

96hr Rainbow Trout Bioassay Report

Project : A615921-B07513

(Acute Aquatic Toxicity Test)

| | |
|----------------------|------------------------------|
| Client Name : | Clear Flow Consulting |
| Location : | Sherwood Park, AB |

Sample Data :

Sample Description : **APS 705 Silt Stop**

Sampling Location : **n/g**

Sampling Method : **Grab**

Volume Obtained : **250 grams**

Sampled By : **Bill Gowdy**

Sample Date : **n/a** *Time :* **n/a**

Date Received : **06 04 12** *Time :* **n/a**

Bioassay Date : **06 04 21** *Time :* **1100**

Report Date : **06 04 26**

Deviations from Method : **none**

Bioassay Results :

LC50 @ 96 Hours : **0.53 g/L**

Method : **Probit**

95 % Confidence Interval : **0.23<0.53<0.72**

EC50 @ 96 Hours : **0.79 g/L**

Method : **N.L.I**

95 % Confidence Interval : **n/g**

Preliminary range-finding testing was performed during the week preceding the LC50 test.

Legend:
LC50/EC50 indicates concentration of sample, in percent, which kills or affects 50% test organisms.

Results of Phenol Reference Bioassay :

LC50 @ 96 Hours : **10.1 mg/L**

95 % Confidence Interval : **8.66<10.1<11.5**

Method : **Probit**

95 % Confidence Interval : **7.70<11.7<15.6**

Method : **Schewhart Warning Limits**

Historical Mean ± 2SD : **11.7 ± 3.98**

Date of Reference Bioassay : **06 04 07**

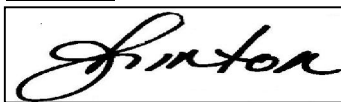
Data

Verified By:

H. Wilson

Data & QA/QC

Reviewed By :



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Test Information :

| | | | |
|--|---|-------------|-------|
| Type of Bioassay : | 96 Hour Multiple Dilution Static Bioassay | | |
| Test Species : | <i>Oncorhynchus mykiss</i> (Rainbow Trout) | | |
| Test Protocol : | Environment Canada EPS 1/RM/13 (Dec.2000 ed.) | | |
| Source of Test Species : | Sun Valley Trout Farms, Mission, BC. | | |
| Culture Lot # : | AK0322-1 | | |
| Mean (± 1 SD) & Range Fork Length of Fish : | 4.0 \pm 0.1 cm | 3.8 - 4.2 | n= 10 |
| Mean (± 1 SD) & Range Weight of Fish : | 0.56 \pm 0.08 g | 0.45 - 0.70 | |
| Cummulative Mortality of Fish Lot in the 7 Days Prior to Test : | 1.7% | | |
| Source of Holding Water : | Ammonia Free, Dechlorinated City of Edmonton Tap Water | | |
| Size of Test Container : | 38 L | | |
| Material of Test Container : | Disposable Plastic Liner in Glass Tank | | |
| Volume of Test Solution in Each Test Vessel : | 20 L | | |
| Depth of Test Material in Each Test Vessel : | ≥ 15 cm | | |
| Concentrations of Test Material : | 0, 0, 0, 0, 0, 0% | | |
| Number of Fish per Test Vessel : | 10 | | |
| Loading Density : | 0.3 g/L | | |
| Method of Aeration : | Carbon Filtered, Compressed Air Through Air-stone | | |
| Aeration Rate during test : | 6.5 \pm 1.0 mL/min./L | | |

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| | | | | | |
|-------------|--|----------------|-----------|------------|-----------------------|
| Setup | Sample Properties Prior To Initial Setup: | Temperature °C | pH @ 20°C | EC µS cm-1 | Dissolved Oxygen mg/L |
| | | n/a | n/a | n/a | n/a |
| Analyst: HW | Preaeration Time (at rate of 6.5 ± 1.0 mL / min / L) : | 30 min | | | |

| Time | Description | Concentration (g/L) | | | | | |
|------|-------------|---------------------|--------|--------|--------|------|------|
| | | 0 | 0.5g/L | 1.0g/L | 1.5g/L | 2g/L | 3g/L |

| | | | | | | | |
|-------------|-----------------------------|------|------|------|------|------|------|
| Start | Temperature (°C) | 14.3 | 14.4 | 14.8 | 14.8 | 14.8 | 14.6 |
| | pH | 7.8 | 8.3 | 8.2 | 8.1 | 8.1 | 8.2 |
| | EC (µS cm-1) | 361 | 377 | 383 | 389 | 398 | 416 |
| | Dissolved Oxygen (mg/L) | 10.9 | 12.1 | 11.7 | 11.5 | 10.5 | 10.1 |
| Analyst: HW | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| 1/4 Hour | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| Analyst: | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| 1/2 Hour | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| Analyst: | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| 1 Hour | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| Analyst: | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| 2 Hours | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| Analyst: | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| 4 Hours | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| Analyst: | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| 24 Hours | Temperature (°C) | 14.9 | 14.5 | 14.6 | 14.9 | 14.6 | 14.6 |
| | pH | 7.8 | 8.0 | 8.0 | 7.9 | 8.0 | 8.1 |
| | EC (µS cm-1) | 369 | 387 | 394 | 406 | 417 | 427 |
| | Dissolved Oxygen (mg/L) | 10.3 | 10.2 | 10.3 | 9.6 | 9.6 | 9.8 |
| | Number Dead | 0 | 5 | 7 | 10 | 10 | 10 |
| | Atypical/Stressed Behaviour | 0 | 5g | 3g | n/a | n/a | n/a |
| Analyst: HW | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| 48 Hours | Temperature (°C) | 14.5 | 14.4 | 14.4 | 14.3 | 14.5 | 14.7 |
| | pH | 7.8 | 8.1 | 8.0 | 7.6 | 8.0 | 8.1 |
| | EC (µS cm-1) | 390 | 393 | 400 | 413 | 421 | 431 |
| | Dissolved Oxygen (mg/L) | 9.4 | 10.1 | 10.2 | 9.8 | 9.6 | 9.8 |
| | Number Dead | 0 | 5 | 8 | 10 | 10 | 10 |
| | Atypical/Stressed Behaviour | 0 | 5mg | 2gm | n/a | n/a | n/a |
| Analyst: HW | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| 72 Hours | Temperature (°C) | 14.8 | 14.3 | 14.2 | 14.8 | 14.3 | 14.4 |
| | pH | 7.8 | 8.0 | 8.0 | 8.1 | 8.0 | 8.1 |
| | EC (µS cm-1) | 369 | 397 | 404 | 419 | 426 | 433 |
| | Dissolved Oxygen (mg/L) | 10.0 | 9.9 | 9.9 | 10.1 | 9.9 | 9.8 |
| | Number Dead | 0 | 5 | 8 | 10 | 10 | 10 |
| | Atypical/Stressed Behaviour | 0 | 4gm | 2gm | n/a | n/a | n/a |
| Analyst: AD | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |
| 96 Hours | Temperature (°C) | 14.4 | 14.4 | 15.1 | 15.3 | 14.6 | 14.8 |
| | pH | 8.0 | 7.9 | 8.1 | 8.1 | 8.0 | 8.1 |
| | EC (µS cm-1) | 393 | 401 | 407 | 420 | 435 | 445 |
| | Dissolved Oxygen (mg/L) | 10.1 | 9.9 | 10.1 | 10.4 | 9.8 | 9.6 |
| | Number Dead | 0 | 6 | 8 | 10 | 10 | 10 |
| | Atypical/Stressed Behaviour | 0 | 4gm | 2gm | n/a | n/a | n/a |
| Analyst: AD | Number Dead | | | | | | |
| | Atypical/Stressed Behaviour | | | | | | |

Stress Codes: P: dark pigmentation U: light pigmentation L: lethargic H: hyperactive M: inhibited movement G: pronounced opercular movement S: extreme toxic shock D: disorientated