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SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL COMMENTS ON CORRECTIVE MEASURE REPORT FOR COMBINED SOLID WASTE MANAGEMENT UNIT 14 (SWMU 14) CNC CHARLESTON SC
6/20/2002
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

June 20, 2002

Ms. Amy Daniell
Caretaker Site Office
Charleston Naval Complex
CSO 1895 Avenue F
North Charleston, SC 29405

RE: Comments
CMS Work Plan / IM Completion Report, Combined SWMU 14, Zone H
Charleston Naval Complex (CNC)
SC0 170 022 560

Dear Ms. Daniell:

The Corrective Action Engineering and the Hydrogeology Sections of the South Carolina Department of Health and Environmental Control (Department) have completed the review of the above referenced document, which was received on April 8, 2002. This review was based upon applicable State and Federal Regulations, and the CNC Hazardous Waste Permit, effective May 22, 2002. The Department has determined that the attached comments must be adequately addressed, and the document must be revised accordingly, prior to receiving a final determination with respect to the above referenced document.

Thank you for your cooperation in this matter. If you have any questions or concerns, please contact me at (803) 896-4285.

Sincerely,

Jerry Stamps, Engineer Associate
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

Attachments:
Memorandum from Jo Cherie Overcash to Jerry Stamps dated June 20, 2002
Memorandum from Susan Byrd to Jerry Stamps dated June 5, 2002

cc: Tony Hunt, PE, SOUTHDIV
Rob Harrell, PE, SOUTHDIV
Dean Williamson, PE, CH2M-Jones
Gary Foster, PE, CH2M-Jones
Rick Richter, Trident EQC District
Dann Spariosu, PhD, EPA Region 4
Paul Bergstrand, P.G., Hydrogeology

ENGINEERING COMMENTS
Prepared by Jerry Stamps
Charleston Naval Complex (CNC)
June 20, 2002

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1. **General**
   It appears as though the original RFI screened the surface soil data to the EPA Region III RBCs and the subsurface soil data to the SSLs corresponding to a DAF = 10. Apparently, the surface soil data was not screened against SSLs at all. It is not clear if, during the COPC refinement conducted by CH2M-Jones, the surface soil data was screened against the SSLs, and if the VOCs detected in the surface and subsurface soil during the original RFI were screened against their associated SSLs corresponding to a DAF = 1 rather than a DAF = 10. Please clarify if this screening methodology was implemented by CH2M-Jones.

2. **Section 3.1, Page 3-2, Line 6**
   This section states that the confirmation samples collected from the DANC removal did not show contaminants at concentrations exceeding RBCs or SSLs. However, it is not clear as to what DAF was used in the SSL comparison. Furthermore, it appears from Figure 4 of the Interim Measure report that TCA remains in the soil well above its corresponding SSL of 0.2 ppb (DAF = 1). This reviewer developed figures similar to this for other chlorinated compounds to determine the distribution of the contamination that remains after the excavation was complete. Please see the attached figures. The Navy must demonstrate that the remaining contamination is not a threat to the groundwater quality in this area.

3. **Section 5.2, COPC/COC Refinement**

   a. Aroclor 1254 was originally retained as a COC because a single detection (160 ppb) exceeded the industrial RBC of 83 ppb. However, the residential RBC as presented in the October 2000 RBC Table is 320 ppb. Also, the SSL identified in this same table for Aroclor 1254 is 540 ppb. Since the single detection does not exceed either of these criteria, the rationale for eliminating this compound as a COC should be that the applicable screening criteria were not exceeded.

   b. Aroclor 1260 was originally identified as a COC because a single detection (376 ppb) exceeded its corresponding residential RBC. However, this compound is now eliminated from consideration as a COC because the site-wide average concentration is below the RBC. Please see the general comment in the attached memorandum from Susan Byrd.

4. **Section 5.3.1, Shallow Groundwater**
   TEQs in the shallow groundwater were eliminated as COCs because the detected concentrations were below the EPA screening criterion of 1,000 pg/L. However, the proper approach is to screen against the MCL of 30 pg/L. According to the data provided, all TEQ concentrations detected in the shallow groundwater are below this MCL.

5. **Table 5-4**
   This table incorrectly identifies the RBC for TEQ as 30 pg/L. This value is actually the MCL. Please revise this table accordingly.

6. **Table 7-1**
   - Sample H684SB009 (H684SB05501) – the thallium exceedance should be highlighted

   - Sample H684SB023 (H684SB08601) – the BEQ exceedance should be highlighted

   - Sample H684SB015 (H684SB11201) – the BEQ exceedance should be highlighted

7. **Figure 7-1**
   - The north side of H684SB023 should be marked as an exceedance rather than the south side.

   - The south side of H684SB035 should not be marked as an exceedance

8. **Figure 7-4**
   This figure indicates that H684SB117 had BEQ concentrations of 80 ppm (0 – 6") and 73 ppm (6" – 1'). However, Table 7-1 indicates that these concentrations are 0.08 and 0.07 ppm, respectively. The summary of the data presented in Appendix E appears to support the conclusion that Figure 7-4 is incorrect and that the concentration is truly 0.08 ppm and 0.07 ppm. Please clarify which concentration is correct and revise accordingly. In addition, please provide all of the analytical data sheets and chain of custody forms.

9. **Appendix B, IM Completion Report, April 28, 1998**
   - From the analytical data provided, it appears as though samples were collected of the groundwater intrusion from within the excavation, which indicated chlorinated compounds were detected in the groundwater above the MCLs. If possible, please provide the location at which these samples were collected in order to correlate the groundwater detections with distribution of contamination in the subsurface soils.

   - It appears as though Figure 4 presented in this report is supposed to represent contaminant levels that were left in place after the completion of the soil excavation. If so, then contaminants were left in place in the subsurface soils, which substantially exceed their corresponding generic SSLs. The Department is concerned that these concentrations may serve as a source of continuing groundwater contamination. CH2M-Jones must demonstrate that these contaminant levels are not of concern. Please see the attached figures for the distribution of various contaminants.

   - The analytical data sheets for several samples were provided in Appendix E of this DET IM Report for which the locations of the samples were not identified in any figures. If possible, please provide the purpose and location of these samples. The following are examples:

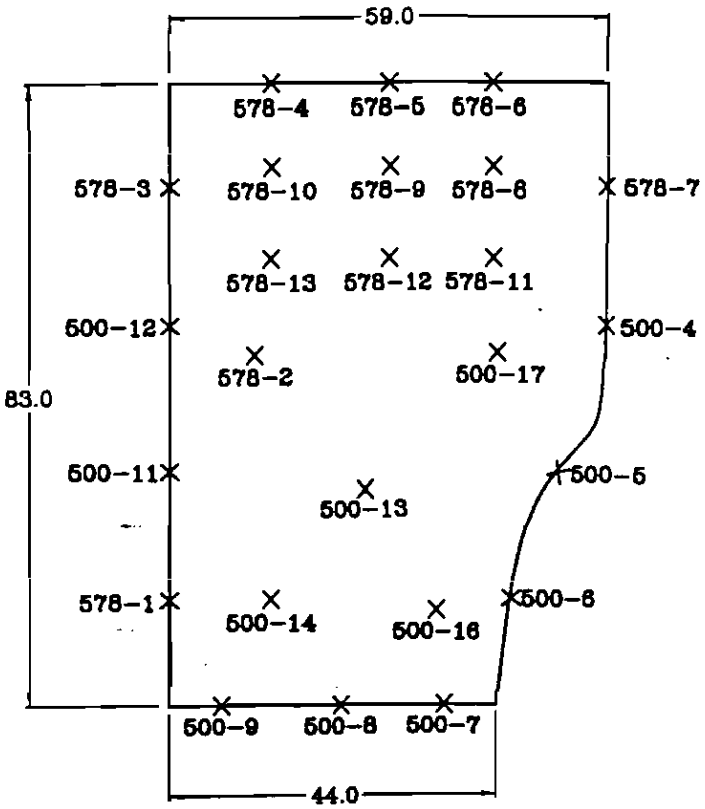
   439-1 appears to be a miscellaneous matrix sample (white precipitate) which had elevated detections of TCA (480 ppb), DCE (56.1 ppb), Acetone (43,400 ppb), carbon tetrachloride (745 ppb), chloroform (61,400 ppb), PCE (17.9 ppb), and TCE (64.9 ppb)

   The 532, 542, 546, and 574 series of samples appear to be soil samples; however, the locations are not provided on any figures.

   449-1 was a soil sample with elevated detections of chloroform (1090ppb), PCE (25.3 ppb), and TCE (1030 ppb).

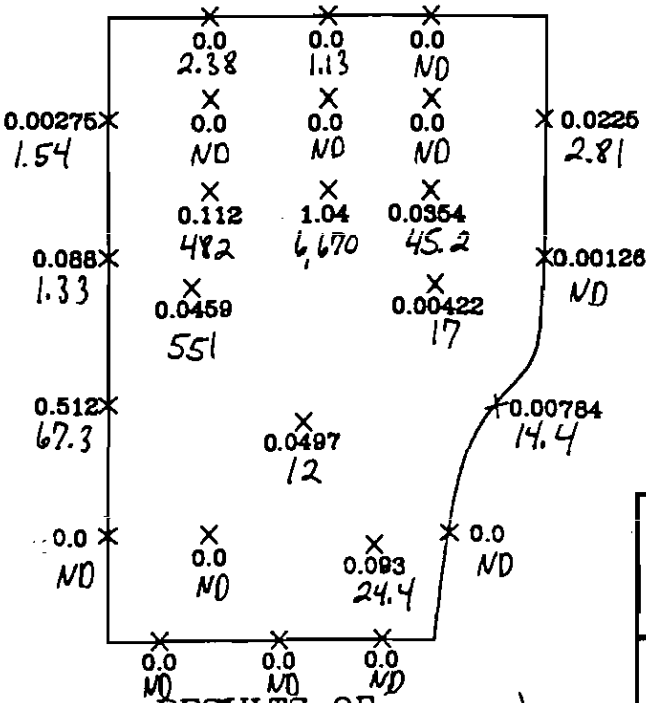
TCE

SSL = 3 ppb (DAF = 1)



N

SAMPLE ID SPORTO____-_



RESULTS OF

~~1,1,2,2-TETRACHLOROETHANE~~ (~~ppm~~) ppb

TCE

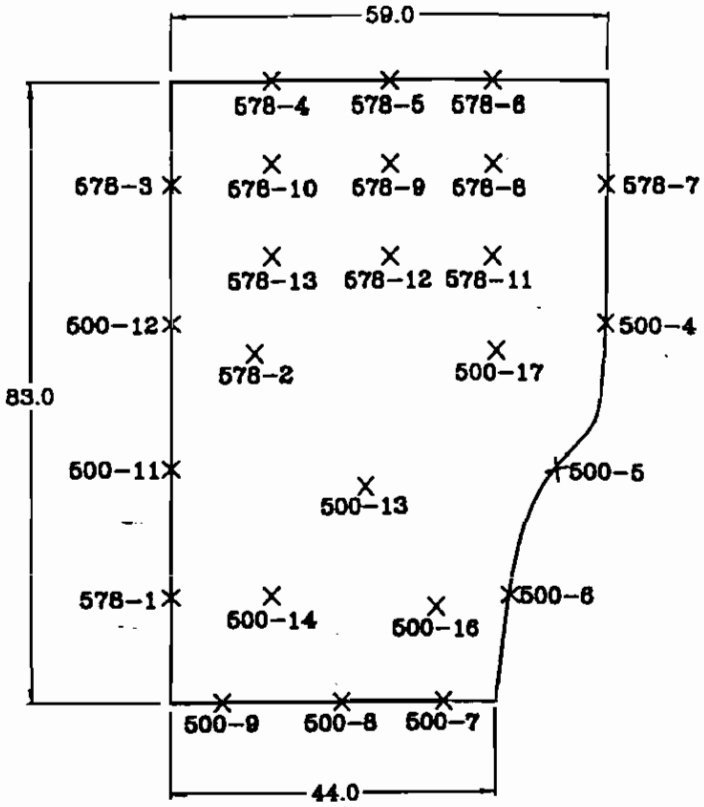
SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC 29405-2106
Ph. (803) 743-6777

Figure 4
SWMU 14
Confirmation Sample Location/Results
Charleston Naval Base
Charleston, SC

DWG DATE: 4/13/98 | DWG NAME: 14FIG4

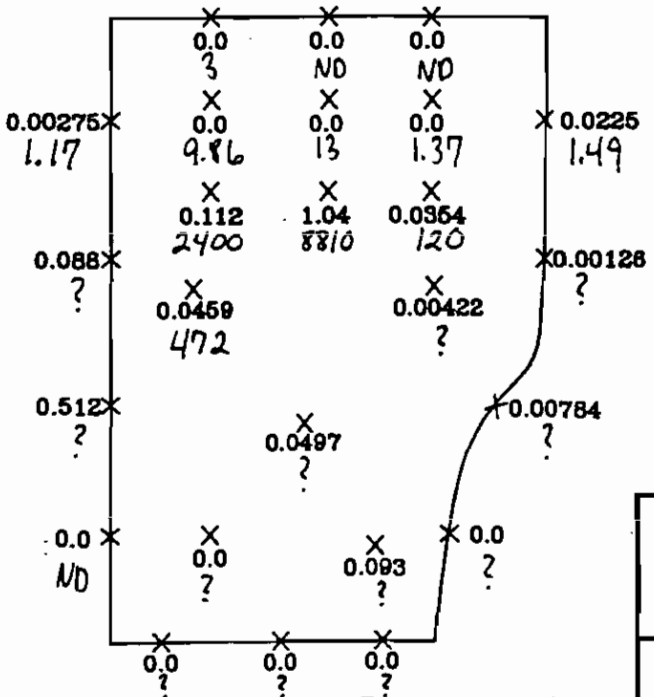
cis-1,2-DCE

SSL = 20 ppb (DAF=1)



SAMPLE ID SPORTO____-_

N



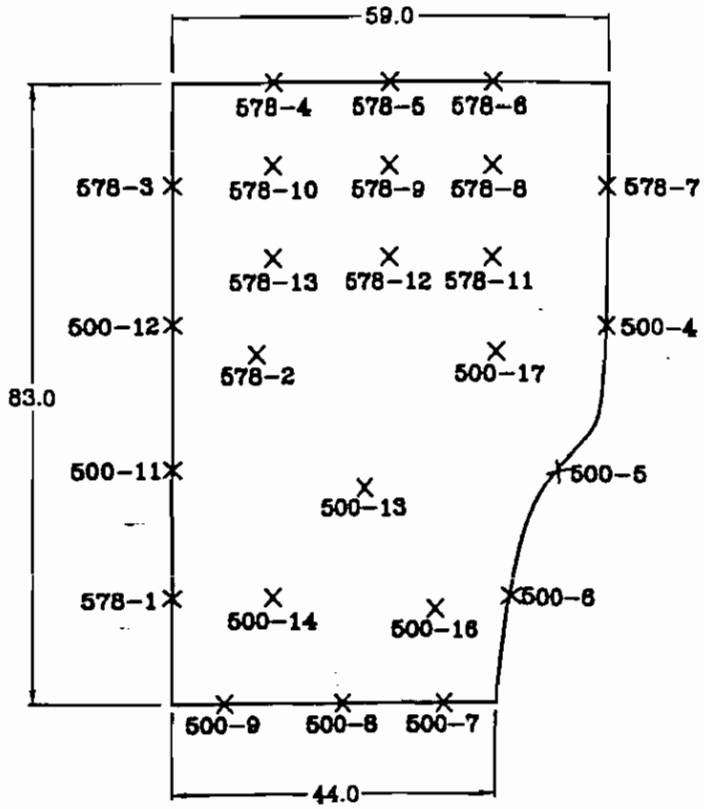
? = analysis appears to have been for trans-1,2-DCE only

RESULTS OF
~~1,1,2,2-TETRACHLOROETHANE~~ (~~ppm~~ ppb)
cis-1,2-DCE

SPORTENVDETCHASN 1899 North Hobson Ave. North Charleston, SC 29405-2106 Ph. (803) 743-8777	
Figure 4 SWMU 14 Confirmation Sample Location/Results Charleston Naval Base Charleston, SC	
DWG DATE: 4/13/98	DWG NAME: 14FIG4

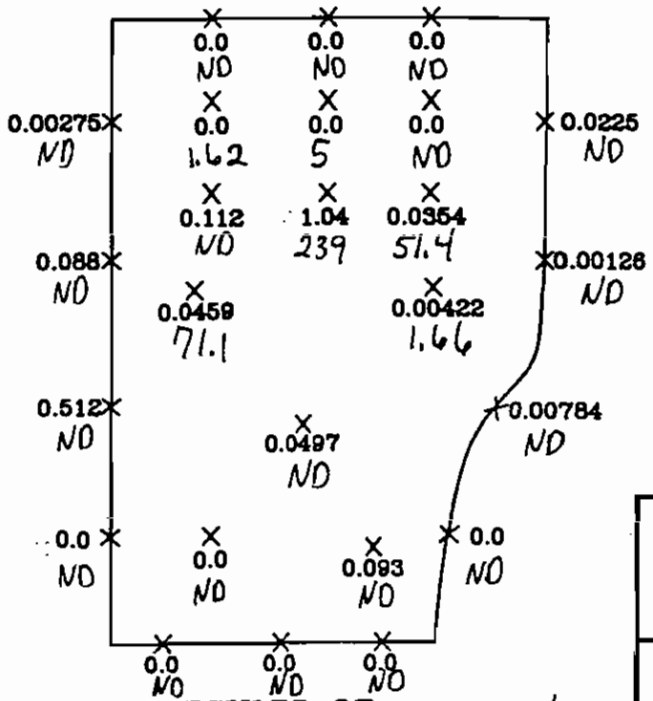
Vinyl Chloride

SSL = 0.7 ppb (DAF=1)



N

SAMPLE ID SPORTO____-_



RESULTS OF

~~1,1,2,2-TETRACHLOROETHANE~~ (~~ppm~~ ppb)

Vinyl Chloride

SPORTENVDETCHASN
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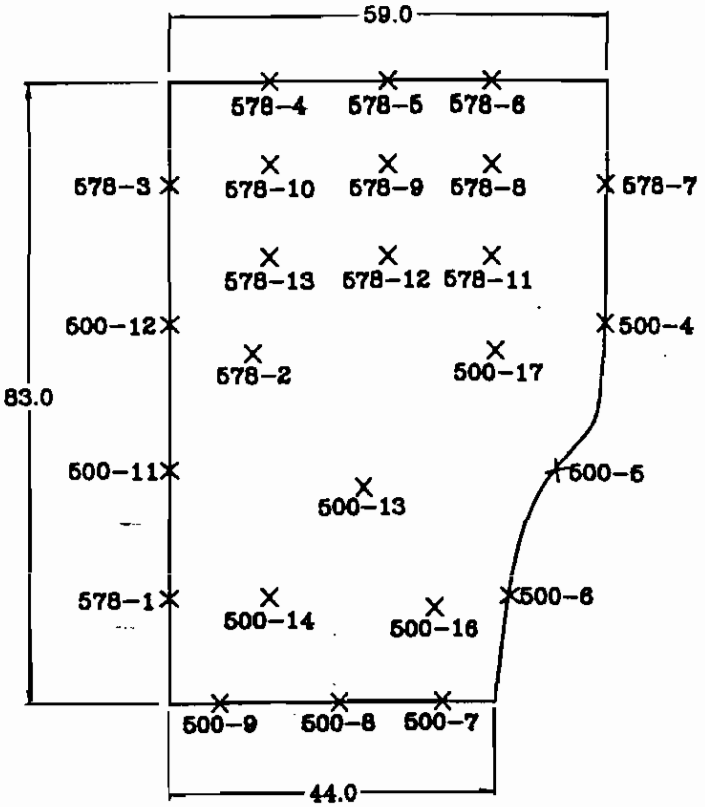
Figure 4
SWMU 14
Confirmation Sample Location/Results
Charleston Naval Base
Charleston, SC

DWG DATE: 4/13/98	DWG NAME: 14FIG4

1,1,2- TCA

SSL = 0.2 ppb (DAF=1)
= 0.0002 ppm



SAMPLE ID SPORTO____-_

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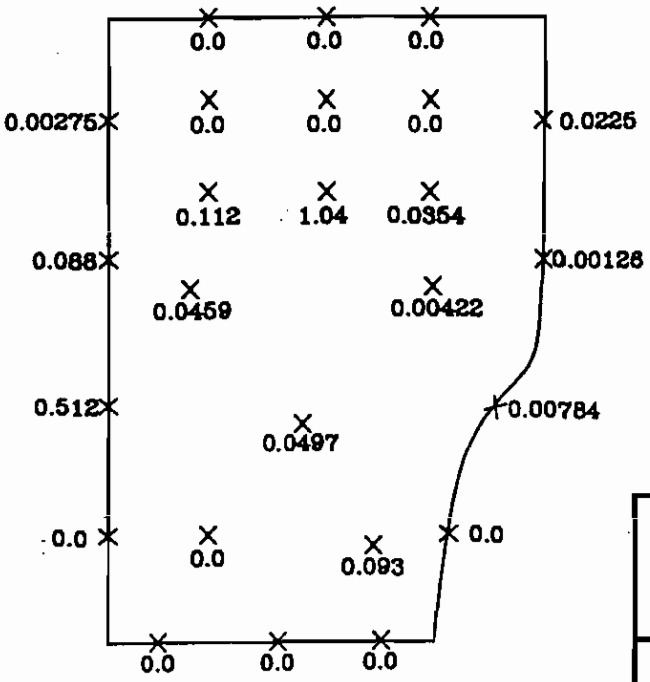

RESULTS OF
1,1,2,2-TETRACHLOROETHANE (ppm)

SPORTENVDETCHASN
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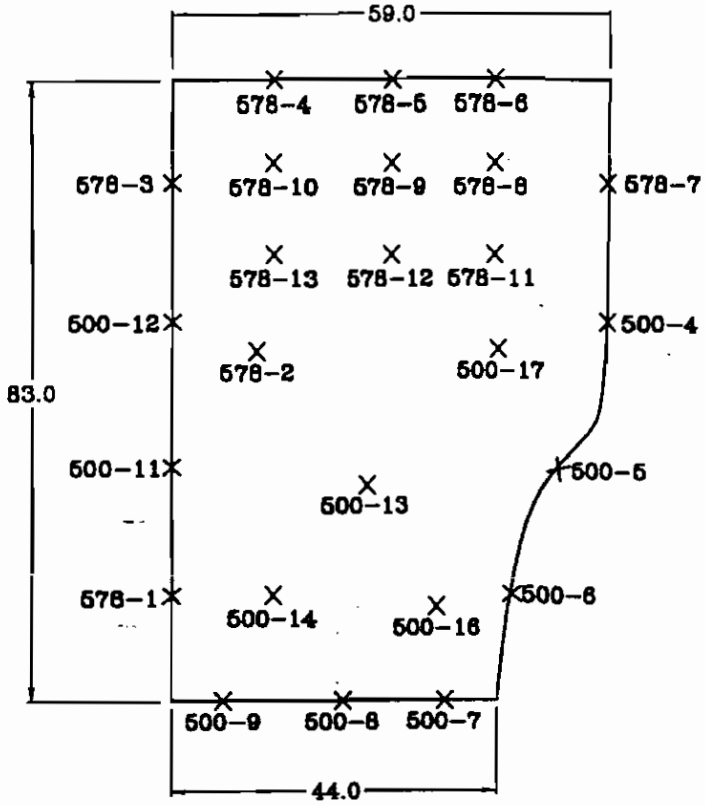
Figure 4
SWMU 14
Confirmation Sample Location/Results
Charleston Naval Base
Charleston, SC

DWG DATE: 4/13/98 | DWG NAME: 14FIG4

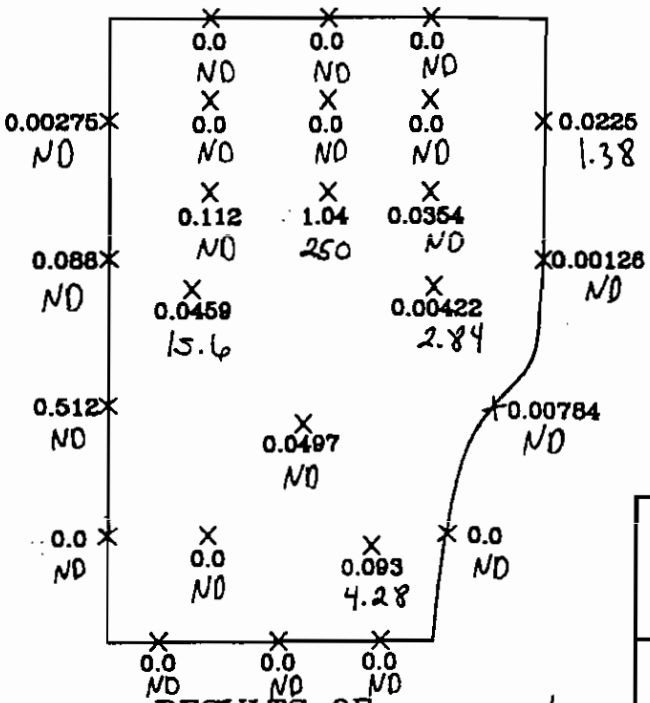
PCE

SSL = 3 ppb (DAF=1)



SAMPLE ID SPORTO____-_

N



RESULTS OF

~~1,1,2,2-TETRACHLOROETHANE~~ (~~ppm~~ ppb)

PCE

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Figure 4 SWMU 14 Confirmation Sample Location/Results Charleston Naval Base Charleston, SC
DWG DATE: 4/13/98 | DWG NAME: 14FIG4