

N60087.AR.002010  
NAS BRUNSWICK ME  
5090.3a



**DEPARTMENT OF THE NAVY**  
BASE REALIGNMENT AND CLOSURE  
PROGRAM MANAGEMENT OFFICE, NORTHEAST  
4911 SOUTH BROAD STREET  
PHILADELPHIA, PA 19112-1303

**5090**  
**BPMO NE/TB**  
**Ser 09-090**  
**February 5, 2009**

**Mr. Michael J. Daly**  
Remedial Project Manager  
Federal Facilities Superfund Section  
U.S. Environmental Protection Agency (EPA)  
1 Congress Street, Suite 1100 (HBT)  
Boston, MA 02114-2023

**Ms. Claudia Sait**  
Remedial Project Manager  
Maine Department of Environmental Protection (MEDEP)  
Bureau of Remediation and Waste Management  
17 State House Station  
Augusta, ME 04333-0017

Dear Mr. Daly and Ms. Sait:

Enclosed you will find the Navy Responses to Regulator Comments (RTCs) on the Draft Eastern Plume Monitoring Event 32 Report, April 2008, Naval Air Station (NAS) Brunswick, Maine. This report is provided for your review and comment.

If you have any questions or comments, please contact the Navy's Remedial Project Manager, Todd Bober at (215) 897-4911.

Sincerely,

David Drozd  
Director

Enclosure:

Navy Responses to Regulator Comments (RTCs) on the Draft Eastern Plume Monitoring Event 32 Report, April 2008, NAS Brunswick, Maine

Copy to:  
MEDEP (C. Evans)  
Gannet-Fleming (D. McTigue)  
NASB (L. Joy, M. Fagan)  
Lepage Environmental (C. Lepage)  
NAVFAC MIDLANT (T. Bober)  
NAVFAC ATLANTIC (J. Wright, B. Capito)  
TtNUS (L. Klink, C. Race, J. Orient)  
ECC (A. Easterday, G. Calderone, C. Guido)

Copy to: (w/o encl)  
BRAC PMO NE (P. Burgio)  
NAVFAC ATLANTIC (D. Barclift)  
BACSE (E. Benedikt, C. Warren)  
CO NASB (CAPT Fitzgerald)  
RAB Brunswick Representative (S. Johnson)  
RAB Harpswell Representative (D. Chipman)  
RAB Topsham Representative (S. Libby)  
MRRRA (V. Boundy)

**Responses to Comments Provided by the State of Maine  
Environmental Protection Agency on the  
Eastern Plume Monitoring Event 32 (April 2008) Report, August 2008  
Naval Air Station, Brunswick, Maine**

Reviewer: Ms. Claudia Sait, MEDEP Project Manager  
Date: December 8, 2008  
Respondent: Navy  
Date: February 5, 2009

Comment #	Location	Comment	Response
1	General	The data for Monitoring Event (ME) 32 are consistent with the previous few rounds; notable exceptions are included in the specific comments below. Overall the data support the conceptual model for migration of the plume east and south, with increasing concentrations at wells on the southeastern boundary of the plume. This is the first round that includes the Long-Term Monitoring Program (LTMP) porewater locations along Merriconeag Stream and Mere Brook. Based on this first round the data indicate a plume discharge zone extending from north of the confluence to the vicinity of New Gurnett Road. (No response required.)	<b>Noted.</b>
2	General	The declining concentrations at MW-311 and MW-331 and the data from the confluence investigation and LTMP porewater samples suggest that the core of the central and southern portion of the plume has migrated east toward the streams. When the results of the ongoing 1,4-dioxane remedial investigation are available stakeholders should consider revising the well network in the area of the confluence. (MEDEP would like to suggest reviewing the entire LTMP in light of all the data being collected for 1,4-dioxane and revising the LTMP as necessary. Also see the comments 8 and 9 below.)	<b>Noted.</b> Navy agrees that the LTMP at the Eastern Plume should be re-evaluated in conjunction with the MEDEP and EPA once the RI has been issued and evaluated.
3	General	Groundwater elevation data show that two wells in the LTMP (MW-207AR and MW-331) are artesian and contaminated with low level VOCS. However, in light of the history at MW-311 stopping the flow with an expansion cap is warranted, if they are not already in place.	<b>Noted.</b> Since 2004 these monitoring wells have been capped with tightened gripper caps, which effectively prevent the flow of water out of the well. This was done to prevent water from overflowing into the protective casing, which if it froze, would then damage the well casing.
4	Page 1-14, Section 1.3, Para. 2, and Appendix G	Please add the Ground Water Extraction Treatment System (GWETS) effluent data for April 2005 to the summary table; it was a factor that contributed to the implementation of the ongoing remedial investigation. The monthly 1,4-dioxane data from the GWETS could be tracked on this table as well.	<b>Concur.</b> The GWETS effluent data for April 2005 will be added to the summary table.  The monthly GWETS 1,4-dioxane data is currently provided in the GWETS reports.

Comment #	Location	Comment	Response
5	Section 2.1	<p><i>“Further, effluent sample levels were non-detect and below MEGs and MCLs.”</i></p> <p>Since 1,4-dioxane is generally detected at low levels in the GWETS effluent, MEDEP suggests revising to “... were non-detect <u>for VOCs</u> and below <u>the MEG for 1,4-Dioxane</u>”.</p>	<p><b>Concur.</b> The sentences will be revised to read, “... were non-detect <u>for VOCs</u> and below <u>the MEG for 1,4-Dioxane.</u>”</p>
6	Page 1-4, Bullet 2	<p>The “QAPP TAL elements” reference for the Sites 1&amp;3 Landfill should be deleted from the section.</p>	<p><b>Concur.</b> The QAPP TAL metals reference will be removed from this Section.</p>
7	Page 2-6, Section 2.4.3	<p>a.) MW-207AR - The increased/decreased description appears to be switched, please revise the text.</p> <p>b.) MW-333/334 – The chlorinated VOC are decreasing while 1,4-dioxane is increasing which might indicate pulses of contamination. This phenomenon is also interesting to note since common thought is that 1,4-dioxane leads the plume. (No response required.)</p>	<p><b>Concur.</b> The MW-207AR description will be revised.</p>
8	Page 2-13, Section 2.4.4	<p>The porewater and groundwater data collected over the last few years indicate that the most significant area of concern for discharge of the plume is along its eastern boundary with Mere Brook and Merriconeag Stream. Future optimization of the LTMP needs to include a discussion on whether the SED-11 location is still valuable and, if not, where a new sediment location may be needed to monitor potential impact to the stream biota based on current data.</p>	<p><b>Noted.</b> The Navy agrees that sediment sampling as part of the LTMP along the banks of Mere Brook and Merriconeag Stream should be re-evaluated in conjunction with the MEDEP and EPA once the RI has been issued and evaluated.</p>
9	Section 3.1	<p>MEDEP generally accepts the conclusions and recommendations presented in this section except as noted.</p> <p>a.) Bullet 2: MEDEP is always open to improving the LTMP as long as there is a discussion of the whole program to ensure that the goals specified in the Record of Decision (ROD) can be met. The danger in revising the LTMP based on just detections is that it does not consider potential changes in the plume boundary, changes in migration pathways, and monitoring the effectiveness of the remedial action. That said, MEDEP agrees there have been few detections in surface water and seeps over the course of monitoring, and is open to discussing revision of monitoring locations or frequency if data indicate the groundwater discharging at the seeps/surface water locations has dropped below detection limits for VOCs and if the revisions fulfill the requirements of the ROD.</p>	<p>a) <b>Noted.</b> The Navy agrees that the topic of optimization of the LTMP (such as modifying frequency and/or monitoring locations) will be discussed with EPA and MEDEP once the RI is issued and evaluated.</p>

Comment #	Location	Comment	Response
		<p>b.) Bullet 3: MEDEP would like to have a broader discussion with the Navy on the monitoring of seeps, surface water and porewater locations for the LTMP once the data from the Fall 2008 and the 1,4-Dioxane and Bedrock Remedial Investigation is available.</p> <p>c.) Bullet 4: MEDEP cannot concur with the conclusion that the extraction well network appears to provide hydraulic containment; if this were true then the plume would not be migrating into Mere Brook and Merriconeag Stream. Please revise.</p> <p>d.) Bullet 5: MEDEP agrees with the recommendation however before EW-1 can be shut down the Navy needs to determine what if any hydraulic control to the south is exerted by EW-1. It appears that the southerly migration of the plume is prevented by hydrogeologic conditions but this would need to be demonstrated.</p> <p>e.) Bullet 6: The final sentence should be revised to note that the well construction <u>may</u> be an issue at MW-308 based on the installation log. The information available is insufficient to say with certainty that detections of VOCs are the result of faulty or degraded well construction. Once the data from the 1,4-Dioxane and Bedrock study is complete stakeholders will need to revisit this issue</p>	<p>b) The Navy will meet with the MEDEP and EPA to discuss the LTMP, once all of the data are available.</p> <p>c) The 4<sup>th</sup> bullet will be revised to reflect the current conditions at the Eastern Plume, as follows:  “Historically, the current extraction well network has provided hydraulic control of the Eastern Plume and over time has been effective at reducing overall VOC concentrations in specific hot-spot areas of the plume. An increase in mass removal rates and hydraulic control in the northern area of the plume is expected when EW-05B comes online. However, there may be a lack of complete hydraulic control in the southeastern portion of the plume near MW-313 and MW-333 where the plume appears to be discharging into Mere Brook and Merriconeag Stream”.</p> <p>d) <b>Noted.</b> An evaluation will occur before EW-1 is shut off to prevent any possible southerly migration of the plume.</p> <p>e) <b>Noted.</b></p>
10	Table 1-2 and Table 1-5	There are several shallow wells in Table 1-5 (including MW-209 and MW-332) that need to be moved under the correct heading, to match the designation in Table 1-2. Please revise as needed.	<b>Concur.</b> The tables will be revised.
11	Figure 1-4 and Table 1-2	Please clarify if GP-5B was dry, submerged, or why there were no elevation data at that location.	<p>In April 2008, GP-5B was in need of repair and a gauging reading was not recorded. Prior to the Fall 2008 sampling event GP-5B was re-surveyed.</p> <p>The GP-5B elevation presented on Figure 1-4 will be removed and the other GP locations will be revised.</p>

<b>Comment #</b>	<b>Location</b>	<b>Comment</b>	<b>Response</b>
12	Figure 1-5	The water elevation for MW-319 needs to be added to the figure.	<b>Concur.</b> MW-319 will be added to Figure 1-5.
13	Figure 1-5 and Table 1-2	The elevations for MW-331, MW-207AR, and MW-105A need to be changed to “Artesian Well” on the figure, please revise.	<b>Concur.</b> The elevations for these wells will be changed to “Artesian Well” on the figure.
14	Appendix C, Figures 184 and 186	The total VOC plot appears to reflect Acetone detections, please revise as needed.	<b>Noted.</b> Appendix C total VOC plots will be reviewed and Acetone detections will be removed if necessary.
15	Appendix E	<p>a.) There are a significant number of field sheets and well gauging forms missing from the Appendix (possibly all locations that would be listed prior to MW-323). Please correct.</p> <p>b.) Porewater field forms: It would be helpful if the depth of the sampler were noted in addition to the depth of water at the location. Please add that notation during future sample events.</p>	<p>a.) <b>Concur.</b> All applicable field forms will be provided in Appendix E.</p> <p>b.) <b>Concur.</b> For future sampling events the depth of the porewater sampler penetration into the subsurface will be noted on the field form, in accordance with the LTMP porewater sampling SOP, which is MEDP SOP DR#023</p>
<b>END OF COMMENTS</b>			

**Responses to Comments Provided by the  
U.S. Environmental Protection Agency on the  
Eastern Plume Monitoring Event 32 (April 2008) Report, August 2008  
Naval Air Station, Brunswick, Maine**

Reviewer: Mr. Mike Daly, EPA Project Manager  
Date: January 14, 2009  
Respondent: Navy  
Date: February 5, 2009

<b>Comment #</b>	<b>Location</b>	<b>Comment</b>	<b>Response</b>
1	General	EPA concurs with MEDEP that further refinement of the LTMP will be likely warranted as the E. Plume CSM is updated to include recent data collected by the Navy as part of the 1,4-Dioxane sampling effort. Further, if the existing ground extraction scheme is modified based on any future optimization studies, modification of the LTMP will be needed as well.	<b>Noted.</b>
2	General	EPA generally concurs with the proposed recommendations for evaluation of extraction well capture zones and implementing optimization studies utilizing the recently completed ground water flow model. EPA believes existing LTM hydraulic data should be re-evaluated to develop a current understanding of the 3-dimensional extraction well capture zones.	<b>Noted.</b>
3	General	EPA concurs with the recommendation that the extraction & treatment remedies can be effective for hot spot reduction and hydraulic containment to prevent the plume from impacting receptors (drinking water wells or surface water) or migrating off-site. However, as a pump and treat remedy matures, mass removal efficiencies significantly decline over time and do not result in a fast and cost-effective cleanup. EPA concurs with the statements in the draft Ground water Flow Modeling Summary Report that while the ground water extraction system has not established significant hydraulic control of the Eastern Plume.	<b>Noted.</b>