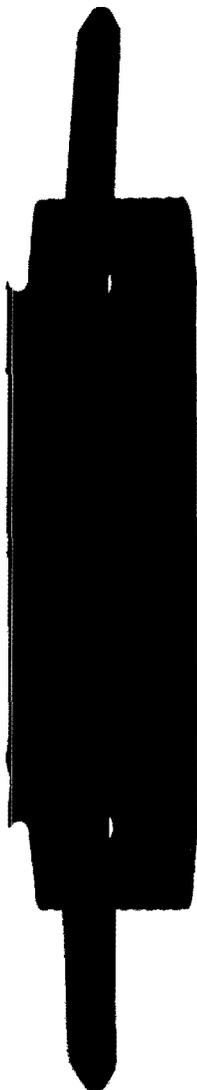


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CORRESPONDENCE REGARDING BASIS FOR SOIL REMOVAL AT SOLID WASTE
MANAGEMENT UNIT 42 (SWMU 42) AND AREA OF CONCERN 505 (AOC 505) CNC
CHARLESTON SC
6/1/2001
CNC CHARLESTON

Correspondence JUN 01
Charleston Naval Complex



Basis for Soil Removal at SWMU 42/AOC 505

PREPARED FOR: David Scaturo (SCDHEC), Mihir Mehta (SCDHEC), Paul Bergstrand (SCDHEC), Susan Byrd (SCDHEC) Dann Spariousu (EPA Region IV), Tony Hunt (Navy), Rob Harrel (Navy)

PREPARED BY: Paul Favara

COPIES: Dean Williamson, Gary Foster, Tom Beisel, Vijaya Mylavarapu

DATE: June 1, 2001

Introduction

On January 25, 2001, CH2M-Jones submitted a Revision 0 Interim Measure (IM) Work Plan (WP) for removal of Arsenic and BEQ contaminated soil at SWMU 42/ AOC 505. Conditional approval of the IM WP was provided by SCDHEC on April 4, 2001. The IM WP proposed removing those soils with arsenic and BEQ concentrations in excess of established reference concentrations.

Since submitting the Revision 0 IM Work Plan, the BCT has made further progress on establishing appropriate risk-based cleanup levels at the CNC. Specifically, rather than removing all soils in excess of a background reference concentration established by the previous BCT for the purpose of RFI activities, CH2M-Jones is recommending that soils be removed based on risk-based principles and to an extent that would result in the arsenic exposure concentration being reduced to a level less than a media cleanup standard (MCS). CH2M-Jones recommends a MCS based on background values, including all grid based data not influenced by a SWMU, and reference concentrations not necessarily limited to a specific zone.

This position was discussed with SCDHEC at the April BCT meeting and was further detailed in an April 22, 2001 memorandum, in the context of the IM developed for SWMU 44. The risk-based approach to determining which soils require removal at SWMU 44 was verbally approved on our May 14, 2001 Weekly Monday Conference Call.

CH2M-Jones purposes to revise the Revision 0 IM Work Plan for SWMU 42/ AOC 505 to be consistent with the approach used at SWMU 44. The single most critical factor in development of the IM WP for soil remediation at SWMU 42/ AOC 505 is definition of the MCS for arsenic. The purpose of this memorandum is to present the basis for selecting a MCS for arsenic at SWMU 42/ AOC 505 and solicit regulatory comment.

Introduction

The overall approach to developing a MCS for arsenic at SWMU 42/ AOC 505 is identical to that presented for SWMU 44 (as described in the April 22, 2001 memorandum). During the April BCT meeting, the BCT concluded that:

- the EPA recommended arsenic MCS of 20 mg/kg could be used as one potential argument in supporting a specific MCS; and
- the full range of constituent concentrations in the zone-specific and/or base-wide reference data set should be evaluated to define an appropriate reference value applicable to the specific SWMU or AOC. The specific MCS for arsenic at a given site could be less than or greater than 20 mg/kg, depending on site conditions and related factors.

Based on the above listed reasons, CH2M-Jones is revising the MCS for arsenic at SWMU 42/AOC 505, using information relevant to this site and CNC as a whole.

Prior to finalizing the excavation plan for the IM at SWMU 42/AOC 505, regulatory comment on the proposed arsenic MCS, presented below, is requested.

Once CH2M-Jones receives comment on the proposed MCS herein, SCDHEC comments will be addressed and a Revision 1 IM WP will be submitted. All SCDHEC comments to the Revision 0 WP will be responded to in the context of the revised MCS for arsenic at SWMU 42/AOC 505.

Basis and Recommendation for Arsenic MCS at SWMU 42/AOC 505

The Revision 0 IM WP concluded that removal of subsurface soil is not warranted at SWMU 42/AOC 505. Therefore, development of a subsurface MCS for arsenic is not necessary. Therefore, only a surface soil MCS for arsenic will be developed.

Surface Soil

The statistically estimated Zone A reference concentration for arsenic, as presented in the Final Zone A RFI, was 9.44 mg/kg. Table 1 (note this table presents the original grid sample population for the RFI as well as new samples collected in March 2001) presents the full data set for arsenic in surface soil grid samples in Zone A, sorted from highest to lowest value. The Zone A reference concentration was a UTL 95% value, after the highest grid data point (30.1 mg/kg) was removed from the sample population.

The highest concentration data point was removed from the reference sample population because it was considered an "outlier." However, this sample is representative of anthropogenic background conditions at the base. Therefore, as discussed at the BCT Meeting in April, the full range of arsenic results from grid locations was evaluated. The resulting UTL95% from the full data set was calculated as 29.0 mg/kg.

Additional soil samples were collected in March 2001 to characterize BEQ concentrations at railroad tracks; arsenic was also targeted for analysis in these samples. The railroad samples included samples from near/under railroad ties, and adjacent runoff areas. The results of this dataset are highlighted in Table 1. Two of the railroad track samples were collected from areas in Zone A.

The arsenic concentrations in the two railroad track samples were 2.04 and 41.0 mg/kg. Since SWMU 42/AOC 505 has extensive railroad tracks running through the site, and some

of the highest observed arsenic concentrations were near the railroad tracks, these railroad sample concentrations were included in a UTL95% calculation for Zone A. When all the "non-SWMU" (i.e., original grid samples as well as railroad samples collected in March 2001) samples are included in the UTL95% calculation, the new UTL95% was calculated as 41 mg/kg.

In addition to the above site-specific information, another factor to consider in development of a MCS is a recent position EPA Region IV has taken on arsenic. This position was outlined in a letter prepared by Dann Spariosu (USEPA Region IV) and submitted to Mihir Mehta (SCDHEC). The letter recommends a remediation goal of 20 mg/kg for arsenic in soil and cites a general range of arsenic background of 10 to 30 mg/kg within EPA Region IV.

Given the above information, CH2M-Jones recommends a MCS for arsenic be set at 29.0 mg/kg. The basis of this recommendation is:

- the proposed MCS represents the UTL95% for the original reference sample population;
- the value is less than the upper end of the background range of arsenic with in Region IV (i.e., 30 mg/kg); and
- development of the value was consistent with the approach used to develop a MCS at SWMU 44. The developed MCS's for arsenic at SWMU 44 (28.7 mg/kg) and SWMU 42/AOC 505 (29.0 mg/kg) are also very similar. Similar MCS's for both sites is logical as both sites are virtually adjacent to each other, albeit in different zones.

Though inclusion of the new (March 2001) railroad samples is applicable in the development of a MCS for SWMU 44, this new data has not included as a conservative measure.

It should be noted that developing a SSL based MCS was considered. Using EPA default assumptions, and a DAF of 10, the SSL for arsenic in soil is 14.5 mg/kg. As this value is less than the proposed reference value of 29.0 mg/kg, the proposed reference value would be the more relevant than the SSL in defining the MCS.

Determination of Soil Excavation Limits

As previously stated, the IM WP for SWMU 42/AOC 505 did not recommend removal of subsurface soil. Therefore, only surface soil excavation will be discussed.

Surface Soil Excavation

As presented above, the recommended MCS for arsenic is 29.0 mg/kg. The objective of the IM is to ensure that, when the IM is complete, the site exposure concentration is same or less than the MCS. Note that it is possible for individual soil samples within SWMU 42/AOC 505 to exceed the statistically based MCS, provided that the site statistical average concentration is less than the MCS. A one-half acre box will be used as an exposure area for future assumed residential land use, where statistical upper-bound averages (e.g., UCL95) are at or below reference levels for arsenic.

A step-wise process will be utilized to determine excavation extents:

1. Initially, the full range of SWMU data will be evaluated and a UCL95 calculation will be performed to produce a site upper-bound estimate on the average concentration. This step will determine if the site data, as a whole, exceeds the MCS. No excavation contours will be developed as part of completing this step. Rather, results from this evaluation will determine the overall statistical average concentration of the exposure unit, (i.e., the SWMU).
2. A half-acre box will be moved over the site with the purpose to "box-in" as many of the highest arsenic levels on the site. Several half-acre box calculations will be performed, as required, to address all the highest concentrations areas. Once a box is drawn around the samples, a UCL95 will be calculated for data within the box. If the UCL95 concentration is less than the MCS, no excavation will be required within the box. If the UCL95 is greater than the MCS, then soil will require removal.
3. Two-dimensional kriging will be used to estimate the extent of excavation within boxes that are determined to require soil removal (based on results of Step 2 above). Where excavation is required in a half-acre box, it will be assumed that the sample locations where soil is being removed will be replaced with "clean soil".

Table 1. Arsenic in Suffice Grid Samples and Railroad Track Samples, Zone A

SAMPLE	RESULT	UNIT	QUALIFIER	DATE_COL	DATA SET
GDLSB02001	41.10	MG/KG	=	03/22/2001	March 2001 Sample
GDASB00601	30.10	MG/KG	=	10/09/1995	RFI Background Data Set
GDASB0A601	15.30	MG/KG	J	04/30/1997	RFI Background Data Set
GDASB00701	8.20	MG/KG	=	10/09/1995	RFI Background Data Set
GDASB0B601	7.20	MG/KG	J	04/30/1997	RFI Background Data Set
GDASB00101	6.60	MG/KG	=	10/05/1995	RFI Background Data Set
GDASB0C601	6.40	MG/KG	J	04/30/1997	RFI Background Data Set
GDASB00501	5.20	MG/KG	=	10/09/1995	RFI Background Data Set
GDASB00901	4.50	MG/KG	=	10/09/1995	RFI Background Data Set
GDASB00301a	4.00	MG/KG	=	10/05/1995	RFI Background Data Set
GDASB01201	4.00	MG/KG	=	10/09/1995	RFI Background Data Set
GDASB00801	3.90	MG/KG	=	10/09/1995	RFI Background Data Set
GDASB01101	3.80	MG/KG	=	10/09/1995	RFI Background Data Set
GDASB01301	3.80	MG/KG	=	10/09/1995	RFI Background Data Set
GDASB01001	3.60	MG/KG	=	10/09/1995	RFI Background Data Set
GDASB01401	3.20	MG/KG	=	10/11/1995	RFI Background Data Set
GDLSB02101	2.04	MG/KG	=	03/22/2001	March 2001 Sample
GDASB00201	1.70	MG/KG	J	10/05/1995	RFI Background Data Set



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June 27, 2001

Mr. David Scaturro
Division of Hazardous and Infectious Wastes
South Carolina Department of Health and
Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Re: RCRA Facility Investigation Work Plan Addendum(Revision 1), Zone H, Charleston
Naval Complex

Dear Mr. Scaturro:

Enclosed please find four copies of the updated text and cover pages to the RCRA Facility Investigation Work Plan Addendum(Revision 0), Zone H of the Charleston Naval Complex (CNC), originally issued during January 2001. These updates to the Revision 0 document reflect agreements made during the Zone H RFI comment resolution and scoping meeting held between South Carolina Department of Health and Environmental Control (SCDHEC) and CH2M-Jones on January 12, 2001, and will update the Revision 0 document to a Revision 1 document.

Please replace the text and cover pages in the Revision 0 document with the revised text and cover pages attached, and include the minutes of the scoping meeting, and responses to comments on the Zone H RFI Work Plan Addendum, Revision 0.

This report has been prepared pursuant to agreements by the CNC BRAC Cleanup Team for completing the RCRA Corrective Action process.

Please contact me if you have any questions or comments at (770)-604-9182 ext. 255.

Sincerely,

CH2M HILL

Sam Naik

cc: Rob Harrell/Navy, w/att
Dann Spariosu, USEPA w/att
Gary Foster/CH2M HILL, w/att

CH2MHILL

TRANSMITTAL

To: CNC Submittals Distribution List
Recipients

From: Sara Vivas

Date: June 20, 2001

Re: RFI Report Addendum, AOC 619/SWMU 4, Zone F, CNC, Revision 0 (June 2001)

We Are Sending You:

Attached	Under separate cover via	
Shop Drawings	Documents	Tracings
Prints	Specifications	Catalogs
Copy of letter	Other:	

Description

Enclosed please find additional pages that should be inserted at the end of Appendix E material (*Responses to SCDHEC Comments*) for the RFI Report Addendum for AOC 619/SWMU 4 in Zone F of the CNC.

If material received is not as listed, please notify us at once

Remarks:

Copy To:

Louise Palmer



CH2MHILL

CH2M HILL

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32608-3928

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June 29, 2001

Mr. David Scaturo
Division of Hazardous and Infectious Wastes
South Carolina Department of Health and
Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Re: Sampling Plans for AOCs 638 and 636, Zone G

Dear Mr. Scaturo:

Enclosed please find four copies each of the Sampling Plans for AOCs 638 and 636, Zone G of the Charleston Naval Complex (CNC). These Sampling Plans have been prepared to gain further information for evaluating the nature of the soil. This information will be used to complete RFI activities at the site.

Please contact me if you have any questions or comments.

Sincerely,

CH2M HILL

Dean Williamson, P.E.

cc: Rob Harrell/Navy, w/att
Gary Foster/CH2M HILL, w/att
Darryl Gates/CH2M HILL, w/att

Sampling Plan

AOC 636, Zone G

**Charleston Naval Complex
North Charleston, SC**

Prepared for
**U.S. Navy Southern Division
Naval Facilities Engineering Command**

Prepared by
CH2M-Jones

June 2001

**Certification Page for RCRA Facility Investigation (RFI)
Addendum Soil Sampling Plan Plan – AOC 636, Zone G**

Subsurface Soil Investigation

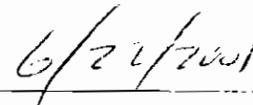
I, Dean Williamson, certify that this report has been prepared under my direct supervision. The data and information are, to the best of my knowledge, accurate and correct, and the report has been prepared in accordance with current standards of practice for engineering.

South Carolina

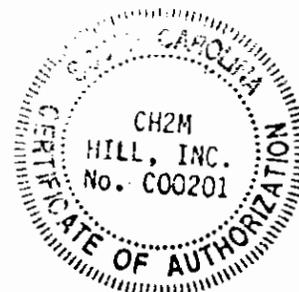
Temporary Permit No. T2000342



Dean Williamson, P.E.



Date



RFI Addendum Soil Sampling Plan

AOC 636, Zone G

Purpose of the Soil Sampling Investigation

This Sampling Plan presents a technical approach for further sampling of antimony, cadmium, hydrazine, 1,1,2,2-tetrachloroethane, lead, and thallium in subsurface soils in the vicinity of Area Of Concern (AOC) 636, in Zone G, at the Charleston Naval Complex (CNC). The data obtained from these sampling activities will be used to complete the evaluation of the nature and extent of these constituents in subsurface soil at this site.

Site Background and Setting

AOC 636 is the former torpedo magazine, where torpedoes and munitions were stored in the 1940s. There is no historical evidence of repair operations or disposal occurring at this facility (EnSafe RFI, 1998). An unexploded ordnance (UXO) subcontractor performed geophysical screening of RFI sampling locations for buried UXO, and found no anomalies. In addition, interim measures (IM) completed at Solid Waste Management Unit (SWMU) 8 included substantial soil excavation in a part of AOC 636 (to which SWMU 8 is adjacent); no UXO, torpedo parts, or other visual evidence of disposal were discovered. Based on this, the CNC Project Team and the Environmental Detachment Charleston (DET) determined that there was no need for a formal UXO survey. Currently, the AOC 636 area contains Building 161 and an asphalt paved parking lot.

Previous Investigations

RFI

EnSafe conducted soil and groundwater investigations at AOC 636 as part of the Zone G RFI (EnSafe, 1998). A total of 14 soil borings were installed and sampled in two rounds during the RFI. First-round soil samples were analyzed for metals, pesticides/polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), propellants, and explosives. Second-round RFI samples were analyzed for metals, pesticides/PCBs, and SVOCs. One new monitor well was installed, and six existing shallow monitor wells at nearby SWMU 8 were redeveloped and sampled. Groundwater samples were analyzed for metals, pesticides/PCBs, SVOCs,

and VOCs, with the AOC 636 well sample also analyzed for explosives and propellants. The RFI sampling locations are presented in Figure 1-1.

The RFI results indicated that the propellant compound hydrazine was detected at levels above the site-specific soil screening level (SSL) of .0000527 milligrams per kilogram (mg/kg) in subsurface soil samples from borings 636SB002 (0.067J mg/kg), 636SB004 (0.0139J mg/kg), and 636SB005 (0.0191J mg/kg). The VOC compound 1,1,2,2-tetrachloroethane (1,1,2,2-PCA) was also reported in subsurface soil boring 636SB009 at 0.01J mg/kg, exceeding the site-specific SSL of 0.00223 mg/kg. No groundwater data gaps were identified during the RFI.

Interim Measures

EnSafe combined SWMU 8 and AOC 636 into investigation due to their close proximity and their potential for similar contaminant of potential concern (COPCs). A series of interim measures (IM) were conducted by the Navy Detachment in 1996 and 1997. The IM included removal of the oil sludge pit (SWMU 8), removal of some soil at AOC 636, and installation of a product recovery system. Section 10.6 of the *Draft Zone G RCRA Facility Investigation Report* and the *Interim Measure for SWMU 8 Completion Report* (Environmental Enterprise Group, 1999) presents additional information.

Additional Investigations

To further delineate metals and SVOCs in soils at AOC 636, additional soils borings were installed and sampled in late 1999 and early 2000. Three soil borings (636SB015, 636SB016, and 636SB020) were completed and evaluated for metals. Synthetic precipitation leaching procedure (SPLP) analytes were also run on these samples. Two additional soil borings (636SB018 and 636SB019) were completed and evaluated for only SW-846 metals at DQO Level III. These sampling locations are also shown on Figure 1-1.

Results of this sampling indicate the presence of lead in subsurface soil at levels above both the site-specific SSL (400 mg/Kg), and the Zone G grid sample concentration range of 2.4 to 76 mg/kg. In boring 636SB015T2, lead was measured at 883 mg/kg, and in boring 636SB019 the lead concentration was 1,250 mg/kg. In boring 636SB015T2, antimony was also detected at 4.0J mg/kg, exceeding its site-specific SSL (1.6 mg/kg) and Zone G grid sample (background) range (not detected). Antimony also exceeded the SSL and the Zone G background range in boring 636SB019 at 47.5 mg/kg. Thallium was detected in boring 636SB019 at 3.8 mg/kg, exceeding the SSL (0.217 mg/kg) and the basewide background

range of 0.36 to 1.9 mg/kg. Cadmium also exceeded its SSL (2.3 mg/kg) and Zone G grid sample background range (0.08 to 0.52 mg/kg) in boring 636SB019 (9.2 mg/kg).

None of the surface soil samples collected to date exceed criteria for any of these parameters, nor do any of these parameters exceed maximum contaminant levels (MCLs) in site groundwater.

Proposed Soil Sampling

To complete the delineation of metals and 1,1,2,2-tetrachloroethane near borings 636SB015T and 636SB019, and hydrazine near borings 636SB002, 636SB004 and 636SB005, additional subsurface soil samples will be collected at AOC 636 for chemical analysis. The test results will be presented in an RFI Report Addendum, along with the results of additional activities conducted by EnSafe in late 1999 and early 2000. The available data for AOC 636 will be evaluated to determine whether corrective measures will be necessary at AOC 636.

Hand Auger Investigation

To collect the additional delineation samples required for subsurface soil, a series of hand auger (HA) borings will be advanced by CH2M-Jones personnel at locations shown on Figure 1-1. Two borings will be installed near boring 636SB015; two borings will be installed near boring 636SB019, and one boring will be installed near each of existing borings 636SB002, 636SB004, and 636SB005, and 636SB009.

Pre-cleaned stainless steel hand augers will be used at each location to collect subsurface soil samples from the 3 to 5-foot depth interval below land surface (ft bls). The sampling rationale and sample collection procedures will be performed in accordance with the Environmental Services Division *Standard Operating Procedures and Quality Assurance Manual* (ESDSOPQAM), (U.S. Environmental Protection Agency [EPA], 1996a).

The completed HA borings will be backfilled with the excess soil cuttings. Boring locations will be surveyed for positioning in the CNC geographic information system (GIS).

Subsurface Soil Analysis

The eight subsurface soil samples collected from the HA locations will be delivered or sent via overnight carrier to an offsite laboratory, where they will be analyzed. Samples will be collected from four locations near borings 636SB015 and 636 SB019 (see Figure 1-1), and will

be analyzed for total lead, antimony, cadmium, and thallium by EPA Method SW846-6010/6020.

Samples will also be collected from locations adjacent to each of three existing soil boring locations: 636SB002, 636SB004, and 636SB005. These three samples will be analyzed for hydrazine by SW-846 or other appropriate analytical methods.

One sample will be collected near boring 636SB009, and will be analyzed for 1,1,2,2-PCA and thallium by appropriate SW-846 methods. Table 1 presents a complete listing of sample locations, sample identification, sampling depths, and target analytical parameter lists.

The subsurface soil sample analysis will follow the procedures described in the approved Comprehensive Sampling and Analysis Plan (CSAP) portion of the *Final Comprehensive RFI Work Plan* (EnSafe/Allen & Hoshall, 1994). The CSAP outlines all monitoring procedures to be performed during the investigation to characterize the environmental setting, source, and releases of hazardous constituents. In addition, the CSAP includes the Quality Assurance Plan (QAP) and Data Management Plan (DMP) to verify that all information and data are valid and properly documented. Sample analysis will be performed in accordance with the guidance in EPA's *Test Methods for Evaluating Solid Waste, SW-846, Revision 4* (1996b), Office of Solid Waste and Emergency Response (OSWER) and in the EPA Environmental Services Division *Laboratory Operations and Quality Control Manual* (ESDLOQCM) (1997).

Data Presentation

The results of this subsurface soil investigation will be summarized and presented in an RFI Report Addendum for AOC 636. The RFI Report Addendum will document the field activities performed during this investigation, and will provide the analytical results from the samples collected during this subsurface soil investigation.

Investigation-Derived Waste (IDW)

IDW consisting of residual soil and decontamination water from the HA locations will be collected in a labeled 55-gallon drum and hauled from the site to Building 1846 located on the CNC. Building 1846 is a RCRA less-than-90-day hazardous waste accumulation area. A sample of the drum contents will be collected and analyzed for lead. CH2M-Jones will arrange for transporting the drum and its contents to an offsite, licensed facility that is permitted to accept and treat lead-impacted soil, if necessary.

References

- EnSafe Inc. *Zone G RFI Report, NAVBASE Charleston*. Revision 0. February 28, 1998.
- EnSafe Inc. *Zone G RFI Report Workplan Addendum, NAVBASE Charleston*. January 17, 2000.
- EnSafe Inc./Allen & Hoshall. *Final Comprehensive RFI Work Plan*. 1994.
- U.S. Environmental Protection Agency (EPA). *Standard Operating Procedures and Quality Assurance Manual (ESDSOPQAM)*. 1996a.
- U.S. Environmental Protection Agency (EPA). Office of Solid Waste and Emergency Response (SW846). *Test Methods for Evaluating Solid Waste, SW-846*. Revision 4. December 1996b.
- U.S. Environmental Protection Agency (EPA). *Laboratory Operations and Quality Control Manual (ESDLOQCM)*. 1997.

TABLE 1

Summary of Proposed Soil Sampling and Analysis
Subsurface Sampling Plan for AOC 636, Zone G, Charleston Naval Complex

Sampling Location	Sample Identification	Sampling Interval (ft bls)	Target Parameter List
near boring 636SB015	G636HA01	3 - 5	Lead, antimony, cadmium, thallium
near boring 636SB015	G636HA02	3 - 5	Lead, antimony, cadmium, thallium
near boring 636SB019	G636HA03	3 - 5	Lead, antimony, cadmium, thallium
near boring 636SB019	G636HA04	3 - 5	Lead, antimony, cadmium, thallium
near boring 636SB002	G636HA05	3 - 5	Hydrazine
near boring 636SB004	G636HA06	3 - 5	Hydrazine
near boring SB636005	G636HA07	3 - 5	Hydrazine
near boring SB636009	G636HA08	3 - 5	1,1,2,2-PCA, thallium



- Hand Auger Sample Locations
- Surface Soil Sample Locations
- Soil Boring
- Fence
- Railroads
- Roads
- AOC Boundary
- SWMU Boundary
- Buildings
- Zone Boundary



Note: Original figure was produced in color.

Figure 1-1
Hand Auger Sample Locations
AOC 636, Zone G
Charleston Naval Complex

CH2MHILL



DEPARTMENT OF THE NAVY

SOUTHERN DIVISION

NAVAL FACILITIES ENGINEERING COMMAND

P.O. BOX 190010

2155 EAGLE DRIVE

NORTH CHARLESTON, S.C. 29419-9010

5090/11

Code 18B1

13 June 2001

Mr. John Litton, P.E.
Director, Division of Hazardous and Infectious Waste Management
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street,
Columbia, SC 29201

Subject: STRATEGY FOR ADDRESSING SITE CLOSE OUT ISSUES
RELATED TO ZONE J, L AND OTHER SITES AT THE
CHARLESTON NAVAL COMPLEX

The purpose of this letter is to present the strategy the Navy intends to use for addressing site close out issues associated with the Waterbodies (Zone J) and the Sewer and Railroad systems (Zone L) at the Charleston Naval Complex. The strategy has been developed in order to delineate the division of responsibility between the two Navy contractors (Ensafe and CH2M-Jones) in a manner that meets the regulatory requirements of the RCRA Part B permit. The permit is issued to the Navy by the S.C. Department of Health and Environmental Control (DHEC) and the U.S. Environmental Protection Agency (EPA).

Zone J and L are investigative zones created for purposes of project management given the large number of Solid Waste Management Units (SWMUs) and Areas Of Concern (AOCs) at the CNC. Instead of evaluating the risk to human health and ecological receptors in the waterbodies from each site, Zone J was created to address these issues once the contaminant migration pathways from the terrestrial sites were established. Zone L was created to address the potential for hazardous materials or waste to be discharged to the waterbodies through the sanitary or storm sewer systems and to address releases in terrestrial areas that occurred at transfer or storage stations along the railroad system. The original Zone J strategy was to sample sediment and surface water at and around outfalls in order to identify where any contamination existed and then attempt to establish the pathway back to the terrestrial site at CNC. The original Zone L strategy involved sampling along the sewer systems downstream of sources that used hazardous materials (primarily industrial sources) with the intent of further investigating those areas that exceeded screening levels for the constituents of concern.

The change in strategy is necessary as a result of the change in contracting strategy by the Navy. The following contractual delineation is provided in order to assist the Department in understanding the division of responsibility between Navy contractors. The current contract scope with CH2M-Jones requires that they provide site close out of all terrestrial sites. Delineation and remediation of contaminated sediments below the mean high water line are specifically excluded under their contract unless the contamination is a result of contaminated groundwater from a terrestrial site discharging to a waterbody. In the

absence of groundwater recharge CH2M-Jones will address contaminated sediments above the mean high water line that present an unacceptable risk to ecological receptors, using either risk assessment or remediation methods. For purposes of the division of responsibility then, once a contaminant enters the storm sewer or passes beyond the mean high water mark into the waterbody the characterization responsibility of CH2M – Jones is complete. The previous Navy contractor (Ensafe) will be responsible for characterization of the contamination in the remainder of the sewer system, sediments beyond the mean high water mark and waterbodies.

The following strategy describes how the Navy intends to meet the regulatory requirements associated with the site closeout issues and the division of responsibility of the two contractors in completing the characterization. First with Zone J, the process of identifying potential contaminant migration pathways has been assigned to Ensaf with CH2M-Jones providing input. Ensaf is in the process of identifying drainage basins with surface water runoff that may intersect contaminated sites. Ensaf is also reviewing sediment data taken from selected collection basins that may further provide a link to source given the apparent contaminated sediment transport.

As stated previously, CH2M-Jones's characterization responsibility is limited to the terrestrial portion up to the point at which contaminants are migrating into the storm sewer, or up to the mean high water mark via surface runoff or via groundwater discharge into the waterbody. Ensaf's characterization responsibility is essentially the extension of the characterization effort from where contamination enters the storm sewer system or at the mean high water mark where contamination discharges to the surface water via overland flow. Ensaf will compile site data and use screening criteria to identify COPCs. CH2M-Jones is expected to review site data and determine the adequacy of the previous characterization efforts and determine where the potential exists for these COPCs to migrate to the storm sewer or to surface water through overland flow. Information provided by Ensaf regarding the presence of contaminated sediment in the catch basins may lead to further site characterization by CH2M-Jones to evaluate whether the source of the contaminated sediment can be determined (or possibly to further storm sewer sampling by EnSafe).

Ensaf has identified three major pathways and have selected screening criteria to determine what COPCs need to be carried forward to sediment or outfall sampling. The first pathway involves surface water runoff where the contaminated site media contain COPCs that exceed screening levels which, if in contact or suspended by sediment in surface water runoff, has the potential to enter the storm sewer system or directly discharge to a water body. This would also include the obvious direct discharge of a contaminant that is seen by discoloration of surface soil or paving leading to storm water inlets. Ensaf would compile this information into the data for that stormwater inlet, ditch or collection pond and evaluate the need for additional data and/or linkage to sediment contaminants. The second identified pathway is where contaminated groundwater from a site has migrated to the extent that it is recharging to the waterbodies. This will require an evaluation by CH2M-Jones to determine the adequacy of the site characterization for groundwater contaminants and comparison of COPCs to screening

level data in order to establish whether a concern exists. Where COPCs exceed screening levels in wells near the mean high water mark or in sediments where groundwater is discharging, these will be identified as COCs and CH2M – Jones will evaluate the need for collection of additional sediment data beyond the mean high water mark. The final pathway is whether contaminated groundwater can infiltrate into the storm sewer system and thereby be discharged to the waterbodies. This pathway is more likely to occur than storm water exfiltrating into the adjacent aquifer. The most obvious method to evaluate this pathway is by collection of effluent samples from the storm sewer outfalls. Ensafe will evaluate the need to collect this data (and will eventually collect it) and provide input to CH2M-Jones on the potential sources based on the COPCs that exceed screening criteria, sites and basin boundaries serviced by the outfall.

The influence of the railroad system on site closure will be evaluated on a site by site basis by CH2M-Jones during site closeout criteria evaluation. Additionally CH2M – Jones will evaluate the adequacy of characterization of No Further Action sites in completed RFIs which were closed under the assumption that Zone L would address the additional pathways. Any part of the sanitary sewer system that meets the definition of solid waste management units or areas of concern will be addressed in the site closeout criteria evaluation. This would include only that part of the system that is in service and continues to discharge wastes defined as hazardous waste under the S.C. Hazardous and Solid Waste Management Regulations (SC HSWMR R79.61) to the waterbodies. The majority of the CNC sanitary sewer lines have been rerouted to the Public Owned Treatment Works through the Main Discharge Point regulated by the North Charleston Sewer District (NCSD) and wastes discharged to it are therefore not a solid waste or hazardous waste by definition in Part 261 of the SC HSWMR.

CH2M – Jones will conduct the remediation where required on the terrestrial sites as far as the mean high water mark after the completion of the RFI and remedy selection. In addition, any sediment contamination found in the catch basins, sewer systems or sediments contaminated by groundwater recharge will be addressed by CH2M – Jones. The remediation of the contamination in the waterbodies and sediments beyond the mean high water mark will be done by a Remedial Action Contractor (RAC) under contract to the Navy at the time of RFI completion and remedy selection.

In addition to the sanitary and storm sewer systems (SWMU 37 and AOC 699 respectively) several other sites require discussion in order to clarify how the Navy intends to address the site investigation and corrective action requirements under the RCRA Part B permit. AOC 501, 502 and 503 are Unexploded Ordnance (UXO) sites in Zone J that will be dealt with by the Navy. AOC 504 (Railroad System) is being addressed in the site closeout criteria similar to the sewer systems. That portion of AOC 631 (northern portion) that is over the water will be addressed by the Zone J scope of work. The recommendation is made by this letter to address the remainder of Pier K (southern portion) in the UST program with the remainder of the Fuel Distribution system. Drydock discharges (AOC 556), the Waterfront releases (AOC 691) and Free Product Along the Cooper River (AOC 692) will be dealt with in the Zone J scope of work.

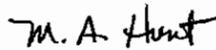
As a result of this letter the following changes will be required in the RCRA Part B permit;

Site	Site Description	Site Status	Investigative Zone
SWMU 37	Sanitary Sewer System	NFA	Addressed by site*
AOC 699	Storm Sewer System	NFA	Addressed by site*
AOC 504	Railroad System	NFA	Addressed by site*
AOC 556	Drydock Discharges	RFI	J
AOC 501	UXO Site (Pier S and T)	RFI	None (Navy)
AOC 502	UXO Site (East of X-54)	RFI	None (Navy)
AOC 503	UXO Site (Pier G and H)	RFI	None (Navy)
AOC 631N	Pier K (North)	RFI	J
AOC 631S	Pier K (South)	NFA	Recommend transfer to the UST program

*Zone L is eliminated as an investigative zone.

This should provide sufficient clarification on the division of responsibilities and the strategy the Navy is using to address the requirements of the RCRA Part B permit. Should you have any additional questions please contact either myself or Matthew Humphrey at the Caretaker Site Office at 843-820-5525 or 843-743-9985 respectively.

Sincerely,



M.A.Hunt, P.E.
BRAC Environmental Coordinator
BRAC Division

Copy to:
SCDHEC (4)
USEPA (Dann Spariousu)
CH2M Hill/Jones (Dean Williamson, Gary Foster)
Ensafe (Todd Haverkost)



CH2MHILL

CH2M HILL
3011 S.W. Williston Road
Gainesville, FL
32608-3928
Mailing address:
P.O. Box 147009
Gainesville, FL
32614-7009
Tel 352.335.7991
Fax 352.335.2959

June 29, 2001

Mr. David Scaturo
Division of Hazardous and Infectious Wastes
South Carolina Department of Health and
Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Re: Sampling Plans for AOCs 638 and 636, Zone G

Dear Mr. Scaturo:

Enclosed please find four copies each of the Sampling Plans for AOCs 638 and 636, Zone G of the Charleston Naval Complex (CNC). These Sampling Plans have been prepared to gain further information for evaluating the nature of the soil. This information will be used to complete RFI activities at the site.

Please contact me if you have any questions or comments.

Sincerely,

CH2M HILL

Dean Williamson, P.E.

cc: Rob Harrell/Navy, w/att
Gary Foster/CH2M HILL, w/att
Darryl Gates/CH2M HILL, w/att



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

Code 18B1
29 June 2001

Mr. Keith Collinsworth P.G.
Federal Facility Liaison
EQC Administration
2600 Bull Street
Columbia, SC 29201-1708

Subj: RESPONSE TO COMMENTS FOR EDC PHASE II FOST/EBST

Dear Mr. Collinsworth:

This letter forwards the Response to Comments for the EDC Phase II Finding of Suitability to Transfer (FOST) and Environmental Baseline Survey for Transfer (EBST) for the Charleston Naval Complex. Also included in this submittal is an addendum to the FOST/EBST which includes two additional parcels with associated facilities that were not included in the original submittal. The FOST/EBST is submitted to fulfill the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Community Environmental Response Facilitation Act and the 1997 National Defense Authorization Act.

We request that the Department and the U.S.EPA review and provide comment. The Navy and CH2M/Jones would like to review these responses during the next scheduled Project Team Meeting in July. If you have any questions, please contact myself or Amy Daniel of the Caretaker Site Office at (843) 820-5525 or (843) 743-9985 respectively.

Sincerely,

A handwritten signature in black ink that reads "M.A. Hunt".

M.A.HUNT, P.E.
Environmental Engineer
BRAC Division

Encls:
(1) Responses to Comments for FOST/EBST
(2) EDC Phase II Addendum dated June 2001

Copy to:
SCDHEC (4)
EPA (2)
SOUTHNAVFACENGCOM (Hunt) (3)
CNCRDA (Ryan)



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

5090/11
Code 18713
28 Jun 01

Mr. John Litton, P.E.
Director, Division of Hazardous and Infectious Waste Management
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Subj: SUBMITTAL OF SOLID WASTE MANAGEMENT UNIT 42 AND AREA OF
CONCERN 505 INTERIM MEASURE WORK PLAN

Dear Mr. Litton:

The purpose of this letter is to submit an Interim Measure Work Plan, Revision 1, for Solid Waste Management Unit (SWMU) 42 and Area of Concern (AOC) 505, Zone A, located at the Charleston Naval Complex. The work plan is submitted to fulfill the requirements of condition IV.E.2 of the RCRA Part B permit issued to the Navy by the South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency (EPA).

CH2M-Jones distributed the document under separate cover letter, and appropriate certification is provided under that correspondence. We request that the Department and the EPA review this document and provide comments or approval whichever is appropriate.

If you should have any questions, please contact, Matthew Humphrey or Rob Harrell at (843) 743-9985 and (843) 820-5551 respectively.

Sincerely,


ROBERT A. HARRELL, JR., P.E.
Environmental Engineer
BRAC Division

Copy to:
SCDHEC (David Scaturo (4))
USEPA (Dann Spariosu)
CSO Naval Base Charleston (Matt Humphrey)
CH2M-Hill (Dean Williamson)

D H E C



2600 Bull Street
Columbia, SC 29201-1708

June 28, 2001

COMMISSIONER:
Douglas E. Bryant

Matthew Humphrey
Caretaker Site Office
NAVFACENGCOCM, Southern Division
North Charleston, SC 29419-9010

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Howard L. Brilliant, MD

Brian K. Smith

Rodney L. Grandy

Larry R. Chewning, Jr., DMD

Re: Final Corrective Action Decision for SWMU 185
CMS WP Rationale for NFA, dated February 2001
Charleston Naval Complex
SC0 170 022 560

Dear Mr. Humphrey:

The South Carolina Department of Health and Environmental Control (Department) has reviewed the above referenced document, dated February 2001 for SWMU 185 located in Zone K according to applicable State and Federal Regulations, and the Charleston Naval Complex Hazardous Waste Permit (Permit), effective September 17, 1998.

SWMU 185 includes a septic tank and drain field that have not been used for decades, as well as a sewer system that currently services the few active buildings at the Naval Annex. The site became a SWMU because of possible contaminants entering the sanitary sewer system and impacting the surrounding environment. The results of the 1999 RFI confirmed that there were no COPCs at SWMU 185. The CMS WP references applicable sections of the Zone K RFI report and addresses the required close-out issues as part of the NFA rationale. Based on the review of the above referenced report, the Department now approves no further action (NFA) as the final corrective action decision for SWMU 185.

To note, the Navy should satisfy all requirements of other program areas of the Department as deemed appropriate. Further, the CNC should note that the Department's approval is based on the information provided to date. Any new information found to be contradictory may require further action.

The Navy should note that the Permit has not been modified to document the above stated decision for SWMU 185. The current Permit classification for SWMU 185 is CSI. The Department will make the necessary changes to the Permit during the next Permit Modification to document this NFA decision.

Should you have any questions regarding this issue, please contact Susan Peterson at (803) 896-4182.

Sincerely,



David Scaturo, P.G., P.E., Manager
Corrective Action Engineering Section
Bureau of Land and Waste Management

Attachment:

Memorandum from Melanie DeBlossio to Susan Peterson dated June 28, 2001

cc: Keith Collinsworth, EQC Administration
Susan Peterson, Corrective Action Engineering
Paul Bergstrand, Hydrogeology
Rick Richter, Trident EQC
Dean Williamson, CH2M-Hill
Gary Foster, CH2M-Hill
Dann Spariosu, EPA Region IV
Rob Harrell, SOUTHDIV
Tony Hunt, SOUTHDIV



2600 Bull Street
Columbia, SC 29201-1708

**DIVISION OF
HYDROGEOLOGY**
2600 Bull Street
Columbia, SC 29201
Telephone (803) 896-4000
Fax (803) 896-4002

MEMORANDUM

To: Susan Peterson, Environmental Engineer Associate
Corrective Action Engineer Section
Division of Hazardous and Infectious Waste Management
Bureau of Land and Waste Management

From: Melanie E. DeBlossio, Hydrologist *MED*
RCRA Hydrogeology I Section
Division of Hydrogeology
Bureau of Land and Waste Management

Date: June 28, 2001

Re: Charleston Naval Complex (CNC)
Charleston, South Carolina
SC 170 022 560

Corrective Measures Study Work Plan
Rationale for No Further Action
SWMU 185, Zone K
Revision 0, Dated February 2001

The document referenced above has been reviewed to the requirements of R.61-79 of the South Carolina Hazardous Waste Management Regulations, The Environmental Protection Agencies (EPA) RCRA Facility Assessment Guidance Document dated October 1988, and the revised EPA Region IV Environmental Compliance Branch Standard Operation Procedures and Quality Assurance Manual (SOP/QAM) dated May 1996.

Based on the results of that review, the Department of Hydrogeology concurs with the recommendation of no further action at SWMU 185, Zone K.



CH2MHILL

CH2M HILL
3011 S.W. Williston Road
Gainesville, FL
32608-3928
Mailing address:
P.O. Box 147009
Gainesville, FL
32614-7009
Tel 352.335.7991
Fax 352.335.2959

June 27, 2001

Mr. David Scaturo
Division of Hazardous and Infectious Wastes
South Carolina Department of Health and
Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Re: Interim Measure Work Plan (Revision 1), SWMU 42 – Former Asphalt Tanks/Boiler
Plant, and AOC 505 – Creosote Cross-Tie/Railroad Ballast Storage Area and Golf
Course Maintenance Building, Zone A

Dear Mr. Scaturo:

Enclosed please find four copies of the Interim Measure Work Plan (Revision 1), SWMU 42
Former Asphalt Tanks/Boiler Plant, and AOC 505 – Creosote Cross-Tie/Railroad Ballast
Storage Area and Golf Course Maintenance Building in Zone A, at the Charleston Naval
Complex (CNC). This report has been prepared pursuant to agreements by the CNC BRAC
Cleanup Team for completing the RCRA Corrective Action process.

Please contact me if you have any questions or comments.

Sincerely,

CH2M HILL

Dean Williamson, P.E.

cc: ✓ Rob Harrell/Navy, w/att
Gary Foster/CH2M HILL, w/att



2600 Bull Street
Columbia, SC 29201-1708

June 27, 2001

CERTIFIED LETTER
RETURN RECEIPT REQUESTED

Ms. Amy Daniell
Caretaker Site Office
NAVFACENGCOCM, Southern Division
P.O. Box 190010
North Charleston, SC 29419-9010

RE: Building 79/79A, Zone E – Additional SWMUs or AOCs
Request for Investigation, Information, and As-Built Drawings
Charleston Naval Complex (CNC)
SC0 170 022 560

Dear Ms. Daniell:

A site visit to Building 79/79A was conducted by Department of Health and Environmental Control staff on May 2, 2001. During this site visit, Department staff observed several locations that may be new Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs). Photographs of these areas, which were taken during the site visit, are in a memorandum from Paul Bergstrand to David Scaturo and Joe Bowers, dated June 15, 2001 (see attached).

In accordance with the Charleston Naval Complex Hazardous Waste Permit, specifically in Permit Conditions II.A.2 and II.B.1, the Navy must identify and investigate these sites within fifteen (15) calendar days of receipt of this letter. Please see the attached memorandum from Paul Bergstrand for a request for specific information.

Thank you for your cooperation in this matter. If you have any questions or concerns, please contact me at (803) 896-4185 or Paul Bergstrand at (803) 896-4016.

Sincerely,

David Scaturo, PE, PG
Manager, Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

Ms. Amy Daniell

June 27, 2001

Page 2 of 2

Attachment: Memorandum from Paul Bergstrand to David Scaturo and Joe Bowers, dated June 15, 2001

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



2600 Bull Street
Columbia, SC 29201-1708

MEMORANDUM

TO: David Scaturo, P.E., P.G.
Manager, Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

Joe Bowers, P.G.
Manager, RCRA Hydrogeology Section
Division of Hydrogeology
Bureau of Land and Waste Management

FROM: Paul M. Bergstrand, P.G., Hydrogeologist
RCRA Hydrogeology Section
Division of Hydrogeology
Bureau of Land and Waste Management

PMB

DATE: 15 June 2001

RE: Charleston Naval Base (CNAV)
Charleston County, South Carolina
SC0-170-022-560

Additional SWMUs or AOCs
Request for Investigation, Information and As Built Drawings
Building 79/79A, Zone E
Site Visit of 2 May 2001

The author conducted a site visit on 2 May, 2001, accompanied by Mr. Mihir Mehta (SCDHEC), Mr. Tony Hunt (CNAV), and Mr. Gray Foster (CH2M Jones). During this visit, Department personnel noted several locations that may potentially be new solid waste management units (SWMUs) and/or areas of concern (AOCs). Photographs of these areas taken during the site visit are attached.

In accordance with the Charleston Naval Base hazardous waste permit, number SC0-170-022-560 ("the Permit"), the Navy must identify and investigate these sites. Requirements for these actions are outlined in Permit Conditions II.A.2, and II.B.1.

DD010457.PMB

1

The Department is requesting that the Navy address the following within 15 calendar days:

- The door grates at the North and South ends of Building 79 and where the grates drain.
- Excavated area at South end of Building 79.
- Oily stains in the machine shop area.
- Open pipes in the machine shop and Photo/Print Shop area.
- Pipes exiting along the West side of Building 79 which drain into a concrete tank.
- A schedule for sampling the liquid and sludge in the concrete tank.
- Pipes exiting the West side of Building 79 at stanchions 1 and 10
- The indoor drain race. (no photograph)
- A complete set of Building 79/79A figures and drawings including "As Built" for piping, washracks, cleaning stations, OWS, USTs and ASTs.



2600 Bull Street
Columbia, SC 29201-1708

June 27, 2001

Ms. Amy Daniell
Caretaker Site Office
NAVFACENGCOM, Southern Division
P.O. Box 190010
North Charleston, SC 29419-9010

RE: Response to Comments for Zone I RFI Report, dated February 28, 2001
Charleston Naval Complex (CNC)
SC0 170 022 560

Dear Ms. Daniell:

The South Carolina Department of Health and Environmental Control (the Department) has reviewed the above referenced response to comments document with respect to applicable State and Federal Regulations, and the CNC Hazardous Waste Permit, effective September 17, 1998. The attached comments were generated based on this review. The Department concurs that a comments resolution and scoping meeting, as proposed in the referenced document, is necessary in order to agree upon the path forward for unresolved comments and future corrective action strategy for sites in Zone I.

Thank you for your cooperation in this matter. If you have any questions or concerns, please contact me at (803) 896-4185.

Sincerely,

David Scaturo, PE, PG
Manager, Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

Attachment: Memorandum from Mike Danielsen to Mihir Mehta dated June 5, 2001.

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

**South Carolina Department of Health and Environmental Control comments on:
Comments: Response to Comments for Zone I RFI Report dated 2/28/01, received March 2, 2001, Charleston Naval Complex (CNC), SC0 170 022 560.**

Comments by Mihir Mehta:

- 1) It is stated throughout the responses that appropriate information will be developed and provided in the revised document(s) for review and approval. Please provide all appendices and support information in the revised RFI report (s) or other agreed upon documents as deemed appropriate.

There might be a possibility to divide the sites in Zone I into subgroups or individual sites based on their current status and future path forward. The Department recommends that the Navy provide the strategy for future corrective action direction based on the comment resolution/scoping meeting. The goal is to provide adequate written documentation and the Departments approval in order to maintain the administrative file.

- 2) Comment number 1: AOCs 678/679. Figure 10.4.1. Please revise the figure to accurately locate the wash rack area and identify the sampling locations with respect to this site. The Department does not agree with the response for not changing the figure.
- 3) Comment number 1: By Susan Byrd. Please change the response and reevaluate the SSL calculations and analysis based on the recent agreement between the CNC Tier I BCT. Please revisit the sites in the referenced document and provide a path forward based on the site-specific SSL evaluation.



2600 Bull Street
Columbia, SC 29201-1708

RECEIVED
JUN 5 2001
Land

MEMORANDUM

TO: Mihir Mehta, Environmental Engineer Associate
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

FROM: Michael W. Danielsen, Hydrogeologist
RCRA Hydrogeology I Section
Division of Hydrogeology
Bureau of Land and Waste Management

DATE: June 5, 2001

RE: Navbase Charleston (CNC)
Charleston, South Carolina
SC 170 022 560

Zone I RCRA Facility Investigation (RFI) Report for
Charleston Naval Complex (CNC) Response to
May 7, 1999 Comments and response to June 30, 1999 Comments
Revision 0, Dated March 2, 2001 (Received March 9, 2001)

The document referenced above has been reviewed and the comments are attached. Further discussion/resolution of these comments must be addressed through David Scaturo, P.G., P.E.

**Zone I RCRA Facility Investigation (RFI) Report for
Charleston Naval Complex (CNC) Response to Comments**

Michael W. Danielsen June 5, 2001

1. Response to May 7, 1999 Comment #5

The Navy is basing their conclusions on assumptions that turbidity or exceeding pumping rates to being the cause of the high arsenic levels in well 2. The division of Hydrogeology would like to use scientific studies rather than assumptions to prove/disprove contaminant levels.

The Navy, in the Response, stated that "the Navy proposes to collect another round of groundwater sampling using low flow techniques." A summation table is presented for arsenic concentrations and includes results from one round of low flow sampling, but no interpretation is provided to the information in the table. How many rounds of low flow sampling were completed?

The CH2M Hill Response states that no further investigation is necessary. However continued monitoring may be needed for the arsenic concentrations because well 2 was not resampled using the low flow techniques.

2. Response to May 7, 1999 Comment #6

The response from CH2M Hill states that further investigation is not needed. However based on the one round of low flow sampling shown in the table, continued monitoring may be needed at a minimum because the level of arsenic was found to be almost three times above the MCL of 50ug/L.

3. General comment on Response to June 30, 1999 Comments

Several responses state that additional information will be provide by revised tables and page changes. When will this additional information be provided?

4. Response to June 30, 1999 Comment # 21

In the CH2M Hill response they state that a copy of the UST removal is included. This report was not included.

5. Response to June 30, 1999 Comment # 22

OWSs are usually not addressed under the UST program unless they are part of a virgin petroleum system. The majority of the OWS at the CNC are waste oil and other liquid waste tanks. Therefore the "standard sampling" under the USTs program is not sufficient to adequately characterize the possible contaminants that may be present at OWS sites.

Furthermore, this issue has been addressed under a separate investigation and this site should remain open until the OWS investigation is complete.

6. Response to June 30, 1999 Comment # 27

The Division of Hydrogeology does not concur with the Navy or CH2M Hill response. Some OWS contained other wastes that may have contained chlorinated solvents and other constituents that could also contain metals. See comment # 5 in this document

7. Response to June 30, 1999 Comment # 28

The response does not address the original concern of the site not being fully characterized for a full scan of contaminants to include pesticides and metals.

8. Response to June 30, 1999 Comment # 39

The Navy responded that the 681 area where the former AST may need additional investigation and the need for additional sampling must be discussed as mentioned in the response to comment #37. The CH2M Hill response is not complete and is not acceptable at this time.



2600 Bull Street
Columbia, SC 29201-1708

June 26, 2001

Ms. Amy Daniell
Caretaker Site Office
NAVFACENGCOM, Southern Division
P.O. Box 190010
North Charleston, SC 29419-9010

RE: Approval - Interim Measure Work Plan
Surface Soil Investigation, Solid Waste Management Unit 11, Zone G
Charleston Naval Complex (CNC)
SC0 170 022 560

Dear Ms. Daniell:

The South Carolina Department of Health and Environmental Control (the Department) has reviewed the above referenced technical memorandum according to applicable State and Federal Regulations, and the CNC Hazardous Waste Permit, effective September 17, 1998. Based on this review, the Department finds this document to be technically adequate and approves the proposed work plan.

Thank you for your cooperation in this matter. If you have any questions or concerns, please contact me at (803) 896-4185.

Sincerely,

David Scaturo, PE, PG
Manager, Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

Attachment

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



2600 Bull Street
Columbia, SC 29201-1708

June 26, 2001

Ms. Amy Daniell
Caretaker Site Office
NAVFACENGCOM, Southern Division
P.O. Box 190010
North Charleston, SC 29419-9010

RE: Technical Memorandum – Application of Soil Screening Levels (SSLs) at Charleston Naval Complex (CNC), Revision 1.0, and Response to Comments for Revision 0, dated March 9, 2001, received March 14, 2001.
Conditional Approval

Dear Ms. Daniell:

The South Carolina Department of Health and Environmental Control (the Department) has reviewed the above referenced technical memorandum according to applicable State and Federal Regulations, and the CNC Hazardous Waste Permit, effective September 17, 1998. The attached comments were generated based on a review by the SCDHEC-CNC team. The Department grants approval of this document, however, this approval is conditioned on the following:

1. Incorporate the Department's comments into Navy's approach for application of Soil Screening Levels.
2. The Department's comments must be addressed as part of the approval of this document.

Thank you for your cooperation in this matter. If you have any questions or concerns, please contact me at (803) 896-4185.

Sincerely,

David Scaturo, PE, PG
Manager, Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

Ms. Amy Daniell
June 26, 2001
Page 2 of 2

Attachment

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

**South Carolina Department of Health and Environmental Control Comments on:
Technical Memorandum – Application of Soil Screening Levels (SSLs) at Charleston Naval
Complex (CNC), Revision 1.0, and Response to Comments for Revision 0, dated March 9,
2001.**

1. Step 2: Dilution-Attenuation Factors (DAFs), page 9.

The Department provided a comment during the review of the revision 0 version that states: “The referenced memorandum recommends the use of 25% of the USGS estimated infiltration rate for CNC in the calculation for developing DAFs. This approach is recommended because of the assumption that the potential recharge (infiltration) is impaired by the impervious surface (e.g., asphalt parking lot) and numerous engineered drainage systems. This approach is not appropriate when characterizing a site for defining nature and extent of contamination, evaluating risk at a site, or during the development of COCs for a site. Therefore, the Department recommends using the USGS recommended infiltration rate or infiltration rate calculated for the CNC when evaluating the soil to groundwater leaching potential and development of COCs.”

The Navy and CH2M-Jones responded: “Unpaved assumptions may be used where appropriate at sites where this assumption is valid. However, CH2M-Jones disagrees that SSLs should be calculated at all sites assuming that no pavement is at the site. Rather than use a 25% factor across the site, we would agree to discussing approaches to using representative infiltration factors on a site-specific basis. As previously stated, the development of SSLs is an intensive exercise. To request that we assume no pavement is present when evaluating if further delineation is required would require CH2M-Jones to perform unnecessary data evaluation and reporting as well as collect more samples than necessary to appropriately characterize the site.”

The Department is still concerned with using an adjusted infiltration rate in developing site-specific SSLs to evaluate the soil to groundwater leaching pathway. Unless there is detailed knowledge of the source release time/history and associated transport mechanisms, as well as the construction time/history of the impervious surface, assumptions regarding how the impervious surface has affected the soil to groundwater leaching potential are not valid.

The Department concurs that pavement scenarios may be evaluated during the selection of a final corrective action if the Navy chooses to maintain the impervious surface as a land use control. The Department recommends calculating site-specific SSLs using both the adjusted and non-adjusted infiltration rate. The non-adjusted SSL should be used to select COPCs. After the risk assessment is complete and COCs are presented, the Navy may chose to use the pavement scenario (along with the SSLs calculated with adjusted infiltration rates) to justify the use of land use controls as a portion of the final remedy.

ARCADIS G&M, Inc.
2301 Rexwoods Drive
Suite 200
Raleigh
North Carolina 27607-3366
Tel: 919 782 5511
Fax 919 782 5905

MEMO

To:
Paul M. Bergstrand, SC DHEC
Sam Niak, CH2M Hill
Cindy Hughes, Charleston AFB
Ronald Wiggins, Charleston AFB
Tom Fressilli, Southern Division Naval
Facilities Engineering Command
Randall Young, SCDOT
Jennifer Pearson, SCDOT Environmental
Bill Holling, Southern Division Naval
Facilities Engineering Command
Nancy Ricciardelli, ARCADIS G&M
Steve Scott, ARCADIS G&M

Participants:
Tony Hunt, Southern Division
Naval Facilities Engineering
Command
Stacey French, SC DHEC

TRANSPORTATION

From:
Melissa Elefante, ARCADIS G&M

Date:
26 June 2001

Subject:
Southern Division Naval Facilities Command, Eagle Drive, June 26, 2001, 10:30am

Attached are the minutes for the meeting held June 26, 2001 at Southern Division Naval Facilities Command on Eagle Drive in North Charleston, South Carolina. Please review them and let me know of any errors, or of anything that needs to be added.

Thank you all for a very informative meeting and being involved in this cooperative planning process. Please feel free to contact Randy Young at 803-737-1827, or me at 919-782-5511 if you have any further questions or comments. I look forward to working with you throughout the duration of this planning study.

MEETING REPORT

To:

Paul M. Bergstrand, SC DHEC
Sam Niak, CH2M Hill
Cindy Hughes, Charleston AFB
Ronald Wiggins, Charleston AFB
Tom Fressilli, Southern Division Naval
Facilities Engineering Command
Randall Young, SCDOT
Jennifer Pearson, SCDOT Environmental
Bill Holling, Southern Division Naval
Facilities Engineering Command
Nancy Ricciardelli, ARCADIS G&M
Steve Scott, ARCADIS G&M

Participants:

Tony Hunt, Southern Division
Naval Facilities Engineering
Command
Stacey French, SC DHEC

ARCADIS Geraghty & Miller, Inc.
2301 Rexwoods Drive
Suite 200
Raleigh
North Carolina 27607-3366
Tel 919 782 5511
Fax 919 782 5905

TRANSPORTATION

Place/date of meeting:

Southern Division Naval Facilities Command,
Eagle Drive, June 26, 2001, 10:30am

Report by:

Melissa Elefante

The meeting began with brief introductions, a discussion on the status of the project, and the purpose for the meeting. The meeting included representatives from the Navy, Air Force, SC DHEC, SCDOT, CH2M Hill, and ARCADIS G&M. The meeting was held to discuss coordination of roadway planning and design with the ongoing remedial activities at the Charleston Naval Annex (Zone K). This included each representative explaining current and proposed activities regarding the improvements to I-26/ Remount Road and remedial efforts at the Naval Annex. Issues discussed included 1) access to the military properties, 2) ownership status of military properties, 3) known subsurface contamination identified during monitoring at Zone K, and recently identified contamination at the intersection of I-26 and Remount Road which would be impacted by the proposed roadway improvements, and 4) concerns regarding the underground jet fuel line in the project area which would be impacted by the proposed roadway improvements.

Representatives from the Air Force and Navy expressed concern about losing separate access with the planned improvements to Remount Road. The planned improvements include closing the current entrance to the Naval Annex and constructing a new entrance northwest of the existing entrance. More than one point of access would be necessary to accommodate future tenants on the Air Force property. Ms. Hughes suggested upgrading Air Park Road to accommodate future traffic if it were to be used as a main entrance to the military property. Additionally, the Navy and the Marines (who occupy a 5 acre compound on the Navy's property) would need access for tractor-trailers and large machinery. Ms. Hughes stressed the need for separate Navy and Air Force access points. Mr. Sam Niak of CH2M Hill and Mr. Paul Bergstrand of SC DHEC indicated access to contaminated areas along proposed right-of-way would need

ARCADIS

to be granted. Several monitor wells exist in this area to assess known groundwater contamination. CH2M Hill would need to be able to sample the wells and possibly drill more wells in this area. This could include access with a drill rig. Mr. Niak indicated treatment activities could begin in the later part of the year. At that point, CH2M Hill would need access for treatment equipment.

Ownership status of the military properties impacted by the Remount Road/I-26 Improvements was discussed at the meeting. Presently, the Air Force is proprietor of the property located approximately between Fourth Street and Remount Road and the Navy is proprietor of the remaining southern portion of the Naval Annex. Within the Navy's property is a 5-acre tract utilized by the Marines. The Air Force leases parts of their property to the City of Charleston. Mr. Fressilli indicated the Marine complex would be in use for at least another 5 or 6 years. The Air Force has plans to turn over their property to the Redevelopment Authority (RDA) as part of the base closure process. Ms. Hughes recommended calling Jerry Johnson and Robert Ryan with the RDA regarding the most current redevelopment plans for the Air Force property. Mr. Tom Fressilli of the Navy addressed the contamination present on the military property and its ramifications on base closure. Mr. Fressilli indicated the military would have to comply with RCRA and CERCLA before selling the property. Because of the contamination present on the property, when the property is sold, a no cost perpetual easement would be granted in order to continue remedial efforts. Ms. Jennifer Pearson was asked whether the SCDOT would buy contaminated property to complete this project. Ms. Pearson explained the property would be acquired by easement to avoid buying into contaminated property. Ms. Pearson indicated the SCDOT tries to avoid buying contaminated property, however, with an understanding of cleanup efforts; the SCDOT can acquire right-of-way.

Mr. Bergstrand expressed concern to SCDOT about health, safety, and other issues of constructing roadway improvements through contaminated soils and the exposure hazards to workers. Currently, several monitor wells exist within these areas and would need to be replaced if damaged or destroyed by construction efforts. Additionally, Mr. Bergstrand indicated contamination was recently identified in monitor wells on Air Force property (northern portion of military property). Ms. Hughes reported that a recent property transaction on the northern side of Remount Road, at the location of an old truck stop, was abandoned due to the discovered contamination. TCE was reportedly encountered at approximately 32 feet below land surface (bls) at this location. Speculations include the use of cleaning solvents at the truck stop responsible for the present contamination. The Air Force has requested funds to start monitoring and testing in this area; however, funding has not been granted to date. Mr. Niak indicated the scheduled treatment of the Navy's property would begin in August of 2001. Mr. Niak and Mr. Bergstrand asked what sort of trenching, digging, or boring would need to be done to construct the roadway improvements. Mr. Steve Scott of ARCADIS G&M indicated some trenching would be necessary for utilities and the jet fuel line. Mr. Randy Young of SCDOT indicated the bridge replacement above I-26 would require drilling for core samples. These core samples could be hazardous depending on where they were drilled and would have to be treated appropriately. A discussion of the known contamination at the Navy property included a shallow and deep aquifer plume beneath the Motor Transportation building at the Marine complex and contamination at the Air Park Road area in the northwestern portion of the Naval Annex. The Motor Transportation building would be removed with the proposed roadway improvements. A proposed new location for the Motor Transportation building would have to be within the Marine's 5-

ARCADIS

acre compound. The place of relocation would need to be discussed with Mr. Niak, Mr. Bergstrand, and Mr. Fressilli to ensure the relocation would not be in a contaminated area. Abandoned Temporary Living Quarters (TLQs) located along Command Street and Radar Avenue are surrounded by cluster wells monitoring the subsurface contamination. This area abuts Remount Road where it is shifting south, into the contaminated property. The Old Radar Club building located off K Street would be removed with the proposed roadway improvements. This building has been abandoned but not demolished due to asbestos issues. Ms. Elefante asked Mr. Bergstrand and Mr. Niak if they would explain groundwater flow in the area of I-26. Mr. Bergstrand indicated that the construction of I-26 created a sink for groundwater, meaning the closer you go to I-26 along the project area, groundwater flows toward I-26, contrary to the regional groundwater flow direction. Mr. Niak indicated the most recent monitoring report is entitled "Remedial Facility Investigation Addendum Report, Zone K." **Mr. Niak agreed to send a copy of the report to ARCADIS G&M.**

The existing 6 mile long jet fuel line used by the Air Force and maintained by the Department of Defense (DOD) was a great concern for the Air Force. The fuel line is the main source of jet fuel for the Air Force Base. In the areas under I-26, the fuel line is buried 30 to 40 feet below land surface (bls) according to Ms. Hughes and Mr. Bill Holling of the Navy. Ms. Hughes indicated the Air Force would relocate sections of the fuel line within the project area. The existing sections would be abandoned in place. Ms. Hughes indicated the paperwork process for realigning the fuel line could be lengthy. Ms. Hughes indicated Defense Fuels would design the realignment, naming Mr. Don Matthews and Mr. Larry Vehosick for coordination. Ms. Hughes stressed the importance of the fuel line for the Air Force and requested that the SCDOT obtain the right-of-way on behalf of the Air Force to move the fuel line.

In closing, ARCADIS G&M, on behalf of SCDOT, requested statements in writing from the Navy and the Air Force stating the extent of the known contamination on the properties, a schedule of remediation or monitoring, even if tentative, current ownership status of the properties, and any access or other issues. These letters would be included in the Environmental Assessment to document clean up efforts and issues associated with the planned roadway improvements. All parties agreed.

Harrell, Robert (Efdsouth)

From: Hunt, Tony (Efdsouth)
Sent: Monday, July 09, 2001 11:44 AM
To: 'Gary Foster'; 'Sam Naik'; 'Tom Beisel'
Cc: Harrell, Robert (Efdsouth)
Subject: FW: Jun 26 meeting minutes

Corrections to minutes...

-----Original Message-----

From: Hughes Cynthia G Civ 437 CES/CERR
[mailto:Cynthia.Hughes@charleston.af.mil]
Sent: Monday, July 09, 2001 10:26 AM
To: Elefante, Melissa; youngrl@dot.state.sc.us;
pearsonjl@dot.state.sc.us; Wiggins Ronald I Civ 437 CES/CEOI;
bergstpm@columb34.dhec.state.sc.us; hollingwj@efdsouth.navfac.nav.mil;
Hunt, Tony (Efdsouth); frenchsl@columb34.dhec.state.sc.us; Fressilli,
Thomas (Efdsouth); Scott, Steve; Ricciardelli, Nancy
Subject: RE: Jun 26 meeting minutes

Good morning Melissa,

I've reviewed the minutes and some discrepancies exist:

*The minutes reflect that we lease part of the property to the City of Charleston, this is not correct; we do not have any outgrants to any parties at this time.

*The Air Force does not have plans to turn over the property to the RDA. I believe it was Mr. Fressilli who indicated the RDA would like to acquire the property however it is not part of the base closure process so the RDA is unsure if they could obtain it. Also, it was Mr. Fressilli who advised calling Jerry Johnson and Robert Ryan concerning redevelopment plans.

*I reported that we abandoned transfer of our property due to discovered contamination. I do not have any information pertaining to the old truck stop and a recent property transaction. I stated that we think the contamination may have come from an old truck stop which was once located across Remount Rd from our property.

Please let me know if you need additional information to clarify any of these issues. Thanks!

Cindy Hughes
Real Property Officer
DSN 673-4029

-----Original Message-----

From: Elefante, Melissa [mailto:MElefante@arcadis-us.com]
Sent: Thursday, July 05, 2001 1:42 PM
To: youngrl@dot.state.sc.us; pearsonjl@dot.state.sc.us; Hughes Cynthia G Civ 437 CES/CERR; Wiggins Ronald I Civ 437 CES/CEOI;
bergstpm@columb34.dhec.state.sc.us; hollingwj@efdsouth.navfac.nav.mil;
huntma@efdsouth.navfac.navy.mil; frenchsl@columb34.dhec.state.sc.us;
fressillitf@efdsouth.navfac.navy.mil; Scott, Steve; Ricciardelli, Nancy
Subject: Jun 26 meeting minutes

Attached are the meeting minutes from the June 26th meeting in Charleston.

Thank you all for your continued cooperation.

<<Jun26MemoMilitary.doc>> <<Jun26MinutesMilitary.doc>>

Melissa Elefante
Environmental Planner
ARCADIS G&M of North Carolina, Inc.
2301 Rexwoods Drive, Suite 102
Raleigh, North Carolina 27607
(919) 782-5511

5090/11
Code 18B1
25 June 01

Mr. John Litton, P.E.
Director, Division of Hazardous and Infectious Waste Management
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Subj: SUBMITTAL OF SOLID WASTE MANAGEMENT UNIT 162 RCRA FACILITY
INVESTIGATION REPORT ADDENDUM

Dear Mr. Litton:

The purpose of this letter is to submit the RCRA Facility Investigation Report Plan Addendum for Solid Waste Management Unit (SWMU) 162, Zone K, (Revision 0) located at Naval Station Annex in Charleston, SC. The work plan addendum is submitted to fulfill the requirements of condition II.C.1 of the RCRA Part B permit issued to the Navy by the South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency (EPA).

This document has been prepared pursuant to agreements by the CNC BRAC Cleanup Team for completing the RCRA Corrective Action process and has been distributed under separate cover letter by CH2M Hill. Appropriate certification is provided under that correspondence. We request that the Department and the EPA review this document and provide comments or approval whichever is appropriate.

If you should have any questions, please contact, Matthew Humphrey or myself at (843) 743-9985 and (843) 820-5551 respectively.

Sincerely,

ROBERT A. HARRELL, JR., P.E.
Environmental Engineer
BRAC Division

Copy to:
SCDHEC (David Scaturo(4))
USEPA (Dann Spariosu)
CSO Naval Base Charleston (Matt Humphrey)
CH2M-Hill (Dean Williamson)
Code 18 CIRC 18713 Daily

18713 



CH2MHILL

CH2M HILL
3011 S.W. Williston Road
Gainesville, FL
32608-3928
Mailing address:
P.O. Box 147009
Gainesville, FL
32614-7009
Tel 352.335.7991
Fax 352.335.2959

June 22, 2001

Mr. David Scaturo
Division of Hazardous and Infectious Wastes
South Carolina Department of Health and
Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Re: RFI Report Addendum, SWMU 162, Zone K, Revision 0

Dear Mr. Scaturo:

Enclosed please find four copies of the RFI Report Addendum (Revision 0), SWMU 162, Zone K of the Charleston Naval Complex (CNC). This report has been prepared pursuant to agreements by the CNC BRAC Cleanup Team for completing the RCRA Corrective Action process.

Please contact me if you have any questions or comments.

Sincerely,

CH2M HILL

Dean Williamson, P.E.

cc: Rob Harrell/Navy, w/att ✓
Gary Foster/CH2M HILL, w/att

JUN 27 '01 10:12AM BURLAND & WASTE



PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

June 22, 2001

RECEIVED

JUN 25 2001

HYDROGEOLOGY

COMMISSIONER:
Douglas E. Bryant

CERTIFIED MAIL

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P. O. Box 190010
North Charleston, SC 29419-9010

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Vice Chairman

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Howard L. Brilliant, MD

Brian K. Smith

Louisiana W. Wright

Larry R. Chewing, Jr., DMD

Re: Reply to Response to Comments on the Draft Environmental Baseline Survey for Lease (EBSL) and Draft Finding of Suitability to Lease (FOSL) for Site of Former Buildings 79 and 79A, Charleston Naval Complex, SCO 170 022 560, Revision 0, dated March, 2001.

Dear Mr. Humphrey:

The South Carolina Department of Health and Environmental Control (Department) has reviewed the above referenced document according to applicable State and Federal Regulations, and the Charleston Naval Complex Hazardous Waste Permit, effective September 17, 1998. The attached comments were generated based on this review. These comments must be addressed prior to the Departments concurrence of the above referenced document.

Further, the CNC should submit, to the Department, the comment responses to address these comments within thirty (30) calendar days of the receipt of this letter. This would facilitate the comment resolution and expedite the approval process.

Should you have any questions regarding these comments, please contact me at (803) 896-8955.

Sincerely,

Keith Collinsworth, P.G.
Federal Facility Liaison
EQC Administration

FAX MEMO

PAGES
6

TO: Rob HARREK

DEPT.: SDIU

FAX:

FROM: PAUL B.

CO: SC DHEC

PHONE: 803-896-4016

FAX:

Comments:

Memorandum from Paul Bergstrand to David Scaturo, dated June 14, 2001.

David Scaturo, Corrective Action Engineering
Paul Bergstrand, Hydrogeology



Rick Richter, Trident EQC
Tony Hunt, SOUTHDIV
Dann Spariosu, EPA Region IV



2600 Bull Street
Columbia, SC 29201-1708

RECEIVED

JUN 14 2001
SC DHEC - Bureau of
Land & Waste Management

MEMORANDUM

TO: David Scaturo, P.E., P.G.
Manager, Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

FROM: Paul M. Bergstrand, P.G., Hydrogeologist
RCRA Hydrogeology Section
Division of Hydrogeology
Bureau of Land and Waste Management

PMB

DATE: 14 June 2001

RE: Charleston Naval Base (CNAV)
Charleston County, South Carolina
SC0-170-022-560

Reply to the Response to Comments
Draft Finding of Suitability to Lease for Buildings 79/79A
Draft Environmental Baseline Survey for Lease for Buildings 79/79A
Revision 00, Dated 21 May 2001

The materials referenced above have been reviewed with respect to Community Environmental Response Facilitation Act (CERFA) 120(h) as amended.

A reply to the Navy Response to Comments on the Draft Finding of Suitability to Lease and Draft Environmental Baseline Survey to Lease have been provided.

DD010454.PMB



2600 Bull Street
Columbia, SC 29201-1708

MEMORANDUM

TO: Mihir Mehta, Environmental Engineer Associate
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

FROM: Paul M. Bergstrand, P.G. *PMB*
RCRA Hydrogeology Section
Division of Hydrogeology
Bureau of Land and Waste Management

DATE: 25 June 2001

RE: Charleston Naval Base (CNAV)
Charleston County, South Carolina
SC0-170-022-560

Finding of Suitability to Lease
Environmental Baseline Survey for Lease
Revision 01, Dated June 2001

The materials referenced above have been reviewed with respect to Community Environmental Response Facilitation Act (CERFA) 120(h) as amended.

The Responses to Comments on the Draft Finding of Suitability to Lease and Draft Environmental Baseline Survey for Lease have been provided and appear satisfactory. Any additional information which might affect or alter this conclusion may require further action by the Navy.

Reply to the Response to Comments
Paul M. Bergstrand
14 June 2001

Original Comments by Paul Bergstrand:

DRAFT FINDING OF SUITABILITY TO LEASE

1. Page 1, Building Usage

This listing of building use is incomplete. This section only describes the last use of Buildings 79/79A. Building 79 was built in 1943 and used from 1943 to 1955 as an ordnance shop. Use is unknown from 1955 to 1966. Building 79 was used from 1966 to 1976 as a dental clinic. Building 79A was constructed in 1976 for use as the Nuclear Repair Facility. At that time, Building 79 was also converted into the Nuclear Repair Facility. The complete history of Buildings 79/79A should be determined and included in the FOSL and EBSL.

Response: The EBSL contains a complete history (as available records provide) for Building 79 and 79A. The intent of the last use in the FOSL is to ensure that the reuse (industrial) proposed by the lessee is consistent with that of the Navy. The FOSL will be revised to state, "Latest Use". The usage for these buildings will be identified as "Industrial".

REPLY: The use of Building 79 from 1955 to 1966 was not reported in the Draft FOSL and EBSL. It is the Navy's duty to find the appropriate records in order to provide a complete history of this building in the Final FOSL and EBSL.

DRAFT ENVIRONMENTAL BASELINE SURVEY FOR LEASE

2. Page vii, Executive Summary.

The third bullet on this page states "Sanitary wastewater was discharged to the North Charleston Sewer District sanitary sewer system". This section is incomplete. The November 1996 RFA states "Prior to the 1970s, NAVBASE had a combined wastewater collection system....(which) was discharged directly into the receiving watercourse without treatment." The RFA also points out that numerous sanitary sewer system and storm water cross connects remained at the development of that document. This information should be included in the FOSL and EBSL.

Response: While the statement concerning the wastewater discharge in the comment is true there is no relevance to the suitability of leasing the subject property. The relevant

information is where the sanitary wastewater discharges now and who is the appropriate permitting authority. No changes to the document are necessary.

REPLY: The RFA has pointed out that numerous sanitary sewer system and storm water system cross connects remained at the development of that document. This information should be included in the Final FOSL and EBSL.

6. Page 7-5, RECOMMENDATIONS FOR FURTHER ACTIONS.

This section states, "No further environmental action is necessary for the subject property". This statement is premature. A site visit conducted on 2 May 2001 with Mr. Tony Hunt of the Navy and Mr. Gary Foster of CH2M/Jones revealed several potential environmental concerns that may become SWMUs or AOCs. These concerns must be evaluated and addressed by the Navy before a determination of No Further Actions can be made. This section should be revised to reflect these concerns.

Response: The Navy is only aware of the environmental concerns addressed in previous comments, none of which would prohibit a finding of suitability to lease the subject property. Research of those concerns identified by the Department (i.e. additional transformer pads, sump in Bldg 79A, trenches, capped off piping) have not resulted in any substantive finding that would likewise prohibit the lease of the property. Further environmental investigation may be warranted for the identified sites (SWMU 102 and AOC 590), this will be determined in development of the addendum to the Zone E, RCRA Facility Investigation. The Navy recommends that the FOSL/EBSL be signed and forwarded to the CNCRA.

REPLY: The Department's environmental concerns involve the door grates at the North and South ends of Building 79 and where the grates drain, the open pipes sticking up in the machine shop area, oily stains in the machine shop area, the pipes along the west side of Building 79 and the concrete tank they drain into, the liquids observed in the previously mentioned concrete tank, the pipes leading out of the building at stanchions 1 and 10, the indoor drain race and the incomplete set of building maps and "As-Builts" provided for the 2 May 2001 site visit. A letter requesting the Navy to formally address these concerns will follow shortly. The Navy's ability to address these concerns may affect the disposition of this FOSL.

5090/11
Code 18B1
22 Jun 01

Mr. John Litton, P.E.
Director, Division of Hazardous and Infectious Waste Management
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Subj: SUBMITTAL OF AREA OF CONCERN 619/SOLID WASTE MANAGEMENT UNIT
4 RCRA FACILITY INVESTIGATION WORK PLAN

Dear Mr. Litton:

The purpose of this letter is to submit the RCRA Facility Investigation Work Plan Addendum for Area of Concern (AOC) 619/Solid Waste Management Unit (SWMU) 4, Zone F located at Naval Station Annex in Charleston, SC. The work plan addendum is submitted to fulfill the requirements of condition II.C.1 of the RCRA Part B permit issued to the Navy by the South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency (EPA).

This document has been prepared pursuant to agreements by the CNC BRAC Cleanup Team for completing the RCRA Corrective Action process and has been distributed under separate cover letter by CH2M Hill. Appropriate certification is provided under that correspondence. We request that the Department and the EPA review this document and provide comments or approval whichever is appropriate.

If you should have any questions, please contact, Matthew Humphrey or myself at (843) 743-9985 and (843) 820-5551 respectively.

Sincerely,

ROBERT A. HARRELL, JR., P.E.
Environmental Engineer
BRAC Division

Copy to:
SCDHEC (David Scaturo (4))
USEPA (Dann Spariosu)
CSO Naval Base Charleston (Matt Humphrey)
CH2M-Hill (Dean Williamson)

CODE 18 CIRC 18713 Daily

18713
18E2HPH 



CH2MHILL

CH2M HILL
115 Perimeter Center Place NE
Suite 700
Atlanta, GA
30348-1278
Tel 770.604.9095
Fax 770.604.9183

June 19, 2001

Mr. David Scaturo
Division of Hazardous and Infectious Wastes
South Carolina Department of Health and
Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Re: RFI Report Addendum, AOC 619/SWMU 4, Zone F

Dear Mr. Scaturo:

Enclosed please find four copies of the RFI Report Addendum, AOC 619/SWMU 4, Zone F, at the Charleston Naval Complex (CNC). This report has been prepared pursuant to agreements by the CNC BRAC Cleanup Team for completing the RCRA Corrective Action process.

Please contact me if you have any questions or comments.

Sincerely,

CH2M HILL

Dean Williamson, P.E.

cc: Rob Harrell/Navy, w/att
Gary Foster/CH2M HILL, w/att

5090/11
Code 18713
18 Jun 01

Mr. John Litton, P.E.
Director, Division of Hazardous and Infectious Waste Management
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Subj: SUBMITTAL OF CORRECTIVE MEASURES STUDY WORK PLAN FOR DRMO
STORAGE AREA AND LEAD CONTAMINATION AREA, SOLID WASTE
MANAGEMENT UNITS 1 AND 2

Dear Mr. Litton:

The purpose of this letter is to submit the Corrective Measures Study Work Plan (Revision 0) for DRMO Storage Area and Lead Contamination Area, Solid Waste Management Units (SWMUs) 1 and 2, Zone A located at the Charleston Naval Complex. The work plan is submitted to fulfill the requirements of condition IV.E.2 of the RCRA Part B permit issued to the Navy by the South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency (EPA).

This document and the proposed rationale for no further action were discussed by the Charleston Naval Complex BRAC Cleanup Team. CH2M Hill has distributed the document under separate cover letter and appropriate certification is provided under that correspondence. We request that the Department and the EPA review this document and provide comments or approval whichever is appropriate.

If you should have any questions, please contact, Matthew Humphrey or myself at (843) 743-9985 and (843) 820-5551 respectively.

Sincerely,

ROBERT A. HARRELL, JR., P.E.
Environmental Engineer
BRAC Division

Copy to:
SCDHEC (David Scaturro (4))
USEPA (Dann Spariosu)
CSO Naval Base Charleston (Matt Humphrey)
CH2M-Hill (Dean Williamson)

Code 18 CIRC 18713 Daily

18713 
18E2HPH 



CH2MHILL

June 15, 2001

CH2M HILL
3011 S.W. Williston Road
Gainesville, FL
32608-3928
Mailing address:
P.O. Box 147009
Gainesville, FL
32614-7009
Tel 352.335.7991
Fax 352.335.2959

David Scaturo
Division of Hazardous and Infectious Wastes
South Carolina Department of Health and
Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Re: Corrective Measures Study Work Plan (Revision 0) for DRMO Storage Area and Lead Contamination Area, SWMUs 1 and 2, Zone A -- Rationale for No Further Action

Dear Mr. Scaturo:

Enclosed please find four copies of the Corrective Measures Study Work Plan (Revision 0) for DRMO Storage Area and Lead Contamination Area, SWMUs 1 and 2, Zone A of the Charleston Naval Complex (CNC). This report has been prepared pursuant to agreements by the CNC BRAC Cleanup Team for completing the RCRA Corrective Action process.

Please contact me if you have any questions or comments.

Sincerely,

CH2M HILL

Dean Williamson, P.E.

cc: Roh Harrell/Navy, w/att
Gary Foster/CH2M HILL, w/att

MEMORANDUM

To: Charleston Naval Complex Project Team
From: EnSafe
Date: June 12, 2001
Subject: Charleston Naval Complex Well Maintenance and Inventory Project

Ensafe was tasked in February, 2001 to repair or replace damaged wells, create an inventory with current well status, and develop a GIS Arcview project that would link well location, well information and photographs. A well inspection/inventory was conducted by the Navy during October - November, 2000 and was the basis for scoping this project. Repairs such as replacement of two flushmount well pads, installation of a couple of bumper posts, re-tagging a few wells, a few photographs, and final edits to the database remain before the project is completed. These tasks are scheduled for completion by 29 June, 2001.

Repairs associated with this project consisted primarily of replacing broken flushmount well covers, bolts and pads, and resetting above ground protective posts, hinges and painting of rusty covers. The most common tasks involved replacing tags missing primarily from flushmount and some above-ground wells, and bolts missing from flushmount well vaults.

Several well locations were not found during the 2000 inventory. As part of this project coordinates for these wells were provided to a surveyor and the locations marked. Locations recovered by the surveyor were subsequently visited and observed damages were repaired. A few UST wells which were not included in the original inventory were discovered during this project. They were surveyed and added to the inventory.

During the course of this work several wells were decommissioned. Wells were decommissioned either because of damage which had compromised well integrity, or had been buried by paving and could not be recovered. Ten locations were recovered, drilled out, and the boring grouted. Deep well NBCE\GDE05D could not be accessed by a suitable drilling rig. GDE05D was abandoned in place in accordance with SC DHEC regulations using a pumpable grout tremied inside the well casing and the paved surface repaired using concrete. There were 16 wells which could not be recovered and were administratively decommissioned. A total of 19 replacement wells were installed.

A GIS/Arcview Project was created which links well type (RCRA, Misc, Shallow, Deep), status (Active, Decommissioned), survey data, repairs made, and photographs of locations receiving repairs (except flushmount wells which required tagging only) during this project. Some locations were photographed by the Navy prior to repairs during the 2000 inventory and have also been linked to the well location.

The entire Arcview Project is contained on two CD's. The Arcview portion, project database file, and pictures taken before repair activities are on one CD which is loaded onto the "C" drive. The after-repair photographs are on the second CD which is run on the "D" drive. The attached User

5090/11
Code 18B1
11 Jun 01

Mr. John Litton, P.E.
Director, Division of Hazardous and Infectious Waste Management
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Subj: SUBMITTAL OF SOLID WASTE MANAGEMENT UNIT 164 RCRA FACILITY
INVESTIGATION WORK PLAN

Dear Mr. Litton:

The purpose of this letter is to submit the RCRA Facility Investigation Work Plan Addendum for Solid Waste Management Unit (SWMU) 164 located at Naval Station Annex in Charleston, SC. The work plan addendum is submitted to fulfill the requirements of condition II.C.1 of the RCRA Part B permit issued to the Navy by the South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency (EPA).

This document has been prepared pursuant to agreements by the CNC BRAC Cleanup Team for completing the RCRA Corrective Action process and has been distributed under separate cover letter by CH2M Hill. Appropriate certification is provided under that correspondence. We request that the Department and the EPA review this document and provide comments or approval whichever is appropriate.

If you should have any questions, please contact, Matthew Humphrey or myself at (843) 743-9985 and (843) 820-5551 respectively.

Sincerely,

ROBERT A. HARRELL, JR., P.E.
Environmental Engineer
BRAC Division

Copy to:
SCDHEC (David Scaturo) (4)
USEPA (Dann Spariosu)
CSO Naval Base Charleston (Matt Humphrey)
CH2M-Hill (Dean Williamson)

Code 18 CIRC 18713 Daily

18713 

June 8, 2001

CERTIFIED MAIL

Matthew Humphrey
Caretaker Site Office
NAVFACENGCOM, Southern Division
P. O. Box 190010
North Charleston, SC 29419-9010

Re: Draft Environmental Baseline Survey for Lease (EBSL) and Draft Finding of Suitability to Lease (FOSL) for Site of Former Buildings 664, Charleston Naval Complex, SCO 170 022 560, Revision 0, dated May 2001.

Dear Mr. Humphrey:

The South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the above referenced document according to applicable State and Federal Regulations, and the Charleston Naval Complex Hazardous Waste Permit, effective September 17, 1998. The attached comments were generated based on this review. These comments must be addressed prior to the SCDHEC's concurrence of the above referenced document.

Further, the CNC should submit, to SCDHEC, the comment responses to address these comments within thirty calendar days of the receipt of this letter. This would facilitate the comment resolution and expedite the approval process. Should you have any questions regarding these comments, please contact me at (803) 896-8955.

Sincerely,

Keith Collinsworth, P.G.
Federal Facility Liaison
EQC Administration

Attachments:

1. Memorandum from Paul Bergstrand to Mihir Mehta dated June 5, 2001.
2. Memorandum from Mihir Mehta to Keith Collinsworth dated June 5, 2001.

cc: Mihir Mehta, BLWM
Paul Bergstrand, BLWM
Michael Bishop, BOW
Rick Richter, Trident EQC

Tony Hunt, Navy
Dann Spariosu, EPA Region IV

MEMORANDUM

TO: Keith Collinsworth, P.G.
Federal Facility Liaison
EQC Administration

FROM: Mihir Mehta, Project Manager
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

DATE: June 5, 2001

RE: Charleston Naval Complex (CNC)
SCO 170 022 560

Draft Environmental Baseline Survey for Lease (EBSL) and Draft Finding of Suitability to Lease (FOSL) for Site of Former Buildings 664, Charleston Naval Complex, SCO 170 022 560, Revision 0, dated May 2001, received May 17, 2001.

The South Carolina Department of Health and Environmental Control (Department) has reviewed the above referenced document according to applicable State and Federal Regulations, and the Charleston Naval Complex Hazardous Waste Permit, effective September 17, 1998. The attached comments were generated based on this review.

Should you have any questions regarding these comments, please contact Mihir Mehta at (803) 896-4088.

Attachment: Memorandum from Paul Bergstrand to Mihir Mehta dated June 5, 2001.

South Carolina Department of Health and Environmental Control comments on: Draft Environmental Baseline Survey for Lease (EBSL) and Draft Finding of Suitability to Lease (FOSL) for Site of Former Buildings 664, Charleston Naval Complex, SCO 170 022 560, Revision 0, dated May 2001, received May 17, 2001.

Comments By Mihir Mehta:

- 1) Section 2.4. Property Classification. Page 2-4.
The Department has not concurred with the DoD/BRAC Area Types as listed in Table 2-1. But based on the information provided for the environmental condition of the subject property the Department would not disagree with the Navy for their classification of subject property as 3/Light Green (Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response).
- 2) Section 3.0. Figure 3.1. Building 664.
Please revise this figure to show the SWMUs and AOCs that are present within one-quarter mile of the subject property proposed for lease (especially the ones listed in Section 6.0 of this document).
- 3) Section 4.3; Hydrogeology; page 4-2.
The first line states that, AMost potable water on the Charleston peninsula is supplied by surface water sources (Edisto River).≡ Please delete this sentence as it has no relevance pertaining to the hydrogeologic setting for the Charleston Naval Complex.
- 4) Section 6.0. Findings for Adjacent Property. Page 6-1.
 - This section does not present any information that would help understand the risk associated with the adjacent property and how does it relate the subject property. Please revise this section to include adequate information regarding the risk, hazard, or other issues related to adjacent property as deemed appropriate.
 - Please provide a map showing the sites that are adjacent to the subject property and identified in Table 6-1.
- 5) Section 6.0. Findings for Adjacent Property. Table 6-1.
 - Please provide the dates of the latest version of the document referenced in the last column. Also, provide the status of the document (being developed, being reviewed, or approved).
 - SWMU 138 indicates a “No Further Action” status in this table. According to the Permit and the Department record SWMU 138 is in the CSI/RFI status. Please revise the document.
- 6) Section 7.3. Recommendations for the further actions. Page 7-5.
Please delete the referenced section as it recommends no further action for the subject property. This recommendation is premature and not within the scope of this document.

MEMORANDUM

TO: Mihir Mehta, Environmental Engineer Associate
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

FROM: Paul M. Bergstrand, P.G., and Hydrogeologist
RCRA Hydrogeology Section
Division of Hydrogeology
Bureau of Land and Waste Management

DATE: 5 June 2001

RE: Charleston Naval Base (CNAV)
Charleston County, South Carolina
SC0-170-022-560

Draft Finding of Suitability to Lease
Draft Environmental Baseline Survey for Lease
Revision 00, Dated May 2001

The materials referenced above have been reviewed with respect to the requirements of R.61-79 of the South Carolina Hazardous Waste Management Regulations, The Environmental Protection Agency=s (EPA) RCRA Facility Investigation Guidance Document dated May 1989, the EPA Region IV Environmental Compliance Branch Standard Operating Procedures and Quality Assurance Manual (SOP/QAM) dated May 1996, the CNAV Final Comprehensive Sampling and Analysis Plan dated 30 August 1994, CERFA 120(h) as amended.

Comments on the Draft Finding of Suitability to Lease and Draft Environmental Baseline Survey for Lease have been provided

Comments by Paul M. Bergstrand
Draft Finding of Suitability to Lease
Draft Environmental Baseline Survey for Lease
Dated May 2001

DRAFT FINDING OF SUITABILITY TO LEASE

1. No Comments.

DRAFT ENVIRONMENTAL BASELINE SURVEY FOR LEASE

2. Page 3-1, Section 3.0, Past and Current Operations

This section gives the impression that prior to the construction of building 664 in 1973 that no US Navy activity occurred at this location. Section 2.0, item 5 on page 2-2 of this document states "*Review of records of prior use contained in the 1996 base-wide EBS, or other available documents to ascertain prior uses of the real property which may have involved hazardous substances, otherwise contaminated the property, or created environmental or safety risks.*" The area of Building 664 was previously part of the Naval Air Station. A map of the Charleston Naval Shipyard and Contiguous Activities dated 30 June 1955 indicates EXPLOSIVES STORAGE at the edge of the Lighter Than Air (LTA) Runway which is approximately the location of Building 664. This section should describe all of the major uses of the property, including prior to the construction of Building 664, which may have involved hazardous substances, otherwise contaminated the property, or created environmental or safety risks. Please revise.

3. Page 3-1, Section 3.0, Past and Current Operations

This section states "*Bulding 664 was constructed in 1973 as "Off Crew Storage"*". This contradicts the introduction of the EBSL and Appendix A which state the building was constructed in 1974. Please correct.

4. Page 6-1, Section 6.0, Findings for Adjacent Property

The "Current Status" and "Reference" for AOC 669 in Table 6-1 is blank. Please correct.

5. Page 6-2, Section 6.0, Findings for Adjacent Property

Table 6-2, Summary of SWMUs does not include SWMU 134. The Facility Checklist in Appendix A states that "*SWMU 134 is adjacent to the subject property*". Please correct.

5090/11
Code 18713
07 Jun 01

Mr. John Litton, P.E.
Director, Division of Hazardous and Infectious Waste Management
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Subj: SUBMITTAL OF SOLID WASTE MANAGEMENT UNIT 17 INTERIM MEASURE
WORK PLAN

Dear Mr. Litton:

The purpose of this letter is to submit an Interim Measure Work Plan (Revision 0), Soil and NAPL removal for Solid Waste Management Unit (SWMU) 17, Zone H, located at the Charleston Naval Complex. The work plan is submitted to fulfill the requirements of condition IV.E.2 of the RCRA Part B permit issued to the Navy by the South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency (EPA).

The document is distributed under separate cover letter by CH2M Hill and appropriate certification is provided under that correspondence. We request that the Department and the EPA review this document and provide comments or approval whichever is appropriate.

If you should have any questions, please contact, Matthew Humphrey or myself at (843) 743-9985 and (843) 820-5551 respectively.

Sincerely,

ROBERT A. HARRELL, JR., P.E.
Environmental Engineer
BRAC Division

Copy to:
SCDHEC (David Scaturro) (4)
USEPA (Dann Spariosu)
CSO Naval Base Charleston (Matt Humphrey)
CH2M-Hill (Dean Williamson)




June 7, 2001

John Litton, P.E., Director
Division of Hazardous and Infectious Wastes
South Carolina Department of Health and
Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Re: RFI Report Addendum (Revision 0), Rationale for No Further Action —SWMU 164,
Zone K

Dear Mr. Litton:

Enclosed please find four copies of the RFI Report Addendum (Revision 0), Rationale for No Further Action – SWMU 164, Zone K of the Charleston Naval Complex (CNC). This report has been prepared pursuant to agreements by the CNC BRAC Cleanup Team for completing the RCRA Corrective Action process.

Please contact me if you have any questions or comments.

Sincerely,

CH2M HILL



Dean Williamson, P.E.

cc: Tony Hunt/Navy, w/att
Rob Harrell/Navy, w/att
David Scaturo/SCDHEC
Gary Foster/CH2M HILL, w/att



CH2MHILL

CH2M HILL
3011 S.W. Williston Road
Gainesville, FL
32608-3926
Mailing address:
P.O. Box 147009
Gainesville, FL
32614-7009
Tel 352.335.7991
Fax 352.335.2959

June 4, 2001

John Litton, P.E., Director
Division of Hazardous and Infectious Wastes
South Carolina Department of Health and
Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Re: Interim Measure Work Plan (Revision 0), Soil and NAPL Removal – SWMU 17,
Zone H

Dear Mr. Litton:

Enclosed please find four copies of the Interim Measure Work Plan (Revision 0), Soil and NAPL Removal – SWMU 17, Zone H of the Charleston Naval Complex (CNC). This report has been prepared pursuant to agreements by the CNC BRAC Cleanup Team for completing the RCRA Corrective Action process.

Please contact me if you have any questions or comments.

Sincerely,

CH2M HILL

Dean Williamson, P.E.

cc: Tony Hunt/Navy, w/att
Rob Harrell/Navy, w/att
David Scaturo/SCDHEC
Gary Foster/CH2M HILL, w/att

5090/11
Code 18713
01 Jun 01

Mr. John Litton, P.E.
Director, Division of Hazardous and Infectious Waste Management
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Subj: SUBMITTAL OF SOLID WASTE MANAGEMENT UNIT 11 INTERIM MEASURE
WORK PLAN

Dear Mr. Litton:

The purpose of this letter is to submit an Interim Measure Work Plan for Solid Waste Management Unit (SWMU) 11, Zone G, located at the Charleston Naval Complex. The work plan is submitted to fulfill the requirements of condition IV.E.2 of the RCRA Part B permit issued to the Navy by the South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency (EPA).

The document is distributed under separate cover letter by CH2M Hill and appropriate certification is provided under that correspondence. We request that the Department and the EPA review this document and provide comments or approval whichever is appropriate.

If you should have any questions, please contact, Matthew Humphrey or myself at (843) 743-9985 and (843) 820-5551 respectively.

Sincerely,

ROBERT A. HARRELL, JR., P.E.
Environmental Engineer
BRAC Division

Copy to:
SCDHEC (David Scaturro) (4)
USEPA (Dann Spariosu)
CSO Naval Base Charleston (Matt Humphrey)
CH2M-Hill (Dean Williamson)
Code 18 CIRC
18713
Daily

18713 
18E2HPH 



2600 Bull Street
Columbia, SC 29201-1708

June 1, 2001

CERTIFIED MAIL

Matthew Humphrey
Caretaker Site Office
NAVFACENGCOM, Southern Division
P. O. Box 190010
North Charleston, SC 29419-9010

Re: Background Polycyclic Aromatic Hydrocarbons PAHs Study Report: Technical Information for Development of Background BEQ Values at Charleston Naval Complex (CNC), Revision 0, dated February 2001, received February 28, 2001.

Preliminary Results for Additional Background PAH Sampling From CNC Main Base Railroad Lines and Zone K (Annex)", dated May 3, 2001, received May 8, 2001.

Dear Mr. Humphrey:

The South Carolina Department of Health and Environmental Control (Department) has reviewed the above referenced document according to applicable State and Federal Regulations, and the Charleston Naval Complex Hazardous Waste Permit, effective September 17, 1998. The objective of this report was to present an approach for establishing a "CNC base-specific background or reference PAH concentration value (BEQ levels)" in both surface and subsurface soils, and understanding the distribution patterns and ubiquitous presence of PAHs in the urban environment. The values developed will be applied during the site management and decision making process by the CNC BCT.

The Department received a technical memorandum, "Preliminary Results for Additional Background PAH Sampling From CNC Main Base Railroad Lines and Zone K (Annex)", dated May 3, 2001, received May 8, 2001." This memorandum was discussed during the May Tier I BCT meeting in Charleston. The Department does not disagree with the overall approach and conclusion presented in this report based on the preliminary results. The Navy and CH2M-Jones should provide official documentation for this technical memorandum in order to complete the referenced PAH study within sixty (60) calendar days of the receipt of this letter.

Mr. Matthew Humphrey
June 1, 2001
Page 2 of 2

Should you have any questions regarding this letter, please contact me at (803) 896-4185 or Paul Bergstrand at (803) 896-4016.

Sincerely,



David Scaturo, P.E., P.G.
Manager, Corrective Action Engineering Section
Division of Waste Management
Bureau of Land & Waste Management

cc: Paul Bergstrand, Hydrogeology
Rick Richter, Trident EQC
Dean Williamson, CH2MHILL
Gary Foster, CH2MHILL
Dann Spariosu, EPA Region IV
Rob Harrell, SOUTHDIV
Tony Hunt, SOUTHDIV
BLWM File No. 50484



ENSAFE INC.

ENVIRONMENTAL AND MANAGEMENT CONSULTANTS

313 Wingo Way • Mt. Pleasant, South Carolina 29464 • Telephone 843-884-0029 • Facsimile 843-856-0107 • www.ensafe.com

June 01, 2001

Commanding Officer
ATTN: Rob Harrell, Code 18713
SOUTHNAVFACENGCOM
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Subject: CTO No. 0157, Well Repairs at Charleston Naval Complex
Document Transmittal - Draft Well Maintenance and Inventory GIS Project

Reference: Contract N62467-89-D-0318 (CLEAN II)

Dear Mr. Harrell:

In accordance with your request, three (3) copies to CH2M Hill/J.A. Jones, and one (1) copy to SCDHEC of the Draft Well Maintenance and Inventory GIS Project have been sent today for review and comment. Each project consists of two CDs. One CD contains only photographs of wells after maintenance actions. The other CD contains the Arcview Project, Database file, Excel spreadsheet listing wells based on the Fall 2000 well survey and May 2001 repairs, and photographs taken during the Fall 2000 well survey.

Please contact the undersigned if you have any questions concerning this submittal.

Sincerely,
EnSafe Inc.

Peter W. Bayley
Geologist

cc:

Paul Bergstrand: SCDHEC, w/enclosure
Tom Beisel: CH2M Hill, w/enclosure
Project File: 0157-001