



**ANDERSEN AFB
GUAM**

**ADMINISTRATIVE RECORD
COVER SHEET**

AR File Number 523

**RECORD OF DECISION AMENDMENT
MARBO ANNEX OPERABLE UNIT SITE 24/LANDFILL 29**

INTRODUCTION

Site 24/Landfill 29 is located in an abandoned quarry in the southwest portion of the MARBO Annex Operable Unit, Guam. Andersen Air Force Base is responsible for the cleanup of MARBO Annex Operable Unit and is the lead agency. The support agencies are U.S. EPA, Region IX and Guam EPA.

CERCLA Section 117(c) and NCP Section 300.435(c)(2)(ii) requires the public be notified of changes to the selected remedy in the Record of Decision (ROD). This ROD Amendment will show that a change in the selected remedy is required, resulting from a change in the site conditions discovered during the remediation of Site 24/Landfill 29. This ROD Amendment will show a substantial increase in the scope of work, performance and cost over the remedy selected in the ROD for Site 24/Landfill 29. The Administrative Record File, located in the Environmental Office in Building 18001 at Andersen AFB will contain a copy of this ROD Amendment. The Administrative Record is available Monday through Friday, except federal holidays between 7:00am and 4:00pm.

SITE SUMMARY

Site 24/Landfill 29 was used primarily as a disposal site for sanitary trash from the mid-1940s to 1960. The Remedial Investigation revealed two areas, the Surface Drum Area and the Subsurface Metal Area, that had lead and antimony contamination above the residential Preliminary Remediation Goal (PRG) levels. The Surface Drum Area had eighty-six drums partially filled with soil spread throughout its area. Seven locations were identified as "hotspots" contaminated with lead and antimony. The Subsurface Metal Area consisted of buried metal in a soil layer, about 2 feet thick, covering an area of approximately 52 square feet. The Subsurface Metal Area was contaminated with lead and antimony.

On August 3, 1998, the MARBO Annex Operable Unit Record of Decision was signed. The selected remedy for Site 24/Landfill 29 was Soil Removal. Approximately 10 cubic yards of lead and antimony contaminated soil from the Surface Drum Area and the Subsurface Metal Area would be excavated, then analyzed to determine proper disposal method. Hazardous waste would be disposed of off island; solid waste would be disposed of at the Base landfill. Confirmation soil sampling would be performed in the excavated areas and ground surface surrounding the excavation to confirm cleanup criteria were met. The eighty-six drums, partially filled with soil, and the buried metal from the Subsurface Metal Area would be removed and disposed of at the Base landfill.

BASIS FOR A ROD AMENDMENT

Cleanup activities began at Site 24/Landfill 29 in April 1999. The partially filled drums were removed from the Surface Drum Area. The seven surface drum area hotspots were excavated approximately five feet square to a depth of one foot. A thirteen-foot by four-foot area was excavated to a depth of two feet at the Subsurface Metal Area. Sampling of the excavated material was conducted to determine disposal method. Confirmation sampling of the floors of the excavated areas and the surface soil surrounding the excavated areas was conducted to verify cleanup goals.

were met. This remedial effort was conducted in accordance with the approved Remedial Actions, MARBO Operable Unit Environmental Cleanup Plan of October 1998.

The confirmation sampling on both the floors and the surrounding surface soils of the excavated areas revealed that lead was still present at levels above the residential PRG. Thus, additional lateral and vertical excavation is required. Soil samples were collected and analyzed in accordance with a new sampling and analysis plan to determine the complete extent of lead contamination. The horizontal extent of the contamination was determined to be an area approximately 300-feet by 300-feet, with an depth of contamination of 2.8 feet. Allowing for one foot over excavation, an additional excavation of a 300-feet by 300-feet by 3.8 feet deep will remove the lead contaminated soil from Landfill 29.

The lead contaminated soil is a RCRA hazardous waste because the results of the Toxicity Characteristic Leaching Procedure (TCLP) are greater than the standard of 5 mg/l as specified in 40 CFR 261.24. The original ROD calls for off-island disposal of hazardous waste. Off-island disposal of approximately 13,000 cubic yards of hazardous waste soil is not feasible at the current rate of \$1000 per cubic yard. Instead, the soil will be treated on-site with triple super phosphate to stabilize and bind the lead and reduce the TCLP lead levels below the hazardous waste limit of 5 mg/l.

The treatment will also comply with the RCRA Land Disposal Restrictions (LDRs) as specified in 40 CFR 268.49. The LDRs require that treatment of soil containing hazardous waste must achieve a 90 percent reduction in the TCLP leachate levels or achieve a concentration that is less than ten times the Universal Treatment Standard (UTS) as specified in 40 CFR 268.48. The allowable level under the standard of 10 times the UTS is 7.5 mg/l of lead in the TCLP leachate. Thus, the treated soil from the MARBO Annex can be disposed of as a solid waste, because the leachate will have lead at less than 5 mg/l in the leachate. The Andersen AFB Landfill 2 is an on-site, permitted solid waste landfill where the treated soil may then be disposed. A 2-foot soil cover will be installed over the treated soil disposed at Landfill 2.

Bench tests were conducted to determine the concentration of triple super phosphate required to treat the contaminated soil. A two percent concentration of triple super phosphate was determined to be both effective and cost efficient.

DESCRIPTION OF NEW ALTERNATIVES

The selected remedy for Landfill 29 in the ROD was soil removal of approximately 10 cubic yards of impacted soil and disposal either off-island as hazardous waste or at the Base landfill as solid waste at a cost of approximately \$22,500. Because the remedial work revealed that the lead contamination is much more extensive than originally believed, a much larger area must be excavated and the soil must be treated to comply with hazardous waste requirements. The proposed remedy is to remove approximately 13,000 cubic yards of hazardous waste soil, treat on site with triple super phosphate to reduce the TCLP lead levels below 5 mg/l, and dispose the treated soil at Landfill 2 as a solid waste at a cost of approximately \$1.9 million.

The Remedial Action Objectives of the proposed remedy is the same as the selected remedy Remedial Action Objectives in the ROD. There will be no changes in Expected Outcomes that will result from this ROD Amendment. The addition of treatment to the original remedy and the increase in soil to be transported to the main base will not have adverse impacts on the surrounding community and will comply with all Applicable or Relevant and Appropriate Requirements.

(ARARs). The site will be suitable for unrestricted use after the completion of the proposed remedial action.

The ARARs determined to be pertinent to the selected remedy in the ROD are also pertinent to the proposed remedy amendment. Compliance with RCRA hazardous waste requirements were listed as ARARs in the original ROD, but the addition of soil treatment means specifically that the treated soil must have less than 7.5 mg/l of lead in the TCLP leachate to comply with the LDRs as specified in 268.49(c)(1)(C). All ARARs will be met by the proposed remedy and amendments.

EVALUATION OF ALTERNATIVES

The Soil Treatment component and the increase in the amount of soil are the only differences between the selected remedy and the proposed remedy. The differences between the two remedies using the nine evaluation criteria will be:

(I) Overall protection of human health and the environment: The site will be remediated to levels that allow for unrestricted use of the land and the treated soil will be disposed at the Main Base landfill to protect human health and the environment

(II) Compliance with ARARs: As in the original remedy, the amended remedy will comply with all ARARs.

(III) Long-term effectiveness and permanence: As in the original remedy, all soil contaminated with lead above levels that would pose an unacceptable risk under a residential exposure scenario will be removed.

(IV) Reduction of toxicity, mobility, or volume through treatment: The proposed treatment will reduce the mobility of the lead contamination to levels that meet the RCRA hazardous waste standards.

(V) Short-term effectiveness: The increased volume of soil to be transported to the main base landfill will be handled in a manner that will not pose adverse impacts to the local community. Worker safety will be protected by stringent safety measures.

(VI) Implementability: The proposed soil treatment is a widely used remedy that is both technically feasible and easily implemented.

(VII) Cost. The increase in cost is reasonable and is directly attributable to the increase in impacted soil

(VIII) State acceptance: Guam EPA and the U.S. EPA agree that the proposed amendment to the original remedy is both necessary and appropriate.

(IX) Community acceptance: No negative comments were received from the community during the public comment period for this ROD Amendment.

The proposed remedy addresses the nine criteria of the NCP and provides overall effectiveness in relation to the cost

AFFIRMATION OF STATUTORY DETERMINATIONS

Considering the new information that has been developed and the changes that have been made to the selected remedy, Andersen Air Force Base, U.S. EPA Region IX, and Guam Environmental Protection Agency believe that the remedy remains protective of human health and the environment, complies with Federal and Territory requirements that are applicable or relevant and appropriate to this remedial action, and is cost effective. In addition, the proposed remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this site. The proposed remedy for Site 24/Landfill 29 comports with the statutory requirements of Section 121 of CERCLA.

PUBLIC PARTICIPATION ACTIVITIES AND RESPONSIVENESS SUMMARY

The public comment period for the Record of Decision Amendment began on October 13, 2000 and ended on November 14, 2000. A public notice summarizing the Record of Decision Amendment, and announcing the public comment period was printed in the Pacific Daily News from October 13 through October 15. There was a single telephone call from a reporter from a local newspaper asking general questions about the Record of Decision Amendment. Otherwise, there were no verbal or written comments received during the 30-day public review period.

This ROD Amendment is on file in the Information Repositories at the JFK Library at the University of Guam and the Nieves Flores Library in Hagatna. A notice of availability will be published in the Pacific Daily News after this ROD amendment is signed by the U.S. EPA, Guam EPA and the Air Force.

L E T W m j
United States Air Force

12 Apr 2001
Date of Signature


United States Environmental Protection Agency

4 April 2001
Date of Signature

EVALUATION OF ALTERNATIVES

Because the Soil Treatment component is the only difference between the selected remedy and the proposed remedy, the differences between the two remedies using the nine evaluation criteria will be cost, State/support agency acceptance and community acceptance. The increase in cost is directly attributable to the increase in impacted soil. Community acceptance will be solicited during the public comment period for this ROD Amendment. The USAF believes that the proposed remedy addresses the nine criteria of the NCP and provides overall effectiveness in relation to the cost.

SUPPORT AGENCY COMMENTS

Comments will be solicited from U.S. EPA, Region IX and Guam EPA at a later date.

AFFIRMATION OF STATUTORY DETERMINATIONS

Considering the new information that has been developed and the changes that have been made to the selected remedy, Andersen Air Force Base, U.S. EPA Region IX, and Guam Environmental Protection Agency believe that the remedy remains protective of human health and the environment, complies with Federal and Territory requirements that are applicable or relevant and appropriate to this remedial action, and is cost effective. In addition, the proposed remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this site. The proposed remedy for Site 24/Landfill 29 comports with the statutory requirements of Section 121 of CERCLA.

PUBLIC PARTICIPATION ACTIVITIES


This ROD Amendment will also be on file in the Information Repositories at the JFK Library at the University of Guam and the Nieves Flores Library in Hagatna. A notice of availability will be published in the Pacific Daily News.

United States Air Force

Date of Signature

United States Environmental Protection Agency

Date of Signature



Guam Environmental Protection Agency

2/26/01

Date of Signature

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