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MINUTES FROM 19 JANUARY 2000 RESTORATION ADVISORY BOARD MEETING NTC
ORLANDO FL
1/19/2000
NAVFAC SOUTHERN

**Meeting Summary
Restoration Advisory Board
Naval Training Center (NTC), Orlando
January 19, 2000**

A meeting of the NTC, Orlando Restoration Advisory Board (RAB) was held on January 19, 2000, in the City Commission Chambers, Winter Park City Hall. Attached to this meeting summary are:

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|---------------|-----------------------------------|
| Attachment A: | Meeting Agenda |
| Attachment B: | RAB Member Sign-in Sheet |
| Attachment C: | 2000 RAB Attendance Record |
| Attachment D: | IRP Program Investigation Summary |
| Attachment E: | Community Mailing List Notice |
| Attachment F: | Community Sign-in Sheet |

RAB members present at the meeting were:

| | |
|-----------------|-----------------|
| Penny Felger | Robert Mackey |
| David Grabka | Nancy Maloney |
| Wayne Hansel | Nancy Rodriguez |
| Bruce Hossfield | Ann Williams |

Other support personnel present at the meeting included:

Vickie Stitt, Tetra Tech NUS, Inc.

Welcome

Wayne Hansel, Co-Chairman of NTC RAB, opened the meeting at 7:10. He welcomed the RAB members and asked if anyone had any corrections to be made to the minutes or attendance for the last meeting. There were no corrections suggested and the minutes from the last meeting were accepted. Thomas Nelson, Kay Yeuell and Phillip Jaffe were excused from the meeting. Co-Chair Wayne Hansel noted that there were no members of the public present.

Penny Felger commented that she thought that the presentation at the last meeting was very good. That presentation was titled "Main Base Redevelopment" and was presented by Mr. Dick Shields, the Managing Director of Orlando Partners. It covered the strategies and plans for the 1,093 acres purchased by Orlando Partners for redevelopment into a planned community.

A discussion followed concerning the apparent lack of activity on the Main Base. Bruce Hossfield explained that before actual demolition of the buildings will begin, asbestos and lead-based paint remediation will be done. Following that, the demolition company will scavage any usable materials from the buildings. Only then will the buildings actually be torn down.

What happened with the lawsuit? The first lawsuit was settled and the second lawsuit may be appealed in a few weeks. However, title insurance will handle any current or future lawsuits.

There was no other new business.

Changing the dates and frequency of the RAB meetings was again discussed. A vote could not be taken because no quorum was reached.

A discussion followed concerning the membership of the RAB. Some members have not been attending the meetings and were not calling to be excused. A suggestion was made to poll all members by mail to determine if they were interested in continuing to be on the board. A possible solution to the inability to form a quorum could be to reduce the membership of the RAB thereby reducing the number of members needed to form a quorum. The charter of the RAB could also be amended to reduce the number of members needed to form a quorum no matter the size of the total RAB.

It was suggested that a letter be sent to each RAB member asking if they are interested in continuing to be a board member and if they are, would they like to reduce the number of yearly meetings. If they would like to reduce the number of meetings, they would be asked to give their input as to how often they think the meetings could be held and continue to be effective.

Wayne Hansel said that the team member meetings are possibly going to be reduced. It was suggested that perhaps the RAB could coordinate its meetings with the team meetings. Wayne is to let the board know what the team members decide to do.

Wayne Hansel reviewed the BRAC update titled *UST UPDATE AND STATUS, January 2000*, and *IRP UPDATE AND STATUS, January 2000*.

Wayne Hansel stated that soil removal from contamination due to tank removal should be finished in February. Some sites have piles of soil ready for removal but site assessments will all be completed first, then all contaminated soil will be removed at once.

If new contaminants are found, will the Navy be responsible for returning and remediating it? Yes, the Navy is liable for any new-found contaminants as long as remediation is still going on somewhere on base.

What is the status of the biosparge system at Building 7174? It is still running but is not expected to run long. There is not much contamination at that site.

Are you proposing any type of use restriction at Study Area 16? That decision has not been made yet but non-residential use restriction will probably apply to that entire site.

Will use-restriction be only for a part of Study Area 17? The studies are not completed on that site yet. That decision will be made when the studies are finished.

What does the term secondary standard mean? That is a drinking-water quality standard pertaining to taste, color, smell, etc.

A discussion followed concerning Study Area 18 and what would ultimately become of it. Transfer papers are about to be drawn up. Use restrictions will be applied although it is not clear at this point if it will be the entire area or only part of it. The area is not suitable for residential. It is not clear at this point who will want the area, if anyone. The city may not want it because its cost could exceed its value. It could be offered to the public or the Navy could retain it if it does not transfer.

A resident near Study Area 39 had reported to Bruce Hossfield that he had witnessed 50-gallon drums at that site and was concerned. The explanation is that there could be 50-

gallon drums at the site because drillers have been reinstalling wells. The drums would be used in that process. The drillers have been instructed not to leave the drums there when they are finished.

Has Lake Gear, south of the bike path, been tested? Yes, in conjunction with Study Area 39. It is clear.

Special Topic

Chemical Oxidation Pilot Study at OU 4 Presented by Mr. Wayne Hansel

Mr. Hansel discussed the use of a fairly new but proven process of extracting contaminate from groundwater. A plume of solvents from the old laundry site is flowing towards the lake. The process involves pumping water from several extraction wells, running it through a system where manganese permanganate is injected into the water, after which it flows back into the ground through another well. The permanganate reacts with the solvents and becomes potassium and remains in the soil in a gel form. CO₂ is a byproduct of the reaction. Seventy-five grams of permanganate per minute for 120 days is the standard to be used at the site unless an adjustment is needed.

Co-Chair Wayne Hansel adjourned the meeting at 9:15.

ATTACHMENT A

AGENDA

NTC, Orlando Restoration Advisory Board Meeting January 19, 2000, 7:00 p.m.

Welcome/Opening Comments Navy Co-Chair Mr. Wayne Hansel

RAB Administration RAB Co-Chairs
And New Business

BRAC Update Wayne Hansel,
BRAC Environmental Coordinator

Special Topic: Chemical Oxidation Pilot Study at OU 4 presented by
Harding Lawson Associates

Feedback on November meeting: RAB Members

- Main Base Redevelopment

Close RAB Business

Community Comments and Questions

Notes:

ATTACHMENT B

NTC, ORLANDO RAB MEMBER SIGN-IN SHEET

January 19, 2008
~~September 15, 1999~~

| PRINT name clearly |
|-----------------------|
| Blanche Parrott Olson |
| Nancy Rodriguez |
| DAVID GRABKA |
| Ann Williams |
| Warne Hansel |
| Bob Mackey |
| Nancy Maloney |
| Penelope Felger |
| Bruce Hassfeld |
| |
| |

ATTACHMENT C

ATTACHMENT D

Installation Restoration Program Non-UST/AST Investigation Summary

Base Realignment and Closure, Naval Training Center, Orlando

Site Screening SAs/Operable Units for Main Base (MB), McCoy Annex (MA), Area "C" (AC), and Herndon Annex (HA)

| SA | Location | BRAC Color Code | Building Number | Name | Reason for Investigation | Current Status |
|-----------------|----------|----------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | MB | 4/Dk Grn | 73/2816 2817 | RTC 1st Lt. Storage/ Office/Shops | Hazardous materials are stored on the property and are regularly transferred to and from Building 2817 Former USAF Tactical Air Command operations involving Matador missile testing and personnel training | PCE (tetrachloroethene) detections of 9 µg/l and 12 µg/l (versus FL MCL of 3 µg/l) were detected in groundwater samples. OPT approved a groundwater use restriction near wells OLD-03-01 and -04 and groundwater monitoring for one year or until MCLs were achieved. Site was approved for monitoring only 8/97. Sampling of well OLD-03-04 was discontinued 12/98 as PCE had fallen below the FL MCL for 2 consecutive months. <i>The last two sampling rounds (2/99 and 10/99) showed that PCE had decreased to <3.0 µg/l in the other wells. The 10/99 samples had 2.2 µg/l in OLD-03-01 and 1.6 µg/l in new well OLD-03-05. OPT approved site for NFA 12/99.</i> |
| 35 | MB | 7/Gray 7/Gray | 2078 2079 | Auto Maintenance Facility Auto Maintenance Facility Storage | Soil staining associated with drum storage area Unlabelled drum and unknown storage practices concerning the hazardous materials at the facility | Field work began 6/97 and included a soil gas survey. Groundwater sampled 10/97. Further delineation and groundwater screening required due to high TRPH (up to 84,000 mg/kg) in several surface soil samples including 35S01401. Arsenic in surface soil samples at 9 of 16 locations at concentrations ranging from 1.1 to 6 mg/kg vs. background screening concentration of 1.0 mg/kg. 4 microwells were installed wk of 3/2/98. No exceedances detected in groundwater. Navy conducted soil removal to address TRPH exceedances in soil samples 5/99. A fact sheet has been prepared for the public. The soil removal completion report was received 8/19/99, and the site screening report was issued 11/4/99. <i>Additional sampling will be conducted to determine whether or not more soil cleanup is required to meet FL screening criteria.</i> |
| 36 | MB | 7/Gray 7/Gray | 2121 2122 | PW Lumber Storage PW Shops | Soil staining from an oil spill, drum storage area Suspect past and present storage and disposal of paints and solvents, solvents, and questionable oil collection practices | Field work began 6/97 and included a soil gas survey. Groundwater sampled 10/97, resulting in TCE detection of 19 µg/l in well OLD-36-06. 5 additional wells installed and sampled 6/98 to characterize TCE plume. TCE detected at 250 µg/l in well OLD-36-09 (screened 35 ft bls). 3 more monitoring wells were installed, including 2 deep wells to top of Hawthorn. No chlorinated solvents were detected in samples from the deep wells. A (draft) site screening report summarizing investigation activities was issued 4/99 recommending soil removals and additional groundwater evaluation. <i>TtNUS made recommendations in 12/99 for additional soil and groundwater sampling. The fieldwork is scheduled for 2/00.</i> |
| 39 ^s | MB | 6/Red | 4060 4067 15109 UNF-10 | Loading Platform (Bldg. 137) Loading Platform (Bldg. 137) Irrigation Well Open Area (west of Nuclear Power School) | Potential landfilling in this area Potential landfilling in this area In close proximity to the old coal storage area, out-of-service well onsite Unknown nature of coal staging area, west side of property allegedly used as a landfill | Initial site screening studies completed 4/96, followed by supplemental soil and groundwater studies. Lab results indicate exceedances in surface soil for benzo(a)pyrene and arsenic. Groundwater had exceedances for PCE. Groundwater recommendations include a groundwater use restriction for surficial aquifer, completion of a risk assessment, and continued monitoring of selected wells. Probabilistic risk assessment results were presented to OPT 1/98 and indicated less than 10 ⁻⁶ risk. The future reuse of property has recently changed to nonresidential, so soil now meets State criteria. Final site screening report was approved 4/99. Fieldwork to further evaluate PCE groundwater plume began 7/99 and was completed 10/99. <i>Of 28 samples collected, 13 contained PCE concentrations above the GC TL of 3 µg/l with a maximum of 94 µg/l.</i> |

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See notes, glossary, and BRAC color codes at end of table
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Installation Restoration Program Non-UST/AST Investigation Summary

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| SA | Location | BRAC Color Code | Building Number | Name | Reason for Investigation | Current Status |
|-------------------|----------|-----------------|-----------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 40 ⁵ | MB | 7/Gray | 21022 | Softball Field | In close proximity to the bottle landfill (UNF-6) to the south, may be additional landfilling activities here. | Site screening studies were completed 4/96. Lab results indicate minor exceedances in surface soil from benzo(a)pyrene (200J mg/kg) and arsenic (1.1 mg/kg); groundwater had minor exceedances for gross beta (31.8 pCi/l). Additional field studies to characterize PAHs/arsenic in surface soils took place between 12/96 and 9/97. A fact sheet was prepared for the public. IRA soil removal activities were completed 5/99. The soil removal completion report was received 8/19/99. <i>The site screening report was issued 11/4/99 and is being reviewed.</i> |
| | | 7/Gray | 21023 | Softball Field | In close proximity to the bottle landfill (UNF-6) to the southwest, may be additional landfilling activities here. | |
| | | 7/Gray | UNF-6 | Bottle Landfill | Landfill with unknown contents. | |
| OU 1 ³ | MB | 3/Lt Grn | 21 | RTC Fitness Trail | Potential impact from North Grinder Landfill (contents of landfill not well documented). | The remedial investigation report concluded: (1) PAH contamination in surface soil does not pose unacceptable risks; (2) elevated gross alpha/gross beta in several wells adjacent to landfill are due to naturally-occurring radionuclides which have been mobilized by altered groundwater chemistry near and under the landfill; (3) a landfill cap will not be required; (4) groundwater should be monitored in downgradient wells to determine if there are any changes in contaminant concentrations as a function of time. The final RI report was submitted on 12/19/96. The final proposed plan was submitted 6/97, and a public meeting was held on 5/22/97. The Final ROD was submitted 6/30/97 and signed by the Navy 7/29/97. |
| | | 3/Lt Grn | 4004 | North Grinder (paved) | | |
| | | 3/Lt Grn | 4005 | North Grinder (grass) | | |
| | | 3/Lt Grn | 4021 | South Grinder (paved) | | |
| | | 3/Lt Grn | 4022 | South Grinder (grass) | | |
| OU 3 | MB | 5/Yellow | 2134 | Greenskeeper Storage | Confirmed arsenic in surface soils. An interim remedial action (IRA) took place in 9/97, resulting in 50 tons of soil being excavated and backfilled with clean soil. | Soil samples had elevated levels of arsenic (up to 577 mg/kg) vs. a background screening level of 1 mg/kg. Groundwater had elevated levels of arsenic (up to 425 µg/l vs. 50 µg/l MCL). A PRE was conducted indicating no ecological risk, but human health risk was higher than 1x10 ⁻⁶ . The Greenskeeper Storage Area, along with SA 9, has been designated OU 3. RI Fieldwork began 10/97 and was completed 3/98. The RI report was completed 7/98 and the FS report was completed 12/98. FDEP and EPA RI and FS comments have been received, HLA responses have been submitted, approved and incorporated. The Final RI/FS report was submitted June 1999. Groundwater samples were collected 3/99 and 8/99 and additional soil removal actions were completed 4/99. The removal actions will reduce the risk posed by soil contamination, as well as reduce the source of groundwater contamination. Groundwater results suggest that contamination has been significantly reduced since 1997. No Further Action is anticipated for soils, and long-term monitoring of groundwater is recommended. The Proposed Plan for OU3 was issued 7/1/99. The public comment period on the Proposed Plan was from 7/1/99 to 8/1/99. The draft ROD was issued 10/18/99. <i>Comments have been issued by FDEP and EPA and the ROD is being revised.</i> |
| OU 3 | MB | 5/Yellow | UNF-14 | Former Pesticide and herbicide Storage | Pesticide and herbicide releases may have occurred during operation of facility. An interim remedial action (IRA) took place in 9/97, resulting in 3,000 tons of soil being excavated and backfilled with clean soil. | Chlordane up to 2900 mg/kg vs. screening value of 490 mg/kg. A PRE was conducted indicating no ecological risk, but human health risk was higher than 1x10 ⁻⁶ . The site, along with the Greenskeeper Storage Area (SA 8), has been designated OU 3. See preceding summary (Greenskeeper Storage). |

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| 16 | MA | 1/White | 7168 | Maintenance Yard | Potential release from an oil-water separator | Field work for Group III Sites took place from 3/13/95 to 6/5/95. The (draft) Group III report was submitted to the Navy 12/15/95. There were significant detections of PAHs in four surface soil samples which slightly exceeded SCGs for some PAH compounds. Mineral spirits were present as free product in a well adjacent to an oil-water separator in the northern corner of the site. Oil-water separator transferred to NTC TMP 10/96. Surface and subsurface soil samples were collected from 13 locations, and sediment samples from 5 locations in accordance with PAH workplan. Surface soil and sediment samples were collected from the ditches on the north and west perimeters of the site 8/99. Analytical results <i>indicate minor exceedances of screening criteria in several samples, with one sample also exceeding nonresidential criteria. These results were summarized in a letter dated 11/16/99, recommending surface soil remediation at 4 locations, and ditch maintenance with confirmation sampling.</i> |
| | | 2/Blue | 7171 | Army Motor Transportation | Potential releases of petroleum releases from motor pool operations | |
| | | 1/White | 7172 | Army Battery Shop | Stained soil associated with used battery storage, possible release of sulfuric acid from inside | |
| 17 | MA | 7/Gray | 7178 | Training Material Storage | Evidence of paint dumped down the drains of adjacent wash rack. | Screening studies for SA 17 indicate: Surface soils had exceedances of several PAHs in several samples. Chlorinated solvents in groundwater exceeding MCLs. Groundwater studies indicate at least two source areas for chlorinated solvents and a plume measuring 200 feet wide by 400 feet long extending to the Hawthorn Group at 60 feet bls in the source areas and approximately 30 feet bls throughout the remainder of plume. The final site screening report was approved 4/99. An IRA soil removal was completed 5/99, and studies to further evaluate the chlorinated solvent plume in groundwater are in the planning stages. |
| | | 7/Gray | 7191 | DPDO Warehouse | Ground staining and paint dumping evident | |
| | | 7/Gray | 7193 | Army Maintenance Office | Hazardous waste drum storage and alleged burial | |
| | | 6/Red | 7190 | Army Motor pool and drum storage area adjacent to 7190 | Site used as a motor pool and vehicle storage compound. | |
| 18 | MA | 7/Gray | 7182 | Housing Office | hazardous materials including paint, solvents, compressed gases and petroleum products stored there | Analytical results for SA 18 indicate surface soil detections of PAHs at one location exceeded Florida SCTLs. In addition, chlorinated solvents were detected in a monitoring well associated with a tank removal. DET completed soil removal activities 5/99. Groundwater was resampled 5/99. Chlorinated solvents were not detected > GCTLs. Iron and aluminum, however, were > GCTLs. The soil removal completion report was received 8/19/99, and the site screening report was submitted in final form to the OPT for their review on 8/26/99. <i>Secondary standards exceedances are holding up regulatory approval for no further action.</i> |
| 52 | MA | 5/Yellow | Former Building 7261 | Former Entomology Lab | Potential pesticide contamination due to past use of building. | Site screening investigations were completed 5/96, confirming soil and groundwater samples with pesticides above screening levels. IRA (soil removal) completed 9/97 with 1,300 tons of soil excavated and backfilled with clean soil. Three monitoring wells were installed after the IRA. The well at the location of the most contaminated soil has dieldrin above the MCL. OPT recommended groundwater restriction and quarterly groundwater monitoring. <i>The recent sampling data (7/99 and 10/99) indicate dieldrin exceedances of 0.027 to 0.081 µg/l vs. the Florida GCTL of 0.005 µg/l.</i> Final report, recommending continued groundwater monitoring and institutional controls, was approved by FDEP 5/99. Draft Decision Document was issued 8/99 <i>with a revised draft to be issued 1/00.</i> The Color Code will be changed to 4/Dk Grn upon incorporation of GW monitoring program into a decision document. |

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| 54 | MA | 5/Yellow | | Background surface soil sample locations | PAHs in surface soil above the Florida SCGs were detected in surface soil during the background sampling investigation | Additional sampling and analysis with immunoassay (IA) following the background investigation confirmed the widespread presence of PAHs at sample locations ORS009 and ORS016. The final SA 54 report was submitted 8/99 and approved by FDEP. A work plan to identify the extent of PAH contamination has been prepared by Tetra Tech. Field work took place in 9/99, confirming PAH contamination. PAHs along the road near sample ORS009 are attributed to the road and vehicular traffic; PAHs at sample ORS016 are being further delineated. |
| OU 2 | MA | 6/Red | 7355 | McCoy Annex Golf Course | OU 2 is a 99-acre landfill operated by the Air Force from 1960 until 1972 when the Navy took over the property. The Navy closed the landfill in 1978. A 9-hole golf course was constructed over the site, which is drained by a series of canals and retention ponds that discharge to Boggy Creek and Boggy Creek Swamp to the south. It is estimated that over 1,000,000 cubic yards of waste were disposed in the landfill, and that the waste included paints and other solvents, asbestos, transformers, hospital wastes, low-level radiological waste, scrap metal, demolition debris, and yard waste. | Tetra Tech NUS performed the first phase of RI fieldwork 5/97 to 11/97. This work consisted of geophysical surveys; a soil gas survey; sampling of surface soil, surface water, and sediment; groundwater screening with DPT; and cone penetrometer testing to evaluate aquifer stratigraphy. Additional fieldwork began 2/98 with additional geophysics to define the western landfill boundary. Piezometers and stream gauges were installed 3/98 to 4/98 to determine flow directions of groundwater and the connection with ponds, canals, and ditches. A DPT program was performed to delineate groundwater contamination, and subsequently monitoring wells were installed and groundwater sampled and analyzed. Groundwater was found at four locations around the landfill boundary to be contaminated with chlorinated solvents and fuel components. Soil over the landfill had exceedances of benzo(a)pyrene and arsenic. All of the media (surface soil, sediments, surface water, and groundwater) had radiological exceedances (gross alpha/gross beta) but the rad sources may be naturally-occurring. The Draft RI report was issued for review 1/99 and comments from FDEP (4/99) and EPA (5/99) have been received and responses submitted. Resampling of selected MWs and surface water/sediment locations began 6/99 and was completed 9/99. <i>The draft final RI report, incorporating comments and the resampling data, is scheduled for issue 2/00</i> |
| | | 6/Red | 7354 | Greenskeepers Storage | | |
| | | 6/Red | 7353 | Golf Course Club House | | |
| | | 6/Red | 7356 | Lawn Equipment Storage | | |

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| 2 | HA | 1/White | 6001 | Septic Tank/Leachfield | Exact contents of septic tank and drain field unknown (see "Other Areas" notes below for Herndon Annex Landfill). | Field screening of the deep wells installed east of Building 606 and south of Building 610 indicate benzene concentrations of 21 and 32 µg/l, possibly related to former landfills at Herndon Annex. Additional field investigations indicate a probable off site benzene source. This land parcel was leased to the City of Orlando 12/96. Sampling of surface water in Lake Barton indicate PCE at concentrations below surface water standards. Offsite screening east of the parcel to determine the extent of benzene plume was completed 12/97. Two confirmation monitoring well clusters were installed 12/97. One deep well at intersection of Nancy Lee Ave. and Bobby St. detected benzene at 53 µg/l. Other confirmation wells in the two clusters did not have contaminants at concentrations of concern. HLA installed two additional wells to further evaluate the benzene plume. HLA final report (5/99) recommends groundwater use advisory to residents in affected area, an evaluation of remedial options, quarterly monitoring of selected wells, and transfer of parcel to Tank Management Program. Report was approved by FDEP and USEPA 6/99. Quarterly sampling began 7/99 and results showed a 15-50% decrease in benzene. <i>The Focused Feasibility Report and Natural Attenuation Monitoring Workplan were issued as final documents on 11/17/99. A revised draft Decision Document was issued 1/00.</i> |
| | | 4/Dk Grn | | Herndon landfill(s) | Potential contamination from unknown landfilled materials. | |

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| OU 4 | AC | 5/Yellow | 1063 and 1061 | DRMO Warehouses and salvage yard, Laundry Drycleaners, Disposal Salvage Scrap Building | Former hazardous waste handling and storage area, spills are suspected and a former production well is on-site. | <p>SAs 12, 13 and 14 have been grouped together and designated as OU 4. Soil and groundwater have elevated levels of PCE, TCE, and cis-DCE. Antimony has also been detected in groundwater at elevated concentrations. The highest contaminant concentration in soil was PCE at 430 µg/kg vs. an SCG of 30 µg/kg. The highest concentrations in groundwater were PCE at 28,000 µg/l and TCE at 15,000 µg/l vs. MCLs for both compounds of 3 µg/l. Most of the highest VOC concentrations were found beneath the laundry building. Antimony was also detected in several wells at concentrations up to 16 µg/l vs. a Florida MCL of 6 µg/l. The extent of groundwater contamination was established during the OU 4 remedial investigation.</p> <p>A focused investigation was conducted along the lakeshore to determine the source of VOC contamination in the lake. Another investigation was conducted beneath the laundry building to identify potential contamination source areas. Construction of two recirculating wells to mitigate the lake contamination began 11/10/97. These wells are part of an interim remedial action (IRA) while the RI and FS are completed. The IRA is an in-well stripping system that will intercept the contaminated groundwater before it reaches the lake and strip out the VOCs. The two recirculating wells are operational and a monitoring plan is in place.</p> <p>Groundwater quality discharging to Lake Druid has improved dramatically, particularly in the area due west of the IRA where VOC concentrations were the highest. As of the last sampling event in 1/99, FDEP surface water standards had been achieved in groundwater at this location. However, because of continued operational difficulties, the IRA has not yet achieved surface water standards along the entire portion of the lakeshore targeted by this remedial system. The Navy and its contractors continue to work to improve the performance of the IRA.</p> <p>The RI fieldwork began late 10/97, and was completed in 4/98. RI data will be used to characterize the nature and extent of contamination throughout the entire site, in areas identified during the initial screening. These results are being evaluated and will be used to select the best remedial technology. The draft RI report was issued in September 1998. The response to regulator comments to the draft OU4 RI was issued on May 8, 1999. Additional regulator comments were received in June and September 1999. These issues have been resolved, and the RI is expected to be issued Final within the next two months.</p> <p>The draft OU 4 Feasibility Study (FS) was issued in January 1999. This document evaluated various alternatives for remediation of the entire Operable Unit. Regulator comments to the draft FS have been received, and the Navy is in the process of responding to these comments. The FS will be finalized when the potassium permanganate costs can be updated, expected to be approximately 3 months after startup of the treatability study (see below).</p> <p>The Navy continues to plan for a treatability study to evaluate in situ chemical oxidation using potassium permanganate as a remediation technology for the VOC source area. The work plan for the study was issued on 9/7/99. The state of Florida has granted permission for the</p> |
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| | | | | | | <p>injection of the potassium permanganate. Minor regulator comments have been received and are being addressed. Planning continues to procure the necessary equipment to inject the chemical. Over 20,000 pounds of potassium permanganate have been delivered to OU4; the drums are stored inside Building 1100. <i>Installation of all monitoring wells and the extraction/reinjection well pairs was completed the week of 11/29/99. Baseline sampling for VOCs and natural attenuation parameters occurred in Dec 99. The study is scheduled to start in January '00.</i></p> |
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NOTES

¹ Subject to change based on evolving evidence or knowledge.

² This area is in the southern portion of the Main Base golf course, near the small arms ammunition bunkers.

³ This area also includes Building 208, the USS Bluejacket. The primary responsibility for this facility, however, lies within the UST program.

⁴ Upon installation of additional monitoring wells and analysis of groundwater, a decision will be made regarding additional investigator requirements at this landfill.

⁵ Sites discovered and/or reported in "Technical Memorandum, U.S. Air Force Records Search, September 1995" (HLA), and which will be investigated in accordance with work plan entitled "Site Screening Plan, Air Force Sites, Addendum 2," November 1995.

⁶ Sites previously considered, but which will be investigated in accordance with work plan entitled "Site Screening Plan, Groups I through V SAs and Miscellaneous Additional Sites," Addendum 1, October 1995.

Regulatory Limits and Guidelines for Analytical Parameters:

Groundwater - Maximum Contamination Limits (MCL), Federal and State promulgated

Surface Water - FDEP Surface Water Quality Criteria (SWQC) Classes I through IV

Soils - Risk Based Concentrations (RBC) from EPA Region III, Target Action Levels from FDEP (Screening guidelines only)

Sediments - FDEP Sediment Quality Guidelines (SQG)

No Observable Effects Level (NOEL)

Probable Effects Level (PEL)

(Screening Guidelines Only)

GLOSSARY

AST = aboveground storage tank

BEHP = bis(2-ethylhexyl)phthalate

BTEX = benzene, toluene, ethylbenzene, and xylenes

DCE = dichloroethene

DDE = dichlorodiphenyldichloroethene

DPT = direct-push technology

EOD = explosive ordnance disposal

FS = feasibility study

FSDWS = Florida secondary drinking water standard

GCTL = (Florida) groundwater cleanup target level

GOAA = Greater Orlando Aviation Authority

HLA = Harding Lawson Associates, Inc. (Formerly ABB Environmental Services, Inc.)

IRA = interim remedial action

J = estimated

MCL = maximum contaminant level

mg/kg = milligrams per kilogram (parts per million)

Mn = manganese

Na = sodium

ND = not detected

NFA = no further action

OPT = Orlando Partnering Team

OU = operable unit

PAH = polynuclear aromatic hydrocarbon

PCE = perchloroethylene, or tetrachloroethene

pCi/l = picocuries per liter

PEL = probable effects level

PRE = preliminary risk evaluation

RAD = radiological parameter

RCRA = Resource Conservation and Recovery Act

RI = remedial investigation

SCTL = (Florida) soil cleanup target level

TCE = trichloroethene

TCLP = toxicity characteristic leachate procedure

TMP = tank management plan

TRPH = total recoverable petroleum hydrocarbons

TSS = total suspended solids

µg/kg = micrograms per kilogram (parts per billion)

µg/l = micrograms per liter (parts per billion)

UST = underground storage tank

UXO = unexploded ordnance

BRAC COLOR CODES

1/White. Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas)

2/Blue. Areas where only release or disposal of petroleum products has occurred (but no release, disposal or migration from adjacent areas has occurred)

3/Lt Grn. Areas where release and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action

4/Dk Grn. Areas where release and/or migration of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken

5/Yellow. Areas where release and/or migration of hazardous substances has occurred, removal and/or remedial actions are under way, but all required response actions have not yet been taken

6/Red. Areas where release, disposal and/or migration of hazardous substances has occurred, but required response actions have not yet been implemented

7/Gray. Areas that have not been evaluated or require additional evaluation

*Changes for this revision are bolded and italicized

See notes, glossary, and BRAC color codes at end of table

ntcsumm.doc

ATTACHMENT E

Environmental Meeting - Public Invited

Restoration Advisory Board Naval Training Center, Orlando

The Naval Training Center's Restoration Advisory Board (RAB) will hold its regular meeting concerning ongoing environmental studies and cleanup at NTC.

**When: 7:00 - 9:00 P.M.
Wednesday, November 17, 1999**

**Where: Winter Park City Hall
City Commission Chamber - second floor
401 Park Avenue South, Winter Park**

The current status of all NTC environmental program sites will be presented. The special topic will be "Main Base Redevelopment". An open floor period for community comments or questions will follow the RAB business portion of the meeting.

Documents on the environmental program at NTC, Orlando, including summaries of prior RAB meetings, are available for public review at the Orange County Library, 101 East Central Avenue, Orlando. They are located in the Information Repository in the Social Sciences Department (Aisle 27) on the second floor.

Need More Information?

Call Mr. Wayne Hansel at 895-6714

or

Penny Felger at 657-8276

ATTACHMENT F

