

To: **Clearflow Enviro Systems Group Inc.**
#140, 134 Pembina Road
Sherwood Park, AB T8H 0M2

File: **32620at**
 Date: **July 8, 2010**
 Client PO: **0132010-04**
 Attention: **Jennifer Kerr**

Project: **CFPL & CFGP Toxicity**

1. SAMPLE INFORMATION

Sample Origin: **Clearflow Enviro Systems Group Inc.**
Sherwood Park, AB

Sample Description: **CFPL-394**

Sample Weight (g): **400**

Date and Time Received: **Apr. 28/10 @ 1435 hrs.**

Transit Irregularities: **None**

2. TEST INFORMATION

Test Organism: **Oncorhynchus mykiss**

Test Description: **Acute, 96-hour, static, multi-dilution (LC₅₀)**

Test Method Procedure: **15.4.8910.20**

Reference Method: **EPS1/RM/13, Second Edition – December 2000, Amended May 2007**
Environment Canada

Performed By: **Liam Potter**

Start of Test Date and Time: **Apr. 30/10 @ 1600 hrs.**

End of Test Date and Time: **May 4/10 @ 1600 hrs.**

Source of Holding/Dilution Water: **Dechlorinated City of Edmonton tap water**

Container Description: **25 L, Disposable Polyethylene Liner**

Test Solution Volume (L): **20**

Test Solution Depth (cm): **33**

Number of Test Organisms/Container: **10**

Aeration: **Continuous oil-free compressed air at 6.5 ± 1.0mL/min•L⁻¹**

pH Adjustment: **Test Solutions are not to be pH adjusted.**

Deviations from Reference Method: **Solid material was broke into pieces (<1cm); weighed and then added into pails. 20L of dilution water was added to each pail, immersing the solid material. The pails were allowed to sit for a 24 hour period with intermittent stirring. Solutions were then aerated and test organisms were added.**



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TECHNICAL REPORT

3. LABORATORY ANALYSIS OF SAMPLE WHEN RECEIVED

Observations: Colour: White solid
Odour: Slight solvent-like odour

4. PRE-AERATION

Duration at 6.5 ± 1.0 mL/min•L⁻¹ (min): 30

		2500 mg/L Sample Test Concentration	0 mg/L Sample Test Concentration
Before Pre-Aeration	Dissolved Oxygen (mg/L):	8.12	8.13
	Air Saturation (%):	89	90
After Pre-Aeration	Dissolved Oxygen (mg/L):	8.35	8.31
	Air Saturation (%):	92	92

5. TEST ORGANISM DATA

Lot Number: 100408
Weekly Mortality Preceding Test (%): 0.0
Sample Size: 10
Loading Density (g/L): 0.48

Fish #	Wet Weight (g)	Fork Length (cm)
1	0.52	4.6
2	1.24	5.1
3	0.96	4.7
4	0.79	4.5
5	1.02	4.8
6	1.04	4.8
7	1.08	4.9
8	1.14	5.0
9	0.67	4.8
10	1.02	4.8
Average:	0.95	4.8
± 1 S.D.:	0.22	0.18

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TECHNICAL REPORT
6. TEST DATA

Sample Concentration	(mg/L)	2500	2000	1500	1000	500	0
Time:	0 hours						
Temperature	(°C)	15.5	15.5	15.5	15.5	15.5	15.6
pH		7.48	7.51	7.59	7.62	7.58	7.60
Conductivity @ 25°C	(µmhos/cm)	433	426	414	402	394	366
Dissolved Oxygen	(mg/L)	8.35	8.30	8.33	8.42	8.23	8.31
Time:	48 hours						
% Stress		0	0	0	0	0	0
% Mortality		0	0	0	0	0	0
Temperature	(°C)	15.4	15.5	15.5	15.5	15.6	15.6
pH		7.92	7.86	7.85	7.85	7.97	8.07
Conductivity @ 25°C	(µmhos/cm)	524	484	469	444	417	391
Dissolved Oxygen	(mg/L)	6.30	5.85	5.68	5.27	6.30	7.71
Time:	72 hours						
% Stress		0	0	0	0	0	0
% Mortality		0	0	0	0	0	0
Temperature	(°C)	15.0	15.0	15.0	15.0	15.0	15.0
pH		7.93	7.97	8.02	8.06	8.09	8.09
Conductivity @ 25°C	(µmhos/cm)	525	497	470	440	423	395
Dissolved Oxygen	(mg/L)	7.34	6.02	6.84	6.63	8.30	8.44
Time:	96 hours						
% Stress		0	0	0	0	0	0
% Mortality		0	0	0	0	0	0
Temperature	(°C)	15.0	15.0	15.0	15.0	15.0	15.0
pH		7.97	7.98	8.00	7.98	7.95	8.02
Conductivity @ 25°C	(µmhos/cm)	530	506	474	450	423	393
Dissolved Oxygen	(mg/L)	7.69	6.84	7.45	8.14	8.24	8.66

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TECHNICAL REPORT**7. SUBLETHAL BIOLOGICAL EFFECTS**

Sample	Concentration	Time(s)	Effect(s) Observed
	v/v (%)	Observed (h)	
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8. OBSERVATIONS/COMMENTS

None

9. RESULTS

96-hour LC₅₀ (mg/L): >2,500
 95% Lower Confidence Interval (mg/L): --
 95% Upper Confidence Interval (mg/L): --
 Method of Calculation: --
 Confirmed by Graph: --

10. REFERENCE TOXICANT DATA

Toxicant: Phenol
 Test Starting Date: Apr. 29/10
 96-hour LC₅₀ (mg/L): 11.37
 95% Lower Confidence Interval (mg/L): 10.42
 95% Upper Confidence Interval (mg/L): 12.46
 Method of Calculation: Stephan LC₅₀ Computer Program, Probit method
 Confirmed by Graph: Yes
 Historic Geometric Mean LC₅₀ (mg/L): 10.74
 95% Lower Confidence Interval (mg/L): 7.58
 95% Upper Confidence Interval (mg/L): 13.87

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TECHNICAL REPORT

Analysis Verified and
Report Authorized by:



Lisa Reinbolt
Supervisor

Note: All samples will be disposed of 30 days after analysis. Please advise the laboratory if you require additional sample storage time.