

MEETING SUMMARY

CH2MHILL

St. Juliens Creek Annex (SJCA) Restoration Advisory Board (RAB) Meeting Summary: May 17, 2004

RAB Members Present:

Valerie Walker	CNRMA	Kevin Lew	SPAWAR
Bob Schirmer	LANTDIV	Scott Mohr	NAVSTA PAO
Debra Miller	Virginia DEQ	Carolyn Neill	CNRMA
Todd Richardson	USEPA Region III	Bill Friedmann	CH2M HILL
Bob Mann	Community Co-Chair (Geneva Shores)	Kim Henderson	CH2M HILL

FROM: Kim Henderson/CH2M HILL

DATE: May 24, 2004

Location: Major Hillard Library, Chesapeake, Virginia

RAB Welcome and Introductions

At 5:30 pm Ms. Valerie Walker presented opening remarks and introductions.

Site 3 Interim Remedial Action

Mr. Friedmann presented a summary of the removal action at Site 3. Handouts of the presentation were provided to the RAB members. Mr. Friedmann presented a brief site history, the reasons for the selected alternative, summary of removal activities, post removal summary, next steps, and reasons for success.

Mr. Mann asked where the materials removed from the site were taken to. Mr. Friedmann explained that they took the materials to an offsite disposal facility approved by the Virginia Department of Environmental Quality (VDEQ).

Mr. Lew asked the overall cost of the removal. Mr. Friedmann estimated that for the first phase of the removal action the cost was just over \$100,000 and about \$1 million was spent on the second phase totaling approximately \$1.1 million. Additional funds were spent on pre-characterization sampling and reporting that are not included in the total.

Blows Creek Baseline Ecological Risk Assessment

Mr. Friedmann presented the Baseline Ecological Risk Assessment (BERA) investigation conducted at Blows Creek. Handouts of the presentation were provided to the RAB members. Mr. Friedmann informed the RAB of the location of Blows Creek, purpose of the BERA, sampling locations, field event summary, analytical results including elevated

mercury levels in the upper and lower reaches, food web model results, and next steps planned for Blows Creek.

Mr. Mann asked what we will do when we find where the elevated mercury is coming from. Mr. Schirmer stated that we will try to look for the source to determine where the mercury is coming from and address the source if it is determined to be Navy-related.

Site 21 Groundwater Results

Mr. Friedmann presented the Site 21 investigation conducted in August 2003. Handouts of the presentation were provided to the RAB members. Mr. Friedmann explained that Building 187 (Site 21) was a locomotive maintenance shed where trichloroethene (TCE) was found in groundwater in 1996. To verify the TCE, Membrane Interface Probe (MIP) sampling was conducted to delineate the potential TCE plume. The MIP produced real-time lithologic profiles and data that indicated the presence of TCE. A total of seven monitoring wells were installed and the analytical sample results for TCE correlated with the MIP results. Additionally, it was determined that the TCE from Site 21 has impacted the adjacent storm water system which is impacting the downgradient water body at Site 2. The next steps for Site 21 include additional VOC plume delineation, confirmation of elevated metals and explosive (RDX) concentrations found in the existing monitoring wells, and an evaluation of remedial alternatives.

Roundtable / Q & A

Ms. Walker informed the RAB that an open house is being planned for the RAB members to encourage participation and more information will follow.

Ms. Henderson informed the RAB that as requested at the last meeting, the RAB agendas and meeting minutes will be available on the SJCA Enterprise System web site this summer and the members will be notified. The web site is currently being updated and will be presented at the next meeting.

Next Meeting: The next RAB meeting is scheduled for October 20, 2004 at the Major Hillard Library. When asked, Mr. Mann indicated that site visits would be interesting.

Meeting Adjourned.

St. Juliens Creek Annex (SJCA) Site 4 Proposed Remedial Action Plan (PRAP) Public Meeting Summary: May 17, 2004

RAB Members Present:

Valerie Walker	CNRMA
Bob Schirmer	LANTDIV
Debra Miller	Virginia DEQ
Todd Richardson	USEPA Region III
Kevin Lew	SPAWAR

Scott Mohr	NAVSTA PAO
Bill Friedmann	CH2M HILL
Kim Henderson	CH2M HILL

FROM: Kim Henderson/CH2M HILL

DATE: May 24, 2004

Location: Major Hillard Library, Chesapeake, Virginia

Mr. Kevin Lew arrived for the RAB at 5:00 pm and Mr. Bill Friedmann presented the Site 4 Proposed Remedial Action Plan (PRAP) presentation that was intended for the public meeting at 4:30 pm. Handouts of the presentation and Site 4 PRAP were provided. The presentation included the background information for Site 4; previous investigations conducted; purpose and contents of the PRAP; next steps including a Record of Decision (ROD), Remedial Design, and Remedial Action; and availability of the Administrative Record for St. Juliens Creek Annex (SJCA) at the Major Hillard Library. Following the presentation, a question and comment period was held.

Mr. Kevin Lew of SPAWAR asked if the cost for Alternative 2 includes the long-term operations and maintenance (O&M) cost. Mr. Friedmann indicated that 30-years of O&M costs are included.

Mr. Lew asked why the contaminated sediment was being removed. Mr. Friedmann explained that the drainage ditch adjacent to Site 4 contained elevated concentrations that indicated unacceptable risks to human and ecological receptors. Rather than covering the ditch it was more effective to remove the contaminated sediment from the drainage ditch.

Mr. Lew said that obviously the cover isn't going to be a 100% effective and asked how effective the cover will be. Mr. Friedmann stated that the cover will be very effective because it will reduce leaching of contaminants into the groundwater and prevent direct contact by humans and ecological receptors with the landfill contents. Ms. Debra Miller of the Virginia Department of Environmental Quality (VDEQ) added that groundwater

monitoring will be conducted long-term to monitor the effectiveness of the cover and ensure there are no future releases.

Mr. Lew asked if signs would be placed around the site to restrict access. Mr. Friedmann stated that signs would be posted as part of the Remedial Design and land use restrictions on the property, such as fencing, will be implemented. The signs will include language indicating those restrictions and provide contact information.

Mr. Lew expressed concerns regarding the types of contamination at the site and how the vegetation is effected because he has eaten mulberries from an existing tree at Site 4. Mr. Friedmann explained that he was unsure if the types of contaminants found at the site were able to bioaccumulate into the vegetation and/or the berries themselves. Mr. Lew then stated that he no longer eats mulberries.

- Subsequent to Mr. Lew's question regarding mulberries, risk assessors from CH2M HILL, using site specific data and conservative cancer and non-cancer scenarios, determined that there was no risk to Mr. Lew in ingesting the mulberries growing at Site 4, and this information was sent to Mr. Lew on June 17, 2004.

Mr. Lew requested electronic copies of the PRAP presentation and PRAP and noted that his email address has changed: kevin.lew@navy.mil

Mr. Lew asked how does the cover differ from the cap and whether it was different material. Ms. Miller indicated that the RCRA Subtitle D Cap does include a layer of a different, more impermeable material that drains surface water before it can reach the underlying wastes and almost acts as a double liner.

Public Meeting Adjourned



St. Juliens Creek Annex Proposed Remedial Action Plan (PRAP) for Site 4 (Landfill D)

**St. Juliens Creek Public Meeting
May 17, 2004**



Purpose

- Present the Public with the background information and summary of activities that have occurred at Site 4, Landfill D
- Present the Public with the draft Proposed Remedial Action Plan (PRAP) for Site 4
- Answer questions and request Public feedback regarding the draft PRAP
- Outline the next steps for Site 4



Location of Site 4



Site 4 Background

- 10 acres; located in the northeastern portion of the installation.
- Operated from about 1970 through 1981 as a sanitary landfill area.
- The wastes managed were primarily trash, wet garbage, construction material.
- Some solvents, acids, bases, and polychlorinated biphenyls (PCBs) were disposed of at Site 4 prior to 1976.





Previous Investigations

- There have been several investigations conducted at Site 4 including:
 - Initial Assessment Study (IAS) - 1981
 - RCRA Facility Assessment (RFA) - 1989
 - Relative Risk Ranking (RRR) - 1996
 - Remedial Investigation / Human Health Risk Assessment / Ecological Risk Assessment (RI/HHRA/ERA) - 2003
 - Feasibility Study (FS) - 2004

Previous Investigations

RI/HHRA/ERA

- RI/HHRA/ERA - identified the nature and extent of contamination and risk posed by Site 4
 - A baseline HHRA and ERA was conducted to evaluate the potential human health and ecological risks associated with the presence of site-related soil, surface water, sediment, and shallow and deep groundwater contamination at Site 4.
 - The RI concluded that there is potential risk to human and ecological receptors from exposure to chemicals in soil (primarily inorganics and PAHs).
 - In addition, there is potential ecological risk to human and ecological receptors (terrestrial and aquatic) from exposure to chemicals in the Blows Creek sediment based on elevated chemical concentrations of inorganics, pesticides, and PAHs.





Previous Investigations - FS

- Site 4 FS develops and recommends the remedial alternative for addressing risk associated with Site 4.
 - Several objectives must be met, including:
 - Be Protective to Human Health and Environment
 - Comply With State and Federal Laws
 - Be Cost-Effective
 - Four alternatives were evaluated
 - Alternative 1 - No Action
 - Alternative 2 - Soil Cover
 - Alternative 3 - RCRA Subtitle D Cap
 - Alternative 4 - Complete Removal
- Based on criteria, Alternative 2 (Soil Cover) was the recommended alternative for Site 4.



Proposed Remedial Action Plan (PRAP) for Site 4

- This PRAP
 - Identifies the Preferred Alternative for addressing contamination (risk) at Site 4
 - **Alternative 2 - Soil Cover**
 - Provides the reasoning for selecting this alternative
 - Asks for Public participation



Proposed Remedial Action Plan (PRAP) for Site 4

- In addition to providing the reasoning for selection of the alternative, the PRAP provides a Site 4 summary:
 - Previous Background - Section 2
 - Site Characteristics - Section 3
 - Size, location, setting
 - Nature & Extent of Contamination
 - Summary of Site Risks - Section 5
- PRAP also summarizes:
 - Remedial Action Objective (RAO) - Section 6
 - Remedial Alternatives Summary - Section 7
 - Evaluation of the Alternatives - Section 8
 - Preferred Alternative - Section 9
 - Public Participation - Section 10



Summary of Site Risks

- **Human Health**
 - **Soil:** arsenic and iron
 - **Shallow groundwater:** none
 - **Deep groundwater:** though risk was identified due to arsenic, iron, manganese, and chloroform, the Tier I Partnering Team (EPA, VDEQ, & Navy) determined that based on the low risk, low concentrations and low frequency of exceedences for these compounds, that the constituents were not significant enough to merit action.
 - **Sediment:** iron
 - **Surface Water:** none

Summary of Site Risks

- **Ecological**
 - **Surface Soil:** chromium, copper, iron, lead, nickel, vanadium, and zinc; the PCB aroclor-1260; and the PAHs anthracene, benzo(a)anthracene, benzo(a)pyrene, fluoranthene, phenanthrene, and pyrene.
 - **Sediment:** arsenic, barium, cobalt, copper, cyanide, iron, lead, manganese, mercury, nickel, and zinc; the pesticides/PCBs DDD, DDE, DDT, dieldrin, and aroclor-1260; and the PAHs 2-methylnaphthalene, acenaphthalene, anthracene, benzo(a)anthracene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, diethylphthalate, fluoranthene, phenanthrene, and pyrene.
 - **Surface Water:** aluminum, copper, cyanide, iron, lead, manganese, nickel, silver, and zinc and the semivolatile organic compound (SVOC) carbon disulfide.
 - **Groundwater:** None



Remedial Action Objectives (RAOs) - Section 6

- Based on the human health and ecological risk assessments results, the following Remedial Action Objectives (RAOs) were established for Site 4:
 - Prevent or minimize direct contact of human and ecological receptors with landfill contents.
 - Reduce infiltration and any resulting leaching of contaminants from the landfill into groundwater.
 - Prevent overland flow entering the site (surface water run-on) and control surface water run-off and erosion.

Evaluation of Remedial Alternatives



- A comparative analysis of each remedial alternative was completed by evaluating the alternatives against the following nine National Contingency Plan (NCP) criteria which consist of “threshold,” “primary balancing,” and “modifying” criteria:
- To be considered for remedy selection, an alternative must meet the two following threshold criteria:
 - Overall protection of human health and the environment
 - Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)



Evaluation of Remedial Alternatives (continued)

- The primary balancing criteria are then considered to determine which alternative provides the best combination of attributes. The primary balancing criteria are:
 - Long-term effective and permanence
 - Reduction of toxicity, mobility, and volume
 - Short-term effectiveness
 - Implementability
 - Cost
- The Preferred Alternative is evaluated further against two modifying criteria:
 - Acceptance by the State
 - Acceptance by the community



Evaluation of Remedial Alternatives (continued)

A comparison of the alternatives is summarized in the table below. The FS provides a more detailed analysis and evaluation.

RELATIVE RANKING OF ALTERNATIVES

Criterion	Alt. 1	Alt. 2	Alt. 3	Alt. 4
Overall protection of human health and the environment	○	●	●	●
Compliance with ARARs	○	●	●	●
Long-term effectiveness and permanence	○	⊙	⊙	●
Reduction in Toxicity, Mobility, or Volume	○	⊙	⊙	●
Short-term effectiveness	○	⊙	⊙	○
Implementability	●	●	⊙	○
Present-worth cost	\$0	\$1,825,000	\$2,787,000	\$10,791,000

- High Ranking
- ⊙ Moderate Ranking
- Low Ranking

Preferred Alternatives

- Based on the comparative analysis:
- **Alternative 2 - Soil Cover** was selected as the recommended remedial alternative for Site 4.
- This alternative would protect human health and the environment by removing contaminated sediment and preventing direct exposure to contaminated soil and landfill contents.
- Further, the alternative would reduce any future potential risk associated with contaminants leaching into the shallow or deep aquifers.
- Alternative 2 complies with chemical-, location-, and action-specific ARARs.
- With an appropriate O&M plan, Alternative 2 would have a high degree of long-term effectiveness and permanence.



Preferred Alternatives (cont.)

- **Alternative 2 - Soil Cover**
- Alternative 2 would also be effective in the short-term and it is implementable using standard construction methods and equipment.
- Other than No Action, Alternative 2 is the most cost-effective of all the alternatives considered for Site 4.
- Since the waste will be left in place, a five-year review will be required and future land use controls/restrictions will be needed at this site.
- The Navy, EPA, and VDEQ support this preferred alternative since it meets the RAOs.
- However, final concurrence will only take place after public participation/comments have been received and are addressed.



Community Participation

- A community relations program will be updated through the Installation Restoration (IR) process.
 - Public input is a key element in the decision making process.
- The public comment period for this PRAP gives the public an opportunity to provide input regarding the source control and risk reduction process for Site 4.
- Public comment is invited and encouraged on the Preferred Alternative for Site 4.



Community Participation

- The Navy and USEPA, in consultation with VDEQ, will make the a final decision on the remedial approach for Site 4 after reviewing and considering all information submitted during the **30-day public comment period**.
- The public comment period will be from May 12 to June 12, 2004.
- Comments must be postmarked no later than June 12, 2004.



Community Participation

During the comment period, interested parties may submit written comments to one of the following addresses:

Mr. Bob Schirmer, Code EV-22RGS

Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street
Norfolk, VA 23511-2699
Phone - (757) 322-4751
Fax - (757) 322-4805

Ms. Debra Miller

Remedial Project Manager
Virginia Dept. of Environmental Quality
629 Main Street, 4th Floor
Richmond, VA 23219
Phone - (804) 698-4206
Fax - (804) 698-4234

Mr. Todd Richardson, Code 3HS13

Remedial Project Manager
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103
Phone - (215) 814-5264
Fax - (215) 814-3051

Ms. Valerie Walker

Regional Engineer IRP Coordinator
Naval Weapons Station Yorktown
Code 0950, Building 406
Yorktown, VA 23691-0160
Phone - (757) 887-4775
Fax - (757) 887-4478



Record of Decision (ROD)

- Following the public comment period, the Navy, in consultation with the EPA and VDEQ, will determine how the PRAP should be modified based on the comments received.
- If the modifications substantially change the proposed remedy, additional public comment may be solicited. If not, then the EPA and Navy will sign a Record of Decision (ROD) for Site 4.
- The ROD will detail the remedial action chosen for Site 4 (**Alternative 2 - Soil Cover**) and will include responses to comments received during this public comment period.
- When the ROD is completed and signed, the public will be notified as to its availability.



Next Steps at Site 4

- Remedial Design - A 35% Design has been submitted for review.
- Remedial Action - The ROD will detail the remedial action chosen for Site 4 (**Alternative 2 - Soil Cover**) and will include the Navy's responses to comments received during this public comment period.
- Construction of Soil Cover possibly later this year or early next year.



Administrative Records

- The Community Relations Plan, Installation Restoration Program fact sheets, and final technical reports concerning Site 4 are available to the public at the following location:

Major Hillard Library

824 Old George Washington Highway, North
Chesapeake, Virginia 23323

(757) 382-3600



This Concludes the Site 4 Proposed Plan Presentation

- Questions or Comments?
- Thank you for coming!