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TRANSMITTAL LETTER FOR THE REGULATORY COMMITTEE REPLY TO U S NAVY
COMMENTS ON DRAFT REMEDIAL INVESTIGATION REPORT NWS EARLE NJ
4/4/1996
BROWN AND ROOT ENVIRONMENTAL

**Brown & Root Environmental**

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BRPH\51-4-6-9

April 4, 1996

Mr. John Kolicius, Code 1821
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop No. 82
Lester, Pennsylvania 19113-2090

Reference: Contract No. N62472-90-D-1298 (CLEAN)
Contract Task Order (CTO) No. 231

Subject: Annotated Reply to Navy Comments, Draft Remedial Investigation Report
NWS Earle - Colts Neck, New Jersey

Dear Mr. Kolicius:

Brown & Root (B&R) Environmental Corporation is pleased to provide the subject reply to comments. We have placed our reply after the specific comment, using the electronic file of comments provided by the Navy.

Thank you for this opportunity to submit the subject document. Do not hesitate to contact me if you have questions or require revisions.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell E. Turner".

Russell E. Turner
Project Manager

RET/dhd

c: John Trepanowski, P.E. (B&R Environmental)
Michael Turco, P.E., DEE (B&R Environmental)
File 3.2

Attachment (1)

Annotated Reply to Navy Comments
April 4, 1996

NAVY COMMENTS ON DRAFT REMEDIAL INVESTIGATION REPORT
NAVAL WEAPONS STATION EARLE - JANUARY 1996

GENERAL COMMENTS

1. It is stated in several places in the report that the complete analytical data base is shown in Appendix A when in fact Appendix A contains only positive detects. The complete set of analytical data needs to be provided somewhere in the Appendix as non-detects in many cases are just as important as positive detects.

REPLY: Agree. Complete data is now presented in Appendix A.

2. The site maps that are shown without sampling locations are of little additional value and should be deleted from the report.

REPLY: Agree. Redundant maps have been deleted.

3. Site boundaries should be clearly defined on the figures to the maximum extent possible based on available data. Wetlands classification abbreviations should be explained in the legend. The report should provide a complete classification key for NJ wetland classifications and National Wetland Classifications (if applicable).

REPLY: Agree. Site boundaries have been added where information was available. A complete Wetland classification legend has been added to subsection 1.5, Table 1-1.

4. A comparison of positive detects to state ARARs, NOAA screening values and federal MCLs with respect to the various media sampled needs to be shown for specific sampling points. This is necessary to determine hot spots and source areas. This comparison should be presented in each section.

REPLY: Agree. ARAR and TBC comparison tables have been added to the Nature and Extent (Section X.5) for each site. Tag maps of exceedences have also been added to Section X.5.

5. The tables in the report need to be adequately sized so that they can be read. Landscape orientation should only be used when needed for several columns. The column widths and row heights should be sized for readability and optimum use of page space.

REPLY: Agree. Most tables have been revised .

6. A section on surveying needs to be provided perhaps with a table of wells that shows identifications, previous elevations,

new elevations, previous northing & easting, new northing and easting, well installation dates for both new & previous wells. An explanation is needed as to how and why elevations or locations as applicable were changed or adjusted. Footnotes could be used to supplement the table.

REPLY: Agree. This section is not yet complete. It can be included in the Final Report.

7. Miscellaneous parameter sample results are listed as provided in Appendix A but there is no discussion in the report as to why this information was collected, how it can be used and how these parameters are to be interpreted in a general or site specific sense. How is this information to be used for site and or risk characterization as well as influence on contaminant fate & transport? If a specific miscellaneous parameter was sampled at a site based on previous data, this should be explained.

REPLY: Agree. A site-specific discussion has been added to those sections where this comment applies.

8. The first three subsections of each site's Baseline Risk Assessment are redundant. The method is described in Section 2.4. The site specific sections should focus on the results.

REPLY: Agree. These subsections have been combined, retaining only essential information.

9. References to chromium differentiate between hexavalent and trivalent chromium where this was analyzed, but other results should be identified as total chromium.

REPLY: Agree. This has been corrected throughout the report.

10. The Conclusions sections simply summarize risk assessment results without any interpretation. They should discuss the significance of these numbers and outline an appropriate course of action for each site.

REPLY: Agree. The conclusions subsection of each site human health risk assessment has been rewritten to make it more clear. An additional subsection, Evaluation and Recommendations (Section X.9) has been added to each site section in response to this comment.

11. The fate and transport sections in the report provide a satisfactory overall discussion of contaminants and how they behave in the environment. However, the site specific sections seem to restate where contaminants were found and the general behavior of contaminants in the environment. The report fails to address the fate and transport of contaminants on a site specific basis. This may be due to inadequate site characterizations.

More thorough development of the fate and transport of chemicals is needed to perform an adequate exposure assessment.

REPLY: Agree. Individual site sections have been revised, and Section X.9 provides additional evaluation.

12. In each section of the report, it is stated that ARARs will be addressed under the Toxicity Assessment section. It seems that ARARs are discussed under the Data Evaluation section.

REPLY: Agree. The report has been revised. ARAR comparison is provided in a series of tables and tag maps in Sections X.5.

13. As discussed in our phone conversation of February 21, a more thorough risk assessment is requested for Sites 4, 5, 16/F, 19 and 26 since these sites have been chosen as Operable Unit 1.

REPLY: Agree. These ecological risk assessments are included.

14. Tables outlining data for the screening methods (hydropunch, soil gas) should include a footnote explaining that analytical results were not validated because of the nature of the samples.

REPLY: Agree. Tables have been revised.

15. As discussed, confirm questionable survey data from previous sources and redraw contours where appropriate.

REPLY: Agree. Revised survey data has been used in this report. Maps and discussion in the text have been updated.

SPECIFIC COMMENTS

Page 2-3 Sect. 2.1.1.2 Spelling: fifteen of the soil borings

REPLY: Agree. Change made.

Page 2-8 para 3, Insert ...constructed of NSF-certified 2-inch..

REPLY: Agree. Change made.

Page 2-9 para 2, Insert ...collection activities. **Numerous studies conducted by EPA and independent researchers have concluded that higher turbidity samples are typically collected when the aquifer is disturbed using more conventional sampling practices such as the use of bailers and excessive purging of multiple well volumes. Elevated levels etc.**

REPLY: Agree. Change made.

Page 2-9 para 3, installed in all wells. **Eighty six pre-cleaned bladder pump/tubing/well cap assemblies were purchased and installed. Appendix ? contains copies of the material**

specifications for the bladder pump assemblies as well as the associated cleanliness certifications. The sampling protocol followed, as described in the RI work plan, was based on EPA Region 1 guidelines of August 10, 1994.

REPLY: Agree. Change made. Appendix K has been added to contain the specifications and certifications.

Page 2-9 para 4, Remove all of it.

REPLY: Agree. Change made.

Page 2-9 para 5 Replace with "The sampling method utilized was successful in most cases of obtaining low turbidity samples. For some wells where turbidity was high a field decision was made to collect a separate filtered sample for comparison purposes."

REPLY: Agree. Change made.

Page 2-10 para 1 sentences 3,4,5,6 Replace existing sentences with, an in line flow cell used in conjunction with a mfr? Water quality analyzer was used to measure ph, conductivity, temperature, dissolved oxygen and salinity. Wells were purged until groundwater parameters stabilized. The low flow purge and sampling technique allowed for lower turbidity samples to be collected. Care was taken to ensure little or no draw down in water levels occurred throughout the purge and sample process.

REPLY: Agree. Change made. The statement "Care was taken to ensure little or no draw down in water levels occurred throughout the purge and sample process." was incorporated into the document as a global change.

Page 2-13 para 4, A total of ? Test pits were excavated at sites 3, 9 and 13. Two test pits at site 3 were excavated in an attempt to determine if a localized source of Target Compound List (TCL) semivolatile organic compound (SVOC) and volatile organic compound (VOC) contamination detected in monitoring well MW3-04 during the 1993 Roy F. Weston 1993 Remedial Investigation could be located. (Site 9 test pit discussion) 12 test pits were excavated at Site 13 to determine the extent and composition of fill material at the southern boundary of the site. A backhoe etc. Correct spelling of bucket. Would like test pit photos scanned & placed in appendix. Review of set of photos does not show a corresponding test pit identifier next to the pits. Do we know which test pits are which? Can photos be identified via field notes/photo log so they can be appropriately labeled?

REPLY: Agree. Changes made. Test pit photos are presented and identified in Appendix E.b.

Pages 2-22-2-23 What was disposition of contaminated soils & development water stored at site 16/F? Include disposal manifest in appendix.

REPLY: Agree. Change made to text. Appendix L has been added to contain off-site waste disposal information.

Page 2-57 Section 2.4.3.2: Mention should be made about the current recreational adult scenario when discussing the choice of receptors. Hunting is permitted on the base, and this is a pathway. In fact, the activity has a great deal of participants engaging in the sport. The current industrial employee receptor provides a conservative estimate of potential risks from the sites, so risks should not be recalculated for a recreational adult. However, the text should reflect the consideration of this pathway and the rationale for not including it.

REPLY: Agree. Change made. Discussion was added to Section 2.4.3.2 (pages 2-58, 2-59).

Page 3-14 Section 3.8: Knieskern's beaked-rush (Rhynchospora knieskernii) is the correct spelling and proper citation of this species. In addition, this species is **NOT A BIRD**. The species is a rare plant, more specifically a sedge. This plant is not federally endangered. It is listed as a state endangered species in NJ and a threatened species by the USFWS. Furthermore, in the same paragraph, the latin name for the swamp pink is correctly spelled and cited as follows: Helonias bullata.

Next paragraph--Mr. Ingrisano's name is spelled incorrectly in the source citation.

REPLY: Agree. Changes made.

Page 4-13 Para 1 **...and care was taken to ensure little or no drawdown in water levels occurred throughout the purge and sample process.** Recurring theme.

REPLY: Agree. Change was made throughout the report.

Page 4-14 Section 4.4.1 Para 1 What is meant by "combined outcrop area"? See surficial geology map. Recurring theme.

Reply: All Geology and Hydrogeology (Sections X.4.1 and X.4.2) have been revised.

Page 4-13 Section 4.3.4 Eliminate slug test calculations. Give dates, wells, method, results. Refer to Appendix H for calculations or eliminate section completely as the same information with the exception of dates is repeated in section 4.4.2. Too much redundancy!

REPLY: Agree. Changes made throughout

Page 4-17 Section 4.5.1 Confusing Eliminate sentence two. Reword background comparison. Background samples were not collected at Site 1. This is a recurring theme throughout the

report.

REPLY: Agree. Changes made throughout the report.

Page 5-15 Section 5.5.2 What is significance of chloroform, 1,2,4 trichlorobenzene, 1,2 -dichlorobenzene, naphthalene, benzene & bis(2-ethylhexyl)phthalate found in groundwater samples. Are these or can these compounds be related to explosives or site history.

REPLY: Section 5.6 has been revised to address these issues.

Page 5-15 Section 5.6.1 What is the significance of the bis(2-ethylhexyl)phthalate detected in surface soil samples. Is this compound used in the formulation of plastic explosives? Is it site related? What about fate & transport? Can it be related to level found in 02 GW 06? Lab/glove/plastic contaminant?

Reply: Bis(2-ethylhexyl)phthalate, a common component of ordinary plastics, such as rubber gloves, is found widely spread in the environment and is a common laboratory contaminant. Discussion was added to Section 5.6.

Page 6-1 Adjust location of drainage swale to the south (toward the wetlands area) and identify it properly in the legend. If the wetlands not picked up on the NJDEP wetland overlay note the field verification.

REPLY: Agree. Changes made.

Page 6-3 Trash was encountered in both test pits at Site 3. Refer to test pit photos taken by Brown & Root or test pit log in Appendix E. Recommend scanned photo of test pits in Appendix E.

REPLY: Agree. Changes were made to text to reflect trash found in both test pits, and photos were added to Appendix E.

Page 6-4 Move turn-around area on drawing to the east so that the test pits equally intersect it at the end.

REPLY: Agree. Changes made.

Page 6-6 Section 6.3.3 Which wells had dedicated pumps installed and which were sampled with a peristaltic pump. My recollection is that there was not enough water (head) available to expand the bladder in one or more of these wells. Was a bailer used for the VOC sampling and if so what wells? Be specific here as I know we had to do groundwater sampling differently due to inadequate water levels and poor recharge rates ie: water level dropped at low flow purge conditions. I believe on one or more wells we purged the well to dryness and returned the next day to sample.

REPLY: Agree. Changes were made to text to reflect actual conditions found in monitoring wells.

Page 6-9 Section 6.3.3 The water level measurement range during the first round of measurements seems questionable 93.39 To 111.73. Perched water - tight formation? Survey problem?

REPLY: Although it is suspected that there may be perched water in this system at times, contributing to the unreliability of the monitoring wells installed, there was no obviously questionable datum to verify. No resurvey of wells was performed at this site.

Page 6-21 Section 6.6.4 How does the reduced level of arsenic found in the filtered sample for 03 GW 01 come into play or why were only cadmium and aluminum singled out as being higher than background levels? Section 6.7.5 identifies arsenic via ingestion of ground water as a major risk driver.

Reply: A recalculation of the human health risk, inserting the filtered arsenic concentration in place of the unfiltered sample concentration, would reduce the resultant calculated human health risk to a value equal to, or below background risk.

Aluminum is discussed because it is a good indicator chemical of turbidity due to sampling difficulties. Aluminum compounds are generally not soluble in water.

Cadmium is presented as a comparison to aluminum. Cadmium values are not generally lower in the filtered sample. Cadmium is also driving the human health risk calculation.

Page 7-1 Section 7.1: In the second paragraph, should state "from ...170 feet above MSL...to...150 feet [above] MSL". The word above needs to be inserted.

REPLY: Agree. Changes made.

Page 7-3 Section 7.2 What were the previous concentrations of TCE & DCE found in monitoring wells MW4-05 & MW4-02, as these levels drove our Hydropunch effort for this RI? All that is stated is that TCE exceeded regulatory standards in MW04-05.

REPLY: Agree. Requested information has been provided in the text.

Page 7-4 Section 7.3.1 Be specific on Hydropunch locations. State which depths were obtained for each punch.

REPLY: Agree. Requested information has been provided in the text.

Page 7-5 Figure 7-2 DLG stream overlay not activated when map was printed. Streams/springs will show up and will intersect SW/Sed sampling locations.

REPLY: Agree.

Page 7-8 Section 7.3.3 Change first sentence to read: B & R Environmental installed one additional permanent monitoring well (MW4-07) at the site in July 1995 to determine the validity of the 860 ppb detection of bis(2-ethylhexyl)phthalate as detected in 04 HP 05 and to provide an additional piezometer for ground water flow direction characterization.

REPLY: Agree.. Changes made.

Page 7-12 Section 7.4.2 With the installation of MW4-07 the groundwater flow direction for this site appears to be radial with a east northeast component.

REPLY: Agree. Section has been revised.

Page 7-26 Section 7.6.3 The statement in last paragraph "Since groundwater samples were collected using micropurge methods, filtering was not required." contradicts paragraph 3 regarding elevated turbidity in MW4-01, MW4-02, MW4-05. It was a field call not to filter. MW04-01 had a turbidity of 65 NTU, MW4-02 WAS 63 NTU, MW4-05 WAS 355 NTU.

REPLY: Agree. Section has been revised.

Page 8-3 Section 8.3.1 Discuss the significance of ethylbenzene and xylene in HP 03.

REPLY: The significance of these two chemicals in a hydropunch sample (which is expected to contain soil and the associated absorbed organic compounds from the borehole), at concentrations well below MCLs, when nearby groundwater samples do not show appreciable levels of these compounds, is minimal.

Page 8-16 Section 8.6.4 Change last sentence to: Filtering of samples was not deemed necessary as relatively low turbidity readings were obtained.

REPLY: Agree. Section has been revised.

Page 10-1 Section 10.1 Change last sentence to "**Small, marginal wetlands have formed in some areas on top of the landfill.**"

REPLY: Agree. Section has been revised.

Section 10.1: The site description is incorrect. The site is vegetated with white pines (a non-native species) planted over the landfill rather than scrub pines. Why are the surrounding wetlands shown on the figures not included in the description? What is the value of the wetlands on top of the landfill? If they are small, marginal wetlands the report should state this.

REPLY: Agree. Section has been revised. A note was added in the text stating that the small wetland on the landfill was field delineated.

Page 10-3 Section 10.3 Spelling - "suvey".

REPLY: Agree. Spelling has been corrected.

Page 10-6 Section 10.3.2 This surface soil sample was not collected in a wetland as per Abernathy's notes. Don't recommend you change sample designation # as it will impact analytical databases, but make this clear.

REPLY: Agree. Section has been revised to clarify this fact.

Page 13-1 Section 13.1 Incomplete description of site. No mention of the cedar stand, and insufficient description of the beaked-rush.

REPLY: Agree. Section has been revised.

Page 13-3 Section 13.3.1 Ground water elevation range as indicated is just not possible at this site. Resurveyed wells should rectify.

REPLY: Agree. Section has been revised.

Page 13-13 Section 13.6.4 Conclusion will change when groundwater contours are corrected.

REPLY: Agree. Section has been revised.

Page 15-18 Section 15.5.2.1 How did the filtered samples compare to background samples or upgradient samples?

REPLY: This discussion was omitted in the current version of the RI report. It will be addressed in the final version.

Page 15-42 Section 15.7.5 "ingestion of grounwater" spelling.

REPLY: Agree. Section has been revised.

Page 18-1 Section 18.1 Description of this site is weak. No mention of locomotive engine cleaning vat in southwest corner of C-50 which drained to solvent leachfield.

REPLY: Agree. Section has been revised.

Page 18-24 Was it not possible to measure groundwater elevation in existing MW-1. I believe I passed on survey data for TOC on this well. Was there a problem with elevation or do you need to be provided with this elevation?

REPLY: Agree. Section has been revised to include MW-1.

29-1 Should be "Site Q" instead of "Site 2"

REPLY: Agree. Section has been revised.

Chapter 30: The watershed samples collected will benefit the Navy in the event that we combine sites into operable units and try to assess the effects of sites in close proximity to one another on the environment or human health as a whole. However, it is not appropriate to perform a Baseline Risk Assessment on them as a whole. Unless we can accurately determine exposure to the receptors, the risk assessment is of no value. This is also true of the background samples. These samples should be utilized to provide an argument for elevated levels of constituents which are within background range of the area.

REPLY: Agree. Section has been revised. Risk assessment of watershed samples has been deleted. The section has been separated into two sections, Watershed Sites (Section 30) and Background Sites (Section 31).