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MINUTES
RESTORATION ADVISORY BOARD
NAVY AREA-WIDE

A Restoration Advisory Board (RAB) meeting for the Navy Area-Wide Installation Restortation (IR) sites was held on September 27, 2000 at the Hyatt Regency Hotel, Guam at 7:00 pm. Enclosure (1) is a list of attendees for the meeting and the preceding public tour.

Roy Tsutsui introduced himself as the facilitator for the meeting in the opening remarks. He informed everyone of the new RAB website, which should be up in December 2000. Website address is www.guam.navy.mil. Mr. Mike Gawel of Guam Environmental Protection Agency was introduced as co-chairman. LCDR Ron Kramps, Regional Environmental Programs Officer for Naval Forces Marianas, (COMNAVMARIANAS) was not present. Mr. Gawel extended a welcome and requested attendees to review handout material. Mr. Gawel introduced the evening's speakers.

1. Mr. Leighton Wong presented an overall review of the RAB budget. Since 1990, $71 million has been spent on clean up projects. To date $18.6 million has been spent on the Orote Point Landfill. Last fiscal year, $8 million was spent to cap the landfill and continue construction of the seawall, $242,000 was spent on the Lower Sasa Fuel Burning Pond and $97,000 has been spent on the Navy Exchange Garage Septic Tank. This fiscal year $2.3 million has been appropriated for further work on the Lower Sasa Fuel Burning Pond and the NEX Garage Septic Tank, along with six (6) other projects and the re-vegetation of native plants for the Orote Point Landfill. For the next seven (7) years the plan is to spend approximately $16.7 million on Guam. This averages to $2.4 million per year. Funding is relatively steady with a dip in 2003, 2004 and 2006, and a significant increase in 2007 of $5 million. As in the past, the focus will be on clean up.

Q1: Why in some years is spending allocated for studies and other years for cleanup?
Ans: We try to minimize the amount of studies we do. Example: We have enough information to go forward with clean up projects in 2002. However it reaches a point where you have to conduct studies in order to determine what clean up projects have to be accomplished. We try to get funding up front for studies, to determine which projects need to be funded in following years.

Q2: Is this reasonable?
Ans: Yes, we try to gather enough information ahead of time to make decisions on what projects will be funded. Some sites can be done quickly, while other projects require additional studies prior to clean up.

Q3: Why not use the money allocated for 2007 in 2004?
Ans: Congress appropriates approximately $250 million per year on the National Cleanup Plan and the amount fluctuates every year. Department of Defense (DOD) told Congress they would prioritize the projects based on risk. Clean ups

that are high risks are done first and then we move on to medium and low risk projects. This money is used for high risk projects across the United States and Guam.

Comment: Individual was concerned regarding how the funding was allocated. What DOD may regard as a low risk, the people of Guam may consider a high risk considering the isolation and size of the island compared to the size of the United States.

2. Eric Wetzstein, filling in for Helen Lam, presented an overview of the additional ground-water sampling at the Dry Cleaning Shop Site (See Enclosure 2). Two additional rounds of groundwater sampling were requested due to its proximity to a wetland area. First round of sampling was taken during the last week of August 2000 during the wet season. These results have not been received to date. The second groundwater sampling event will be conducted in February 2001 during the dry season. Prior samples collected during the Remedial Investigation (RI) revealed the subsurface soil samples were contaminated with stoddard solvent located above the water table.

Q1: Where was the stoddard solvent found?
Ans: It was found in soil right above the water table.

Q2: How deep were the water samples taken?
Ans: The samples of water from wells were taken at a depth of 10 ft. These samples showed very little contamination in the wells.

3. Eric Wetzstein also presented an overview of the removal action at the Naval Exchange Garage Septic Tank. The septic tank was connected to a waste oil underground storage tank (UST) via a pipeline. The waste oil UST was removed in 1987. Another pipeline connected to the septic tank ran out to Agat Bay. Studies have concluded there was no existing threat to human health and the environment. Engineering Evaluation/Cost Analysis (EE/CA) recommends the removal of the septic tank and oily sludge in the tank, cleaning and removing the pipeline between Route 2 and the NEX Garage and cleaning, capping and closing in-place pipeline between Route 2 and Agat Bay.

Q1: Why not remove the pipeline between Route 2 and Agat Bay?
Ans: The pipe where it extends into the Bay is halfway buried under the coral and in the wetland. To remove the pipe would cause extensive damage to the existing coral and the wetland.

Q2: Is the pipe visible in the water?
Ans: Only during low tide and when the ocean is calm. Tours have been conducted for those interested in seeing the projects.

Q3: Where did the top soil come from?
Ans: Soil came from a commercial quarry.

Q4: Was the soil tested for contaminants prior to the capping?
Ans: No, tests are not normally conducted when the soil is from a known source such as a commercial quarry.

Q5: Was USDA, Forestry Dept and Dept. of Agriculture, consulted prior to the re-vegetation plan was done?
Ans: Yes, those agencies were consulted.

General Questions:

Q1: A laboratory, Intertek Testing Service, was recently found to provide fraudulent data. Was the lab Intertek Testing Service (ITS) used for any Guam projects?
Ans: The lab in question is ITS located in Texas, we are currently looking into the Navy's use of this lab. Our preliminary investigation reveals that we have not used ITS in Texas for any Guam projects.

Q2: Regarding the Ship Repair Facilities (SRF) sites, what will happen to those sites since the Navy will retain SRF? Will those sites be part of our RAB?
Ans: If we still have sites that require clean up, they may be added to our RAB.

Mike Gawel did the closing remarks and announced that the next RAB meeting will be scheduled for January 2001. (Note: The meeting is scheduled on February 7, 2001.)

Approved by:

MIKE GAWEL
Community Co-Chairperson

RONALD F. KRAMPS, LCDR, CEC, USN
Navy Co-Chairperson

Q3: Not everyone is able to go on these tours during the week. Is it possible for tours to be conducted on weekends when more people are available?
Ans: Yes, additional tours can be scheduled. Just contact the COMNAVMAR office.

Q4: How much waste has been washed out to the ocean?
Ans: There is no documentation on the exact quantities. Samples have been taken of the water and no contamination was found.

Q5: How long has the site been closed?
Ans: 25 years.

4. Cowan Azuma presented an overview of the Lower Sasa Fuel Burning Pond site. The investigation phase of the project has been completed and we are in the removal action phase. Additional sampling was conducted to determine the site's risk to the common moorhen. It was determined that sediment, surface water, and plant tissue do not pose a risk to the moorhen. However, aquatic invertebrates at the site may pose a risk to the moorhen. An evaluation of the aquatic invertebrates is in progress. The Revised Screening Ecological Risk Assessment (SERA) and the design based on the completed SERA needs to be finalized, prior to the removal action.

Q1: What does the slide with the table say?
Ans: The table shows the number of samples that were taken and the types of analyses that were performed on the samples.

Q2: I noticed that you listed some metals in your table that are known to be toxic. Does it mean that you found these metals at the site?
Ans: No, this just shows what we are analyzing for.

5. Eric Wetzstein presented an update of the Orote Point Re-vegetation Pilot Test Project. With the assistance of the University of Guam, tangantangan, ironwood and yoga trees were planted in the pilot test area. It was found that roots from the yoga and tangantangan trees did not penetrate the root minimization layer. This would cause the trees to be easily uprooted during typhoons. Also the yoga trees showed stunted growth. When transplanting the trees, some native plants were also introduced, such as the wild orchid. Based on the result of the Pilot Test, modification to the list of revegetation plants will be needed. In the process, grass has been planted to help minimize top soil erosion.

Q1: Could a building be built upon the landfill?
Ans: No, that is not permitted.

Q2: What is the design life of the capping?
Ans: Studies show 30 years. Reality shows the material will last much longer.

NAVY AREA-WIDE
RESTORATION ADVISORY BOARD

Hyatt Regency Ballroom C
Wednesday, September 27, 2000 (7:00 - 9:00 p.m.)

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Juliet Hoover		[redacted]		
Tom Mau	PACDIV	471-3948		
Mariamicarella Lopez				[redacted]
Cris Cruz				
Annalisa Jeneal				

PUBLIC TOUR
NAVY AREA-WIDE
RESTORATION ADVISORY BOARD
Wednesday September 27, 2000

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Roy Tsutsui	CNM			
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Brian Gilkison	IT Corp	[redacted]		bgilkison@TheITGroup.com

Additional Groundwater Sampling at

Dry Cleaning Shop Site

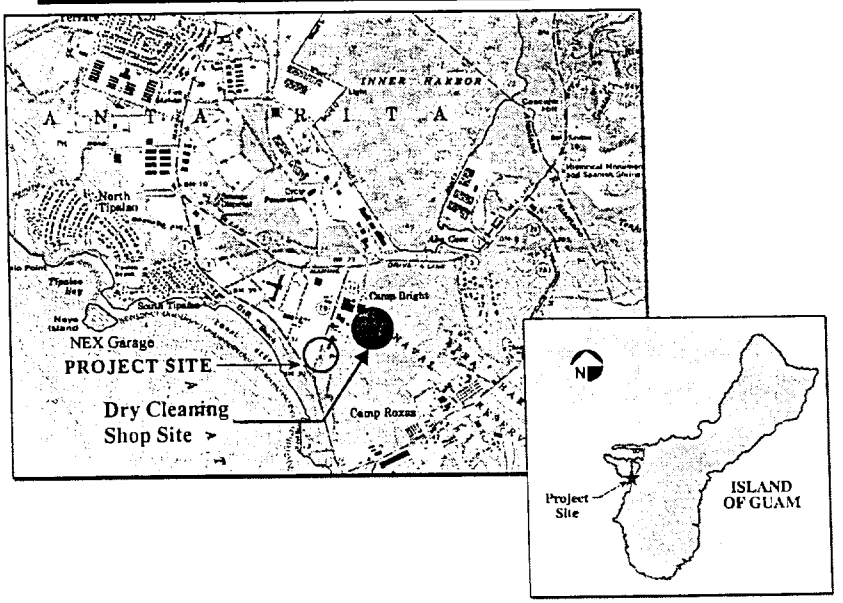
COMNAVMARIANAS, Guam

Restoration Advisory Board Meeting

27 September 2000

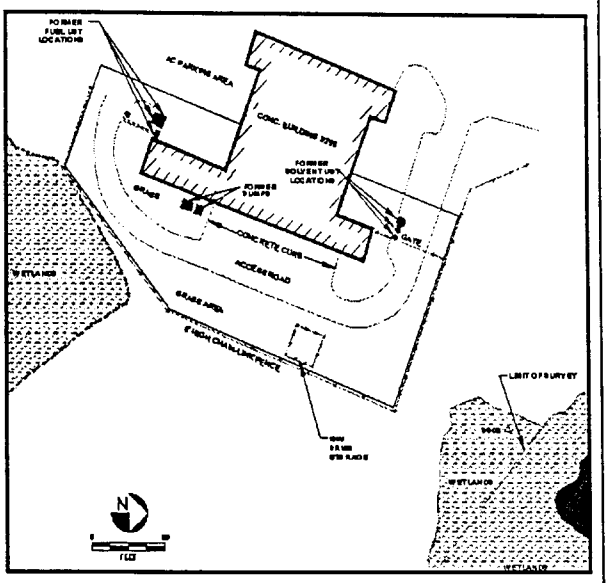
Eric Wetzstein

Site Location Map



Background

- Dry Cleaning Shop was in operation from 1952 to 1975.
- Six underground storage tanks (USTs) and two sumps were removed from the Site in 1994.
  - 3 USTs stored stoddard solvent
  - 3 USTs stored fuel oils
  - 2 sumps stored brine



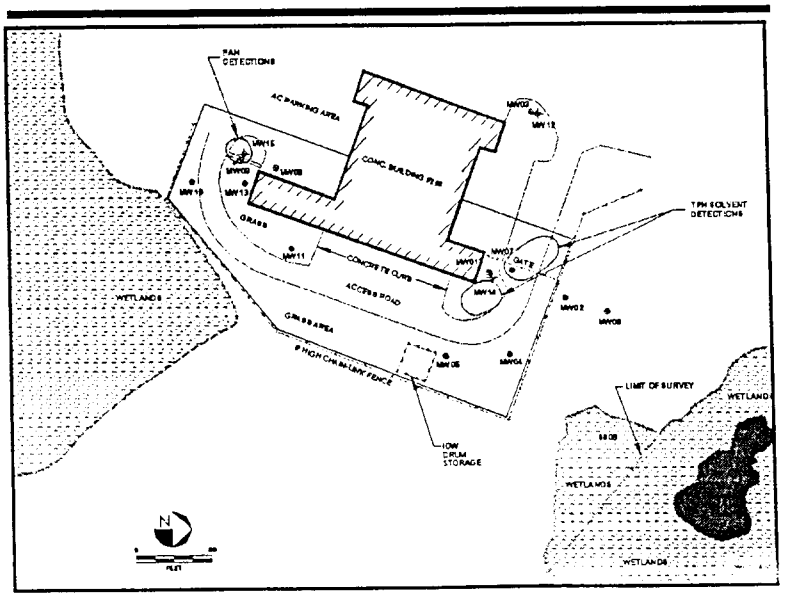
Remedial Investigation

- Conducted in 1993.
- Evaluated soil, ground-water, wetland sediment, and tissue samples from the organisms at or near the Site.
- Identified the solvent and fuel USTs as potential sources of contamination.
- Identified polycyclic aromatic hydrocarbons (PAHs) and total petroleum hydrocarbon (TPH) as solvent as compounds of potential concern (COPCs).

Subsurface Soil Samples

- A 6" to 12" zone of soil containing stoddard solvent was found just above the water table.
- Localized PAHs concentrations detected near the fuel USTs. Adjacent samples reported low concentrations or nondetections of PAHs.

Subsurface Soil Contamination



Previous Ground-Water Samples

- Collected quarterly in 15 site monitoring wells for a period of one year (1993-1994).
- Low detections of stoddard solvent found in groundwater.
- No detections in groundwater near fuel USTs.

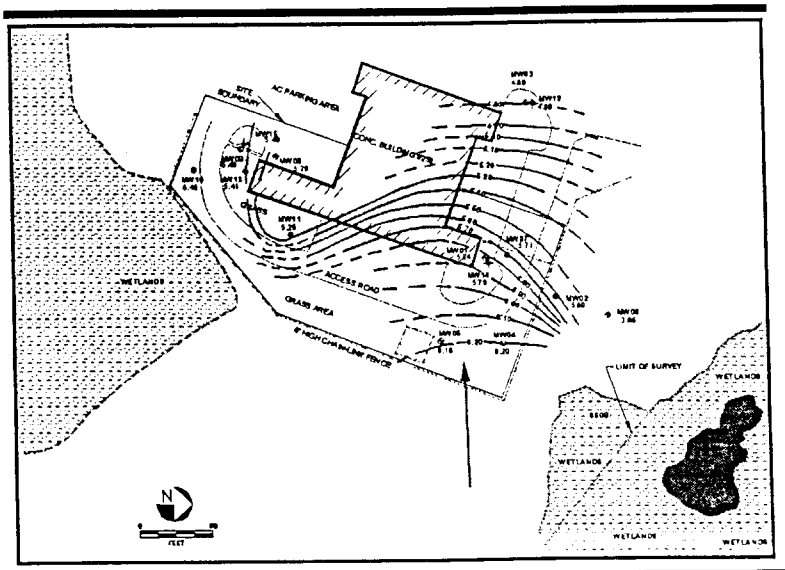
Semi-Annual Ground-Water Monitoring Objective

1. Evaluate ground-water impacts from the stoddard solvent and the fuel UST areas.
2. If a contaminant plume exists, data will be collected to evaluate if natural attenuation is occurring.

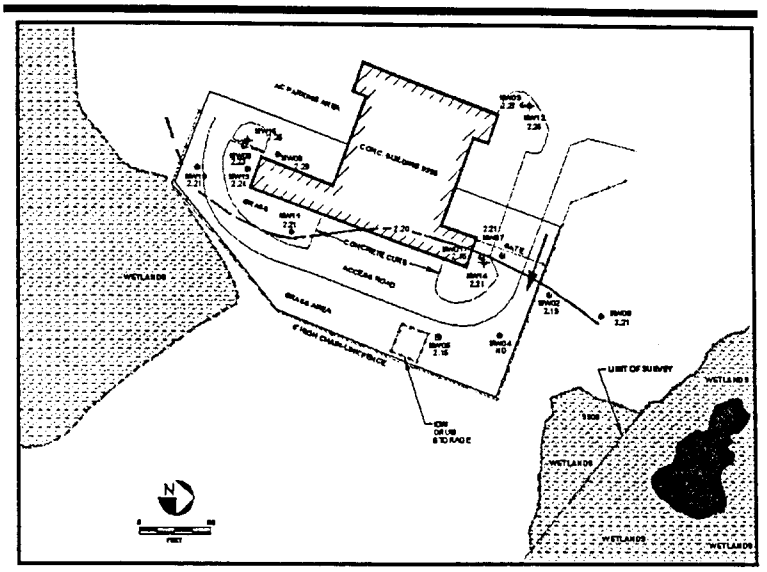
Ground-Water Monitoring Activities

- Semi-annual events (wet season and dry season)
- Collect ground-water samples from all 15 site wells.
- Analyze samples for TPH as solvent, volatile and semi-volatile organic compounds (VOCs and SVOCs), and natural attenuation parameters.
- Evaluate natural attenuation parameters.

Ground-Water Contours, Wet Season, 9/6/93

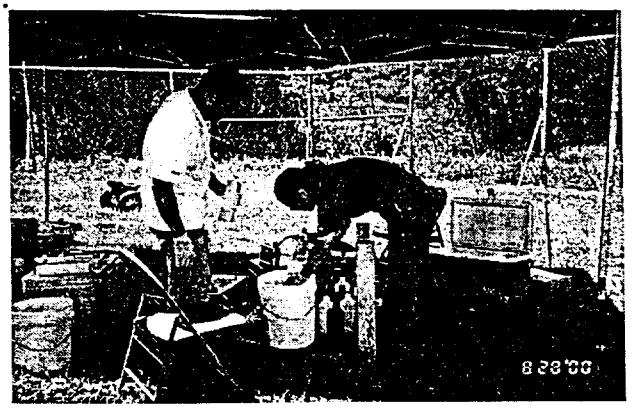


Ground-Water Contours, Dry Season, 6/7/93



Schedule

- 1st ground-water monitoring event conducted during the last week of August 2000 during the wet season.
- 2nd ground-water monitoring event scheduled for February 2001.



REMOVAL ACTION

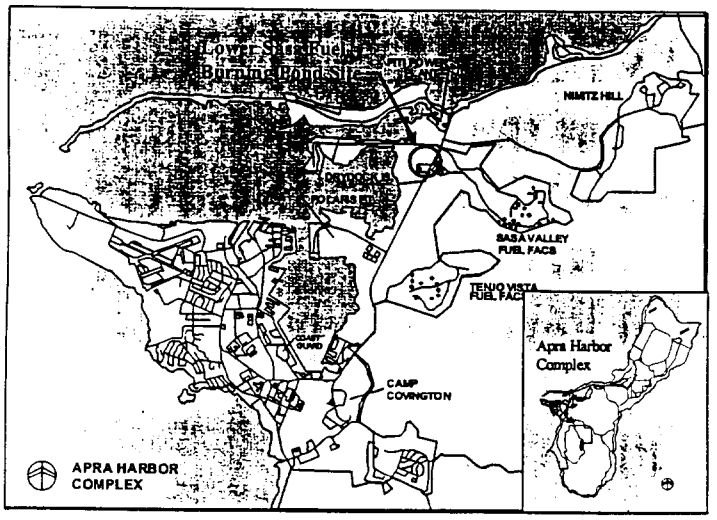
at the

LOWER SASA FUEL BURNING POND SITE

U.S. Naval Forces Marianas (COMNAVMARIANAS) Piti, Guam

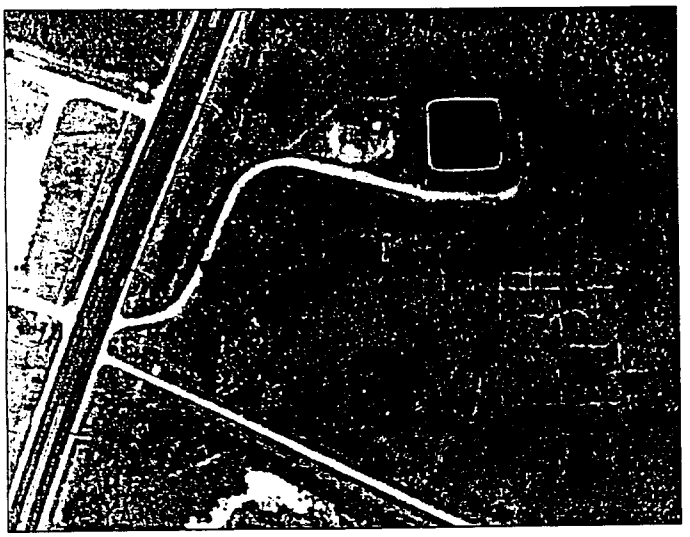
Restoration Advisory Board Meeting
September 27, 2000
Cowan Azuma

Site Location Map



Site is located on the Southwest coast of Guam, near the Apra Harbor shoreline

Site Background

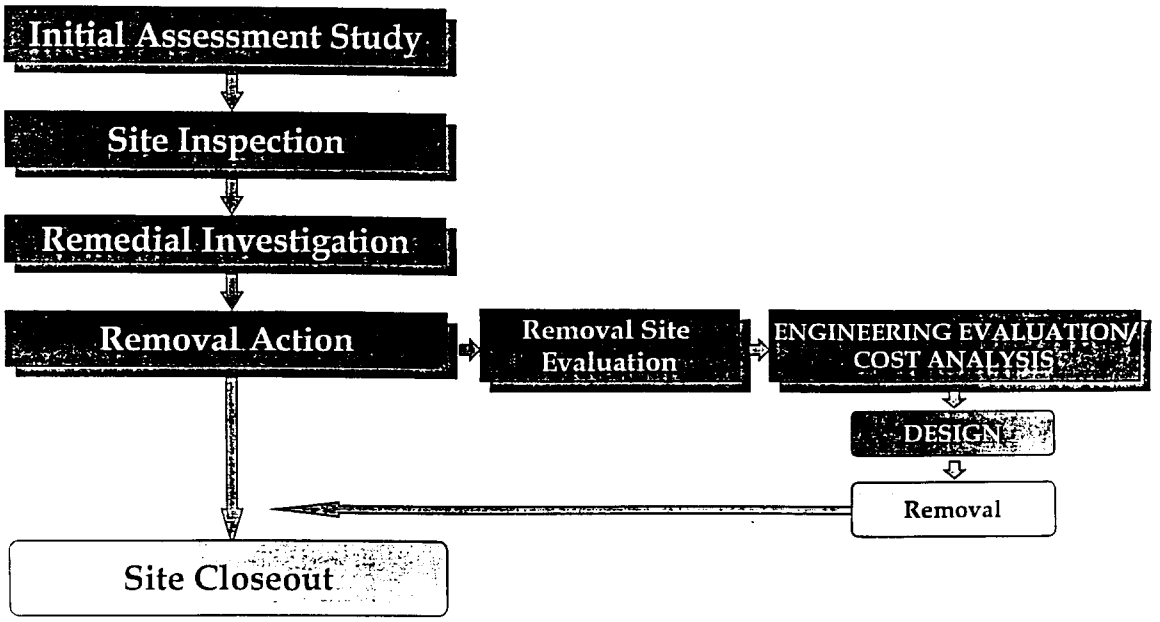


- Used as a collection pond and burning pit from early 1950's to 1970 for waste petroleum, oil and lubricants from various Navy activities
- Oily wastewater was discharged into the pond due to a problem with the oil/water separator

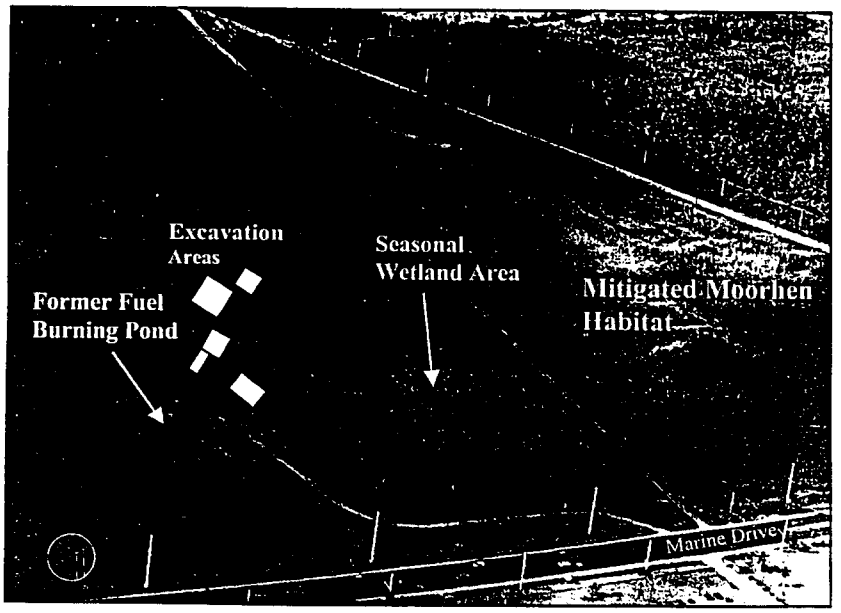
Site Background (cont.)

- Water from the pond was drained into the adjacent wetland
- The petroleum residue in pond was burned

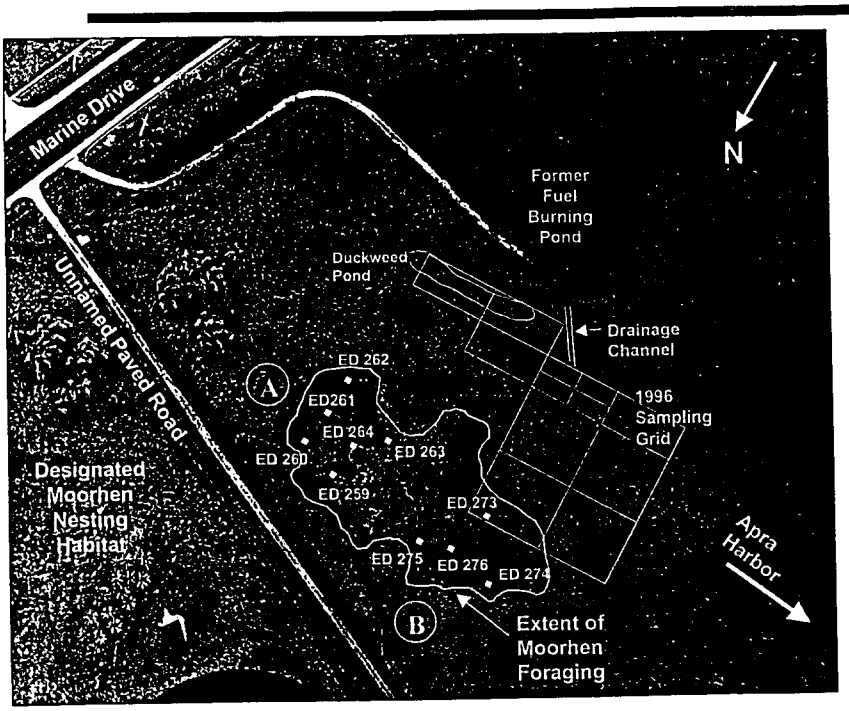
Installation Restoration Process



Change in Site Conditions

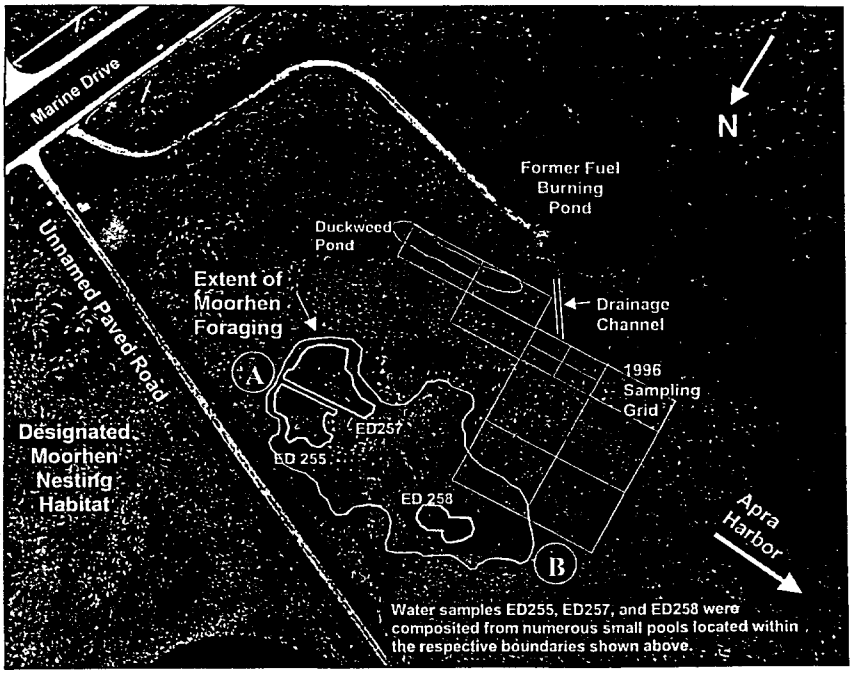


Additional Sampling



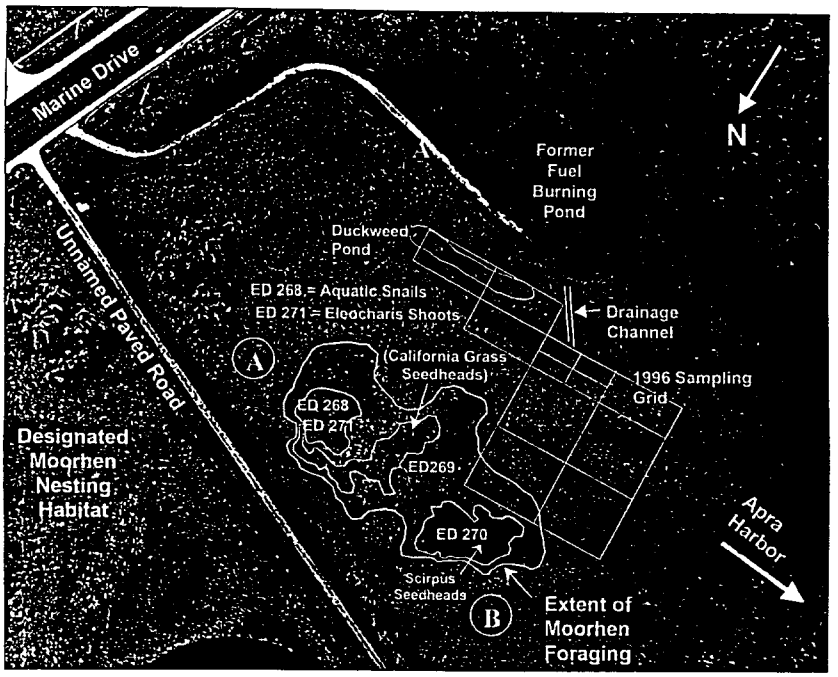
- 10 Sediment samples
  - 6 samples (Area A)
  - 4 samples (Area B)

Additional Sampling (cont)



- 3 Water samples
  - 2 samples (Area A)
  - 1 sample (Area B)

Additional Sampling (cont)



- 4 Moorhen food items
  - Seeds (Areas A & B)
  - Plant Shoots (Area A)
  - Snails (Area A)

Collecting Aquatic Invertebrate

Contaminants of Concern

MATRIX	Number of Samples/Analysis			
	DIOXIN	METALS*	Methyl Hg	PAH**
Sediment	7	10	10	10
Snails	1	1	1	1
Plant Shoots	1	1	1	1
Grains	2	2	2	2
Water	-	3	3	3

* - As, Ba, Cd, Cr, Pb, Hg, Se, Ag
** - 14 PAH compounds

Ecological Risk Results

- Sediment
  - Does not pose a risk to the moorhen
- Surface Water
  - Does not pose a risk to the moorhen
- Plant tissue (Shoots and Seeds)
  - Does not pose a risk to the moorhen
- Aquatic Invertebrate (Snails)
  - Evaluation in progress

Future Activities

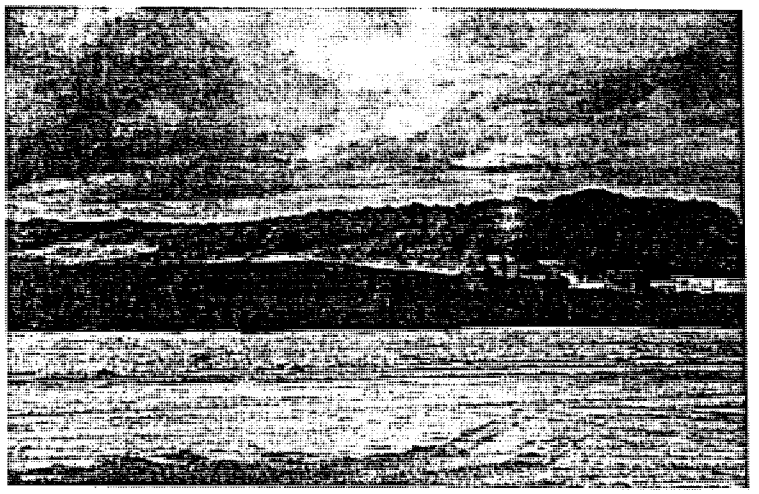
- Finalize the revised Screening Ecological Risk Assessment (SERA)
- Finalize the design based on the completed SERA
- Conduct the removal action

Orote Landfill Revegetation Pilot Test Preliminary Results

COMNAVMARIANAS, Guam

Restoration Advisory Board Meeting
27 September 2000
Eric Wetzstein

Orote Landfill Capping Project



Goals of the Revegetation Plan

- Reduce erosion
- Provide habitat for nearby animals
- Establish native Guam vegetation
- Reduce long-term maintenance cost

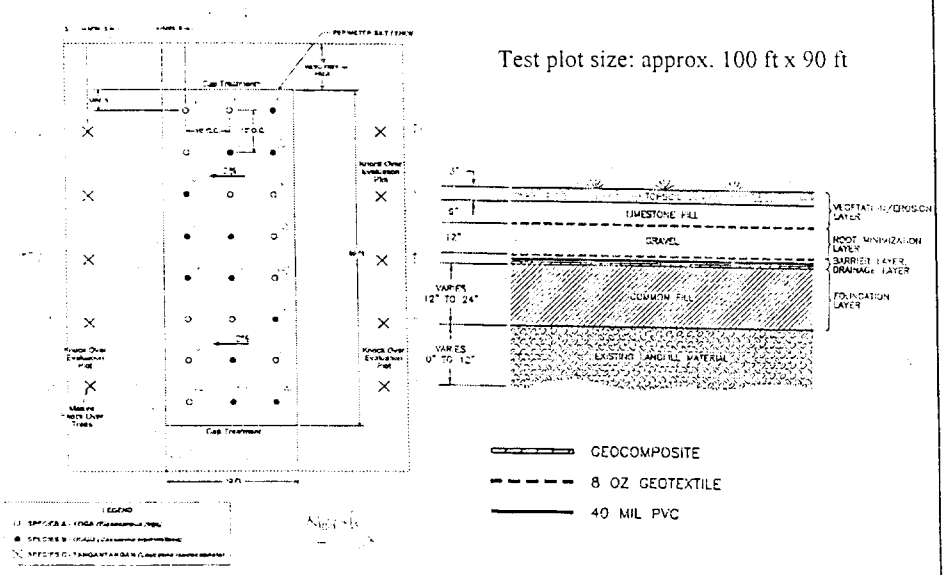
Purpose of Revegetation Cap Pilot Test

- Assess how well the selected native vegetation can be established
- Prevent temporary erosion of landfill surface
- Make improvements in design

Elements of Pilot Test

- Install small cap over a portion of the landfill
- Revegetate surface with selected trees
- Excavate cap and assess effectiveness of compacted layers in keeping roots out of the liner

Pilot Test Layout



Pilot Test Analysis

- Trees were carefully excavated to assess root impact
- A portion of the trees were up-rooted to assess catastrophic upheaval (i.e. typhoon)
- Modifications will be made to the revegetation plan as needed

Test Pad Construction (Sep 99)

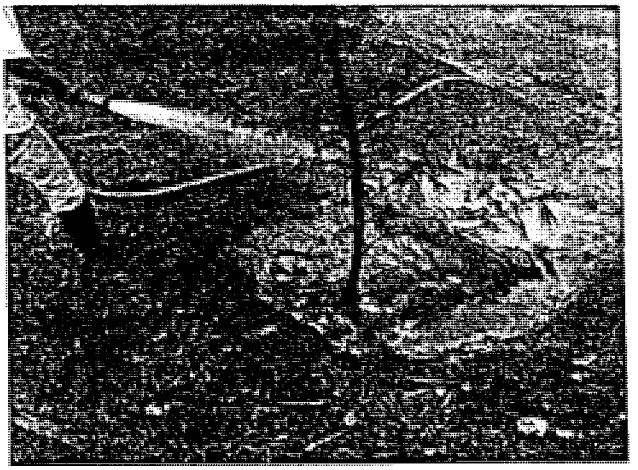
Completed Test Pad (Sep 99)

Revegetation Pilot Test Pad (Aug 2000)

Wild orchids found under the ironwood trees at pilot test pad (Aug 2000)

Excavated Tangantangan and Ironwood Trees (Aug 2000)

Blowing soil away from tangantangan tree roots with water for lateral root spread measurements (8/30/2000)



Ironwood tree soil excavation for root depth measurement and limestone density

Results

- Roots from Yoga and tangantangan trees did not penetrate root minimization layer
- Fine roots of ironwood trees did penetrate root minimization layer in approximately half the tree sites, however, main support roots did not penetrate

Results

- Small pores in root minimization layer from cobbles in limestone allowed small fraction of fine roots to vertically migrate
- The actual landfill cap has more fines in root minimization layer and is better compacted
- Revised native plant list is being produced for revegetation of cap using shrubs and smaller trees based on the study results

Schedule

- Draft Orote Pilot Test Report - Oct 2000
- Revegetation of the landfill cap with native plants - Dec 2001
  - Interim grass vegetation