RESTORATION ADVISORY BOARD (RAB) MEETING
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT CALVERTON
RAMADA EAST END, RIVERHEAD, NEW YORK
JUNE 10, 1999

The fourth meeting of the RAB began at 6:00 pm and ended at 9:00 pm. RAB members attending were: community members Sid Bail, Louis Cork, Bill Gunther, Sherry Johnson, Jean Mannhaupt, Randolph Manning, Ann Miloski, Joe Pannone, Bob Pohlman, and Warren Voegelin; Stan Farkas from New York State Department of Environmental Conservation (NYSDEC); Andrea Lohneiss representing the Town of Riverhead; Martin Simonson representing DCMC, and Joe Kaminski (representing Judith Hare) and Jim Colter from the Navy. Members absent included community members Henry Bookout, Lorraine Collins, Herb Golden, John Quinn, and Vanie Tuthill; and representatives from New York State Department of Health (NYSDOH), Suffolk County Department of Health Services (SCDHS), U.S. EPA Region II, and The Nature Conservancy.

WELCOME AND AGENDA REVIEW

Mr. Joe Kaminski, representing Ms. Judith Hare, welcomed everyone. Mr. Kaminski explained that Ms. Hare was not able to attend the meeting. He also explained that the delay in holding a RAB meeting was because the Navy needed extra time to prepare the Environmental Geographical Information System (GIS) and Environmental Visualization System (EVS) for NWIRP Calverton and the GIS-and EVS-based presentation to present at a technical meeting and then at a RAB meeting. The Navy believes the GIS/EVS-based presentation will provide a better explanation of remedial investigations and contamination at NWIRP Calverton.

REVIEW AND APPROVAL OF MINUTES

The stenographer transcripts from the November 5, 1998 RAB meeting were paraphrased and summarized into meeting minutes. The minutes were mailed out to all

the RAB members for review. No comments were made on the November 5, 1998 RAB meeting minutes and the minutes were approved as written.

STEERING COMMITTEE SUMMARY

Sherry Johnson, the Community Co-chair gave a summary of the Steering Committee's activities since the November 1998 RAB meeting. The committee met in December 1998 to prepare comments on the Phase II RCRA Facilities Investigation Report (Sites 1, 2, and 7). The comments were submitted to the Navy in February 1999. The committee met again in April 1999 to review the maps submitted by the Navy on March 24, 1999. These maps were prepared using the GIS and they show the location of monitoring wells, volatile organic compound (VOC) concentrations in groundwater, and groundwater flow directions. Overall, the committee was pleased with these groundwater maps and was pleased with the Navy's progress in presenting the data for the facility. Ms Johnson also provided the Navy with the Steering Committee comments on the groundwater maps

UPDATE ON NAVY ACTIVITY AND THE JUNE 3, 1999 TECHNICAL MEETING

As a result of the comments on the sampling effort and results for Site 7 (Fuel Depot Area) provided at the November 1998 RAB meeting, the Navy prepared the GIS for NWIRP Calverton and worked with GIS/EVS-based software to develop presentations of the Site 7 data that would address RAB members' comments. Various maps were generated using the GIS/EVS and were submitted to the RAB These maps include the facility-wide groundwater maps (submitted on March 24, 1999) and the series of maps that graphically show the vertical profile of specific chemical contamination in groundwater at the Site 7/10A parcel (submitted April 20, 1999). These maps were the subject of the June 3, 1999 technical meeting presentation. The Navy plans to review each site similarly and develop EVS maps such as the ones developed for the Site 7/10A parcel. The presentation to the regulators at the technical meeting (attended by

NYSDEC, SCDHS, and the Navy) was well received. Minutes from the June 3, 1999 technical meeting are attached.

The main objective of the technical meeting was to determine whether the remedial investigation for Site 7 was complete and whether there was a sufficient understanding of the contamination to begin identifying possible remedial alternatives for Site 7 The Navy believes that there is sufficient information to complete the remedial investigation and to move on to the feasibility study (FS). Especially because there is more Navy money available for remediation than for investigation, the Navy would like to move into the remedial stage and collect any addition information necessary for Site 7 as part of the design. The regulators are in agreement about moving into the feasibility study for Site 7 and about collecting the additional information (particularly to further define the concentrations within the plume) during the design.

One technology the Navy is considering for Site 7 is air sparging/vapor extraction. A system has been in place at Site 2 and has had good success. Also, the Navy will consider technologies that can be implemented at Site 7 and also address the Freon plume identified in the near vicinity of Site 7. Air sparging is one technology that could be designed to address Site 7 contamination and the Freon plume.

Stan Farkas from the NYSDEC mentioned that the participants at the technical meeting had sufficient time to go over the data for Site 7 that are included in the EVS-based presentation and were able to get a good understanding of Site 7 and the groundwater contaminant plume at the site. Mr. Farkas indicated that the EVS-based presentation was a great way to present the data and help answer questions so the group could come up with a consensus for Site 7

At the technical meeting, the participants also discussed the Navy's recommendation to conduct interim action at Site 1 to stabilize the bank of the landfill The Navy recommended interim action because the bank is currently eroding into the pond and it may take several years until a final action could be addressed for Site 1 The regulators at the technical meeting were in agreement with the Navy's recommendation.

Based on the outcome of the technical meeting, the Navy will focus on finalizing the remedial investigation for Site 7 and then proceed with the FS. At the same time a similar type of EVS-based analysis would be conducted for the next site on the list (to be determined by the RAB members). The next technical meeting and RAB meeting would then focus on a EVS-based presentation for the selected site.

In answer to a question about who attends the technical meetings, Mr Colter indicated that the technical meetings are really technical subcommittee meetings of the RAB and people who were on the TRC should be attending the technical meetings.

Mr. Colter also indicated that there was some difficulty with the notice (sent out on May 21, 1999) for the June technical meeting and RAB meeting. Some people did not receive the letter or did not have enough prior notice of the meetings. Mr. Colter requested RAB members' email addresses so that in the future the Navy can email meeting notices as well as federal express notices.

SITE 7 PRESENTATION AND QUESTION & ANSWER

Dave Brayack from Tetra Tech NUS, Inc , with computer support from Judy Lamey from Tetra Tech NUS, Inc., provided the GIS/EVS-based presentation for Site 7 The presentation was the same presentation provided at the June 3, 1999 technical meeting.

Mr. Brayack began by explaining some of the capabilities of the GIS and what types of data were available. The data include the parcels the Navy is retaining, groundwater contours, facility aerial photo, USGS quadrangle, and groundwater, surface water, soil, sediment, soil gas, air sparging, and test pitting sample locations. Mr. Brayack then showed some example data queries and the results of the queries. By asking specific questions, the queries of the data can be developed and the results generated For example using the groundwater data, a query was developed for ethylbenzene data with concentrations greater than 5 ug/l (New York criteria), that are not non-detects (data qualifier of "U") and not rejected (data qualifier of "R"). The results that met this query showed up as highlighted entries in the analytical table and as yellow dots on the GIS

figure. Locations that did not meet this query showed up as blue dots on the GIS figure. Mr. Brayack showed the results for the whole facility and also focused on Site 7 Mr. Brayack explained that this type of query could be made for any parameter for any media included in the GIS.

Mr. Brayack then discussed the three-dimensional visualization (EVS) of groundwater contamination at Site 7. The presentation was developed based on figures prepared using EVS-based software for interpreting and displaying the vertical profile of contamination. Videos of the figures for several chemicals were prepared for the technical meeting and RAB presentation. Several of these figures were included with the series of maps submitted on April 20, 1999. The presentation showed Site 7, groundwater sampling locations at Site 7, and specific groundwater contaminant plumes at the site. The software is capable of presenting plan and three-dimensional views of contamination at the site. The different contaminant concentration ranges are represented by colors as provided in the maps submitted on April 20, 1999 (blue - non-detect to 5 ug/l; green – 5 to 50 ug/l; yellow – 50 to 500 ug/l; and red – 500 ug/l to maximum detection). The vertical profiling presentation clearly showed where the contaminant plumes were bounded – that is the portions where contaminant concentrations in groundwater are either non-detected or below criteria (e.g., blue areas) bound the areas where contaminant concentrations in groundwater are above criteria (green, yellow, and red areas). Because the EVS software does not take into account geological or hydrogeolocial data, this information must be accounted for when developing the figures. Based on groundwater flow, a "dummy" well may be added to help define the plume contours Such "dummy" wells are indicated differently than actual data points.

Mr. Brayack then showed the video presentations developed for several chemicals. Mr Brayack began with the presentations for benzene, ethylbenzene, toluene, and xylene. Of these four chemicals, the extent of the xylene plume was the greatest and therefore would be used to define the extent of groundwater contamination at Site 7 for identification of remedial options Presentations for 1,1-dichloroethene and trichloroethene showed limited detections of these chlorinated contaminants The presentation for Freon showed an area of concern outside the Fuel Depot, by the road

Freon was also detected in the production well at the facility (Grumman installed a carbon adsorption unit at the well) Mr. Brayack explained that possible sources for the Freon may be from the jet fuel systems laboratory and/or pressure testing of fuel lines with Freon

In answer to a question of whether the EVS could show concentration trends over time, Mr. Brayack indicated that the EVS was not useful for showing trends over time at a specific location since it can only show one data point per location. There was also a question of why each color shown on the EVS represented such a large concentration range (e.g., yellow represents the 50 to 500 ug/l concentration range) Mr Brayack explained that each color represents an order of magnitude (10x) and that this range is used to limit the number of colors shown on the figure. A question was asked why there was a limited number of samples in the most highly contaminated portion of the plume. Mr. Brayack indicated that the number of samples in the indicated portion of the plume did not affect the understanding of the boundaries of the plume, but would require further investigation to better define the concentration variations within the plume. Mr Colter explained that the additional investigation could be conducted as part of the design phase for Site 7 and did not need to be conducted as part of a remedial investigation

A RAB community member also indicated that a figure showing total VOCs would help the presentation of data. Mr Colter replied that in developing the EVS-based presentations, various groupings of the data were considered. In looking at the grouping of data it is important the results are understandable and reasonable The BTEX presentation was then shown as an example of one grouping considered The plume contours were identified based on the maximum detection of the four contaminants at each sampling location. The resulting plume was unreasonably large in comparison to the plumes for the individual contaminants.

Several RAB members expressed an interest in receiving copies on CD of the GIS for NWIRP Calverton and/or the video presentations. While the Navy can provide copies of the GIS on CD, software to run the GIS (ArcView) would be necessary The video presentations (EVS) do not require special software to run, however, the figures in the presentations can only be viewed and not queried.

OTHER TOPICS

A RAB community member raised a question on the components of jet fuel and whether all the components that presented a hazard were being identified in the remedial investigations of the sites. The RAB member was unable to find a list of the components of jet fuel since the information is proprietary to the military The RAB member wondered whether any of the components in jet fuel were a concern for groundwater and whether the components that are a concern are included in the groundwater analyses. The Navy replied that the samples were fingerprinted for jet fuel and that jet fuel is basically diesel with some additives. The non-toxic components of jet fuel such as octane are not included in the groundwater analysis. Generally benzene, ethylbenzene, toluene, and xylene are the most toxic components of jet fuel and these chemicals are included in the groundwater analysis.

DATES AND DISCUSSION TOPICS FOR FUTURE MEETINGS

After the presentation for Site 7 and a brief break, the RAB discussed priority for the next site to be evaluated. At the June 3, 1999 technical meeting the Navy preferred that Site 6 (Fuel Calibration Area) be evaluated next, SCDHS preferred that Site 2 (Fire Training Area) be evaluated next, and NYSDEC preferred to discuss the order with the RAB. Discussion ensued on which site had greater potential impact, which had more unanswered questions, and which had higher chemical concentrations. The Navy explained that they were recommending Site 6 first because chemical concentrations are higher. Because of interim action at Site 2, chemical concentrations are lower, although there is a higher potential for offsite impact at Site 2 than Site 6. It was noted that there would only be about 3 months difference between when the two sites would be evaluated and presented at a technical meeting/RAB and both sites will have free product recovery systems installed in the near future. The RAB community members then voted for Site 6 to be evaluated next.

The RAB members then discussed the schedule for the next RAB meeting. To keep to a quarterly schedule, early September was targeted for the next meeting. Since Labor Day was during the first week, the second week of September was considered for a meeting. The next RAB meeting was then tentatively scheduled for September 15, 1999 Debbie Cohen of Tetra Tech NUS, Inc will discuss with Warren Voegelin the possibility of using the Riverhead Lodge.

CLOSING REMARKS

Stan Farkas commended the Navy for the presentation of the data for Site 7 indicating it was presented in a meaningful manner and all appreciated the Navy's efforts. Other RAB members expressed similar feelings about the evening's RAB presentation.

POSTSCRIPT NOTE

Stenographer's transcripts are prepared for RAB meetings to assist the Navy in preparation of meeting minutes. The transcripts are available in the NWIRP Calverton Information Repository at the Riverhead Free Library. To assist the stenographer, RAB members and other attendees at the meeting are requested to speak one at a time for the stenographer to accurately transcribe the meeting discussions.

ATTACHMENTS

Agenda

Minutes from June 3, 1999 Technical Meeting

Agenda

Restoration Advisory Board
Naval Weapons Industrial Reserve Plant Calverton

June 10, 1999
Ramada Inn, Riverhead, NY
6:00 p.m.

Welcome and Agenda Review
Judithanne Hare
Naval Air Systems Command

Review and Approval of Minutes
All Members

Update on Activities at NWIRP Calverton
Jim Colter
Naval Facilities Engineering Command – Northern Division

Presentation and Discussion on the June 3 Technical Meeting
Dave Brayack
Tetra Tech NUS, Inc.

Dates and Discussion Topics for Future Meetings
All Members

Closing Remarks
Judithanne Hare
Naval Air Systems Command

Presenters will be available after the program for questions.

SUBJECT: Technical Issues brought up at June 3, 1999 Technical Meeting for Calverton

LOCATION: NYSDEC-Stony Brook Office

Attendance List

Name	Organization
Jeff McCullough	NYSDEC-Albany
Katy Murphy	NYSDEC-Stony Brook
Stan Farkas	NYSDEC-Stony Brook
Jim Pim	SCDHS
Sy Robbins	SCDHS
Martin Simonson	DCMC
Debbie Felton	Navy
Todd Bober	Navy
Jim Colter	Navy
Dave Brayack	TTNUS
Al Taormina	NAVAIR
Judy Lamey	TTNUS

Jim Colter started the meeting by indicating that future IR reports for Calverton would be split off by individual Areas/Sites so that each Area/Site would be a stand alone document. Mr. Colter asked if there were comments on the groundwater location map that the Navy had sent out recently. There were no major comments. TtNUS started the EGIS (Environmental Geographic Information System) which contains all the Navy/Grumman environmental data.

A series of issues were raised by SCDHS. The majority of these issues were resolved with EGIS. These issues are summarized as follows:

Issues Raised:

1. A large accurate map showing all buildings to proper scale should be provided.
2. A map showing all wells (Navy + Grumman) should be provided.
3. SCDHS asked if the Navy could show any hit above water standards.
4. Maps defining groundwater plumes should be provided so that any additional potential source areas can be determined. *In addition, the Navy provided a copy of the EGIS database to SCDHS on compact disc so that they could more easily interpret the groundwater data*
5. SCDHS inquired if the software could show soil contamination including the Grumman data. *The Navy stated that the Grumman soil data was not part of the database but that Grumman had removed most soils to TAGM levels.*
6. It was suggested that showing hits on Aerial photos might be better than using Quad maps as a base.
7. SCDHS asked if soil vapor data is available. *The Navy responded yes*
8. SCDHS asked if groundwater data shown was obtained using different screen lengths (e.g large well screens could dilute out the contaminant levels as opposed to a two-foot screen or a geoprobe sampler) *The Navy responded that data were obtained using different screen lengths*

[The Navy then presented a three-dimensional model (EVS) of the major groundwater contaminants at Site 07]

9. SCDHS asked if the contaminant levels shown on the ARCVIEW and EVS are the highest hits *The Navy responded that for permanent monitoring wells only the most current analytical data is shown even though all the historical data is available from the EGIS* SCDHS suggested that it would be useful to show historically high hits that then could be used to see how groundwater contamination migrates over time *TtNUS commented that this could be misleading since some remediation has occurred and that the concentration of most chemicals would decrease over time*
10. There was some discussion between the Navy and SCDHS on hydrology details related to Site 07 The Navy stated that groundwater flow is primarily horizontal (except at divide) and that there is no measurable vertical hydraulic gradient at Site 07 SCDHS believed that there could be up to a 6-foot drop per year.

11. SCDHS inquired as to how the EVS program worked (eg. connecting certain isolated data points and representing as a continuous or a discontinuous plume) .*The Navy responded by stating that the three dimensional plume is generated using a statistical procedure known as "kriging" which considers all the data in an area, not just a few points*

12 SCDHS asked if there was any free product at Site 07 and what is the most problematic chemical contaminant at the site. *The Navy responded that at one time free product was present but there is no current indication that free product is present In addition, the Navy stated that ethylbenzene and xylene are the most significant chemicals at the site*

[The Navy added that last summer, Sites 02 and 06 had measurable recovery of free product and that air sparging might prove to be a good remedial alternative for addressing groundwater contamination at Site 07 since it appears to functioning well at Site 02.]

13 SCDHS questioned the presence and distribution of freon in the groundwater. What was the source of the freon, since freon is so mobile why are we still seeing it in the groundwater, and was there a discrepancy in the figure provided by the Navy since 1100 ppb is the highest level detected but the figure only shows 100 ppb. *The Navy responded by stating that the exact source of the freon is unknown but may be the result of pressure testing pipes using freon It should also be noted that freon has been detected in the production wells The Navy will also verify the accuracy of the figure*

14. SCDHS asked the Navy what their proposal is for this site. *The Navy responded that air sparging plus monitoring is the leading alternative at this point.*

15 The Navy asked NYSDEC if they had any suggestions or thoughts on the information presented at this meeting and that the Navy would like to initiate remediation as soon as possible. *NYSDEC responded that they would need to see decision documents but would support getting the sites cleaned up faster*

[TtNUS indicated that for Site 07, one possibility is to install air sparge wells close together to create an aeration wall. Once the system is up and running, well placement could be modified to enhance the system. The SCDHS then stated that the Navy should define cleanup targets for the groundwater (such as drinking water standards) before starting remediation. TtNUS responded that this would be defined in decision documents.

The Navy gave a general status of several sites and then asked the technical group to decide which sites are most important to them as far as which get priority first:

- The Navy proposed to stabilize the bank at Site 01 since it is eroding into the pond and sinkholes are present. SCDHS stated that they are supportive of the bank stabilization effort
- A free product recovery system is currently being constructed for Sites 02 and 6A and should be in operation this summer.
- The area around Site 09 is currently operating as a mining operation by a private entity. The Navy is still trying to obtain site access to investigate this site.
- The southeast buffer zone has been transferred to the DEC except for the 5 acre farm

16 The SCDHS stated that they wanted to see Site 02 progress forward first and then asked the Navy which site they believed had the worst contamination. *The Navy responded that Site 06 had chlorinated solvents deep in the groundwater and that this site would be most challenging to remediate The Navy then stated that they would also seek RAB input to help determine priorities for remediation*

17. SCDHS mentioned that the Navy might consider sampling the Eastern pond or seeps (east of Swan pond) for VOCs

18. SCDHS made some comments about possible ways to present the existing data One suggestion was to see if the Navy could show data by presenting different years such that trends could be identified. Another suggestion was to show soil data, soil gas data, and groundwater on the same map so that the "whole picture" could be seen *The Navy responded that it would be difficult to show all this data on one map and that many maps (perhaps hundreds) would need to be developed, e g one map per chemical per year otherwise the maps would be too cluttered to read and understand.*

At the conclusion of the meeting, both SCDHS and the NYSDEC agreed that the ARCVIEW/GIS and the three dimensional model (EVS) is an excellent tool for evaluating site data and they are supportive of actively pursuing cleanups of the sites.