DEPARTMENT OF THE NAVY
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE INDIANA 47522-5001

11-1-2001
IN REPLY REFER TO:

5090
Ser 095/1367

26 NOV 2001

MEMORANDUM

From: Installation Co-Chair
To: Restoration Advisory Board Members

Subj: **RESTORATION ADVISORY BOARD (RAB) MEETING**

Encl: (1) November 1, 2001 RAB Meeting Minutes

Crane Division, Naval Surface Warfare Center (NSWC Crane) conducted, on Center, a RAB meeting on November 1, 2001. Enclosure (1) is a copy of the minutes from that meeting.

The next NSWC Crane Community RAB meeting is tentatively scheduled for Tuesday, April 16, 2001. The meeting will take place on Center at the Lakeview Training and Conference Center from 1200 to 1600 hours. A reminder and an agenda will be e-mailed or sent out approximately three weeks prior to the meeting. Your ideas and input for additional topics to, or presentations for, the agenda would be especially welcome. Currently, the proposed agenda for the next meeting includes:

- Presentations concerning phase completion of the Full Scale contaminated soil operations for the Bioremediation Facility
- Presentations concerning Interim Measures Cleanup Projects
- Updates on all ongoing Installation Restoration Projects
- Discussion Concerning Project Funding for Fiscal Years 03

For questions, comments, or information, please telephone 812/854-4423 or e-mail at RAB@crane.navy.mil. The NSWC Crane RAB web sites, http://www.crane.navy.mil/General/RAB/default.htm, can also be accessed for additional information.

James M. Hunsicker, Director,
Environmental Protection Department

Subj: **RESTORATION ADVISORY BOARD (RAB) MEETING**

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Community
  Ellis
  Myers
IDEM (Griffin)
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NAVSEASYSCOM (SEA 00T)
NSWC Crane (00)
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NSWC Crane (09A)
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TOLTEST (Chevalier)
TOLTEST (Parsons)
TtNUS (Basinski)
USEPA Region V (DW-8J)
USCEWES (GG)

# Restoration Advisory Board Meeting Minutes November 1, 2001

Crane Division, Naval Surface Warfare Center (NSWC Crane) conducted a Restoration Advisory Board (RAB) Meeting, Thursday, November 1, 2001. The meeting was held on Center at the Lakeview Training and Conference Center. From 1200 to 1500 hours an informal meeting was called to order. Attachment (1) is a list of the RAB meeting attendees. Copies of the slide presentations were provided at the meeting apart from the presentation given by Dr. James May, which can be provided upon request. Ms. Christine Freeman, NSWC Crane Environmental Protection Department (EPD), opened the meeting and provided the welcome for those attending along with CAPT (SEL) Frank Aucremanne, NSWC Crane Public Works Officer. Lunch was then served.

After lunch, Mr. James Hunsicker, NSWC Crane Director EPD and Navy RAB Co-chair, introduced Dr. James May, Army Corps of Engineers Waterways Experiment Station. Dr. May gave an update on the Ammunition Burning Grounds (ABG) Natural Attenuation Demonstration. The purpose of the demonstration is to show that the groundwater has decreased in contaminant concentration naturally as it flows. Dr. May reported that aquifers must be separate (not connected) for a successful test. ABG has separate aquifers and is within a ground water divide. At the facility boundary line: no contamination equals success, while a small amount of contamination equals phytoremediation. Phytoremediation involves plants and microbes breaking down contamination at the molecular level. Of the grasses, plants, and trees tested, Fescue is the most successful at breaking down the explosives contamination. The draft report is scheduled for delivery to the Navy for comment by March 2002.

Mr. Ralph Basinski, Project Manager, TetraTech, NUS (TtNUS), gave presentations concerning ongoing projects at NSWC Crane conducted by TtNUS. Presentations included the following Solid Waste Management Units (SWMUs): Mustard Gas Burial Ground (SWMU 1), Dye Burial Ground (SWMU 2), ABG/Old Jeep Trail (SWMU 3), McComish Gorge (SWMU 4), Old Burn Pit (SWMU 5), Old Rifle Range (SWMU 7), Pesticide Control/R-150 Tank Area (SWMU 9), Rockeye (SWMU 10), Mine Fill A (SWMU 12), Mine Fill B (SWMU 13), Cast High Explosives Fill/Incinerator Complex (SWMU 16), PCB Capacitor Burial/Pole Yard (SWMU 17), and Pyrotechnic Test Area (SWMU 19). Fieldwork was completed at SWMU 1 with no material found. The fieldwork is also complete for SWMUs 2 and 3 and data validation is ongoing. The Risk Assessment is almost complete for SWMUs 4, 5, 9, & 10. SWMU 7 fieldwork is under review to determine if more sampling is required. One QAPP is being prepared for SWMUs 12, 13, 16, & 19. Finally, EPA and IDEM are reviewing the SWMU 17 QAPP.

Mr. William Gates, Remedial Project Manager, Southern Division Naval Facilities Engineering Command, gave a presentation on the Environmental Restoration, Navy Funding Program. Mr. Gates discussed the funding process, currently funded projects, and projects funded for Fiscal Year 2002. Projects currently slated for FY02 are Corrective Measures Studies for SWMUs 3, 5, 7, 9, & 10, ABG ground water monitoring, Rockeye Bioremediation administrative support, and PCB/pole yard soil remediation. In January, the Navy, IDEM, & EPA will develop a list for FY03 projects. In February/March the FY03 list will be submitted to Southern Division. Projects that make the cut will then be presented to headquarters in the April/May time frame.

Mr. Thomas Brent, NSWC Crane EPD, then gave an update on the Assessment of Contaminants in Macroinverterbrates in the Riparian Feeding Habitat of the Indiana Bat. Mr. Brent stated that the report had been submitted to the United States Environmental Protection Agency Region V for review and approval. He explained that the metals levels observed from the results seemed a little high.

Currently, steps are being taken to compare costs of additional sampling for background levels vs. an uptake study with existing data, as well as the pros and cons of each. Analysis of the paint on the traps has not yet been analyzed, but it is unlikely that the metals that are high would have come from paint.

Mr. Brent then went on to discuss the Interim Measure (IM) for the Roads and Grounds Area. He explained a situation brought on by the excavation of a sewer line for a new building. With only a couple hundred feet of line remaining to dig going away from the site, small containers of white powder were found. The project was stopped until lab analysis determined the material to be agriculture lime and a procedure agreed upon in case any other material was found. For this situation, it was decided that a properly trained individual could supervise the line diggers and stop the digging if any further material was discovered. The original project objectives are to remove any source contamination including debris and soil and to perform confirmation sampling. EPA is currently reviewing the workplan.

Ms. Freeman gave an overview on the IM at the Mine Fill A (MFA) Battery Site. The fieldwork has been completed. A total of 236 tons of special waste were removed and disposed of at an off-site landfill along with 18 tons of explosives contaminated soils taken to the Bioremediation facility for treatment. Awaiting confirmation sample results. The draft report is expected to the Navy for comment by March 2002.

Ms. Freeman also gave an update for the Full Scale Explosives Contaminated Soil Composting Operations. As of September 28, 2001, 100 percent of the explosives contaminated soils was excavated. Rockeye and Mine Fill A are complete. Mine Fill B requires only backfill and mulching/seeding. Approximately 45,048 tons of explosives contaminated soils have successfully been treated in 214 windrows at the facility. Eleven industrial standard windrows were resampled, with EPA approval, and were determined to meet residential standards. Enough soil to process one windrow remains. This windrow will also incorporate the sludge material from the sumps and ponds prior to the final decontamination process.

Mr. Hunsicker then led an open discussion session. Mr. Myers asked if the RAB was still pursuing additional membership. All agreed that more members were welcome. Mrs. Ellis asked if the membership paperwork had been sent to Mr. Mike Chase as was discussed at the last meeting. Ms. Freeman declared that the paperwork had been sent. Time was then taken to schedule the next RAB. The next official RAB meeting was tentatively scheduled for Tuesday, April 16, 2001 at 1200 (awaiting CAPT Wetter's schedule). No additional topics were discussed during the open session. The RAB meeting was adjourned at 1500.

# RESTORATION ADVISORY BOARD
# MEETING ATTENDEES LIST
# FOR NOVEMBER 1, 2001

| NAME | TELEPHONE & FAX | ORGANIZATION REPRESENTED & MAILING OR E-MAIL ADDRESS |
|---|---|---|
| Lorie Richardson | 812/854-6409<br>fax x4165 | NSWC 052 |
| Sue Webster | 812/854-1495<br>fax x4165 | NSWC 052 |
| Jerry Hill | 812/854-1331<br>fax 2263 | Public Works 09A |
| Pedro J. DeJesus | 812/854-1130 | NSWC Crane OC |
| Doug Griffin | 317/233-2710 | IDEM dgriffin@dem.state.in.us |
| Jim May | 601/634-3395 | U.S. Army COE-ERDEC UBG |
| Peter Ramanauskas | 312/886-7890<br>fax 312/353-4788 | ramanauskas.peter@epa.gov |
| Thomas J. Brent | 812/854-6160<br>fax x3981 | brent_t@crane.navy.mil |
| William Gates | 843/820-7360 | SOUTHDIV |
| Jim Hunsicker | 812/854/3233 | NSWC 095 |
| Anita Netherland | 812/384-3587 x117<br>fax 3744 | SAIC |
| John Stoll | 812/854-3353 | 09Z4 |
| Doug Johnson | 812/854-1481 | CAAA johnsond@crane.army.mil |
| Teresa Ellis | 812/384-3087 | Community |
| Peter Chevalier | 812/854-0941 | TolTest - envspec@kiva.net |
| Ralph Basinski | 412/921-8308<br>fax x4040 | Tetra Tech NUS basinksir@TtNUS.com |
| Jeff Myers | 812/659-3788<br>fax 9955 | Greene Co. SWMD -<br>greenesw@bluemarble.net |
| F.F. Aucremanne | 812/854-1344 | PW |
| Christine Freeman | 812/854-4423<br>fax x3981 | freeman_cd@crane.navy.mil |
| Lance Parsons | 812/636-8501 | TolTest - toltest@kiva.net |

Attachment (1)

# *Restoration Advisory Board*
# *Meeting Agenda for November 1, 2001*

| | |
|---|---|
| 12:00 | Introduction by Mr. James M. Hunsicker, Environmental Protection Department (EPD) Manager and RAB Installation Co-Chair |
| 12:05 | Welcome by CAPT (SEL) Frank Aucremanne, Commander Public Works |
| 12:10 | Lunch- "Make Your Own Sandwich" with chips, pickle spear, and a cookie served with coffee or iced tea ($6.00). |
| 13:00 | Update on the Ammunition Burning Grounds (ABG) Natural Attenuation Demonstration presented by Dr. James May, Army Corps of Engineers Waterways Experiment Station |
| 13:15 | Discussion of various projects being conducted by TetraTech, NUS (TtNUS) presented by Mr. Ralph Basinski, Project Manager, TtNUS |
| 13:30 | Environmental Restoration, Navy Funding Program plus Current & FY 2002 Proposed NSWC Crane Installation Restoration Projects presented by Mr. William Gates, Remedial Project Manager, Southern Division Naval Facilities Engineering Command |
| 13:40 | Status update on Insect Collection Survey for presence of explosives and metals in the food chain of the Endangered Indiana Bat at ABG presented by Mr. Brent |
| 13:45 | Update on Interim Measures at the Roads & Grounds Area and Sewer Line Work Finding presented by Mr. Thomas Brent, EPD |
| 14:00 | Break |
| 14:15 | Interim Measures at the MFA Battery Site presented by Ms. Christine Freeman, EPD |
| 14:20 | Update concerning the Full Scale Explosive Contaminated Soil Operations for the Bioremediation Facility presented by Ms. Freeman |
| 14:25 | Informal General Business Discussion led by Mr. Hunsicker: Open Discussion Session |
| 14:40 | Meeting Adjourned |

## MUSTARD GAS BURIAL GROUNDS (SWMU 1)

- Former mustard gas burial area
- Exhumation completed
- Analysis included mustard gas, VOCs, SVOCs, TAL metals, herbicides, pesticides, PCBs , Radionuclides
- QAPP approved
- Field work and analysis completed
- Data validation ongoing

## DYE BURIAL GROUNDS (SWMU 2)

- Burial grounds for dyes in trenches
- Exhumation completed
- Primary target constituents dyes and metals
- Field work and analysis completed
- Data validation ongoing

## JEEP TRAIL/LITTLE SULPHUR CREEK (SWMU 3)

- Jeep Trail Burn Pit
  - Burning of explosive-containing material
- Jeep Trail Burn Area
  - Flashing of bomb casings
- Little Sulphur Creek
  - Receives Jeep Trail sediment and ABG ground water

## JEEP TRAIL/LITTLE SULPHUR CREEK (SWMU 3) [continued]

- Target constituents include A-1X VOAs, and SVOAs, explosives, and metals
- Area investigated expanded during fieldwork
- Fieldwork/analysis completed
- Data validation ongoing

## McCOMISH GORGE (SWMU 4)

- Former garbage/trash dumpsite
- Target constituents (A-1X VOAs, SVOAs, pesticides/PCBs, and metals
- Sample analysis, data validation, database compilation all complete
- Risk assessment almost completed

## OLD BURN PIT (SWMU 5)

- Inactive burn area
- Wood, construction materials, and industrial waste burned
- Residual material/metal buried in gully
- Target constituents (A-1X VOAs, SVOAs, pesticides/PCBs, dioxins/furans, and metals

## OLD BURN PIT (SWMU 5) [continued]

- Sample analyses, data validation, database compilations all complete
- Risk assessment almost completed

## OLD RIFLE RANGE (SWMU 7)

- Delineate selected metals and SVOAs
- RFI nature and extent section completed
- EPA/IDEM reviewing to determine whether more sampling required

## PESTICDE CONTROL/R-150 TANK AREA (SWMU 9)

- Inactive site used for pesticide storage/management
- Target constituents: A-1X VOAs, SVOAs, pesticides/PCBs, herbicides and metals
- Sample analyses, data validation, database compilation all complete
- Risk assessment almost completed

## ROCKEYE (SWMU 10)

- Active munitions production facility
- Explosives-containing wastewaters discharged to ditches
- Sample analysis, data validation, database complication all completed
- Risk assessment almost completed

## SWMUs 12/13/16/19 QAPP

- SWMU 12 - Mine Fill A
- SWMU 13 - Mine Fill B
- SWMU 17 - Cast High Explosives Fill/Incinerator Complex
- SWMU 19 - Pyrotechnic Test Area
- One (1) QAPP for all four (4) SWMUs

## MINE FILL A (SWMU 12)

- Soils contaminated from explosives
- Bioremediation of explosive-contaminated soil completed
- QAPP for RFI of other media (ground water and sediments)

## MINE FILL B (SWMU 13)

- Soils contaminated from explosives
- Bioremediation of explosive-contaminated soil completed
  Evaluate PCB contamination from boilers
- QAPP for RFI of other media (ground water and sediments)

## PYROTECHNIC TEXT AREA (SWMU 19)

- Testing of pyrotechnics
- No environmental monitoring to date
- RFI covers surface soils, surface water and sediments.
- Ground water sampling contingent on results of soils monitoring

## CAST HIG EXPLOSIVES FILL/INCINERATOR COMPLEX (SWMU 16)

- Three (3) former incinerators
- Incinerator Ash Pile (removed)
- TCE contamination in sumps (remediated)
- QAPP covers RFI for all media (soil, ground water, sediment and surface water)

## PCB CAPACITOR BURIAL/POLE YARD (SWMU 17)

- Recent sampling found PCBs
- QAPP Developed for Investigation of extent of contamination
- TSCA Verification sampling included
- EPA/IDEM reviewing QAPP

# ENVIRONMENTAL RESTORATION, NAVY(ERN) FUNDING PROGRAM
for
# NSWC CRANE

November 2001

## Funding Program

- Funding Process
- FY 02 Projects

## Funding Process

- NAVFACENGCOM manages ERN funds for the Navy
- SOUTHDIV manages ERN funds for naval activities within its 26 state area of responsibility.
- Crane project team (Crane, SOUTHDIV, EPA, IDEM) develops a prioritized list of ERN projects each fiscal year.

## Funding Process continued

- SOUTHDIV ERN Project Validation Team scores each project using eleven criteria jointly prepared by Navy and stakeholders. Examples include:
  - Importance to the project team,
  - use of cost effective technologies,
  - potential to contain significant threats or reduce future costs,

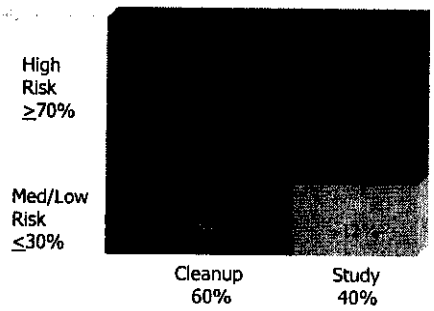
## Funding Process continued

  - comply with legal drivers,
  - importance to stakeholders,
  - potential to protect natural resources from future loss.
- All projects are ranked by score. Highest scoring projects receive funding first.

## Funding Process continued

- SOUTHDIV drafts budget to match targets:
  - $35,000,000 maximum,
  - 70% of budget for high risk sites/30% for medium and low risk sites,
  - 60% of budget for cleanup projects/40% for study projects,
  - Complete remediation at all high risk sites before the end of FY 07.

## ERN BUDGET




## Funding Process continued

- HQ approves and forwards funds after Congress authorizes budget.

## FY 02 Projects

- SWMU 3 ABG – Corrective Measures Study (CMS)
- SWMU 5 OBP - CMS
- SWMU 7 ORR – CMS
- SWMU 9 PCA – CMS
- SWMU 10 RKI – CMS

## Corrective Measures Study

- RFI determines contamination present at levels requiring corrective action
- CMS identifies and evaluates potential remedial alternatives
- Facility recommends a preferred remedy
- Lead regulator approves or not
- Public notice
- Final decision

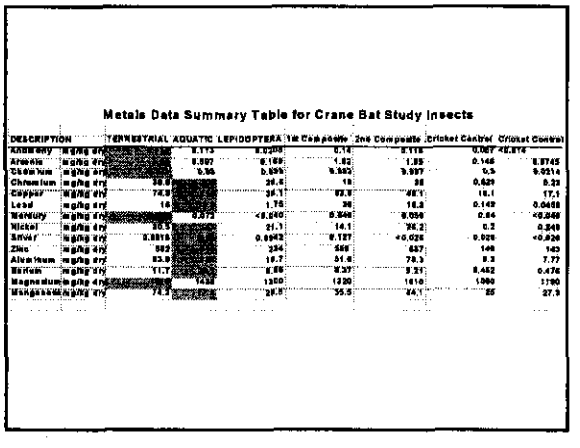
## FY 02 Projects continued

- SWMU 3 ABG – GW Monitoring (ERN portion)
- SWMU 10 RKI – Administrative Support
- SWMU 17 PCB – Soil Remediation

## Assessment of Contaminants in Macroinvertebrates in the Riparian Feeding Habitat of the Indiana Bat

Ammunition Burning Grounds

NSWC Crane



Metals Data Summary Table for Crane Bat Study Insects

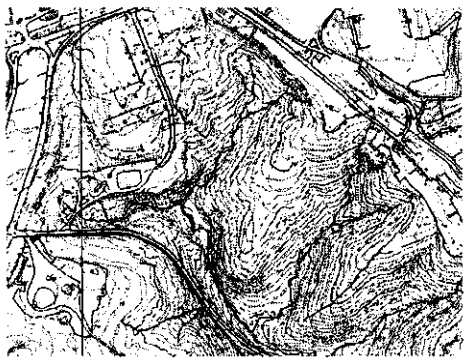
| DESCRIPTION | | TERRESTRIAL | AQUATIC | LEPIDOPTERA | Tin Composite | Zinc Composite | Cricket Control | Cricket Control |
|---|---|---|---|---|---|---|---|---|
| Antimony | mg/kg dry | | 0.113 | 0.0208 | 0.14 | 0.116 | 0.067 | <0.074 |
| Arsenic | mg/kg dry | | 0.597 | 0.169 | 1.62 | 1.85 | 0.148 | 0.0745 |
| Cadmium | mg/kg dry | | 0.36 | 0.055 | 0.583 | 0.937 | 0.5 | 0.0514 |
| Chromium | mg/kg dry | | | 20.6 | 15 | 26 | 0.629 | 0.23 |
| Copper | mg/kg dry | | | 36.1 | 82.9 | 46.1 | 18.1 | 17.1 |
| Lead | mg/kg dry | | | 1.75 | 36 | 16.8 | 0.149 | 0.0468 |
| Mercury | mg/kg dry | | | <0.020 | 0.046 | 0.036 | 0.04 | <0.020 |
| Nickel | mg/kg dry | | | 21.1 | 14.1 | 26.2 | 0.2 | 0.249 |
| Silver | mg/kg dry | | | 0.0943 | 0.127 | <0.020 | 0.025 | <0.020 |
| Zinc | mg/kg dry | | | 234 | 588 | 837 | 149 | 143 |
| Aluminum | mg/kg dry | | | 14.7 | 51.6 | 79.3 | 8.3 | 7.77 |
| Barium | mg/kg dry | | | 6.86 | 9.37 | 9.21 | 0.462 | 0.476 |
| Magnesium | mg/kg dry | | | 1350 | 1220 | 1610 | 1060 | 1190 |
| Manganese | mg/kg dry | | | 36.8 | 35.5 | 44.1 | 55 | 27.5 |

## Current Status

- Draft Report Submitted to USEPA, IDEM, & USF&WS
- Currently Comparing Costs of Additional Sampling for Background Levels vs. Uptake Study w/Existing Data, as well as the Pros and Cons of Each

Roads and Grounds Area

Interim Measure
for
Solid Waste Management Unit 15/06



## Interim Measures

**Mine Fill A**
**Battery Dump Site**

## Background

- **Area Outside MFA Fence**
- **AA Batteries Were Dumped**
- **Potentially Contaminated Soil Areas**

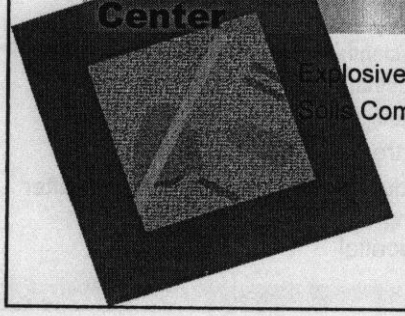
## Work Completed

- **Characterized Soil by Sampling**
- **Removed Battery Fragments & Associated Contaminated Soil**
- **Removed Explosives Contaminated Soils for Bioremediation**
- **Conducted Post-excavation Confirmatory Sampling**

## Current Status

- **Awaiting Confirmation Sampling Results from the Excavation Area**
- **Explosives contaminated soils successfully bioremediated in windrow N-214**
- **TolTest Preparing IMR**

## Crane Division, Naval Surface Warfare Center



Explosive Contaminated Soils Composting

## Background

Explosive contaminants in the soil:

- Ammunition Burning Grounds (11 acres)
- Rockeye Munitions (1 acre)
- Mine Fill A (2 acres)
- Mine Fill B (2 acres)

Several treatment methods for remediation of explosives contaminated soils were evaluated.

## Background (Cont.)

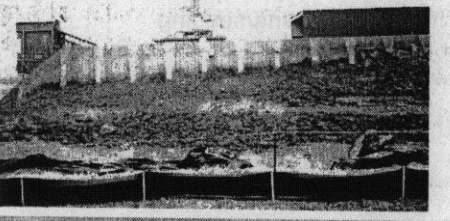
Composting is a process by which organic materials are biodegraded by micro-organism, resulting in the production of organic and/or inorganic byproducts and energy in the form of heat.

Mix Used in FS

- 15% Chicken Manure,
- 60% Straw, &
- 25% Soil

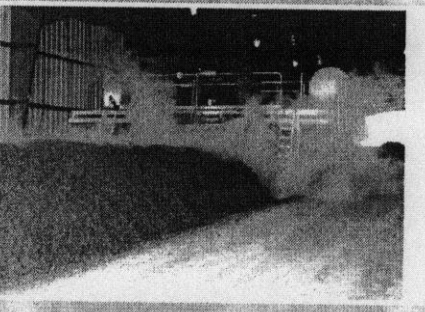
} by volume

## Excavated Explosives Contaminated Soils



## Biofacility Operations

## Biofacility Operations (Cont.)



## Finished Compost

Once acceptable reduction of explosives has been achieved finished compost will be:

- Used as backfill at the original excavation site, or
- Additional treated soil is applied in approved areas within the SWMU

## Current Windrow Status

Total Windrows built = 214

- Residential windrows = 164
- Industrial windrows = 47
- Pending results = 3

Tons treated soil: 45,048 tons

11 Industrial windrows re-sampled after staging and determined to be Residential

## Current SWMU Status

MFA is complete.

MFB is completea, backfilling, and mulching/seeding

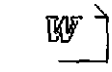
RKI:

- PS complete on 4/27/01
- FS began on 5/29/01
- Waiting on day 0 results to collect toxicity test samples.

**RAB (Restoration Advisory Board) CNIN**

**From:** Restoration Advisory Board (RAB) CNIN
**Sent:** Tuesday, December 04, 2001 9:10 AM
**To:** 'Teresa A. Ellis (E-mail)'; 'Jeffery A. Myers (E-mail)'; 'Doug Griffin (E-mail)'; 'Jeff Workman (E-mail)'; 'Anita Netherland (E-mail)'; Johnson Douglas G CNIN; 'William H. Gates (E-mail)'; 'Ralph Basinski (E-mail)'; Parsons Lance CONT CNIN; 'Peter Chevalier (E-mail)'; 'Peter Ramanauskas (E-mail)'; 'James May (E-mail)'
**Cc:** George Cordilla S CNIN; Isom Wanda CNIN; Payne Jane E CNIN; Aucremanne Fernand (Frank) CAPT (SEL) CNIN; Hill Gerald (Jerry) K CNIN; Hunsicker James M CNIN; Brent Thomas J CNIN; Belcher Jo Kay CNIN; Dejesus Pedro J CNIN; Webster Rhonda S (Sue) CNIN; Richardson Lorie J CNIN; Robertson Brent L CNIN
**Subject:** NOVEMBER MINUTES & APRIL ANNOUNCEMENT

Attached are the minutes for the 11/01/01 RAB meeting and the announcement for the tentatively scheduled 04/16/02 RAB meeting (Please pencil in on your calendars; notify if a conflict arises). A hard copy of the letter and attachments will not be mailed.
Please use RAB@crane.navy.mil for RAB messages.



20-NOV 01 MEETING MIN & APR AN...