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**USACE PBOW  
RAB MEETING MINUTES  
PLUM BROOK ORDNANCE WORKS  
December 11, 2014**

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**ATTENDEES**

Rick Meadows, USACE Huntington  
Lisa Humphreys, USACE Huntington  
Jim Beaujon, USACE Nashville  
Paul Jayko, Ohio EPA NWDO  
John Blakeman, RAB Community Co-Chair  
Peg Kingsley, RAB Member  
Gil Steinen, RAB Member

Lee Yeckley, RAB Member  
Paul Jayko, Ohio EPA  
Jarrett Barnes, Community Member  
Sharon Barnes, Community Member  
Steve Downey, CB&I  
Mike Gunderson, CB&I  
Helen Owens, OTIE

**RAB MEETING AGENDA**

1. Opening of Meeting
2. Project Updates
  - Reservoir No. 2 Burning Ground RA-C (OTIE)
  - Acid Area 2 RA-C (OTIE)
  - Well Abandonment and Lead Delineation (CB&I)
3. Status of Acid Area 3 RA-C (USACE)
4. Status of Projects in RI/FS Phase (CB&I)
5. Continuation of RAB
6. Schedule Next Meeting
7. Adjourn

**OPENING COMMENTS**

Rick Meadows, USACE PBOW Project Manager opened the meeting and reviewed the meeting agenda. Mr. Meadows reminded the meeting attendees that the Proposed Plan for the Red Water Ponds Areas is still in the public comment period.

**PROJECT UPDATE - RESERVOIR NO. 2 BURNING GROUND RA-C**

Helen Owens (Oneida Total Integrated Enterprises (OTIE)) provided an update on the Reservoir No. 2 Burning Ground RA-C. Ms. Owens provided a project overview and outlined the activities that have been completed or are underway.

- The project overview included:
  - Excavation of contaminated soil
  - Characterization of excavated soil
  - Treatment of hazardous soil
  - Disposal of remediated soil
- The current activities include:
  - Sump liner replacement
  - Clearing of the AOC

- Surveyed and staked excavation coordinates
- Constructed stockpile pad and 2 stockpiles
- Housekeeping

John Blakeman (RAB Co-Chair) inquired about the Maectite® process that will be used to stabilize the lead-contaminated soil from R2BG. Ms. Owens explained that the process stabilizes the soil by encapsulating it so the lead will not leach into the soil. The R2BG soil will be stabilized to below hazardous levels of lead. The stabilized soil will not be used on-site but will be transported to Erie County Landfill for use as daily cover.

Ms. Owens' presentation is included as an attachment to these minutes.

#### **PROJECT UPDATE – ACID AREA 2 RA-C**

Helen Owens (OTIE) provided the RAB with the following update:

- The contract was awarded in mid-September 2014
- Draft work plans are currently under USACE review with comments expected in mid-January 2015
- The volume of soil to be excavated is 14,189 cy
- The contaminant of concern is PCBs
- No soil treatment will be performed
- The soil will be excavated and disposed at landfill
- Use of a soil screening analysis to determine if the excavation depth can stop at 18 inches.

#### **PROJECT UPDATE – WELL ABANDONMENT AND LEAD DELINEATION**

Mike Gunderson (CB&I) updated the RAB on the well abandonment effort. Mr. Gunderson reported that the fieldwork was being completed in three stages:

- Sanding/bentonite added to wells - Completed
- Grouting of well/borehole – Completed
- Removal of surface debris and site restoration – Completion in December 2014
  - Reseeding the areas will be completed in spring 2015

Mr. Gunderson also provided an update on the lead sampling conducted in September 2014. Additional lead sampling was conducted at Waste Water Treatment Plant No. 2, Acid Area No. 1 and the former Sellite Building Area. As part of the update, Mr. Gunderson reviewed the Toxicity Characteristic Leaching Procedure (TCLP) and how the data from the TCLP analysis is used in the remediation process. Mr. Gunderson's presentations are included as an attachment to these minutes.

#### **STATUS OF ACID AREA 3 RA-C AWARD**

Lisa Humphreys (USACE) provided the following update on the status of the AA3 contract award.

- The contract is in the USACE contracting office
- The contract is anticipated to be awarded by end of December 2014 pending availability of funds.

## **STATUS OF PROJECTS IN RI/FS PHASE**

Mike Gunderson (CB&I) updated the RAB on the following projects that are in the RI/FS Phase:

- WWTP No. 2 Baseline Ecological Risk Assessment
- WWTP 1 and 3 Proposed Plan
- Red Water Ponds Proposed Plan
- Red Water Ponds Decision Document
- Ash Pits 1 and 3 Proposed Plan
- Powerhouse No. 2 Ash Pits Proposed Plan
- Garage Maintenance Area Feasibility Study
- Acid Area No. 1 Proposed Plan
- Well Abandonment Report

Mr. Gunderson's presentation on the document status is included as an attachment to these minutes.

## **CONTINUATION OF RAB**

Rick Meadows (USACE) asked John Blakeman (RAB Co-Chair) to contact the RAB Members to determine if they wish to continue the PBOW RAB. Mr. Blakeman indicated that he was in favor of continuing the RAB and that he would contact the other members and convey that information to Mr. Meadows via email.

## **OPEN TOPICS**

John Blakeman (RAB Co-Chair) requested that a copy of the PBOW Public Repository be provided to the Sandusky Library. John will email the name of the library POC to Lisa Humphreys.

## **NEXT RAB MEETING**

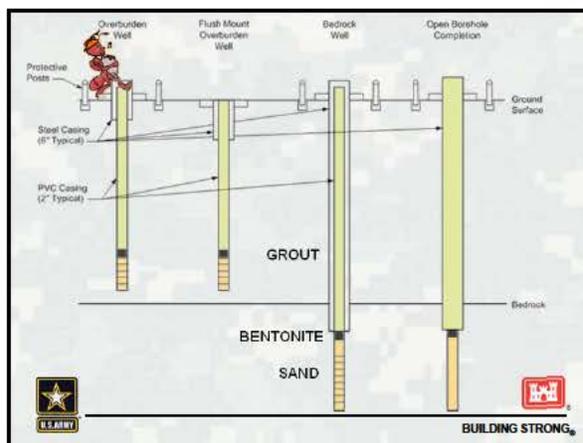
The next RAB Meeting was scheduled for Thursday, March 26, 2015.



## Monitoring Well Abandonment Lead Delineation Sampling

Mike Gunderson  
Geologist  
CB&I Federal Services  
11 December 2014

U.S. Army Corps of Engineers  
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### Well Abandonment Status

- ▶ Fieldwork completed in three stages
  - Sanding/bentonite added to wells (completed)
  - Grouting of well/borehole (completed)
    - ▷ Drilling subcontractor completed work with CBI oversight
  - Removal of surface material and site restoration
    - ▷ Protective casing/concrete/bollards removed
      - Excavate to 3-4 feet to access protective steel casing
      - In progress, to be completed in December 2014
    - ▷ Site backfilled and reseeded as needed
      - To be completed Spring 2015.

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### Well Abandonment Status

- ▶ Diversion Stem for insertion of grout and diverting groundwater

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**Well Abandonment Status**

► Grout Mixer/Pump



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**Well Abandonment Status**

► Removal of Surface Material



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**Well Abandonment Status**

► Grouted well



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**Well Abandonment Status**

► Surface Restoration – backfilling/grading in progress

- Top soil/seeding to be completed Spring 2015



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### Well Abandonment Status

- ▶ Planned Activities
  - Additional work to be completed in Spring 2015 – adding topsoil, seeding and grading
  - Additional site walk in spring / summer to verify growth of seeded areas, followed by additional restoration if needed.
  - Submittal of well closure forms to the Ohio DNR
  - Submittal of well abandonment report




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### Fieldwork Status

- ▶ Toxicity Characteristic Leaching Procedure (TCLP) Sampling
  - Typically collected during investigations for disposal of investigation derived waste and during remediation to deal with waste disposal
  - Analysis used to determine disposal requirements
    - ▶ Investigation Derived Waste
      - Decontamination water and purge water
      - Residual soil from drilling and sampling
      - Occasionally also sampling equipment, PPE, etc that may require disposal
    - ▶ Remediation waste (soil and groundwater)




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### Fieldwork Status

- ▶ Additional lead sampling conducted at three sites in September 2014
  - Waste Water Treatment Plant No. 2
    - ▶ Baseline Ecological Risk Assessment
    - ▶ TCLP sampling
  - Acid Area No. 1
    - ▶ TCLP sampling
  - Former Sellite Building Area
    - ▶ TCLP sampling and lead delineation




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### Fieldwork Status

- ▶ Toxicity Characteristic Leaching Procedure (TCLP)
  - Simulates landfill conditions
    - ▶ Conduct simulated leaching of the waste and potential impacts for long term disposal in landfills
    - ▶ Forty compounds evaluated based on toxicity
    - ▶ In addition, ignitability, corrosivity and reactivity also evaluated




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## Fieldwork Status

### ► Toxicity Characteristic Leaching Procedure (TCLP)

#### • Method (soil)

- ▷ Collect representative samples of waste material
  - Composite sample (non-VOCs) or discrete sample (VOCs) collected on a cubic yard or ton basis (e.g., one sample per 300 cubic yards of soil)
  - Minimum of 100 grams of composite sample added to pH-adjusted water
    - Amount of water is 20 times the sample weight
    - Agitated for 18 hours
    - Liquid extract analyzed for 40 compounds
      - If any of the established standards exceeded, the waste is considered hazardous



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## Fieldwork Status

### ► 20 Times Rule (Rule of 20)

- Used for planning purposes only, not for actual disposal
- Acid Area No. 1 issue
  - ▷ Lead is not a contaminant of concern at AA1 for exposure, but potentially is a disposal issue once soil is excavated for PCB contamination because lead exceeds the "20 Times Rule" of 100 mg/kg
  - ▷ Affects the anticipated costs for various alternatives developed in the feasibility study
  - ▷ Same issue at the Former Sellite Area where focus is on PCBs but lead is present as well
- Waste Water Treatment Plant No. 2 also has lead exceeding 20X rule but lead is the COC



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## Fieldwork Status

### ► Evaluating Waste Disposal Costs in Feasibility Studies

- Disposal costs (hazardous vs nonhazardous) important cost factor in the FS stage
- TCLP samples typically not collected during investigation activities other than for IDW disposal
- Use the "20 Times Rule" for solid waste
  - ▷ If the concentration of a given contaminant exceeds 20 times the TCLP limit, there is a *potential* for the waste to be classified as hazardous and require special disposal
  - ▷ Conversely, if the contaminant concentration is less than 20 times the TCLP limit, then the sample cannot leach enough of the constituent to fail the TCLP limit and thus is classified as a nonhazardous waste



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## Fieldwork Status

### ► Derivation of the 20 Times Rule

- TCLP limit for lead is 5 mg/l in 2 liters of extract
  - ▷ Total mass is therefore 10 mg
  - ▷ Assumes that all lead has leached out of the 100 mg soil sample
    - Original soil concentration was therefore 10 mg lead in 100 gram sample = a concentration of 10 mg/0.10 kg or 100 mg/kg



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### Fieldwork Status

- ▶ Derivation of the 20 Times Rule
  - 20X Rule results in a lead concentration of 100 ppm for soil
  - Limitations
    - ▷ Assumes all lead would leach out of the sample
      - Very conservative assumption
      - Soil factors such as grain size, mineralogy and organic carbon content affect leachability and are not accounted for in the calculation
      - Even with these limitations, the 20X Rule very useful particularly if the concentrations of the contaminants of interest do not exceed the screening level




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### Fieldwork Status

- ▶ Waste Water Treatment Plant No. 2 BERA
  - Bioaccumulation study currently in progress to evaluate lead in soil
  - TCLP sampling completed
- ▶ Acid Area No. 1 and Former Sellite Building Area
  - TCLP sampling completed
- ▶ All TCLP samples were below standards indicating soil *likely* will be disposed of as a nonhazardous waste
  - ▷ Additional TCLP sampling required prior to actual soil disposal




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### Fieldwork Status

- ▶ 20 X Rule (continued)
  - Examples

Contaminant	TCLP Regulated Level (mg/l)	20 x TCLP Limit
Arsenic (As)	5	100
2,4 Dinitrotoluene	0.13	2.6
Lead (Pb)	5	100
Vinyl Chloride	0.2	4




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### Fieldwork Status

- ▶ XRF Performance for Lead Analysis

Lead Comparison Results for XRF vs laboratory



Lab	REF	Sample ID
124	17	1000-00-002
211	39	1000-00-001
344	46	1000-00-003
363	59	1000-00-004
110	111	1000-00-005
110	100	1000-00-006
110	100	1000-00-007
110	100	1000-00-008
110	100	1000-00-009
110	100	1000-00-010
110	100	1000-00-011
110	100	1000-00-012
110	100	1000-00-013
110	100	1000-00-014
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### Document Status

Steve Downey  
Project Manager  
CB&I Federal Services, LLC  
11 December 2014



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### Document Status

- ▶ Ash Pits 1&3 Proposed Plan
  - Draft Proposed Plan issued 1 December 2014
  - Comments requested by 2 February 2015
  - Public Meeting – March 2015
- ▶ Powerhouse #2 Ash Pits Proposed Plan
  - Draft Proposed Plan issued 2 December 2014
  - Comments requested by 2 February 2015
  - Public Meeting – March 2015
- ▶ Garage Maintenance Area Feasibility Study
  - Internal Draft – 15 December 2015



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### Document Status

- ▶ WWTP2 BERA Report
  - Internal Draft – February 2015
  - Results to be included in Draft RI Report
- ▶ WWTP 1&3 Proposed Plan
  - Currently resolving internal review comments on CX-draft
  - Draft Proposed Plan – January 2015
  - Public Meeting – May 2015



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### Document Status

- ▶ Acid Area No. 1 Proposed Plan
  - Draft Proposed Plan issued 17 November 2014
  - Comments requested by 20 January 2015
  - Public meeting – March 2015
- ▶ Well Abandonment Report
  - Internal Draft Report – Summer 2015
    - ▶ Well abandonment forms to be submitted to Ohio DNR January 2015



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### Document Status

- ▶ Red Water Ponds Proposed Plan
  - Public Meeting – 20 November 2014
  - Public Comment Period ends 22 December 2014
- ▶ Red Water Pond Decision Document
  - Internal Draft – January 2015
  - CX Draft – April 2015
  - State Draft – June 2015



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