

IT Original Slides

SUMMARY

Second Quarterly Background Sampling and Analytical Update of Downgradient Wells

**FORMER PLUM BROOK ORDNANCE WORKS
SANDUSKY, OHIO**

Presented To:

Restoration Advisory Board

June 5, 2002



draft 2nd quart backgrnd - down gradient

Second Quarterly Background Sampling

- A background groundwater investigation was conducted at PBOW beginning in 2001 to:
 - Determine the quality of bedrock groundwater entering PBOW
 - Determine the range of inorganic concentrations in background residuum and bedrock groundwater
 - Perform seasonal trend analysis of inorganics
 - Establish background concentrations of inorganics in residuum and bedrock groundwater
 - Determine the quality of residuum groundwater upgradient of selected sites.
- Due to drought conditions, establishing inorganic background concentrations in residuum groundwater was eliminated.



Sampling Procedures

- **Low-Flow (minimal drawdown)**
 - Conducted January 15-17, 2002
 - Groundwater collected from five bedrock wells
 - Groundwater pumped from within screened portion of well
 - Water level drawdown never greater than 0.5 feet
 - Pumping rates between 200 to 500 ml per minute
 - Low-flow sampling not performed on background well

PB-BED-MW26



Sample Collection

- **Low-Flow (minimal drawdown)**
 - **Sample collected after 3 consecutive water chemistry parameters (pH, Eh, conductivity, temperature, DO, and turbidity) recorded**
 - **Filtered metal samples collected through 0.45-micrometer filter**
 - **Groundwater from PB-BED-MW26 collected with disposable Teflon bailer.**



Groundwater Analysis

- **Laboratory Analysis**
 - **Samples analyzed for nitroaromatics, target compound list (TCL) VOCs, TCL SVOCs, target analyte list (TAL) metals, and various water quality parameters**



Investigation Derived Waste (IDW) Management

- Approximately 23 gallons of groundwater generated
- IDW disposed of by US Liquids, Inc.



Background Groundwater Sampling Results

- Background Monitoring Wells

→ No nitroaromatics detected (1st or 2nd quarter)

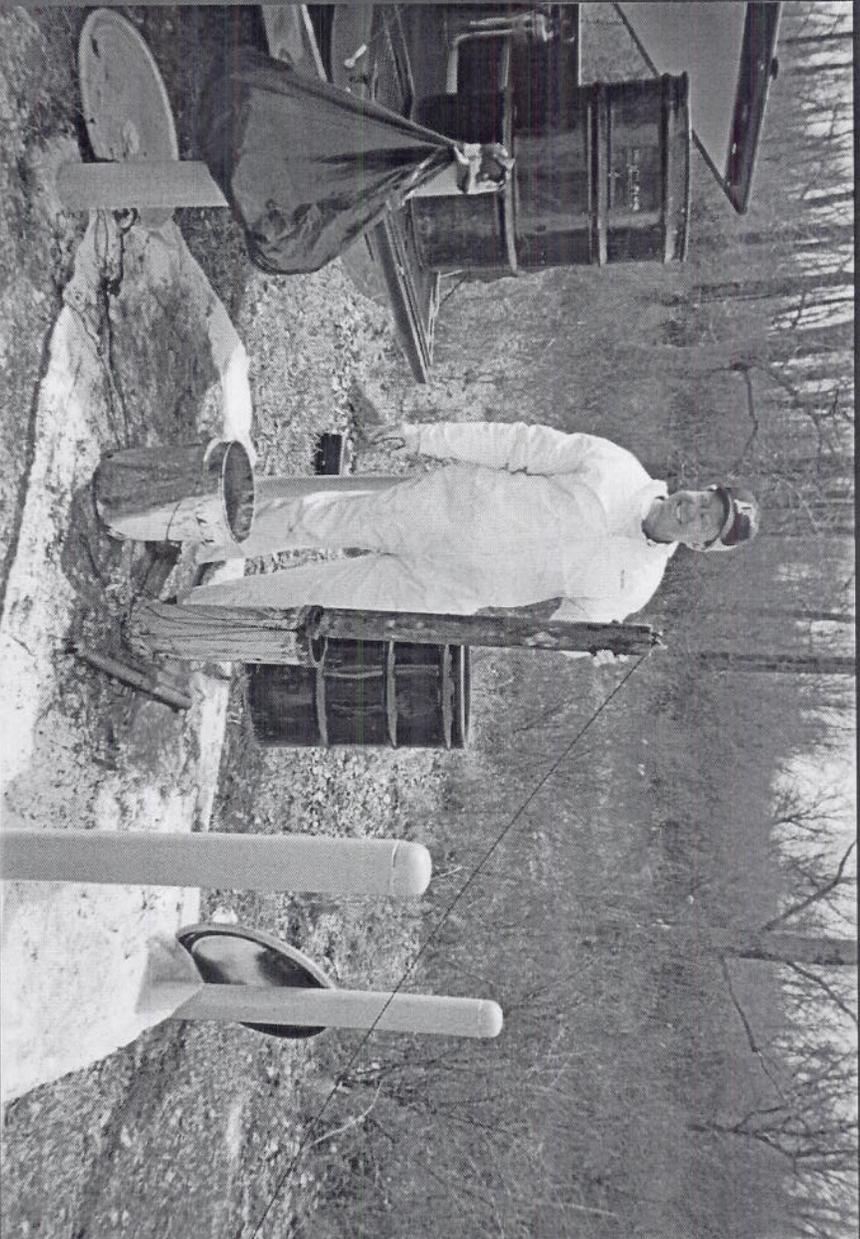


Preliminary Downgradient Analytical Results

■ Downgradient Well (PB-BED-MW27)

<u>Parameter</u>	<u>Unit</u>	<u>PRG</u>	<u>October 2001</u>	<u>April 2002</u>
2,4-DNT	µg/L	0.099	1.5	0.58
2,6-DNT	µg/L	0.099	1.1	0.59





**IT purging groundwater from PB-BED-MW27.
Black organic substance possibly related to H₂S.
4/7/02 - Third Quarterly/First Annual (Second
Round) Sampling Event.**





Purge water from PB-BED-MW27.
4/7/02 - Third Quarterly/First Annual (Second Round)
Sampling Event.



Beaujon, James S LRN

From: Ingram, Linda LRN
Sent: Friday, May 31, 2002 11:16 AM
To: Long, Lannae J LRN; Beaujon, James S LRN
Subject: FW: Draft slides for RAB meeting

Just came in.

Linda

-----Original Message-----

From: Mikael Spangberg [mailto:Mikael.Spangberg@mactec.com]
Sent: Friday, May 31, 2002 11:00 AM
To: Downey, Steven T; Ingram, Linda LRN; Michael Gunderson
Cc: Cunningham, Kenneth A.; Anderson, William; Kessler, Dave
Subject: RE: Draft slides for RAB meeting

Steve / Bill / Ken / Dave,

Mike and I have completed our review of the two presentations and offer the following comments:

1. Both presentations contain background information and other "fluff" that doesn't contribute a great deal to what is being conveyed. The RAB has voiced a desire for minimizing the background information (since they've already seen it) and getting to the point - I call this the "meat and potatoes syndrome". For example, they've already been briefed on the A&C RI, HHRA, and ERA. Thus, I would suggest that the presentations be condensed accordingly.
2. Each presentation should include figures showing site locations; well locations are needed for the GW update.
3. GW Slide 2 - indicate that the background is primarily for inorganics.
4. GW Slides 3, 4, 6 - delete.
5. GW Slide 5 - rearrange and break each analyte out in separate bullets.
6. GW Slide 7 - verify; nitroaromatics weren't detected in the second quarter (January), but the lab did not analyze all samples for nitros.
7. GW Slide 8 - if the presentation is for the second quarter, why include 3rd quarter sample results here?
8. FFS slides - consider using standard presentation format.
9. FFS slides - verify the confirmation sample quantities (slide 5).
10. Last slide of the FFS implies that the public will be asked to comment on the "Final FFS"; suggest that this be revised to state that they be asked to comment on the "revised FFS" so that it can be finalized.

5/31/2002

Beaujon, James S LRN

From: Downey, Steven T [Sdowney@theitgroup.com]
Sent: Friday, May 31, 2002 1:14 PM
To: 'Mikael Spangberg'; Downey, Steven T; Ingram, Linda LRN; Michael Gunderson
Cc: Cunningham, Kenneth A.; Anderson, William; Kessler, Dave; 'Beaujon, James S LRN'
Subject: RE: Draft slides for RAB meeting

Mike,

Thanks for the comments. I had planned to include the background info in the handouts (so that it would be a complete package for anyone who had not seen it before) but skip those slides in the presentation. I have no problem with removing those from the slide package if that is the consensus. As suggested by Jim Beaujon, we had planned to have full size drawings (maps) to indicate well locations. The subject of the GW presentation is two-fold; second quarter results and update on downgradient wells. The RAB was particularly interested in the wells at the site boundary. We plan to present the preliminary analytical results for MW-27. We will clarify in the title of this slide that these are preliminary 3rd qtr. results. Detailed info on sampling method will be deleted; we will simply state that a low flow (minimal drawdown) method was used to minimize IDW. We had planned to use the standard presentation format for the final slides; in the interest of time I wanted to get the content out for review. We will also change IT to Shaw in the final version. We will also incorporate other changes suggested by Jim Beaujon.

Thanks,

Steve

-----Original Message-----

From: Mikael Spangberg [mailto:Mikael.Spangberg@mactec.com]
Sent: Friday, May 31, 2002 12:00 PM
To: Downey, Steven T; Ingram, Linda LRN; Michael Gunderson
Cc: Cunningham, Kenneth A.; Anderson, William; Kessler, Dave
Subject: RE: Draft slides for RAB meeting

Steve / Bill / Ken / Dave,

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1. Both presentations contain background information and other "fluff" that doesn't contribute a great deal to what is being conveyed. The RAB has voiced a desire for minimizing the background information (since they've already seen it) and getting to the point - I call this the "meat and potatoes syndrome". For example, they've already been briefed on the A&C RI, HHRA, and ERA. Thus, I would suggest that the presentations be condensed accordingly.
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Should you have any questions, please let me know.

Mike

-----Original Message-----

From: Downey, Steven T [mailto:Sdowney@theitgroup.com]
Sent: Wed 5/29/2002 6:17 PM
To: 'Ingram, Linda LRN'; Michael Gunderson; Mikael Spangberg
Cc: Cunningham, Kenneth A.; Anderson, William; Kessler, Dave
Subject: Draft slides for RAB meeting

Linda/Mike/Mike,

Please review the attached draft presentation slides for the June 5 RAB meeting for PBOW and provide any comments you may have. I may have some internal edits; if so I will forward those to you. I would like to finalize these slides by COB Friday.

Thanks,

Steve

<<Pres 6-5-02.ppt>> <<draft 2nd quart bckgrd_downgradient.ppt>>
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Beaujon, James S LRN

From: Beaujon, James S LRN
Sent: Friday, May 31, 2002 12:05 PM
To: 'Sdowney@theitgroup.com'
Cc: Ingram, Linda LRN; 'Mikael.Spangberg@mactec.com'
Subject: PBOW Groundwater Slide Presentation

I have revised the groundwater presentation slides based on my own review and some of the Mikes' suggestions. There are still more changes needed for original slides 7 & 8. I have added my comments to those slides (denoted by a ? at the end of the bullet entry) in my version.

All of the Mike's suggestions should be incorporated. The suggestion of a figure to show well locations and TNT A and C should be handled by having large hard copy maps to post while the presentation is given rather than as one of the slides.



jb 2nd quart
ckgrd_downgradi..

SUMMARY

Second Quarterly Background Sampling and Analytical Update of Downgradient Wells FORMER PLUM BROOK ORDNANCE WORKS SANDUSKY, OHIO

**Presented To:
Restoration Advisory Board**

June 5, 2002



Background Groundwater Investigation

- The current background groundwater investigation at PBOW began during the groundwater sampling in September and October of 2001. Information concerning the investigation and results were presented at the last RAB (March 27, 2002). The objectives of this investigation include:
 - Determine the quality of bedrock groundwater entering PBOW, including the range of inorganic (metals) concentrations.
 - Perform seasonal trend analysis of inorganics
 - Establish background concentrations of inorganics in the bedrock groundwater



Second Quarterly Background Sampling

- The Second Quarter of bedrock background sampling occurred January 15th-17th, 2002.



Sample Collection

- **Low-Flow (minimal drawdown)**
 - Sample collected after water chemistry parameters (pH, Eh, conductivity, temperature, DO, and turbidity) stabilized according to Sampling Plan criteria. This indicates that the water being collected is fresh from the bedrock as opposed to having come from the stagnant water sitting in the well.
 - Filtered metal samples collected through 0.45-micrometer filter
 - Groundwater from PB-BED-MW26 collected with disposable Teflon bailer.



Groundwater Analysis

- **Samples Analyzed for:**
 - **Nitroaromatics**
 - **Target Compound List (TCL) VOCs**
 - **TCL SVOCs**
 - **Target Analyte List (TAL) Metals**
 - **Various Water Quality Parameters**



Background Groundwater Sampling Results

- Background Monitoring Wells
 - No nitroaromatics detected (1st or 2nd quarter)
 - Inorganics detected above PRGs (1st or 2nd quarter)?



Preliminary Downgradient Analytical Results

■ Downgradient Well (PB-BED-MW27)

<u>Parameter</u>	<u>Unit</u>	<u>PRG</u>	<u>October 2001</u>	<u>April 2002</u>
2,4-DNT	µg/L	0.099	1.5	0.58
2,6-DNT	µg/L	0.099	1.1	0.59

- Other organics detected above PRGs?
- Inorganics detected above PRGs?





**IT purging groundwater from PB-BED-MW27.
Black organic substance possibly related to H₂S.
4/7/02 – 2002 Wet Season Sampling Event.**





Purge water from PB-BED-MW27.
4/7/02 – 2002 Wet Season Sampling Event.

