



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION II

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NWS EARLE
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MAR 03 1995

Mr. John Kolicius, Project Manager
Naval Facilities Engineering Command
10 Industrial Highway
Code 1821, Mail Stop 82
Lester, PA 19113-2090

Re: EPA Comments on the Navy's draft *Remedial Investigation Workplan* (February, 1995),
Naval Weapons Station (NWS) Earle, Colts Neck, New Jersey

Dear John:

In accordance with the Federal Facilities Agreement (FFA) entered into between the Environmental Protection Agency (EPA) and the Navy for the NWS Earle facility, EPA has reviewed the Navy's draft *Remedial Investigation Workplan* (February, 1995). Our comments are attached. Overall, the plan is comprehensive and will go a long way toward providing us with sufficient information to make remediation decisions at each of the areas of concern addressed in the workplan. To meet this objective, however, we have requested additional work at some sites and at others we have asked that some of the fieldwork be redirected. As you know from our phone call on February 28, 1995, one of our main concerns with the proposed workplan was the lack of a comprehensive watershed sampling plan. This was an unfortunate oversight since it was something that we had both agreed would be part of this investigation. I am satisfied, however, by your verbal commitment that the plan will be included in the revised workplan. (Our enclosed comments include guidelines as to where these samples should be taken. Also see previous correspondence.)

Within 30 days of your receipt of this letter, in accordance with the Consultation section to the FFA, we anticipate receiving a draft final *Remedial Investigation Workplan*. To ensure that the Workplan will be approved expeditiously, I suggest that we meet within the next two weeks to go over any questions you may have regarding our comments. Please give me a call at (212) 637-4320.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jeffrey Gratz".

Jeffrey Gratz, Project Manager
Federal Facilities Section

Attachment

cc: B. Marcolina, NJDEP, w/attach.
L. Welkom, NJDEP, w/attach.
G. Goepfert, NWS Earle, w/attach.

**EPA Comments on the Navy's draft *Remedial Investigation Workplan*
(February, 1995) for Naval Weapons Station Earle**

General Comments:

1. The workplan does not include watershed sampling. Watershed sampling was agreed upon in numerous discussions and in correspondence (Navy's July 15, 1994 letter to EPA, for example). The Earle facility exists in a very important hydrologic setting. Besides being a significant area of groundwater recharge, it contains the headwaters and drainage basins of three major coastal plain rivers. The information from this portion of the investigation is very important to EPA and our technical advisors (NOAA and DOI) and we cannot approve the workplan without it. 3 to 5 sampling locations should be included in tributaries of each major drainage area that may be affected by activities from the base: Ware Creek, Hockhockson, Pine Brook and Mingamohone. Samples should be analyzed for VOCs, SVOCs, metals, landfill parameters, TOC, grainsize, and hardness (depending upon the sampling medium).
2. The workplan should state that part of the RI effort will include an updated groundwater well survey of municipal and residential wells in a one mile radius around the Earle facility. This information is important for risk assessment purposes.
3. Several efforts are underway to more accurately map the facility. It is important that these efforts be integrated. The workplan should acknowledge these efforts, state how this integration will occur, and state that the results of these efforts will be seen in the RI report and future relevant reports. The Navy should be able to place overlays such as wetlands, streams, sample locations, sample results, etc... on accurate basemaps.
4. Hydropunch sampling is an excellent screening tool for VOCs and other contaminants in groundwater; however, as a screening tool for metals, its usefulness is questionable. The sample is usually quite turbid, often with a substantial amount of suspended solids. These conditions lead to very high "false positive" metal concentrations. Because one of the objectives of this investigation is to obtain a more realistic indication of metal concentrations in groundwater through low turbidity samples, our recommendation is not to analyze hydropunch samples for metals.

Page-Specific Comments:

Page Comment

- 2-6 **Sampling Equipment (decon):** a. Changes were not made to text as indicated in the Navy's letter to EPA (May 3, 1994), items 5B through 5I. Correct text. Also - correct same problem on page E-2, Section 6.7.2.
- b. The Navy has stated that it will use a methanol followed by hexane rinse for organics (see Navy letter to EPA [May 3, 1994], item 5I and Navy fax to EPA [July 15, 1994], item "Groundwater #9"). This should be reflected in the workplan.

Waste Handling: Not all drill cuttings, purge water, etc... from the field investigation need to be containerized. See EPA and NJDEP guidance regarding the disposition of investigation derived waste.

- 2-7 **Section 2.10:** The two rounds of groundwater elevation measurements should be synoptic on an area-wide basis. This is crucial in areas where the groundwater gradient is relatively flat and near the waterfront where tidal influence is significant. Change the text accordingly.
- 3-1 **Section 3.2.1:** State in the text that soil compositing will not take place. State that VOC and SVOC samples, where taken, should be sampled and bottled first. Next, samples for metals should be homogenized.
- 3-2 **Table 3-1: a.** Include the analytical program for Site 1 in the table.
- b.** Site 16 shows 9 sediment samples; Table 3-3 shows 8 sediment samples. Correct the discrepancy.
- 3-17 **Table 3-2: a.** Changes were not made to text as indicated in the Navy's letter to EPA (May 3, 1994), items 13A through 13H. Correct table and footnotes.
- b.** Add the requirements for Cr⁺⁶ to the parameter list; this is part of the Site 2 and Site 19 list of parameters to be analyzed.
- 3-22 **Section 3.2.2:** State in the text that soil compositing will not take place. State that VOC and SVOC samples, where taken, should be sampled and bottled first. Next, samples for metals should be homogenized.
- 3-23 **Bullet #3:** Specify the sampling device for VOCs and SVOCs in the bullet which begins, "Sampling for volatiles..."
- ¶ after bullets: State explicitly in this paragraph that the groundwater sample log sheet for each well will contain, at a minimum, the following measurements: pH, temperature, dissolved oxygen, specific conductance, color and turbidity (in NTUs). Well logs at appropriate locations (e.g. waterfront) should also include salinity and Eh measurements.
- Section 3.2.4:** State which sampling equipment will be used. NUS SOP SA-1.2 lists several. Note that a brass Kemmerer sampling device will not be used.
- 3-30 **Equipment Rinsate Blanks: a.** Change to read, "...conditions by running demonstrated analyte-free water..." Also, change at appropriate location on page E-25 and Table 3-1 (including footnotes).
- b.** Change to read, "Equipment blanks will be collected and analyzed for each type of non-dedicated sampling equipment used each day a decontamination event is carried out, not to exceed one per day. Equipment rinsate blanks will be analyzed for the same suite of analytical parameters as the associated environmental samples." (end ¶)
- Make associated changes to Table 3-1.**
- 3-31 **Trip Blanks: a.** Change to read, "...(nonfield location) from demonstrated analyte-free water." Also, change at appropriate location on page E-26.
- b.** State in the text that trip blanks are prepared no longer than 24 hours prior to the sampling event and will be preserved with 1:1 HCL in the same manner as volatile samples. If the 24 hour timeframe cannot be met, trip blanks will be preserved in the field.

Site 1

- 4-1 **Section 4.2:** Change to read, "...were detected in MW1-2, in what was assumed to be the upgradient well for the site."
- 4-2 **Figure 4-1:** Correction - switch MW1-3 with MW1-1.
- 4-4 **Table 4-2:** a. The table is inaccurate and misleading. Much higher concentrations of RDX and 2,4 DNT were detected in well MW01-01: 96.6 ppb and 93.2 ppb respectively. Significant concentrations of other explosive compounds were also detected and should be added to the list.
- b. Significant volatile organic contamination was detected in well MW01-02: TCE - 108 ppb, benzene - 98 ppb, toluene - 95 ppb, chlorobenzene 100 ppb, and nitrobenzene 93.7 ppb. List these in the table as well.
- 4-5 **Remedial Investigation Activities (Section 4.3):** The SI report showed two areas of concern at Site 1. Elevated VOC concentrations were detected in groundwater and elevated explosives were detected in the soil at the MW01-02 location. Elevated levels of explosives and nitrobenzene were detected in groundwater at the MW01-01 location. Metals and TPH need further evaluation. Based on this information, the following modifications should be made to the field program:
- a. All soil samples should be analyzed for VOCs and nitrobenzene, in addition to those listed. (This is consistent with the Navy's May 3, 1994 letter response [comment #15] on this issue which was raised by EPA previously.)
- b. Based on the past use of the site (contamination tended to be surficial), the soil sampling depths should be changed to 0.5 - 1.5 feet and 3 - 4 feet for each boring location.
- c. Two additional soil borings should be installed near MW01-01: (1) 25 feet north and (2) 25 feet northwest of MW01-01. SB-4, which is currently 100 feet north of MW01-01 may be deleted.
- d. Two additional soil borings should be installed near MW01-02: (1) 25 feet north and (2) 25 feet northwest of MW01-02. SB-8 may be eliminated.
- e. Two additional hydropunch borings should be installed: (1) approximately 100 feet southeast of well MW01-02 and (2) 100 feet northwest of MW01-02.

Site 2

- 5-2 **Figure 5-1:** a. The "year of installation" for monitoring wells (see the legend) should be shown adjacent to each well in the figure.
- b. Change the legend: "x'd" circle 001 through 003 were surface soil samples. Open circles 004 through 008 were subsurface soil samples.
- 5-3 **Section 5.3:** a. We do not believe that sampling surface soil for VOCs is warranted, except at the proposed SED-1 location.

b. 3 or 4 additional surface soil samples should be collected within the berm area at the location where most detonation takes place and analyzed for metals and explosives.

Site 3

6-2 **Figure 6-1:** Wetland point WET 3A-1 should be sampled.

6-3 **Section 6.3:** a. Since the purpose of the test pit investigation is to determine whether landfill material in the test pits is contributing to VOC/SVOC contamination in the groundwater, locations with high PID/FID readings should be analyzed for VOCs and SVOCs.

b. The Navy should immediately determine whether MW03-04 is a viable monitoring well. If the well is dry, a new well should be installed as early as possible in the investigation program.

c. Although the VOC contaminant levels in well MW03-04 were not above Federal MCLs, they are high enough to warrant an expanded investigation. A soil gas survey should be performed early in the RI field program, prior to groundwater monitoring, to determine if additional monitoring wells are necessary in the area. The survey should not be contingent upon another round of groundwater monitoring well sampling as the workplan now suggests. That would only lengthen the investigation process with no value being added. The above request was also recommended as one of the conclusions of the Weston RI (1993).

d. The drum should be sampled and removed from the site. This action should be expedited and does not have to proceed along the RI/FS track. This should be stated in the text - or else this section of the text should be deleted.

Site 4

7-2 **Figure 7-1:** Wetland point WET 4B-5 should be sampled.

7-5 **Section 7.3:** We agree that well MW04-07 should be installed between wells MW04-02 and MW04-05. However, before the decision is made to put deep wells in the area, 3 to 5 multi-depth hydropunch locations should be sampled downgradient of the site, near MW04-05. (This is consistent with the recommendations in the Weston RI (1993). The results of the survey would be used to determine where and at what depth any additional wells should be located. The hydropunch screening survey should be performed early in the RI so that any additional wells can be installed and sampled during the summer.

Site 5

8-1 **Section 8.2:** The text states that "no anomalous organic vapor readings were detected in any test pits. This is incorrect. Elevated HNu readings were detected in TPS-1. TPS-2 was "saturated" at 3 feet. The text should be corrected.

8-5 **Section 8.3:** a. Two additional hydropunch groundwater samples should be collected near MW05-06, the area of highest VOC readings.

b. Groundwater from monitoring wells should be analyzed for TCL volatiles, TAL metals, and landfill indicator parameters. Groundwater from hydropunch samples should be analyzed for TCL volatiles.

Site 6

9-3 **Table 9-1:** Based on the information (drill logs) provided in the Weston SI, it appears that the soils samples were actually subsurface soil samples - #06-002-B014 @ 12 feet and #06-003-B-010 @ 9 feet. The table should be corrected.

9-10 **Section 9.3:** The text states that approximately 3 seep locations will be sampled (surface water) and 3 wetlands/marsh locations will be sampled (surface water and sediment). How do these correspond to "wetland sample points" WET6A2 through WET6A8 in Figure 9-1. Either the text or the figure should be clarified. In addition to the six sampling points discussed in the text, wetland points WET 6A2 and 6A5 should be sampled.

Site 7

10-2 **Figure 10-1:** Wetland point 7-B2 should be sampled.

Site 13

15-2 **Figure 15-1:** The positions of wells MW13-3 and MW13-4 are parallel to the probable groundwater contours in the area and may not provide adequate gradient information. The array would be more effective if MW13-3 was moved closer to location SW/SED-1 and MW13-4 was moved south.

15-8 ¶2: An additional downgradient monitoring well should be placed west/southwest of boring location 004-B.

¶3: Two additional surface water/sediment samples should be taken north of the site, in the wetlands. This will give us an indication whether Site 13 has had an impact on the wetlands environment.

Site 15

17-7 ¶2: One additional surface water/sediment sample should be taken from the stream adjacent to the site to the north.

Site 16/F

18-5 **Section 8.3:** We concur with the plan as outlined. However, based on the results of the soil gas survey, the Navy should be prepared to install as many as 8 monitoring wells in this area (instead of the 4 mentioned in the text). The text should be changed.

Site 17

19-9 **Table 19-4:** The text states that "up to two surface soil samples will be taken from areas of deposition along the gullies (SS-1 and SS-2)." These samples should be shown in the table.

General Comment: The toe of the landfill should be stabilized as soon as possible to inhibit debris from collapsing into the wetlands.

Site 19

20-5 Section 20.3: a. Two sediment and surface water samples should be taken at the discharge location of the culvert (one near SI sampling location 022 and one within 100 feet downstream from this location). Previous metal sampling was limited to lead and cadmium. Samples should be analyzed for TAL metals and grain size.

b. A sample along the culvert (near 023) should be taken at a depth of 2 - 3 feet and analyzed for TAL metals. This sample is necessary for risk (receptors) and remediation purposes (vertical extent of contamination in the culvert - presumably shallow, but this will confirm).

c. For risk assessment purposes, two of the soil samples being collected in the depression behind the barricades and at least one groundwater sample should be analyzed for the different valences of chromium (trivalent and hexavalent).

d. Based on the groundwater flow direction it may be more appropriate to install the additional groundwater monitoring well near SI sample location 002.

Site 20,

21-1 Section 21.1: We hope that the site description (e.g. grit is staged in an open pile) will have changed by the time the final draft of this workplan is prepared.

Site 23

23-3 Table 23-1: Some of the elevated organics including DNT should be listed in the table.

General: Confirm in the text that the direction of surface water flow in the drainage ditch (and the assumed direction of groundwater flow) is toward the south and SW/SED-5. Previous documents imply that flow is north, toward the area of standing water (see the Navy's July 15, 1994 "BTAG Site Specific Comment #5").

Site 24/25

24-1 Section 24.2: The text should state that 7 out of 8 analyses for lead were rejected. The only acceptable analysis is the one listed in Table 24-1 (113 mg/kg).

24-6 ¶2: Samples should also be analyzed for nitrate (see Navy's July 15, 1994 response [29a] to EPA's April 20, 1994 comment).

Site 26

25-3 Section 25.3: a. High concentrations of TCE and DCE were detected at well MW26-01 in all three previous groundwater sampling rounds. The soil gas survey grid should be expanded to the west of the well and leach tank (into the brush) and southwest (parallel to the elongated shape of the building) and around the building. We estimate that this would add approximately 25 to 30 additional soil gas sampling points.

b. The Navy should be prepared to install 2 or more additional monitoring wells during the RI based on the results of the soil gas survey. State in the text.

c. Based on the results of the soil gas survey, the Navy should install soil borings at the area of most significant soil gas readings. The assumption at this time is that this location will be near the leaching tank and grease trap area. Samples should be taken down to the water table. This should be performed as part of the RI field investigation this spring/summer.

d. Previous comprehensive sampling in the percolation pit was performed at a shallow depth (0 - .5 feet). In the 30 years since this pit was used, this depressed area certainly could have been covered by an additional 0.5 feet of sediment from erosion, vegetation decay, etc... Two additional borings should be installed in the pit. Two subsurface samples from each boring should be analyzed for VOCs, TAL metals, and explosives. This was conceptually agreed upon in our October 20, 1994 meeting but is not reflected in this workplan.

Background Samples

General: Efforts should be made to ensure that background samples are taken from both the Cohansey and Kirkwood formations.