N60200.AR.009085
NAS CECIL FIELD
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LETTER AND COMMENTS FROM U S EPA REGION IV REGARDING DRAFT REMEDIAL INVESTIGATION OPERABLE UNIT 3 (OU3) NAS CECIL FIELD FL
11/8/1996
U S EPA REGION IV

LISA

FILE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

FILE

November 8, 1996

4WD-FFB

Commanding Officer
Attn: Steve Wilson
Department of the Navy
Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
2155 Eagle Drive
North Charleston, South Carolina 20419-9010

SUBJ: Naval Air Station Cecil Field, Jacksonville, Florida
Draft Remedial Investigation Report, OU-3

Dear Mr. Wilson:

The U.S. Environmental Protection Agency has completed its review of the RI portion of the subject report. Comments for the Risk Assessment portion are still under review and should be transmitted to you by the next BCT meeting. Our comments are attached. If you have any questions please contact me at 404/562-8539.

Sincerely,

Debbie

Deborah A. Vaughn-Wright
Remedial Project Manager

cc: NAS Cecil Field BCT

DRAFT RI REVIEW COMMENTS

1. General Comment: The application of regulatory standards to the contaminants detected at Site 7 and 8 is inconsistent and confusing. For example, the draft RI report compares detected contaminant concentrations to standards like the Florida incinerated soil standard. The rationale for the selection of this Standard is not presented in the Draft RI report, or in the General Information Report (GIR). The draft RI also uses many different standards which include: the Florida drinking water primary and secondary standards, EPA Region II risk-based standards, federal standards for drinking water, federal standards for residential area soils and others. The report should include a table which lists all of the agreed upon regulatory standards considered for each constituent. Copies of scoping session documents or workplans which detail standards agreed upon by the BCT should be included in the appendices of the draft RI or the GIR.

2. General Comment: At the end of the Executive Summary section of the document (page vii), and in Section 8.3 of the report, the report recommends that no further action take place at OU3. This statement needs to be deleted from the RI Report. Remedial actions appropriate to a site (if any) are evaluated through a Feasibility Study; that activity is an appropriate point for discussion of land use and other factors relevant to selection of a remedial alternative.

3. General Comment: The Draft RI Report data presentation using site maps is inconsistent and confusing. The site map format changes from Site 7 to Site 8. For example, at Site 7 one site map for the confirmatory surface soil samples shows concentrations for Total Polycyclic Aromatic Hydrocarbons (TPAH) and one of the organic contaminants, Benzo(a)pyrene (BAP) which is above the Florida clean-up level. At Site 8, two separate site maps are used. One map shows the concentrations of all of the organic contaminants which are above detection level, not just BAP; the other map shows TPAH concentration. These kinds of inconsistencies were present for the other media and for both screening and confirmatory sampling. The frequent changes in data presentation format made the Draft RI Report much more difficult to understand. A standardized data presentation format applied to both sites would be more appropriate.

4. Chapter 2.0, section 2.2, page 2-2 & 4, 3rd paragraph: List the selected sediment sampling locations that had TRPH analyses and hexavalent chromium.

5. Chapter 2.0, section 2.3, page 2-4, 1st paragraph: Offsite sample analysis included USEPA Contract Laboratory Program analyses of TCL organic parameters. Was a CLP lab used for the analyses or did a NAVY contracted lab follow the CLP SOW. This should be specified.

6. Chapter 2.0, section 2.4, page 2-16, 2nd paragraph: Last sentence is incomplete.

7. Chapter 2.0, section 2.4.1, page 2-17: Metals data from temporary wells such as the Aquaprobe should always be discussed in the context of their associated turbidity values. Turbidity values can be greatly exaggerated in temporary wells, with a corresponding increase in the possibility of false positives. The metals and organic data from these Aquaprobe temporary

wells in lower intervals should be discussed in the context of the possibility that observed contaminants may have originated from a shallower interval due to the inherent limitations of the process.

8. Chapter 2.0, section 2.4.1, page 2-17: Add GS to the glossary

9. Chapter 3.0, section 3.1, page 3-1, 1st paragraph, 9th sentence: Reference Figure 1-3.

10. Chapter 3.0: On Table 3-2, the average hydraulic conductivity values need to be recalculated. A footnote in the table indicates that for several wells, the slug test data are affected by filter pack drainage. If these data are suspect, the table should clearly note they are not used to estimate the average hydraulic conductivity.

11. Chapter 3.0: The title of Section 3.4.2.3 should be "Groundwater Flow Rate".

This section should qualify the calculated ground-water velocity as an estimated average value for the shallow surficial aquifer. It may also be more correct to use the site-specific hydraulic conductivity values of Table 3-1 in these calculations, rather than a U.S. Geological Survey facility-wide average hydraulic conductivity. Based on Table 3-1, the Site 8 shallow surficial aquifer hydraulic conductivity averages about half of the facility-wide value of 3 feet per day, while the site-specific value for Site 7 is slightly higher than 3 feet per day.

12. Chapter 3.0, Tables 3-3 and 3-2: Hydraulic conductivity data presented in Table 3-3 are inconsistent with data presented in Table 3-2.

13. Chapter 3.0, Figures 3-8 and 3-9: Figures 3-8 and 3-9 indicate the water table intersects land surface at the drainage ditch to the south of Site 8. If so, the hydrostratigraphic cross section of Figure 3-13 requires revision. Otherwise the potentiometric surface maps of Figure 3-8 and Figure 3-9 are not drawn correctly. Designation of the upstream part of the drainage ditch as a ground-water discharge point (or at least as ground-water discharge point for shallow surficial aquifer ground water) is contradicted by the ground-water quality data presented in Figure 4-25, which show a shallow ground-water contaminant plume crossing beneath the drainage ditch.

14. Chapter 4.0, section 4.1.1.1, pages 4-4 and 4-11, Figures 4-2 and 4-5: Surface soil sample data gaps for Total Recoverable Petroleum Hydrocarbon (TRPH) exist northwest and south of Site 7 on these figures. The Site 7 TRPH isoconcentration contour has been drawn using the State of Florida incinerated soil standard of 50 mg/kg. The northwestern limit of TRPH contamination has been defined using sample points including CF7SS10, where TRPH is 610 mg/kg. The southern limit of TRPH contamination has been defined using sample points including CF7SS01, where TRPH is 170 mg/kg. To definitively determine the horizontal extent of contamination to the northwest and south, additional soil samples should be collected from locations further west and south, and analyzed for TRPH. After samples with concentrations which fall below detection limits are located, the isoconcentration contour which defines the area of possible clean-up under FDEP guidelines can be drawn.

15. Chapter 4.0, section 4.1.1.1, pages 4-3 and 4-10, Figure 4-1 and 4-4: A surface soil sample data gap for Total Polycyclic Aromatic Hydrocarbon (TPAH) exists south of Site 7 on these figures. The Site 7 TPAH isoconcentration contour has been drawn using the State of Florida incinerated soil standard of 1 mg/kg. The southern limit of TPAH contamination has been defined using sample points including CF7SS01, where TPAH is 1.2 mg/kg. To definitively determine the horizontal extent of contamination to the south, additional soil samples should be collected from locations further south, and analyzed for TPAH concentration. After samples with concentrations which fall below detection limits are located, the isoconcentration contour which defines the area of possible clean-up under FDEP guidelines can be drawn.

16. Chapter 4.0, section 4.1.1.1: The first paragraph compares surface soil PAH concentrations to the Florida (FDEP) "cleanup level", while on page 4-6, the text compares PAH levels to either the "FDEP soil cleanup goal" or "cleanup goals" (paragraph 1 of the discussion under the heading SVOCs in Surface Soil) or the "State of Florida cleanup guidance value" (paragraph 2 of the discussion under the heading SVOCs in Surface Soil). The report should use a consistent terminology for this state criterion.

With regard to the state 1 mg/Kg total PAH value, if this number is truly a total PAH criterion, it is inconsistent with contaminant-specific cleanup goals presented in Table 4-1 (for example the 2.2 mg/Kg value for pyrene).

17. Chapter 4.0, section 4.1.1.1, page 4-3, Figure 4-1: The TPAH isoconcentration contour on this figure is incorrectly drawn. One surface soil sample, CF-7-SS94 with a TPAH contaminant concentration larger than the isoconcentration contour, is not included inside the contour boundary.

18. Chapter 4.0, section 4.1.1.1, page 4-2, paragraphs 1 and 2: The rationale for use of the State of Florida incinerated soil standard is unsubstantiated. This standard sets concentration limits of 50 mg/kg for TRPH and 1 mg/kg for TPAH. These standards were initially used in Chapter 4 to establish the limits of unacceptable contamination in surface and subsurface soils. The report should contain an explanation of why these standards are appropriate for use in this RI. If the State of Florida lacks a clean-up level for TRPH and TPAH, thus the incinerated soil standard was selected by the BCT to use as a default, this should be clearly stated.

19. Chapter 4.0, page 4-7, Table 4-1: This table contains two separate entries for phenol. One of the entries is incorrect in that it lists the FDEP clean-up goal for phenol as 34 mg/kg. The other phenol entry stated the clean-up goal as 34,000 mg/kg which is correct. The incorrect entry should be removed from this table.

21. Chapter 4.0, section 4.1.1.1, page 4-13, 3rd paragraph under Inorganic Analytes in Surface Soil discussion: Two samples, CF7SS12 and CF7SS2, had inorganic concentrations greater that FDEP residential soil cleanup goals.

22. Chapter 4.0, section 4.1.1.2, page 4-15, Figure 4-7: See the comment above regarding use of thermally treated soils threshold. Are the cleanup goals for VOC and PAH for thermally treated soils as well as for TRPH? If not The table should be clarified. Add the cleanup goal for lead.

23. Chapter 4.0, Table 4-3, page 4-17: Need a separate footnote for FDEP Soil Cleanup goals for TRPH.

24. Chapter 4.0, section 4.1.2.1, paragraph 5: The text refers to a human health risk assessment criterion for inorganic contamination used to assess contaminant concentrations at Site 8. The criterion should be identified.

25. Chapter 4.0, Figures 4-25 and 4-26: The plotted locations for wells CF8MW1S, CF8MW2I, and CF8MW3D are not identical for figures 4-25 and 4-26. The well locations should be corrected.

26. Chapter 4.0, Figure 4-3: The State of Florida soil clean up standard for lead is listed as 400 mg/kg on figure 4-3. The actual value should be 500 mg/kg per the General Information Report, Appendix B-1, table 1

27. Chapter 4.0, Table 4-6: The designation of vanadium as an inorganic contaminant detected at a concentration greater than its regulatory criterion needs to be checked.

28. Chapter 4.0, Figure 4-25: Revise to identify in bold print where bis (2-ethylhexyl) phthalate was detected above the MCL of 6 ug/l

29. Chapter 4.0, Figures 4-11, 4-12 and 4-13: The apparent contradiction in surface water to ground-water quality between the Site [illegible] surface water samples and the exploratory ground water samples (comparison of Figure 4-11 and Figure 4-12 to Figure 4-13) is of concern. This discrepancy should be explained.

30. Chapter 4.0, section 4.1.2.4, page 4-55: It is possible that the high values for DCA, TCA and benzene were under reported due to the fact that the nearest down gradient well containing these contaminants was some 160 feet from the site. The RI should discuss the possibility that MCLs for these contaminants are exceeded nearer the source areas.

31. Chapter 5.0, section 5.1, page 5-2, 1st paragraph, last sentence: This sentence is confusing and appears contradictory to earlier discussions. Explain further why there is little down gradient migration. Does this apply to all contaminants or just inorganics or organic?

32. Chapter 5.0, section 5.1, page 5-2, 3rd paragraph. Explain further why sediment transport is not a primary transport mechanism? Wouldn't high stream conditions cause dissolution and suspension? Are you trying to say that high stream conditions have not been observed and thus dissolution and suspension of the contaminants is not expected to have occurred? If this is the situation please reword and clarify. Also, just because these conditions have not been observed it does not mean that they have not occurred. Have the field personnel been on the site 365 days per year observing flow conditions? Consult flood frequency maps for the area.

33. Chapter 5.0, section 5.1, page 5-2, 4th paragraph, last sentence. Add how far it is to Sal Taylor Creek.

34. Chapter 5.0, section 5.2.1.1, page 5-3, 1st paragraph, 2nd sentence: Add to the second sentence "... with low frequencies of detection and below MCLs."

35. Chapter 5.0, section 5.2.1.1, page 5-3, 2nd paragraph, last two sentences: Expand on why these conditions would limit degradation.

36. Chapter 5.0, section 5.2.2, second paragraph, 2nd sentence: Revise
" Elevated concentrations and widespread distribution of Benzo(a)pyrene were present in Site 7 soil, however, the maximum contaminant level (MCL) in groundwater was relatively low (0.2 ug/l).

37. Chapter 5.0, section 5.2.2, page 5-4, second paragraph, 3rd sentence: Please clarify, does the presence of organic material aid or hinder leachability.

38. Chapter 5.0, section 5.2.3.1, page 5-5, 1st paragraph last sentence: Add how many feet it is from site 8 to the unnamed tributary

39. Chapter 5.0, section 5.2: Need to more thoroughly discuss the ultimate fate of Site 8 ground water contaminants, once they are discharged to the surface water downgradient of the site.

40. Chapter 5.0, section 5.2.3.1, page 5-5: The text states that the travel time for 1,1-DCE to migrate from the fire fighter training areas to the unnamed tributary is 1-44 years. Based on the reported time that Site 8 was used for the fire fighter training [illegible] and the data presented in Figure 4-25, 1,1-DCE has already migrated from its source area to the vicinity of the tributary, in approximately 20 years. Figures 4-24 and 4-25 imply that the source for the 1,1-DCE detected in ground water may not have been directly at the fire fighting training pits but at some area closer to the ground-water discharge area. This may partly explain the discrepancy between the 44-year time period and the actual observations of ground-water contamination by 1,1-DCE. However considering the average, site-specific hydraulic conductivity for the Site 8 area (my analysis of Table 3-2 indicates an average hydraulic conductivity of 1.72 ft/d), the reported surficial aquifer hydraulic gradient, and the assumed aquifer porosity (Table 3-3), the average transport velocity for 1,1-DCE with a retardation factor of 3.88 is approximately 12.14 ft/y. This contaminant transport velocity appears inconsistent with the identified longitudinal dimension of the 1,1-DCE plume shown on Figure 4-25. Even if the facility-wide average hydraulic conductivity is used in place of the aquifer hydraulic conductivity for Site 8, the annual transport velocity of 1,1-DCE is calculated as approximately 21 feet per year, which, over a 20 year period, would still not account for the 1,1-DCE detected at the apparent leading edge of the plume, as shown on Figure 4-25. Thus, one would conclude that either the use of average data for the aquifer hydraulic properties, or the calculated retardation factor of 3.88, does not correctly or completely define the transport of 1,1-DCE in the surficial aquifer. The first paragraph of Section 5.2.3.1 needs to be revised with these considerations in mind.

At the top of page 5-6, the report references degradation of 1,1-DCE in ground water as a controlling mechanism for the concentration of this compound anticipated in the stream (ground-water discharge area). A referenced range of the half life for 1,1-DCE in ground water is 8 to 19 weeks. Applicability of these half-life values to Site 8 is unlikely, based on the analysis in the following paragraph.

Assume a 19 week half life of 1,1-DCE in ground water (the maximum literature reported value

applies to Site 8, and conservatively consider that the initial 1,1-DCE ground-water concentration at Site 8 was four orders of magnitude higher than the peak 95 ug/L confirmed concentration of 1,1-DCE shown on Figure 4-25 (i.e assume that 950,000 ug/L of the compound was initially present at the location of well CF8MW10S). Also, assume a conservatively high ground-water velocity of 100 feet per year (thus, a 1,1-DCE ground-water transport velocity of 26 ft/year, based on a retardation factor of 3.88). During the transport of 1,1-DCE from well CF8MW10S to CF8MW4S (a distance of approximately 375 feet), almost 40 half lives would transpire. Assuming the only control on the ground-water concentration of 1,1-DCE was degradation, an initial 1,1-DCE concentration of 950,000 ug/L would yield a 1,1-DCE concentration of less than 0.001 ug/L at well CF8MW4S over only 30 half lives. Since a 1,1-DCE concentration of 15 ug/L has been detected at well CF8MW4S, there is clearly much less degradation than would be predicted using the maximum ground-water half life value for 1,1-DCE in the literature reference. Therefore, the implied conclusion on page 5-6 that the expected concentration of 1,1-DCE in the stream will not attain any regulatory value is not supported by the site-specific, ground-water quality data from Site 8.

41. Chapter 6.0, section 6.1.2, page 6-2, second paragraph: Figure 2-8 is referenced for subsurface background soil location. Reference a figure for the surface background soil and background ground water samples as well.

42. Chapter 6.0, section 6.1.3.2, page 6-46: Additional surface soil samples are mentioned. When and where were they collected? When will the data be available?

43. Chapter 6.0, section 6.1.3.8, page 6-47. Many ditches contain standing water, except after a rain. What happens after a rain? Do the ditches overflow? What is the flow path and eventual discharge point?

44. Chapter 6.0, Table 6-24. - Typo. Under notes NC = not calculated.

45. Chapter 8.0, section 8.2.2, page 8-4, paragraph 2: The statement that "when the two data sets are combined, the extent of surface soil contamination is delineated." is not correct because neither the screening sampling conducted at Site 7 nor the confirmatory sampling conducted at Site 7 are sufficient to define the extent of contamination. For example, the southern most confirmatory soil sample from figure 4-5 yielded a concentration of 170 mg/kg for TRPH. The southern-most screening soil samples from figure 4-2 yielded 67 and 240 mg/kg for TRPH. No samples yielding contaminant concentrations below the 50 mg/kg FDEP clean-up levels or detection levels are shown on these two figures, therefore contaminant limits have not been established. In addition, the screening and confirmatory data sets should be combined in one figure in order to allow verification of this statement.

46. Chapter 8.0, section 8.1, second bullet under Human Health Risks at OU-3: Add a sentence describing that the major contributors to this HI

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
P.O. BOX 190010
2155 EAGLE DRIVE
NORTH CHARLESTON, S.C. 29419-9010

FILE

5090
Code 1879
29 Jan 1997

Ms. Lisa Routhier
ABB Environmental Services, Inc.
1536 Kingsley Avenue, Suite 127
Orange Park FL 32073

Subj: STATION'S COMMENTS ON DRAFT OU 6 REMEDIAL INVESTIGATION (RI) AND DRAFT OU 3 FEASIBILTY STUDY (FS).

Dear Ms Routhier:

Enclosed are the station's comments from the review of the subject documents. Please take these comments for consideration in the preparation of the final submittals.

As always, if you should have additional questions or comments, please do not hesitate to contact me.

Sincerely,

MARK E. DAVIDSON
Remedial Project Manager

Encls:
(1) NAS Cecil Field comments, draft OU 6 RI
(2) NAS Cecil Field comments, draft OU 3 FS

Copy to:
FDEP (Mr. Mike Deliz)
EPA Region IV(Ms Debbie Vaughn-Wright)

DEPARTMENT OF THE NAVY
NAVAL AIR STATION
CECIL FIELD, FLORIDA 32215-5000

5090
184JD
15 Jan 97

From: Commanding Officer, NAS Cecil Field
To: Commanding Officer, Southern Division, Naval Facilities Engineering Command, North Charleston, SC

Subj: DRAFT OU 6 REMEDIAL INVESTIGATION, NAS CECIL FIELD

1. The subject FS has been reviewed and comments follow:

(a) Page xi, add "Ph" for Phenol to the list of abbreviations.
(b) Page 1-4, Section 1.2, the 1st sentence says "RCRA RFI," the RCRA is redundant since the "R" in "RFI" in an abbreviation for "RCRA."
(c) Pages 4-3 through 4-7, 4-9 through 4-11 and 4-13 through 4-14, Tables 4-1, 4-2 and 4-3, the shading in the notes indicating human health chemicals of potential concern is much darker than the shading in the body of data. I would suggest darkening the shading in the body of data.
(d) Pages 4-15 and 4-16, Figures 4-2 and 4-3, suggest using the abbreviation "Ph" for phenol instead of the chemical symbol for phosphorus "P."
(e) Page 6-25, 1st paragraph, last sentence, the USEPA acceptable cancer risk range should be "$1x10^{-4}$ to $1x10^{-6}$" rather than "10^4 to 10^6."

2. If you have any questions, please contact Mr. John Dingwall, P.E., IR Program Manager at DSN 860-5620 or commercial (904) 778-5620.

J. LLOYD CREWS
By direction

Copy to:
SOUTHNAVFACENGCOM (1875)
COMNAVBASE JAX (N3)

ENCL (1)

DEPARTMENT OF THE NAVY
NAVAL AIR STATION
CECIL FIELD, FLORIDA 32215-5000

5090
184JD
08 Jan 97

From: Commanding Officer, NAS Cecil Field
To: Commanding Officer, Southern Division, Naval Facilities Engineering Command, Charleston, SC

Subj: DRAFT OU 3 FEASIBILITY STUDY (FS), NAS CECIL FIELD

1. The subject FS has been reviewed and comments follow:

(a) Page 1-4, Section 1.1, change the last sentence to read: "Building 865 was ~~erected~~ built in 1976, ~~sometime~~ after firefighting training ceased in 1975.~~ and before 1980 as evidenced by aerial photographs.~~"
(b) Page 1-7, 1st paragraph, change the second sentence to read: ". . . at targets in ~~from~~ front of a backstop . . . "
(c) Page 1-7, 1st paragraph, change the fourth sentence to read: "from 1975 until 19847."
(d) Page 3-4, add to end of the 1st paragraph: "During the detailed analysis of alternatives, chemical-specific ARAR's will be identified and analyzed to determine compliance."
(e) Page 3-4, Section 3.1.2, add to end of the 1st paragraph: "No location-specific ARAR's apply to OU 3."
(f) Page 5-11, Section 5.2.1, 1st paragraph, the last sentence states: "Previous reports by ABB-ES (GIR, 1996a and RI, 1996b) and studies by USGS (USGS, 1996) suggest that natural attenuation would reduce contaminant concentrations below the MCLs and FDEP guidance concentrations." I could not find such suggestions in the GIR.
(g) Page 5-17, 1st line has the abbreviation "PP" for "Proposed Plan," add this abbreviation to the list on page iv.
(h) General, very few alternatives are presented.
(i) General, how about combining Site 7 with OU 2 and treat on biopile?

2. If you have any questions, please contact Mr. John Dingwall, P.E., IR Program Manager at DSN 860-5620 or commercial (904) 778-5620.

J. LLOYD CREWS
By direction

Copy to:
SOUTHNAVFACENGCOM (1875)
COMNAVBASE JAX (N3)

ENCL (2)

FILE

C² ENVIRONMENTAL SERVICES, INC.
4122 Admiral Drive, Chamblee, GA 30341
(770) 986-8092

February 4, 1997

Mr. Rao Angara
ABB Environmental Services, Inc.
2590 Executive Center Circle East
Tallahassee, FL 32301

Dear Mr. Angara:

As per our discussion, enclosed please find one draft copy of the fisheries survey conducted by C² Environmental Services, Inc. for ABB-ES at Lake Fretwell on NAS Cecil Field. As I mentioned, this report is not 100% complete; still missing are a figure (map of Lake Fretwell) and some fishery data collected on the final day (in Nancy's notes), both of which Charlie was going to provide me. This information will be added, along with your comments, when received.

We greatly appreciate the opportunity to provide ABB-ES with these services. Please let me know if you have any questions or comments. Once all comments have been incorporated, we will provide you with four final hard copies and one electronic copy of the report, as per our contract requirements. Please let me know if I can be of any further assistance. I look forward to hearing from you.

Sincerely,

Christian Crow
President, C² Environmental Services, Inc.

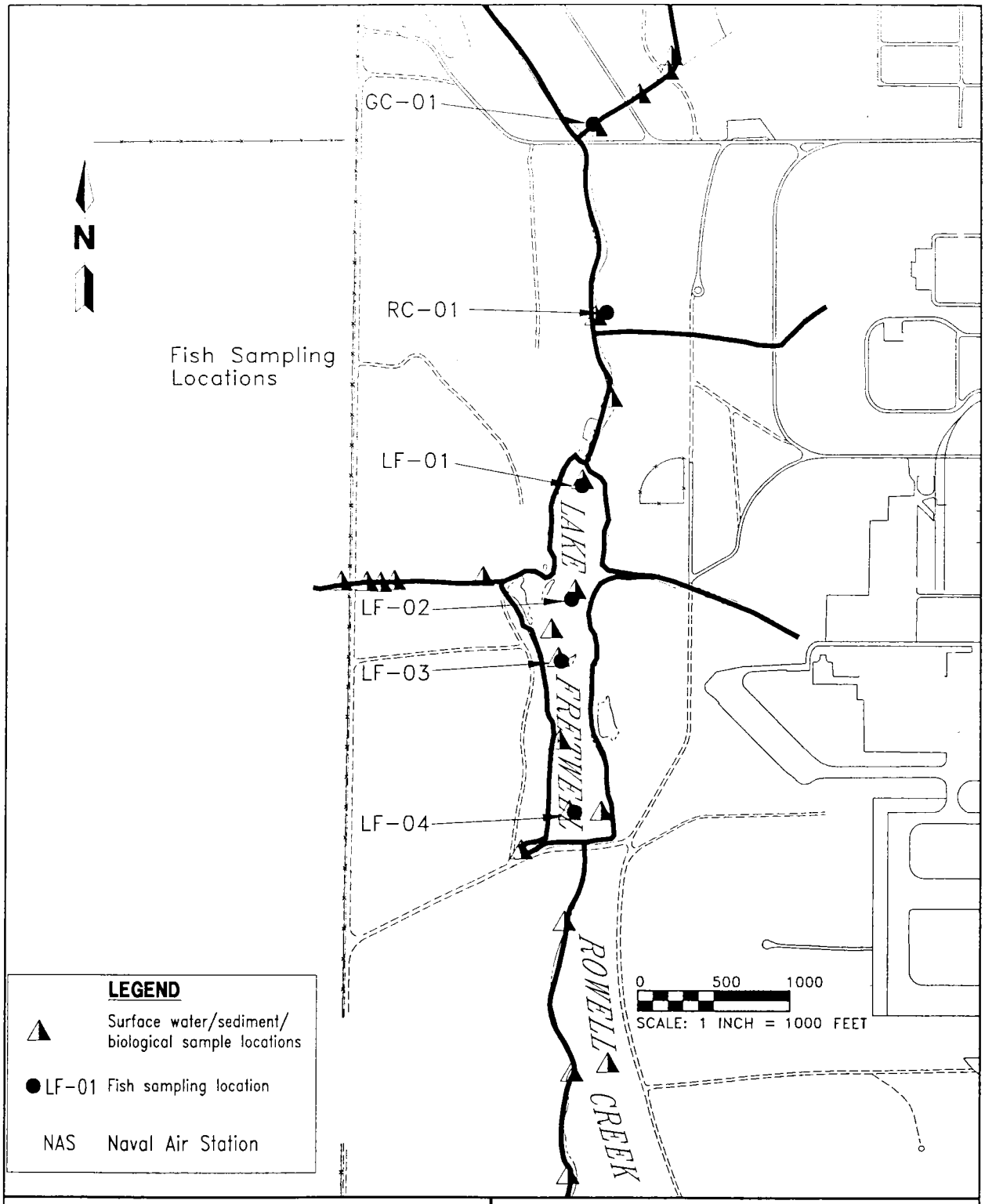

FIGURE 1
SITE LAYOUT

CECIL/STCRK/DDH/02-06-97

LAKE FRETWELL SAMPLING REPORT

NAS CECIL FIELD
JACKSONVILLE, FLORIDA