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U S NAVY RESPONSE TO SOUTH CAROLINA DEPARTMENT OF HEALTH AND
ENVIRONMENTAL CONTROL COMMENTS TO CSI REPORT AREA OF CONCERN 711 AND
715 AND 718 (AOCS 711 AND 715 AND 718) ZONE I WITH TRANSMITTAL CNC
CHARLESTON SC
1/23/2003
CH2M HILL

Doc 711, 715, + 718 Zone I

RtC CSI Report (RO)

CH2MHILL TRANSMITTAL

To: Jerry Stamps
South Carolina Department of Health
and Environmental Control
Bureau of Land and Waste
Management
2600 Bull Street
Columbia, SC 29201

From: Louise Palmer/CH2M-Jones

Date: January 23, 2003

Re: CH2M-Jones' Responses to Comments by SCDHEC regarding the *Confirmatory Sampling Investigation Report, Areas of Concern 711, 715, and 718, Zone I, Charleston Naval Complex* (Revision 0)

Quantity	Description
4	CH2M-Jones' Responses to Comments by SCDHEC regarding the <i>Confirmatory Sampling Investigation Report, Areas of Concern 711, 715, and 718, Zone I, Charleston Naval Complex</i> (Revision 0) – Originally Submitted on September 19, 2002

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

Remarks:

Copy To:

Dann Spariosu/USEPA, w/att
Rob Harrell/Navy, w/att
Gary Foster/CH2M-Jones, w/att

SCDHEC General Engineering Comments Prepared by Jerry Stamps:

1. General Comment:

The Department maintains that a professional engineer certified in the state of South Carolina must certify that the integrity of the OWSs and the ancillary piping remains intact. This certification and supporting analytical data is especially important for units that remain in place which have potential future use by subsequent landowners. Please note that this requirement is being applied consistently to all facilities regulated under RCRA Subtitle C administered by the Corrective Action Engineering Section.

CH2M-Jones Response:

CH2M-Jones understands the Department's concerns about the potential for releases from these OWSs in the event that they continue to be operated in the future. CH2M-Jones and the Navy believe it is the responsibility of any future owner or operator who chooses to operate these units to conduct the required integrity assessment. We suggest that we work together with SCDHEC to find a manner to address this issue that is acceptable to all parties.

2. General Comment:

The figures seem to indicate that the soil samples were collected 10 feet or more from the units under investigation. However, the Department understands that the icon used to represent the OWS may not necessarily represent the actual size of the unit. Consequently, the Navy must verify that the samples locations are indeed adjacent to the respective units. If so, the text should be revised to clarify this fact.

Furthermore, the Navy must verify that the subsurface soil samples were collected at sufficient depth corresponding to the depth of the OWS. If so, the text should be revised to clarify this fact.

CH2M-Jones Response:

The samples were collected as indicated in the approved work plan, including additional samples recommended by SCDHEC during their work plan review. The sample location figures will be revised as suggested, showing the actual unit size where known. Soil sample locations were designed to intersect potential releases from the base, inlet, and outlet piping. The text states that the subsurface soil samples were collected at 3 to 5 ft below grade. Some units may have bases below the groundwater table, where it is not practical to collect soil samples. The location and depth of the soil samples will be further clarified in the text.

SCDHEC Specific Engineering Comments Prepared by Jerry Stamps:

1. AOC 711:

According to the GIS, there appears to be only 2 subsurface soil samples (LI037SB008 and LI037SB005) within the vicinity of the OWS, of which LI037SB005 is located approximately 10 feet away from the unit and would not necessarily represent a release from the unit. Therefore, it does not appear as though the current sample locations are representative to determine if a release has occurred from AOC 711.

CH2M-Jones Response:

Groundwater probe sample I711GP001 evaluated subsurface conditions near location LI037SB006 and adjacent to the OWS; no impacts were identified from that sample. LI037SB005 is located approximately 7 ft away from the unit, to avoid a sanitary sewer. The sewer also obstructed a third subsurface soil sample from location LI037SB006. Figure 2-2 will be revised showing the actual size of the OWS. We believe that the sampling locations are as representative as possible, given the site setting and presence of underground utilities that impact sample location accessibility.

2. Table 2-4

The "S" qualifier is periodically used in this table. According to the footnote, this qualifier identifies the data to be used for "screening purposes only". The meaning of this definition is not entirely clear to the Department. Please elaborate on this definition including how the Department should interpret these results.

CH2M-Jones Response:

For some locations, the laboratory accidentally analyzed the screening samples instead of the Encore samples which accompanied them. These data were rejected as insufficient for making decisions on a RCRA site, although the detected parameters do provide some useful information. Therefore, we have presented them in the report, qualified as "screening only." Each of the affected locations were resampled after discovery of the laboratory error and appropriate reanalyses were conducted in accordance with applicable QC procedures. The Data Validation Report (Appendix C) discusses the applicability of the "S" data.

SCDHEC General Hydrogeology Comments Prepared by Mansour Malik:

1. General Comment:

This CSI Report failed to present any information about the geology and the soil type in and around the OWSs' locations. The document also lacks the potentiometric map for AOC 711 that is necessary to determine both the shallow and deep groundwater setting. Please revise and include maps.

CH2M-Jones Response:

The requested information has been presented in the Zone I RFI Report, which is referenced in Section 1.2 of this report. An excerpt of this information will be appended to the CSI report. Potentiometric surface maps of the deep and shallow groundwater will be added to Section 1.0.

2. General Comment:

The "Sampling and Analysis Plan for Oil/Water Separator AOC 711 through 720, Charleston Naval Complex" dated April 30, 2002 stated that "The OWS 711 was investigated as part of the Zone L Sanitary Sewer RFI" and that "RFI samples were collected in 1997. Zone L soil and groundwater samples have been collected in close proximity to the unit". Neither the workplan nor the CSI Report indicates the actual sample locations and how close they are to the OWS. The figures provided in the Report do not show the actual as-built-in design of the OWS nor the depth where those samples were collected. Please provide pertinent information with clear illustrating figures.

CH2M-Jones Response:

The figures show the sample locations in the work plan approved by SCDHEC. The actual samples were collected in the locations planned, with additional groundwater samples as suggested in SCDHEC's comments to the work plan. The report figure will be revised to show the actual dimensions and location of the OWS for AOC 711. As-built drawings are not available for any of the OWS units in this CSI report. Field-measured dimensions are described in section 2.1 for AOC 711. For AOCs 715 and 718 the OWS units are not accessible for measuring.

All sample locations are presented in their surveyed positions in the report figures. We will revise and enlarge the sample location figures to better show the approximate locations of the units with respect to the actual surveyed sample locations. Subsurface soil samples were collected from 3-5 ft bls, as designated in the data tables. These were intended to coincide with the actual depth of the OWS at AOC 711 and the anticipated depths of the OWSs at AOCs 715 and 718.

3. General Comment:

The report does not show the soil and groundwater locations that are linked to USTs' investigation. The UST wells, if existing, should be used in determining the

groundwater flow maps. Please provide all the information necessary to complete the public record.

CH2M-Jones Response:

Groundwater flow maps will be presented in Section 1 of the report. The monitoring wells associated with the closed fuel oil UST near AOC 711 were removed. No monitoring wells were installed for the closed waste oil UST at AOC 718.

4. General Comment:

The report presented only two well logs for two DPTs in Appendix D. The Navy must either include all well logs or reference their submittal (document date) for the sites under investigation.

CH2M-Jones Response:

Wells installed for the Zone I and Zone L RFIs are described in the respective RFI reports, referenced in Section 1.0 of this report. Logs are provided only for the newly installed wells or those not previously documented.

5. General Comment:

Section 2: VOCs in Soil Samples: the Report stated, "*Traces of toluene and xylenes were detected in surface soil at sample location LI037SB005*". The report failed to indicate any source linked to those findings. Please revise and include necessary interpretation. This applies as well for OWS AOC 715 and 718.

CH2M-Jones Response:

The source for these compounds is not clear, although it is not likely that a subsurface source such as a subsurface OWS could have impacted surface soil. At AOC 711, the reported concentrations in the surface soil are low enough to raise suspicions of data reliability -- they were "J" flagged. Surface soil data are presented for these sites because they are part of the RFI database, and generally indicate impacts from general site operations that occurred in this industrial area or minor releases not related to OWS operation. COPCs detected in surface soil are discussed for each site in the report.

SCDHEC Specific Hydrogeology Comments Prepared by Mansour Malik:

6. AOC 711:

“Section 2.4 AOC 711 CSI Conclusions and Recommendations: The text stated, “ It is concluded that sufficient data exist to evaluate AOC 711, the data indicate no significant releases and NFA status is recommended for this site”. The word “significant releases” does not; in any capacity indicate the nature and extent of a release. Please revise and include precise terms.

CH2M-Jones Response:

The data indicate no COCs were identified within the media that would have been impacted by a potential release. The data do not reveal if there actually was a release or not; only that there is no evidence of contamination requiring remedial action. The text will be reworded to state that “the data indicate no chemicals of concern...”.

7. Section 2.1 Description of AOC 711, Lines 18+: The text state, “ Groundwater is also expected to flow toward the river, although a tidal component of flow may exist. The depth to groundwater in this area is estimated approximately 3 feet below land surface”. Please refer to comment 1 requesting potentiometric figures supporting this statement. The OWS is 4.3 ft deep. The Navy must present diagrammatically where soil samples were taken.

CH2M-Jones Response:

As requested, figures showing the potentiometric surfaces of the shallow and deep aquifers will be presented in Section 1.0. Figure 2-2 shows the location of the samples as surveyed. This figure will be revised and enlarged. Subsurface soil samples were collected at 3 to 5 ft bls; this information will be emphasized in the text.

8. OWS AOC 715:

Upon review of a 1947 map of this area of the Base, it seems that the wrong area had been sampled in investigating OWS AOC 715 during this CSI. Please see figure attached. The Navy must reevaluate the actual location of the investigated OWS and submit relevant information.

CH2M-Jones Response:

The referenced map (1974) indicates the OWS may have been located up to approximately 20 ft from the location assumed in the CSI, although the drawing was not intended to be to scale. This OWS may have been removed and may no longer be present. At the December 30, 2002 site visit, upon noting the locations of the samples collected for the RFI and the CSI, and the configuration and limited size of the site, SCDHEC agreed that sufficient samples have been collected to characterize the area. Data from these samples indicate no COCs at the site.

9. Section 3.1 Description of AOC 715, Line 22: The text stated, “As noted in Figure 3-1, shallow groundwater is likely to flow in a northeasterly or easterly direction to Cooper River.

Because AOC 715 is 150 ft from the Cooper River, the groundwater flow direction may be tidally influenced. The depth of groundwater at AOC 715 is approximately 5 ft bls". The figure in question depicts the Cooper River as lying to the east of the OWS. The groundwater contour of 5 ft is barely representing the site hydrogeology. The conclusion reached about the groundwater flow direction has not been justified. The Navy must revise and modify the figure to reflect a better understanding of the shallow and deep groundwater settings.

CH2M-Jones Response:

Potentiometric surface maps of the deep and shallow groundwater will be added to Section 1.0 of the report. The source of the groundwater mound shown beneath Building 681 on the contour map is unknown.

10. Section 3.5 AOC 715 CSI Conclusions and Recommendations: The text stated, "It is concluded that sufficient data exist to evaluate AOC 715, and the data indicate no significant releases. Therefore this OWS system identified as: AOC 715 is recommended for NFA status". It is premature to make these conclusions, considering comment 1, 6, 8 &9. Please revise the text accordingly.

CH2M-Jones Response:

The data indicate no COCs were identified within the media that would have been impacted by a potential release. The data do not reveal if there actually was a release or not; only that there is no evidence of contamination requiring remedial action. The text will be reworded to state that "the data indicate no chemicals of concern..."

11. OWS AOC 718:

Figure 4.1, Section 4.1 Description of AOC 718: The figure shows only one groundwater well I681GW002. It is not clear whether this well is upgradient or downgradient from the OWS. In reference to Figure 3.1 the text stated in Line 28+ that "shallow groundwater is assumed to flow in a southerly direction, governed by a groundwater mound beneath Building 681". Please refer to Comment 9. The Navy must provide groundwater maps correcting and supporting those statements.

CH2M-Jones Response:

The monitoring well is located within several feet of the OWS, in the downgradient direction as identified by the groundwater map to be inserted in Section 1.0. Subsurface utility lines and Building 681 prohibit sampling groundwater close to the OWS in the other directions.

12. Section 4.5 AOC 718 CSI "Conclusions and Recommendations" The report stated, "It is concluded that sufficient data to characterize site environment conditions exist to evaluate AOC 718, the data indicate no contamination is identified from the historical operation of AOC 718. Therefore NFA is recommended for AOC 718." This statement is not quite true because contamination has been identified. However, the contamination being below screening

criteria does not warrant further remedy or cleanup. Please revise text to clearly indicate that.

CH2M-Jones Response:

The text will be reworded to state that "the data indicate no chemicals of concern..."

Conclusion:

The Division of Hydrogeology would recommend granting an approval for this CSI report upon resolving the comments above. The Division is open for discussing and helping in resolving those issues. Please if you have any questions forward them to Mansour Malik at malikmn@dhec.state.sc.us or call 803.896.4169.