Table H-1
Variance Components Analysis - Sub-area A >40% Solids
(Variance of Post-Dredge PCB Residuals from Predicted Concentrations)

Group Statistics	No. of Samples Analyzed	Mean Error[1]	Mean Squared Error[2]	Comments[3]
Duplicate Analysis	46	0	2.4	
Percent Solids >40% - Sub-area A				
"Near" Sample Group	13	2.1	14.1	Mean error not statistically different from 0
"Far" Sample Group	55	2.3	53.6	No statistical difference between "Near" and "Far" mean errors but statistical difference between mean squared errors.

Component Analysis

Laboratory component = Var_{Dup} = **2.4**

Dredging process component = Var_{Near} - Var_{Dup} = 14.1 - 2.4 = **11.7**

Model uncertainty component = Var_{Far} – Var_{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%.

(1) Mean error calculated as average difference between post-dredge PCB analysis and GMS model predicted result at post-dredge sample location. (Positive value implies post-dredge concentration higher than predicted result.) Duplicate analysis mean error equals zero by assumption.

(2) Mean squared error calculated as variance of post-dredge and model predicted differences, i.e., the sum of squared differences divided by the sample size minus one. Composite samples were adjusted for the number of contributing samples.

(3) Statistical significance noted at Type I error rate of 0.05.

Prepared by: SGL
Checked by: TMK1

Table H-2
Variance Components Analysis - Sub-area A <40% Solids
(Variance of Post-Dredge PCB Residuals from Predicted Concentrations)

Group Statistics	No. of Samples Analyzed	Mean Error[1]	Mean Squared Error[2]	Comments[3]
Duplicate Analysis	46	0	2.4	
Percent Solids <40% - Subarea A				
"Near" Sample Group	43	3.7	59.0	Mean error statistically > 0
"Far" Sample Group	67	3.3	115.1	No statistical difference between "Near" and "Far" mean errors or mean squared errors.

Component Analysis

Laboratory component = Var_{Dup} = **2.4**

Dredging process component = Var_{Near} - Var_{Dup} = 59.0 - 2.4 = **56.6**

Model uncertainty component = Var_{Far} – Var_{Near} = 115.1 - 59.0 = **56.1**

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

(1) Mean error calculated as average difference between post-dredge PCB analysis and GMS model predicted result at post-dredge sample location. (Positive value implies post-dredge concentration higher than predicted result.) Duplicate analysis mean error equals zero by assumption.

(2) Mean squared error calculated as variance of post-dredge and model predicted differences, i.e., the sum of squared differences divided by the sample size minus one. Composite samples were adjusted for the number of contributing samples.

(3) Statistical significance noted at Type I error rate of 0.05.

Prepared by: SGL
Checked by: TMK1

Table H-3
Variance Components Analysis - Sub-area C >40% Solids
(Variance of Post-Dredge PCB Residuals from Predicted Concentrations)

Group Statistics	No. of Samples Analyzed	Mean Error[1]	Mean Squared Error[2]	Comments[3]
Duplicate Analysis	46	0	2.4	
Percent Solids >40% - Sub-area C				
"Near" Sample Group	2	1.6	1.4	Mean error not statistically different from 0
"Far" Sample Group	4	1.0	3.8	No statistical difference between "Near" and "Far" mean errors or mean squared errors.

Component Analysis

Laboratory component = Var_{Dup} = **2.4**

Dredging process component = Var_{Near} - Var_{Dup} = 1.4 - 2.4 ~ **0**

Model uncertainty component = Var_{Far} – Var_{Near} = 3.8 - 2.4 = **1.4**

* Conclusion: Little variation entering from dredging process and model uncertainty.

(1) Mean error calculated as average difference between post-dredge PCB analysis and GMS model predicted result at post-dredge sample location. (Positive value implies post-dredge concentration higher than predicted result.) Duplicate analysis mean error equals zero by assumption.

(2) Mean squared error calculated as variance of post-dredge and model predicted differences, i.e., the sum of squared differences divided by the sample size minus one. Composite samples were adjusted for the number of contributing samples.

(3) Statistical significance noted at Type I error rate of 0.05.

Prepared by: SGL
Checked by: TMK1

Table H-4
Variance Components Analysis - Sub-area C <40% Solids
(Variance of Post-Dredge PCB Residuals from Predicted Concentrations)

Group Statistics	No. of Samples Analyzed	Mean Error[1]	Mean Squared Error[2]	Comments[3]
Duplicate Analysis	46	0	2.4	
Percent Solids <40% - Sub-area C				
"Near" Sample Group	11	0.9	1.2	Mean error statistically > 0
"Far" Sample Group	33	0.3	5.8	No statistical difference between "Near" and "Far" mean errors but statistical difference between mean squared errors.

Component Analysis

Laboratory component = Var_{Dup} = **2.4**

Dredging process component = Var_{Near} - Var_{Dup} = 1.2 - 2.4 ~ **0**

Model uncertainty component = Var_{Far} – Var_{Near} = 5.8 - 2.4 = **3.4**

* Conclusion: Little variation entering from dredging process and model uncertainty.

(1) Mean error calculated as average difference between post-dredge PCB analysis and GMS model predicted result at post-dredge sample location. (Positive value implies post-dredge concentration higher than predicted result.) Duplicate analysis mean error equals zero by assumption.

(2) Mean squared error calculated as variance of post-dredge and model predicted differences, i.e., the sum of squared differences divided by the sample size minus one. Composite samples were adjusted for the number of contributing samples.

(3) Statistical significance noted at Type I error rate of 0.05.

Prepared by: SGL
Checked by: TMK1