

Chris Linneman
 Summers Engineering, Inc.
 887 N. Irwin Street
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June 20, 2023

Chris:

I have enclosed our report “Evaluation of the Toxicity of Grasslands Bypass Project Ambient Water and Sediment Samples: Event 97” for the samples that were collected April 20, 2023. The results of this testing are summarized below.

Toxicity summary for Grasslands Bypass Project ambient water and sediment samples.				
Sample Station	Toxicity relative to the Lab Control treatment?			
	<i>Selenastrum capricornutum</i>	<i>Daphnia magna</i>	Fathead Minnow	<i>Hyalella azteca</i>
	Growth	Survival	Survival	Survival
Site D	No	No	No	No
Site B3		No		
Site F		No		
Site R		No		

Chronic Toxicity of Grasslands Bypass Project Ambient Water to *Selenastrum capricornutum*

There was no significant reduction in algal growth in the Grasslands Bypass Project ambient water sample.

Acute Toxicity of Grasslands Bypass Project Ambient Water to *Daphnia magna*

There were no significant reductions in survival in any of the Grasslands Bypass Project ambient water samples.

Acute Toxicity of Grasslands Bypass Project Ambient Water to Fathead Minnows

There was no significant reductions in survival in the Grasslands Bypass Project ambient water sample.

Acute Toxicity of Grasslands Bypass Ambient Sediment to *Hyalella azteca*

There was no significant reduction in survival in the Site D sediment tested with *H. azteca*.



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June 28, 2023

Chris:

I have enclosed our report “Evaluation of the Toxicity of Grasslands Bypass Project Ambient Water Sample: Event 98” for the sample that was collected May 25, 2023. The results of this testing are summarized below.

Toxicity summary for Grasslands Bypass Project ambient water samples.			
Sample Station	Toxicity relative to the Lab Control treatment?		
	<i>Selenastrum capricornutum</i>	<i>Daphnia magna</i>	Fathead Minnow
	Growth	Survival	Survival
Site D	No	No	No

Chronic Toxicity of Grasslands Bypass Project Ambient Waters to *Selenastrum capricornutum*

There were no significant reductions in algal growth in the Grasslands Bypass Project ambient water sample.

Acute Toxicity of Grasslands Bypass Project Ambient Waters to *Daphnia magna*

There were no significant reductions in survival in the Grasslands Bypass Project ambient water sample.

Acute Toxicity of Grasslands Bypass Project Ambient Waters to Fathead Minnows

There were no significant reductions in survival in the Grasslands Bypass Project ambient water sample.



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July 21, 2023

Chris:

I have enclosed our report “Evaluation of the Toxicity of Grasslands Bypass Project Ambient Water Sample: Event 99” for the samples that were collected June 29, 2023. The results of this testing are summarized below.

Toxicity summary for Grasslands Bypass Project ambient water samples.			
Sample Station	Toxicity relative to the Lab Control treatment?		
	<i>Selenastrum capricornutum</i>	<i>Daphnia magna</i>	Fathead Minnow
	Growth	Survival	Survival
Site D	No	No	No
Site B3	No		No
Site F	No		No
Site R	No		No

Chronic Toxicity of Grasslands Bypass Project Ambient Waters to *Selenastrum capricornutum*

There were **no** significant reductions in algal growth in the Grasslands Bypass Project ambient water samples.

Acute Toxicity of Grasslands Bypass Project Ambient Waters to *Daphnia magna*

There were **no** significant reductions in survival in the Grasslands Bypass Project ambient water samples.

Acute Toxicity of Grasslands Bypass Project Ambient Waters to Fathead Minnows

There were **no** significant reductions in survival in the Grasslands Bypass Project ambient water samples.