RESTORATION ADVISORY BOARD
MEETING NOTES
FORMER NAVAL AIR STATION BRUNSWICK, MAINE
THURSDAY, JUNE 13, 2013
MUNICIPAL MEETING ROOM
BRUNSWICK STATION, 16 STATION AVENUE, 2ND FLOOR

MEETING ATTENDEES

Paul Burgio	U.S. Navy, BRAC PMO/RAB Co-Chair
Robert Leclerc	U.S. Navy
Suzanne Johnson	Brunswick Representative to RAB/RAB Co-Chair
Chris Evans	Maine Department of Environmental Protection
Claudia Sait	Maine Department of Environmental Protection
Doug Heely	Environmental Strategies & Mgt.
David Chipman	Town of Harpswell, Maine RAB Member
Scott Libby	Town of Topsham, Maine RAB Member
Catherine Ferdinand	Bowdoin College
Jeff Orient	Tetra Tech
Carolyn Lepage	Lepage Environmental Services
Carol Warren	BACSE
Ed Benedikt	BACSE
Denise Clavette	Town of Brunswick

1. Introductions

Suzanne Johnson, Town of Brunswick representative to the former Naval Air Station Brunswick (NASB) Restoration Advisory Board (RAB) and RAB Co-chair, opened the meeting at 4:40 p.m. The former NASB base is now referred to as Brunswick Landing. The RAB members at the front table introduced themselves. Absent from this afternoon's meeting is Mike Daly of U.S. EPA. Suzanne read an email from him, which said that federal agencies such as EPA are now working under difficult budget circumstances. These budget sequestrations limit their ability to travel this fiscal year. In addition, federal employees are being furloughed one day per week. As a result, there are fewer hours available to work on environmental cleanup projects.

Paul Burgio (U.S. Navy Base Realignment and Closure (BRAC) Coordinator for NASB and RAB Co-chair) reviewed the agenda for this afternoon's meeting.

2. FOST/FOSL Update (Paul Burgio, U.S. Navy)

A Finding of Suitability to Transfer (FOST) was completed for Building 200 in February. This FOST included 2.67 acres of land. In addition, a Finding of Suitability to Lease (FOSL) was completed for Building 250 also in February. This FOSL includes 2.93 acres of land, but currently limits use of the building to the "third deck".

Several FOSTs/FOSLs are planned for this year, including:

- FOSL for Hanger 4, which is dependent on the outcome of an ongoing groundwater and vapor intrusion (VI) evaluation (see below for details on this investigation);
- FOST 2013-2 for three Bowdoin College parcels that include 8.19 acres of land. This FOST was signed on Monday (June 10th), and the Navy will assign the deeds to the Department of Education who will convey them to Bowdoin.
- 2013-3 FOST for three Town of Brunswick parcels (6.53 acres of land), which is expected to be signed in July.
- 2013-4 FOST for the Family Focus parcel (2.38 acres of land), expected to be signed in August; and
- 2013-5 FOST for 12 parcels totaling 59.67 acres of land that will be conveyed to Mid Coast Redevelopment Authority (MRRA) in September.

3. Recent Activities Update

- Building 250/Hanger 4 Status (Paul Burgio)

At Building 250/Hanger 4, a groundwater investigation and VI pathway evaluation study was initiated last year and is currently on going. The groundwater investigation included installation of 15 monitoring wells with two rounds of groundwater sampling. The groundwater sampling events were completed last June and October, and samples were analyzed for volatile organic compounds (VOCs). This work revealed relatively low concentrations of VOCs in soil and groundwater from an unknown, upgradient source. The VI investigation included sub-slab soil gas and indoor air sampling at 13 locations. Samples were collected in October 2012 and May 2013. The Navy worked with EPA and Maine DEP to develop this sampling program. The initial VI study indicates that the vapor intrusion pathway is not significant. The results of the second round of sampling are not available yet, but will be used to verify this conclusion. This study will be used by the Navy to determine whether they will continue to lease only the "third deck", or if the lease can be expanded.

Paul said that a complete VI pathway requires three things:

- Evidence of a release – at this site, the groundwater sampling program revealed only low levels of VOCs in groundwater, which appear to be from an upgradient source.
- Pathway to receptor – this is the mechanism that allows vapors to enter a building from soil or groundwater below. Most of the study area is asphalt paved parking area.
- A receptor – Concentrations of VOCs in indoor air from the first round of testing did not exceed risk-based threshold values.

Carol Warren asked what the acronym IAT stands for. This means indoor air target, which is the screening criteria applicable for this commercial building.

Paul said a report will be issued in a few weeks to summarize the groundwater investigation and results of the VI pathway evaluation. The report will include findings and recommendations for future work. This report will be open to comment.

David Chipman asked about the upgradient source of VOCs and whether further investigations were planned. Paul said the Navy has begun discussions with EPA and DEP about possible next steps. He said the Navy will not convey this building until the groundwater is cleaned up, but it can be leased in the interim period.

Paul said that the VI pathway to indoor air is not complete, but they are waiting for the second round of soil gas and indoor air data before they reach a final conclusion. David Chipman asked about one of the soil gas samples that had elevated levels of VOCs. Paul said that the additional samples were collected in the same locations, which will help to verify the initial results.

Suzanne Johnson asked if the upgradient source has been identified. Paul thinks it is possible that the airfield operations may be the source, but the next phase of work will address this. There are no current airfield operations, so this could be a remnant of past operations.

Ed Benedikt asked if the VOCs are from the NEX gas station, which had a significant release and was the subject of a large-scale clean up a few years ago. Claudia said no, the NEX is too far away. She said groundwater flow is southwesterly, and that another possible source is the Building 7/10 area. There are several possible sources that need to be looked at.

Paul reiterated that the Navy will do what is needed to find the source, but they cannot legally convey the building until this matter is resolved.

David Chipman asked about the first floor of Building 250 and whether it will be available for occupancy. Paul said that if the VI study determines indoor air is safe, the FOSL will be revised to allow use of the whole building by MRRA.

Suzanne Johnson asked about the difference between the FOSL and FOST. Paul said that at the CERCLA sites, they can only lease a building or parcel while it is still being cleaned up. Once remediation is complete or they reach a point of no further action, it can be conveyed.

- GWETS Update (Paul Burgio)

Significant improvements have been made to the groundwater extraction and treatment system (GWETS), in addition to the ongoing routine maintenance. New improvements include replacement of the O2 sensors on the HiPOx unit, replacement of the liquid-phase carbon units, replacement of the bag filter housings, and installation of new piping to allow backwashing of the carbon units and solids settling. The hand-outs show a picture of the new carbon units and associated piping, and the new bag filter housings.

Improvements and upgrades were also made to the extraction well network. Well screens and pumps were cleaned, and new electrical components were installed in extraction well EW-5. This system has been operational since 1995, and it requires maintenance and upkeep. Paul said that the air stripper, heater and vapor phase carbon system remains inactive, but is still in place in case it is needed in the future.

Additional maintenance work planned for this year includes replacement of the effluent pumps that pump treated water to the recharge galleries, redevelopment of wells EW-5B and EW-2, and modifications and upgrades to the control system to improve data reporting. In addition, water treatment system samples will be collected for analysis of fire fighting chemicals to determine how well the system can remove these chemicals. These chemicals include perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), which are emerging contaminants.

Ed Benedikt said that a better communication plan is needed to inform the group of system problems. Paul said that the flow chart is still in progress, which will determine what types of issues will trigger notification and what solutions are likely to be implemented. He said that the GWETS system is a state-of-the-art system and also has a full time operator to run the plant. The operator will notice most problems before they become significant and there is no need for elaborate control systems beyond that. Ed thought that the groundwater system at Pease Air Force Base in New Hampshire had better controls. Paul is not familiar with that system, but he is confident this is one of the better systems in operation, and it is very well maintained. While there have been some issues in the past, EPA and DEP were notified and repairs were always affected quickly.

David Chipman said that if the carbon system failed to fully adsorb contaminants, it would not be known until sampling results are obtained. This situation would not be detected by the plant operator. Paul said that the carbon unit housings were replaced and new carbon was installed as part of the recent upgrades. He said the Navy has been proactive in replacing equipment to prevent failures. The flow chart will continue to be worked on to make operation of the system and reporting of problems as efficient as possible.

Suzanne Johnson asked about PFOS and PFOA testing, and whether these chemicals have been seen at other bases. Paul said these chemicals are common in fire fighting foam that has been used elsewhere. 1,4 dioxane was an additive to other solvents and is not related to fire fighting foam. Building 611 is where 40 gallons of foam may have spilled. This could be a source of exceedances in groundwater near the southern end of the Eastern Plume. Paul thinks that the HiPOx unit will remove these chemicals from extracted groundwater. The Navy will look at other areas where PFOS/PFOA may be present. The Navy has good records of where these chemicals were used. While he does not think random testing for PFOS/PFOA is necessary, Paul is not against additional sampling for these chemicals. Additional groundwater testing for these chemicals would be done as a separate activity from sampling at the GWETS to determine removal efficiency.

- 1,4 Dioxane Trends (Claudia Sait, Maine DEP)

Claudia Sait presented graphs of P-dioxane concentrations in groundwater for several monitoring wells, extraction wells and pore water locations in the Eastern Plume. The data shows a spike in concentrations in the spring of 2012; however concentrations came down again in the fall. Most of the wells and pore water locations have been sampled since 2008, although a few wells were sampled in 2006. 1,4 dioxane is an emerging contaminant similar to PFOS/PFOA, so there is a limited data set available. Ed Benedikt asked if the downward concentration trends are also present in the treatment plant samples. Chris Evans said the graph shows individual wells, but the

system influent samples would likely show a similar trend. Suzanne Johnson asked for an explanation of the concentration spike. Claudia said that regarding the pore water samples, the method is subject to variability because pore water is collected at slightly different locations and depths each time. Pore water is groundwater as it discharges into a stream.

Scott Libby asked where the pore water sampling locations are. They are located mostly upstream and near confluence of the two streams, where the Eastern Plume is discharging.

In summary, there was a notable spike in concentrations of 1,4 dioxane in the spring of 2012, but concentrations came down again in the following sampling round. This situation highlights the importance of the long term monitoring (LTM) program. Ed Benedikt asked about 1,4 dioxane concentrations in groundwater from well MW-313, which do not appear to have decreased as compared to the extraction wells. Claudia did not think that this monitoring well was near any of the extraction wells.

Suzanne Johnson asked about the groundwater standards for 1,4 dioxane. The Maine MEG is 4 ug/l, and EPA's guideline is 3.5 ug/l. It would be helpful to put these values on the graphs to see how far over the standards the detected concentrations are.

David Chipman asked about well MW-EP-347, which had a concentration of 350 ug/l but was only sampled once. This is a new well that was installed for the 1,4 dioxane study, and has not been added to LTM program yet. Concentrations at well MW-313 are relatively constant, possibly because it is not close to any of the extraction wells. Ed Benedikt asked if another extraction well is needed. The group has been discussing the optimization of the extraction well network for some time, but modifications to the LTM program are needed first to better define areas that may need further treatment.

- Munitions Sites Update - Site 12, Quarry, Skeet Range (Jeff Orient, Tetra Tech)

Site 12 – Jeff said the draft remedial investigation report was posted yesterday. Work that has been completed includes a fracture trace analysis study, installation of monitoring wells, and collection of groundwater, soil, sediment and surface water samples in October 2012. Six decision units (DU) have been delineated. The first four DUs surround the bermed area where munitions were detonated. The pond and the surrounding area is DU5 and groundwater is DU6. Groundwater flow is to the northwest, toward the wetland area. Staff gauges in the pond show that surface water is likely discharging to groundwater, and groundwater in bedrock is under pressure (semi-confined).

A technical memorandum was issued, and additional work is planned based on comments received. This work will include another round of sampling and water level gauging, in addition to sediment sampling in the wetland area. Jeff presented a cross section that shows the relationship between bedrock, groundwater and the pond.

Jeff said the path forward will include additional sampling this summer after stakeholder comments on the draft report are received. A feasibility study report is being prepared to evaluate

possible remedial alternatives for the munitions area. The pond and related area will remain on a separate track from the munitions area.

Quarry – Several rounds of munitions clearing work have been completed in a step-out approach. The final phase of clearing started today. Initial investigation/sampling of groundwater is complete, and a draft technical memorandum work plan for additional groundwater work is being prepared to address data gaps. Future work will include installation of more wells and collection of groundwater samples. The goal is to narrow down the area of impact so that additional land can be transferred. The Navy is planning on conducting soil removal work, pending the availability of funding.

Suzanne Johnson initiated a discussion about signage that she says is needed to warn civilians about potential hazards in certain areas of the former base. Paul said there has been discussion of the need for signage, but the Navy's focus currently is on completing the munitions clearance work. Ed Benedikt said that the gate to Site 12 is not always locked. Bob Leclerc said the gate may have been open if people were working there, but that it is always locked. Ed may be referring to the gate for REC 7, and that Site 12 is within REC 7. Paul is working on getting signs for the gate to Site 12. As for signage across the base, Paul reiterated that their priority is munitions clearance. They don't want to put signs up all over the former base since they don't own much of the land anymore. They will consider signage where it makes sense. Suzanne said previous discussions indicated signage would be erected. Paul said prior discussions were conducted when the Navy still owned most of the property. The Navy has since cleaned up most of the land and transferred it. Where the Navy still owns property, he thinks the apparent hazards have been abated.

Ed Benedikt asked whether fencing throughout the base is on property lines. Bob Leclerc said there are many internal fences not associated with property lines. The main fence surrounding the base is owned by the Navy where they still own land. Most of the land has been transferred, so the Navy does not own fencing associated with that land anymore.

David Chipman asked about possible munitions to the north of the bermed area, on land that will be transferred. Jeff said that the clearing work expanded out progressively based on what was found. There is also a buffer zone. Munitions-related items have been found mostly to the south, not to the north where there is a high wall and building.

Base Skeet Range – This skeet range (one of several) is in the central part of the base, east of the airfield. Two shooting areas were investigated to the north and east, which included extensive soil sampling. The remedial investigation is done and a preliminary report has been prepared. TetraTech developed a concentration-based approach to guide soil removal, which requires consensus from the stakeholders. Soil removal is planned for discrete areas, after which a risk assessment will be completed.

4. Fall 2012 Field Work Update (Paul Burgio)

Paul reviewed the field work conducted last fall, which would have been covered during the March RAB meeting that was cancelled due to inclement weather. The Fall 2012 field work included:

- Eastern Plume groundwater sampling for perfluorinated compounds (PFOS and PFOA) - the first round of sampling was completed in August 2012, and the second round was completed in May 2013. A technical memorandum will be issued in a few weeks.
- Building 586 investigation – field work was completed in December and a technical memorandum was issued in March.
- Building 611/555 investigation – field work was completed in December, and a technical memorandum was submitted in April.
- Buildings 44, 233, 288 and Seabee compound – field work was completed in December. A technical memorandum was submitted for Building 288 in May and a separate memo for the remainder of these sites is planned for June.
- Sites 1 and 3 landfill gas sampling – initial field work was completed in December and future work is planned for this summer.
- Fitch Avenue skeet range investigation – field work was completed in May and December 2012, and a work plan addendum was submitted for more sampling in April. Stakeholders are still in discussions regarding the path forward.

5. Planned Field Work for 2013 (Paul Burgio)

The field work that is planned (or already in progress) for this year includes:

- Visual Site Inspections of eight separate Areas of Potential Interest (AOPIs);
- Building 223 investigation;
- Eastern Plume well installation and sampling, including sampling for perfluorinated compounds;
- Round 2 sampling for Sites 1/3 landfill air and Building 250/Hangar 4 indoor air (completed in May);
- Building 250 groundwater investigation;
- Fitch Avenue Skeet Range additional investigation;
- Additional munitions clearance and groundwater investigations at the Quarry site;
- Site 12 pond investigations;
- Cleanup work at the Base and Topsham Skeet Ranges;
- Picnic Pond investigation and potentially background pond sampling; and
- Long Term Monitoring (LTM) program sampling.

Ed Benedikt asked if the Navy will consider additional extraction wells in the Eastern Plume in response to the 1,4 dioxane trends. Paul said that the current extraction system is not optimized because some wells are pumping clean water and should be shut down. It is possible that new extraction wells could be added. Ed said that this topic has been discussed in the past, but that an optimization study was not definitive. Paul said they are always looking to improve the system to get the most benefit for the money. They have always prioritized funding for this work, and have been very successful. This process takes time. Ed said that perhaps extraction wells have to be moved every few years because it is a dynamic process. Paul agreed and said he is frustrated that the system continues to pump clean water. Optimization of the system and the LTM program needs to be a priority. Claudia Sait said the optimization process started two years ago to eliminate

certain monitoring wells and add new wells to the program. Optimization can reduce sampling frequency where appropriate, and adding new wells can help delineate boundaries, and evaluate the effectiveness of new pumping wells installed within the last few years. In addition, Claudia said the program needs to more closely monitor the discharge of groundwater into the streams. She asked that the LTM program revisions be prioritized. Jeff Orient said the LTM optimization plan should be out by the end of June, which includes response to comments. Once that plan is issued, the existing LTM plan can be modified accordingly.

6. Questions

Caroline Lepage asked about the status of the Explanation of Significant Differences (ESD) document that was issued draft last year for Sites 1, 2, 3, 4, 7, 9 and the Eastern Plume. Paul said this process is on hold for a while because there are differences of opinion as to how detailed the document needs to be. Paul wants to make the document agreeable to all parties. The land use control descriptions need to be comprehensive, but the land use control implementation plan (LUCIP) is a separate document.

Ed Benedikt asked how the U.S. government's budget sequestering will affect the cleanup projects. Paul said the sequester process has had a significant impact on the Department of Defense. All employees are furloughed one day per week from July through September. This is a 20% reduction in work time. Hence, the work at NASB needs to be prioritized. Ed asked if all land transfers will be completed by December 2015. Paul said this date does not apply to the CERCLA sites, which will not be transferred until all cleanup work is complete. The goal is to finish transfer of all non-CERCLA sites by December of 2014. Paul estimates that about 85% of the former base will be transferred by the end of this year.

There is no date set for the next RAB meeting at this time. That meeting will depend on the status of travel allowances under sequestering. The group thought that a meeting in September would be beneficial, if possible. The Navy has determined that community outreach and communication is important. Paul asked that agenda topics be sent to him well in advance of the meeting.

Meeting adjourned at 6:24 p.m.