Operations and Maintenance Trip Reports and Quarterly Effectiveness Evaluation Reports

Time Critical Response Action for the Rocket Ridge Area of Open Demolition Area #2 (*RVAAP-004-R-01 Open Demolition Area #2 MRS*)

Military Munitions Response Program

Ravenna Army Ammunition Plant

Ravenna, Ohio

August 2008 — September 2009

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OPERATIONS AND MAINTENANCE TRIP PREPORTS and QUARTERLY EFFECTIVENESS EVALUATION REPORTS

TIME CRITICAL RESPONSE ACTION for the ROCKET RIDGE AREA OF OPEN DEMOLITION AREA #2 (*RVAAP-004-R-01 Open Demolition Area #2 MRS)*

MILITARY MUNITIONS RESPONSE PROGRAM RAVENNA ARMY AMMUNITION PLANT RAVENNA, OHIO

Submitted To:

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
CENWO-PM
1616 Capitol Avenue, Suite 9000
OMAHA, NE 68102-4901

Prepared By:

HDR | engineering-environmental Management, Inc.
2751 Prosperity Avenue, Suite 200
Fairfax, Virginia 22031

Contract Number DACA-63-03-D0009
Task Order No.: DK01

August 2008 – September 2009

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Doug Simpleman	USACE Omaha/ PM	1	0	1
Daniel Zugris	e^2M/ PM	1	0	1

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Abbreviations and Acronyms	
CCR	Construction Completion Report
DMM	Discarded Military Munitions
e^2M	engineering-environmental Management, Inc.
MC	Munitions Constituents
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
MMRP	Military Munitions Response Program
MRS	Munitions Response Site
ODA2	Open Demolition Area #2
OE	Ordnance and Explosives
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
O&M	Operations and Maintenance
PIKA	PIKA International
RAB	Restoration Advisory Board
RVAAP	Ravenna Army Ammunition Plant
SI	Site Inspection
TCRA	Time Critical Response Action
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Command
UXO	Unexploded Ordnance

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SECTION A
OPERATIONS AND MAINTENANCE REPORTS

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Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	12
PIKA JOB #:	08-53-134		**Date:**	9/02/09
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Sunny
Temperature:	51°
Wind (Still, Moderate, High):	Still
Humidity (Dry, Moderate, Humid):	Low Humidity
Project:	Operation and Maintenance of the Sand Creek Barrier System

Field Activities:

Description of debris inspection & removal activities: Removed very small amount of leaves and sticks and some mud from barrier. No MEC/MD found. Performed Schonstedt assisted surface sweep up stream approximately 150-200 feet. No MEC/MD found.

Barrier Integrity: Barrier still intact no changes since last O&M inspection.

Assessment of any changes since previous visit: None.

Repairs made or needed to be made. HDR/e^2M and Cuyahoga Fence on site to perform scheduled repairs and modifications.

Remarks:

Visitors: Jim McGee

Health and Safety

Conducted health and safety meeting prior to commencement of activities.

Were there any lost time accidents this week? No [X] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: Conduct monthly O&M.

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell

PHOTO LOG

View of barriers upon arrival.

View of screens after cleaning and upon departure.

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 9/02/09	Instructor(s): ~~Mel Lau~~ Lew Kovarik	Time: 0800	Log No.: 12
Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH			
Contract No.: E2M-S08-039		Task Order Number:	
Site Supervisor or SUXOS: Lew Kovarik		SSHO: Mel Lau	

Training Provided: ☒ Initial Site Hazard Training ☒ Daily Safety Briefing ☒ Other: Sand Creek O&M/Repair
☐ Weekly Safety Training ☒ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

X	Planned Site Activities		Chemical Hazards		Respirator Use
X	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
X	Biological Hazards		Chemical Exposure Symptoms	X	Emergency Procedures
	Heat or Cold Stress		Level of PPE	X	First Aid Procedures
	Site Controls		Types of PPE		Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Lew Kovarik		PIKA
Daniel Zugris		HDR/E2M
David Seiler		Cuyahoga Fence
Merle Bryson		Cuyahoga Fence
Don Zadorozny		Cuyahoga Fence
Mel Lau		PIKA

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Site Safety and Health Officer

Sr. UXO Supervisor or Site Supervisor

Visitor Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP, OHIO

PROJECT SITE: O&M Sand Creek Barrier System PROJECT NO: 08-53-134

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out
9/2/09	Jim McGee	Vista	D	0840	0900

Comments: _____

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Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	11
PIKA JOB #:	08-53-134		**Date:**	7/29/09
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Rain
Temperature:	71°
Wind (Still, Moderate, High):	Still
Humidity (Dry, Moderate, Humid):	Humid

Project:	Operation and Maintenance of the Sand Creek Barrier System

Field Activities:

Description of debris inspection & removal activities: Removed very small amount of leaves and sticks and some mud from barrier. No MEC/MD found.

Barrier Integrity: Barrier still intact no changes since last O&M inspection.

Assessment of any changes since previous visit: None.

Repairs made or needed to be made. No new repairs need to be made at this time. However, the repairs identified on previous inspections still need to be addressed.

Remarks:

Visitors: None

Health and Safety

Conducted health and safety meeting prior to commencement of activities.

Were there any lost time accidents this week? No [X] Yes [ ].
If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: Conduct monthly O&M.

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell

PHOTO LOG

View of barriers upon arrival.

View of screens after cleaning and upon departure.

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 7/29/09	Instructor(s): Mel Lau	Time: 1400	Log No.: 11
Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH			
Contract No.: E2M-S08-039		Task Order Number:	
Site Supervisor or SUXOS: Lew Kovarik		SSHO: Mel Lau	

Training Provided: ☐ Initial Site Hazard Training ☒ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☐ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

	Planned Site Activities		Chemical Hazards		Respirator Use
X	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
X	Biological Hazards		Chemical Exposure Symptoms		Emergency Procedures
	Heat or Cold Stress	X	Level of PPE		First Aid Procedures
X	Site Controls		Types of PPE	X	Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Jim Bowyer		PIKA
Jiggs Ennis		PIKA
Melvin Lau		PIKA
Lew Kovarik		PIKA

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Site Safety and Health Officer

Sr. UXO Supervisor or Site Supervisor

Visitor Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP, OHIO

PROJECT SITE: O&M Sand Creek Barrier System PROJECT NO: 08-53-134

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out

NO VISITORS

Comments:

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Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	10
PIKA JOB #:	08-53-134		**Date:**	6/24/09
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Sunny
Temperature:	79°
Wind (Still, Moderate, High):	Still
Humidity (Dry, Moderate, Humid):	Humid
Project:	Operation and Maintenance of the Sand Creek Barrier System

Field Activities:

Description of debris inspection & removal activities: Removed small amount of leaves and sticks and some mud from barrier. No MEC/MD found.

Barrier Integrity: Barrier still intact no changes since last O&M inspection.

Assessment of any changes since previous visit: None.

Repairs made or needed to be made. No new repairs need to be made at this time. However, the repairs identified on previous inspections still need to be addressed.

Remarks:

Visitors: Eileen Mohr (Ohio EPA), Christy Esler (Vista Sciences)

Health and Safety

Conducted health and safety meeting prior to commencement of activities.

Were there any lost time accidents this week? No [X] Yes [ ].
If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: Conduct monthly O&M.

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell

PHOTO LOG

View of barriers upon arrival.

Picture showing cleaning of screen.

Screens after cleaning and upon departure.

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 6/24/09	Instructor(s): Mel Lau	Time: 1000	Log No.: 10
Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH			
Contract No.: E2M-S08-039		Task Order Number:	
Site Supervisor or SUXOS: Lew Kovarik		SSHO: Mel Lau	

Training Provided: ☐ Initial Site Hazard Training ☐ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☐ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

	Planned Site Activities		Chemical Hazards		Respirator Use
✓	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
	Biological Hazards		Chemical Exposure Symptoms	✓	Emergency Procedures
✓	Heat or Cold Stress	✓	Level of PPE Level D	✓	First Aid Procedures
	Site Controls		Types of PPE		Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Christy Esler	Christy Esler	RVAAP
Eileen Mohr	Eileen Mohr	Ohio EPA
Lew Kovarik	Lew Kovarik	PIKA
Mel Lau	Mel Lau	Pika

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Mel Lau
Site Safety and Health Officer

Lew Kovarik
Sr. UXO Supervisor or Site Supervisor

Visitor Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP, OHIO

PROJECT SITE: O&M Sand Creek Barrier System PROJECT NO: 08-53-134

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out
6/24/09	~~———~~	~~———~~	~~level D~~	—	—
6/24/09	Eileen Mohr	Ohio EPA	level D	10:04	10:50
6/24/09	Christy Esler	RVAAP	"	10:04	10:50

Comments: _____

Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	9
PIKA JOB #:	08-53-134		**Date:**	5/27/09
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Overcast
Temperature:	76°
Wind (Still, Moderate, High):	Still
Humidity (Dry, Moderate, Humid):	Humid

Project:	Operation and Maintenance of the Sand Creek Barrier System

Field Activities:

Description of debris inspection & removal activities: **Removed small amount of leaves and sticks and some mud from barrier. No MEC/MD found.**

Barrier Integrity: **Barrier still intact no changes since last O&M inspection.**

Assessment of any changes since previous visit: **none.**

Repairs made or need to be made. **No new repairs need to be made at this time. However, the repairs identified on previous inspections still need to be addressed.**

Remarks:

Visitors: Mark Patterson - RVAAP FM, Christy Esler - Vista Sciences, Todd Fisher - Ohio EPA.

Health and Safety

Conducted health and safety meetings and task order meetings every morning, prior to commencement of activities.

Were there any lost time accidents this week? No [X] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: Conduct monthly O&M.

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell

PHOTO LOG

View of barriers upon arrival.

Picture showing cleaning of screen.

Screens after cleaning and upon departure.

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 5/27/09	Instructor(s): Mel Lau	Time: 1000	Log No.: 9
Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH			
Contract No.: E2M-S08-039		Task Order Number:	
Site Supervisor or SUXOS: Lew Kovarik		SSHO: Mel Lau	

Training Provided: ☐ Initial Site Hazard Training ☒ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☐ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

✓	Planned Site Activities		Chemical Hazards		Respirator Use
✓	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
	Biological Hazards		Chemical Exposure Symptoms	✓	Emergency Procedures
	Heat or Cold Stress		Level of PPE		First Aid Procedures
	Site Controls		Types of PPE	✓	Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Lew Kovarik	Lew Kovarik	PIKA
Daniel Zugris	Daniel Zugris	E2M
James Bouvier		PIKA

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Site Safety and Health Officer

Lew Kovarik
Sr. UXO Supervisor or Site Supervisor

Visitor Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP, OHIO

PROJECT SITE: O&M Sand Creek Barrier System PROJECT NO: 08-53-134

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out
5/27/09	Mark Patterson	US Army (CEHNC)	Level D	1015	
5/27/09	Christy Esper	VISTA	"	"	
5/27/09	[illegible]	Ohio EPA	LEVEL D	1015	

Comments: _____

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Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	8
PIKA JOB #:	08-53-134		**Date:**	04-28-09
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Overcast
Temperature:	74°
Wind (Still, Moderate, High):	Still
Humidity (Dry, Moderate, Humid):	Moderate

Project:	Operation and Maintenance of the Sand Creek Barrier System

Field Activities:

Description of debris inspection & removal activities: **Removed heavy accumulation leaves and sticks and some mud from barrier. No MEC/MD found.**

Barrier Integrity: **The upstream screen is intact, however general repairs are required, as recommended by e²M in the 25 March 2009 Supplemental Effectiveness Evaluation (SEE) Report (including reducing the height of the central panels to 10-12 inches, which will also remove the damaged top two wires of the second panel). Both the north and south ends of the downstream screen have washed out of the bank. The installation of two new posts at the north and south ends of the barrier, recommended in the SEE Report, will address this problem.**

Assessment of any changes since previous visit: **See above.**

Repairs made or need to be made. **The bolts of the post clamping system were tightened at all posts. The SEE Report recommendations for repairs and improvements will address all issues noticed during the present O&M visit.**

Remarks:

Visitors: None

Health and Safety

Conducted health and safety meetings and task order meetings every morning, prior to commencement of activities.

Were there any lost time accidents this week? No [X] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: Conduct monthly O&M.

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell

PHOTO LOG

View of barriers upon arrival.

Picture showing north end of the bottom screen detached from stream bank.

Picture showing south end of the bottom screen detached from stream bank.

Close-up of top screen after cleaning.

Picture showing both screens after cleaning.

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 4/28/09	Instructor(s): Mel Lau	Time: 1000	Log No.: 8
Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH			
Contract No.: E2M-S08-039		Task Order Number:	
Site Supervisor or SUXOS: Lew Kovarik		SSHO: Mel Lau	

Training Provided: ☐ Initial Site Hazard Training ☐ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☐ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

X	Planned Site Activities		Chemical Hazards		Respirator Use
X	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
X	Biological Hazards		Chemical Exposure Symptoms	X	Emergency Procedures
	Heat or Cold Stress		Level of PPE	X	First Aid Procedures
	Site Controls		Types of PPE		Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Lew Kovarik	Lew K	PIKA
Mel Lau	Mel L	PIKA

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Site Safety and Health Officer

Sr. UXO Supervisor or Site Supervisor

Visitor Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP, OHIO

PROJECT SITE: O&M Sand Creek Barrier System PROJECT NO: 08-53-134

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out
	NO visitors				

Comments: _____

Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	7
PIKA JOB #:	08-53-134		**Date:**	03-25-09
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Rain
Temperature:	40°
Wind (Still, Moderate, High):	Moderate
Humidity (Dry, Moderate, Humid):	Moderate

Project:	Operation and Maintenance of the Sand Creek Barrier System

Field Activities:

Description of debris inspection & removal activities: **Removed small amount of leaves sticks and mud from barrier. No MEC/MD found.**

Barrier Integrity: **The upstream screen panels are bowed but the barrier is operable. The downstream barrier needs repairs: the south panel has detached from the bank and the north panel is no longer keyed tightly into the bank.**

Assessment of any changes since previous visit: **See above.**

Repairs made or need to be made: **The gap between south screen panel and bank was filled with rocks to about 10-12 inches above creek bottom. PIKA will tighten the bolts on all posts. E2M will coordinate the repairs to the barrier system.**

Remarks:

Visitors: None

Health and Safety

Conducted health and safety meetings and task order meetings every morning, prior to commencement of activities.

Were there any lost time accidents this week? No ☐ Yes ☐.

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: Conduct monthly O&M.

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell

PHOTO LOG

Barrier upon arrival.

Pictures showing section of bottom screen detached from bank.

View showing degree of bowing on bottom screen.

Barrier upon departure

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 3/25/09	Instructor(s): Mel Lau	Time: 1000	Log No.: 7
Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH			
Contract No.: E2M-S08-039		Task Order Number:	
Site Supervisor or SUXOS: Lew Kovarik		SSHO: Mel Lau	

Training Provided: ☐ Initial Site Hazard Training ☐ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☐ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

X	Planned Site Activities		Chemical Hazards		Respirator Use
	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
	Biological Hazards		Chemical Exposure Symptoms	X	Emergency Procedures
X	Heat or Cold Stress		Level of PPE		First Aid Procedures
	Site Controls		Types of PPE	X	Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Lew Kovarik	Lew Kovarik	PIKA
Melvin Lau	Melvin Lau	PIKA
Daniel Zugris	Daniel Zugris	~~PIKA~~ E2M

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Mel Lau
Site Safety and Health Officer

Lew Kovarik
Sr. UXO Supervisor or Site Supervisor

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Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	6
PIKA JOB #:	08-53-134		**Date:**	02-05-09
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Sunny
Temperature:	3°
Wind (Still, Moderate, High):	Moderate
Humidity (Dry, Moderate, Humid):	Dry
Project:	Operation and Maintenance of the Sand Creek Barrier System

Field Activities:

Description of debris inspection & removal activities: **Barriers are frozen over with snow and ice. Removed snow from top of fourth panel to measure how much bowing has occurred.**

Barrier Integrity: **The barriers appear to be intact under the snow and ice.**

Assessment of any changes since previous visit: **Complete assessment could not be conducted due to heavy snow and ice cover over the majority of the barriers. Exposed section of lower barriers was inspected. No major increase in deflection/bowing was noted.**

Repairs made or need to be made: **No repairs required or made during this visit.**

Remarks:

Visitors: Daniel Zugris

Health and Safety

Conducted health and safety meetings and task order meetings every morning, prior to commencement of activities.

Were there any lost time accidents this week? No ☐ Yes ☐.

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell

PHOTO LOG

Barriers upon Arrival

Measuring the bowing of screen

Photo depicts the thickness of ice at Sand Creek

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 2/05/09	Instructor(s): Mel Lau	Time: 1030	Log No.: 6

Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH

Contract No.: E2M-S08-039	Task Order Number:
Site Supervisor or SUXOS: Lew Kovarik	SSHO: Mel Lau

Training Provided: ☐ Initial Site Hazard Training ☐ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☐ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

X	Planned Site Activities		Chemical Hazards		Respirator Use
X	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
	Biological Hazards		Chemical Exposure Symptoms	X	Emergency Procedures
X	Heat or (Cold) Stress		Level of PPE	X	First Aid Procedures
	Site Controls		Types of PPE		Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Lew Kovarik	Lew K	PIKA
Mel Lau	Mel Lau	Pika
Daniel Zugris	Daniel Zugris	E2M

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Mel Lau
Site Safety and Health Officer

Lew K
Sr. UXO Supervisor or Site Supervisor

Visitor Sign-In Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP, OHIO

PROJECT SITE: O&M Sand Creek Barrier System PROJECT NO: 08-53-134

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out
2/5/09	Daniel Zugris	e²M	D	10:30	11:30

Comments: _____

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Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	5
PIKA JOB #:	08-53-134		**Date:**	12-16-08
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Overcast
Temperature:	22° F
Wind (Still, Moderate, High):	Moderate
Humidity (Dry, Moderate, Humid):	Dry

Field Activities:

Description of debris inspection & removal activities: **Removed leaves, sticks and mud from barrier. Numerous amounts of leaves on both screens. No MEC/MD found.**

Barrier Integrity: **Barrier is operable, there are no gaps that would allow MEC/MD to pass through.**

Assessment of any changes since previous visit: **Both screens appear to be bent more than at the previous inspection.**

Repairs made or need to be made: **None at this time.**

Remarks:

Visitors: None

Health and Safety

Conducted health and safety meetings and task order meetings every morning, prior to commencement of activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: **Follow on inspection of barrier**

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell
UXO Safety Officer	Mel Lau		

PHOTO LOG

Overview of Screens upon arrival

Overview of Screens upon arrival

Screens bowing

Cleaning Screens

Overview of barriers following cleaning operations.
Note: Remaining debris seen on screens is frozen to the screens.

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 16 Dec 08	Instructor(s): Melvin Lau	Time: 1300	Log No.: 5
Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH			
Contract No.: E2M-508-039		**Task Order Number:**	
Site Supervisor or SUXOS: Lew Kovarik		**SSHO:** Melvin Lau	

Training Provided: ☐ Initial Site Hazard Training ☒ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☐ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

✓	Planned Site Activities		Chemical Hazards		Respirator Use
✓	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
	Biological Hazards		Chemical Exposure Symptoms	✓	Emergency Procedures
✓	Heat or Cold Stress	✓	Level of PPE D	✓	First Aid Procedures
	Site Controls	✓	Types of PPE	✓	Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Lew Kovarik	Lew Kovarik	PIKA
YEZID HORMOZDI	Yezid Hormozdi	PIKA
Justin Roe	Justin Roe	Aerotek
Melvin Lau	Melvin Lau	PIKA

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Mark Rau
Site Safety and Health Officer

Lew Kovarik
Sr. UXO Supervisor or Site Supervisor

Visitor Sign-In Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP, OHIO

PROJECT SITE: O&M Sand Creek Barrier System PROJECT NO: 08-53-134

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out
12/16/08	Lew Kovarik	PIKA	Level D	0900	1700
12/16/08	YEZDI HORMUZDI	PIKA	Level D	0900	1700
12/16/08	Justin Roe	Aerotek	Level D	0900	1700
16Dec08	Melvin Lau	PIKA	Level D	0900	1700

Comments: _____

Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	4
PIKA JOB #:	08-53-134		**Date:**	11-19-08
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Overcast
Temperature:	26° F
Wind (Still, Moderate, High):	Moderate
Humidity (Dry, Moderate, Humid):	Dry

Field Activities:

Description of debris inspection & removal activities: **Removed numerous amounts of leaves and sticks from barrier. Recommend for future inspection/cleaning in late fall/early winter assign two additional persons to help with cleanup.**

Barrier Integrity: **Both screens slightly bent, but no breaks or cracks.**

Assessment of any changes since previous visit: **Both screens are bent more than the previous inspection.**

Repairs made or need to be made: **None at this time.**

Remarks:

Visitors: None

Health and Safety

Conducted health and safety meetings and task order meetings every morning, prior to commencement of activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: **Follow on inspection of barrier**

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell
UXO Safety Officer	Mel Lau		

PHOTO LOG

Overview of barrier upon arrival

Screens bowing.

Overview of barriers before demobilization

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 11/19/08	Instructor(s): MEL LAU	Time: 1030	Log No.: 4
Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH			
Contract No.:		Task Order Number:	
Site Supervisor or SUXOS: Lew Kovanik		SSHO: MEL LAU	

Training Provided: ☐ Initial Site Hazard Training ☒ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☐ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

X	Planned Site Activities		Chemical Hazards		Respirator Use
X	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
X	Biological Hazards		Chemical Exposure Symptoms	X	Emergency Procedures
X	Heat or Cold Stress	X	Level of PPE	X	First Aid Procedures
	Site Controls		Types of PPE	X	Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Lew Kovanik	Lew K	PIKA
MEL LAU	Mel La	PIKA
Yezdi Hormuzdi	Yezdi Hormuzdi	PIKA

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Mel La
Site Safety and Health Officer

Lew K
Sr. UXO Supervisor or Site Supervisor

Visitor Sign-In Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP, OHIO

PROJECT SITE: O&M Sand Creek Barrier System PROJECT NO: 08-53-134

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out
11/19	No visitors				

Comments: _____

Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	3
PIKA JOB #:	08-53-134		**Date:**	10-23-08
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Clear, sunny
Temperature:	47° F
Wind (Still, Moderate, High):	Still
Humidity (Dry, Moderate, Humid):	Dry

Field Activities:

Description of debris inspection & removal activities: **Leaves, branches, silt/mud, and sticks. Removed debris from both screens.**

Barrier Integrity: **Good**

Assessment of any changes since previous visit: **Slight washout. Erosion on southern ends of both barriers.**

Repairs made or need to be made: **Placed rocks at south ends of both barriers to stop erosion.**

Remarks:

Visitors: Mark Patterson (RVAAP), and Daniel Zugris (e2M)

Health and Safety

Conducted health and safety meetings and task order meetings every morning, prior to commencement of activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: **Follow on inspection of barrier**

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell
UXO Safety Officer	Mel Lau		

PHOTO LOG

Overview of Screens upon arrival

Cleaning Screen

Washout area at barrier

Washout area reinforced with rocks

Washout area at barrier

Washout area reinforced with rocks

Overview of barriers before demobilization

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 10/23/08	Instructor(s): Mel Lau	Time: 1030	Log No.: 3
Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH			
Contract No.: E2M-S08-039		Task Order Number:	
Site Supervisor or SUXOS: Lew Kovarik		SSHO: Mel Lau	

Training Provided: ☐ Initial Site Hazard Training ☑ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☑ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

	Planned Site Activities		Chemical Hazards		Respirator Use
X	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
X	Biological Hazards		Chemical Exposure Symptoms		Emergency Procedures
	Heat or Cold Stress	X	Level of PPE	X	First Aid Procedures
	Site Controls	X	Types of PPE	X	Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Lew Kovarik	Lew Kovarik	PIKA
Mel Lau	Mel Lau	PIKA
Daniel Zugris	Daniel Zugris	E2M

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Mel Lau
Site Safety and Health Officer

Lew Kovarik
Sr. UXO Supervisor or Site Supervisor

Visitor Sign-In Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP, OHIO

PROJECT SITE: O&M Sand Creek Barrier System PROJECT NO: 08-53-134

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out
10/23/08	Lew Kovarik	PIKA	mod D	1030	12:00
10/23/08	Mel Lay	PIKA	MOD D	1030	12:00
10/23/08	Daniel Zugris	e^2M	Mod D	10:30	12:00

Comments: _____

Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	2
PIKA JOB #:	08-53-134		**Date:**	9-22-08
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Clear, sunny
Temperature:	68° F
Wind (Still, Moderate, High):	Still
Humidity (Dry, Moderate, Humid):	Dry

Field Activities:

Description of debris inspection & removal activities: **Leaves, branches, mud, sticks and rocks. Removed debris from both screens.**

Barrier Integrity: **Both Barriers bowed slightly due to branches and leaves approximately 3-5" thick on the screens from bottom to top.**

Assessment of any changes since previous visit: **Barrier screens slightly more bowed (no breaks or cracks in screen).**

Repairs made or need to be made: **None.**

Remarks:

Visitors: Mark Patterson (RVAAP), Eileen Mohr (Ohio EPA)

Health and Safety

Conducted health and safety meetings and task order meetings every morning, prior to commencement of activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: **Follow on inspection of barrier**

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell
UXO Safety Officer	Mel Lau		

PHOTO LOG

Overview of Screens upon arrival

Cleaning Screen

Bowing of barrier

Overview of barriers before demobilization

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 9/22/08	Instructor(s): Mel Lay	Time: 10:00	Log No.: 2
Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH			
Contract No.:		**Task Order Number:**	
Site Supervisor or SUXOS: Lew Kovasit		**SSHO:** Mel Lay	

Training Provided: ☐ Initial Site Hazard Training ☑ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☐ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

✓	Planned Site Activities		Chemical Hazards		Respirator Use
✓	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
	Biological Hazards		Chemical Exposure Symptoms	X	Emergency Procedures
	Heat or Cold Stress	✓	Level of PPE D	X	First Aid Procedures
	Site Controls		Types of PPE		Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Melvin Lay		Pika
Lew Kovasit		Pika
Mark Patterson		RVAAP
Ellen T. Mayer		Ohio EPA

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Site Safety and Health Officer

Sr. UXO Supervisor or Site Supervisor

Visitor Sign-In Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP, Ohio

PROJECT SITE: O+M PROJECT NO: 08-53-134

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out
22Sep08	Melvin Hay	Pika	Level D	1000	
22Sep08	Lew Housholt	Pika	Level D	1000	
22Sep08	Mark Patterson	RVAAP	"	1015	1030
22Sep08	Ellen T. Porter	Ohio EPA	Level D	1020	1050

Comments: _____

Trip Report

Prime Contract No:	E2M-S08-039		**Report No.**	1
PIKA JOB #:	08-53-134		**Date:**	8-19-08
Project:	Operation and Maintenance of the Sand Creek Barrier System			

Environmental Conditions:	
Weather Conditions (Bright Sun, Clear, Overcast, Rain, Snow):	Overcast, light rain
Temperature:	71° F
Wind (Still, Moderate, High):	moderate
Humidity (Dry, Moderate, Humid):	moderate

Field Activities:

Description of debris inspection & removal activities: **Leaves, branches, sticks and rocks. Removed debris from both screens.**

Barrier Integrity: **Second Barrier bowed slightly due to leaves, branches etc. Debris built up due to high water. Debris was up to top of both screens at the high water mark. North side of barrier had slight washout.**

Assessment of any changes since previous visit: **N/A**

Repairs made or need to be made: **Repaired washout with available rocks.**

Remarks:

Visitors: Mark Patterson (RVAAP), Irv Venger (RVAAP) Todd Fisher (Ohio EPA)

Health and Safety

Conducted health and safety meeting and task order meeting prior to commencement of activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA

Major Problems and Resolution: None

Schedule for Next Month: **Follow on inspection of barrier**

SUXOS	Lew Kovarik	Project Manager	Brian Stockwell
UXO Safety Officer	Mel Lau		

PHOTO LOG

Overview of Screens upon arrival

Cleaning Screen

Washout area at second barrier

Washout area reinforced with rocks

Ohio EPA inspection of Sand Creek Barrier

Overview of barriers before demobilization

Safety Training Attendance Log

PIKA

PIKA SAFETY TRAINING ATTENDANCE LOG

Date: 8/19/08	Instructor(s): MEL LAU	Time: 0945	Log No.: 1

Site Name & Location: Ravenna Army Ammunition Plant, Ravenna, OH

Contract No.:	Task Order Number:
Site Supervisor or SUXOS: Lew Kovarik	SSHO: MEL LAU

Training Provided: ☑ Initial Site Hazard Training ☑ Daily Safety Briefing ☒ Other: _____
☐ Weekly Safety Training ☐ Task/Hazard-specific Training

I. TRAINING TOPICS COVERED

X	Planned Site Activities		Chemical Hazards		Respirator Use
X	Physical Safety Hazards		Routes of Chemical Exposure		Decontamination Procedures
X	Biological Hazards		Chemical Exposure Symptoms		Emergency Procedures
	Heat or Cold Stress	X	Level of PPE		First Aid Procedures
	Site Controls		Types of PPE	X	Buddy Team Procedures

Other Topics: _____

II. TRAINING COURSE ATTENDEES

Name (printed)	Signature	Organization
Lew Kovarik	Lew	PIKA
Melvin Lau	Mel	PIKA
Devin Scherer	Devin Scherer	e2M

III. TRAINING VERIFICATION

I certify that the personnel listed on this roster have received the safety and health training described above.

Mel Lau
Site Safety and Health Officer

Lew
Sr. UXO Supervisor or Site Supervisor

Visitor Sign-In Log

PIKA INTERNATIONAL, INC.

Visitors Sign-In Log

PROJECT LOCATION: RVAAP Sand Creek Barrier O&M

PROJECT SITE: _____ PROJECT NO: _____

Date	Name	Representing	Equipment and PPE Level	Time IN	Time Out
08/19/08	Devin Scherer	e2M	D	0945	1100
8/19/08	Lew Kaur	PIKA	D	0945	1100
19Aug08	Mark Za	PIKA	D	0945	1100
8/19/08	Todd Fisher	OHIO EPA	D	0945	1100
8/19/08	Kirk Patterson	RVAAP	D	0945	1030
8/19/0	J Yenger	AVAAP	D	0946	1030

Comments: _____

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SECTION B
QUARTERLY EVALUATION AND EFFECTIVENESS REPORTS

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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

Project No:	4100-979-01	**QEE Report No:**	4
Date of QEE Site Visit:	2 September 2009		
Time Period Covered by QEE Report:	**From**	27 May 2009	
	To:	2 September 2009	
Dates of O&M Trips During Period Covered by QEE Report:	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^{2}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^{2}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^{2}M and Cuyahoga to initiate the repairs. HDR/e^{2}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 amd 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^{2}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	Daniel Zugris	April 2010	HDR/e2M
9/2/09	Lew Kovarik	Lew Kovarik	May 2010	PIKA
9/2/09	David Seiler	David Seiler	N/A	Cuyahoga Fence
9/2/09	Mark Bryson	Mark Bryson	N/A	Cuyahoga Fence
9/2-09	DON ZABOROWSKI	Don Zaborowski	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
Daniel Zugris	Daniel Zugris
Lew Kovarik	Lew Kovarik
David Seiler	David Seiler
Mark Bryson	Mark Bryson
Don Zadorozny	Don Zadorozny

Meeting Conducted by: Daniel Zugris

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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	Merle 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. Leon Mohr	Ohio EPA	9:40	10:05
9-2-09	Jim McGee	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

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/e²M 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^{2}M and Cuyahoga to initiate the repairs. HDR/e^{2}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.
- 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.
- 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. 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.

- 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:

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Quarterly Effectiveness Evaluation (QEE) Report

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

Project No:	4100-979-01	**QEE Report No:**	3
Date of QEE Site Visit:	27 May 2009		
Time Period Covered by QEE Report:	**From**	6 February 2009	
	To:	27 May 2009	
Dates of O&M Trip During Period Covered by QEE Report:	25 March 2009 (O&M Trip #7)		
	28 April 2009 (O&M Trip #8)		
	27 May 2009 (O&M Trip #9)		

Summary of O&M Activities Performed During QEE Report Period

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

Barrier integrity:

***Upstream (3-inch grid) barrier**:* All posts and back braces are intact (see Photo #2). All barrier elements are in place and there are 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 have detached from the post clamping system (see Photo #3). The tops of the panels are bowed in the direction of the water flow.

Downstream (1-inch grid) barrier: All posts and back braces are intact. The end panels have detached from the creek banks (see Photos #4 and #5). The tops of the panels are bowed in the direction of the water flow. Sand and gravel, approximately 2-3 inches deep, has accumulated in front of the third panel from the south.

Maintenance performed during O&M Trips: Removed materials from the screens and tightened the bolts on the posts.

Barrier System Effectiveness Evaluation

System operational effectiveness:
Overall the barrier system continues to be effective in its capacity to trap potential munitions-related debris. The downstream barrier no longer provides full redundancy because of the separation of the end panels from the creek banks.

Recommendations

1. Reduce the height of the central screen panels to 10-12 inches. The height of the end panels will remain 24 inches. Benefits 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;
   - Reduced need for screen cleaning outside of the regular O&M schedule; and
   - If needed, the four two-foot tall spare screen panels could be cut lengthwise into eight one-foot panels, to double the number of spare screen panels available onsite.

2. Install new post and back brace at the south end of the downstream barrier. The new post will be installed approximately 4 - 5 feet south of the existing post. A 24-inch high screen panel will be installed between the new post and the creek bank. The new panel will be keyed into the bank at a point one to three feet in front (upstream) of the barrier line. The angle of this panel will create a component of the stream force that will press the panel against the bank, therefore reducing the potential for the south end of the panel to become loose.

3. Install new post and back brace at the north end of the downstream barrier. The new post will be installed as close as possible to the creek bank. Depending on whether the actual location of the new post leaves a gap between the post and the bank or not, an additional piece of screen may or may not be necessary.

4. Remove the sand and gravel accumulated in front of the downstream barrier.

Personnel Present During QEE Site Visit

e^2M: Daniel Zugris

PIKA, O&M activities: Lew Kovarik and James Bouvier

Quarterly Effectiveness Evaluation
Photographic Log

Photo 1: Sand Creek Barrier System (27 May 2009)

Photo 2: Upstream barrier, post and back brace (27 May 2009)

Photo 3: Upstream barrier, second panel from the south (27 May 2009)

Photo 4: Downstream barrier, south end panel (27 May 2009)

Photo 5: Downstream barrier, north end panel (27 May 2009)

Photo 6: Downstream barrier, sand and gravel accumulation (27 May 2009)

Supplemental Effectiveness Evaluation (SEE) Report

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

Project No:	4100-979-01	**SEE Report No:**	I
Date of SEE Site Visit:	25 March 2009		
Time Period Covered by SEE Report:	**From**	6 February 2009	
	To:	25 March 2009	
Dates of O&M Trip During Period Covered by SEE Report:	25 March 2009 (O&M Trip #7)		

Summary of Findings

Since the 5 February 2009 site visit, when the barrier system was almost completely covered in ice and snow, the snow melt, rain, breaking ice, wood debris, and high creek water have resulted in damage to the some of the screen panels (see Photo #1).

Upstream (3-inch grid) barrier: All posts and back braces are intact. All barrier elements are in place and there are 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 have detached from the post clamping system (see Photo #2). The tops of the panels are bowed in the direction of the water flow.

Downstream (1-inch grid) barrier: All posts and back braces are intact. The end of the first panel from the south has detached from the creek bank and left a gap of several inches between the panel and the creek bank (see Photo #3). During the 25 March 2009 site visit, e^2M filled the gap with stones from the creek bed. The panel at the north end is no longer keyed firmly into the bank (see Photo #4) but still functional. The tops of the panels are bowed in the direction of the water flow.

System operational effectiveness

Overall the barrier system continues to be effective in its capacity to trap potential munitions-related debris.

Recommendations

1. Reduce the height of the central screen panels to 10-12 inches. The height of the end panels will remain 24 inches. Benefits 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;
- Reduced need for screen cleaning outside of the regular O&M schedule; and
- If needed, the four two-foot tall spare screen panels could be cut lengthwise into eight one-foot panels, to double the number of spare screen panels available onsite.

2. Install new post and back brace at the south end of the downstream barrier. The new post will be installed approximately 4 - 5 feet south of the existing post. A 24-inch high screen panel will be installed between the new post and the creek bank. The new panel will be keyed into the bank at a point one to three feet in front (upstream) of the barrier line. The angle of this panel will create a component of the stream force that will press the panel against the bank, therefore reducing the potential for the south end of the panel to become loose.

3. Install new post and back brace at the north end of the downstream barrier. The new post will be installed as close as possible to the creek bank. Depending on whether the actual location of the new post leaves a gap between the post and the bank or not, an additional piece of screen may or may not be necessary.

Personnel Present During SEE Site Visit

e^2M: Daniel Zugris

PIKA, O&M activities: Lew Kovarik and Mel Lau

Supplemental Effectiveness Evaluation
Photographic Log

Photo 1: Sand Creek Barrier System (25 March 2009)

Photo 2: Upstream barrier, second panel from the south (25 March 2009)

Photo 3: Downstream barrier, first panel from the south (25 March 2009)

Photo 4: Downstream barrier, north end panel (25 March 2009)

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Quarterly Effectiveness Evaluation (QEE) Report

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

Project No:	4100-979-01		**QEE Report No:**	2
Date of QEE Site Visit:	5 February 2009			
Time Period Covered by QEE Report:	**From**	24 October 2008		
	To:	5 February 2009		
Dates of O&M Trips During Period Covered by QEE Report:	19 November 2008 (O&M Trip #4)			
	16 December 2008 (O&M Trip #5)			
	5 February 2009 (O&M Trip #6)			

Summary of O&M Activities Performed During QEE Report Period

Materials found on the screens: Leaves, branches, sticks, sediment, rocks, ice, and snow. No munitions-related materials were found on the screens.

Barrier integrity: There is no damage to the barrier elements. Barrier screens are slightly bowed due to water pressure on leaf-covered screens. Photos 1 and 2 (taken on 16 December 2008) show the barrier screens almost completely loaded with leaves. The limited scouring observed and repaired during the 23 October 2008 QEE visit appears to have subsided. This may be due to the bowing of the screens, which creates a preferential water overflow in the central portion of the panels and away from the creek banks. The ice observed during the 5 February 2009 QEE visit covering most of the barriers did not appear to impact the integrity of the system. Photo 3 shows a portion of the downstream screen and a back brace encased in ice. Two posts, back braces, and base plates were uncovered and examined on 5 February 2009. No damage to their integrity or anchoring was observed (Photos 4 and 5).

Other changes observed: The water pressure on the screen panels covered with leaves results in the elongation, or bowing, of the panels. During the 5 February 2009 site visit, the length of the forth panel from the south bank (in the 1-inch grid opening barrier) was measured to be approximately 96.75 inches, or 0.75 inches longer than the original size. This represents an elongation of approximately 0.8% or a strain of 0.008.

Maintenance performed: Removed materials from the screens (19 November and 16 December 2008). No O&M screen cleaning activities were possible on 5 February 2009 due to the ice and snow covering the barrier system.

Barrier System Effectiveness Evaluation

Barrier System condition:
All posts, back braces, and anchor plates appear to be intact and solidly anchored. No gaps have developed between the bottom of the screens and the creek bed. Most of the screen panels have been slightly bowed by water pressure (Photo 6). No significant scouring on the creek banks was observed during the QEE 2 period.

System operational effectiveness:
In the first six months of operation, the Barrier System has effectively performed as designed. The O&M activities performed during this time period have shown that no munitions-related materials and no large debris, such as tree stumps and rocks, have been found on the screens. The main driver of the O&M effort has been leaf accumulation on the screen panels. Due to the fast accumulation of leaves between October 2008 and January 2009, the O&M team mobilized several times to partially clean the screens between the scheduled O&M trips.

Repairs needed:
No repairs are needed for the Barrier System elements. However, the effectiveness and maintainability of the system may be improved by decreasing the height of the screens to 10 – 12 inches. The shorter screens would be as effective in capturing munitions-related materials and would provide the following benefits:

- 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;
- Reduced need for screen cleaning outside of the regular O&M schedule; and
- If needed, the four two-foot tall spare screen panels could be cut lengthwise into eight one-foot panels, to double the number of spare screen panels available onsite.

The procedure for reducing the screen height would consist of cutting the top of the panels in place, without removing the clamps that attach the screens to the posts or disturbing the posts or back braces. We recommend reducing the screen height in the late spring – early summer timeframe.

Personnel Present During QEE Site Visit

e^2M: Daniel Zugris
PIKA, O&M activities: Lew Kovarik and Mel Lau

Quarterly Effectiveness Evaluation
Photographic Log

Photo 1: Upstream barrier loaded with leaves (12 December 2008)

Photo 2: Water overflowing the barriers (12 December 2008)

Photo 3: Screen and back brace encased in ice (5 February 2009)

Photo 4: Base plate (12 December 2008)

Photo 5: Post, back brace, and screen (12 December 2008)

Photo 6: Barrier System after the 16 December 2008 O&M cleaning

Quarterly Effectiveness Evaluation Report

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

Project No:	4100-979-01	**QEE Report No:**	1
Date of QEE Site Visit:	23 October 2008		
Time Period Covered by QEE Report:	**From**	17 July 2008 (construction completion)	
	To:	23 October 2008	
Dates of O&M Trips During Period Covered by QEE Report:	19 August 2008 (O&M Trip #1)		
	22 September 2008 (O&M Trip #2)		
	23 October 2008 (O&M Trip #3)		

Summary of O&M Activities Performed During QEE Report Period

Materials found on the screens: Leaves, branches, sticks, sediment, and rocks. No munitions-related materials were found on the screens.

Barrier integrity: Barrier screens are slightly bowed due to water pressure on leaves-covered screens. There is no damage to the barrier elements. Some limited scouring was observed at the south end of the barrier screens, on the creek bank.

Other changes observed: None.

Maintenance performed: Removed materials from the screens and filled the scoured area with rocks.

Barrier System Effectiveness Evaluation

Barrier System condition:
All posts, back braces, and anchor plates are intact and solidly anchored (Photos 1 and 2). Most of the screen panels have been slightly bowed by water pressure (Photo 3). During storm events, leaves build up on the screens, generating pressure that increases with water depth. As a result, the maximum screen deflection is observed at the top of the screens. The maximum deflection reaches 2 inches on the 3-inch opening barrier and 4 inches on the 1-inch opening barrier. The difference is due to the larger amount of leaves on the barrier with smaller grid opening. The screen panel deflection appears to have been stabilized within the first couple of months after construction. At the time of the QEE visit, before the O&M debris removal work, the leaves accumulated on the barriers were 7 - 8 inches deep (Photo 4).

Creek bank scouring was observed at the south end of each of the two barriers, where the creek is deeper and the creek bank is steep (Photo 5). The scouring features are located

approximately at the height of the screens, which indicates that they were produced during storm events. The scouring effects are limited by the rocks present in the bank and the root mass of the vegetation. During the O&M trips the scoured areas have been partially filled with rocks. The rocks and roots present in the creek bank, as well as the O&M repairs, have limited the extent of scouring and its impact on the barrier integrity.

System operational effectiveness:
In the first three months of operation, the Barrier System has effectively performed as designed (Photos 6 and 7).

Repairs needed:
No repairs are needed for the Barrier System elements. The monthly O&M trips will continue to focus on removing the debris accumulated on the screens and filling in any scoured areas on the creek banks.

Personnel Present During QEE Site Visit

e^2M: Daniel Zugris

Other: Lew Kovarik (PIKA, O&M activities) and Mel Lau (PIKA, O&M activities), and Mark Patterson (RVAAP, Facility Manager)

Quarterly Effectiveness Evaluation
23 October 2008
Photographic Log

Photo 1: Upstream barrier post and back brace

Photo 2: Anchor plate

Photo 3: Downstream (1-inch grid opening) screen deflection

Photo 4: 7 – 8-inch deep leaves accumulated on the screen

Photo 5: Scouring at south end of upstream (3-inch grid opening) barrier

Photo 6: Barrier System, looking downstream

Photo 7: Barrier System, looking upstream