

## Quarterly Effectiveness Evaluation (QEE) Report Including Summary of Barrier Repairs

### Sand Creek Barrier System Time Critical Response Action (TCRA) for the Rocket Ridge Area of Open Demolition Area #2

<b>Project No:</b>	4100-979-01	<b>QEE Report No:</b>	4
<b>Date of QEE Site Visit:</b>	2 September 2009		
<b>Time Period Covered by QEE Report:</b>	<b>From</b>	27 May 2009	
	<b>To:</b>	2 September 2009	
<b>Dates of O&amp;M Trips During Period Covered by QEE Report:</b>		24 June 2009 (O&M Trip #10)	
		29 July 2009 (O&M Trip #11)	
		2 September 2009 (O&M Trip #12)	

**Summary of O&M Observations and Activities Performed During the QEE Report Period, Prior to the 2 September 2009 Repairs**

**Materials found on the screens:** Leaves, branches, sticks, sand and gravel. No munitions-related materials were found at the barrier (see Photo #1 in Attachment 1).

**Barrier integrity:**

**Upstream (3-inch grid) barrier:** All barrier elements were in place and there were no gaps between the screen panels and creek bed and banks. The ends of the top two horizontal wires of the second panel from the south were observed detached from the post clamping system. The tops of the panels were bowed in the direction of the water flow.

**Downstream (1-inch grid) barrier:** All posts and back braces were intact. The end panels had detached from the creek banks (see Photos #2 and #3). The tops of the panels were bowed in the direction of the water flow. Sand and gravel, approximately 2-3 inches deep, had accumulated in front of the third panel from the south.

**Maintenance performed during O&M Trips:** Inspected the barrier and removed the materials accumulated on the screens.

**Summary of Barrier Repair Activities Conducted on 2 September 2009**

On 2 September 2009, HDR/e<sup>2</sup>M mobilized to Ravenna Army Ammunition Plant (RVAAP) to oversee and direct the Sand Creek Barrier System O&M Subcontractor, PIKA International (PIKA), and the Construction Subcontractor, Cuyahoga Fence (Cuyahoga).

Prior to accessing the site, HDR/e<sup>2</sup>M briefed PIKA and Cuyahoga on the specifics of the scope of work, safety and health procedures to be followed, and potential hazards. Copies of the safety and health logs are included in Attachment 2 and the Employee/Visitor Sign-in Roster is

in Attachment 3.

PIKA accessed the Barrier System Site first, to determine if any munitions-related materials are present on the screens. After inspecting the site and determining that no munitions-related materials are present, PIKA allowed HDR/e<sup>2</sup>M and Cuyahoga to initiate the repairs. HDR/e<sup>2</sup>M asked PIKA to perform a magnetometer-assisted sweep of approximately 100-150 feet of creek upstream of the Barrier System. PIKA performed the sweep and reported that no munitions-related materials were observed.

The repairs performed at the Barrier System consisted of the following:

- One new post and back brace were installed at the south end of the downstream barrier. The new post is approximately 6.5 feet south of the next post. The screen panel that was detached from the creek bank was attached to the new post. A new panel was installed and keyed into the bank in front (upstream) and at 45 degrees to the barrier line (see Photo #4).
- One new post and back brace were installed at the north end of the downstream barrier. The new post was installed at 3 feet 11 inches from the next post. The screen panel that was detached from the bank was attached to the new post and keyed into the bank (see Photo #5).
- The height of the central screen panels was reduced. At the upstream barrier, the height of the three central panels was reduced to 12 inches (see Photo #6). At the downstream barrier, the panel height was reduced, from south to north, to: panel 1 – height not changed; panel 2 – 16 inches; panel 3 – 12 inches; panel 4 – 11 to 12 inches; panel 5 – 10 to 16 inches (height varies due to uneven creek bottom); panels 6 and 7 – height not changed (see Photo #7).
- The sand and gravel accumulated in front of the downstream barrier was removed (see Photo #8).

The repairs were completed on 2 September 2009. The Daily Quality Control Report is included in Attachment 4.

### **Barrier System Effectiveness Evaluation**

#### **System operational effectiveness:**

During the QEE Report #4 period (27 May - 2 September 2009), the barrier system continued to be effective in its capacity to trap potential munitions-related debris. Before the 2 September 2009 repairs, the downstream barrier no longer provided full redundancy because of the separation of the end panels from the creek banks.

The repairs performed on 2 September 2009 restored the full redundancy of the downstream barrier and reduced the height of the central panels of both barriers. The benefits of the reduced height include:

- Reduced amount of leaves accumulated on the screens;
- Reduced water pressure on the screens;
- Less bowing of the screens and potential for screen rupture;
- Less potential for scouring of the creek banks; and
- Reduced need for screen cleaning outside of the regular O&M schedule.

**Personnel Present During QEE Site Visit and Barrier System Repairs**

O&M and Repairs

HDR/e<sup>2</sup>M: Daniel Zugris

PIKA, O&M activities: Lew Kovarik

Cuyahoga Fence, Repairs: David Seiler, Merle Bryson, and Don Zadorozny

Visitors

RVAAP: Mark Patterson

Ohio EPA: Eileen Mohr

Vista: Jim McGee

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# Attachment 1

## Quarterly Effectiveness Evaluation Photographic Log



Photo 1: Sand Creek Barrier System (2 September 2009, before O&M)



Photo 2: Downstream barrier, south end panel (2 September 2009, before O&M)



Photo 3: Downstream barrier, north end panel (2 September 2009, before O&M)



Photo 4: New post and panel at south end of downstream barrier (2 September 2009)



Photo 5: New post at north end of downstream barrier (2 September 2009)



Photo 6: Upstream panels after height reduction (2 September 2009)





Photo 7: Downstream panels after height reduction (2 September 2009)



Photo 8: Area in front of downstream barrier after the removal of sand and gravel accumulation (2 September 2009)

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# Attachment 2

## Safety and Health Logs

**SITE-SPECIFIC SAFETY AND HEALTH ORIENTATION LOG\***

The undersigned acknowledge, understand, and agree with the following:  
 I have been briefed as to the nature of work in this project, its potential hazards, required PPE, and the route to the nearest hospital.  
 The Site-specific Safety and Health Plan (SSHP) has been explained to me, and is available to be referenced on site at all times.  
 I agree to abide by the SSHP and all procedures outlined in the SSHP. I understand that noncompliance with the SSHP may lead to my removal from the site.

Date	Name	Signature	40 Hr OSHA Cert. No/Expiration (If applicable)	Company
9/2/09	Daniel Zugris	<i>Daniel Zugris</i>	April 2010	HDR/e2M
9/2/09	Lew Kovarik	<i>Lew Kovarik</i>	May 2010	PIKA
9/2/09	David Seiler	<i>David Seiler</i>	N/A	Cypress Fence
9/2/09	Mark Beyson	<i>Mark Beyson</i>	N/A	Cypress Fence
9/2/09	DON ZABOZOR	<i>Don Zabozor</i>	N/A	CUYAHOGA FENCE

### TAILGATE SAFETY MEETING

PROJECT: RVAAP TCRA-Upgrades PROJECT NO. 4100-979  
 DATE: 9/2/09 TIME: 8:00  
 CLIENT: USACE-Omaha District

SPECIFIC SITE LOCATION: Sand Creek, approximately 50 feet upstream of George Road Bridge

TYPE OF WORK: Installation of approved barrier system upgrades  
 CHEMICAL USED: \_\_\_\_\_

### SAFETY TOPICS PRESENTED

**PPE** Modified Level D

**Physical Hazards** Slips, trips, and falls, electric shock, noise, manual lifting, improper use of equipment, working with metal that may be sharp

**Health and Safety Plan** The Health and Safety Plan is kept in the e2M vehicle

**Emergency Procedures** Stop operations, isolate area where hazard exists, keep fire extinguisher close for preventative purposes. Summon field project manager. Situation will be assessed. Injured persons will be treated at the place they suffered injury whenever possible. Care must taken to prevent further injury if it is necessary to move victim. First aid kit is kept in e2M vehicle. If injury requires more than first aid administered at site, victim will be taken to hospital. If injury is serious, the field project manager will summon emergency personnel.

**Hospital** Robinson Memorial Hospital

**Hospital Address** 6847 North Chestnut Street, Ravenna OH 44266  
330-237-0811 or 911

**Special Equipment** \_\_\_\_\_

**Other** \_\_\_\_\_

### ATTENDEES

Name (Print)	Signature
<u>Daniel Zugris</u>	
<u>Lew Kovarik</u>	
<u>David Seiler</u>	
<u>Mark Swanson</u>	
<u>DON ZADOROZNY</u>	
Meeting Conducted by: <u>Daniel Zugris</u>	

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# Attachment 3

## Visitor Log

**EMPLOYEE/VISITOR DAILY SIGN-IN ROSTER\***

PROJECT NO. 4100-979

SITE NAME: Sand Creek Barrier

DATE: 9/2/09

FIELD PROJECT MANAGER: Daniel Zugris

DATE	NAME	COMPANY	TIME ONSITE	OFFSITE
9/2/09	Daniel Zugris	HDR/e2M	8:00	3:30 pm
9/2/09	Lew Kovarik	PIKA	8:00	11:00
9/2/09	David Seiler	Cuyahoga Fence	8:00	3:30 pm
9-2-09	Meade Grayson	Cuyahoga Fence	8:00	3:30 pm
9-2-09	Don Zadorozn	Cuyahoga	8:00	9:10
9-2-09	Mark Patterson	RVAAP	9:40	10:05
9-2-09	E. Lynn Mohr	Ohio EPA	9:40	10:05
9-2-09	Jim Mr. Gee	Vista	10:45	11:00

\*This roster is required for emergency response planning. All personnel arriving to and from the site must sign this roster. This Log does not replace the S&H Orientation.



# Attachment 4

## Daily Quality Control Report



# Daily Quality Control Report

## Sand Creek Barrier Repairs, RVAAP, Ravenna, OH

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Date: 2 September 2009

Project Information	
Technical Project Manager:	Daniel Zugris
Project:	RVAAP Sand Creek Barrier
Project Number:	4100-979-01

Environmental Conditions	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Clear
Temperature:	55 to 73 F
Wind (Still, Moderate, High):	Still
Humidity (Dry, Moderate, Humid):	Moderate

Personnel (include title and affiliation)
HDR/e <sup>2</sup> M Personnel: Daniel Zugris, Project Manager
Visitors Present: Eileen Mohr (Ohio EPA), Mark Patterson (RVAAP), and Jim McGee (Vista)
PIKA Personnel: Lew Kowarik, SUXOS
Cuyahoga Fence Personnel: Don Zadorozny, Subcontractor Project Manager, Merle Bryson, Technician, and David Seiler, Technician

### Work Activities

Daniel Zugris conducted a health and safety meeting at 7:50 am, prior to commencement of site work. PIKA accessed the Barrier System Site first, to determine if any munitions-related materials were present on the screens. After inspecting the site and determining that no munitions-related materials are present, PIKA allowed HDR/e<sup>2</sup>M and Cuyahoga to initiate the repairs. HDR/e<sup>2</sup>M asked PIKA to perform a magnetometer-assisted sweep of approximately 100-150 feet of creek upstream of the Barrier System. PIKA performed the sweep and reported that no munitions-related materials were observed.

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panel height was reduced, from south to north, to: panel 1 – height not changed; panel 2 – 16 inches; panel 3 – 12 inches; panel 4 – 11 to 12 inches; panel 5 – 10 to 16 inches (height varies due to uneven creek bottom); panels 6 and 7 – height not changed.

- The sand and gravel accumulated in front of the downstream barrier was removed.

The repairs were completed at 3:30 pm.

Preparer:

Daniel Zugris

Signature:

A handwritten signature in black ink that reads 'Daniel Zugris'.