

MINUTES RESTORATION ADVISORY BOARD NAVY AREA-WIDE

A Restoration Advisory Board meeting for the Navy Area-Wide Installation Restoration sites was held on Wednesday, October 6, 1999 at the Hyatt Regency's Ballroom C at 7:00 p.m. Enclosure (1) is a list of attendees. A copy of the minutes from the July 14, 1999 RAB meeting was provided.

Lieutenant Prather did the opening remarks. He introduced the key personnel. Speakers for this meeting were: Ms. Darlene Ige, Head of the Installation Restoration (IR) Branch, Ms. Helen Lam, Remedial Project Manager and Mr. Cowan Azuma, Remedial Project Manager. In addition, Mr. Mike Gawel, Co-Chairperson, mentioned the speakers would be presenting certain topics concerning the environmental cleanup updates at various IR sites.

1. Ms. Darlene Ige presented an overview update on the progress of environmental cleanup for the Installation Restoration (IR) sites. Handouts (enclosure (2)) were available for the public.

2. Mr. Cowan Azuma presented the following:

a. An update on the cleanup at the South Finegayan Construction Battalion Landfill, U.S. Navy Public Works Center (enclosure (3)) was presented. He provided the results of the dye trace study, results of gas monitoring, and results of the first quarter groundwater monitoring updates. The following questions and answers were addressed:

Q1: After the cap was installed, the dye was not detected at any of the monitoring wells, where would you guess the dye would have gone? Would it have gone lower than your sampling points?

A: *The sampling points in these wells are down to groundwater which is approximately 300 plus feet below the ground surface. That is where we were taking our samples. My guess is that the dye went above the groundwater.*

Q2: What was the purpose of the dye trace study and what did you learn from it?

A: *The purpose of the dye trace study was to determine sampling locations for the long-term groundwater monitoring program. What we learned from it was that there are preferred channels in this karst environment on Guam which we expected. We just didn't know exactly where the sampling locations would be.*

Q3: How much dye was poured into it?

A: *We poured in two gallons of water soluble dye.*

Q4: Was there any precipitation?

A: *No, there was not. We were pouring water into the sinkhole. After we introduce the dye, we followed with 2,000 gallons of water. Also, the seven monitoring wells have pumps in them that would pump water at a rate of three to five gallons per minute. All of this water discharge was re-introduced into the sink hole, flushing it out. It amounted to over 10,000 plus gallons a day and it was done during the two weeks of the dye trace study.*

Q5: What was the time length from the time you injected the dye to the time the dye was detected?

A: *We detected dye at the springs the very next day from the first sampling effort. In the sampling effort, activated charcoal (which absorbs the dye) was placed at the springs prior to introducing the dye. The dye was then introduced and during the first sampling effort, the charcoal was recovered and submitted to the Lab. These samples had indication of dye from both springs.*

Q6: During the previous dye trace, one of the wells showed detection of dye. Was that an injection point, do you recall?

A: *In the first dye trace study, dye was introduced into one of the monitoring wells (DW-3), which was a deep well leading down to the groundwater which was within the landfill limits.*

Q7: The two coastal springs that detected dye, were they seepage cells where water moves on the beach sand or actual point sources?

A: *The water is coming out of a fracture. There are photos available showing that during different tides sand covers the spring; but when the sand retrieves, its coming out from the fracture.*

Q8: Is the purpose of the monitoring to basically see if the cleanup is working, the capping of the landfill?

A: *That's correct.*

Q9: How much base data before any of the capping operations do we have? How much sampling have we done?

A: *We have information in the Remedial Investigation report and the baseline sampling data which was obtained back in May of this year.*

Q10: Are the baseline data from the same monitoring wells that are not showing any dye?

A: *Correct, but we also took baseline data at the springs where we did find dye.*

3. Ms. Helen Lam presented an update of the status on the seawall construction at the Orote Landfill (enclosure (4)). 70 percent of the construction activity at the site has been completed. The following questions and answers are provided:

Q1: Do you think the seawall will be stronger than the adjacent seawall next door?

A: *The seawall was designed based on the 100 year storm event.*

Q2: If an earthquake occurred and breaks the seawall, will it be rebuilt? Who will be held responsible?

A: *The Navy will be held liable for repairing the seawall. According to Comprehensive Environmental Response, Compensation and Liability Act, it is indefinite. If there's a failure in design, the Navy will be liable. Because there are still contamination on site that the Navy is responsible for, they will continue to be responsible.*

Q3: The Deputy of Guam Environmental Protection Agency inquired who had visited the site?

A: *Majority of the public attendees had visited the site. Per Lieutenant Prather, if anyone is interested in visiting the site, call his office and he will make site visit arrangements.*

4. Lieutenant Prather concluded the meeting by thanking everyone for being there. The meeting adjourned at 8:00 p.m. The next RAB meeting will be held on February 9, 2000.

Approved by:


MIKE GAWEL
Community Co-Chairperson

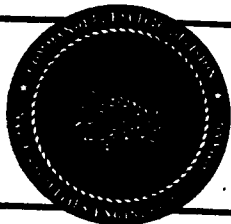

CRAIG S. PRATHER, LT, CEC, USN, P.E.
Navy Co-Chairperson

LIST OF ATTENDEES
NAVY AREA-WIDE RESTORATION ADVISORY BOARD
MEETING, Oct 6, 1999

| NAME | AGENCY/ADDRESS | CONTACT NO. | EMAIL |
|--------------------------------|----------------------------|----------------------------|-------------------------------|
| Oliver Bordallo | CB & B | | |
| Jesse T. Cruz | Guam EPA | 475-1664 | Jtcruz@ns.gu |
| Clinton William Huntington, II | Leo Palace Resort | | |
| Walter S. Leon Guerrero | Guam EPA | 475-1645 | Walterlg@ns.gu |
| Scott Denzer | Guam EPA | 475-1650 | Sdenzer@ns.gu |
| David W. Longa | Guam EPA | 475-1658/59 | |
| Patrick Ono | IT | (808) 682-1616 ext. 504 | Pono@theitgroup.com |
| Tsutsui, Roy | COMNAVMARIANAS | 339-5094 339-4363 | N451@guam.navy.mil |
| Nestor Acedera | IT | (808) 474-3065 | Nacedera@theitgroup.com |
| Hiphil S. Clemente | PWC Guam | 339-4610/339-2035 | Clementh@pwcguam.navy.mil |
| Lawrence Lansdale | Ogden | | |
| Danko Taborosi | WERI-UOG | | Dankot@campus.univguam.edu.gu |
| Anthony Hoover | COMNAVMARIANAS | 339-8181/ 339-4363 | N453@guam.navy.mil |
| Joseph Gallo | COMNAVMARIANAS | 339-7055 | N4531@guam.navy.mil |
| Mike Breitenstein | Moffatt & Nichol Engineers | | |
| Eric Wetzstein | Ogden | | |
| ENS C.A. Gonzales, NSCC | USNSCC | 339-8676 (Work) | Cgonzal@odedodea.edu |
| Chris Lund | Dames & Moore | | |
| Mike Gawel | Guam EPA | 475-1662/477-9402 | Mgawel@ns.gu |
| Jordan Kaye | Guam EPA | | Jkaye@ns.gu |
| Victor Wuerch | Guam EPA | 475-1630 | Vwuerch@ns.gu |

LIST OF ATTENDEES
NAVY AREA-WIDE RESTORATION ADVISORY BOARD
MEETING, Oct 6, 1999

| NAME | AGENCY/ADDRESS | CONTACT NO. | EMAIL |
|----------------------|----------------------------------------|-------------------|---------------------------------------|
| Richard Gray | IT | 546-3722/3724 | <u>Rgray@theitgroup.com</u> |
| Darlene Ige | PACDIV | (808) 474-4520 | <u>Igedy@efdpac.navfac.navy.mil</u> |
| Helen Lam | PACDIV | (808) 474-8911 | <u>Lamhs@efdpac.navfac.navy.mil</u> |
| Cowan Azuma | PACDIV | (808) 474-5389 | <u>Azumach@efdpac.navfac.navy.mil</u> |
| Vance S. Eflin | Guam EPA | 475-1652/477-9402 | <u>Veflin@ns.gov.gu</u> |
| LT Craig Prather | COMNAVMARIANAS (N45) RAB Navy Co-Chair | 339-4365/7051 | <u>N45@guam.navy.mil</u> |
| Robyn Matsumoto | IT | 546-3715/564-3724 | <u>Rmatsumoto@theitgroup.com</u> |
| Mark Kawakami | IT | 546-3721/564-3724 | <u>Mkawakami@theitgroup.com</u> |
| Mike Kahl | IT | 564-3717 | <u>Mkahl@theitgroup.com</u> |
| Tony Roberson | PWC Guam | 339-3711/333-2035 | <u>900@pwcguam.navy.mil</u> |
| Eleanor D. Mantanona | PWC Guam | 339-4522 | <u>Mantanoe@pwcguam.navy.mil</u> |
| Erlinda Barlan | PWC Guam | 339-7348/333-2035 | <u>Barlane@pwcguam.navy.mil</u> |
| Joe V. Cruz | Guam EPA | 475-1605 | |
| | | | |



SEAWALL CONSTRUCTION and LANDFILL COVER DESIGN

Orote Landfill Site COMNAVMARIANAS, Guam

Fact Sheet No. 6

October 1999

This Fact Sheet describes the ongoing cleanup of contamination at U.S. Naval Forces Marianas (COMNAVMARIANAS) Guam under the Installation Restoration (IR) Program. This is one in a series of informational flyers that will be issued periodically throughout the cleanup process.

INTRODUCTION

This fact sheet provides updated information regarding the construction activities at the Orote Landfill Site, COMNAVMARIANAS Guam. Construction of the seawall began in March 1999 and will continue until December 1999. The draft design for the landfill cover has been completed. The previous fact sheet dated July 1999 discussed the seawall construction and a pilot test to investigate the effectiveness of the proposed revegetation plan.

cap the landfill material currently exposed on the cliff. Further erosion will be prevented since waves will impact the seawall rather than the cliff. A liner is included as part of the design to prevent the waves from coming into contact with the landfill materials. The landfill cover will have a liner that overlaps the liner beneath the seawall forming a continuous low permeability cap over the exposed landfill materials.

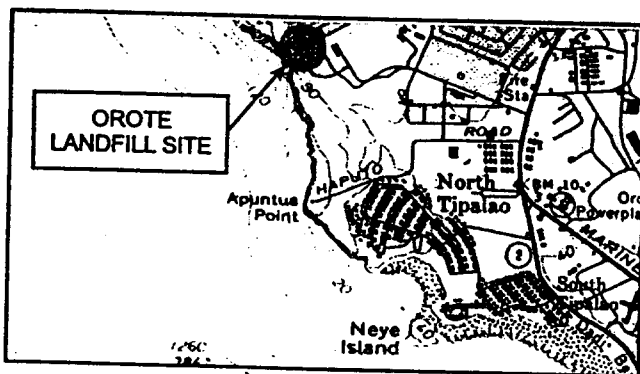


Figure 1. Location Map

BACKGROUND

The Orote Landfill Site occupies approximately 9.4 acres of land within COMNAVMARIANAS on the southern portion of the Orote Peninsula (Figures 1 and 2). The Orote Landfill was used for disposal of residential, industrial, and construction wastes from approximately 1944 to 1969. The face of the cliff that surrounds the landfill was reportedly the most active disposal area. Flammable material was burned, and the ashes were buried on the cliff above the nearby cove. Nonflammable material were either buried behind the cliff or bulldozed over the cliff onto the beach. The beach contained a large amount of rusted metal and other debris. Erosion of the landfill cliff had been observed as a source of the debris on the beach.

SEAWALL AND LANDFILL COVER

The unprotected cliff at the Orote Landfill site was observed to be retreating due to erosion by the sea. It was recognized that as the cliff has eroded, landfill material that is exposed may be transported to the Philippine Sea. Additionally, the cliff must be stabilized before a landfill cap can be applied over the site. A seawall was therefore included in the Orote Landfill project to stabilize the existing cliff.

The purpose of the seawall is to protect the site from further erosion, enable a landfill cap to be placed on the landfill, and to

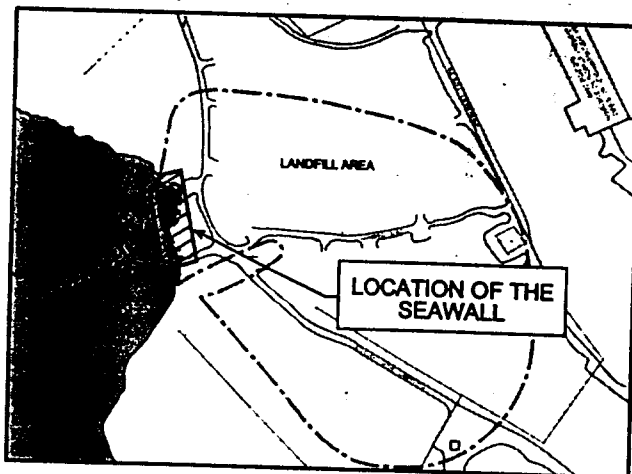


Figure 2. Map of site showing the approximate boundary of the landfill and location of seawall that is under construction

CONSTRUCTION ACTIVITIES

Construction activities on the seawall began in March 1999. Currently the seawall is approximately 70% completed. Activities completed to date include casting the 24-ton and 9-ton concrete cubes, placement of the cubes on the lower portion of the slope, casting the toe wall itself and installation of the liner and gravel layers on the slope (Figures 3 & 4). Future activities include installation of rock anchors, placement of cubes on the slope, and restoring the site. The construction is expected to be completed in December 1999.

DRAFT LANDFILL COVER DESIGN

The draft 100% landfill cover design is currently in review with the regulatory agencies. The cap includes a low permeability liner and a vegetative layer designed to accommodate native plants and trees (Figure 5). A pilot test concerning the vegetative layer is currently underway in cooperation with the University of Guam. The pilot test will determine whether root damage will occur to the liner from trees. Construction on the landfill cover is expected to begin in January/February 2000.



CLEANUP AT THE SOUTH FINEGAYAN CONSTRUCTION BATTALION LANDFILL U.S. NAVY PUBLIC WORKS CENTER, GUAM

Fact Sheet No. 9

Page 1

October 1999

This Fact Sheet describes the ongoing cleanup of contamination at U.S. Public Works Center (PWC) Guam under the Installation Restoration (IR) Program. This is one in a series of informational flyers that will be issued periodically throughout the cleanup process.

Background

The CB Landfill is located within a portion of the former NCTAMS Finegayan (operated by PWC) near the South Finegayan Housing Unit, approximately 1,100 feet west of the intersection of Park Road and Coral Tree Drive (Figure 1). The disposal area is located within a sinkhole and covers an area of approximately 2.6 acres. The site was used from 1944 until 1957 as a disposal area for wastes from the CB maintenance shop operated in the area.

Previous Environmental Investigations

A Site Investigation (SI) was conducted in 1991. The SI included a wetland survey, a soil gas survey, and the collection of groundwater samples. The SI recommended that the site move into the Remedial Investigation (RI) phase to assess the nature and extent of environmental contamination and to provide a preliminary screening of potential risks to human health and the environment.

The RI was completed in 1995 and concluded that surface soils at the landfill presents a potentially unacceptable risk to human and ecological receptors and recommended the presumptive remedy of landfill containment through capping. Based on the RI findings and recommendations, a non-time-critical Removal Action (RA) was conducted at the landfill.

As part of the RA, an Engineering Evaluation/Cost Analysis (EE/CA) was prepared to evaluate and recommend the cleanup alternatives. The recommended alternative was developed to minimize the infiltration of rainwater through landfill materials and to ensure that the landfill does not impact groundwater. The recommended cleanup alternative consists of an impermeable cap with flexible membrane liner, a surface water control system, and a landfill gas collection system which meets both federal and Guam the Environmental Protection Agency (EPA) requirements for landfill containment.

Removal Action

Construction of the impermeable cap for the landfill was completed in June 1998. A post maintenance plan was

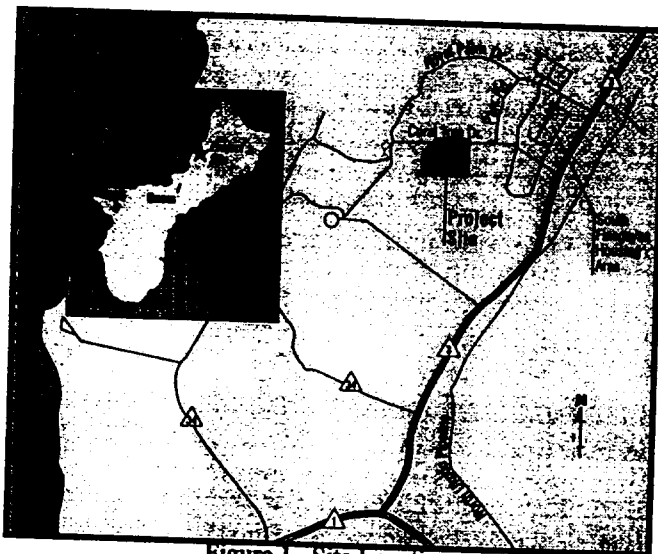


Figure 1. Site Location

developed in April 1999 to ensure that the landfill containment system would be properly maintained. Maintenance activities will consist of regular inspection of the landfill cap and trench, as well as monitoring for possible landfill gas. The post maintenance plan includes monitoring for possible lateral flow of infiltration from the perimeter swale towards the landfill.

Groundwater Monitoring Program

A groundwater monitoring work plan was also developed in April 1999 to ensure the landfill containment system is effective in minimizing impact to groundwater below the landfill. The groundwater monitoring work plan proposes to conduct a baseline groundwater sampling and analysis, a dye tracer study and a groundwater monitoring program.

The baseline groundwater sampling was conducted in May 1999 which established water quality parameters from seven groundwater discharge points, six springs and Lost Pond, located on the coastline (Figure 2) and seven monitoring wells on the site (Figure 3). The baseline results for concentrations of the metal contaminants were lower than EPA's maximum contaminant levels (MCLs) and action levels for drinking water.



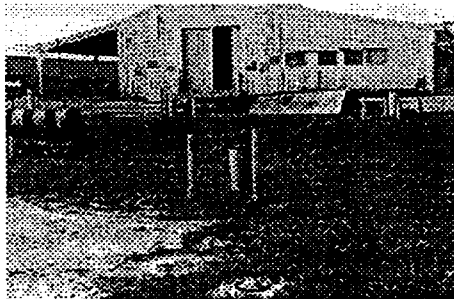
Updates on Progress of Installation Restoration (IR) Sites in Guam

Restoration Advisory Board Meeting

October 6, 1999

Darlene Ige

Carpentry Shop Dip Tank (PWC)



- Dip Tank, drain lines, and sump were removed in Feb 1998
- Final Field Sampling Plan and Quality Assurance Project Plan Addendum completed in May 1999
- First round of additional groundwater sampling conducted in July 1999

Dry Cleaning Shop (COMNAV MARIANAS)



- Remedial Investigation (RI) Report finalized in Feb 1996
- Additional groundwater sampling planned for 2000

Building 3009 (PWC)



- Removal Action to treat PCB contaminated soil completed in Mar 1997
- Additional soil sampling was completed in Nov 1998
- Remedial Verification Report completed in Dec 1998
- RI to characterize the site planned for 2001

USS Proteus Fire Fighting Training Area (COMNAVMARIANAS)



- 2 USTs and burn pit soil removed in Oct 1997
- Soil treated by bioremediation in Feb 1998
- Final Decision Document for Site Closeout completed in Sep 1999

Lower Sasa Fuel Burning Pond, COMNAVMARIANAS



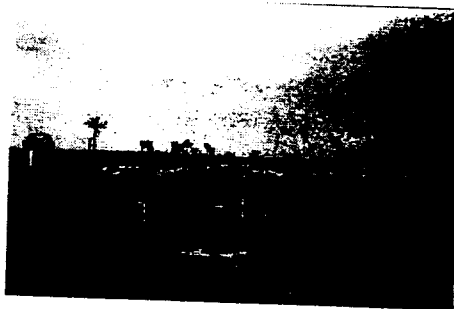
- Engineering Evaluation/ Cost Analysis (EE/CA) finalized in Dec 1997
- Draft Removal Action Design completed in Aug 1998
- Revised ecological risk assessment completed in late Jan 1999
- Additional sediment sampling planned for early 2000

***Area Behind the Fence
(COMNAVMARIANAS)***



- Remedial Investigation finalized in 1995
- Additional sampling planned for 2006

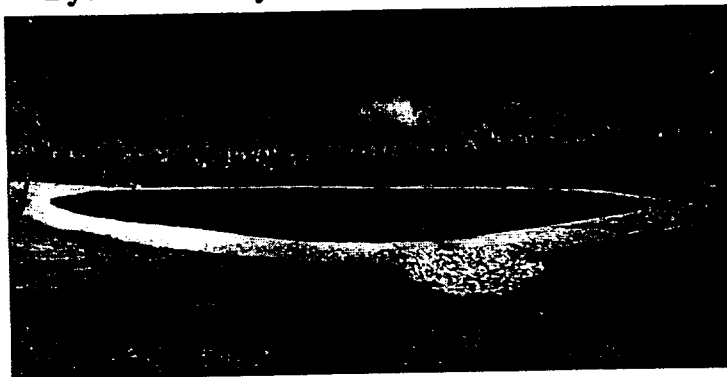
***NEX Garage Septic Tank Site
(COMNAVMARIANAS)***



- EE/CA finalized in March 1998
- Alternative revised in final EE/CA
- Draft Action Memo completed in March 1998
- Draft Field Sampling Plan completed in June 1998
- Cleanup planned for 2000

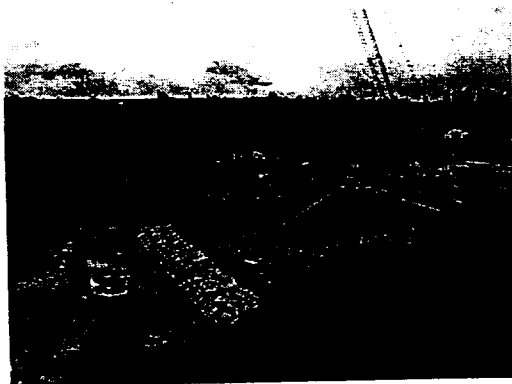
South Finegayan Construction Battalion Landfill (PWC)

- Completed construction in June 1998
- Final General Site Work Plan for groundwater monitoring program completed in April 1999
- Dye Trace Study conducted in July 1999



Orote Landfill (COMNAVMARIANAS)

- Field work to construct the seawall started in March 1999
- Draft design for the landfill cap available for review in Sep 1999



Navy Installation Restoration (IR) Sites Quarterly Updates

| Site Name | Description | Site Information | IR Document | Future Activities |
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| Lower Sasa Fuel Burning Pond, COMNAVMAR (formerly FISC Guam) | The Lower Sasa Fuel Burning Pond was used from early 1959 to 1970 as a collection pond and burn pit for waste petroleum, oil and lubricants generated from various Navy activities. The pond received waste from an oil/water separator which developed mechanical problems allowing oily waste water to drain into the holding pond. Water at the bottom of the pond was drained into the adjacent wetlands via drainage channel and the remaining petroleum residue was then burned. | <p>Surface water and groundwater, surface soil and subsurface soil, sediment and biological tissue samples were collected and analyzed to determine the extent of contamination. Total extractable petroleum hydrocarbons (such as gasoline, diesel, kerosene, and lubricant oil) as well as oil, grease, metals, polynuclear aromatic hydrocarbons (PAH) and pesticides were detected on this site. The contaminants were primarily detected in the sediment samples taken from the drainage channel and mouth of the channel. The results of the human health risk assessment concluded that the site does not pose a risk to humans. However, the ecological risk assessment identified significant risk to ecological receptors due to the PAHs and mercury found within and at the mouth of the drainage channel.</p> <p>Based on the comments from the regulators, the EE/CA recommended alternative 3 instead of alternative 4.</p> <p>As part of terminating the National Pollutant Discharge Elimination System (NPDES) permit, the evaporation pond was demolished in March 1999. Wastewater from the Fuel Farm oil/water separator is now discharged to the sewer system.</p> | <p>Final Engineering Evaluation/Cost Analysis (EE/CA) Report (Dec 1997)</p> <p>Final Action Memorandum (Aug 1998)</p> <p>Draft Removal Action Design (Aug 1998)</p> | <p>Conduct additional sediment sampling.</p> <p>An Action Memorandum will be signed to document the selected alternative.</p> <p>Finalize the Removal Action Design</p> |
| Area Behind the Fenceline, COMNAVMAR (formerly SRF Guam) | The Area Behind the Fenceline site was used as a disposal area as early as 1954 when spent sandblast grit and harbor dredge spoils were deposited. Other potential sources of contamination include creosote logs, underground storage tanks (USTs) and scrap metal debris. Disposal activities ended after a fence was installed in 1973. | <p>Surface water and groundwater, surface soil and subsurface soil, sediment and biological samples were collected and analyzed to determine the extent of contamination. Several metals including hexavalent chromium and organotin, total extractable petroleum hydrocarbons such as diesel and lubricant oils, polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and chlorinated pesticides were detected in various surface/subsurface soil and sediment samples. Some metals were also detected in groundwater samples taken from the looped road disposal area. The results of the human health risk assessment concluded that the site does not pose a risk to humans. However, the ecological risk assessment identified a significant risk to ecological receptors at the sandblast grit peninsula and the loop road disposal area. These two areas also act as a source of contamination to the adjacent wetlands</p> | Final Remedial Investigation (RI) Report (Aug 1995) | A Removal Site Evaluation (RSE) and EE/CA is scheduled for FY 2006 |

| Site Name | Description | Site Information | IR Document | Future Activities |
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| | | via surface water migration which poses significant risks to ecological receptors in the wetlands. | | |
| Building 3009, PWC Guam | Building 3009 was used as an electrical transformer repair shop from 1950 to 1977. Electrical transformers were overhauled there which involved the cleaning and repairing of parts and the recycling of transformer oils. Four storage tanks were located beside the building with two filtering systems; one for mineral oil and the other for PCB oil. In 1977, the PCB filter system and piping were removed due to leakage from the PCB storage tank. | Soil samples taken around the building and along a portion of the nearby drainage ditch identified significant polychlorinated biphenyls (PCB) contamination. A Removal Action was performed using the Base Catalyzed Decomposition Process (BCDP) due to the high levels of PCB detected at the site. A Remedial Investigation (RI) will be conducted to further characterize this site. Additional soil samples were taken in Nov 1998 to determine the extent of 2 hot spots. | Final Remedial Verification Report (Dec 1998). | A Remedial Investigation (RI) is scheduled for FY 2001 |
| Carpentry Shop Dip Tank, PWC Guam | The Carpentry Shop Dip Tank Site was used continuously from 1953 to 1972 and sporadically until 1979 to preserve wood. Pentachlorophenol (PCP) and other preservatives including metal salt solutions (containing arsenic, chromium, copper, and zinc); aromatic-based oil and methylene chloride (possibly as a carrier for PCP) were the wood preservative used. The dip tank consisted of a below-grade vault made of steel reinforced concrete. Wood was dipped in a wood preservative solution and allowed to drip dry. Drippings landed on an adjacent concrete slab that drained to the dip tank or a large unpaved ditch via a concrete gutter. The dip tank vault was left in place and backfilled level with the ground surface, the drying rack and above ground storage tank were removed in 1979. | Groundwater, sediment and surface and subsurface soil samples were collected and analyzed to determine the extent of contamination. volatile organic compounds (VOCs), pentachlorophenol (PCP), polynuclear aromatic hydrocarbons (PAHs), dioxins, fuel hydrocarbons and elevated concentrations of arsenic, chromium, copper, and zinc were detected on this site. The contaminants were primarily detected in surface sediment, surface and subsurface soil and groundwater samples. The preliminary results of the human health risk and ecological risk assessments indicate that the site does not pose a significant risk to humans nor to the environment. The first round of groundwater sampling was conducted in July 1999. | Draft Remedial Investigation (RI) Report (Jul 1995) Final Field Sampling Plan and Quality Assurance Project Plan Addenda (May 1999) | Based on comments on the RI Report from the regulators, additional groundwater sampling is required. The second round of groundwater sampling is planned for January 2000. Incorporate results from the additional groundwater sampling into the Final RI report. |

| Site Name | Description | Site Information | IR Document | Future Activities |
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| South Finegayan CB Landfill, PWC Guam | The Construction Battalion (CB) Landfill site was used from 1944 to 1959 as a disposal area for wastes from the CB maintenance shop operated in the area. Scrap metal, waste oil, and solvents, lead-based paints, tires and equipment parts were disposed at the site. The wastes observed in the landfill include concrete and metallic construction debris, glass bottles, tires, and vehicle parts, pipes, domestic wastes, and burned liquid and solid wastes. Additionally, the pesticide DDT was heavily applied to the site. | <p>Groundwater and surface and subsurface soil samples were collected and analyzed to determine the extent of contamination. DDT, polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), fuel hydrocarbons, and volatile organic compounds (VOCs); as well as elevated concentrations of antimony, arsenic, lead, mercury, and zinc were detected in the soil samples. Ground water samples contained elevated concentrations of some metals and low levels of VOCs and semi-volatile organic compounds which are common laboratory contaminants. The results of the human health risk and ecological risk assessments determined that a significant risk exists to humans and the environment via contact with surface soil at the site.</p> <p>The installation of a geosynthetic landfill cap was completed in June 1998 and the baseline groundwater sampling was conducted in May 1999. A dye trace study and the first quarter groundwater sampling was conducted in July 1999.</p> | <p>Final Design (Jan 1998)</p> <p>Final Draft Remedial Verification Report (RVR) (Jul 1999)</p> <p>Final General Site Work Plan for Groundwater Monitoring Program (Apr 1999)</p> | Maintenance and groundwater monitoring will continue to ensure cap integrity. |
| Dry Cleaning Shop (DCS) Site, COMNAVMAV (formerly NAVACTS) | The DCS Site was in operation from 1952 to 1975 and processed the laundry and dry cleaning for all Naval facilities. Eight underground storage tanks (USTs) were located onsite which contained stoddard solvents (dry cleaning solvents), fuel oils (for use in the cleaner boilers), and brine storage (possibly for water softening treatment). The investigation was initiated because solvents were believed to have leaked from USTs or dumped on the ground as sludge. The solvents may then move to the groundwater. | <p>Soil, wetland sediment, and groundwater samples were collected and analyzed to determine the extent of contamination. Tissue samples from organisms present near the site were also collected.</p> <p>Fuel hydrocarbons, polynuclear aromatic hydrocarbons (PAHs), solvent related compounds, and some metals were found to be the contaminants detected onsite. A certain percentage of metals occur naturally in the soil. Compounds were primarily detected within the subsurface soil around the solvent USTs and the piping associated with the fuel USTs. A 6"-12" thick lens of solvent was detected above the brackish groundwater in the vadose zone (unsaturated soil layer above the groundwater).</p> <p>The result of the baseline human health risk assessment and preliminary ecological risk assessment showed that current contaminant levels at the site do not pose a significant risk to humans nor the environment.</p> | Final Remedial Investigation (RI) Report (Feb 1996) | Based on the comments on the RI Report from the regulators in 1997, additional groundwater sampling is required. Additional groundwater sampling is planned for 2000. |

| Site Name | Description | Site Information | IR Document | Future Activities |
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| Orote Landfill, COMNAVMAR (formerly NAVACTS) | The Orote Landfill occupies approximately 9.4 acres of land. It was used for the disposal of residential, industrial, and construction wastes from approximately 1944 to 1969. The face of the cliff that surrounds the landfill was reportedly the most active disposal area. Flammable material was burned, and the ashes were buried on the cliff above the nearby cove. Nonflammable materials were either buried behind the cliff or bulldozed over the cliff onto the beach. The beach currently contains a large amount of rusted metal and other debris. | <p>Surface and subsurface soil samples, groundwater and seawater samples, and marine tissue samples were collected to determine the nature and extent of contamination at the Orote Landfill.</p> <p>Soil within the site boundaries have elevated concentrations of PCBs, pesticides, TFHs, PAHs, VOCs, and metals. Low levels of dioxins were detected in soil samples collected within the landfill, but concentrations do not appear to be significantly elevated above samples taken outside the landfill.</p> <p>The Human Health Risk Assessment (HHRA) concluded that site-related contamination does not appear to pose a significant carcinogenic risk to human health. However, site related contamination does present a non-carcinogenic hazard to human health. The modes of exposure are primarily through ingestion of soil, direct contact with soil and ingestion of organisms from the site.</p> <p>In addition, Screening Ecological Risk Assessment (SERA) was conducted under the Removal Site Evaluation (RSE). The RSE concluded that although the groundwater may be slightly impacted by the landfill, the risk to sea life from groundwater at the site is not significant based on a detailed risk assessment.</p> <p>Construction of the seawall started in March 1999.</p> | <p>Final Engineering Evaluation/ Cost Analysis (EE/CA) (Feb 1999)</p> <p>Final 100% Seawall Design (March 1999)</p> <p>Approved Action Memorandum (April 1999)</p> <p>Final Site Work Plan for Seawall Construction (April 1999)</p> <p>Final Revegetation Plan (April 1999)</p> <p>Final Pilot Test Work Plan (Aug 1999)</p> <p>Draft Landfill Cap Design Package (Sep 1999)</p> | <p>In addition to the installation of a landfill cap, a seawall was designed to prevent erosion of landfill material into the ocean.</p> <p>Construction of the seawall started in March 1999 and is scheduled for completion in Dec 1999.</p> <p>A Revegetation Pilot Test was started in Sep 1999.</p> |
| USS Proteus Fire Fighting Training Area Site, COMNAVMAR (formerly NAVACTS) | The USS Proteus Site was the site of a former fire fighting training pit and two underground fuel tanks. Fire fighting training exercises were performed at USS Proteus from 1965 to 1969. In these exercises, 55-gallon drums or pontoons were cut in half, filled with diesel fuel and gasoline (supplied by the underground fuel tanks) and then ignited. | <p>Soil, groundwater, marine sediment were collected and analyzed to determine the extent of contamination. Tissue samples from organisms present near the site and sediment bioassay were also conducted.</p> <p>Two primary areas had elevated levels of contamination: (1) the USTs area consisting of a gasoline and a diesel tank, the contents of which were pumped out in April 1994, and (2) a fire fighting training burn pit area consisting of wire mesh and charred soils.</p> | <p>Closure Report (July 1998)</p> <p>Final Decision Document (Sep 1999)</p> | |

| Site Name | Description | Site Information | IR Document | Future Activities |
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| | | <p>Although no evidence of fuel leakage from the USTs was detected, elevated PAHs were detected around the vent pipes above the USTs. The contamination above the USTs was thought to be the result of spillage or overfilling. The burn pit area had elevated levels of TFHs and VOCs. No significant groundwater contamination was found at the Proteus Site.</p> <p>The two underground fuel tanks and the contaminated soil in the burn pit were excavated and removed in October 1997. Samples were taken to ensure that the cleanup goals are met. The excavation pits were backfilled with clean materials and the site was restored to the original grade. The contaminated soil was treated by bioremediation in February 1998. No further cleanup action is planned for this site.</p> | | |
| NEX Garage Septic Tank Site, COMNAV MAR (formerly NAVACTS) | The septic tank is a subsurface structure, made of concrete. The septic tank was connected to a waste oil underground storage tank (UST) via an underground pipeline. The waste oil UST was removed in 1987. Another pipeline connected to this septic tank ran out to Agat Bay. From 1955 to 1975, waste oils, automotive fluids, and cleaning solvents which were generated at the NEX Garage Septic Tank Site were disposed of in the waste oil UST. | <p>Soil, groundwater, pipeline sediment, septic tank, marine sediment and biological tissues were collected and analyzed to determine the extent of contamination. Soil and sediment bioassay were also conducted.</p> <p>Low levels of TFHs and PCBs were found in the former waste oil tank area. Low levels of TFHs, PAHs, and some pesticides were found within the pipeline through a manhole access, but no significant levels were found outside the sewer pipeline. Petroleum sludge was found within the concrete septic tank, no significant releases were found to have occurred outside the septic tank.</p> <p>The study concluded that there was no existing threat to human health and environment. The Engineering Evaluation/Cost Analysis (EE/CA) recommended the removal of the septic tank and the oily sludge in the septic tank, cleaning and removing the pipeline between Route 2 and the NEX Garage, and cleaning, capping and closing in place the pipeline between Route 2 and Agat Bay.</p> | <p>Final Engineering Evaluation/Cost Analysis (EE/CA) (Mar 1998)</p> <p>Draft Action Memorandum (Mar 1998)</p> <p>Draft Field Sampling Plan for Post-Removal Confirmation Sampling (June 1998)</p> | After the Action Memorandum is finalized to document the selected alternative, a Work Plan will be prepared for the actual cleanup. The cleanup is planned to start in 2000. |