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NAS CECIL FIELD, FL
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LETTER REGARDING U S NAVY COMMENTS ON PUBLIC HEALTH ASSESSMENT WITH
ATTACHMENTS NAS CECIL FIELD FL
8/30/2001
NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION



DEPARTMENT OF THE NAVY

SOUTHERN DIVISION

NAVAL FACILITIES ENGINEERING COMMAND

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ES3SG

30 Aug 2001

Mr. Max M. Howie, Jr., Chief
PERIS Branch
Division of Health Assessment and Consultation
Agency for Toxic Substances and Disease Registry, Mail Stop E-56
1600 Clifton Road
Atlanta, GA 30333

Subj: PUBLIC HEALTH ASSESSMENT, PUBLIC COMMENT RELEASE,
NAVAL AIR STATION CECIL FIELD, FLORIDA

Dear Mr. Howie:

The Navy has reviewed the subject document. The following general observations are provided with respect to conclusions ATSDR has reached regarding the hazard categories for the nine situations identified by this report. Detailed comments to the subject document are provided as Enclosure (1). Comments from the Navy Environmental Health Center are provided as Enclosure (2). Compact Disks containing documents to assist ATSDR in updating Appendix C of the subject document and other sections of the subject document are provided as Enclosure (3).

Situation 1: Current and future on-base building occupants could be exposed to indoor air contaminants

ATSDR has identified this as an "Indeterminate Public Health Hazard". The Navy disagrees with this conclusion and recommends changing this situation to "No Apparent Public Health Hazard". The Navy has conducted an evaluation of potential indoor air hazards involving comparison of contamination concentrations from all groundwater plumes on site to the Connecticut Department of Environmental Protection reference values. Proximity of identified plumes to buildings, along with building use (current and future) also were considered in this evaluation. Based on the results of this evaluation, the Navy does not believe that indoor air hazards from contaminated groundwater exist. The Navy considers this to be an adequately conservative screening method and does not intend on conducting any further indoor air evaluations. Both the U.S. EPA and Florida Department of Environmental Protection concur with these findings of the Navy's indoor air evaluation.

Situation 2: Future building occupants could be exposed to contaminated drinking water on base

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ATSDR has identified this as "No Public Health Hazard". The Navy agrees with this conclusion.

Situation 3: Off base leaks from the jet fuel pipeline could pollute private wells

ATSDR has identified this as an "Indeterminate Public Health Hazard". The Navy disagrees with this conclusion and recommends changing this situation to "No Apparent Public Health Hazard". The Navy has conducted a series of pipeline investigations and has evacuated, cleaned, and isolated the pipeline. Confirmation sampling of potential areas of contamination has been conducted and only relatively low concentrations of soil contamination confined to the vicinity to the pipeline have been detected. The two known groundwater contamination sites along the pipeline are confined to the vicinity of the pipeline and are undergoing remediation/monitoring.

Situation 4: Current and future on base building occupants living near the jet fuel pipeline could be exposed to indoor air contaminants

ATSDR has identified this as an "Indeterminate Public Health Hazard". The Navy disagrees with this conclusion and recommends changing this situation to "No Apparent Public Health Hazard". Based on the results of the pipeline investigations and ongoing remedial actions/monitoring, an indoor air hazard due to migration of groundwater contamination from the pipeline is considered unlikely.

Situation 5: Current trespassers and future recreational users could be exposed to harmful levels of lead from firing ranges in Yellow Water Weapons Area if unremediated

ATSDR has identified this as "Current- No Apparent Public Health Hazard and Future-Indeterminate". The Navy agrees with the "Current" conclusion but disagrees with the "Future" conclusion and recommends changing the Future hazard category to "No Apparent Public Health Hazard". The Navy is currently developing a remedial action plan for Site 15 that will be protective of the passive recreational user. This is consistent with the natural resource conservation reuse designated for the area, within which development will be prohibited. All other firing ranges in Yellow Water have been assessed, and no lead concentrations that will pose a health hazard have been detected.

Situation 6: People could be eating contaminated fish or turtles from Yellow Water or Sal Taylor Creek draining Site 15

ATSDR has identified this as an "Indeterminate Public Health Hazard". This implies that fish and turtles in Yellow Water and Sal Taylor creeks are contaminated. The Navy disagrees with this conclusion and recommends changing this situation to "No Apparent Public Health Hazard". Based on the sediment and surface water samples collected to date, it does not appear that the water bodies that receive drainage from Site 15 are adversely impacted by site contaminants; therefore, the biota in these water bodies would not be contaminated by Site 15. An evaluation of human health risks associated with eating fish from surface water at Site 15 is included in the detailed comments section.

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Situation 7: Current and future building occupants, particularly children could be exposed to lead based paint, lead in tap water, and asbestos insulation found in many buildings on base

ATSDR has identified this as an "Indeterminate Public Health Hazard". The Navy agrees that this is an appropriate conclusion based on the fact that lead-based paint (in non-target housing) and asbestos (non-damaged, friable or accessible at time of transfer) exists. It is the Navy's understanding that the City of Jacksonville has a LBP and asbestos management plan in place. It should be noted that, in support of property transfer, the Navy has surveyed all housing in accordance with BRAC, HUD and Title 10 requirements for LBP, and surveyed all buildings for asbestos and repaired all damaged, friable or accessible asbestos identified. The potable water-sampling event conducted prior to property transfer did not detect any lead in the potable water system. On-site water supply wells are currently owned and operated by the City of Jacksonville.

Situation 8: People eating possibly contaminated fish or other biota from on base lakes or creeks

ATSDR has identified this as an "Indeterminate Public Health Hazard". The Navy disagrees with this conclusion and recommends changing this situation to "No Apparent Public Health Hazard". All sources potentially impacting Lake Fretwell have been remediated or contained. A No Further Action determination has been made for Lake Fretwell. No contamination sources have been identified that would adversely impact any of the other water bodies at NAS Cecil Field.

Situation 9: Unexploded ordnance could be a future explosion hazard for people digging or excavating near many areas on the Main Base or Yellow Water Weapons Area

ATSDR has identified this as a "Public Health Hazard". The Navy disagrees with this conclusion and recommends changing this situation to "Indeterminate Public Health Hazard". A UXO survey has been conducted at high probability areas and a relatively small amount of small caliber ordnance was found. Ordinance-related activities at Cecil Field consisted of small arms and skeet ranges and limited disposal of rocket igniters. Based on the findings of these investigations, the likelihood of encountering UXO that would pose a hazard is minimal.

If you have any questions or comments, please contact me at (843) 820-5587 or by e-mail at GlassSA@efdsouth.navfac.navy.mil

Sincerely,



SCOTT A. GLASS, P.E.
BRAC Environmental Coordinator
Environmental Services Business Line

Subj: PUBLIC HEALTH ASSESSMENT, PUBLIC COMMENT RELEASE,
NAVAL AIR STATION CECIL FIELD, FLORIDA

Encl:

- (1) NAVFAC comments to Public Comment Release PHA
- (2) NEHC comments to Public Comment Release PHA
- (3) Compact Disks containing reference documents

Copy to: (w/o encl 3)

NEHC (Andrea Lunsford)

U.S. EPA Region IV (Debbie Vaughn-Wright)

FDEP (David Grabka)

TtNUS (Mark Speranza)

**COMMENTS FROM SOUTHERN DIVISION,
NAVAL FACILITIES ENGINEERING COMMAND
ON
PUBLIC HEALTH ASSESSMENT FOR NAS CECIL FIELD,
PUBLIC COMMENT RELEASE (DATED 6/29/01)
BY
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY**

Page iii, Summary, First paragraph, Last sentence:

A suggested revision to this sentence is as follows: "Approximately 17,200 acres are designated for transfer to the local community. The remaining 13,800 acres have been transferred to NAS Jacksonville. To date, over 95% of the property designated for the private sector has been transferred."

Page iii, Summary, Second paragraph, Last sentence:

There are currently 12 Operable Units (OUs) consisting of 24 separate sites including:

- OU 1 - Sites 1 and 2
- OU 2 - Sites 5 and 17
- OU 3 - Sites 7 and 8
- OU 4 - Site 10
- OU 5 - Sites 14, 15, and 49
- OU 6 - Site 11
- OU 7 - Site 16
- OU 8 - Site 3
- OU 9 - Sites 36, 37, 57, and 58
- OU 10 - Sites 21 and 25
- OU 11 - Site 45
- OU 12 - Sites 32, 42, 44, and Old Golf Course

An updated OU map is included in Enclosure (3) to the cover letter.

Page iii, Summary, Third paragraph:

The Navy does not believe that unexploded ordnance (UXO) presents a base-wide "Public Health Hazard." The Navy suggests that base-wide risk from UXO should be considered an "Indeterminate Public Health Hazard", based on the results of the UXO survey and the type of ordnance (generally smaller caliber) historically used at NAS Cecil Field.

Page iii, Summary, Fourth paragraph:

Situation 1:

Based on comparisons of groundwater concentrations to Connecticut Department of Environmental Protection reference concentrations and of evaluations of the proximity and use of potentially impacted buildings, the Navy does not believe a hazard from groundwater plumes impacting indoor air quality exists. The Connecticut reference values are considered protective of human health in a residential basement setting. These values were used as a conservative screening method at Cecil Field although buildings have only aboveground rooms generally of larger size than residential

basements. The majority of the soil that represents the primary source of groundwater contamination has been removed, and all significant sources of groundwater contamination have remediation systems in place or planned. The indoor air analysis conducted by the Navy and approved by the United States Environmental Protection Agency (U.S. EPA) and the Florida Department of Environmental Protection (FDEP) is included in Enclosure (3) to the cover letter.

Situations 2 & 3:

The Navy does not believe that leaks from the 103rd Street pipeline present a hazard to private wells or indoor air based on the relatively low concentrations of groundwater and soil contamination and the fact that this contamination is confined to the vicinity of the pipeline. The pipeline, which is located in the median separating lanes of 103rd Street, taken out of service in 1997, was properly closed, and is currently empty. During the 45 years that the pipeline was active, and although fuel can be smelled at relatively low concentrations, no complaints of fuel odors in homes were received from area residents.

Situation 4:

Based on current and future use of Site 15, as defined in the Local Reuse Authority Business Plan, "frequent" contact with lead by children is unlikely.

Situation 5:

This statement presumes that fish and turtles in Yellow Water and Sal Taylor Creeks have been contaminated by Site 15. Based on the data collected, these creeks do not appear to be adversely impacted by Site 15.

Situation 6:

The Navy does not believe there is a health hazard from eating fish from surface water bodies at NAS Cecil Field. Sediment and surface water contaminant concentrations are not expected to have an adverse impact on biota living in these surface water bodies.

Situation 7:

Children do not occupy on-site buildings presently nor are there plans for children to occupy buildings on site in the future. Housing planned for NAS Cecil Field is designated as senior living.

Page iv, Introduction, Situation A, On-Base Groundwater.

The Navy has already evaluated the potential impact to indoor air from groundwater contamination by comparing groundwater concentrations to the Connecticut Department of Environmental Protection reference values and evaluating the proximity and use of buildings located near plumes. The Navy believes that this is an adequately protective screening process and does not plan to conduct additional follow-up indoor air investigations. The U.S. EPA and FDEP have reviewed the findings of the indoor air evaluation and concur with the Navy's conclusions.

Page v, Situation B, Jet Fuel Pipeline:

The Navy does not believe that the pipeline presents a fire hazard and, therefore, does not believe that it is necessary or appropriate to advise the local Fire Department about the pipeline. As stated above, the pipeline was taken out of service in 1997 and currently does not contain any fuel. Based on data collected, the Navy has identified minimal soil contamination, confined to the area of the pipeline, at relatively low concentrations. Only two known groundwater contamination locations have been identified (A Avenue and Hawkens Property) and contamination at these sites also is confined to the vicinity of the pipeline. In addition, these areas are being actively remediated and monitored. The Florida Department of Transportation has been informed of all the known locations of soil and groundwater contamination along the pipeline, for their use in planning and management of road construction projects. If ATSDR believes there are other regional contamination problems, other than what is associated with the pipeline or past Navy operations, it should clearly differentiate these or pursue this issue separately from this Public Health Assessment (PHA) for NAS Cecil Field.

Page vi, Situation C, Site 15:

The data collected at Site 15 do not indicate that water bodies that receive drainage from Site 15 drains have been adversely impacted; therefore, biota are not expected to be contaminated.

Page viii, Situation D, Lead and Asbestos in Base Housing:

The Navy has already provided disclosure of suspected lead-based paint (LBP) and asbestos in buildings. The Navy has complied with all applicable requirements for surveying and mitigating, as necessary, LBP and asbestos in support of property transfer. The Environmental Baseline Survey for Transfer (EBST) documents show that lead concentrations in recent drinking water samples are below regulatory criteria.

Page ix, Situation E, Eating Fish and Turtles from On-Base Lakes and Creeks:

Sediment and surface water samples collected in the lakes and creeks downstream of known sources do not reveal contamination concentrations that would adversely impact fish or turtles. The Florida Department of Health concluded that there is no health risk from consuming fish from Lake Fretwell. All known sources draining into Lake Fretwell have been cleaned up and were determined to require no further action (NFA) or are contained and in the process of being remediated. None of the other smaller ponds, lakes or creeks at NAS Cecil Field have any known sources of contamination associated with them that could migrate and enter the surface water bodies. Samples collected at the berms at the target ranges of former Naval Air Gunnery School (NAGS) did not identify any lead contamination in soil above action levels, therefore, migration of lead contamination into surface water bodies located at the former NAGS is unlikely. These berms were used as backstops during target practice, and so are expected to have the highest levels of lead contamination found at the ranges.

Page x, Situation F, Unexploded Ordnance:

Although the Navy agrees it is appropriate to provide public education materials to future users, the Navy does not believe it is appropriate to prohibit digging. The Local Reuse

Authority Business Plan calls for substantial development in much of Yellow Water where ATSDR considers a UXO problem to exist. Based on the UXO report findings and the minimal quantity and generally smaller caliber type of UXO found, The Navy does not believe it is justifiable to preclude development, rather, the Navy supports educating/informing future users on how to respond if suspected UXO is identified in the future.

Page 1, Background, NAS Cecil Field Mission and Environmental Contamination, Second Paragraph:

Approximately 800 acres require additional investigation or remediation and are therefore not yet suitable for transfer. The statement that "an additional 1,000 acres have been designated as gray areas" is incorrect. There are no gray sites remaining at NAS Cecil Field.

Page 3, Base Realignment and Closure, Second paragraph, First sentence:

Because over 95 percent of the property designated for the local community has been transferred, this sentence can be more accurately stated as follows: "As part of the closure activities, the majority of the Main Station and Yellow Water Weapons Area properties has been returned to the Jacksonville community for redevelopment."

Page 3, Base Realignment and Closure, Second paragraph, Last sentence:

This sentence can be more accurately states as follows: "OLF Whitehouse, the Land Target Area, the 252 acre Yellow Water Family Housing west of the Yellow Water Weapons Area, and the additional outlying parcels have been retained by the Navy."

Page 3, Base Realignment and Closure, Fifth paragraph:

The 12 OUs are made up of 24 sites, not 14 sites as stated in this sentence. An updated OU map is included in Enclosure (3) to the cover letter.

Page 4, Quality Assurance and Quality Control:

The Environmental Geographic Information System (EGIS) has been developed to maintain the analytical results of samples collected at NAS Cecil Field by the BRAC Closure Team (BCT). The BCT has identified sample data that is applicable to the status of the program. This means that certain datasets collected early in the program have not been entered into the EGIS. The data in the system links the laboratory results to sample locations that are overlaid onto mapping. The mapping and data are maintained geographically in the Florida State Plane Coordinate System. The data is keyed to site designations when applicable. The EGIS offers the ability to focus in on any area of the facility and select as much or as little data that is required for evaluation purposes. The data are maintained in a consistent format thus expediting evaluation of the site conditions. This system is used as a tool by the BCT in conjunction with written reports. It is not meant to be a stand-alone resource.

Page 7, Evaluation Of Environmental Contamination, Exposure Pathways, and Public Health Implications, First paragraph:

According to the report, ATSDR has identified only "1" health hazard, "7" requiring more data, and "1" currently posing no public health hazard.

Page 7, Situation A, On-Base Groundwater, Paragraph 2):

The PHA states that "In the future, building occupants could be exposed to contaminated drinking water on base." The Navy does not consider any of the identified groundwater plumes to be "near" or "downgradient" from existing drinking water wells. All existing drinking water wells are considered to be located an adequate distance away from any plume to preclude potential impact from any identified groundwater plume. Ongoing monitoring is being conducted to evaluate potential future migration. A map, included in Enclosure (3) to the cover letter, shows that all identified groundwater plumes are upgradient or sidegradient of existing water supply wells. Groundwater flow is possible only in a downgradient direction; therefore, contaminated groundwater cannot flow toward water supply wells.

Page 10, Exposure Evaluation and Public Health Implications:

In the table entitled "Cecil Field Known Areas of Groundwater Contamination," DT2 and Site 36/37 are listed separately under Installation Restoration (IR) Sites with Groundwater Contamination. The Day Tank 2 (DT2) and Site 36/37 groundwater plumes are co-mingled, and a joint remediation effort is in progress. However, if DT2 is to be identified separately from Site 36/37, it should be included under the Underground Storage Tank (UST) heading because, by itself, it is a petroleum site. Additional IR sites that should be included are Building 312, now known as Site 58 and Building 824A, now known as Site 57. The UST heading should be on a single line.

Page 11, People Using On-Base Buildings Over Groundwater Contamination, First paragraph, Next to last sentence:

This sentence states that "Most of the 23 groundwater contamination areas not only have surficial contamination, but have volatile fuels and solvents floating on the groundwater surface." The statement that "most" of the groundwater contamination areas have "volatile fuels and solvents floating on the groundwater surface" is an incorrect and misleading statement. This statement should be deleted from the paragraph. Free product remains at only one site (Day Tank 1) and the extent of the free product identified is very limited.

Page 11, People Using On-Base Buildings Over Groundwater Contamination, Second paragraph:

The concentrations of trichloroethene (TCE) in groundwater at Site 16 cited in this paragraph, 410,000 parts per billion (ppb) and 700,000 ppb were detected before the groundwater remediation air sparging/soil vapor extraction system, was installed in 1999. It should be noted that after startup of the AS/SVE system at Site 16, the highest groundwater concentrations quickly dropped below 1,000 µg/l and the system has been operating in pulse mode to maintain the source area contamination below the 1,000 µg/l source area cleanup goal concentration.

Page 12, Third paragraph, Last sentence:

The PHA states that "Methane and associated trace gases may move 1.5 miles from source areas including movement in fill associated with utility and fuel lines." The

statement that methane may move 1.5 miles is speculative and should be removed from this paragraph.

Page 14, People Using Base Wells or Installing New Wells in the Future, Second paragraph:

The PHA states that "Routine drinking water sampling (possibly every three years) should be done on any systems fed by wells on base. Notification of the groundwater hazards should also be given to developers and on file with the county." The drinking water supply well field is currently owned and operated by the City of Jacksonville. The Navy agrees that public water supply systems should be routinely sampled to remain in compliance with applicable regulations. This is a regulatory requirement and is the responsibility of the City of Jacksonville. However, the Navy does not believe that additional sampling is warranted because none of the identified groundwater plumes are considered threats to the current water supply wells. Future property owners in areas with contaminated groundwater will be notified of contamination and groundwater use restrictions as part of the required Finding of Suitability to Transfer (FOST) documents.

Page 14, People Using Base Wells or Installing New Wells in the Future, Third paragraph:

The PHA lists several potential fuel additives that may be found in "... JP-5, Mogas, Avgas, and other historically used fuels." The Navy has conducted groundwater sampling at petroleum sites in accordance with Florida Administrative Code 62-770. This rule specifies which constituents are required to be sampled to comply with State regulations. This rule does include some additives. The Navy does not agree that they or any future property owner should be required to sample for other constituents, in response to petroleum releases that are not otherwise required by State regulations.

Page 16, Table 1, People using the base wells or installing new wells in the near future:

The PHA includes "users of new wells drilled in or near contaminated areas" as a "Potentially Exposed Population." New property owners are notified of existing groundwater contamination by way of the FOST and are subject to groundwater use restrictions by way of deed restrictions in those areas where groundwater contamination has been identified. These deed restrictions will prevent installation of new wells into contaminated groundwater.

Page 17, Public Health Action Plan - Groundwater Contamination On Base, Indoor Air, Recommendations 1, 2, and 3:

The Navy does not agree with these recommendations and does not plan to conduct additional indoor air analyses. The Navy has concluded, and the regulatory agencies have concurred, that an indoor air hazard is not apparent and no further evaluation is warranted.

Page 18, Public Health Action Plan - Groundwater Contamination On Base, Use of On-Base Groundwater, Recommendations 5, 6, 7, and 8:

The Navy does not agree that special public water supply sampling should be conducted, other than what is already required by applicable state or federal regulations, as a response to surficial groundwater contamination on site. Groundwater contamination does not currently impact drinking water wells, nor are existing groundwater plumes expected to migrate to current drinking water wells. Ongoing monitoring of groundwater plumes is taking place to evaluate any potential future migration. Drinking water well installation will be prohibited at contaminated groundwater sites, but special restrictions/conditions above and beyond what is required by applicable regulations should not be required base wide.

Page 19, Situation B, Jet Fuel Pipeline, First paragraph:

The 1994 pipeline investigation ATSDR is referencing did not identify any soil or groundwater contamination. Based on conversations with former Navy Public Works Center personnel, in order to verify the accuracy of the instrumentation used to inspect the pipeline, some areas of potential concern (called "anomalies") were excavated during this investigation and the pipe was cut to confirm that the thickness of the pipeline was adequate. No soil or groundwater contamination was identified at these excavated anomalies.

Page 19, Situation B, Jet Fuel Pipeline, Second paragraph:

This PHA should clearly differentiate between potential public health risks due to past operations at the former NAS Cecil Field and releases from commercial, non-NAS Cecil Field sources. The Navy does not understand why ATSDR is recommending testing for pesticides and metals (other than lead) for a petroleum release. The pipeline carried only fuel. Regardless, the Navy believes that the limited extent of groundwater contamination attributed to the Navy pipeline and the ongoing groundwater monitoring being conducted precludes the need for annual testing of private wells.

Page 19, Situation B, Jet Fuel Pipeline, Third paragraph:

There are no "high" concentrations of soil or groundwater contamination associated with the Navy pipeline that could contribute to indoor air quality problem. The Navy does not believe it is necessary to inform local Fire Departments of the leak locations because the Navy does not consider the limited contamination to pose a public health threat.

Page 20, Exposure Evaluation and Public Health Implications, First paragraph:

The jet fuel release mentioned occurred "off-base" approximately 1/4 mile from the A Avenue gate.

Page 21, Pipeline Inspections, other Soil Excavations, and Pipeline Closure:

As identified above, groundwater or soil contamination was not identified at the anomalies excavated in 1994.

Page 22, Exposure Situations, People using private wells...:

The statement that thousands of gallons of fuel could have been lost is speculative and should be removed from this paragraph.

Page 22, Exposure Situations, People breathing gases...:

No "highly concentrated soil or groundwater pockets" associated with the Navy pipeline have been identified, therefore, the Navy believes it is very unlikely that any indoor air problems along 103rd Street can be attributed to leaks from the Navy pipeline.

Page 23, Table 2:

Under "Source" and "Comments", the Navy believes it is potentially misleading to identify USTs from service stations and other local industries as sources of contamination associated with the Navy pipeline and should therefore be removed from the table.

Page 24, Public Health Action Plan - Jet Fuel Pipeline, Recommendations, Wells:

The contamination associated with the pipeline is minimal and limited to the vicinity of the pipeline and is thereby not considered a public health hazard. If ATSDR believes there is a regional contamination problem due to sources other than the Navy pipeline, ATSDR should clearly differentiate between the two sources or pursue the issue separately from this NAS Cecil Field PHA.

Page 24, Public Health Action Plan - Jet Fuel Pipeline, Recommendations, Indoor Air:

The Navy does not agree that the pipeline leaks pose a public health hazard; therefore the Navy does not believe it is necessary or appropriate to notify the local Fire Department that a public health hazard exists from pipeline contamination.

Page 25, Situation C, Site 15 and other areas of the YWWA:

The Navy does not believe it is necessary to place warning signs to "not eat fish and turtle" from the surface waters that receive drainage from Site 15. Elevated contaminant concentrations have not been identified in sediment and surface water that receive drainage from Site 15. The following assessment indicates that concentrations of lead in fish from surface water at Site 15 would not pose a significant human health risk.

The PHA states that "[h]igh dissolved lead levels (a median of 205 ppb) have been found in surface water samples that run off Site 15 and during heavy rain events, possibly into Yellow Water Creek. Fish and turtles in Yellow Water and Sal Taylor Creek could accumulate metals and people eating fish or turtles could be at high risk." Concentrations of lead in surface water range between to below detection limits (less than 1.1 µg/L) to a maximum detected concentration of 398 µg/L. The areas with the highest surface water concentrations are areas where the presence of water is intermittent, i.e., during storm events, and are unlikely to support a continuous fish population. The areas with the nondetect concentrations are areas where there is a continuous water supply. Adapting the U.S. EPA's adult lead model in combination with human health risk assessment exposure assumptions illustrates that the measured concentrations of lead in Site 15 surface water would not pose a significant risk to human health associated with fish caught in the Site 15 surface water.

The U.S. EPA's adult lead model typically addresses nonresidential exposure to soil. The model accounts for lead distribution in the body and its excretion to predict blood lead concentrations in adults who have steady patterns of exposure. Ultimately, the

model provides a relationship between the soil lead concentration and the blood-lead concentration in the developing fetus of adult women. It derives a lead concentration in soil that will result in a probability of less than 5% that a fetal blood concentration would be greater than the threshold level of 10 µg/dl. The U.S. EPA's residential screening level for soil of 400 mg/kg was derived using this model. It was based on an assumption that residents ingested 100 mg of soil per day. At a soil concentration of 400 mg/kg and an ingestion rate of 100 mg of soil per day, the intake of lead is 0.04 mg/day.

The concern expressed in the PHA is that consumption of fish that have accumulated lead from the water may adversely effect public health. Based on the lead concentration in surface water, the lead concentration in fish can be predicted. Using a bioconcentration factor of 49 L/kg for lead (U.S EPA 1986, Superfund Public Health Evaluation Manual) in combination with the maximum detected lead concentration in surface water of 398 µg/L, the predicted fish concentration would be 19,502 µg/kg. Multiplying the lead concentration in surface water with the bioconcentration factor derives the predicted fish concentration.

Because the adult model addresses soil consumption, the model was modified to reflect fish consumption. The "site-specific soil lead concentration" in the model was replaced with the predicted fish concentration of 19.5 mg/kg. The "intake rate of soil" was replaced with the mean daily freshwater fish consumption of 6 g/day (U.S. EPA 1997, Exposure Factors Handbook). This value is the average daily consumption of fish averaged over a year. It also assumes that the fish that is consumed comes from the same source. It is unlikely that Site 15 would be a continuous supply of fish for any individual. Therefore, it is assumed that one's supply of fish from Site 15 would be 10 percent, resulting in average daily fish consumption of 0.6 g/day. Using these exposure assumptions, the average daily intake of lead would be 0.01 mg/day. There is a probability of less than 5% that the fetal blood concentration would exceed the target blood level of 10 µg/L (See attached results of model). U.S. EPA regards this probability as acceptable. Enclosure (3) to the cover letter includes the adult lead model calculations used in this assessment.

Page 26, Background and Land Use, First paragraph and Table:

Groundwater samples collected at Site 15 show that site groundwater has been minimally impacted. The Navy issued a No Further Action Technical Memo (Draft, March 2001) and the regulatory agencies have verbally concurred that no further groundwater monitoring is necessary at Site 15. The statement that "wooden pallets or crates were likely burned here as well" is speculative and should be removed.

Page 27, People contacting on-site soil, dust, creeks, groundwater, and unexploded ordnance, First paragraph:

Initially, the PHA incorrectly defines the maximum and median lead concentrations at Site 15. The maximum lead concentration is 65,500 mg/kg, not 58,900 mg/kg; the median lead concentration is 163 mg/kg, not 554 mg/kg. The average lead concentration is 1,157 mg/kg.

The PHA states that “[r]outine contact with soil or breathing soil dusts at those lead levels may increase blood lead levels, especially in children under 6 years old, to unsafe levels. Currently, the area is restricted; therefore, it is unlikely that people would come into “routine contact” with Site 15. Furthermore, the future reuse plan for Site 15 states that the site would remain a green space. No development is planned for this area. Consequently, “routine contact” would be unlikely. Based on the concentrations of lead present at Site 15, residential exposure would be considered unacceptable in accordance with EPA and Florida Department of Environmental Protection screening levels for lead. However, limited exposure, such as once a week, would result in insignificant uptake of lead. Moreover, the presence of leaves and pine needles (up to six inches in depth) reduces direct contact with soil and reduces the likelihood of dust generation, thus reducing the potential exposure to lead.

Page 28, Source Areas of the Lead:

The Navy believes that all YWWA ranges have been adequately characterized for lead contamination.

Page 28, Sampling Techniques and Sampling data, First paragraph:

Surface soil sampling was conducted in accordance with approved sampling work plans and the U.S. EPA Region 4 Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM). Although it could be argued that the highest lead concentrations may be located in the top 2 inches of soil based on the depositional nature of lead shot on the ground, the Navy does not believe that surface soil samples must be limited to the top 2 inches to adequately describe risk from exposure. The Site is covered with a thick layer of pine needle duff. Based on the passive recreational future land use (designated as a natural resource conservation area), this duff layer will remain, thereby minimizing exposure to soils from casual contact. If someone is deliberately digging into the soil, thereby exposing the contaminated mineral soil, they will likely expose more than the top 2 inches, therefore, the Navy believes the sampling techniques that were used adequately represent likely exposure resulting from future contact with surface soils.

Page 28, Sampling Techniques and Sampling data, Second paragraph:

Minimal quantities of lead shot have been found at Site 15.

Page 29, Lead Bioavailability in the Environment:

The Navy does not plan to do any additional bioavailability studies. Minimal quantities of lead shot have been found at the site, indicating that the majority of the shot has oxidized and the lead is now incorporated into the soil, much like any ash would be. The Navy and the regulatory agencies have agreed on bioavailability criteria used in the risk assessment.

Page 32, Table 3, People contacting on-site soil, dust, and creeks...residential use:

Groundwater sampling has confirmed that site groundwater has been minimally impacted; therefore inclusion of groundwater as a media, exposure point, and route of exposure, along with comments on groundwater contamination, are inappropriately

included in this table. The reuse plan prohibits any development of Site 15, and any deeds will include this prohibition; therefore, residential exposure is not considered a viable exposure scenario.

Page 33, People who eat fish or turtles...:

Surface water and sediment samples collected at water bodies that receive drainage from Site 15 did not reveal any elevated contamination concentrations that would be expected to result in adverse impacts to fish or turtles.

Page 35, Effectiveness of Land Use Controls and Clean Up Strategy, First paragraph:

The U.S. EPA and FDEP have agreed that Land Use Controls are a viable remedial action. The Navy is working closely with the U.S. EPA, FDEP and the City of Jacksonville to implement Land Use Controls and deed restrictions that will provide long-term protectiveness of human health.

Page 35, Effectiveness of Land Use Controls and Clean Up Strategy, Third paragraph:

No groundwater contamination was detected at Site 15 at concentrations in excess of regulatory criteria.

Page 36, People who may eat fish or turtles from Yellow Water or Sal Taylor Creek...:

Sediment and surface water samples at surface water bodies that receive drainage from Site 15 are not at concentrations that are expected to adversely impact people who could potentially eat fish and turtles; therefore, the Navy does not believe it is appropriate to post no-fishing warnings.

Page 37, Public Health Action Plan - Site 15 And Other Areas of The YWWA, Conclusion 3:

The Navy does not agree with the statement that future use and remediation plans are "unclear". The Navy is developing a cleanup strategy that would support passive recreational use based on the designated reuse as natural resource conservation. The City is committed to using a large part of Yellow Water for natural resource conservation and the deed restrictions transferring Site 15 will prohibit any development of the site.

Page 38, Public Health Action Plan - Site 15, Actions Taken or Planned, Future Action 3:

It should be noted that U.S. EPA and the FDEP provide regulatory oversight and will review the Proposed Plan for Site 15 to ensure protectiveness of the proposed remedial action. The Navy will provide a copy of the Proposed Plan to ATSDR when it becomes available and will take any comments into consideration.

Page 38, Public Health Action Plan - Site 15, Contact with Soils, Recommendation 3:

The Navy believes that the site has been adequately characterized to support a remedial action decision that is protective of human health, therefore the Navy does not plan to conduct any more surface soil sampling or to establish a "dilution" factor.

Page 38, Public Health Action Plan - Site 15, Eating Locally Caught Fish or Turtles, Recommendation 5:

The Navy does not believe that sediment or surface water samples collected in surface water bodies that receive drainage from Site 15 warrant a prohibition of fish or turtle harvesting; therefore, the Navy does not plan to survey local populations to determine if fish or turtles are taken from the creeks or post no fishing signs.

Page 39, Public Health Action Plan - Site 15, Use of Groundwater, Recommendation 7:

The groundwater at Site 15 does not have contamination present above regulatory criteria; therefore, restrictions on groundwater use are not warranted and will not be imposed.

Page 40, Situation D, Lead and Asbestos in Base Housing:

The Navy has provided to the City and the Jacksonville Port Authority, via FOSTs, notice on suspected asbestos and LBP contained in buildings in accordance with Navy policy and HUD criteria. Any housing that remains at NAS Cecil Field is not considered "Target Housing", and therefore is not required to be abated for LBP according to HUD guidelines.

Page 43, Public Health Action Plan - Lead And Asbestos In Base Housing, Recommendation 1:

The Navy has disclosed information concerning lead and asbestos via the FOSTs for the City of Jacksonville and the Jacksonville Port Authority parcels.

Page 43, Public Health Action Plan - Lead And Asbestos In Base Housing, Recommendation 2:

The most recent potable water supply sampling results indicated that lead concentrations were below regulatory criteria. The well field is now owned and operated by the City of Jacksonville.

Page 44, Situation E, Eating Fish and Turtles from On-Base Lakes and Creeks, Background:

The Navy considers Lake Fretwell to be the water body at NAS Cecil Field that was most likely to be contaminated, considering the multiple potential sources draining to it. A No Further Action Technical Memo has been issued for Lake Fretwell, and concurred upon by the regulatory agencies, and fishing in the lake has been authorized by the Florida Department of Health. Sediment and surface water samples collected from the creeks that receive drainage from Site 15 have not revealed any elevated contamination concentrations. The mobile target range berms in the former NAGS area have been sampled for lead and elevated lead concentrations were not detected. No other potential

source areas have been identified that could potentially impact the remaining creeks and ponds at NAS Cecil Field; therefore, there is no justification to assess these water bodies.

Page 47, Summary:

The Navy disagrees with the conclusion that the likelihood of fish contamination in Lake Fretwell still exists. The Navy has identified, contained, and remediated all known sources draining to the lake; therefore, it is unlikely that contaminant concentrations in the lake will increase over time based on current conditions. Concentrations of sediment and surface water samples detected in the lake do not warrant any further action and are not expected to pose a future risk to fish populations. The Navy does not plan to collect additional fish samples or post no fishing signs at the lake based on the known current conditions.

Page 48, Public Health Action Plan - Lakes and Creeks On Base, Conclusion 1:

The Navy does not agree that sources potentially impacting Lake Fretwell have not been adequately identified, that concentrations will increase over time, and that the nature and extent of contamination has not been determined. The Navy believes the condition of the lake and potential sources draining to the lake have been adequately assessed and remediated. A No Further Action determination has been given for Lake Fretwell, and concurred upon by the regulatory agencies.

Page 48, Public Health Action Plan - Lakes and Creeks On Base, Conclusion 2:

The Navy does not believe that it is necessary to assess the other lakes at NAS Cecil Field that have not already been evaluated. The Navy believes that all potentially impacted surface water bodies have been assessed. The remaining water bodies do not have any known potential sources impacting them; therefore, it is not appropriate to sample them.

Page 48, Public Health Action Plan - Lakes and Creeks On Base, Recommendation

1:

If ATSDR believes there is a regional mercury hazard due to sources other than from past NAS Cecil Field operations, ATSDR should clearly differentiate between these sources or pursue the issue separately from this PHA for NAS Cecil Field.

Page 48, Public Health Action Plan - Lakes and Creeks On Base, Recommendations 2 and 3:

The Navy does not believe it is appropriate to require additional sampling at Lake Fretwell. The Navy believes that the lake sediments, surface water, and biota have been adequately assessed. A No Further Action determination has been approved for Lake Fretwell.

Page 49, Situation F, Unexploded Ordnance Hazards, Background:

The statement at the end of the first paragraph regarding the use of Chemical Agent Identification System kits (CAIS), which are not associated with UXO, is speculative and should be removed. Just because CAIS has been identified at NAS Jacksonville and

personnel from NAS Jacksonville have trained at NAS Cecil Field does not mean they brought CAIS along with them.

Page 52, Table 4, Skeet Range (PSC 49):

The Skeet Range (PSC 49) was used for recreational skeet shooting, not small arms practice.

Page 53-55, Table 4, Areas Evaluated by US Army Corps of Engineers and Determined to be Formerly Used Defense Sites:

Formerly Used Defense Sites (FUDS) sites are not part of past operations at NAS Cecil Field and should therefore not be included in this table. FUDS are managed by the Army Corps of Engineers.

Page 56, Public Health Action Plan - Unexploded Ordnance, Recommendation 1:

Although the Navy agrees it is appropriate to provide public education material, the Navy does not believe it is appropriate to prohibit digging. The Local Reuse Authority Business Plan has substantial development being conducted in much of Yellow Water, where ATSDR has identified a UXO concern. Based on the types of ordnances historically used at NAS Cecil Field, the UXO report findings, and the minimal quantity and generally smaller caliber type of UXO found, The Navy does not believe it is justifiable to preclude development, rather, the Navy supports educating/ informing future users on how to respond if suspected UXO is identified in the future.

Page 57, Community Health Concerns:

The Navy provided a copy of the Radiological Survey to ATSDR in response to an 11/29/99 e-mail request from ATSDR to NAVFAC Southern Division. A copy of the report is included in Enclosure (3) to the cover letter.

Page 60, Table 5, On-Base Groundwater, Indoor Air Recommendations 1, 2, and 3:

Navy believes potential indoor air hazards have been adequately assessed; therefore the Navy does not plan to conduct any additional indoor air analysis or sampling.

Page 60, Table 5, On-Base Groundwater, Well Recommendations 6 and 8:

The Navy does not believe that any known groundwater plumes pose a risk to existing drinking water wells, therefore the Navy does not believe it is necessary or appropriate for the well owner to implement any additional well head protection measures that are not otherwise required by existing potable water supply system regulations for existing or future drinking water wells. Land use controls/deed restrictions will preclude installation of drinking water wells into any known groundwater contamination.

Page 61, Table 5, Jet Fuel Pipeline, Wells Recommendations 1 and 2:

The contamination associated with the pipeline is minimal and limited to the vicinity of the pipeline and thereby is not believed to pose a public health hazard. If ATSDR believes there is a regional contamination problem due to sources other than the Navy pipeline, ATSDR should pursue it separate from this NAS Cecil Field Public Health Assessment.

Page 61, Table 5, Indoor Air Recommendation 3:

The Navy does not agree that contamination from pipeline leaks poses a public health hazard; therefore the Navy does not believe it is necessary or appropriate to notify the local Fire Department that a public health hazard exists from pipeline contamination.

Page 62, Table 5, Site 15, Contact With Soils Recommendation 4:

The Navy believes that the site has been adequately characterized to support a remedial action decision that is protective of human health; therefore, the Navy does not plan to conduct any more surface soil sampling.

Page 62, Table 5, Eating Locally Caught Fish and Turtles Recommendation 5:

The Navy does not believe that results of sediment or surface water sampling in surface water bodies that receive drainage from Site 15 warrant a prohibition of fish or turtle harvesting; therefore, the Navy does not plan to survey local populations to determine if fish or turtles are taken from the creeks or to post no fishing signs.

Page 62, Table 5, Eating Locally Caught Fish and Turtles Recommendation 7:

The groundwater at Site 15 has been confirmed to be uncontaminated; therefore, restrictions on groundwater use are not warranted and will not be imposed.

Page 63, Table 5, Former Housing and Other Building Hazards, Recommendation 1:

The most recent potable water supply sampling results indicated that lead concentrations were below regulatory criteria.

Page 64, Lake Hazards, Recommendation 1:

If ATSDR believes there is a regional mercury hazards due to sources other than from past NAS Cecil Field operations ATSDR should pursue it separately from this NAS Cecil Field Public Health Assessment.

Page 64, Lake Hazards, Recommendations 2 and 3:

The Navy does not believe it is appropriate to require additional sampling at Lake Fretwell. The Navy believes that the lake sediments, surface water and biota have been adequately assessed. A No Further Action determination has been approved for Lake Fretwell.

Page 64, Table 5, Unexploded Ordnance, Recommendation 1:

(duplicate listing on Page 65)

Although the Navy agrees that it is appropriate to provide public education material, the Navy does not believe it is appropriate to prohibit digging. The Local Reuse Authority Business Plan has substantial development being conducted in much of Yellow Water, where ATSDR has identified a UXO concern. Based on the type of ordnance historically used, the UXO report findings, and the minimal quantity and generally smaller caliber type of UXO found, the Navy does not believe it is justifiable to preclude development, rather, the Navy supports educating/informing future users on how to respond if suspected UXO is identified in the future.

Page 74, Appendix B-1: Population Data Table:

This data is from the 1990 census, when NAS Cecil Field was a fully functional Air Station. The current population is drastically different since the base is closed and substantially fewer people work and live at the facility. The demographic mix has also significantly changed (no dependent wives or children). The Navy recommends using 2000 census data.

Page 78, Appendix C, Summary of Site Evaluations, Forestry:

AOI 35 is NFA.

Page 79, Appendix C, Parks and Recreation:

Sites 4, 6, and 19 are all NFA

Page 79, Appendix C, Heavy Industry:

AOI 35 is NFA. AOIs 25, 26, and 27 are all combined into the AOI (Site) 25 actions.

Page 80, Appendix C, Aviation-related:

AOIs 28, 29, and 30 are NFA for soils but are located over the Site 16 plume. AOIs 32 and 33 are being worked together. A soil removal has been completed, (industrial reuse) requiring a deed restriction upon transfer.

Page 80, Appendix C, General Aviation:

Site 4 is NFA

Page 81, Appendix C, Forestry/Airport Reserve:

Site 18, AOI 23, 24, and 34 are all NFA

Page 82, Appendix C, Light Industry

The YWWC is not categorized as "gray". The majority of YWWC is "white". The Radiation Survey has been completed.

Page 83, Appendix C, Parks and Recreation:

AOI 20 is Building 610. The soil removal is complete and groundwater confirmation samples are pending. The former Public Works facility is PSC 42, which is NFA. All other areas in YWWA, with the exception of Site 15, have been assessed and are NFA.

Page 86, Appendix D: Fuel Related Spills at NAS Cecil Field, South Fuel Farm:

A Remedial Action is underway (Biovent/Biosparge system)

Page 96, Figure 6:

Add OUs 10, 11, and 12. An updated OU location map is included in Enclosure (3) to the cover letter.

Page 100, Figure 10:

This data is from the 1990 census, when NAS Cecil Field was a fully functional Air Station. The current population is drastically different since the base is closed and substantially fewer people work and live at the facility. The demographic mix has also

significantly changed (no dependent wives or children). The Navy recommends using 2000 census data.

MEDICAL REVIEW OF THE ATSDR PUBLIC HEALTH ASSESSMENT, PUBLIC COMMENT RELEASE, FOR NAS CECIL FIELD

Our comments are divided into three categories: General, Specific, and Risk Communication comments.

General Comments:

1. Although it is clear, from the number of descriptive pages in this document, to the many insets ("emphasis boxes") and tables and maps included, that ATSDR put a great deal of effort in developing this public health assessment, we are very concerned about the number of misleading, and in some cases inaccurate statements that are included in this document. We address a number of these instances in our "Specific Comments," below.

2. Our strongest concern is that we do not believe ATSDR has differentiated clearly enough between very hypothetical, or speculative exposure routes, and exposure scenarios that are likely to occur. We believe that such discrimination is not only in the purview of ATSDR, but is generally accepted by the public as being the responsibility of ATSDR, and the main purpose of a public health assessment.

In the "Foreword" to the public health assessment, under the "Health Effects" paragraph, the first sentence states that "If the review of the data shows that people have or could come into contact with hazardous substances, ATSDR scientists evaluate whether or not these may result in harmful effects." Nothing is said in this paragraph about evaluating the probability of a potential exposure occurring. However, under the "Conclusions" paragraph, the statement is made that "The report presents conclusions about the public health threat, if any, posed by a site." Health "threat" and health "risk" are interchangeable in meaning. While "threat" is not specifically defined in this document under the "Acronyms, Abbreviations and Glossary" section, which begins on page xiii, "Risk" is defined. Correctly, "risk" is defined as "A qualitative and quantitative expression of the theoretical probability of potential adverse health effects occurring..." While not defined in this document, "threat" is also an expression of the theoretical probability of potential adverse effects occurring.

When theoretical, or speculative scenarios are presented, with no discussion or evaluation of the probability of such a scenario occurring, it can be very misleading. The public may believe that a very improbable exposure scenario is as likely to occur as one of the likely exposure scenarios. From our reviews of previous public health assessments, we believed that the probability of occurrence was considered by ATSDR in developing the "hazard ranking" categories for each potential exposure scenario. We believe that this is appropriate and that "no apparent health risk" should be a category used for exposure scenarios that are improbable.

Specific Comments:

1. "Chemical Agent Identification Sets" (CAIS). We are specifically concerned about ATSDR's attempt to link unexploded ordnance (UXO) sites with the possibility of encountering Chemical-Biological-Warfare Agents, in the form of Test Kits, or "Chemical Agent Identification Sets". The references to "CAIS" begin almost from the beginning of the document (defined twice in the "Acronyms, Abbreviations, and Glossary" section), and are interwoven into the section entitled "F. Unexploded Ordnance" which begins on page 49. We do not understand why ATSDR appears to be intentionally trying to imply a threat from encountering test kits, despite the fact that there is a clear statement, on page 49, that "Chemical Agent Identification Sets (CAIS) have not been found at Cecil Field." However, that fact has not deterred ATSDR from including the words "Or Unidentified Glass Vials", "and CAIS" and "or CAIS" in the emphasis box on page 49, entitled "Information for those who discover UXO *Or Unidentified Glass Vials*", and then claiming that the Safety and Reporting tips indicated in the emphasis box were "Excerpted from the BRAC Environmental Fact Sheet, Spring 1999." We reviewed the DOD BRAC Guidance and found that the guidance was intended for remediation workers on UXO sites. The guidance was specific for UXO and did not contain references to "unidentified glass vials", or "CAIS."

The thinnest of threads is used to explain this potential hazard: "Because (CAIS) have been used and found at NAS Jacksonville [note: NAS Jacksonville is a base quite far removed from NAS Cecil Field] and because personnel from Jacksonville have trained at Cecil Field... it is possible that CAIS may be present." Possible? In the context that anything is possible, it is possible, but just because troops from one base train at another base, does not suggest or provide any evidence that troops would have taken CAIS with them to another base. The argument, in our view, is specious. It may have the unintended effect of raising community health concerns based on a complete lack of evidence to warrant such concern.

2. "Fuel Pipeline Leaks." A second issue for which we believe misleading statements are made in the document is the "fuel pipeline leaks" issue. Beginning with the "Summary" section, on page iii, Paragraph 4 states: "Seven situations require more data ...about whether contamination has reached areas where people are living or working. Those include:... (2 & 3) Off base, leaks from the jet fuel pipeline could pollute private wells and/or indoor air." "Could pollute" implies that there could be current leaks from the jet fuel pipeline or that there could be leaks from the jet fuel pipeline in the future. This is again implied in the untitled table, under the "Introduction" section which begins on page iv. Under the entry "B. Jet Fuel Pipeline" there is a statement that "Drinking water wells near the areas with pipeline leaks could become contaminated." Again, in the emphasis box shown on page 7, under B. Jet Fuel Pipeline, the statement is made that "Drinking water wells near the areas with pipeline leaks could become contaminated." The phraseology "pipeline leaks" implies that there is fuel in the pipeline, which could leak out. No-where in these sections is there a clear statement that the pipeline, in fact, does not contain any fuel. It is an abandoned (in the RCRA term used for closure of pipelines) and emptied pipeline. We submit that, while some fuel spills occurred, and

were reported, in the past, the phraseology used in these sections does not accurately relay that the pipeline is empty. We recommend that if ATSDR is concerned that spills that occurred in the past might cause future contamination of wells, that this should be clearly stated. As opposed to referring to this possibility in terms of a "leak", which implies that there is currently fuel in the pipeline, we recommend that ATSDR include clear statements, in the summary section and in other relevant sections and tables of the report, that the pipeline is empty, and that they are referring to past spills.

3. "UXO Sites." We are also concerned that ATSDR has included in this public health assessment areas and sites that are outside of the NAS Cecil Field site, particularly in reference to potential risks from UXO. Reference is made in this document to a number of bombing sites (e.g., Chafee Bomb Target Site, Clay Bomb Target Site...), implying that the potential health risks posed by sites on NAS Cecil Field may in some way be connected with health risks posed by these sites. We believe these referenced bombing sites are FUDs sites, and should be, or previously have been, evaluated in the context of the FUDs program. To our knowledge, these sites have never been part of NAS Cecil Field operations, and they have nothing to do with potential contamination at areas on Cecil Field.

4. "Site-Specific Mercury Contamination". We are additionally concerned with the unclear and implicating statements that have been made in reference to potential mercury contamination. In Table 3, page 33, "Description of current and future exposure to Site 15 soils, sediment, surface water, fish/turtles and UXO", the section under "People who eat fish or turtles from Yellow Water or Sal Taylor Creek draining site" indicates the "contaminants" are: "Possibly metals, including lead and mercury, PAHS and pesticides, although not confirmed."

It is true that elevated levels have not been found in fish that have been tested to date, and that more fish and turtles have not been tested in the drainage area. But we do not believe it is accepted practice to conduct fish and turtle sampling unless there is evidence of a problem in soils or sediments or waters that the fish and turtles reside in. At the top of page 44, Section E "Eating Fish and Turtles from On-base Lakes and Creeks", the first sentence states: "Fish in Lake Fretwell were found to be contaminated with *low levels* of mercury, lead, PCBs, and other chemicals at levels not likely to cause adverse health effects in people who eat the fish." Other statements relay that there were not even sufficient numbers of fish to support a regular recreational fishing scenario. None the less, a speculative scenario is described, whereby in the future, the lakes could be stocked with fish, and people could catch and eat more fish, and the fish could potentially become contaminated. Then it is stated that "*The unknown source* of contamination..." could pose a potential future human health risk.

In the text under the emphasis box, the statement is made that only fish from Lake Fretwell have been sampled "where mercury *from an unknown source* was detected in fish. The next sentence is that "Some *site-specific sources of mercury* include paint, munitions, calibration gauges, and batteries." These are the statements that are misleading. There are no known site-specific sources of mercury at this site. These are

only potential sources, if these materials were improperly released. Moreover, the mercury levels that were found in the 1997 sampling event were low. This suggests that, like much of the Southeastern United States, there are low background levels of mercury contamination in the soil, sediment, and biota. A likely cause of low levels of mercury is atmospheric deposition of mercury, which is a well known process.

The same statements are made again on pages 46 and 47, under the Section "Exposure Evaluation and Public Health Implications." The third paragraph on page 46 begins with the statement "Completed investigations have not pinpointed *the source of contamination* to the lake sediments and fish." Then, a whole paragraph is titled "Site Specific Sources of Mercury." The statement is again included under this paragraph that "Some *site-specific sources* of mercury...stored at, used, or disposed of at NAS Cecil Field..." Just because a material containing mercury is stored, or used, or disposed of (if correctly disposed of) does not mean that it was spilled, or released to the environment. And it certainly does not mean that the material became a site-specific source of contamination.

5. "Lead in Soil at Site 15". On pages 89 and 90, the algorithm for calculated potential blood levels in children, who might play at Site 15, is calculated. For all the equations and explanations given, one of the most important parameters to be input into the algorithm in order to calculate potential blood lead levels in children, is not given. That parameter is the exposure frequency and duration that was assumed. Under the section titled "Exposure", on page 90, the statement is made that "The calculations assume that children regularly play in the lead-contaminated soils around Site 15." We are not sure that it is appropriate to assume that children will "regularly play" at this site. And in order to make an independent judgment of whether one agrees or disagrees with the ATSDR calculations, one would need to know, how regularly were children assumed to play at this site. Daily? Weekly? The equations given on page 90 indicate some cumulative numbers, and the calculated results. If these can be understood by readers, the values used for the assumed regular exposure of children could be understood. Again, in the second-to-last paragraph on page 90, the term used is "*Frequent exposure...* to the highest soil levels exceeds the screening criterion. There is plenty of space on the page. We recommend that ATSDR provide the assumed value that they used for the frequency and duration of children playing on Site 15.

Health Risk Communication Comments:

Because so much of the document's contents are in question, we are providing risk communication comments only on the "Summary." The Summary is the most commonly read portion of the public health assessment document and it is important that it accurately summarize the report's contents in a manner easily understandable by the general public. We believe the Summary needs to be extensively revised in order to meet the needs of the public.

1. Page iii, paragraph 2: The second sentence, referring to historical activities, states: "Activities associated with fulfilling this mission have included waste disposal practices

and accidental spills of chemicals.” Waste disposal is necessary for any mission, not just NAS Cecil Field. Accidental chemical spillage is just that – an unplanned event, not an activity associated with the mission of the NAS. We suggest changing this sentence to list some actual activities associated with material support, facilities and services and then add another sentence saying something to the effect that past practices of waste disposal and accidental spills resulted in chemicals getting into the groundwater, soil, and surface water.

2. Page iii, paragraph 2: The last sentence states that there are twelve operable units consisting of 14 separate sites. It is not reasonable for the general public to understand what an operable unit is or to know the difference between an operable unit and a site. It is further confusing after trying to match up the 12 and/or 14 sites with the “situations” ATSDR lists in the following three paragraphs. This information does not add anything to the Summary and we suggest deleting it to minimize confusion. (See also the specific comments from SOUTHDIR, which point out the numbers of OUs and sites are inaccurate.)

3. Page iii, paragraphs 3, 4 and 5: These paragraphs provide information on health hazards. Paragraph 3 is what ATSDR considers potentially completed or completed pathways. Paragraph 4 describes hazards for which ATSDR does not consider they have enough information to evaluate the hazard one way or the other. Paragraph 5 is for exposure pathways for which ATSDR considers there is no potential hazard.

- Beginning with Paragraph 3, the term “situation” is repeatedly used; for example “...we identified nine situations which have the potential for human exposure.” We are confused by the term “situation.” Is ATSDR using this term to mean “pathway” or “potential exposure pathway”? We recommend revising the text throughout the Summary to say “pathway.” This is consistent with other public health assessments and is an important concept. Alternatively, the term “situation” should be specifically defined in the document. Dictionaries provide a number of definitions for “situation,” one of which seems approximately to give the meaning intended in the document; it is “relative position or combination of circumstances at a certain moment.” This reflects that a common understanding of the word “situation” is that it relays a truly occurring circumstance, whereas, in the context ATSDR is using the word, hypothetical circumstances are included in the “situations” described. ATSDR should define the word “situation” along the lines of “for the purposes of this document, we use the word “situation” to mean a potential exposure pathway, as defined in EPA documents.”
- Paragraph 3 presents information in an extremely confusing manner. It starts off with a statement of “Nine situations that have a potential for human exposure”; then the next sentence states that “one of the nine is a health hazard.” We believe it would be much clearer to keep information about potentially completed pathways together and information about completed pathways together. Don’t mix them up.

- We assume, but it is not clarified, that specific information about these nine “situations” described in Paragraph 3 is shown in the un-titled table commencing on page iv under the section titled “Introduction.” If this is the case, add a notation to the paragraph referring the reader to the chart. If not, then list then “situations” in the paragraph.
- Paragraph 4 presents information on seven “situations” that ATSDR states they cannot evaluate due to lack of information. However, the last sentence of the paragraph states, “one situation ... posed no public health hazard.” This sentence should be moved to paragraph 5, which is information about no public health hazard “situations.”
- The first sentence in paragraph 5 states that past exposures in eight “situations” pose no public health hazards. The second sentence then states that the likelihood of exposure is conditional and that a lack of blood lead sampling or lead data for housing makes it impossible for ATSDR to make a determination, so this section is indeterminate. This entire paragraph is not logical and needs to be completely revised. Either the “situations” are a public health hazard, are an indeterminate hazard or no hazard. If ATSDR calls them no hazards in the first sentence, they need to carry the thought through to the rest of the paragraph. The eight “situations” are not listed; only the “lead based paint” and “asbestos” scenarios are discussed.
- We recommend paragraphs 3, 4, and 5 be revised to present information an orderly, logical manner.