



#### Variance Components Analysis - Percent Solids <40%

"Near" Sample Group = 59.0

"Far" Sample Group = 115.1

**Laboratory component** =  $\text{Var}_{\text{Dup}} = 2.4$

**Dredging process component** =  $\text{Var}_{\text{Near}} - \text{Var}_{\text{Dup}} = 59.0 - 2.4 = 56.6$

**Model uncertainty component** =  $\text{Var}_{\text{Far}} - \text{Var}_{\text{Near}} = 115.1 - 59.0 = 56.1$

\* Conclusion: Approximately equal sources of variation from dredging process and model uncertainty.

#### Variance Components Analysis - Percent Solids >40%

"Near" Sample Group = 14.1

"Far" Sample Group = 53.6

**Laboratory component** =  $\text{Var}_{\text{Dup}} = 2.4$

**Dredging process component** =  $\text{Var}_{\text{Near}} - \text{Var}_{\text{Dup}} = 14.1 - 2.4 = 11.7$

**Model uncertainty component** =  $\text{Var}_{\text{Far}} - \text{Var}_{\text{Near}} = 53.6 - 14.1 = 39.5$

\* Conclusion: Significantly less variation from dredging component than with percent solids <40%.

Model uncertainty component similar to (slightly less) percent solids <40%.

<sup>(1)</sup> Variance of prediction errors, which are defined as post-dredge PCB - model prediction. When using composite samples, individual term in variance equation was multiplied by the number of samples in composite.

"Near" group consists of post-dredge data not more than 11 feet distant from a pre-dredge sample location. These are mostly the post-dredge primary samples. "Far" group consists of post-dredge data at least 17 feet from a pre-dredge location. These are mostly secondary samples.

		
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FIGURE 3-38 Lower Fox River OU1 Estimated Variance in PCB Prediction Errors Sub-Area A by Percent Solids		
Scale: Not To Scale	Revised December 2006	
Drawn By: SGL	Checked By: TMK1	Scope: 04g007