

# Mountain View Mobile Estates

## Five-Year Review Report Summary

*Location and Region:* Globe, AZ/Region 9  
*CERCLIS ID#:* AZD980735724  
*Review type and level:* Statutory/Level 1  
*NPL status:* Deleted  
*Summarized by:* DynCorp I&ET, Matthew Kent (4/13/98)

### **Chronology**

*Closure of asbestos mill:* 1974  
*Asbestos discovered in soils:* 1979  
*Evacuation advisory by U.S. Center for Disease Control:* 1/80  
*Placed on Interim Priorities List:* 7/82  
*RI/FS:* 5/6/83  
*ROD signature:* 6/2/83  
*ROD review:* 8/91, 9/91  
*Construction completion:* 4/18/88  
*Review trigger (from CERCLIS):* 4/18/88  
*Five-year review date:* 9/9/91

### **Introduction**

The report makes the determination that the remedial action selected in the ROD is protective of human health and the environment. The report was signed by Bret Moxley, Remedial Project Manager, on September 9, 1991. The report does not state the level of review, but it appears to be a Level 1 review because there is no evidence of recalculation of risk and the review is more comprehensive than a Level 1a review. The report is for the first five-year review at this site.

### **Site Background**

The Mountain View Mobile Home Estates were built on a site originally used by the Metate Asbestos Corporation Mill. The 17-acre site is located about 1.5 miles east of the center of the City of Globe, Arizona, which is approximately 75 miles east of Phoenix. The development contained 45 mobile homes with approximately 130 residents, paved roads, utilities, landscaping, a sewage treatment plant and lagoon, and miscellaneous mobile home appointments including concrete patios, walls, and storage sheds.

The Metate Asbestos Corporation Mill processed asbestos ore onsite from 1953 until closure by permanent injunction by the Gila-Pinal Counties Air Quality Control District in 1974 for failure to meet air quality standards. Mobile homes were then built on the graded asbestos tailings. Asbestos contamination was discovered and brought to the attention of the Arizona Health Department in 1979. The U.S. Center for Disease Control (CDC) issued an advisory declaring that the subdivision should be evacuated in January 1980. In July 1982, the site was added to the amended Interim Priorities List (precursor to the NPL) as Arizona's highest priority site. In January 1983, Superfund money was allocated to perform an RI/FS at the site. The RI/FS was published on May 6, 1983, and the ROD was signed on June 2, 1983.

### **Remedial Objectives**

The remedial objectives were the following:

- Elimination of the threat to the health of the residents based on the CDC recommendation that the residents not be exposed to asbestos in concentrations that exceed the national urban background levels;
- Protection of any nearby residents from exposure to site asbestos; and
- Provision of the most technically feasible control of the asbestos onsite.

The remedy described by the ROD included the following:

- Permanent relocation of all subdivision residents;
- Onsite demolition and burial of all physical structures, posts, buildings, and mobile homes; and
- Onsite containment of demolition debris, as well as asbestos particles and fibers present in the soil, through construction of a permanent cap with a non-woven filter fabric liner.

Storm drainage and runoff were a major consideration at the site, leading to the performance of drainage studies to determine the storm water runoff anticipated to pass through the onsite washes. Two underground drainage pipelines and an open drainage channel were designed with the capability of carrying precipitation from a 100-year storm to reduce the likelihood of overflow and major erosion. The report states that the remedies selected at the site simplified the overall cleanup procedures, economized site cleanup costs, and achieved a greater degree of total decontamination.

### **Operation and Maintenance Issues**

Operation and maintenance (O&M) requirements at the site include the following:

- Repair fence damage resulting from vandalism or animals;
- Collect debris which accumulates along the inside and outside of the perimeter fence;
- Remove built-up silts or debris within the channel, storm structures, or inside pipes;
- Replace or repaint warning signs on the perimeter fence;
- Repair settlement or erosion of the soil/aggregate cap; and
- Monitor growth of vegetation during inspection.

The report describes institutional controls as fencing and signs. The report does not make a statement on the projected land use of the property.

### **ARARs Review**

Since the signing of the ROD on June 2, 1983, the ARARs review included 40 CFR 1, Part 61.153, "Standard for Inactive Waste Disposal Sites for Asbestos Mills and Manufacturing and Fabricating Facilities." The report states that the description of an acceptable cap given in Part 61.153(a)(3) is met by the present cap at the site. The report states that the State of Arizona has not provided any asbestos-related ARARs which impact the remedy at the site.

### **Summary of Site Visit**

The site visit, which was conducted on August 28, 1991, consisted of the following elements:

- A walking inspection of the entire perimeter of the site to check for fence damage, missing warning signs, collected debris, and the condition of the gate and lock;
- Inspection of the interior of the site from east to west for erosion, settlement, exposed fabric liner, indications of pools of standing water, animal burrows, damage to drainage manhole covers, and weed, shrub, and tree growth;
- Inspection of the drainage system for signs of erosion, debris accumulation, and rip rap displacement;
- Inspection of the concrete drainage channels for cracks, undercutting, settling, and weed growth; and
- Photographing site features and conditions for inclusion in the five-year review report.

The report states that the site was found to be in excellent condition. Some weed growth and accumulation found along the fence line may present a fire hazard, but it is addressed by the State of Arizona's O&M procedures. There were no signs of erosion or settling, and vegetation growth was noted as homogenous and thorough. Several trees were beginning to grow on the site. Though not exceeding the six-inch trunk diameter limit stated in the O&M Plan, the report states that the trees should be removed before they grow to a larger size, potentially causing disruption of the cap or penetration of the fabric liner.

**Data Review**

The report does not describe any data review as part of the five-year review.

**Areas of Noncompliance**

The report does not identify any areas of noncompliance.

**Recommendations and Implementation Requirements**

The report does not make specific recommendations or implementation requirements other than those which could be considered as such, listed above in the O&M section.

**Statement on Protectiveness**

The report concludes that the remedial action selected for the site in 1983 was found to be protective of human health and the environment when reviewed in August and September 1991.

**Next Review**

The next review is required for the Mountain View Mobile Home Estates site by September 9, 1996 -- five years from the completion date of this report. The report states that the next review is required in fiscal year 1996. According to CERCLIS, the trigger for the first review was the NPL deletion date.

**Technical Reviewer Comments (Jack Taylor, P.E., 6/22/98)**

1. *The report describes a good systematic review of the site and remedy, including document review, interviews, and site inspection. This site would be a good candidate to use to determine the level of effort that is required to conduct a five-year review.*
2. *The site inspection is well described and was conducted in a manner that ensured all critical elements of the remedy were inspected. The report indicates that photos were taken and attached to the report. However, no photos were attached to the copy which was summarized.*
3. *The report did not contain site maps or figures demonstrating the location of the site and the configuration of the cap. Information such as this would help show how the remedy addresses risks at the site.*
4. *The report mentions institutional controls as fencing and signs. For a capped site such as this, other institutional controls, such as land use restrictions and controls that prevent excavation, seem necessary. If they exist, they should be mentioned in the report. If they do not exist, then they should be considered.*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

MEMORANDUM

**SUBJECT:** Five-Year review for the Mountain View Mobile Home Estates Superfund Site, Globe, AZ

**FROM:** Tom Kremer, Superfund Policy Advisor   
Michael Montgomery, Chief   
AZ/CA Cleanup Section

**THRU:** John Kemmerer,  
Chief Site Cleanup Branch

**TO:** Keith Takata, Director  
Superfund Division

I. INTRODUCTION

1. Scope and intent of current Five-Year Review

This report is the statutory Five-Year Review of the remedial action at the Mountain View Mobile Home Estates (MVMHE) Superfund site in Globe AZ. This review included a survey of the ROD, the Site Close-Out Report, an ARARs review, the State/EPA Superfund Contract, the 9/9/1991 Five-Year Review, interviews with the state of Arizona personnel and contractors who are responsible for site O&M and a site visit with photographs.

The objective of this review was to determine whether the selected remedy, as implemented, remains protective of human health and the environment. This included ensuring that the remedy, which is a cap, is operating and functioning as intended and that site access controls remain in place and are effective.

2. Summary of review results

The results of the Five-Year Review of the remedial action at the Mountain View site are: (1) the cap is in excellent condition and is operating and functioning as designed; (2) the site access controls, which include the fence and signs, are in good condition; however, the state should implement plans to reconfigure site fencing and drainage to prevent vandalism; (3) the present operation and maintenance program is adequate and is being acceptably executed by the state of Arizona; (4) the original cleanup objectives remain protective of human health and the environment; and (5) there are no new ARARs which would make the remedial action insufficient.

## II SITE SUMMARY

### 1. Site description and history

The MVMHE site was a 17 acre residential subdivision of about 130 people that was built in 1974 on graded asbestos tailings and contaminated soil, located in Globe Arizona, about 75 miles east of Phoenix. Prior to 1974 the site was the Metate Asbestos Corporation mill, which processed asbestos ore from 1953 until it was closed in 1974 by permanent injunction of the Gila-Pinal Counties Air Quality Control District for failure to meet air quality standards.

The mobile home development was located within the Globe city limits, 1.5 miles east of the city center. The development contained 45 mobile homes with paved roads, utilities, landscaping, a sewage treatment plant and lagoon, and miscellaneous improvements including concrete patios, walls and storage sheds.

The subdivision became a concern of the officials at the state of Arizona Health Department in 1979 following the discovery of asbestos contamination in the underlying soils. In January 1980, the U.S. Center for Disease Control (CDC) issued an advisory declaring that the subdivision should be evacuated.

The site was added to the amended Interim Priorities List in July 1982 as Arizona's highest priority site. In January 1983, Superfund monies were allocated for an RI/FS. The final draft RI/FS report was released May 6, 1983. On June 2, 1983, the EPA ROD selected permanent relocation of the residents and subsequent site closure, capping and maintenance as the remedial action for the site. In 1991, EPA conducted a Five-Year Review which concluded that the remedy remained effective and protective.

### 2. Description of the selected remedy

Abandonment of the MVMHE site was chosen as the most practicable and economical method of dealing with the asbestos contamination at the site. The permanent relocation of all subdivision residents eliminated the need for any extensive future air monitoring programs, while the onsite burial of mobile homes and all other physical structures led to (1) simplify the overall cleanup process, (2) economize site cleanup costs, and (3) achieve a greater degree of total decontamination.

The remedy called for onsite demolition and burial of all physical structures, posts, buildings and mobile homes. Their onsite containment, as well as the onsite containment of asbestos particles and fibers present in the soil was accomplished with a permanent cap. The cap was constructed by first clearing and levelling the site, adding a white nonwoven filter fabric liner on top of the levelled site to prevent reexposure through erosion of the cover, placing 21 inches of clean fill on top of the liner and compacting the fill to a minimum density of 90 per cent. On top of this compacted layer was placed three inches of coarse (two inch) aggregate rock compacted to 95 per cent density. The intent of the liner was to serve not only as a barrier to the asbestos but also to be an early warning signal if erosion should occur in the future. The white fabric will serve as a highly visible sign that maintenance is required.

Storm drainage passing through the site was a major concern since the site contained three major washes and two of these drainages were relatively steep grades as they passed through the site. Drainage studies were performed to determine the stormwater runoff that would be anticipated. Two new underground drainage pipelines and one new open drainage channel were designed to carry the 100-year storm runoff to reduce the likelihood of overflow and erosion.

### 3. Operation and Maintenance requirements

The maintenance which can be anticipated at this site includes but is not limited to:

- 1) Repair of fence damage resulting from vandalism or animals.
- 2) Collecting debris which accumulates along the perimeter fence.
- 3) Removing built-up silts or debris from the channel or inside pipes or storm structures.
- 4) Replacing or repainting warning signs on the perimeter fence.
- 5) Repairing settlement or erosion of the cap.

Monitoring of plant growth during inspection is valuable to note any changes at the site.

## III REMEDIAL OBJECTIVES

The remedy was selected from a health standpoint. The alternatives evaluated were judged on the basis of the CDC recommendation that residents of the site not be exposed to asbestos in concentrations that exceed the national urban background levels. The relocation of the residents precluded the risk of future exposure at the site. Relocation, demolition and subsequent capping also provide the most technically feasible control of the asbestos on site. The cap and site maintenance provides for protection of any nearby residents from exposure to asbestos which was on the site.

## IV ARARs REVIEW

### 1. Federal ARARs

The Federal ARARs which apply to this site are found in 40 CFR. Section 61.151 is "Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating facilities." This standard description was published after the remedial action. The remedy which is in place is in compliance with all requirements given in this standard.

Section 61.151 paragraph (a)(3) describes an acceptable cap for asbestos waste: "Cover the asbestos containing waste material with at least 60 centimeters (2 feet) of compacted clean material, and maintain it to prevent exposure of the asbestos containing waste." This is acceptably accomplished by the present cap.

### 2. State ARARs

The state of Arizona project manager responsible for O&M at the site was contacted to determine if any new ARARs had been promulgated since the ROD which would render the remedial action inadequate. The state of Arizona has not provided any asbestos related ARARs which impact the remedy at the site.

## V SUMMARY OF SITE VISIT

### 1. Scope of site visit and activities conducted

A site visit and inspection were conducted by the EPA Superfund Section Chief on November 11, 1999. The inspection consisted of: (1) a walking inspection of the entire perimeter of the site to look for damaged fence, missing warning signs, collected debris and checking the condition of the gate and lock; (2) traversing the interior of the site from east to west looking for signs of beginning erosion, settlement, exposed fabric liner, indications of pools of standing water, checking that drainage manhole covers (see photo) are in place and undisturbed, noting weed and shrub growth, and looking for tree growth and animal burrows; (3) inspecting the drainage system for signs of erosion, debris accumulation or rip rap displacement; (4) checking the concrete drainage channels for cracks, undercutting, settling or weed growth; and (5) photographing site features and conditions.

### 2. Site conditions found on inspection

The site was found to be in excellent condition. The fence was in good condition with the exception of a breach adjacent to the open drainage channel. Some weed growth and accumulation along the fence might present a fire hazard to nearby residents but this is regularly addressed by the state's O&M procedures. The site was generally free of collected debris.

There was no sign of erosion, beginning erosion or settlement anywhere on the site. There was also very little collected sand or gravel in the drainages indicating the lack of erosion at the site. The weed growth was homogeneous and thorough. The O&M states that this is good because the weeds will help stabilize the aggregate and prevent erosion of the cap. The concrete drainage channels were clear and free of weeds in the seams, and there were no cracks in the concrete itself.

There were several trees beginning to grow on the site. The O&M plan suggests that trees with trunks greater than six inches in diameter should be removed to prevent the roots from disrupting the cap. The trees presently growing on site are approximately two to four inches in diameter. Specimens of the same species of tree located just off site do however have trunks with 12 to 14 inch diameters. The state trims the trees every December and should consider removing large trees, as was suggested in the 1991 Five-Year Review. There was no sign of burrowing animals at the site.

### 3. Photographs of site

The photographs taken during the site inspection are attached to this report with a description of the view on the back of the photograph. A site map showing the position and direction of the photographs is included.

VI AREAS OF NONCOMPLIANCE

There were no areas or conditions of noncompliance with the goals of the remedial action at the site. While recent acts of vandalism have temporarily disturbed site fencing, the state's reconfiguration of drainage and site fencing should reduce future disruption.

VII STATEMENT OF PROTECTIVENESS

The remedial action selected in the ROD signed June 2, 1983 for the mountain View Mobile Home Estates Superfund site remains protective of human health and the environment.

VIII NEXT REVIEW

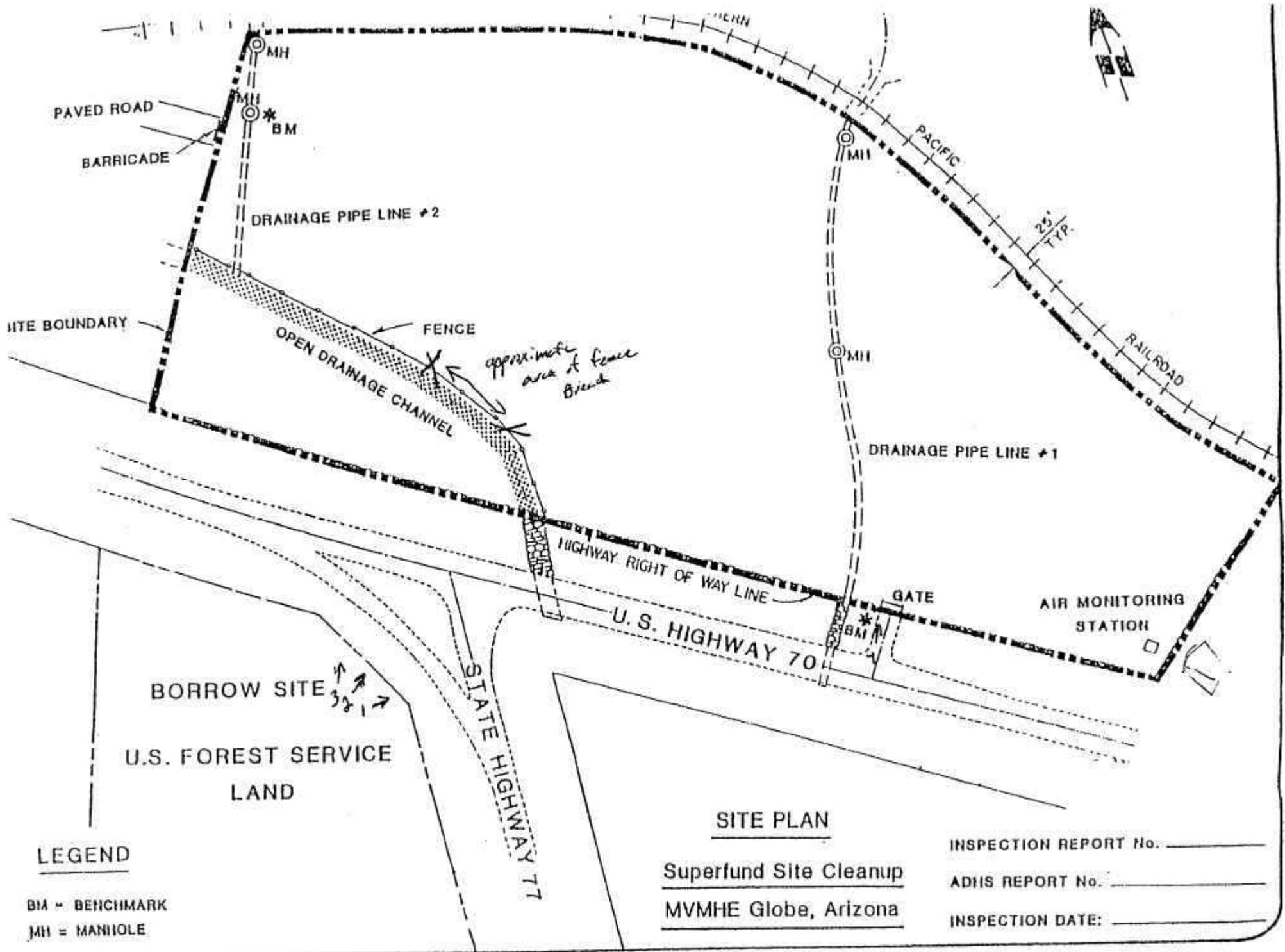
The next Five-Year Review will be conducted in Fiscal Year 2001.

IX IMPLEMENTATION REQUIREMENTS

There are no implementation requirements or changes to the O&M plan needed at this site.

Approved by: Keith Takata  
Keith Takata, Director  
Superfund Division

Date: 12-10-99





View of site from across hwy



Central culvert - view north



Signage adjacent to hwy



Eastern edge of site facing north



vandalism of fence/graffiti  
facing north east



base of culvert - west end of site facing south



holes in fence/vandalism view west



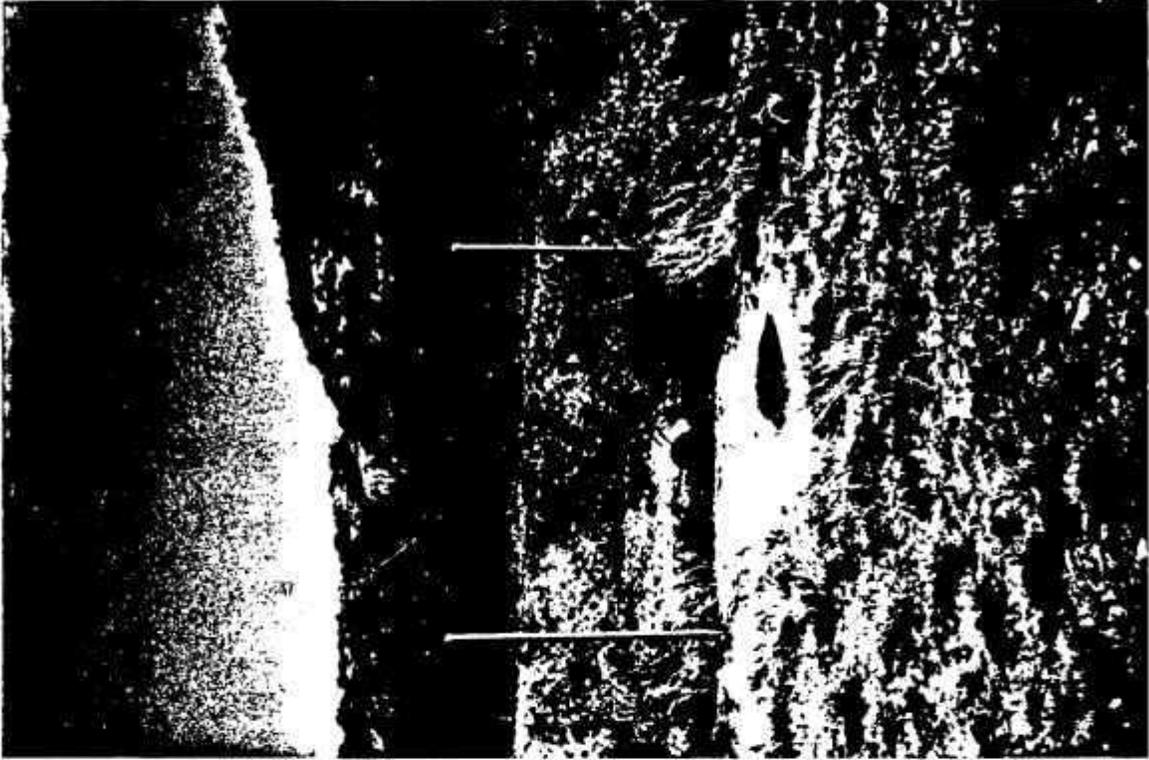
vandalism to fence view north west



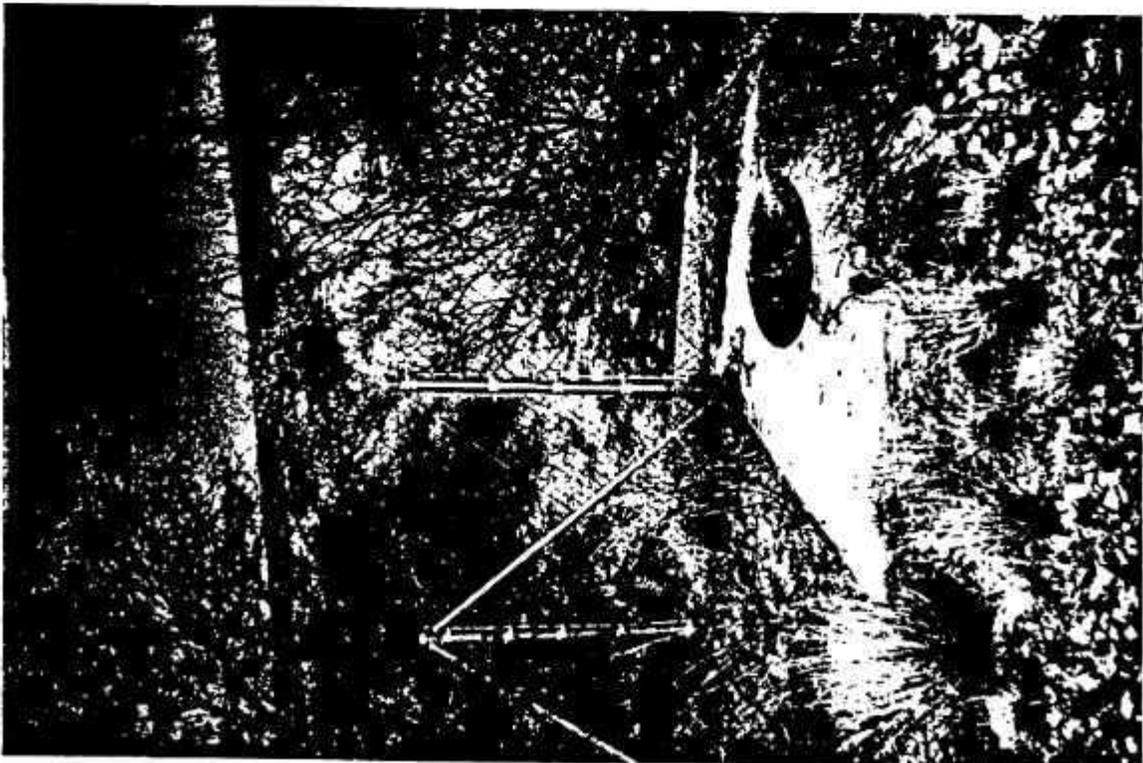
vegetation / fencing view north



drainage cover ← elev. marker



drain cover / fence  
north central  
view north



drain cover and fence  
north west corner