



# FORMER NAVAL AIR WARFARE CENTER WARMINSTER

## Restoration Advisory Board (RAB) Meeting Minutes

### FORMER NAVAL AIR WARFARE CENTER (NAWC) WARMINSTER MEETING MINUTES

#### RESTORATION ADVISORY BOARD (RAB) MEETING NO. 119

#### REFERENCE: CLEAN CTO NO. WE23

1. Meeting Date and Time: September 15, 2010, 9:45 AM to 10:45 AM
2. Location: Warminster Municipal Authority Board Room
3. Attendees: See Attachment 1 (attendance list)
4. Summary of Meeting Discussions: See below.

#### Administrative Update

Jeff Dale, the Navy's Remedial Project Manager (RPM) for the project working out of the Navy's Base Realignment and Closure Program Management Office (BRAC PMO) in Philadelphia, opened the meeting by welcoming the attendees and providing an agenda for the meeting (Attachment 2).

Comments were solicited on the June 9, 2010 RAB meeting minutes. No comments were offered by those in attendance and the meeting minutes were approved as-is.

Action items from the June 9, 2010 RAB meeting were addressed as topics were brought up for discussion. The action items from the previous RAB meeting are summarized below:

- The Navy is to provide an update on groundwater extraction/treatment/monitoring activities.
- PADEP is to provide an update r.e. the status of the CRC Industries investigation.



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- WMA/Earth Data is to provide an update of the municipal wells treatment systems status.
- The Navy is to release the CSM for RAB review upon completion of the TEG review.
- The Navy is to update the RAB on the progress of property transfers for the remaining Navy properties along Jacksonville Road and the Shenandoah Woods housing area.

### Off-Site Investigations

Mr. Dale indicated that PADEP could not attend the RAB, but provided a written update which Mr. Dale then shared with the RAB. Per the PADEP notes, a Consent Order was finalized with CRC Industries (CRC) on July 25. Groundwater was sampled in May 2010, and will be sampled again in November. Ms. Michelle Rudnick (CRC) provided additional information regarding their ongoing work. A Remediation Plan was approved by PADEP on July 28, and a Cleanup Plan is currently under development. The plan is due to PADEP by December 10. CRC is continuing to monitor for DNAPL, however no new DNAPL has been detected recently. Mr. Dave Fennimore [Earth Data, representing Warminster Municipal Authority (WMA)] asked what remedial alternatives were being looked at – Ms. Rudnick stated that the remedial alternative screening process was still underway.

### WMA Update

Mr. Tim Hagy (WMA) updated the RAB on the current status of municipal wells WMA-26 and WMA-13. The new treatment system for WMA-26 is operational and the well is up and running. There have been no new activities relative to a treatment system installation for WMA-13. Mr. Jeff Orient (Tetra Tech, representing the Navy) asked what the current pumping rate for WMA-26 is – Mr. Hagy checked and reported that the current rate is about 185 gpm.



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### Navy Housing Transfer Update

Mr. Dale updated the RAB on the status of the Navy housing areas along Jacksonville Road and in Shenandoah Woods. The housing areas are occupied and will be through June 2011 (when NAS Willow Grove is slated to close). Once the reuse plan for the facility is approved, a NEPA Study will be performed by the Navy. In addition, lead-based paint and asbestos surveys will be performed to support follow-on Finding of Suitability to Transfer (FOST) evaluations. Mr. Toby Kessler (Gilmore and Associates, representing Warminster Township) asked if the surveys were needed for the NEPA study – Mr. Dale replied that they are only needed for the FOSTs, and they are supposed to be completed within 6 months prior to property transfer.

### Treatment Plant Operations

Mr. Pat Schauble (H&S Environmental, Navy contractor) provided an update on treatment plant operations (see handout in Attachment 3). Some pertinent observations include:

- H&S has taken over operation of the treatment plant from ECOR, however ECOR operators are still operating the plant under subcontract to H&S.
- The total pumping rate for the extraction systems is down, due mostly to the recent shutdown of the Area D extraction system.
- Based on the trend graphs, it appears that mass removal is reaching an asymptotic rate.
- Chromium removal options are still being evaluated – the resin bed is still in use.

Mr. Fennimore asked if modeling was ever performed to estimate the original contaminant mass in Area A. Mr. Drew Barton (Battelle, Navy contractor) indicated that Battelle has not attempted to model this. Mr. Barton went on to say that the Navy has tasked Battelle to perform a sustainable remediation evaluation for the sites. Mr. Fennimore asked if Battelle is still looking



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at enhanced bioremediation or thermal remediation as source area remediation options. Mr. Barton indicated that they are still in the early stages of the evaluation, but bioremediation is not under consideration. A general discussion ensued regarding potential remedial options for source areas.

### **LTM Update**

Mr. Orient gave a brief update of recent LTM activities (see handout in Attachment 4). Some notable points covered include:

- The highest TCE levels were detected in Area A; highest PCE levels were detected offbase in the Louis Drive area.
- An LTM report for the May 2010 sampling round is currently under preparation and is anticipated to be out in October.
- The Updated Conceptual Site Model was submitted to the RAB on August 6.
- Annual Land Use Control inspections are to be completed this fall.
- The draft update of the Long Term Performance Monitoring Plan is still out for review – any final comments are due within 30 days of this RAB meeting, then the plan will be finalized.

### **Miscellaneous Topics and Issues – Action Items**

No new topics or issues were raised by those in attendance. Action Items that will be carried through to the next RAB meeting include:

- The Navy is to provide an update on groundwater extraction/treatment/monitoring activities.



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- PADEP is to provide an update r.e. the status of the CRC Industries investigation.
- WMA/Earth Data is to provide an update of the municipal wells treatment systems status.
- The Navy will provide an update on the annual land use control inspections.
- The Navy is to update the RAB on the progress of property transfers for the remaining Navy properties along Jacksonville Road and the Shenandoah Woods housing area.

### **Next Meeting Date**

The next RAB meeting date was set for January 5, 2011 at 9:30 AM in the WMA Board Room. The meeting was adjourned at approximately 10:45 AM.



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## Restoration Advisory Board (RAB) Meeting Minutes

### ATTACHMENT 1 ATTENDANCE LIST





# FORMER NAVAL AIR WARFARE CENTER WARMINSTER

## Restoration Advisory Board (RAB) Meeting Minutes

### ATTACHMENT 2 MEETING AGENDA



# **AGENDA**

## **FORMER NAWC WARMINSTER**

### **Technical Subcommittee/Restoration Advisory Board (RAB) Meeting**

**Date: 15 SEPTEMBER 2010**

**Time: 9:30 AM**

**Location: WMA Board Room, 415 Gibson Ave., Warminster, PA**

- **Administrative Update**
  - Minutes of the Last Meeting
  - Review Action Items (see below)
- **Off-Site Investigations**
  - PADEP update on CRC Chemicals
- **WMA Update**
  - Status of Wells #13 and #26 treatment upgrades
- **Navy Housing Transfer Update**
  - Status of property transfer activities along Jacksonville Road and Shenandoah Woods
- **Treatment Plant Operation**
  - Plant operating status
  - VOC removal evaluation
- **LTM Update**
  - Spring 2010 Sampling Round Status
- **Miscellaneous Topics and Issues – Action Items**
  - Conceptual Site Model Update
  - Long Term Performance Monitoring Plan Update
  - Annual Land Use Control Inspections Status

**Time and Location of Next Meeting: - Date to be determined**

- **Action Items**

The following action items were identified as a result of the June 2010 meeting:

- The Navy is to provide an update on groundwater extraction/treatment/monitoring activities.
- PADEP is to provide an update r.e. the status of the CRC Industries investigation.
- WMA/Earth Data is to provide an update of the municipal wells treatment systems status.
- The Navy is to release the CSM for RAB review upon completion of the TEG review.
- The Navy is to update the RAB on the progress of property transfers for the remaining Navy properties along Jacksonville Road and the Shenandoah Woods housing area.

**Directions to the WMA Board Room:**

**From the former NAWC** - Proceed to the intersection of Street and Jacksonville Rd. Turn west (right) onto Street Rd. Continue west to York Rd. Turn south (left) onto York Rd. Continue to Henry Ave. Turn west (right) onto Henry Ave. Follow directions as above to the WMA building.

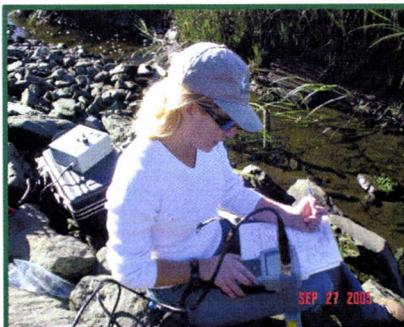
**From County Line Rd** - Instead of turning north (right) onto Jacksonville, continue west on County Line to York Rd. Turn north (right) onto York Rd. Continue to Henry Ave. Turn west (left) onto Henry Ave. Continue to Gibson Ave. Turn right into the parking lot shared by the Warminster Township and WMA. The WMA building is located towards the rear.



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### ATTACHMENT 3 ECOR PRESENTATION



# Restoration Advisory Board Meeting

NAWC Warminster  
15 September 2010

Presented by

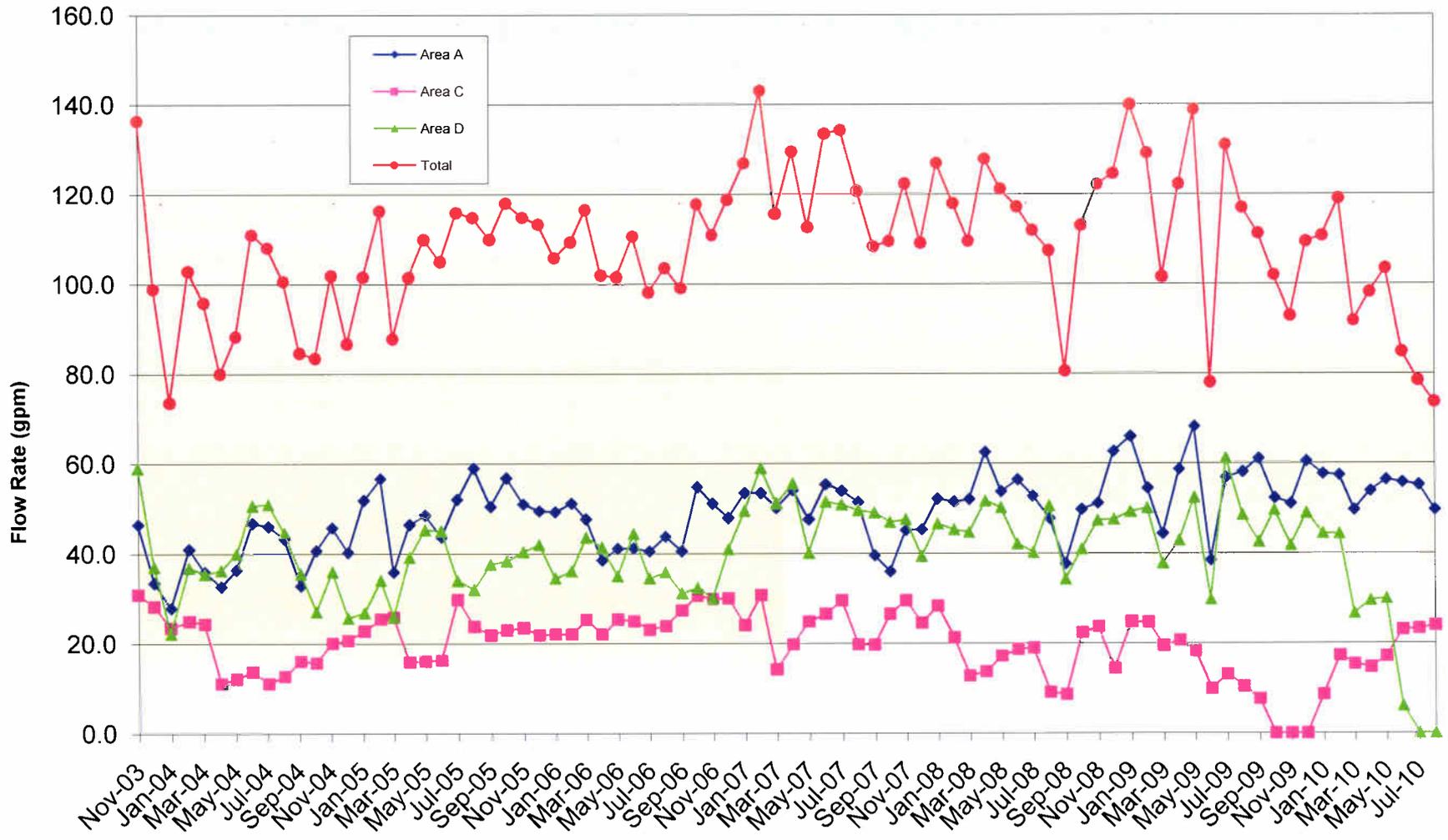


# GWTP Operation

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- Average flowrates for August 2010:
  - 49.7 gpm from Area A
  - 24.0 gpm from Area C
  - 0.0 gpm from Area D
  - 73.7 gpm overall
- 681,695,494 gallons treated through August 2010
- Previously operating Area D wells were turned off in March 2010 (D6, D7, and D8) and June 2010 (D1, D2, and D3 [delayed until C18 was repaired and back on-line]) and remain off per the TEG's recommendation

# Groundwater Treatment Plant Recovery Flow Rates



Operational Month



# GWTP Operation (cont'd)

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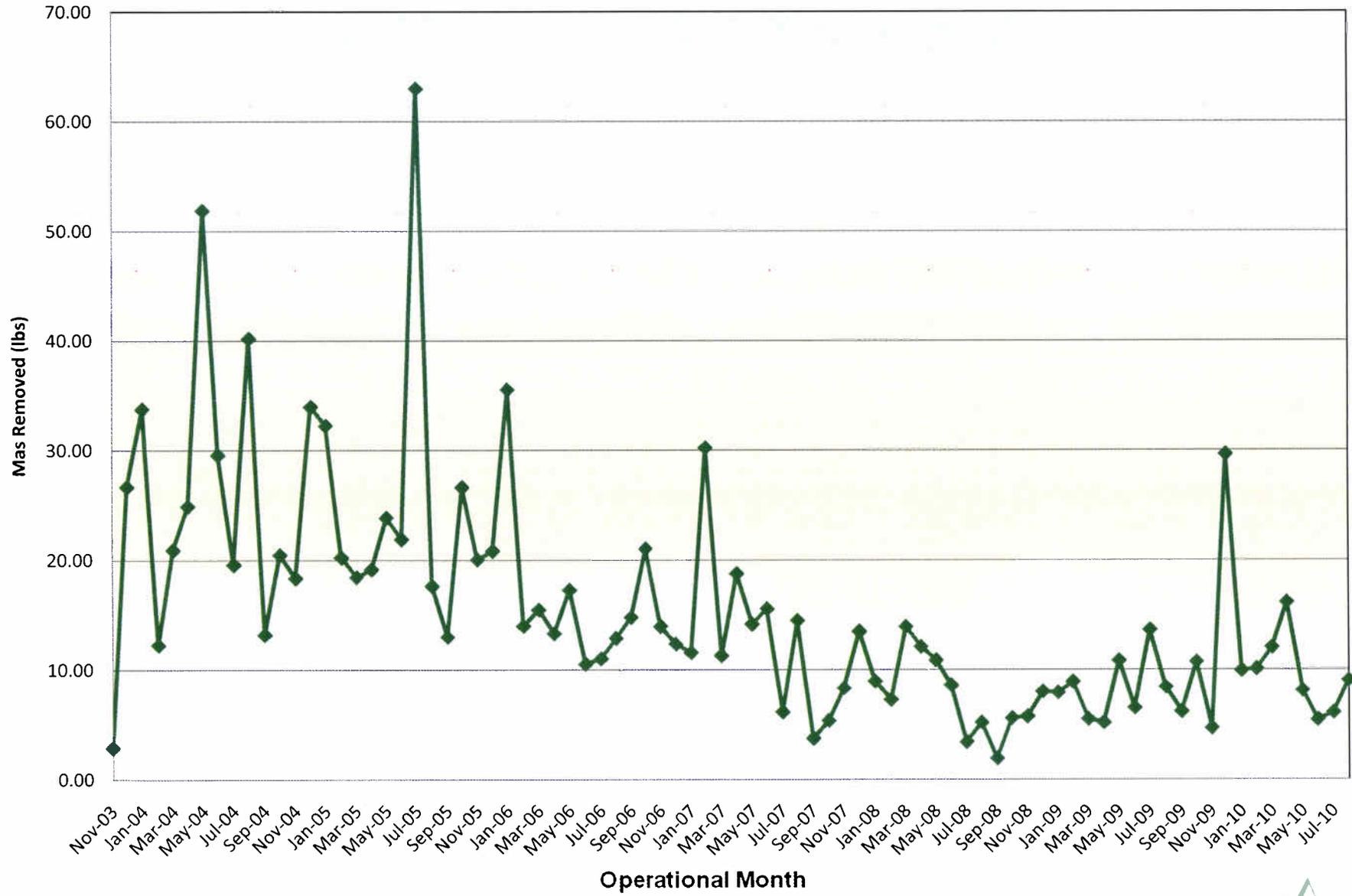
- Air stripper blower motor required repair in Aug. 2010
  - Back-up motor installed and original motor repaired for use as future back-up

# Mass Removal

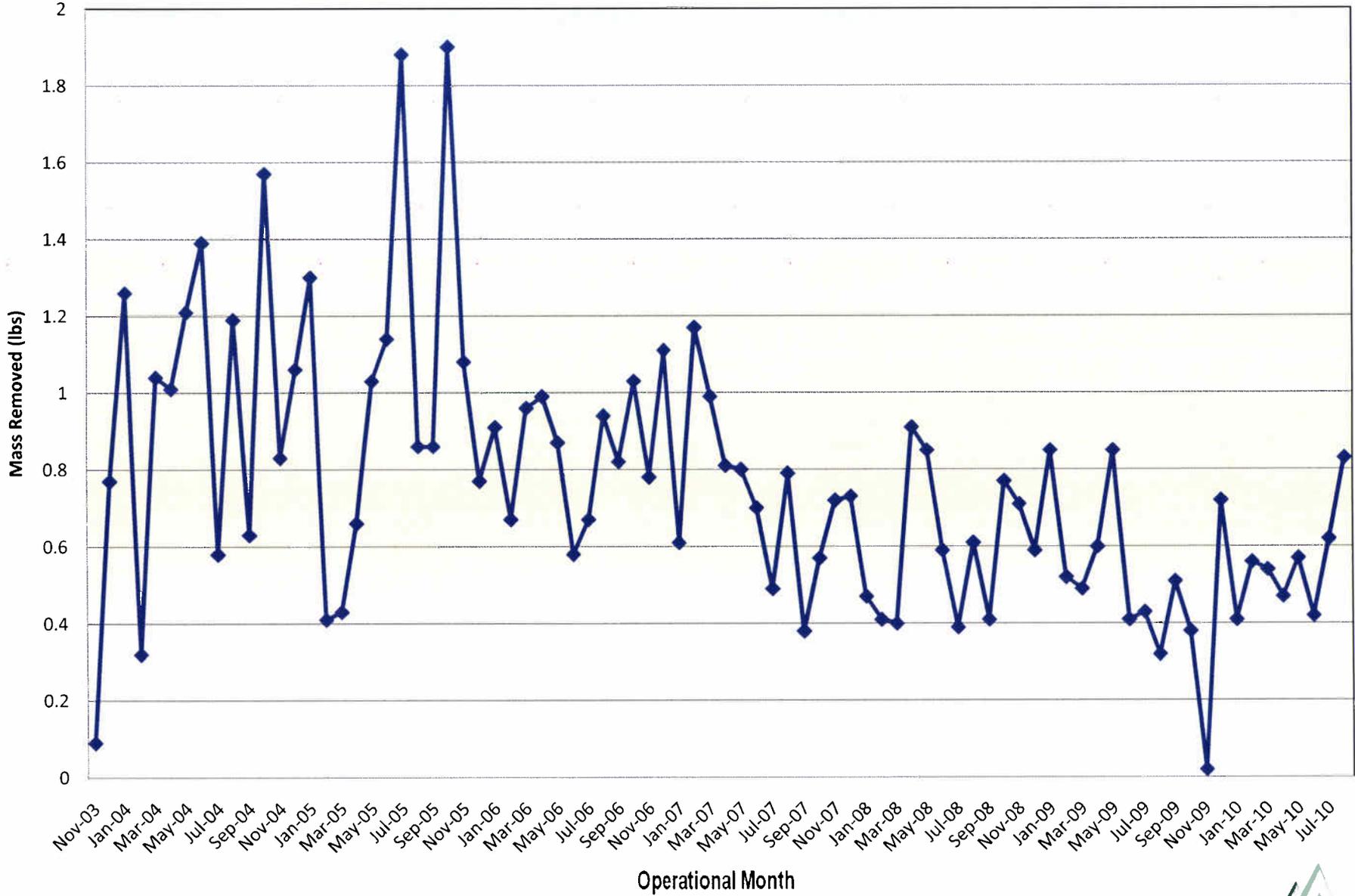
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- Cumulative dissolved-phase VOC recovery through August 2010 reporting period:
  - Trichloroethene (TCE) – 4,535 pounds (9.03 lbs in 8/10)
  - Tetrachloroethene (PCE) – 129 pounds (0.93 lbs in 8/10)
  - Carbon Tetrachloride (CCl<sub>4</sub>) – 154.5 pounds (0.26 lbs in 8/10)
- Majority of VOC recovery is from Area A (9.03 lbs TCE, 0.71 lbs PCE, and 0.26 lbs CCl<sub>4</sub> in 8/10), with remainder of PCE recovery from Area C (0.22 lbs in 8/10)
- No recovery from Area D, as Area D extraction system is no longer in operation

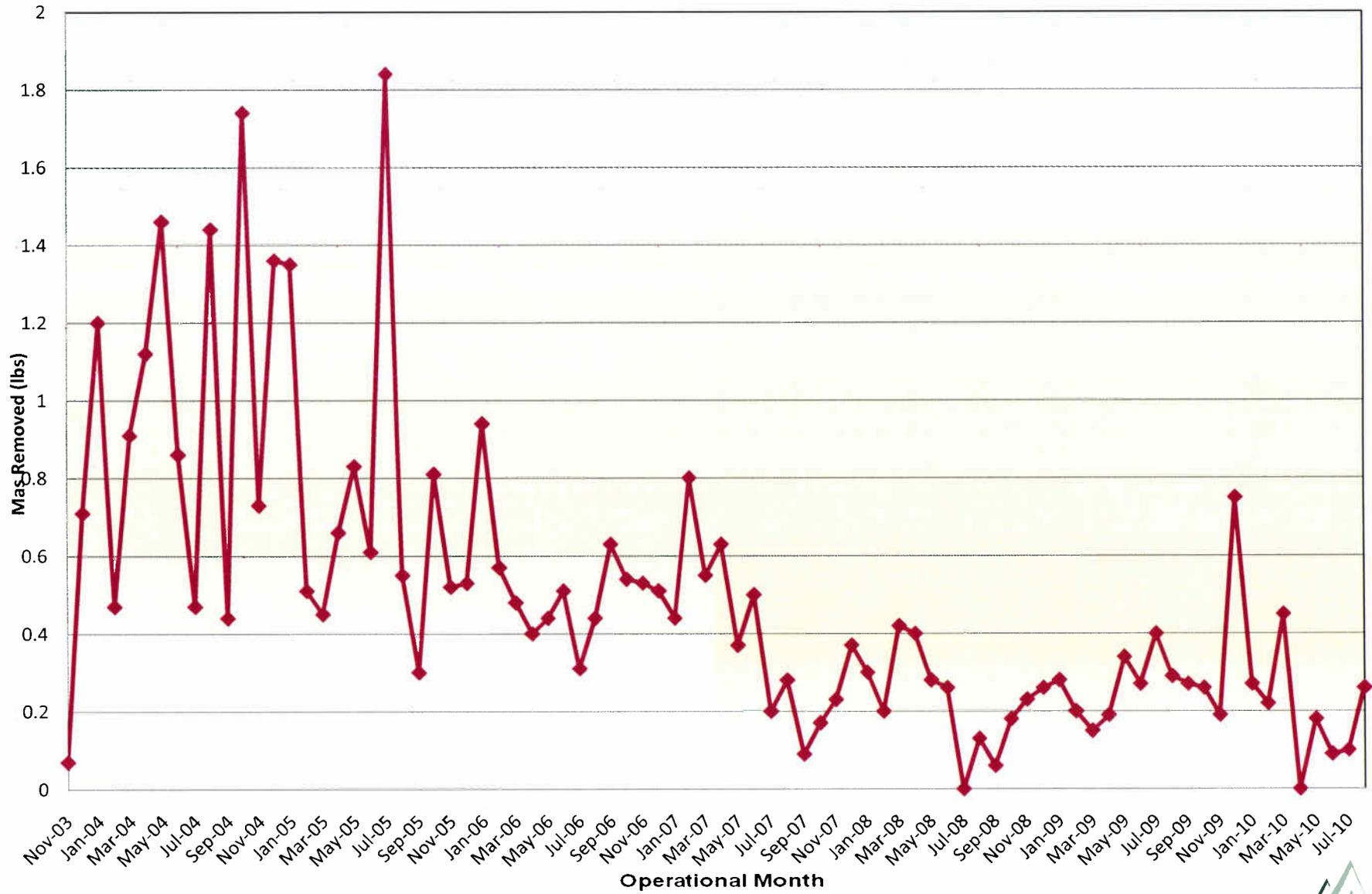
# TCE Recovery Rate



# PCE Recovery Rate



# CCl<sub>4</sub> Recovery Rate



# Future Activities

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- Evaluate removing air stripper and using liquid phase carbon
- With the reduction in flow and decrease in concentrations at the site, carbon may be a more efficient and cost effective remediation technology
- Modify NPDES permit as necessary to accommodate any changes to GWTP



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### ATTACHMENT 4 TETRA TECH PRESENTATION

## ***NAWC Warminster Spring 2010 LTM Notes***

### **Area A:**

- 42 wells sampled (including WMA-26)
- Maximum TCE detections - 30,000 ug/l in HN-11I, 9,450 ug/l in EW-A6
- Maximum PCE detection - 15,000 ug/l in HN-52S
- EW-A19 33 ug/l (highest 460, last round 130)
  - Nearby well HN-106D had TCE @ 1,500 ug/l
- HN-14I, HN-16I – below MCLs again
- WMA-26 – PCE @ 700 ug/l, TCE @ 42 ug/l

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## ***NAWC Warminster Spring 2010 LTM Notes***

### **Area C:**

- 12 wells sampled (including WMA-13)
- Maximum TCE detection - 160 ug/l in HN-23A
- 5 wells exceeded MCL, maximum 20 ug/L excluding HN-23A
- Offsite wells were all < MCL

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## ***NAWC Warminster Spring 2010 LTM Notes***

### **Area D:**

- 18 wells sampled
- Maximum TCE detection - 19 ug/l in HN-17S
- 4 wells exceeded MCL, maximum 8 ug/L excluding HN-17S
- Results were typical of past rounds

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## ***NAWC Warminster Document Updates***

### **Spring 2010 LTM Report:**

- Draft report due October 2010 (next round of sampling scheduled for November)

### **Conceptual Site Model:**

- Submitted to RAB August 9, 2010

### **Long Term Performance Monitoring Plan:**

- Draft submitted May 21, 2010

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***NAWC Warminster  
Annual Land Use Control Inspections***

- **2010 Inspections targeted for late September**
- **Annual report targeted for November**