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SUMMARY OF 16 APRIL 2013 RESTORATION ADVISORY BOARD MEETING NCBC GULFPORT MS

4/16/2013

NAVFAC SOUTHEAST

RESTORATION ADVISORY BOARD MEETING: PUBLIC AVAILABILITY SESSION

APRIL 15, 2013

ISIAH FREDERICKS COMMUNITY CENTER
3312 MARTIN LUTHER KING BLVD
GULFPORT, MS 39501

Meeting Outreach and Attendance

A meeting announcement (shown to the right) was placed in the Sun Herald.

— *Meeting Announcement* —

NCBC Gulfport

Restoration Advisory Board (RAB)

—Key Topics —

Poster Session: *History of Herbicide Orange at NCBC Gulfport*

Presentation: *Environmental Restoration Program Update*

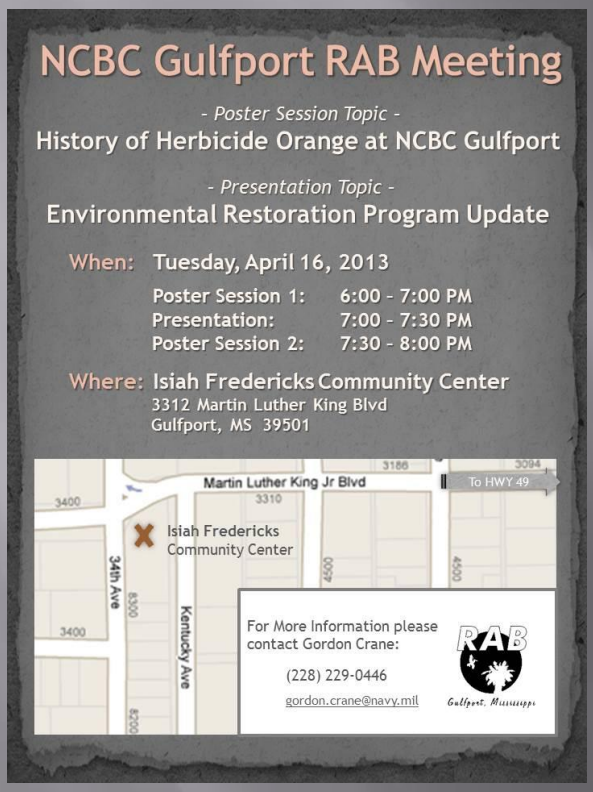
When: Tuesday, April 16, 2013

Poster Session 1:	6:00 - 7:00 pm
Presentation:	7:00 - 7:30 pm
Poster Session 2:	7:30 - 8:00 pm

Where? Isiah Fredericks Community Center
3312 Martin Luther King Blvd
Gulfport, MS 39501

RAB
Gulfport, Mississippi

For more information please contact Gordon Crane at:
Phone: 228-229-0446
E-mail: gordon.crane@navy.mil



Flyers were mailed to the interested parties on the RAB mailing list.

The meeting was attended by 3 RAB members, 6 community members, 1 local official, 3 base representatives, and 5 technical support persons.

Meeting Format

The April 2013 RAB meeting was presented in a poster session format to provide an opportunity for community members to engage in an informal dialogue with the project team.

Displays and Handouts

Thirteen presentation boards were on display at the RAB Meeting. In addition, fact sheets and handouts were also available for further information. The four topics presented included:

- The Chronology of Herbicide Orange at NCBC Gulfport.
- Dioxin Cleanup at Site 8 on NCBC Gulfport
- Cleanup of the Canal Road Dredge Piles
- The Environmental Restoration Program

Meeting Attendees

RAB Members:
David Marshall (Alternate Community Co-Chair)
Gordon Crane (NCBC Gulfport Representative)
Bob Merrill (Mississippi Department of Environmental Quality)

Community Members:
Alfred W. Fellows
Lee Floyd
Darlene Floyd
Richard K. Marsh
Howard Page
Fred Boyton

Local Official:
Dr. Robert G. Travnicek (District Health Officer, Mississippi Department of Health)

NCBC Gulfport Representatives:
LCD Brian Nottingham (Public Works Officer)
Lisa Noble (Environmental Manager)
Robert Mims (Public Affairs Officer)

Technical Support:
Greg Roof (Tetra Tech Project Manager)
William Olson (Tetra Tech Lead Geologist)
Nancy Rouse (Tetra Tech Community Relations Specialist)

Key Concerns Expressed by Community Members

Downstream Sampling:

Question: Has the Navy adequately sampled downstream water bodies?

Response: The maps show some detections of dioxins in downstream locations. However, these detections did not contain TCDD, the form of dioxin that is associated with Herbicide Orange. Dioxins are often detected in the environment. Very often these forms of dioxins are the result of burning or other activities.

Question: What about the dioxins detected in Gulfport Lake?

Response: The dioxins detected in Gulfport Lake also contained little or no TCDD. Also, the samples collected between Gulfport Lake and NCBC Gulfport did not contain dioxins.

Health Concerns:

Question: My son has cancer, and he worked on base with the Herbicide Orange. What can I do to help him?

Response: Please contact the Veteran Administration's Agent Orange Program for help with this concern.

Past Disposal:

Comment: I know of an area where I believe drums of Herbicide Orange were disposed by the Navy.

Response: We will contact you to have a look at that property later this week.

Other Comments:

The Navy is doing a good job, I'm more concerned about me/my family being exposed to Herbicide Orange in the past.

Note: All questions and responses are not intended to be verbatim. Instead, the are the best summary of key concerns and responses expressed at the meeting.

List of Meeting Materials

- Chronology of Herbicide Orange at NCBC Gulfport (5 posters)
- Canal Road Cleanup (3 panel poster)
- Cleanup of Site 8 and Associated Off-Base Areas (3 posters)
- Environmental Restoration Program Update (2 posters)

Herbicide Orange at NCBC Gulfport

1968 – 1977

The Air Force stores Herbicide Orange on NCBC Gulfport during the Vietnam War. Some of the drums leak over time.

1970's

The dioxin-containing chemical in Agent Orange, known in scientific shorthand as 2,4,5-T, is banned in the United States and other nations, as evidence mounts that links it to disorders in lab animals.

1977

The herbicide is transported from the base by train to the incinerator ship *Vulcanus* where it is destroyed.

1984

Studies of Site 8, the Former Herbicide Storage Area and associated ditches find dioxins in soil and sediment.

1987–1988

The Air Force incinerates contaminated soil at Site 8 to reduce dioxin levels to 1 part per billion (ppb).

Ash generated by the incinerator is stored in a fenced area on Site 8.

Updated April 2013

Herbicide Orange at NCBC Gulfport

1990 Mississippi establishes new, stricter standard for dioxin of 4.26 parts per trillion (ppt). This new standard was based on the results of animal studies.

1994 Environmental sampling reveals the need to further investigate possible dioxin contamination on NCBC Gulfport.

1995

Dioxin is found in the ditches north of NCBC Gulfport. The Seabee Center removes sediment along 28th Street to support widening of the road.

Sediment recovery traps are installed to slow the flow of sediment from the base through the ditch system. The traps are later tested and shown to be very effective.

1996

Over 800 residents are interviewed as a first step to determine if dioxin contamination could cause a heath effect.

1997-98 Extensive soil, sediment, and surface water sampling both on and off base show where dioxin is present and in what amounts.

1999 Studies of local fishing habits show how fish are caught and eaten in the area.

Fish are also collected and sampled to test for dioxins. The fish are found to be safe to eat.

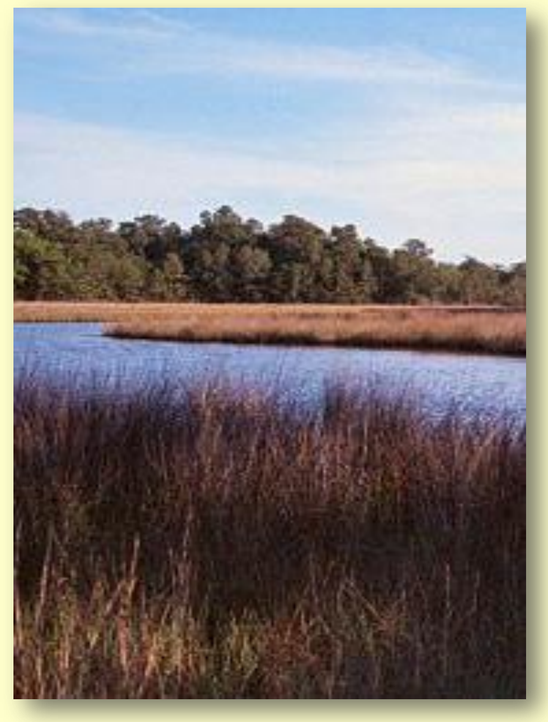
Updated April 2013

Herbicide Orange at NCBC Gulfport

1999

Groundwater is sampled on the base. Results showed the dioxin was not leaving the base in the groundwater.

The MDEQ changes the action level for dioxin in soils from 4.7 to 4.26 ppt.



2000

A Human Health Risk Assessment shows a possible health risk if someone were to live on Site 8 or the affected ditch system.

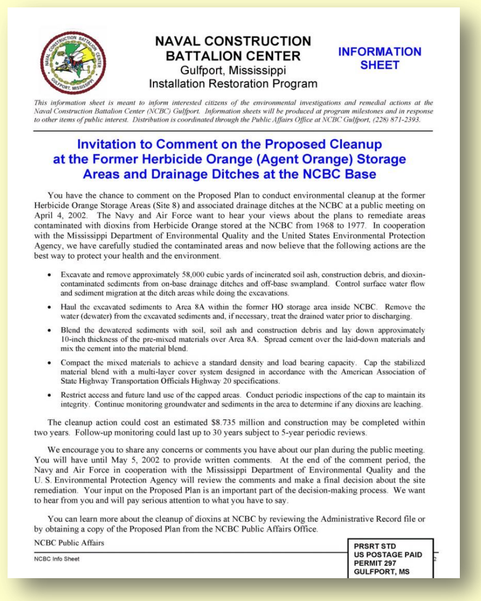
An Ecological Risk Assessment recommends additional studies to further assess all potential ecological risks.

2001

An engineering and a Feasibility Study are performed to begin the process of recommending a cleanup approach.

2002

The recommended cleanup approach is presented at a public meeting in April 2002. Feedback from the community is received during a 60-day public comment period that followed the meeting. Community feedback includes requests for a public health assessment and further sampling north and south of the base.



NAVAL CONSTRUCTION BATTALION CENTER
Gulfport, Mississippi
Installation Restoration Program

INFORMATION SHEET

This information sheet is meant to inform interested citizens of the environmental investigations and remedial actions at the Naval Construction Battalion Center (NCBC) Gulfport. Information sheets will be produced at program milestones and in response to other items of public interest. Distribution is coordinated through the Public Affairs Office at NCBC Gulfport, (228) 871-2393.

Invitation to Comment on the Proposed Cleanup at the Former Herbicide Orange (Agent Orange) Storage Areas and Drainage Ditches at the NCBC Base

You have the chance to comment on the Proposed Plan to conduct environmental cleanup at the former Herbicide Orange Storage Areas (Site 8) and associated drainage ditches at the NCBC at a public meeting on April 4, 2002. The Navy and Air Force want to hear your views about the plans to remediate areas contaminated with dioxins from Herbicide Orange stored at the NCBC from 1968 to 1977. In cooperation with the Mississippi Department of Environmental Quality and the United States Environmental Protection Agency, we have carefully studied the contaminated areas and now believe that the following actions are the best way to protect your health and the environment.

- Excavate and remove approximately 58,000 cubic yards of incinerated soil ash, construction debris, and dioxin-contaminated sediments from on-base drainage ditches and off-base swampland. Control surface water flow and sediment migration at the ditch areas while doing the excavations.
- Haul the excavated sediments to Area 8A within the former HO storage area inside NCBC. Remove the water (dewater) from the excavated sediments and, if necessary, treat the drained water prior to discharging.
- Blend the dewatered sediments with soil, soil ash and construction debris and lay down approximately 10-inch thickness of the pre-mixed materials over Area 8A. Spread cement over the laid-down materials and mix the cement into the material blend.
- Compact the mixed materials to achieve a standard density and load bearing capacity. Cap the stabilized material blend with a multi-layer cover system designed in accordance with the American Association of State Highway Transportation Officials Highway 20 specifications.
- Restrict access and future land use of the capped areas. Conduct periodic inspections of the cap to maintain its integrity. Continue monitoring groundwater and sediments in the area to determine if any dioxins are leaching.

The cleanup action could cost an estimated $8.735 million and construction may be completed within two years. Follow-up monitoring could last up to 30 years subject to 5-year periodic reviews.

We encourage you to share any concerns or comments you have about our plan during the public meeting. You will have until May 5, 2002 to provide written comments. At the end of the comment period, the Navy and Air Force in cooperation with the Mississippi Department of Environmental Quality and the U. S. Environmental Protection Agency will review the comments and make a final decision about the site remediation. Your input on the Proposed Plan is an important part of the decision-making process. We want to hear from you and will pay serious attention to what you have to say.

You can learn more about the cleanup of dioxins at NCBC by reviewing the Administrative Record file or by obtaining a copy of the Proposed Plan from the NCBC Public Affairs Office.

NCBC Public Affairs

NCBC Info Sheet

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GULFPORT, MS

2003

Results of the additional off-base samples are presented in January 2003. No evidence of dioxin contamination from Site 8 is found.

A Public Health Assessment is initiated by the federal Agency for Toxic Substances and Disease Registry (ATSDR) in July 2003. A public meeting is held by the ATSDR in October 2003.

The remedial design is initiated in 2003 to refine the details for implementing the cleanup approach.

Updated April 2013

Herbicide Orange at NCBC Gulfport

2004

The off-base cleanup north of the base begins in the fall of 2004 with construction of a haul road and clearing of trees.

Based on a lead from a community member, low concentrations of dioxins are found in samples collected from dredge piles on the west side of Canal Road.

2005

Cleanup north of the base continues with excavation of dioxin-contaminated sediment, transportation of sediment onto Site 8A on NCBC Gulfport, and stabilized with Portland cement.

A Wetlands Restoration Committee is formed of community leaders and wetlands experts to review the Navy's plans to restore the wetlands after the cleanup was completed.

The Public Health Assessment is finalized by the ATSDR. The ATSDR report recommends that the Navy continue to look for empty Herbicide Orange containers and that the Mississippi Department of Health conduct a review of available data to determine if any unusual patterns of cancer incidence are observed in the areas near NCBC Gulfport.

2006

Canal Road Dredge Pile sampling is completed. The average concentration of dioxin found in the piles is 15 ppt. Planning for removal of the dioxin-contaminated material begins.

More off-base samples are collected in response to information provided by community members:

- Post-Katrina samples are collected to see if dioxin-containing sediment had migrated.
- Outfalls 4 and 5, which carried surface water off base towards the north, are sampled.

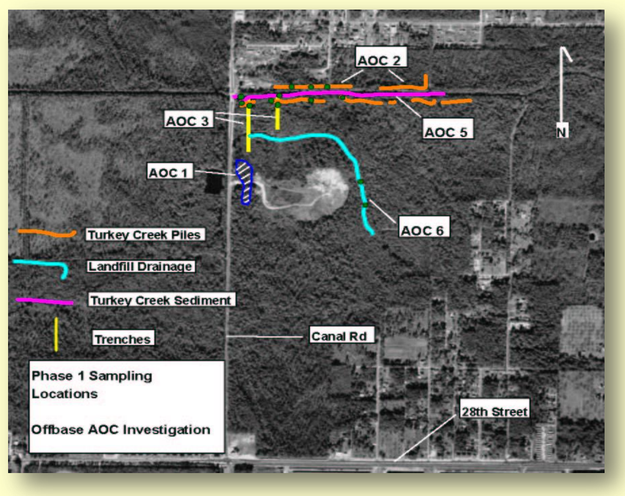
Dioxins related to Herbicide Orange are not found.

Updated April 2013

Herbicide Orange at NCBC Gulfport

2007

The off-base excavation and restoration is completed. The contaminated material is placed on the Former Herbicide Orange Storage Area (Site 8) and mixed with Portland cement. The stabilized material is then covered with 12 inches of clean concrete.



The excavated off base areas were restored to wetlands conditions.

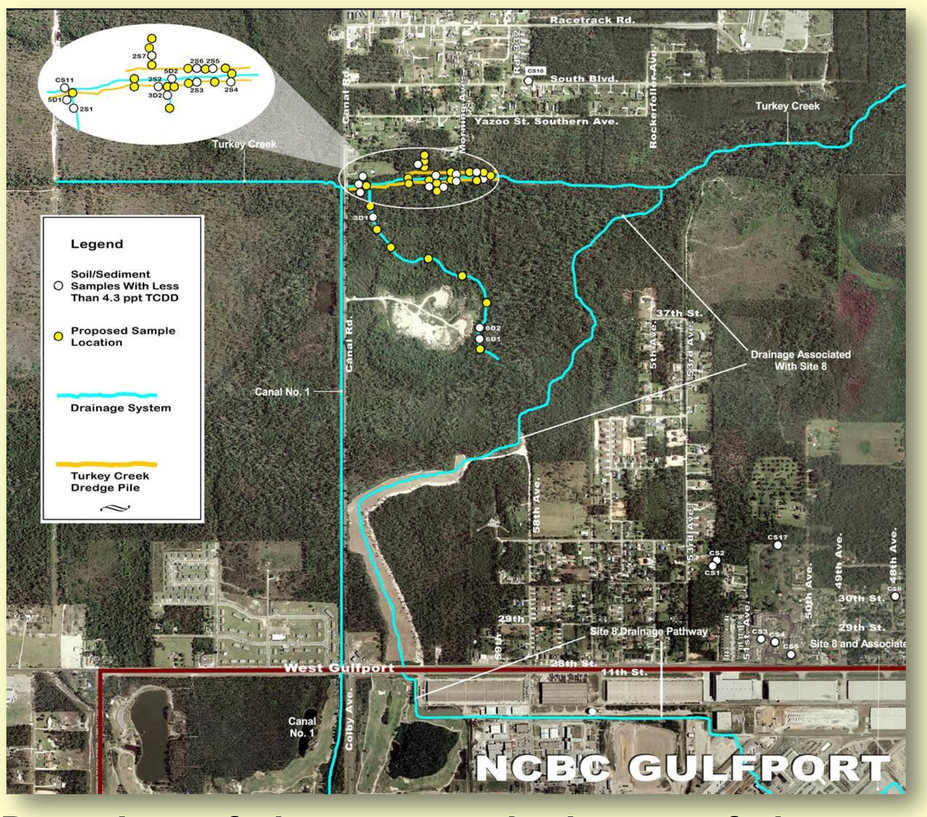
Sampling of six Off Base Areas of Concern, which were identified by community members, begins in September 2007.

2008

The Canal Road Dredge Pile cleanup begins in April 2008 with building a road on the west side of the canal to access the dredge piles.

Contaminated soil is excavated, transported to Site 8B on NCBC Gulfport. The soil is stabilized on site by mixing it with Portland cement and spreading it in uniform layers.

Results of Off Base Areas of Concern sampling are reported in March 2008. Additional sampling of four of the areas is recommended.



2009

Off Base Area of Concern sampling continues by collecting additional surface water, sediment, and soil.

Four permanent groundwater wells are installed and sampled to further study the presence of dioxin in an earlier groundwater sample. Dioxins related to Herbicide Orange are absent in these samples.

Results of the second phase of the Off Base Area of Concern sampling are completed. No significant levels of dioxins were found in the samples.

Updated April 2013

Canal Road Cleanup

Preparation for the Cleanup

The Canal Road Dredge Piles were difficult to access. To reach the piles, it was necessary to remove trees and build access roads.

Excavating and Transporting the Contaminated Soil

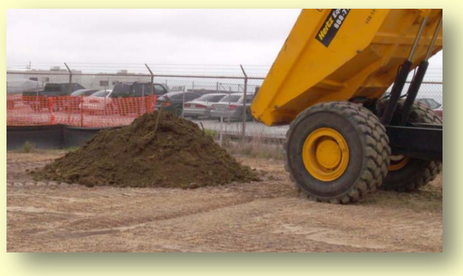
Soil was excavated, placed on trucks, and covered with tarps.

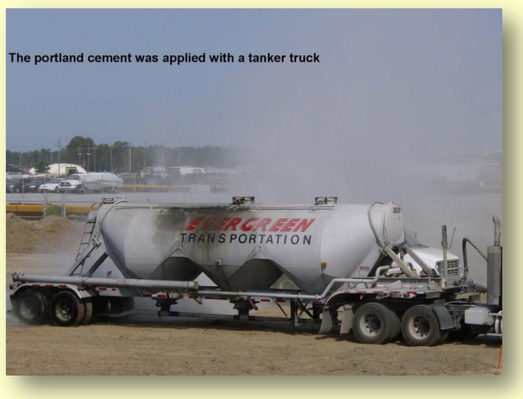
Trucks were decontaminated prior to leaving each work area.

Soil samples were collected to confirm that contaminated soil had been removed.

Treating the Soil and Finishing the Grade

Soil from the Canal Road Dredge Piles was placed on Site 8B and stabilized with Portland cement.





Updated April 2013

Fact Sheet —Canal Road Dredge Piles

NCBC GULFPORT
INSTALLATION RESTORATION PROGRAM

Summary

Piles of soil located along the west side of Canal Road have been found to contain low concentrations of dioxin. The Seabee Center has investigated the piles and determined that they were placed there during a drainage improvement project. The Navy is currently taking steps to remove the dioxin-contaminated soil and transport it to the Seabee Base for treatment.

The Canal Road Dredge Piles are located in a heavily wooded area west of Canal Road.

The Canal Road Dredge Piles

Background

In 2004, a series of "spoil piles" were found on the west side of the canal that runs along Canal Road. The piles extend from the northern edge of the Ladnier Homes property on 28th Street to the bridge over Turkey Creek located near Yazoo Street. (See map on Page 2). The piles are located in a heavily wooded area and could not be seen from the road. Investigation of the piles began in response to information from a concerned community member who remembered seeing the dredged material being piled along the canal in the 1970's. The Navy's investigation indicated that the piles were placed there during a drainage improvement project.

The Investigation

The dredge piles were sampled by the Navy in three separate phases. The first two phases of the investigation included site reconnaissance and sample collection. A total of 29 samples were collected and were found to contain low concentrations of dioxin. Further, the type of dioxin found (2,3,7,8 tetrachlorodibenzo-p-dioxin, or TCDD), showed that the dioxin most likely came from the storage of Herbicide Orange on the Seabee Base during the Vietnam War. (See page 4 for more information on the *History of Herbicide Orange and Dioxin on the Seabee Base* and for some basic information about dioxin).

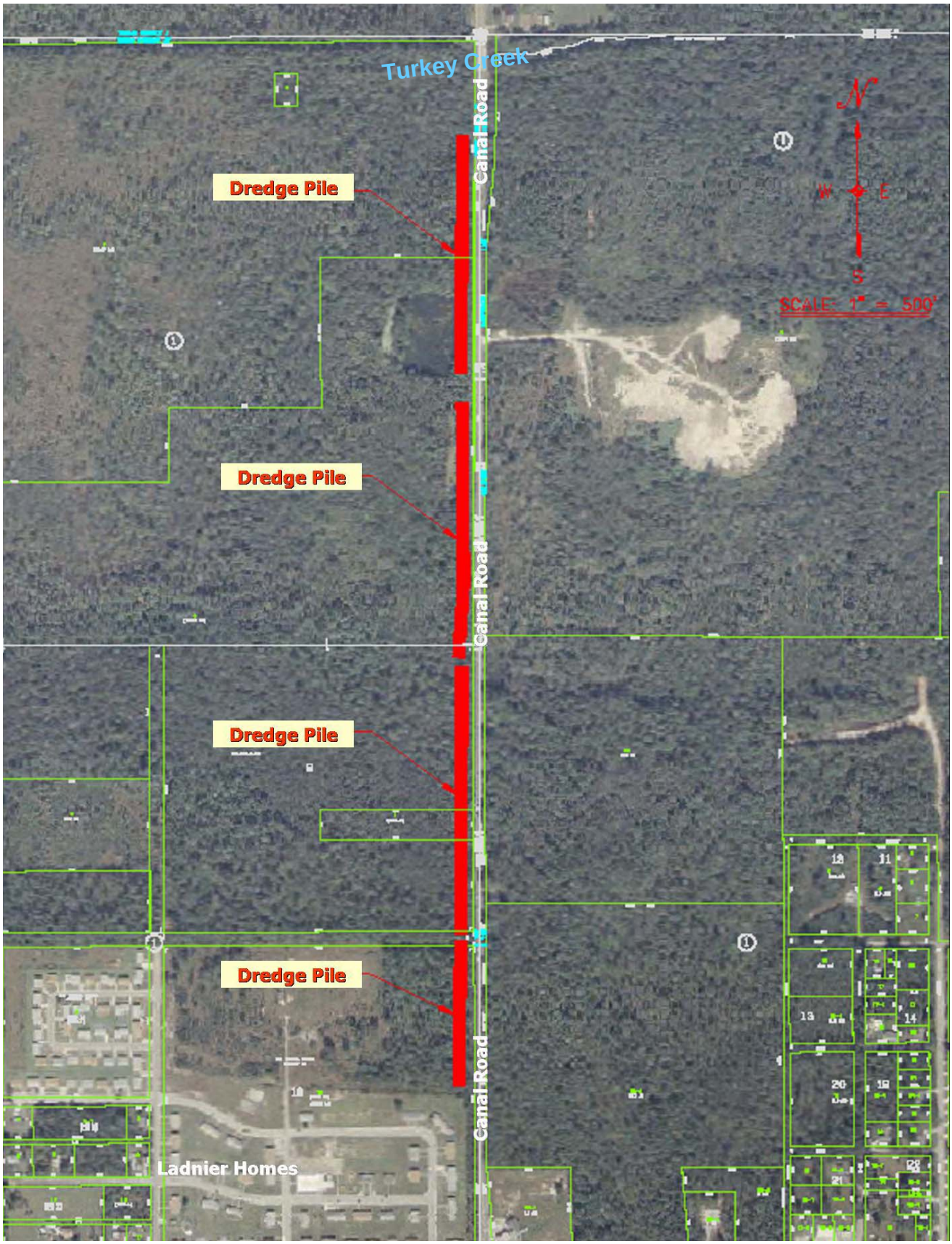
These results guided the third phase of the effort, which included collecting 18 samples along the dredge pile and one sample in a nearby pond. The soil sample results showed that dioxin concentrations were less than the industrial standard of 38 parts per trillion but greater than the residential action level of 4.26 parts per trillion. The sample from the pond indicated that it has not been impacted from the dredge piles. There are no homes in the immediate vicinity of the piles. However, they are located on private property that is zoned residential. Sample locations and concentrations are shown on a map on page 3.

What's Next?

In response to these findings, the Navy is developing an Engineering Evaluation and Cost Analysis (EE/CA), to evaluate options for removing the dredge piles from their existing location, transporting the material to an area on the Former Herbicide Orange Storage Area, referred to as Site 8, and to resurface that area on Site 8 with soil cement, a rolled-compacted concrete (RCC) pavement, or soil cover.

When the EE/CA is completed, the Navy will announce the availability of the document in the newspaper and at a publicly held meeting. This announcement will be followed by a 30-day Public Comment Period, during which the community will be encouraged to provide written comments or concerns.

Revision 1: February 2007



Dredge Piles are located along the west side of Canal Road and extend from north of Ladnier Homes to south of Turkey Creek.

Dioxin concentrations found in samples collected from the dredge piles showed concentrations ranging from 0.1 to 42.4 ppt. The Mississippi Department of Environmental Quality action level is 4.26 ppt in areas zoned as residential. The Navy will be removing the contaminated soil and transporting it to the Former Herbicide Orange Storage Area for treatment.

The Dioxin Cleanup

Excavate, Consolidate, Stabilize and Cap

- Cleanup involved excavating dioxin-contaminated soil, ash, and sediment from various locations on the base and in an off-base area north of 28th Street.
- The contaminated material was placed on the Former Herbicide Orange Storage Area (Site 8), mixed with cement, and compacted.
- A cap consisting of roller compacted concrete (RCC) is being placed on top of the solidified contaminated material. The cap is designed to prevent human contact with the stabilized soil and as an additional measure to keep contamination from moving off of the site.

1 Excavation

Contaminated material from on and off base is removed with large excavators.

2 Stabilization

Excavated material is moved to Site 8A.

The material is blended, mixed with cement, placed on Site 8A, and compacted. The resulting layers are referred to as ***"stabilized soil."***

3 Capping

The stabilized soil is capped with roller compacted concrete (RCC).

4 Institutional Controls and Monitoring

Access to the site will be limited with land use controls.

Environmental monitoring will ensure that dioxin remains on the site.

Off-Base Cleanup

The off-base area of excavation is shown in as "areas of excavation." This photo was taken just before hurricane Katrina.

Wetland Restoration Facts

Before beginning the cleanup, wetland areas were mapped and a survey of the plants species present was completed.

Plants present in the wetland prior to the cleanup included slash pine on the periphery; bald cypress, sweet bay and red maple on the margins; and bald cypress, sweetbay, and tupelo in the inner portion of the wetlands.

The wetlands are being restored in three steps:

1) The site was restored to pre-cleanup elevations to encourage natural hydrological processes to resume.

2) Soil used to fill the wetlands were selected to encourage wetland plant growth. The soil used was medium textured top soil with 5-8% organic matter.

3) The wetlands will be seeded with a mixture appropriate for non-tidal marshes in the coastal plain, including native rush, bulrush, and sedge, intermixed with various native wildflowers. Later in the year, when the soil is saturated, bare root seedlings of pine, bald cypress, water tupelo, water oak, and water hickory will be planted.

The contaminated area north of NCBC Gulfport was located in a heavily wooded wetland.

Trees from the wetland were removed and used as a base for an access road for the cleanup.

Contaminated sediment was excavated from the wetlands.

Excavated material was placed in a truck and transported to Site 8 on NCBC Gulfport.

Site 8 Cleanup

Site 8 is the Former Herbicide Orange Storage Area. The ash piles shown here were created during the incineration of dioxin-contaminated soil in the late 1980's.

One of the first steps in the cleanup project was to consolidate ash piles prior to leveling Site 8.

Dioxin-contaminated soil, ash, and sediment were staged on Site 8.

A paving machine placed two six-inch layers of concrete over the solidified material, to create a 12-inch-deep cap.

Contaminated materials were mixed with 5% Portland cement, placed onto area 8A, and compacted. The resulting layers are referred to as stabilized "soil."

The concrete was then compacted with a roller. Compaction of 98.5% or better was achieved.

Concrete testing results showed unconfined compressive strength of greater than 5000 psi and flexural strength greater than 450 psi.

Site 8 Cleanup Facts

Nearly 100,000 tons of stabilized soil were placed under the Roller Compacted Concrete (RCC) cap.

Dioxin concentrations in the stabilized soil layers were not detectible in laboratory samples.

Testing has shown that the RCC is exceeding all strength requirements.

Site 8 near completion.

History of Herbicide Orange and Dioxin at NCBC Gulfport

1968 –77	Herbicide Orange was staged at NCBC Gulfport.
1970's	Dioxin, a contaminant found in Herbicide Orange, was banned as evidence mounted that linked it to disorders in laboratory animals.
1977	The herbicide was transported by train to the incinerator ship,
1984	Studies of the Former Herbicide Orange Storage Area (Site 8)
1987–88	The Air Force incinerated contaminated soil to reduce dioxin levels to the standard of 1 part per billion (ppb). Ash generated by the incinerator was stored on Site 8.
1990	The Mississippi Department of Environmental Quality (MDEQ) establishes a new, stricter standard for dioxin of 4.26 parts per trillion (ppt) based on the results of animal studies.
1994	Routine environmental sampling revealed the need to further investigate possible contamination on the Seabee Base.
1995	Dioxin was found in the ditches north of the Seabee Base. Dioxin-contaminated sediment was removed along 28th Street to support widening of the road. Sediment recovery traps were installed to slow the flow of sediment from the Seabee Base.
1996	A door-to-door community survey involving over 800 residents was completed. The survey was used to evaluate the possibility of exposure to dioxin-contaminated sediment.
1997–98	Extensive environmental sampling was conducted on and off of the Seabee Base to pinpoint the location of dioxin-contaminated sediment.
1999	Fish studies determined that fish were safe to eat. A groundwater study indicated that water beneath the ground was not impacted.
2002	A Proposed Plan for cleaning up the dioxin was presented to the public during a public comment period. Concerned community members suggested that additional sampling may be needed, but generally agreed with the proposed remedy.
2004	The Remedial Design for cleaning up the dioxin-contaminated sediment, ash, and soil, was finalized. The dioxin cleanup begins. Low levels of dioxin were found in dredge piles on the west side of Canal Road.
2006	Additional sampling of the dredge piles indicates the need for an environmental cleanup.

For more information please contact:

Gordon Crane

NCBC Gulfport Installation Restoration Program Manager

228-871-2485

gordon.crane@navy.mil

Frequently Asked Questions About Dioxin

What is Dioxin?

"Dioxin" is a name used to describe a single chemical or group of chemicals known as polychlorinated dibenzodioxins. One of these compounds, 2,3,7,8-TCDD, is the dioxin found in Herbicide Orange.

Why are people concerned about dioxins?

Studies have shown that exposure to dioxins at high enough doses may cause a number of adverse health effects. The most common health effect in people exposed to large amounts of dioxin is chloracne. Chloracne is similar to the acne that occurs in some teenagers. Other effects of exposure to large amounts of dioxin include skin rashes, skin discoloration, excessive body hair, and possibly mild liver damage.

One of the main concerns over health effects for dioxins is the risk of cancer in adults. Several studies suggest that workers exposed to high levels of dioxins at their workplace over many years have an increased risk of cancer. Animal studies have also shown an increased risk of cancer from long-term exposure to dioxins.

Finally, based on data from animal studies, there is some concern that exposure to low levels of dioxins over long periods (or high level exposures at sensitive times) might result in reproductive or developmental effects.

What happens to dioxins in the environment?

When dioxins are released into water, they tend to attach to and settle with sediments. Dioxins decompose very slowly in the environment and can be deposited on plants and taken up by animals and aquatic organisms. Dioxins may be concentrated in the food chain so that animals have higher concentrations than plants, water, soil, or sediments. Within animals, dioxins tend to accumulate in fat.

At what concentrations do the federal EPA and MDEQ become concerned about dioxin concentrations in soil?

The federal EPA has established a cleanup level of 1 part per billion in soil. The MDEQ looks closely at any findings greater than 4.26 parts per trillion of dioxin in soil to assess the need for a cleanup action.

Revision 1: February 2007

PGH P:\GIS\GULFPORT_CBC\MAPDOCS\MXD\SITE 8 DIOXIN SAMPLE LOCS2013.MXD 04/04/13 JN

N

Note:
Aerial photograph from ESRI Bing Maps Aerial map service (© 2010 Microsoft Corporation and its data suppliers).

Legend

- Enviornmental Tissue < 4.26 or Non-Detect
- Enviornmental Tissue 4.27 to 38.2
- Groundwater < 4.26 or Non-Detect
- Sediment < 4.26 or Non-Detect
- Sediment 4.27 to 38.2
- Sediment > 38.3
- Soil < 4.26 or Non-Detect
- Soil 4.27 to 38.2
- Soil > 38.3
- Surface Water < 4.26 or Non-Detect
- Surface Water Flow
- Site Boundary
- Installation Boundary

3,500 0 3,500
Feet

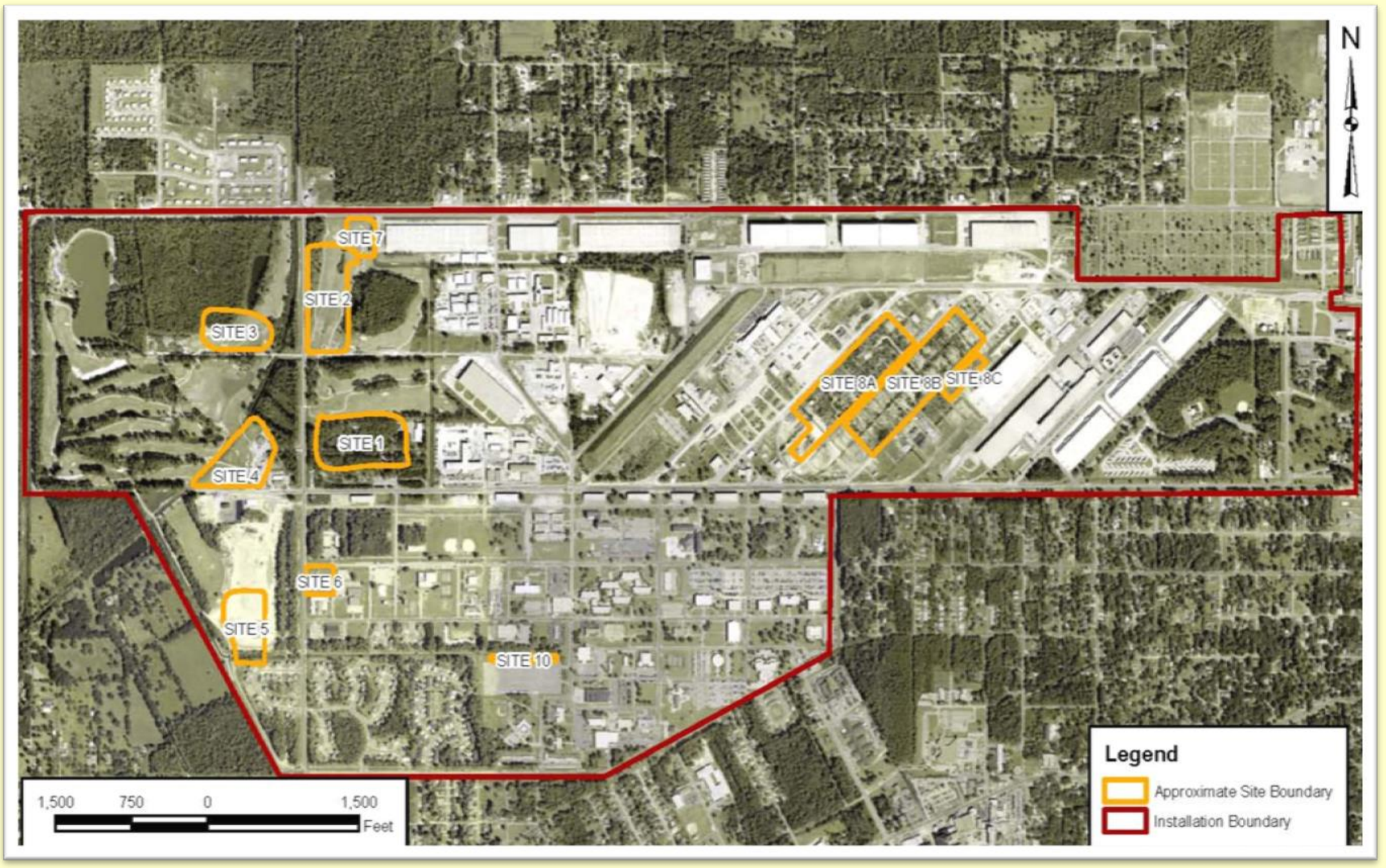
DIOXIN SAMPLE LOCATIONS
GULFPORT, MISSISSIPPI
REVISED APRIL 2013

CONTRACT NUMBER		CTO NUMBER	
APPROVED BY	DATE		
APPROVED BY	DATE		
FIGURE NO. 1		REV 0	

NAVFAC

DRAWN BY	DATE	SCALE	
J. NOVAK	4/4/2013	AS NOTED	
CHECKED BY	DATE		
N. ROUSE	04/04/13		
REVISED BY	DATE		

Installation Restoration Program (IRP) Update April 2013



Site 1, Disaster Recovery Disposal Area

- Site 1 is an inactive landfill where a mock disaster recovery training area was located. The landfill was used from 1942-1948.
- The Remedial Investigation (RI) has been finalized.
- A Feasibility Study (FS) is in preparation to address buried waste and Dieldren (a pesticide) found in the surface soil.

Site 2, World War II Landfill

- Site 2 is an inactive landfill where general refuse generated at the base was disposed from 1942-1948.
- A revised Remedial Investigation (RI) is in regulatory review.
- A Feasibility Study (FS) is in preparation to address buried waste and polyaromatic hydrocarbons (PAHs) found in the surface soil.

Site 3, Northwest Landfill and Burn Pit

- Site 3 is an inactive landfill that was the primary disposal area for the base from 1948-1968.
- A burn pit on site may have been used for fire-fighting training.
- A revised Remedial Investigation (RI) is in regulatory review.
- A Feasibility Study (FS) is in preparation to address buried waste and polyaromatic hydrocarbons (PAHs) found in the surface soil.

Installation Restoration Program (IRP) Update April 2013

Site 4, Golf Course Landfill

- Site 4 operated as a landfill from 1966-1972.
- A landfill cap was installed in 2011 to prevent contact with buried waste.
- Groundwater is being monitored twice a year to ensure that the chlorinated solvents in the groundwater are breaking down as anticipated.

Site 7, Rubble Disposal Area

- This 3-acre site reportedly received only construction rubble from 1978-1984.
- The field studies for the Site 7 Remedial Investigations are in progress.

Site 10, PCBs in Ditches

- PCBs were found in the ditches of the NCBC Gulfport parade ground.
- Remedial actions were taken in 1999 to remove the source of PCB contamination.
- The final remedial action, concrete cover, was completed in May 2010.
- Three rounds of annual Long Term Groundwater monitoring samples have been collected for PCBs and volatile organic compounds. Results are available for the first two rounds. All results available to date have been within regulatory limits.

Military Munitions Response Program

- The Preliminary Assessment is complete. Ten sites were identified where small arms were potentially used.
- Further investigation of two sites of the sites will be done under the IRP.

Site 5, Equipment Training Area Landfill

- The landfill located at Site 5 operated from 1972-1976.
- The remediation work (construction of a landfill cap) was completed in July 2009.
- Groundwater at the site is being sampled for volatile and semivolatile organic compounds, dioxins, and pesticides. Three annual sampling events have been completed. To date all sample results have been within regulatory limits.

Site 6, Fire Fighting Training Area

- Site 6 contained two fire-fighting training pits which operated between 1966 and 1975.
- Investigations in the early 1990's found free "floating" petroleum product in the groundwater beneath the site. Groundwater was treated from 1996 to 2006 to remove the bulk of the petroleum product.
- Long-term monitoring began in 2009 to evaluate the progress of the natural break down of remaining product at the site.

Site 8, Former Herbicide Orange Storage Area

- Site 8 was used by the Air Force to store Herbicide Orange during and after the Vietnam War.
- Some of the drums of the herbicide leaked over time, releasing dioxin contamination into the soil and ultimately into the ditches that led off-base.
- Remedial activities have been completed and long term sediment monitoring is in progress.