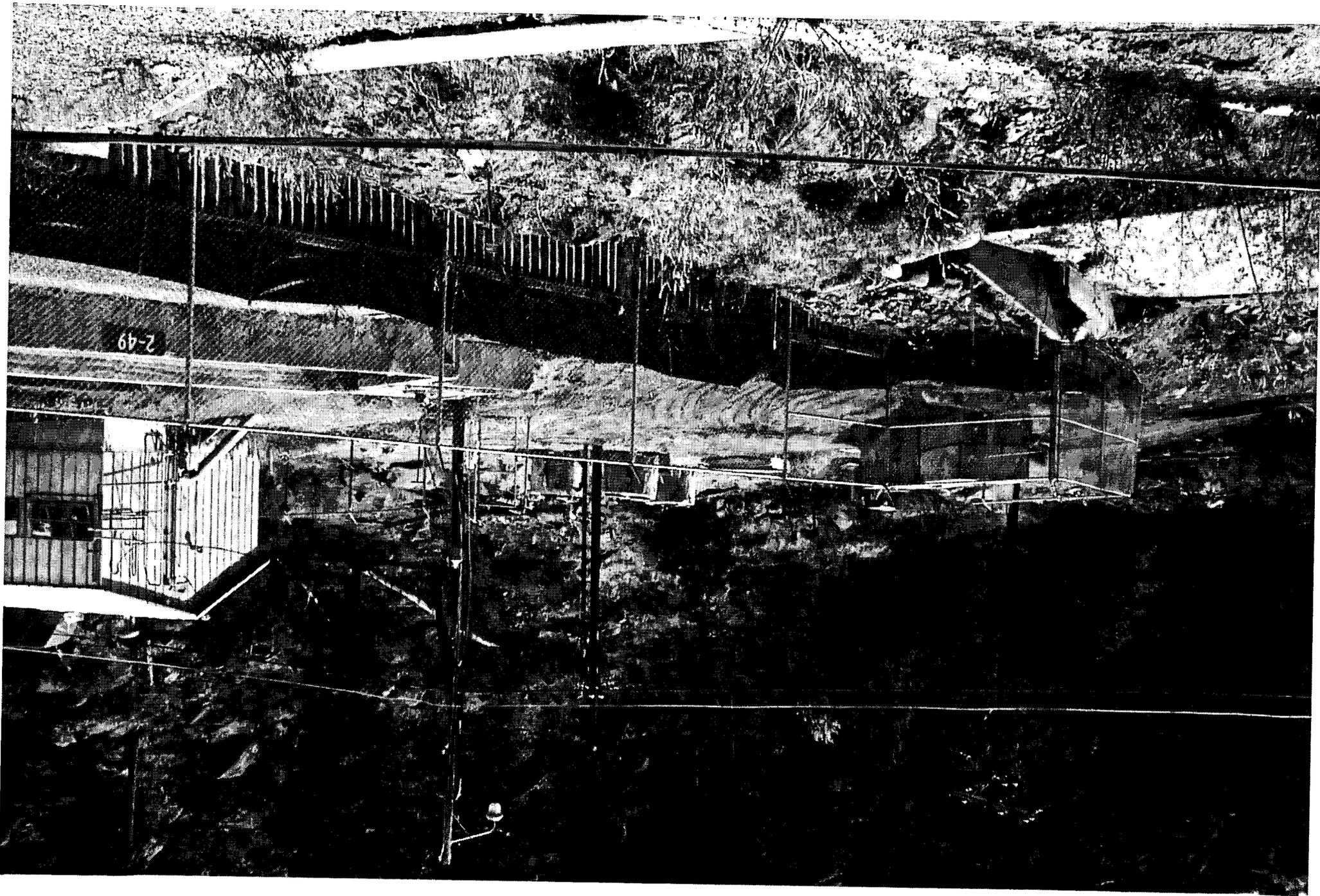


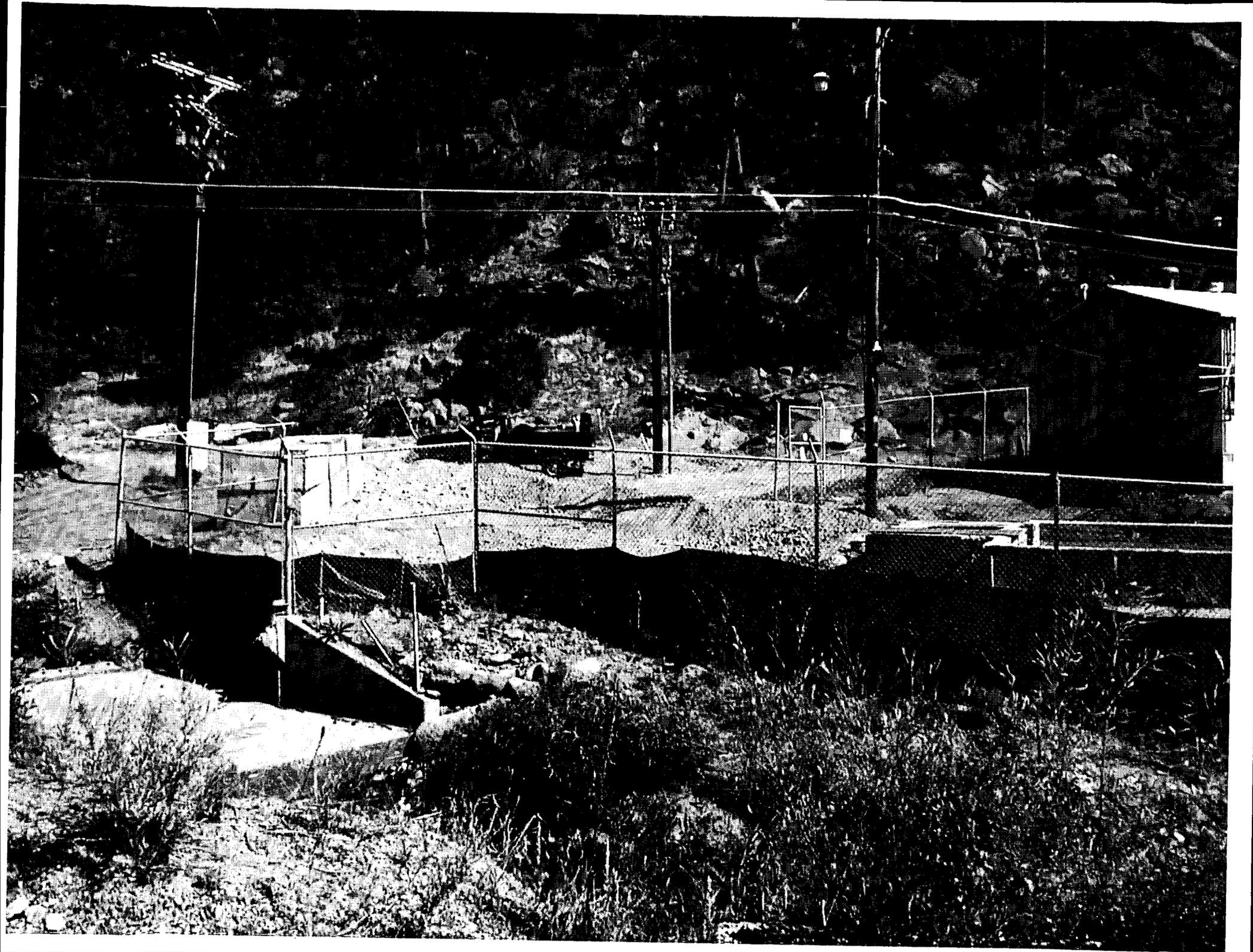
MANUFACTURE NO.  
TA-2-54  
DESIGNATION  
TANK OMEGA 54

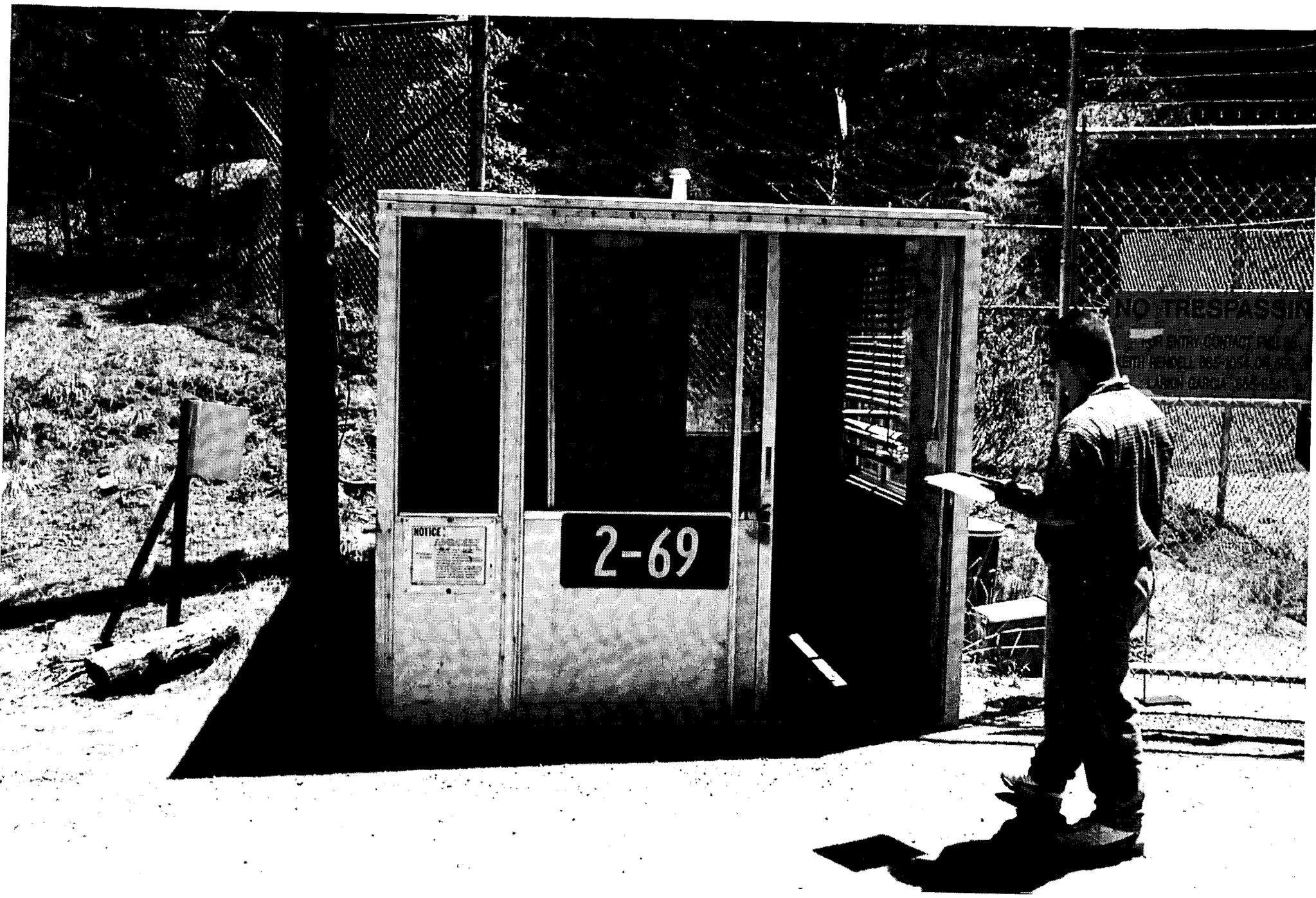








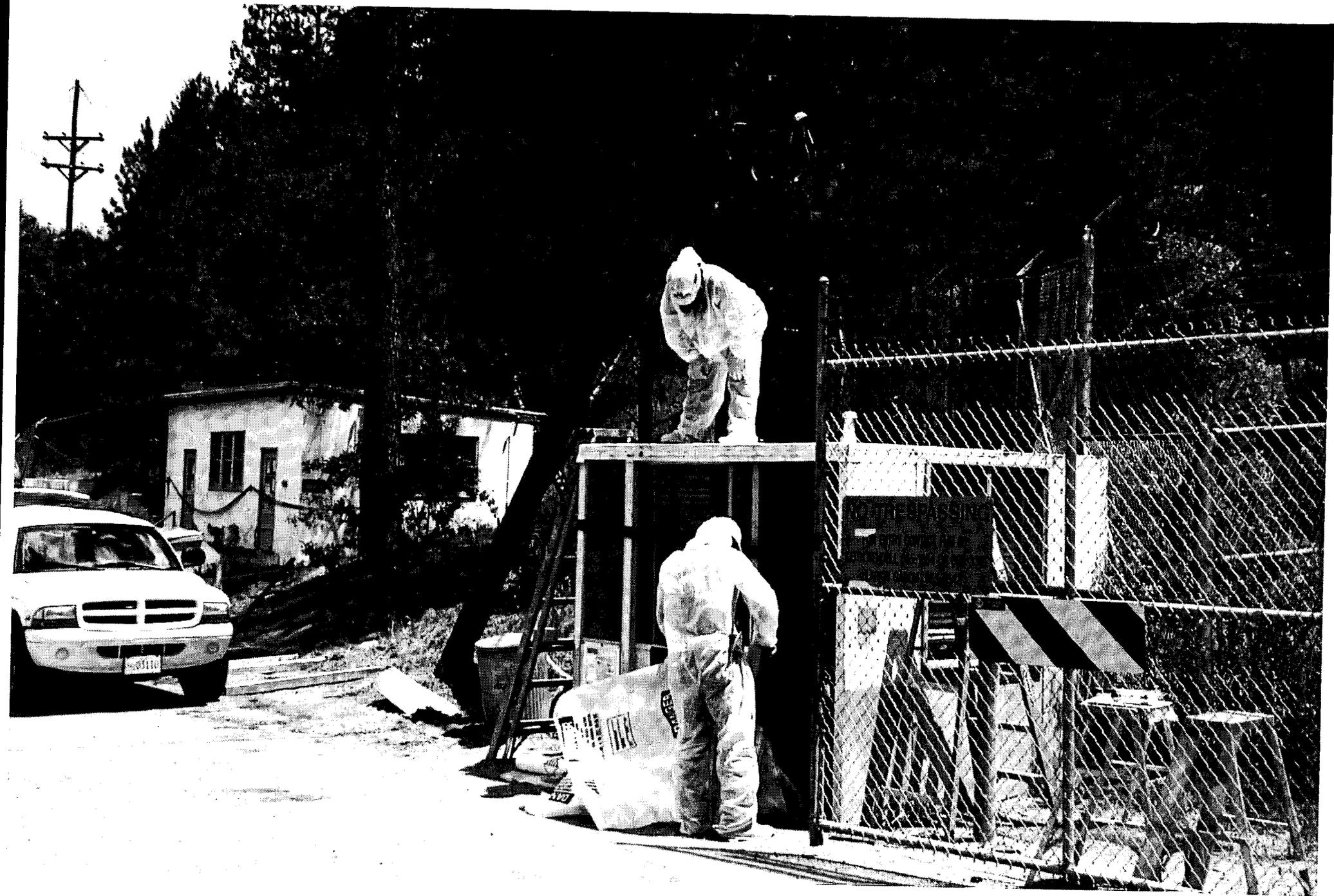




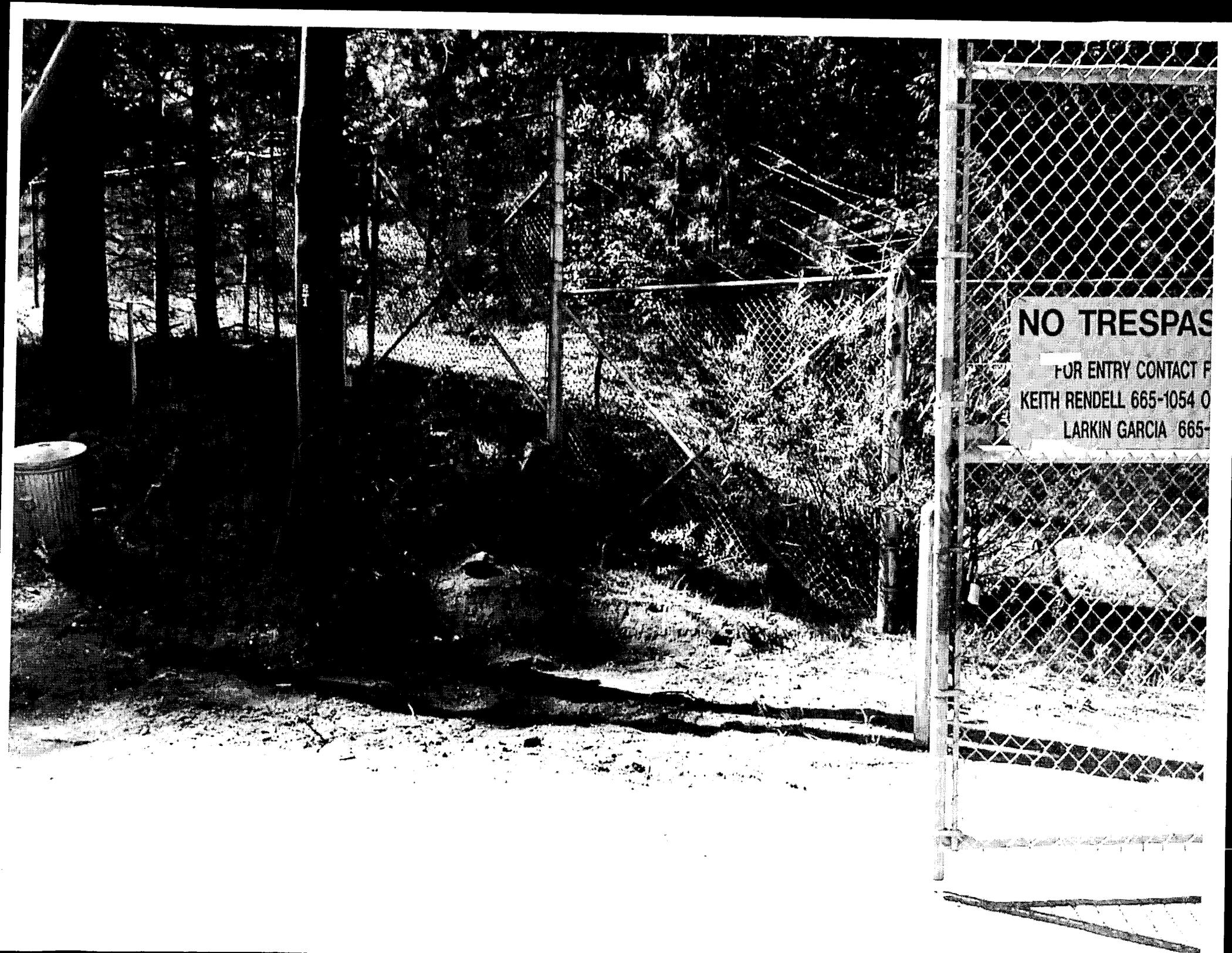
2-69

NOTICE

NO TRESPASSING





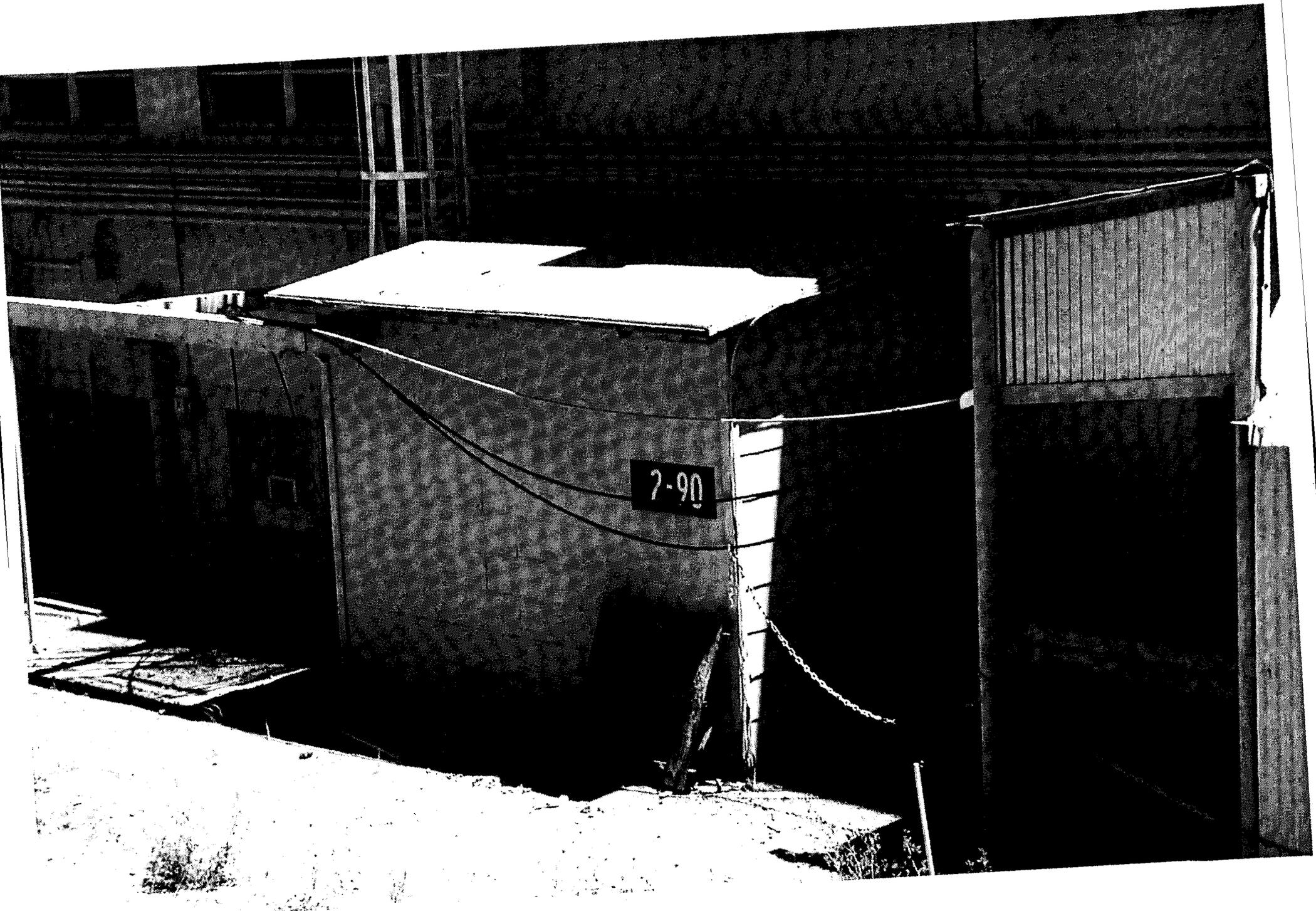


**NO TRESPAS**

FOR ENTRY CONTACT F  
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LARKIN GARCIA 665-







2-90