



DEPARTMENT OF THE NAVY
NAVAL SUBMARINE BASE NEW LONDON
GROTON, CONNECTICUT 06349-5000

N00129.AR.000121
NSB NEW LONDON
5090.3a

5090
Ser 803.4/0048

109 FEB 1993

Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation (E-32)
Attn: Mr. Robert C. Williams, P.E., Director
1600 Clifton Rd., N.E.
Atlanta, GA 30333

Dear Mr. Williams:

We have reviewed the Draft Public Health Assessment for the Naval Submarine Base New London (SUBASE NLON), Groton, CT (CERCL15 No. CTD980906515), dated December 21, 1992. Enclosed are comments from the Naval Submarine Base New London (enclosure 1); the Northern Division, Naval Facilities Engineering Command (enclosure 2); and, the Navy Environmental Health Center (enclosure 3).

Any questions regarding these comments should be directed to Mr. W. L. Mansfield at 443-2276.

Sincerely,

OLIVER E. BARFIELD
Commander, CEC, USN
Public Works Officer
By direction of
the Commanding Officer

Encl:

- (1) SUBASE NLON Comments (with (8) attachments)
- (2) NORTHNAVFACENGCOM Comments
- (3) Naval Environmental Health Center Comments

Copy to:

USEPA Region I (A. Minikus)
CTDEP (P. Jameson)

bcc:

CINCLANTFLT (N442)
COMSUBLANT (N451)
COMSUBGRU TWO
NORTHNAVFACENGCOM (18)
NAVSEA (08)
NEHAC



SUBASE NLON COMMENTS

The Public Health Assessment concludes that the concentrations of DDT and lead in soils and sediments in the Area A downstream watercourses are a health risk to children who may play in the area. Review of Agency for Toxic Substances and Disease Registry's (ATSDRs) assessment of risk indicates that the exposure points selected are highest levels of DDT & lead found. For DDT this was a sediment in a pond below the Area A wetland. For lead this was in sediment samples taken in the over the bank disposal area. Both of these sites are fenced off from North Lake to prevent children from exploring this area. This fence will be extended shortly to totally enclose the Area A wetland and downstream areas from any access from the south, east, or west sides. The only access will be through locked gates or through the Weapons Area, which is under complete surveillance around the clock (see attachment 1).

On page 55, paragraph 2, it is acknowledged that the fence at North Lake has been erected but it states that access to the Area A Downstream Watercourses is not restricted. The watercourses not restricted are the streams west of North Lake. These streams have lead and DDT levels in the sediment an order of magnitude lower than the exposure points used in the assessment. We suggest that these two areas i.e., inside the fenced area and downstream watercourses outside the fence, be analyzed separately. The current assessment overstates the risks to children using North Lake.

All boron results contained in the Phase I RI are considered invalid. Attachment (2) is NET/Atlantic, Inc. letter explaining the cause of the error. Because of sulfur interference, all boron readings for the off-site wells and in the Thames River have subsequently been found to be in error. Subsequent data collected for the Thames River (attachment 3), and the wells (attachment 4), are enclosed. The Thames River data is consistent with text book data for salt water systems. The well data shows little to no boron present, down to detection levels of 0.5 ppm.

We have the following comments regarding the recommendation on page 83.

1. Access to areas of high DDT and lead concentrations have been restricted by a fence constructed in 1991, on the edge of the woods to the east of North Lake. This fence will be extended this spring to completely enclose Area A and associated sites to the east of North Lake. Our judgement is that the streams to the west of North Lake do not pose a health risk.

2. The Phase II Remedial Investigation, scheduled for initiation in the summer of 1993, will further evaluate ground-water contamination and flow direction near the off-base wells.

Encl 1

3. We have enclosed more recent monitoring results for samples taken at the community well north of the base (attachments 5 & 6), which indicate lead levels below the 15 ppb standard. We also contacted the State Health Departments Water Supply Section and were advised that the latest results for this well (August 1990) show a reading below 0.01 ppm. We suggest this recommendation be reviewed in view of these results, as we feel the data does not support this recommendation.

Attachment (7) is the latest results of well testing at 1198 Pleasant Valley Road where lead was previously found at 32 ppb. These results indicate the lead level was at 37 ppb in a first draw sample closest to the well. Upon flushing readings at that point and at a source farthest from the well showed levels below 15 ppb. The resident has been advised of the results and has been provided information on lead in drinking water, its sources, and how an individual can protect themselves.

4. These residents have been previously advised that the sodium found in their wells presented a risk to those on salt restricted diets.

5. Monitoring of confined spaces in the museum is included in the Phase II work plan. The proposed work plan includes monitoring in a mechanical room/workshop at the lowest level in the museum. Routine monitoring for explosive gases and oxygen content is done prior confined space entry at the present time per OSHA requirements.

6. It is known that dredge spoils were placed by a Navy contractor at the Hempstead Farms site in Waterford, CT. The Corps of Engineers and the Connecticut Dept. of Environmental Protection would be the best sources of information for possible dredge soil deposition by private parties and the Corps of Engineers in the New London Harbor Area.

7. Sediment sampling of Goss Cove is proposed in the Phase II Remedial Investigation Work Plan. This work is scheduled to begin in the summer of 1993.

8. The SUBASE currently monitors all manholes for explosive gases and oxygen content prior to a worker entering a manhole. Workers entering these manholes will wear boots, gloves, and saranex coveralls.

9. We will develop a program to determine if there is a hydrogeological connection between the wetland/stream and the spring used for drinking water on Sleepy Hollow Pentway.

We view recommendations 1, 2, 5, 7, 8, & 9 as the Navy's responsibility. Recommendations 3 & 4 appear to be an ATSDR or Connecticut Health Department function. Recommendation 6 would

appear to be an action item for USEPA or the Connecticut Dept. of Environmental Protection. We suggest that this uncertainty be addressed in the final Public Health Assessment.

Specific items listed by page and paragraph are given below.

Page 6 - Last sentence, paragraph 3, states "Currently, no remediation is planned." The statement gives very negative connotation. Suggest "Currently, the Navy is studying the sites to identify what remediation is required."

Page 6, paragraph 6 - Suggest the Defense Property Disposal Operation Area (DPDO) be called Defense Reutilization and Marketing Office (DRMO). The name was changed a number of years ago.

Page 8, paragraph 3 - The Over Bank Disposal Area Northeast - This area is being fenced on the southeast to prevent any unauthorized access. The only way to reach the site will be through locked gates or at access points which are under constant surveillance.

Page 9, paragraph 3 - Only a small portion of the Area A landfill is paved. Cars, contractor's materials and sandbags are not stored on the asphalt.

Page 9, paragraph 5 - The Area A Landfill is being fenced. The only access will be through locked gates or access points under constant surveillance.

Page 9, paragraph 6 - The Over the Bank Disposal Area will be fenced shortly. The only access will be through locked gates at access points which are under constant surveillance.

Page 12, paragraph 4 - North Lake is filled with City water each spring and drained in the fall. The lake is chlorinated and sampled routinely during the summer months, much as a swimming pool would be.

Page 15, paragraph 2 - Previous comment concerning chlorination applies.

Page 23, Table 2 - The Table indicates bedrock aquifer contamination was found at the Torpedo Shops. The only contaminant found in the bedrock well was boron. Because of errors in the analytical technique all boron data in the Remedial Investigation is considered invalid. All boron readings are suspected of being in error on the high side, because of sulfur interference. This table should be footnoted to indicate the uncertain nature of this finding.

Page 24, Table 3 - The table indicates surface water was not

analyzed at the Torpedo Shops. There was one sample taken at this site. Result is found on page 4-119 of RI (7SW/SD1). This entry should read ND.

Page 24, Table 3 - The table indicates sediment was not analyzed at the Torpedo Shops. There was one sample taken at this site. Result is found on page 4-95 & 4-98 (7SW/SD1). This entry should read ND.

Page 24, Table 3 - Table indicates sediment was not analyzed at North Lake. Sample was taken and result is found on page 4-98 of RI(2 DSD10). This entry should read ND.(Furthermore description of investigation on page 46 should be expanded to include this information).

Page 28, Table 7 - PCB information is listed under wrong heading. PCB was found in North System. (7MW2) page 4-27 of RI.

Page 36, Table 11 - Should comparison value for DDT by 2,100 ppb?

Page 37, Table 12 - Concentration of Indeno (1,2,3 - cd) pyrene in column headed subsurface soil should be 270J (page 4-77 of RI).

Page 37, Table 12 - Concentration of lead in sediment should be 21,300 - 241,000J.

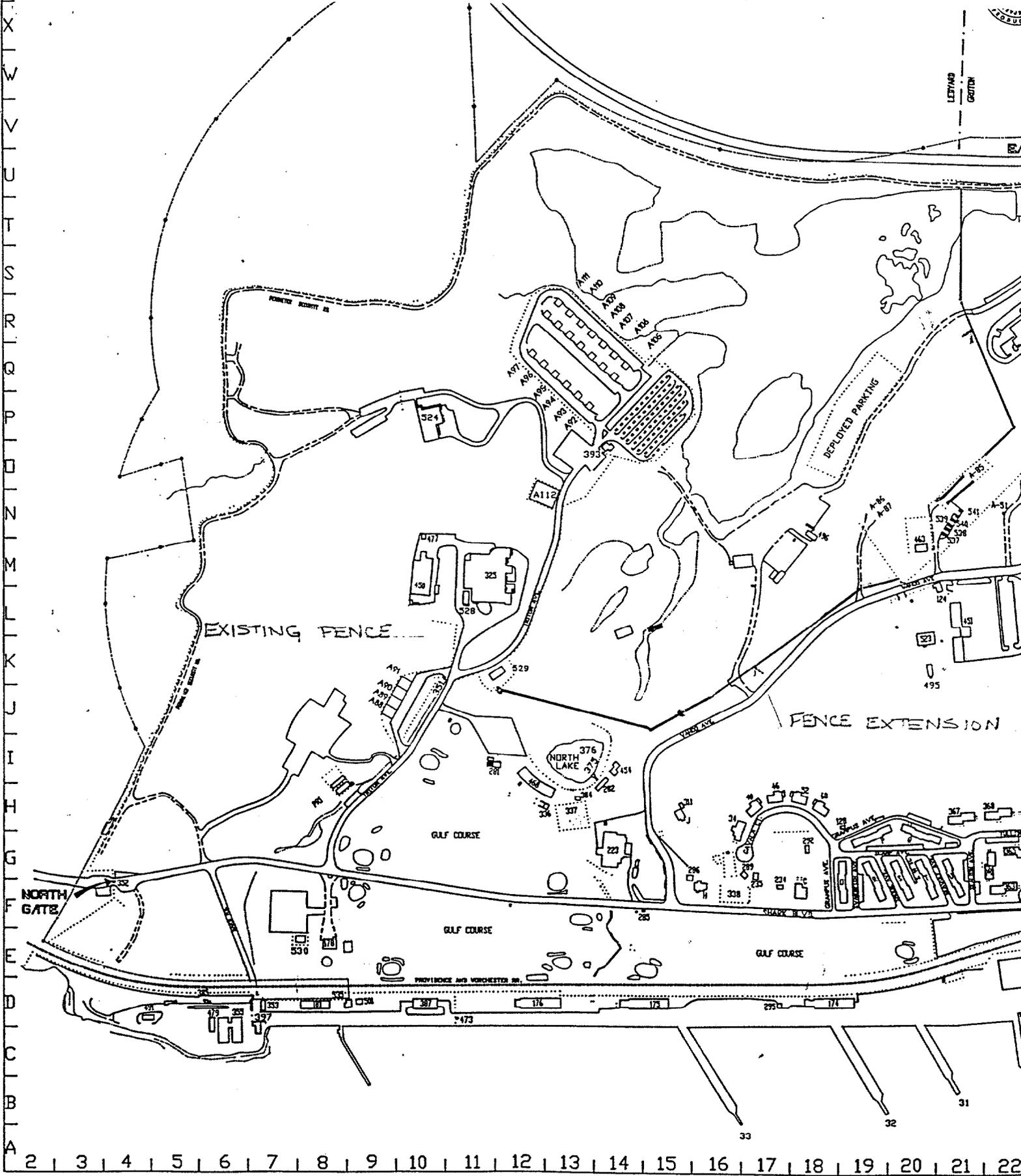
Page 40, Table 14 - Concentration of sodium should read 9,000 - 1,360,000 ppb.

Page 55, paragraph 5 - The pond mentioned was dredged in 1992. Laboratory results for testing done after completion of the dredging are attached (attachment 8).

Page 54 - paragraph 5 - Area A is not naturally occurring. It was created by deposition of dredge spoils (see also page 81, paragraph 2).

Page 79 - paragraph 4 - Statement should read "Solid radioactive waste material associated with maintenance and operation of Naval nuclear powered warships are packaged in strong, tight containers, shielded as necessary, and taken off base to U.S. Nuclear Regulatory Commission (NRC) licensed disposal areas (36).

Page 90 - item 36 - Citation should read "Naval Nuclear Propulsion Program, Feb 1992. Environmental Monitoring and Disposal of Radioactive Wastes from U.S. Naval Nuclear Powered Ships and their Support Facilities. Report NT-92-1."



Attachment (1)





December 14, 1992

Mr. Barry Giroux
Atlantic Environmental Services, Inc.
188 Norwich Avenue
Colchester, CT 06415

RE: Analysis of Boron for the New London Sub Base, Groton, CT.

Dear Barry:

We believe we have reached resolution on the issue of the accuracy of sample analysis from the Sub Base site for Boron. Due to the design of our Inductively Coupled Plasma (ICP) spectrometer, the presence of sulfur (S) in your samples was measured as boron (B). This was a spectral interference where all quality control measures performed during the analysis for boron were acceptable. This design flaw was discovered through the cooperation of our instrument manufacturer as well as the efforts of Atlantic Environmental and an industrial client of NET in the Boston area.

You have been working with us since August to determine the accuracy of the boron analyses. Per your requests we double and triple checked all calculations, dilutions, blanks, spikes, duplicates, laboratory control standards, calibrations and potential laboratory contamination sources. As we stated in our letter of September 8, all quality control indicators were acceptable, and no error in the analysis for boron was found. The boron analyses met the acceptance standards of EPA Method 200.7, the EPA CLP methods and the Navy's NEESA program.

Subsequent to this, additional samples were collected at the Sub Base and analyzed for boron by other laboratories. These data were substantially lower in concentration than those reported by NET. At the same time, one of our industrial clients was also discovering differences in boron data between NET and another laboratory. We were able to determine that the boron emission wavelength used by NET and the other laboratories were substantially different, and potentially the source of an interference.

At this point, NET submitted split digestates of the industrial effluent to our instrument manufacturer for broad scan analysis. The manufacturer indicated that the samples had significant concentrations of sulfur species. In addition, we were informed that sulfur has a significant emission within the 182 nm window where our instrument measures boron. This was the first information that we had regarding this possible interference.

Attachment (2)



LABORATORY RESOURCES, INC.

EASTERN SCIENTIFIC DIVISION

RTE 205 THE REGIONAL BLDG.

P.O. BOX 700

BROOKLYN, CT 06234

TEL.-(203)774-6814 FAX-(203)774-2689

Report to: GARY ANDERSON
FACILITIES SUPPORT CNTR. MAN.
BOX 400 CODE 805
NAVAL SUB BASE NEW LONDON
GROTON, CT 06349-5400

Page: 1

Work ID: RIVER SAMPLES

Work Order #: E208128

Date Received: 08/05/92

PO Number: N62472-92-M-3592

Analysis Performed	Results	Detection Limits	Date of Analysis	Method of Analysis
Sample ID: CITY PIER NLON SURFACE BORON	3.0	0.05	Date Collected: 08/05/92 08/11/92	EPA 200.7
Sample ID: CITY PIER NLON 10' DEPTH BORON	3.3	0.05	Date Collected: 08/05/92 08/11/92	EPA 200.7
Sample ID: PIER 10 AT BASE SURFACE BORON	2.2	0.05	Date Collected: 08/05/92 08/11/92	EPA 200.7
Sample ID: PIER 10 AT BASE 10' DEPTH BORON	3.2	0.05	Date Collected: 08/05/92 08/11/92	EPA 200.7
Sample ID: MOHEGAN PEQUOT BR. SURFACE BORON	0.68	0.05	Date Collected: NONE 08/11/92	EPA 200.7
Sample ID: MOHEGAN PEQ. BR. 10' DEPTH BORON	2.5	0.05	Date Collected: NONE 08/11/92	EPA 200.7
Sample ID: LONG COVE SURFACE BORON	2.3	0.05	Date Collected: 08/05/92 08/11/92	EPA 200.7
Sample ID: NORWICH HARBOR SURFACE BORON	0.23	0.05	Date Collected: 08/05/92 08/11/92	EPA 200.7
Sample ID: NORWICH HARBOR 10' DEPTH BORON	2.4	0.05	Date Collected: 08/05/92 08/11/92	EPA 200.7

All measurements are in mg/l unless otherwise specified
ND = None Detected/Below stated detection limit
All soils/sludges samples reported on a dry weight basis

Report is an accurate analysis of
sample received at this laboratory.


T.F. McCommas, Director 08/12/92
Robert LaFerriere, Tech. Lab. Director
CT Laboratory PH 0465

Attachment (3)



LABORATORY RESOURCES, INC.

EASTERN SCIENTIFIC DIVISION
RTE 205 THE REGIONAL BLDG.
P.O. BOX 700
BROOKLYN, CT 06234
TEL.-(203)774-6814 FAX-(203)774-2689

Report to: GARY ANDERSON
FACILITIES SUPPORT CNTR MAN
BOX 400 CODE 805
NAVAL SUB BASE NEW LONDON
GROTON, CT 06349-5400

Page: 1

Work ID: HOUSE WELL WATER TEST
Work Order #: E209167

Date Received: 09/04/92

PO Number: N62472-92-Q-3605

Analysis Performed	Results	Detection Limits	Date of Analysis	Method of Analysis
Sample ID: 162 MILITARY HWY. BORON	ND	0.05	Date Collected: 09/04/92 09/08/92	EPA 200.7
Sample ID: 48 PINELOCK DR. BORON	ND	0.05	Date Collected: 09/04/92 09/08/92	EPA 200.7
Sample ID: 40 PINELOCK DR. BORON	ND	0.05	Date Collected: 09/04/92 09/08/92	EPA 200.7
Sample ID: 7 PINE LOCK DR. BORON	ND	0.05	Date Collected: 09/04/92 09/08/92	EPA 200.7
Sample ID: 1458 RTE. 12 BORON	ND	0.05	Date Collected: 09/04/92 09/08/92	EPA 200.7
Sample ID: 1444 RTE. 12 BORON	ND	0.05	Date Collected: 09/04/92 09/08/92	EPA 200.7
Sample ID: 1477 RTE. 12 BORON	ND	0.05	Date Collected: 09/04/92 09/08/92	EPA 200.7
Sample ID: 1488 RTE. 12 BORON	ND	0.05	Date Collected: 09/04/92 09/08/92	EPA 200.7
Sample ID: 1037 LONG COVE RD. BORON	ND	0.05	Date Collected: 09/04/92 09/08/92	EPA 200.7
Sample ID: 1053 LONG COVE RD. BORON	ND	0.05	Date Collected: 09/04/92 09/08/92	EPA 200.7

All measurements are in mg/l unless otherwise specified
ND = None Detected/Below stated detection limit
All soils/sludges samples reported on a dry weight basis

Attachment (4)





LABORATORY RESOURCES, INC.

EASTERN SCIENTIFIC DIVISION

RTE 205 THE REGIONAL BLDG.

P.O. BOX 700

BROOKLYN, CT 06234

TEL.-(203)774-6814 FAX-(203)774-2689

Page: 1

Report to: WILLIAM MANSFIELD
FACILITIES SUPPORT CNTR. MAN.
BOX 400 CODE 805
NAVAL SUB BASE NEW LONDON
GROTON, CT 06349-5400

Work ID: SLEEPY HOLLOW PENTWAY
Work Order #: E301366

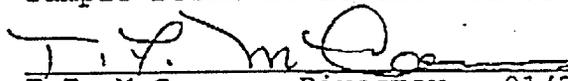
Date Received: 01/18/93

PO Number: N62472-93-M-3346

Analysis Performed	Results	Detection Limits	Date of Analysis	Method of Analysis
Sample ID: UNIT 10-1 / FIRST DRAW LEAD	ND	0.003	Date Collected: 01/15/93 01/19/93	EPA 239.2
Sample ID: UNIT 10-1 / 15 MIN. FLUSH LEAD	ND	0.003	Date Collected: 01/15/93 01/19/93	EPA 239.2
Sample ID: HOLDING TANK / FIRST DRAW LEAD	ND	0.003	Date Collected: 01/15/93 01/19/93	EPA 239.2
Sample ID: DIRECT FROM WELL LEAD	ND	0.003	Date Collected: 01/15/93 01/19/93	EPA 239.2

All measurements are in mg/l unless otherwise specified
ND = None Detected/Below stated detection limit
All soils/sludges samples reported on a dry weight basis

Report is an accurate analysis of sample received at this laboratory.


T.F. McCommas, Director 01/21/93
Robert LaFerriere, G.M.
CT Laboratory PH 0465

Attachment (5)





Crystal Springs Laboratory, Inc.

Environmental & Chemical Testing

CT Dept. of Health #PH-0642

178 Bridge Street R
Groton, Connecticut 06340
(203) 445-1751

Sample ID#: TLPB-1209

Date Received: 9 December 1992

Time Received: 3:20 P.M.

Report to:

Name: Town of Ledyard WPCA/Gene Jambor
Street: P.O. Box 310
Town, State: Ledyard, Ct
Zip Code: 06339
Telephone: 526-3181

Date: 18 December 1992

Sampled By: Client

Source: Sleepy Hollow Pentway

Test: Lead

Bill to:

Name: SAME
Street:
Town, State:
Zip Code:
Telephone:

<u>PARAMETER</u>	<u>RESULTS</u>	<u>MCL*</u>
Lead	1.7 ppb	15.0 ppb

MCL* Maximum Contaminant Level

All procedures are in strict compliance with U.S.E.P.A., CT Dept. of Health, and CT D.E.P. guidelines.

This sample meets the above requirement for potability.



Dr. Eugene A. Cioffi, Director

Attachment (6)

LABORATORY RESOURCES, INC.

EASTERN SCIENTIFIC DIVISION
RTE 205 THE REGIONAL BLDG.
P.O. BOX 700
BROOKLYN, CT 06234
TEL.-(203)774-6814 FAX-(203)774-2689

Report to: WILLIAM MANSFIELD
FACILITIES SUPPORT CNTR. MAN.
BOX 400 CODE 805
NAVAL SUB BASE NEW LONDON
GROTON, CT 06349-5400

Page: 1

Work ID: 1198 PLEASANT VALLEY RD. NO.
Work Order #: E301368

Date Received: 01/18/93

PO Number: N62472-93-M-3346

Analysis Performed	Results	Detection Limits	Date of Analysis	Method of Analysis
Sample ID: CLOSEST TO WELL/1st DRAW LEAD	0.037	0.003	Date Collected: 01/18/93 01/19/93	EPA 239.2
Sample ID: FURTHEST FRM.WELL/1st DRAW LEAD	0.010	0.003	Date Collected: NONE 01/19/93	EPA 239.2
Sample ID: CLOSEST TO WELL/2nd DRAW LEAD	0.011	0.003	Date Collected: 01/18/93 01/19/93	EPA 239.2
Sample ID: FURTHEST FRM.WELL/2ndDRAW LEAD	ND	0.003	Date Collected: NONE 01/19/93	EPA 239.2

All measurements are in mg/l unless otherwise specified
ND = None Detected/Below stated detection limit
All soils/sludges samples reported on a dry weight basis

Report is an accurate analysis of
sample received at this laboratory.


T.F. McCommas, Director 01/21/93
Robert LaFerriere, G.M.
CT Laboratory PH 0465

Attachment (7)



ORGANICS
ANALYTICAL DATA REPORT

WORK ORDER #

E208046

prepared for

FACILITIES SUPPORT CNTR. MAN.
BOX 400 CODE 805
NAVAL SUB BASE NEW LONDON
GROTON, CT 06349-5400

PROJECT:

9236456BQ / KOHR'S POND
SEDIMENT SAMPLE-18 SLEEPY HOLLOW
PENTWAY, GALES FERRY CT

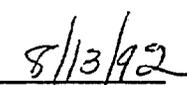
PO:

N62472-89-D-3466
Line Item #: 0001BQ

Date Received: 08/04/92

Prepared by

LABORATORY RESOURCES, INC.

 
T.F. McCommas, Director 08/13/92
Robert LaFerriere, Tech. Lab. Director

ND = None Detected/Below stated detection limit
All soil/sludge samples reported on a dry weight basis

Attachment (8)



PUBLIC HEALTH ASSESSMENT FOR:
U.S. NAVAL SUBMARINE BASE, NEW LONDON
GROTON, NEW LONDON COUNTY, CONNECTICUT
CERCLIS NO. CTD980906515
DECEMBER 21, 1992

REVIEWED BY: MARK LEIPERT
NORTHDIVNAVFACENGCOM/CODE 1822

COMMENTS:

1. Page 6, paragraph 3: States "Currently, no remediation is planned." The Navy is going forward with some remediation projects such as Building 31 (time critical removal action), UST remediation at the NEX gas station, Dolphin Mart, and the cleanup of OT-5.
2. Page 6, last paragraph, "Step II Sites": Should read "Area A (includes Area A Landfill, Area A Wetlands and Area A Downstream Watercourses). It does not consist solely of the Area A Landfill.
3. Page 7, first paragraph: After "Drums have since been removed by the Navy." A sentence should be added stating that no surface soil staining or stressed vegetation was evident.
4. Page 7, second paragraph: According to the IAS there was only one electric motor found not several of them.
5. Page 7, second paragraph: Somewhere in this paragraph it should mention that historically this site used to be a coaling station. This could account for the low level PAHs found at this site which are referred to later within the assessment.
6. Page 7, second paragraph: It would also be nice to add something about the IAS reported that materials had not been disposed at this site for more than 10 years prior to the date of the IAS inspection (1982).
7. Page 8, second paragraph, second sentence: Talks about materials reportedly disposed in the Goss Cove Landfill, according to the IAS there is no mention of oxygen candles made of potassium superoxide. Where is this finding referenced?
8. Page 8, second paragraph, last sentence: Should read, "Another tank was filled with ammonia while the remainder of the tanks were determined to be empty.
9. Page 8, third paragraph: It should be noted that no visual staining or stressed vegetation was observed at the OBDANE site. The IAS stated that vegetation at the site indicated no dumping had occurred within 10 years of the investigation (1982).

Encl 2



10. Page 9, fourth paragraph, last sentence: Should add "The discharge is routed around North Lake through a culvert system."
11. Page 14, last paragraph: Shellfish include mollusks (i.e. clams). How can clams be harvested when shellfish harvesting is prohibited?
12. Page 31, Table 9, Concentration (ppb*): Entries for Benzo(k)fluoranthene and DDT should read "ND-7600JY and ND-3400XJ", respectively.
13. Page 62, third paragraph: Giving examples of how boron can be ingested through different types of food and its concentration would help to put this risk in better perspective for the average person.
14. Page 63, first paragraph: Is the exposure period for adults also over one year? State the appropriate length of time.
15. Page 65, last paragraph: Should state that the area is fenced off to prevent entry. Children do not have access to the area and therefore are not exposed. The exposure scenario is purely hypothetical.
16. Page 67, third paragraph: If 3,100 ppb is the maximum concentration of PCB 1260 found, the range, average concentration, and number of samples should be given to accurately characterize the site.
17. Page 67, seventh paragraph: Give range, average concentration and number of sediment samples from the Area A Downstream Watercourses to accurately characterize this site. Children do not have access to the area and therefore are not exposed. The exposure scenario is purely hypothetical. This should be clarified throughout the report.
18. Page 73, sixth paragraph: Once again, this is not true. Area A Downstream Watercourses are fenced off so there is no exposure pathway.
19. Page 77, sixth paragraph: Should state that North Lake is filled each summer with water from the public water supply.
20. Page 81, Conclusion No. 2: Change to "Several divergent streams known past the North Lake recreational area (diverted around North Lake by a closed culvert system) and the golf ..." Area A Downstream Watercourses are fenced-off so there is no exposure pathway.
21. Page 81, Conclusion No. 5: This conclusion should be updated to reflect the fact that the Navy has taken additional samples and has determine that the elevated readings of boron were caused by a laboratory instrument error.



22. Page 83, Recommendation No. 1: Access to the Area A downstream Water courses is restricted since the area is fenced off.

23. Page 93, Figure 2: The figure does not show the Area A Downstream Watercourses.



REVIEW OF PUBLIC COMMENT RELEASE (BROWN COVER)
PUBLIC HEALTH ASSESSMENT
FOR U.S. NAVAL SUBMARINE BASE, NEW LONDON
GROTON, NEW LONDON COUNTY, CONNECTICUT

General Comments:

1. The document entitled "Public Health Assessment for U.S. Naval Submarine Base, New London, Groton, New London County, Connecticut," prepared by the U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR), and dated 21 December 1992, was provided to Navy Environmental Health Center (NAVENVIRHLTHCEN) for review. Specific review comments and recommendations are provided below. The comments address sections from the ATSDR report with recommendations for ATSDR follow-up.

2. Based on the data collected to date, we concur with the findings of ATSDR concerning the completed and potential exposure pathways. The few discrepancies noted in the report are presented below.

3. The technical point of contact for this review of the public health assessment (PHA) is Ms. Andrea Lunsford, Head, Health Risk Assessment Department, Environmental Programs Directorate, NAVENVIRHLTHCEN, who may be contacted at (804) 444-7575 or DSN 564-7575, extension 402.

Specific Review Comments:

1. Unnumbered page (page 3), section entitled "Summary," paragraph 5

Comment: The text states "ATSDR's Health Activities Recommendation Panel (HARP) has determined that based on the evaluation of available data and on current site conditions, an environmental health education program is recommended to advise public health professionals and the local medical community of the nature and possible consequences of exposure to contaminants at the New London Submarine Base."

In subsequent sections of the report, ATSDR notes that most concerns addressed in this public health assessment (PHA) are associated with chemicals found in drinking water that cannot be correlated to New London Submarine Base activities. Thus it may be more appropriate to replace the wording "... at the New London Submarine Base" with "...determined to be of public health concern during this public health assessment."

Recommendation: Reword the paragraph to more clearly relay the findings of this PHA.

Enclosure (1)

Encl 3

Recommendation: Remove the "X" and "Y" qualifiers from the data tables.

5. Page 26, "Environmental Contamination and Other Hazards," Section B (On-Base Contamination), Table 5 (Contaminants in Surface Soil at CBU Drum Storage Area (3))

Comment: The table lists the source of the comparison values as being regional background. As site background data becomes available, it will be more appropriate to use site background concentrations for comparison purposes.

Recommendation: Use site background data for comparison purposes when it is available.

6. Page 30, "Environmental Contamination and Other Hazards," Section B (On-Base Contamination), subsection entitled "Goss Cove Landfill"

Comment: The text discusses the detection of a number of different polyaromatic hydrocarbons (PAHs) in Goss Cove Landfill soil samples. Goss Cove Landfill is asphalt covered; PAHs may be a result of the asphalt and not necessarily site contaminants.

Recommendation: Add a statement to address the likelihood of finding PAHs in soil samples collected in asphalted areas.

7. Page 32, "Environmental Contamination and Other Hazards," Section B (On-Base Contamination), Table 10 (Selected Contaminants in Groundwater at the Goss Cove Landfill)

Comment: (Editorial) Under the column for "Concentration" of Gross Alpha and Beta Radiation, and the Footnote Key, the units given for picoCuries per liter are indicated as pCi/L. The correct abbreviation for this unit is pCi/L.

Recommendation: Correct as indicated.

8. Page 41, "Environmental Contamination and Other Hazards," Section B (On-Base Contamination), subsection entitled "Area A Downstream Watercourses and Overbank Disposal Area (3) - Surface Water," Table 15 (Selected Contaminants in Surface Water at Area A Wetland, Area A Downstream Watercourses, and the Thames River)

Comment: In this table, the comparison value (Lifetime Health Advisory (LTHA)) for boron is given as 0.6 ppb. Tables previous to this one listed the comparison value (LTHA) for boron in ground water and surface water as 600 ppb. There appears to be a discrepancy here in the comparison values listed for the LTHA. Perhaps the 0.6 value listed is in ppm versus ppb. If this is true, then the corresponding concentration values listed for boron should also be corrected to ppm. Whatever reference

values are used for boron, they should, above all, be consistent with values given in tables throughout the rest of the document. The values given for boron in Table 18 on page 49 also reflect this same discrepancy. On page 61 the statement is made that the EPA's Health Advisory for boron in water is 0.6 ppm.

Recommendation: Correct all concentration and reference values for boron in order to be consistent with those presented throughout the report.

9. Page 52, "Pathways Analysis," Section A (Private Well Pathway)

Comment: In the discussion on page 52, it is stated that chloromethane, methylene chloride and total xylenes were detected in trace amounts in one residential well. Upon resampling, no volatile organic compounds (VOCs) were found to be present. In the "Completed Exposure Pathways" summary table (page 59), under the row designated as "Private Wells", no listing is given for methylene chloride or total xylenes as contaminants. However, chloromethane is listed. There is inconsistency with the discussion of contaminants under pathways analysis, and those found on the summary table.

Recommendation: Ensure that all chemicals of potential concern (COPCs) considered in pathways analysis at the site are included consistently in both the discussion portions and the summary lists for completed exposure pathways of the PHA.

10. Page 55, "Pathways Analysis," Section A (Completed Exposure Pathways), subsection entitled "Surface Water and Sediments Pathways," paragraph 1

Comment: In the discussion of exposure pathways, the COPCs mentioned as selected contaminants at the site do not include cadmium; however, cadmium is listed in the summary list of "Completed Exposure Pathways" on page 59 along with PAHs and pesticides. Conversely, lead and polychlorinated biphenyls (PCBs) are discussed in the pathways analysis, but not included in the summary list. It is not clear whether the summary list is meant to include all COPCs or if it is intended to be a list of those under consideration for completed exposure pathways.

Recommendation: Ensure that all COPCs considered in pathways analysis at the site are included consistently in both the discussion portions and the summary lists for completed exposure pathways of the PHA.

11. Page 58, "Pathways Analysis," Section C (Eliminated Exposure Pathways), subsection entitled "Surface Water and Sediments Pathways"

Comment: The text addresses the extensive sampling that has been done at North Lake and Rock Lake and states that "no selected contaminants have been identified in the samples." The text then concludes that "no exposure pathways exist" for people who play in the lakes. It is probably more appropriate to say that no exposure exists or that no completed exposure pathways exist. Since people play and swim in the lakes a potential pathway exists; however, the pathway is incomplete because of a lack of contamination.

Recommendation: Clarify, as indicated.

12. Page 62, "Public Health Implications," Section A (Toxicologic Evaluation), subsection entitled "Cadmium," paragraph 2

Comment: The text states "Cadmium was detected at trace levels in seven other samples; however, the laboratory blanks also contained trace levels of cadmium suggesting a quality control problem in the blank."

The quality control problem with cadmium contamination in the blank also impacts sample results. The RAGS manual states that if blanks contain detectable levels of one or more organic or inorganic chemicals that are not considered by EPA to be common laboratory contaminants, the sample results should only be considered positive if the concentration of the chemicals in the site samples exceed five times the maximum amount detected in any blank. It further states "Treat samples containing less than five times the amount in any blank as non-detects and, in accordance with EPA guidance, consider the blank related chemical concentration to be the quantitation limit for the chemical in that sample." These issues should be addressed in the text.

Recommendations:

a. Change the sentence referring to cadmium levels in the samples to state "... suggesting a quality problem."

b. Discuss the impact of the trace levels of the contaminants measured in the blank on sample results.

13. Page 63, "Public Health Implications," Section A (Toxicological Evaluation), subsection entitled "Cadmium," paragraph 3

Comment: In the discussion relating to estimation of the daily exposure dose of cadmium in drinking water, only non-carcinogenic health effects are considered. There is no mention that cadmium is a suspect/probable human carcinogen as designated by the EPA, International Agency for Research on Cancer (IARC) and National Toxicology Program (NTP). Carcinogenic health effects of cadmium in drinking water should also be considered in calculating daily exposure to humans.

Recommendation: Consider including a discussion of the potential carcinogenic effects of cadmium in drinking water to humans.

14. Page 65, "Public Health Implications," Section A (Toxicological Evaluation), subsection entitled "Lead," paragraph 5

Comment: In the discussion on lead in contaminated sediments at the Area A Downstream Watercourses as a completed exposure pathway, no mention of lead is given in the "Completed Exposure Pathway" summary table presented in page 59 for this same site. As stated earlier, there is inconsistency with the discussion of contaminants under consideration for completed exposure pathways and those found on the summary table.

Recommendation: Ensure that all COPCs considered in pathways analysis at the site are included consistently in both the discussion portions and the summary lists for completed exposure pathways of the PHA.

15. Page 67, "Public Health Implications," Section A (Toxicological Evaluation), subsection entitled "PCB 1260," paragraph 7

Comment: In the discussion related to PCB 1260 in contaminated sediments at the Area A Downstream Watercourses as a completed exposure pathway, no mention of PCBs is given in the "Completed Exposure Pathway" summary table presented in page 59 for this same site. As stated earlier, there is inconsistency with the discussion of contaminants under consideration for completed exposure pathways and those found on the summary table.

Recommendation: Ensure that all COPCs considered in pathways analysis at the site are included consistently in both the discussion portions and the summary lists for completed exposure pathways of the PHA.

16. Page 78, "Public Health Implications," Section C (Community Concerns Evaluation), bullet #2

Comment: A retired civilian employee, concerned about his past exposure to paints, thinners, fuels and other fluids in the work place during his 20 years of Naval service, expressed these concerns to ATSDR. The report states that ATSDR referred this concern to the Occupational Safety and Health Administration (OSHA).

Although it is entirely appropriate to refer employee concerns regarding occupational safety and health issues to OSHA, civilian and military employees (current and/or retired) may receive information concerning their exposure and/or the exposure of other individuals conducting similar operations from Navy Occupational Safety and Health (NAVOSH) Program offices and clinics. Base employees and retirees, concerned about past and/or occupational exposures, should initially be instructed to contact the servicing industrial hygiene department at Naval Hospital, New London. Industrial hygiene surveys done in the past, along with past air monitoring results should give the employee some indication of his past exposure to chemical stressors at his old work place on the base.

Recommendation: Refer current and retired Navy employees, concerned about occupational exposures to the servicing industrial hygiene department at Naval Hospital, New London, as well as to OSHA.

17. Pages 83-84, "Recommendations" and pages 85-86, "Public Health Action Plan"

Comments: The "Recommendations" section provides some very specific recommendations. The "Public Health Action Plan" (PHAP) lists actions undertaken and actions planned in very general terms. Some of the specific actions identified in the "Recommendations" section are not specifically addressed in the PHAP, nor associated with an organization to complete the proposed action in the PHAP. For example:

a. Recommendation #1 states "Restrict access to the Area A Downstream Watercourses." The PHAP does not specifically address this recommendation as being completed nor is it listed as a planned action.

b. "Recommendation #3" states "Advise those residents who are drinking lead contaminated well water (from the two off-base private residential wells that showed lead levels to be 32 ppb and 39 ppb) that children and pregnant women should not drink the well water because of the estimated increase in blood lead levels."

In the PHAP (Actions Undertaken) it states "The Navy held a public meeting to discuss the results of private well sampling with residents." It is not clear whether the Navy addressed "Recommendation #3" during this meeting, whether ATSDR addressed this issue during one of their public meetings or whether any action has yet been taken.

c. Likewise, Recommendation #4 states "Advise residents on salt-restricted diets of elevated sodium levels detected in four off-base private residential wells." The PHAP does not specifically state whether this action is complete.

d. Recommendation #6 states "Because of community health concerns, determine the location of any off-base deposition of Thames River dredge material to evaluate the likelihood that people may be exposed to potential contaminants in the dredged material." This recommendation does not appear to be included in the PHAP. The dredging activities of concern appear to have been conducted by the Army Corps of Engineers. The document does not address Navy involvement in the dredging activities; therefore, it may be inappropriate for the burden of determining the placement of dredged material to be the responsibility of the Navy.

Recommendations:

a. Review the list of recommendations to determine which have been conducted, will be conducted or need to be conducted.

b. Clarify the responsible party for the proposed action. In addition, if organizations other than ATSDR or the Navy will carry out some of the recommendations, specify the organization which will request those organizations to do so.

18. Page 83, "Recommendations," #8

Comment: This recommendation states "Perform air monitoring within the manholes to determine if levels of VOCs pose a physical explosive hazard to workers or a health hazard based on inhalation and/or dermal absorption of potential contaminants." Although we recognize ATSDR's responsibility, as defined under the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), may include occupational safety and health considerations, such monitoring is not a Defense Environmental Restoration Account (DERA) funded activity.

As required by NAVSEA S-6470-AA-SAF-010 (Gas Free Engineering Program) and Chapter 27 of OPNAVINST 5100.23C (Confined Space Entry Program (Non-Maritime)), it is required that individuals trained as "gas free engineers" conduct air monitoring prior to entrance of a confined space. Prior to entrance, there are specific ventilation, air sampling and

certification requirements that must be met. Sampling in confined spaces for contaminants other than combustible gases and oxygen content is the responsibility of the base industrial hygiene community.

Recommendation: None.