Appendix U

LAKE BELTON ANOXIC STUDY EXPERIMENTAL MATRIX

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EXPERIMENTAL MATRIX

AQUEOUS SAMPLE MATRIX

Matrix	Aqueous																
Location ID	Deep 1 (Bottom)					Deep 1 (Thermocline)				Deep 1 (Surface)				Shallow 1 (Bottom)			
Matrix Treatment†	-	Autoclaved	Acetate	Sediment	Minerals	-	Acetate	Sediment	Minerals	-	Acetate	Sediment	Minerals	-			
Spatial Variability	14 days (x3)*	14 days (x3)*	-	-	-	14 days (x3)	-	-	-	14 days (x3)	-	-	-	14 days (x3)*	-	-	-
spike 50 µg/L ClO_4^-	10 days																
N_2 Sparge*	7 days																
	5 days																
	3 days																
	1 day																
Subtotal	8	3	0	0	0	3	0	0	0	3	0	0	0	3	0	0	0
Nutrients	-	-	14 days (x3)*	14 days (x3)*	14 days (x3)*	-	14 days (x3)	14 days (x3)	14 days (x3)	-	14 days (x3)	14 days (x3)	14 days (x3)	-	14 days (x3)*	14 days (x3)*	14 days (x3)*
spike 50 µg/L ClO_4^-			10 days	10 days	10 days												
N_2 Sparge*			7 days	7 days	7 days												
			5 days	5 days	5 days												
			3 days	3 days	3 days												
			1 day	1 day	1 day												
Subtotal	0	0	8	8	8	0	3	3	3	0	3	3	3	0	3	3	3
Oxygen	14 days (x3)	-	-	-	-	14 days (x3)	-	-	-	14 days (x3)	-	-	-	14 days (x3)	-	-	-
spike 50 µg/L ClO_4^-																	
O_2 Sparge																	
spike 50 µg/L ClO_4^-	14 days (x3)	-	-	-	-	14 days (x3)	-	-	-	14 days (x3)	-	-	-	14 days (x3)	-	-	-
O_2 Sparge																	
N_2 Sparge																	
Sulfide addition																	
Subtotal	6	0	0	0	0	6	0	0	0	6	0	0	0	6	0	0	0
Temperature	14 days (x3)*	-	-	-	-	14 days (x3)	-	-	-	14 days (x3)	-	-	-	14 days (x3)*	-	-	-
spike 50 µg/L ClO_4^-	10 days																
N_2 Sparge*	7 days																
	5 days																
	3 days																
	1 day																
Subtotal	7	0	0	0	0	3	0	0	0	3	0	0	0	3	0	0	0
SUBTOTAL	21	3	8	8	8	12	3	3	3	12	3	3	3	12	3	3	3

† "-" no treatment of aqueous sample
"Autoclaved" sample autoclaved to sterilize solution
"Acetate" sample spiked with 50 mg/L acetate
"Sediment" sample spiked with 50 mg/L acetate and 50 mg/L autoclaved/dried "Deep 1" sediment
"Minerals" sample spiked with 50 mg/L acetate and 1 ml/L of mineral solution (see Scope of Work)

TOTAL SAMPLES = 111

LAKE BELTON ANOXIC STUDY
EXPERIMENTAL MATRIX

SEDIMENT SAMPLE MATRIX

Matrix	Sediment						
Location ID	Deep 1		Deep 2	Deep 3	Shallow 1	Shallow 2	Shallow 3
Matrix Treatment	Autocalved	-	-	-	-	-	-
Spatial Variability	14 days (x3)	14 days (x3)	14 days (x3)	14 days (x3)	14 days (x3)	14 days (x3)	14 days (x3)
90 mL - 50 µg/L ClO_4^-		10 days			10 days		
10 mL - sediment		7 days			7 days		
N_2 Sparge		5 days			5 days		
		3 days			3 days		
		1 day			1 day		
Subtotal	3	8	3	3	8	3	3
Nutrients	-	14 days (x3)	14 days (x3)	14 days (x3)	14 days (x3)	14 days (x3)	14 days (x3)
90 mL - 50 µg/L ClO_4^-		10 days			10 days		
10 mL - sediment		7 days			7 days		
spike 50 mg/L acetate		5 days			5 days		
N_2 Sparge		3 days			3 days		
		1 day			1 day		
Subtotal	0	8	3	3	8	3	3
Oxygen	-	-	-	-	-	-	-
Subtotal	0	0	0	0	0	0	0
Temperature	-	14 days (x3)	14 days (x3)	14 days (x3)	14 days (x3)	14 days (x3)	14 days (x3)
90 mL - 50 µg/L ClO_4^-		10 days			10 days		
10 mL - sediment		7 days			7 days		
N_2 Sparge		5 days			5 days		
4°C		3 days			3 days		
		1 day			1 day		
Subtotal	0	8	3	3	8	3	3
SUBTOTAL	3	24	9	9	24	9	9

TOTAL SAMPLES = 87

QA/QC SAMPLE SUBMISSION

Collected Aqueous Samples
- Deep 1 (Bottom)
- Deep 1 (Thermocline)
- Deep 1 (Surface)
- Shallow 1 (Bottom)

Experimental Solutions
- 50 µg/L ClO_4^- solution for sediment cultures
- Acetate spike solution for sediment cultures
- ClO_4^- spike solution for aqueous cultures

TOTAL SAMPLES = 7

LAKE BELTON ANOXIC STUDY
EXPERIMENTAL MATRIX

QA/QC SAMPLE SUBMISSION

Collected Aqueous Samples
- Deep 1 (Bottom)
- Deep 1 (Thermocline)
- Deep 1 (Surface)
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Experimental Solutions
- 50 µg/L ClO_4^- solution for sediment cultures
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TOTAL SAMPLES = 7