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File: 17-07
G.I.



**ANDERSEN AFB
GUAM**

**ADMINISTRATIVE RECORD
COVER SHEET**

AR File Number 477

ACTION MEMORANDUM**1.0 Purpose**

The purpose of this action memorandum is to request and document approval of the proposed removal action described herein for Site 16, Landfill 21 located at Andersen Air Force Base. This action is requested in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120 and the Federal Facility Agreement, Administrative Docket Number 93-17, entered between the United States Environmental Protection Agency and the United States Air Force. Final signatures were obtained on the agreement document on March 30, 1997.

2.0 Site Conditions and Background

The site is classified as non-time critical, and approval for the removal action is requested as soon as possible. A historical overview of the Andersen AFB facility is presented in 2.2.1 of the *Final Basewide Quality Assurance Project Plan for Andersen Air Force Base, Guam*, October 1997. A general description of Site 16, Landfill 21 in the Northwest Field Operable Unit is presented below. The description of the site is based on historical information provided by the Air Force and the *Final Engineering Evaluation/ Cost Analysis Report for IRP Site 16/ Landfill 21 for Andersen Air Force Base, Guam*, EA Engineering, Science, and Technology, Inc., May 1999.

2.1 Site Description**2.1.1 Removal Site Evaluation**

Site 16, Landfill 21 was reportedly operational from the mid-1950s through 1963 and was used for sanitary trash disposal. The 19-acre site is an abandoned borrow pit used as a disposal area for fill, concrete debris, wood, and solid construction debris. There are no surface water bodies in the vicinity of the site and the depth to ground water is approximately 490 feet.

The Resource Conservation and Recovery Act (RCRA) Facility Assessment of Solid Waste Management Units (SWMUs) (SAIC, 1986) included Site 16 as 1 of 63 SWMUs identified on Andersen AFB and the Northwest Field OU. The landfill reportedly operated without any release controls, however, evidence of potentially hazardous releases in the area was not observed and no records of releases were found. It was not known if hazardous wastes were disposed at this landfill.

Preliminary work included a Records Search that reported the site to be "less than 1-acre in size and operated as an areal fill in an abandoned quarry." This document showed minimal potential for contamination, and "no further action" status was recommended. A subsequent reconnaissance of the site in August 1992 was conducted prior to the development of the OU6 Basewide Work Plan. According to field observations, construction debris, asphalt, drums, abandoned vehicles and remnants of ASTs were observed.

Field investigations and environmental sampling at Site 16, Landfill 21 were performed according to the Work Plan Addendum to Operable Unit 6 for Operable Unit 5, and the Basewide Remedial Investigation/Feasibility Study Standard Operating Procedures (SOP). Field work was conducted between March and August, 1997. The field investigation included a record search, site reconnaissance, detailed site inventory, soil sampling, and a topographic survey. An ecological survey was also conducted at the site in May 1998 as part of the overall risk assessment.

Approximately 10-20 55-gallon steel drums were discovered within the site during the Detailed Site Inventory. A majority of the drums were extremely rusted and contained no liquids. A few of the drums contained soil supposedly from the site along with an asphaltic tar-like substance on the drums themselves.

The results are provided in the *Final Engineering Evaluation/ Cost Analysis Report for IRP Site 16/ Landfill 21 for Andersen Air Force Base, Guam, EA Engineering, Science, and Technology, Inc., May 1999.*

2.1.2 Physical Location

Site 16 is located in the northern section of Guam off of Route 3A, which leads to the Ritidian Wildlife Refuge. The site is adjacent to and southeast of the intersection of Route 3A and M Street. Secondary growth vegetation and evidence of excavation delineate the southern boundaries of the site. Most of the vegetation at the site is mixed secondary growth consisting of ferns, low grasses, small trees, and low vines. There are no residential or recreational areas adjacent to the site. There are no wetland communities or surface water bodies in Northwest Field. Although there are areas within Northwest Field protected as critical habitats for several plants and animals, none of the critical habitats are within Site 16.

2.1.3 Site Characteristics

As mentioned previously, the site was used for the surface disposal of wastes, primarily construction debris and various other solid wastes. There are no currently operating facilities on site. The site is currently owned by the United States Air Force. There have been no removal actions conducted at this site to-date.

2.1.4 Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

Chemicals of Potential Concerns detected in the heterogeneous wastes stored at Site 16 may have adsorbed onto surface soil particles. COPCs may also have been released into the air as a result of disturbance of affected soils (e.g., by wind and other climatic factors, or by trespassing activities). The amount of surface soil particulate released into the air is dependent on the soil particle size, the physical properties of the soil, and the level of activity on the soil.

Six surface soil samples collected during May and August contained the PAHs benzo(a)pyrene and dibenz(a,h)anthracene, exceeding Residential PRGs. Three surface samples had arsenic concentrations and six surface samples had lead concentrations, both exceeding their respective Residential PRGs and BTVs. Fourteen subsurface samples showed elevated metals: lead, arsenic, chromium, antimony, manganese, and vanadium, all exceeding the respective PRGs and BTVs, but contained no PAHs or organic constituents above the residential limit. This information confirms the results of the record search, which indicated organic compounds and metals as potential chemicals of concern (COCs). In general, the pathways of exposure for COCs of this target group are incidental ingestion of soil, dermal contact with surface soil, and inhalation of airborne particulates from soil.

Surface soil, subsurface soil, air, and deer and pig meat were identified as environmental transport media for the release of chemicals present at Site 16. According to ecological risk assessment, none of the COPCs posed any potential adverse environmental risk at Site 16. However, according to human health risk assessment, there are potential adverse health effects for the resident adults and children associated with some COPCs. Antimony and manganese were the two COPCs that may have a non-carcinogenic effect to potential resident children who may inadvertently ingest or inhale the impacted soil at the site. These estimates of adverse health effects are conservative and likely to be overestimated.

2.1.5 NPL Status

The USEPA placed Andersen AFB on the National Priorities List (NPL) on October 14, 1992 because of the potential for groundwater contamination. A Federal Facility Agreement (FFA) finalized in March 1993 between Andersen AFB, Guam Environmental Protection Agency (GEPA), and EPA provided a framework and schedule for environmental activities and requires the Air Force to retain liability and continuous rights of access until environmental cleanups are completed. The Civil Engineer Squadron, Environmental Flight administers the environmental cleanup activities at Andersen AFB. To date, no remedial actions have been conducted at Site 16, Northwest Field Operable Unit.

2.1.6 Maps and Diagrams

Maps and diagrams presenting the site location and proposed work areas are provided in Attachment 1 to this memorandum.

2.2 Other Actions To-Date

2.2.1 Previous Actions

In addition to following investigative actions, Andersen AFB has been keeping the public regularly informed about the progress of the environmental activities through various

community relations tools. These tools include the development of a Restoration Advisory Board (RAB), issuing copies of final reports for relevant IRP documents to the Robert F. Kennedy and Nieves M. Flores Memorial Libraries for public use, and the publication of fact sheets and newsletters. The RAB members include a representative from U.S. Congressional Delegate Underwood's office, local legislators, mayors, regulatory agency representatives, and community representatives. Andersen AFB personnel will continue to communicate with the public regarding the environmental activities currently being planned at Site 16/Northwest Field Operable Unit.

2.2.2 Current Actions

Other than the investigative work performed at the site, there have been no other cleanup activities accomplished at this location.

2.3 Territorial and Local Authorities Role

The role of territorial authorities is to review and comment on characterization reports and resultant proposed actions to determine the appropriateness and effectiveness of the cleanup solution.

2.3.1 Territorial and Local Actions To-Date

The Guam EPA counterpart is a co-signatory of the Federal Facility Agreement which outlines the program policies and goals regarding document reviews, coordination of permits, participation in quarterly Restoration Advisory Board meetings and Remedial Project Managers meetings, and other related interaction with the Base. Responses to comments generated from reports are prepared by the installation.

2.3.2 Potential for continued Territorial/Local Response

GEPA maintains their involvement in all decision making regarding the remedial actions conducted at this site through the review of all work plans and reports and participation on the RAB. GEPA will also maintain involvement by participating in the quarterly Remedial Project Manager (RPM) meetings.

3.0 Threats to Public Health, Welfare or the Environment, and Statutory and Regulatory Authorities

3.1 Threats to Public Health or Welfare

Risk assessments show that the cumulative non-cancer risk values
Cancer risks for resident children exceeded 106

The remedial investigation and risk screening of IRP Site 16, Landfill 21 indicated the presence of metals (arsenic, antimony, lead, cadmium, chromium, manganese, and vanadium) and PAHs (dibenz(a,h)anthracene, benzo [a] pyrene, as site-specific COPCs at

approximately five distinct areas. In addition approximately 64 drums and drum remnants with some asphaltic tar residual material were identified.

3.2 Threats to the Environment

4.0 Endangerment Determination

Actual or threatened releases of pollutants and contaminants from the site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

5.0 Proposed Actions

5.1 Proposed Action Description

The proposed actions at Site 16, Landfill 21 are described in the following sections. The removal action activities are based on the information detailed in the documents referenced in Section 2.1.1.

5.1.1 Asphalt and Drum Removal

Asphalt and asphalt containing drums (approximately 10-20) would be excavated, transported to the asphalt recycling plant (base landfill) and recycled. The three drums with motor oil and/or hydraulic fluid would be properly characterized and disposed. Drum contents would be sampled and analyzed for the Resource Conservation and Recovery Act (RCRA) hazardous waste characteristics (i.e. the Toxicity Characteristic Leaching Procedure – TCLP), corrosivity, reactivity, and ignitability) to determine if the material should be disposed of at the base landfill or at an off-island hazardous waste landfill. The Andersen AFB landfill does not accept hazardous waste. Impacted soil would be consolidated within Andersen AFB property. Soils determined hazardous waste would be transported to an approved disposal/treatment facility in the mainland. The asphalt would be recycled at the processing unit at the active base landfill. Recycled asphalt would be placed in 55-gallon drums for reuse and drum carcasses would be crushed and disposed of in the base landfill. Upon completion of removal/disposal activities, solid decontamination wastes such as personal protective equipment would be disposed of as solid waste at the base landfill.

5.1.2 Soil Removal

Soils with lead and arsenic concentrations exceeding RGOs will be excavated using backhoes, bulldozers, and other appropriate equipment. This material will be transported to an approved disposal/ treatment facility in the mainland.

5.2 Contribution to Remedial Performance

The proposed removal action is expected to complete the cleanup of Site 16, Landfill 21. No further action beyond the removal action is anticipated.

5.3 Applicable or Relevant and Appropriate Requirements

The removal action at Site 16, Landfill 21 will be conducted as part of the Installation Restoration Program (IRP). Requirements of the IRP have been developed and modified to ensure that the Department of Defense (DOD) complies with federal applicable or relevant and appropriate requirements (ARARs) of the Resource Conservation and Recovery Act (RCRA), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Superfund Amendment and Reauthorization Act (SARA).

5.4 Project Schedule

Initial site preparation work is scheduled to begin on September 6, 1999 with an anticipated completion date of December 31, 1999.

6.0 Outstanding Policy Issues

No outstanding policy issues exist for the proposed removal action at Site 16, Landfill 21.

7.0 Enforcement


The removal action at Site 16, Landfill 21 is being initiated by the United States Air Force who is identified as the potentially responsible party (PRP). The Air Force is dedicated to performing this removal action in the most prompt and expeditious manner possible.

8.0 Recommendation

This decision document represents the selected removal action for Site 16, Landfill 21, Northwest Field Operable Unit, Andersen Air Force Base, Guam, developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended, and not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the administrative record for the site.


United States Air Force

11/1/00
Date of Signature


United States Environmental Protection Agency

9/1/00
Date of Signature


Guam Environmental Protection Agency

10/30/00
Date of Signature

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