



November 21, 2012

Mackenzie Valley Environmental Review Board
5102 - 50th Avenue
Yellowknife, NT X1A 2N7

Attention: Mr. Paul Mercredi
Environmental Assessment Officer

Subject: Meeting to Clarify and Substantiate Avalon October 31 Responses

Dear Mr. Mercredi:

Avalon would initially like to thank the MVEIRB for agreeing to informally meet today to discuss and clarify responses previously provided to the Board on October 31, 2012. Further to our meeting of earlier today in the MVEIRB office and via telecom, Avalon is pleased to provide the following tables 1 and 2, which provide water treatment data from the recent XPS pilot plant (PP) work and utilizing the optional Newterra water treatment process.

It must be emphasized that this treatment process was developed to provide an alternative to, but not necessarily to replace the H2Flow treatment process reported earlier in Avalon's response dated October 31 to the MVEIRB Round 2 Information Requests dated October 26. This untreated tailing water is from a different pilot plant than that used in previous submissions, but more accurately represents the anticipated water quality. Also included is the water quality after mixing with a conservative 3:1 blend of Drizzle Lake water with the treated effluent that was used in the attached toxicity test results.

It is recognized that the actual anticipated mixing of TMF effluent with the water of Drizzle Lake is anticipated to be in excess of 4:1. Note also that at the very low concentrations of the parameters analyzed, with the background concentrations in the Drizzle Lake water, and the accuracy of the analysis at these low concentrations, the blended water quality is not always a factor of 3 times lower than the treated water.

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TABLE 1: TAILINGS WATER QUALITY BEFORE AND AFTER TREATMENT USING ALTERNATIVE NEWTERRA TREATMENT PROCESS AND RECENT PILOT PLANT TAILING WATER (METALS)

| Parameter | XPS PP Untreated Tailing Water (µg/L) | Treated Effluent and Mine Water (µg/L) | Drizzle Lake | 3:1 Blend | Proposed SSWQO [For Drizzle Lake] (µg/L) | CCME Guideline (µg/L) |
|-----------------|---------------------------------------|--|------------------------|------------------------|--|-----------------------|
| | | | Background Mean (µg/L) | Background Mean (µg/L) | | |
| Aluminum (Al) | 884 | 320 | 8.30 | 80 | 100 | 100 |
| Arsenic (As) | 3 | 2.8 | 0.92 | 1.4 | 5 | 5.0 |
| Cadmium (Cd) | 1.72 | 0.128 | 0.01 | 0.039 | Background | 0.052 |
| Chromium (Cr) | 55 | 2.8 | <0.5 | 0.9 | 8.9 | 8.9 |
| Copper (Cu) | 19 | 1.4 | 0.25 | 2.1 | Background | 2-4 |
| Iron (Fe) | 1650 | 354 | 1091 | 140 | Background (seasonal) | 300 |
| Lead (Pb) | 3.7 | 0.16 | 0.028 | 0.28 | 4 | 1-7 |
| Mercury (Hg) | 0.01 | <0.01 | <0.01 | <0.01 | 0.026 | 0.026 |
| Molybdenum (Mo) | 41 | 21 | 1.27 | 5.6 | 73 | 73 |
| Nickel (Ni) | 161 | 15.9 | <0.5 | <3.6 | 110 | 25-150 |
| Selenium (Se) | <10 | <1 | <1.0 | <1 | 1 | 1 |
| Silver (Ag) | >0.1 | 0.01 | <0.01 | <0.01 | 0.1 | 0.1 |
| Thallium (Tl) | <2 | <0.2 | <0.1 | <0.2 | 0.8 | 0.8 |
| Uranium (U) | 12.4 | 1.7 | 0.08 | 0.47 | 15 | 15 |
| Vanadium (V) | <0.3 | 1.3 | <1.0 | 0.45 | 6 | 6 |
| Zinc (Zn) | 56 | 17 | 0.90 | 4 | Background | 30 |

TABLE 2: TAILINGS WATER QUALITY BEFORE AND AFTER TREATMENT USING ALTERNATIVE NEWTERRA TREATMENT PROCESS AND RECENT PILOT PLANT TAILING WATER (REES)

| Parameter | XPS PP Untreated Tailing Water (µg/L) | Treated Effluent and Mine Water (µg/L) | Drizzle Lake | 3:1 Blend | Proposed SSWQO [For Drizzle Lake] (µg/L) |
|-------------------|---------------------------------------|--|------------------------|---------------------------------------|--|
| | | | Background Mean (µg/L) | Drizzle Lake: Treated Effluent (µg/L) | |
| Cerium (Ce) | 1030 | 26.7 | <0.05 | 7.08 | 3.2 |
| Dysprosium (Dy) | 93 | 0.774 | <0.05 | 0.19 | 16.2 |
| Erbium (Er) | 40 | 0.295 | <0.05 | 0.065 | 19.1 |
| Europium (Eu) | 16.5 | 0.318 | <0.05 | 0.089 | 11.2 |
| Gadolinium (Gd) | 135 | 2.46 | <0.05 | 0.12 | 15 |
| Hafnium (Hf) | 0.82 | 0.148 | <0.1 | 0.138 | 100 |
| Holmium (Ho) | 16.7 | 0.125 | <0.05 | 0.029 | 14.3 |
| Lanthanum (La) | 447 | 11.8 | <0.05 | 3.1 | 1.8 |
| Lutetium (Lu) | 24.5 | 0.015 | <0.05 | 0.003 | 2.9 |
| Niobium (Nb) | 65.8 | 0.855 | <0.1 | 0.232 | 2.6 |
| Neodymium (Nd) | 536 | 17.2 | <0.05 | 4.7 | 14.3 |
| Praseodymium (Pr) | 136 | 3.71 | <0.05 | 1.01 | 3.5 |
| Samarium (Sm) | 122 | 3.02 | <0.05 | 0.82 | 7.4 |
| Scandium (Sc) | 3.4 | 1.23 | 0.9 | 0.57 | 2.9 |
| Tantalum (Ta) | 0.68 | 0.11 | <0.1 | 0.023 | 0.2 |
| Terbium (Tb) | 18.6 | 0.205 | <0.05 | 0.047 | 8.4 |
| Thulium (Tm) | 4.08 | 0.017 | <0.05 | <0.001 | 0.001 |
| Ytterbium (Yb) | 19.7 | 0.124 | <0.05 | 0.024 | 6.9 |
| Zirconium (Zr) | 17.8 | 4.98 | <0.1 | 0.94 | 100 |

Please also note that as requested by the MVEIRB, the proposed REE SSWQO's, provided in Table 2 have been corrected to align with Avalon's October 2012 submission. Similarly, while it is recognized that the dissolved component of the parameters of concern are generally considered the bioavailable component, all data reported in these tables are the Totals, which are generally higher than the dissolved component.

It must also be noted that in some cases, the Drizzle Lake water quality used to blend with the treated effluent was in fact higher in concentration than the background mean concentration presented in this table. For example, it has been recently identified that some background copper concentrations in Drizzle Lake exceed the CCME guideline, and as such the proposed SSWQO for copper in Table 1 was changed to the "background" concentration and not 3 µg/L, as previously reported.

In summary Avalon wishes to reiterate that the Newterra treatment process was developed as a potential alternative process to the H2Flow process previously reported and which resulted in all proposed SSWQO's being met. With the Newterra process, all parameters are predicted to meet the proposed SSWQO's in the Drizzle Lake discharge with the possible exception of cerium and lanthanum, which may marginally exceed the proposed SSWQO's.

However, it is recognized that the volume of mixing available in Drizzle Lake is greater than that used in this analysis, and that further mixing with natural drainage water from the site and in the Tailing Management Facility (TMF) is expected to reduce the cerium and lanthanum concentrations. Additional removal of these parameters from solution is anticipated as a result of the minimum 30 day retention in the TMF, primarily through the physical settling of suspended solids containing these and other parameters.

It is noted that the dissolved cerium and lanthanum concentrations, which are generally recognized to be the potentially bio-available forms, were 3.25 and 1.7 µg/L respectively, which meet the proposed SSWQOs following the mixing processes anticipated to occur in the TMF and in Drizzle Lake.

It is again reiterated that the proposed SSWQOs for cerium and lanthanum are conservatively low due to the high natural background hardness in Drizzle Lake. Hardness is well documented in the scientific literature to reduce toxicity and this was not considered in the initial setting of the proposed SSWQO's for the REEs.



Finally, and most importantly from a biological effects perspective, this water, without the benefit of the additional mixing and removal processes, passed all acute and sub-lethal toxicity tests. All these factors combine to support the conclusions that the proposed SSWQO's are conservative and protective of aquatic life and that this alternative treatment process is demonstrated to be an effective alternative.

Avalon is pleased to provide the bioassay results for the XPS PP effluent and actual water from Drizzle Lake. As previously mentioned, all acute and sub-lethal toxicity tests passed with this blended effluent.

Avalon appreciates the opportunity to provide this additional information to the MVEIRB and trusts that this will meet the Board's needs.

Yours truly,

A handwritten signature in black ink, appearing to read 'Mark Wiseman', is written over a light blue horizontal line.

Mark Wiseman
VP Sustainability
Avalon Rare Metals Inc.

TRANSMITTAL

TO: Avalon Rare Metals Inc. (Toronto)
130 Adelaide St. W.,
Suite #1901
Toronto, Ontario
Canada, M5H 3P5

DATE: November 21, 2012

FILE NO.: NB101-390/3-A.01

ATTENTION: David Swisher

CONT. NO.: NB12-00593

RE: 2012 Feasibility Study

| ITEM NO. | DESCRIPTION |
|----------|--|
| 1. | Figure 3.1, Rev 0 - Water Balance Flow Sheet - Average Precipitation Conditions - Year 1 |
| 2. | Figure 3.2, Rev 0 - Water Balance Flow Sheet - Average Precipitation Conditions - Years 2-20 |
| | |
| | |
| | |
| | |
| | |

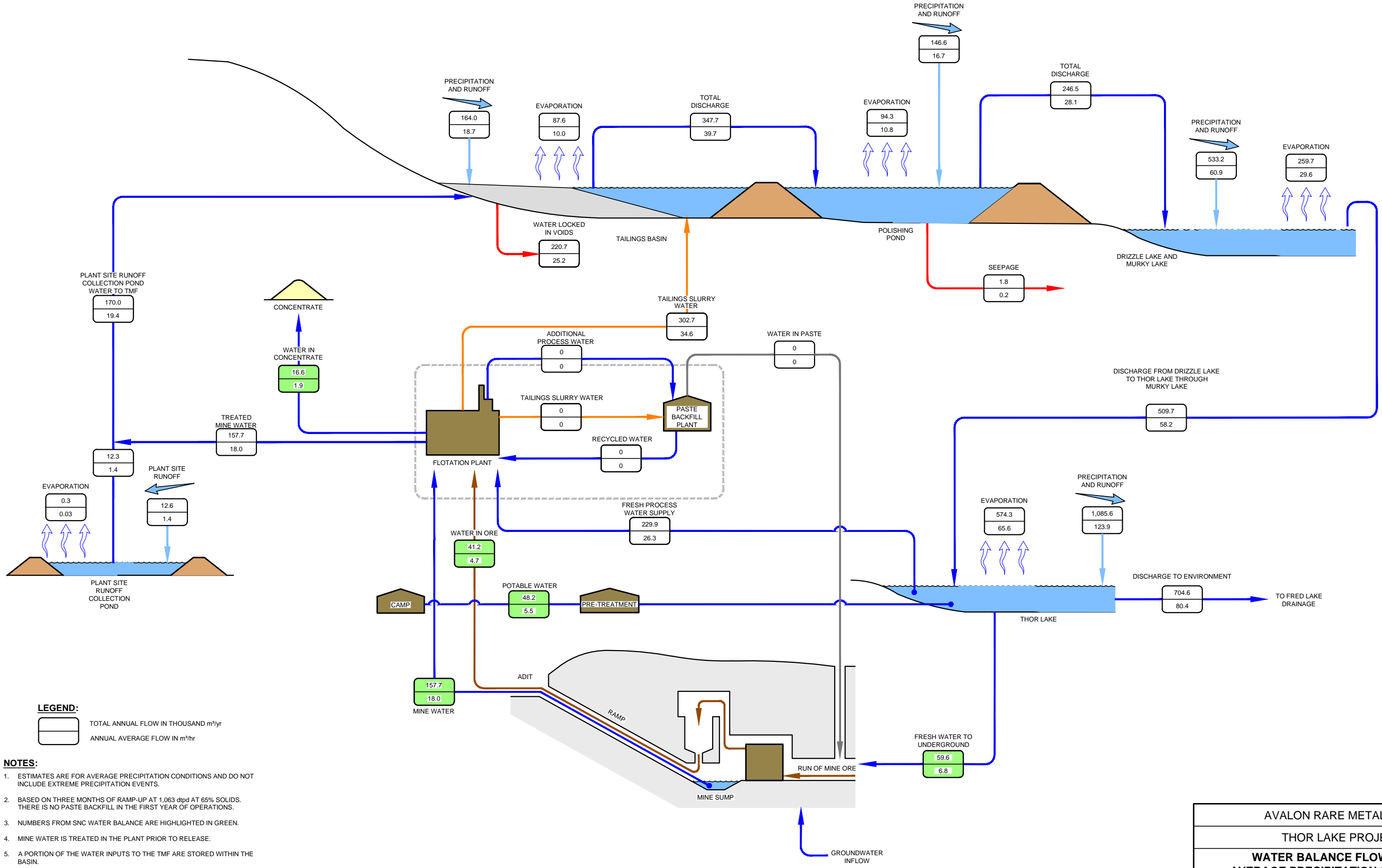
REMARKS:

Figures 3.1 and 3.2 from Report NB101-390/3-1, Rev 0 issued with updated flow lines, as requested.

Signed: 
Caroline Duval

Approved: 
Una McCullagh

11/21/2012 4:10:45 PM .ASIMPSON PRINTED: 11/21/2012 4:11:59 PM .YR-1 (NB12-00593) .ASIMPSON
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LEGEND:

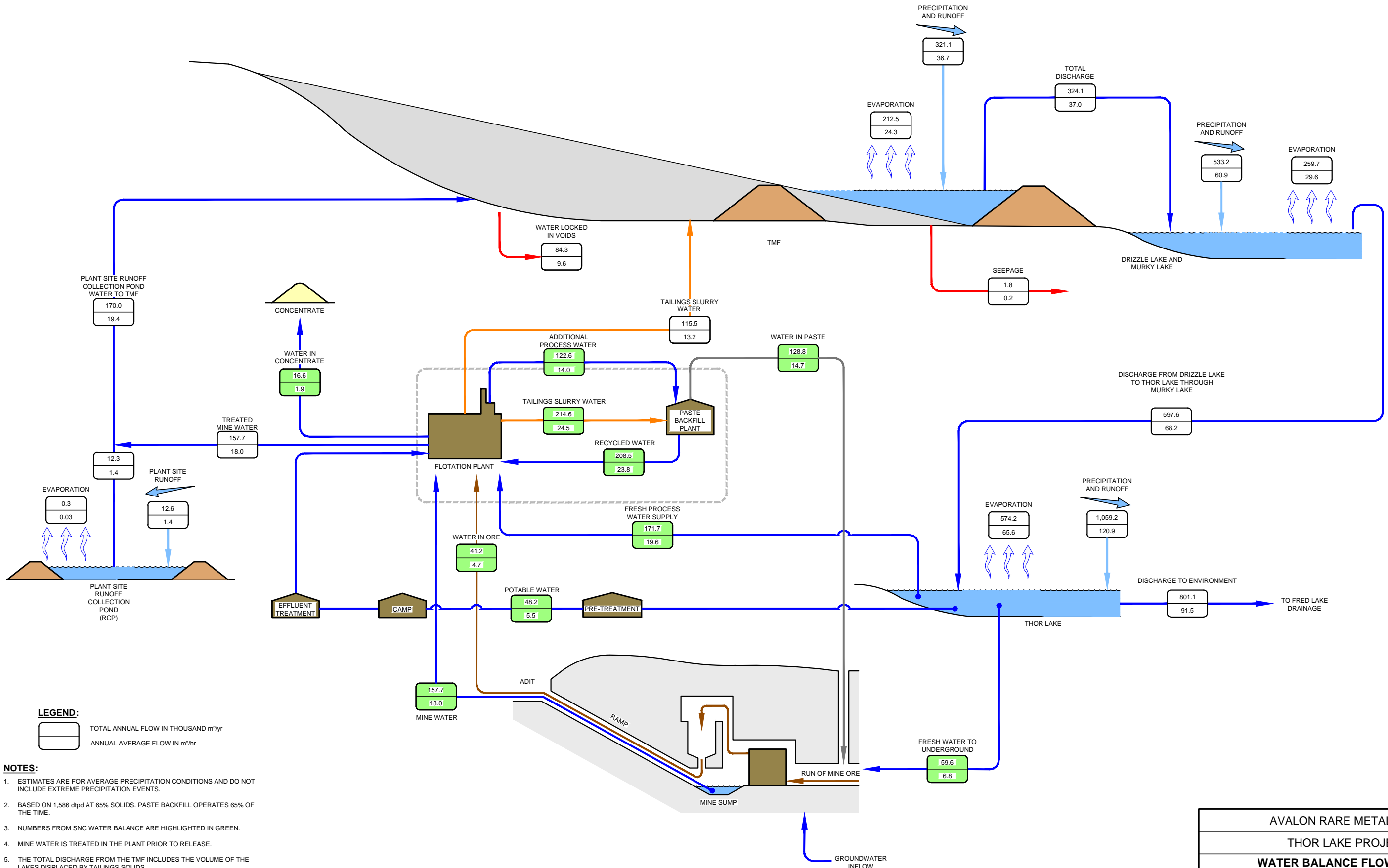
146.6 TOTAL ANNUAL FLOW IN THOUSAND m³/yr
16.7 ANNUAL AVERAGE FLOW IN m³/hr

- NOTES:**
- ESTIMATES ARE FOR AVERAGE PRECIPITATION CONDITIONS AND DO NOT INCLUDE EXTREME PRECIPITATION EVENTS.
 - BASED ON THREE MONTHS OF RAMP-UP AT 1,063 dtpd AT 65% SOLIDS. THERE IS NO PASTE BACKFILL IN THE FIRST YEAR OF OPERATIONS.
 - NUMBERS FROM SNC WATER BALANCE ARE HIGHLIGHTED IN GREEN.
 - MINE WATER IS TREATED IN THE PLANT PRIOR TO RELEASE.
 - A PORTION OF THE WATER INPUTS TO THE TMF ARE STORED WITHIN THE BASIN.

| | |
|---|-----------------------|
| AVALON RARE METALS INC. | |
| THOR LAKE PROJECT | |
| WATER BALANCE FLOW SHEET | |
| AVERAGE PRECIPITATION CONDITIONS | |
| YEAR 1 | |
| P/A NO. NB101-390/3 | REF NO. NB12-00593 |
| FIGURE 3.1 | |

| REV | DATE | DESCRIPTION | DESIGNED | DRAWN | CHKD | APPD |
|-----|----------|-------------------------|----------|-------|------|------|
| 0 | 21NOV'12 | ISSUED WITH TRANSMITTAL | UBM | AS | DMMD | KEH |

FILE: I:\101009003\Avalon\Figures\NB12-00593_11212012_4:10:45 PM - ASIMPSON PRINTED: 11/21/2012 4:13:01 PM, YR: 2-20 (NB12-00593) ASIMPSON
 REV: 0 DATE: 21 NOV '12 ISSUED WITH TRANSMITTAL UBM AS DMMD KEH
 DESCRIPTION: DESIGNED DRAWN CHKD APPD



LEGEND:

- TOTAL ANNUAL FLOW IN THOUSAND m³/yr
- ANNUAL AVERAGE FLOW IN m³/hr

NOTES:

- ESTIMATES ARE FOR AVERAGE PRECIPITATION CONDITIONS AND DO NOT INCLUDE EXTREME PRECIPITATION EVENTS.
- BASED ON 1,586 dtpd AT 65% SOLIDS. PASTE BACKFILL OPERATES 65% OF THE TIME.
- NUMBERS FROM SNC WATER BALANCE ARE HIGHLIGHTED IN GREEN.
- MINE WATER IS TREATED IN THE PLANT PRIOR TO RELEASE.
- THE TOTAL DISCHARGE FROM THE TMF INCLUDES THE VOLUME OF THE LAKES DISPLACED BY TAILINGS SOLIDS.

| | |
|--|---|
| AVALON RARE METALS INC. | |
| THOR LAKE PROJECT | |
| WATER BALANCE FLOW SHEET | |
| AVERAGE PRECIPITATION CONDITIONS | |
| YEARS 2-20 | |
| <i>Knight Piésold</i> CONSULTING | P/A NO. NB101-390/3 REF NO. NB12-00593 FIGURE 3.2 REV 0 |



AquaTox Testing & Consulting Inc.
 11B Nicholas Beaver Rd.
 RR 3
 Guelph ON N1H 6H9
 Tel: (519) 763-4412 Fax: (519) 763-4419

TOXICITY TEST REPORT

Daphnia magna

Work Order : 222283
 Sample Number : 35456

SAMPLE IDENTIFICATION

| | | | |
|----------------------|---|--------------------|------------|
| Company : | SGS Lakefield Research Limited | Time Collected : | 11:45 |
| Location : | Lakefield ON | Date Collected : | 2012-10-02 |
| Substance : | Final | Date Received : | 2012-10-03 |
| Sampling Method : | Grab | Date Tested : | 2012-10-04 |
| Sampled By : | RGC | Temp. on arrival : | 19.0° C |
| Sample Description : | Clear, colourless, odourless. | | |
| Test Method : | Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000). | | |

TEST RESULTS

| Effect | Value | 95% Confidence Limits | Slope | Calculation Method |
|-----------|-------|-----------------------|-------|--------------------|
| 48-h LC50 | >100% | - | - | - |

The results reported relate only to the sample tested.

SODIUM CHLORIDE REFERENCE TOXICANT DATA

| | | | |
|--------------------------------|-------------------------|--------------------------|-----------------|
| Organism Batch : | Dm12-19 | Historical Mean LC50 : | 6.60 g/L |
| Date Tested (yyyy/mm/dd) : | 2012-10-02 | Warning Limits (± 2SD) : | 6.03 - 7.23 g/L |
| LC50 (95% Confidence Limits) : | 5.96 g/L* (5.41 - 6.40) | Analyst(s) : | NK, AW |
| Statistical Method : | Linear Regression (MLE) | | |

***Daphnia magna* CULTURE HEALTH DATA**

| | | | |
|-----------------------|------------------------|------------------------|------|
| Time to First Brood : | 8.6 days | Mean Young Per Brood : | 32.1 |
| Culture Mortality : | 0.4% (previous 7 days) | | |

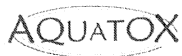
TEST CONDITIONS

| | | | |
|--------------------|---------|--------------------------------|------------------|
| Sample Treatment : | None | Number of Replicates : | 1 |
| pH Adjustment : | None | Test Organisms / Replicate : | 10 |
| Test Aeration : | None | Total Organisms / Test Level : | 10 |
| Organism Batch : | Dm12-19 | Organism Loading Rate : | 15.0 mL/organism |
| | | Test Method Deviation(s) : | None |

*Note: The reference toxicant test result fell outside the 95% warning limits for historical data. No other unusual circumstances were observed and therefore the test result is considered acceptable. Reference toxicant test was conducted under conditions identical to the test.

Date: 2012-10-23
 yyyy-mm-dd

Approved by: J. Anderson
 Project Manager



TOXICITY TEST REPORT

Daphnia magna

Page 2 of 2

Work Order: 222283
Sample Number: 35456

| | Hardness (mg/L as CaCO ₃) | Hardness Adjustment | pH | D.O. (mg/L) | Cond. (µmhos/cm) | Temp. (°C) | O ₂ Sat. (%)* | Total Pre-Aeration Time (h) @ 30 mL/min/L |
|--------------------------|--|------------------------|-----|----------------|---------------------|---------------|-----------------------------|--|
| Initial Water Chemistry: | 140 | None | 7.8 | 5.2 | 502 | 21.0 | 89 | 0:00 |

0 hours

Date & Time: 2012-10-04 16:15
Technician: AW/NK

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. | O ₂ Sat. (%)* | Hardness |
|----------------|-----------|------------|-----|------|-------|-------|--------------------------|----------|
| 100 | 0 | 0 | 7.8 | 5.2 | 502 | 21.0 | 89 | 140 |
| 50 | 0 | 0 | 8.1 | 7.5 | 528 | 21.0 | | |
| 25 | 0 | 0 | 8.3 | 8.1 | 543 | 21.0 | | |
| 12.5 | 0 | 0 | 8.3 | 8.4 | 549 | 21.0 | | |
| 6.25 | 0 | 0 | 8.3 | 8.5 | 554 | 21.0 | | |
| Control | 0 | 0 | 8.4 | 8.7 | 559 | 21.0 | 100 | 220 |

Notes:

24 hours

Date & Time: 2012-10-05 16:15
Technician: NK

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|----|------|-------|-------|
| 100 | 0 | 0 | — | — | — | 20.5 |
| 50 | 0 | 0 | — | — | — | 20.5 |
| 25 | 0 | 0 | — | — | — | 20.5 |
| 12.5 | 0 | 0 | — | — | — | 20.5 |
| 6.25 | 0 | 0 | — | — | — | 20.5 |
| Control | 0 | 0 | — | — | — | 20.5 |

Notes:

48 hours

Date & Time: 2012-10-06 16:15
Technician: MR

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|-----|------|-------|-------|
| 100 | 0 | 0 | 8.4 | 8.2 | 523 | 20.5 |
| 50 | 0 | 0 | 8.5 | 8.5 | 542 | 20.5 |
| 25 | 0 | 0 | 8.5 | 8.4 | 555 | 20.5 |
| 12.5 | 0 | 0 | 8.5 | 8.7 | 565 | 20.5 |
| 6.25 | 0 | 0 | 8.5 | 8.6 | 566 | 20.5 |
| Control | 0 | 0 | 8.6 | 8.6 | 563 | 20.5 |

Notes:

of control organisms showing stress: 0

Daphnia Batch #: Dm12-19

Number immobile does not include number of mortalities.

— = not measured

* adjusted for actual temp. & barometric pressure

Test Data Reviewed By: Sm

Date: 2012-10-11



AquaTox Testing & Consulting Inc.
 11B Nicholas Beaver Rd.
 RR 3
 Guelph ON N1H 6H9
 Tel: (519) 763-4412 Fax: (519) 763-4419

Work Order : 222283
 Sample Number : 35456

SAMPLE IDENTIFICATION

| | | | |
|----------------------|---|--------------------|------------|
| Company : | SGS Lakefield Research Limited | Time Collected : | 11:45 |
| Location : | Lakefield ON | Date Collected : | 2012-10-02 |
| Substance : | Final | Date Received : | 2012-10-03 |
| Sampling Method : | Grab | Date Tested : | 2012-10-04 |
| Sampled By : | RGC | Temp. on arrival : | 19.0 °C |
| Sample Description : | Clear, colourless, odourless. | | |
| Test Method : | Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007 amendments). | | |

TEST RESULTS

| Effect | Value | 95% Confidence Limits | Slope | Calculation Method |
|-----------|-------|-----------------------|-------|--------------------|
| 96-h LC50 | >100% | - | - | - |

The results reported relate only to the sample tested.

POTASSIUM CHLORIDE REFERENCE TOXICANT DATA

| | | | |
|--------------------------------|-------------------------|--------------------------|------------------|
| Organism Batch : | T12-12 | Historical Mean LC50 : | 3830 mg/L |
| Date Tested (yyyy-mm-dd) : | 2012-10-02 | Warning Limits (± 2SD) : | 3182 - 4610 mg/L |
| LC50 (95% Confidence Limits) : | 3806 mg/L (3451 - 4142) | Analyst(s) : | FS, CN |
| Statistical Method : | Linear Regression (MLE) | | |

TEST FISH

| | | | |
|-----------------------------|---------------|-----------------------------------|--------------------|
| Control Fish Sample Size : | 10 | Cumulative stock tank mortality : | 0 % (prev. 7 days) |
| Mean Fish Weight (± 2 SD) : | 0.43 ± 0.14 g | Mean Fish Fork Length (± 2 SD) : | 37.1 ± 2.4 mm |
| Range of Weights : | 0.36 - 0.58 g | Range of Fork Lengths : | 36 - 39 mm |
| Fish Loading Rate : | 0.2 g/L | | |

TEST CONDITIONS

| | | | |
|------------------------------|----------------------------|----------------------------------|------|
| Test Organism : | <i>Oncorhynchus mykiss</i> | Volume Tested (L) : | 20 |
| Sample Treatment : | None | Number of Replicates : | 1 |
| pH Adjustment : | None | Organisms Per Replicate : | 10 |
| Test Aeration : | Yes | Total Organisms Per Test Level : | 10 |
| Pre-aeration/Aeration Rate : | 6.5 ± 1 mL/min/L | Test Method Deviation(s) : | None |

Date: 2012-10-24
 yyyy-mm-dd

Approved by:
 Project Manager

**TOXICITY TEST REPORT****Rainbow Trout**

Work Order: 222283
 Sample Number: 35456

| Total Pre-Aeration | | pH | D.O. (mg/L) | Cond. (µmhos/cm) | Temp. (°C) | O ₂ Sat. (%)* |
|--------------------|----------------------------|-----|----------------|---------------------|---------------|--------------------------|
| Time (h) | Initial Water Chemistry: | 7.2 | 4.0 | 455 | 16.0 | — |
| 2:00 | Chemistry after 30min air: | 7.3 | 4.2 | 456 | 16.0 | 44 |

0 hours

Date & Time: 2012-10-04 15:20
 Technician: FS

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. | O ₂ Sat. (%)* |
|----------------|-----------|------------|-----|------|-------|-------|--------------------------|
| 100 | 0 | 0 | 7.5 | 6.7 | 456 | 15.5 | 71 |
| 50 | 0 | 0 | 7.6 | 8.7 | 633 | 15.5 | |
| 25 | 0 | 0 | 7.9 | 8.8 | 710 | 15.5 | |
| 12.5 | 0 | 0 | 8.2 | 9.4 | 770 | 15.5 | |
| 6.25 | 0 | 0 | 8.2 | 9.4 | 780 | 15.5 | |
| Control | 0 | 0 | 8.2 | 9.7 | 814 | 15.5 | 100 |

Notes:

24 hours

Date & Time: 2012-10-05 15:20
 Technician: FS

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|----|------|-------|-------|
| 100 | 0 | 0 | — | — | — | 15.0 |
| 50 | 0 | 0 | — | — | — | 15.0 |
| 25 | 0 | 0 | — | — | — | 15.0 |
| 12.5 | 0 | 0 | — | — | — | 15.0 |
| 6.25 | 0 | 0 | — | — | — | 15.0 |
| Control | 0 | 0 | — | — | — | 15.0 |

Notes:

48 hours

Date & Time: 2012-10-06 15:20
 Technician: FS

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|----|------|-------|-------|
| 100 | 0 | 0 | — | — | — | 15.0 |
| 50 | 0 | 0 | — | — | — | 15.0 |
| 25 | 0 | 0 | — | — | — | 15.0 |
| 12.5 | 0 | 0 | — | — | — | 15.0 |
| 6.25 | 0 | 0 | — | — | — | 15.0 |
| Control | 0 | 0 | — | — | — | 15.0 |

Notes:

72 hours

Date & Time: 2012-10-07 15:20
 Technician: FS

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|----|------|-------|-------|
| 100 | 0 | 0 | — | — | — | 15.0 |
| 50 | 0 | 0 | — | — | — | 15.0 |
| 25 | 0 | 0 | — | — | — | 15.0 |
| 12.5 | 0 | 0 | — | — | — | 15.0 |
| 6.25 | 0 | 0 | — | — | — | 15.0 |
| Control | 0 | 0 | — | — | — | 15.0 |

Notes:

96 hours

Date & Time: 2012-10-08 15:20
 Technician: FS

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|-----|------|-------|-------|
| 100 | 0 | 0 | 8.0 | 8.7 | 474 | 15.0 |
| 50 | 0 | 0 | 8.1 | 8.7 | 646 | 15.0 |
| 25 | 0 | 0 | 8.2 | 8.8 | 705 | 15.0 |
| 12.5 | 0 | 0 | 8.2 | 8.7 | 773 | 15.0 |
| 6.25 | 0 | 0 | 8.2 | 8.8 | 779 | 15.0 |
| Control | 0 | 0 | 8.2 | 8.9 | 733 | 15.0 |

Notes:

of control organisms showing stress: 0

Trout Batch #: T12-12

Number immobile does not include number of mortalities.

* adjusted for actual temp. & barometric pressure

"—" = not measured

Test Data Reviewed By: SmDate: 2012-10-24



AquaTox Testing & Consulting Inc.
 11B Nicholas Beaver Rd.
 RR 3
 Guelph ON N1H 6H9
 Tel: (519) 763-4412 Fax: (519) 763-4419

Work Order : 222283
 Sample Number : 35483

SAMPLE IDENTIFICATION

| | | | |
|----------------------|---|--------------------|------------|
| Company : | SGS Lakefield Research Limited | Time Collected : | 14:00 |
| Location : | Lakefield ON | Date Collected : | 2012-10-02 |
| Substance : | Final-Drizzle Lake Blend | Date Received : | 2012-10-04 |
| Sampling Method : | Grab | Date Tested : | 2012-10-05 |
| Sampled By : | RGC | Temp. on arrival : | 19.5° C |
| Sample Description : | Clear, light yellow, odourless. | | |
| Test Method : | Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000). | | |

TEST RESULTS

| Effect | Value | 95% Confidence Limits | Slope | Calculation Method |
|-----------|-------|-----------------------|-------|--------------------|
| 48-h LC50 | >100% | - | - | - |

The results reported relate only to the sample tested.

SODIUM CHLORIDE REFERENCE TOXICANT DATA

| | | | |
|--------------------------------|-------------------------|--------------------------|-----------------|
| Organism Batch : | Dm12-19 | Historical Mean LC50 : | 6.60 g/L |
| Date Tested (yyyy/mm/dd) : | 2012-10-02 | Warning Limits (± 2SD) : | 6.03 - 7.23 g/L |
| LC50 (95% Confidence Limits) : | 5.96 g/L* (5.41 - 6.40) | Analyst(s) : | NK, AW |
| Statistical Method : | Linear Regression (MLE) | | |

***Daphnia magna* CULTURE HEALTH DATA**

| | | | |
|-----------------------|------------------------|------------------------|------|
| Time to First Brood : | 8.6 days | Mean Young Per Brood : | 31.1 |
| Culture Mortality : | 0.4% (previous 7 days) | | |

TEST CONDITIONS

| | | | |
|--------------------|---------|--------------------------------|------------------|
| Sample Treatment : | None | Number of Replicates : | 1 |
| pH Adjustment : | None | Test Organisms / Replicate : | 10 |
| Test Aeration : | None | Total Organisms / Test Level : | 10 |
| Organism Batch : | Dm12-19 | Organism Loading Rate : | 15.0 mL/organism |
| | | Test Method Deviation(s) : | None |

*Note: The reference toxicant test result fell outside the 95% warning limits for historical data. No other unusual circumstances were observed and therefore the test result is considered acceptable. Reference toxicant test was conducted under conditions identical to the test.

Date: 2012-10-23
 yyyy-mm-dd

Approved by:
 Project Manager

Work Order: 222283
 Sample Number: 35483

| | Hardness (mg/L as CaCO ₃) | Hardness Adjustment | pH | D.O. (mg/L) | Cond. (µmhos/cm) | Temp. (°C) | O ₂ Sat. (%)* | Total Pre-Aeration Time (h) @ 30 mL/min/L |
|--------------------------|--|------------------------|-----|----------------|---------------------|---------------|-----------------------------|--|
| Initial Water Chemistry: | 190 | None | 7.8 | 6.8 | 363 | 21.0 | 78 | 0:00 |

0 hours

 Date & Time: 2012-10-05 13:40
 Technician: AW

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. | O ₂ Sat. (%)* | Hardness |
|----------------|-----------|------------|-----|------|-------|-------|--------------------------|----------|
| 100 | 0 | 0 | 7.8 | 6.8 | 363 | 21.0 | 78 | 190 |
| 50 | 0 | 0 | 8.2 | 8.0 | 458 | 21.0 | | |
| 25 | 0 | 0 | 8.3 | 8.4 | 510 | 21.0 | | |
| 12.5 | 0 | 0 | 8.4 | 8.5 | 532 | 21.0 | | |
| 6.25 | 0 | 0 | 8.4 | 8.5 | 543 | 21.0 | | |
| Control | 0 | 0 | 8.5 | 8.6 | 552 | 21.0 | 99 | 220 |

Notes:

24 hours

 Date & Time: 2012-10-06 13:40
 Technician: MR

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|----|------|-------|-------|
| 100 | 0 | 0 | - | - | - | 20.0 |
| 50 | 0 | 0 | - | - | - | 20.0 |
| 25 | 0 | 0 | - | - | - | 20.0 |
| 12.5 | 0 | 0 | - | - | - | 20.0 |
| 6.25 | 0 | 0 | - | - | - | 20.0 |
| Control | 0 | 0 | - | - | - | 20.0 |

Notes:

48 hours

 Date & Time: 2012-10-07 13:40
 Technician: CN

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|-----|------|-------|-------|
| 100 | 0 | 0 | 8.4 | 8.4 | 370 | 20.5 |
| 50 | 0 | 0 | 8.4 | 8.5 | 468 | 20.5 |
| 25 | 0 | 0 | 8.4 | 8.5 | 514 | 20.5 |
| 12.5 | 0 | 0 | 8.4 | 8.6 | 545 | 20.5 |
| 6.25 | 0 | 0 | 8.4 | 8.5 | 555 | 20.5 |
| Control | 0 | 0 | 8.5 | 8.6 | 568 | 20.5 |

Notes:

 # of control organisms showing stress: 0
 Daphnia Batch #: Dm12-19

Number immobile does not include number of mortalities.

- = not measured

* adjusted for actual temp. & barometric pressure

 Test Data Reviewed By: JE
 Date: 2012-10-17



AquaTox Testing & Consulting Inc.
 11B Nicholas Beaver Rd.
 RR 3
 Guelph ON N1H 6H9
 Tel: (519) 763-4412 Fax: (519) 763-4419

Work Order : 222283
 Sample Number : 35483

SAMPLE IDENTIFICATION

Company : SGS Lakefield Research Limited
 Location : Lakefield ON
 Substance : Final-Drizzle Lake Blend
 Sampling Method : Grab
 Sampled By : R.G.C.
 Sample Description : Clear, light yellow, odourless liquid
 Test Method : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007 amendments).

Time Collected : 14:00
 Date Collected : 2012-10-03
 Date Received : 2012-10-04
 Date Tested : 2012-10-05
 Temp. on arrival : 19.5 °C

TEST RESULTS

| Effect | Value | 95% Confidence Limits | Slope | Calculation Method |
|-----------|-------|-----------------------|-------|--------------------|
| 96-h LC50 | >100% | - | - | - |

The results reported relate only to the sample tested.

POTASSIUM CHLORIDE REFERENCE TOXICANT DATA

Organism Batch : T12-12
 Date Tested (yyyy-mm-dd) : 2012-10-02
 LC50 (95% Confidence Limits) : 3806 mg/L (3451 - 4142)
 Statistical Method : Linear Regression (MLE)

Historical Mean LC50 : 3830 mg/L
 Warning Limits (± 2SD) : 3182 - 4610 mg/L
 Analyst(s) : FS, CN

TEST FISH

Control Fish Sample Size : 10
 Mean Fish Weight (± 2 SD) : 0.60 ± 0.26 g
 Range of Weights : 0.38 - 0.74 g
 Fish Loading Rate : 0.3 g/L

Cumulative stock tank mortality : 0 % (prev. 7 days)
 Mean Fish Fork Length (± 2 SD) : 41.2 ± 6.4 mm
 Range of Fork Lengths : 36 - 45 mm

TEST CONDITIONS

Test Organism : *Oncorhynchus mykiss*
 Sample Treatment : None
 pH Adjustment : None
 Test Aeration : Yes
 Pre-aeration/Aeration Rate : 6.5 ± 1 mL/min/L

Volume Tested (L) : 20
 Number of Replicates : 1
 Organisms Per Replicate : 10
 Total Organisms Per Test Level : 10
 Test Method Deviation(s) : None

Date: 2012-10-24
 yyyy-mm-dd

Approved by: J. Indrag
 Project Manager

Work Order: 222283

Sample Number: 35483

| Total Pre-Aeration | | pH | D.O. (mg/L) | Cond. (umhos/cm) | Temp. (°C) | O ₂ Sat. (%) [*] |
|--------------------|----------------------------|-----|----------------|---------------------|---------------|--------------------------------------|
| Time (h) | Initial Water Chemistry: | 7.3 | 5.1 | 321 | 16.0 | — |
| 1:00 | Chemistry after 30min air: | 7.4 | 6.3 | 321 | 16.0 | 65 |

0 hours

Date & Time 2012-10-05 11:00

Technician: FS

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. | O ₂ Sat. (%) [*] |
|----------------|-----------|------------|-----|------|-------|-------|--------------------------------------|
| 100 | 0 | 0 | 7.5 | 6.9 | 321 | 15.5 | 74 |
| 50 | 0 | 0 | 7.6 | 7.9 | 652 | 15.5 | |
| 25 | 0 | 0 | 7.6 | 8.2 | 697 | 15.5 | |
| 12.5 | 0 | 0 | 7.6 | 8.6 | 751 | 15.5 | |
| 6.25 | 0 | 0 | 7.8 | 8.7 | 778 | 15.5 | |
| Control | 0 | 0 | 7.9 | 9.6 | 807 | 15.5 | 100 |

Notes:

24 hours

Date & Time 2012-10-06 11:00

Technician: FS

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|----|------|-------|-------|
| 100 | 0 | 0 | — | — | — | 15.0 |
| 50 | 0 | 0 | — | — | — | 15.0 |
| 25 | 0 | 0 | — | — | — | 15.0 |
| 12.5 | 0 | 0 | — | — | — | 15.0 |
| 6.25 | 0 | 0 | — | — | — | 15.0 |
| Control | 0 | 0 | — | — | — | 15.0 |

Notes:

48 hours

Date & Time 2012-10-07 11:00

Technician: FS

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|----|------|-------|-------|
| 100 | 0 | 0 | — | — | — | 15.0 |
| 50 | 0 | 0 | — | — | — | 15.0 |
| 25 | 0 | 0 | — | — | — | 15.0 |
| 12.5 | 0 | 0 | — | — | — | 15.0 |
| 6.25 | 0 | 0 | — | — | — | 15.0 |
| Control | 0 | 0 | — | — | — | 15.0 |

Notes:

72 hours

Date & Time 2012-10-08 11:00

Technician: FS

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|----|------|-------|-------|
| 100 | 0 | 0 | — | — | — | 15.0 |
| 50 | 0 | 0 | — | — | — | 15.0 |
| 25 | 0 | 0 | — | — | — | 15.0 |
| 12.5 | 0 | 0 | — | — | — | 15.0 |
| 6.25 | 0 | 0 | — | — | — | 15.0 |
| Control | 0 | 0 | — | — | — | 15.0 |

Notes:

96 hours

Date & Time 2012-10-09 11:00

Technician: FS

| Test Conc. (%) | Mortality | Immobility | pH | D.O. | Cond. | Temp. |
|----------------|-----------|------------|-----|------|-------|-------|
| 100 | 0 | 0 | 7.9 | 8.4 | 324 | 15.0 |
| 50 | 0 | 0 | 8.0 | 8.6 | 561 | 15.0 |
| 25 | 0 | 0 | 8.0 | 8.5 | 706 | 15.0 |
| 12.5 | 0 | 0 | 8.1 | 8.9 | 759 | 15.0 |
| 6.25 | 0 | 0 | 8.1 | 8.8 | 751 | 15.0 |
| Control | 0 | 0 | 8.2 | 9.0 | 748 | 15.0 |

Notes:

of control organisms showing stress: 0

Trout Batch #: T12-12

Number immobile does not include number of mortalities.

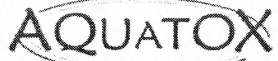
^{*} adjusted for actual temp. & barometric pressure

"—" = not measured

 Test Data Reviewed By: SM

 Date: 2012-10-24

CHAIN OF CUSTODY RECORD



AquaTox Work Order No:
222283

Shipping Address: AquaTox Testing & Consulting Inc.
 11B Nicholas Beaver Road, RR #3
 Guelph, Ontario Canada N1H 6H9

Voice: (519) 763-4412 Fax: (519) 763-4419

P.O. Number: Email invoice to Barb Bowman

Field Sampler Name (print): Ramy George Chénade

Signature: [Signature]

Affiliation: SGS Minerals Services

Sample Storage (prior to shipping): ambient temp

Custody Relinquished by: [Signature]

Date/Time Shipped: Oct 2N / 4:15 PM.

Client: SGS Minerals Services
 185 Concession Street, Box 4300
 Lakefield, ON
 K0L 2H0

Phone: (705) 652-2148

Fax: (705) 652-6365

Contact: Barb Bowman

| Sample Identification | | | | | Analyses Requested | | | | | | | | | | Sample Method and Volume | | |
|---|--|--|-----------------------|------------------|------------------------------------|--------------------|------------------------------------|--------------------|----------------------------------|--|--------------------|--|----------------|------------------------------|--------------------------|-----------|--|
| Date Collected (yyyy-mm-dd) | Time Collected (e.g. 14:30, 24 hr clock) | Sample Name | AquaTox Sample Number | Temp. on arrival | Rainbow Trout Single Concentration | Rainbow Trout LC50 | Daphnia magna Single Concentration | Daphnia magna LC50 | Fathead Minnow Survival & Growth | Ceriodaphnia dubia Survival & Reproduction | Lemna minor Growth | Pseudokirchneriella subcapitata Growth | RIS Data Entry | Other (please specify below) | Grab | Composite | # of Containers and Volume (eg. 2 x 1L, 3 x 10L, etc.) |
| 2012/10/02 | 11:45 | Final → labels on buckets say Avalon/ ... | 35456 | 19.0 | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2x20 L, 3x10 L, |
| 2012/10/02 | | | | 19.0* | | | | | | | | | | | | | + 1x2 L |
| 2012/10/03 | 14:00 | Final-Drizzle Lake Blend | 35483 | 19.5 | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2x20 L, 3x10 L, |
| COMING THURSDAY MORNING. info provided by Ramy via phone [Signature] | | | | | | | | | | | | | | | | | |

For Lab Use Only

Received By: C. Louzada

Date: 2012-10-03

Time: 1000

Storage Location: _____

Storage Temp. (°C): _____

Please list any special requests or instructions:
EPS 1/RM/13 and 14 Methods

Please quote SGS Project Reference Number 13185-004 on invoicing

*35483 arrived on Thursday Oct. 04/12 CL.



AquaTox Testing & Consulting Inc.
11B Nicholas Beaver Rd.
RR 3
Guelph ON N1H 6H9
Tel: (519) 763-4412 Fax: (519) 763-4419

Pseudokirchneriella subcapitata

Growth Inhibition

1 of 2

Work Order : 222283

Sample Number : 35483

SAMPLE IDENTIFICATION

Company : SGS Lakefield Research Limited
Location : Lakefield ON
Substance : Final-Drizzle Lake Blend
Sampling Method : Grab
Sampled By : R.G.C.
Temp. on arrival : 19.5°C
Sample Description : Clear, light yellow, odourless liquid
Date Collected : 2012-10-03
Time Collected : 14:00
Date Received : 2012-10-04
Time Received : 11:00
Date Tested : 2012-10-05
Test Method : Growth Inhibition Test Using a Freshwater Alga. Environment Canada, Conservation and Protection. Ottawa, Ontario. Report EPS 1/RM/25, 2nd ed. (March 2007).

TEST RESULTS

| Effect | Value | 95% Confidence Limits | Statistical Method |
|---------------|---------|-----------------------|--------------------|
| IC25 (Growth) | >90.91% | - | - |

The results reported relate only to the sample tested.

ZINC (AS ZINC SULPHATE) REFERENCE TOXICANT DATA

| | | | |
|-------------------------|-----------------|--------------------------|---|
| Date Tested : | 2012-09-21 | Statistical Method : | Linear Interpolation (CETIS) ^a |
| Test Duration : | 72 hours | Historical Mean IC25 : | 8.8 µg/L |
| IC25 Growth : | 8.1 µg/L | Warning Limits (± 2SD) : | 2.1 - 36.3 µg/L |
| 95% Confidence Limits : | 5.2 - 10.9 µg/L | Analyst(s) : | AS |

The reference toxicity test was performed under the same experimental conditions as those used with the test sample.

TEST CONDITIONS

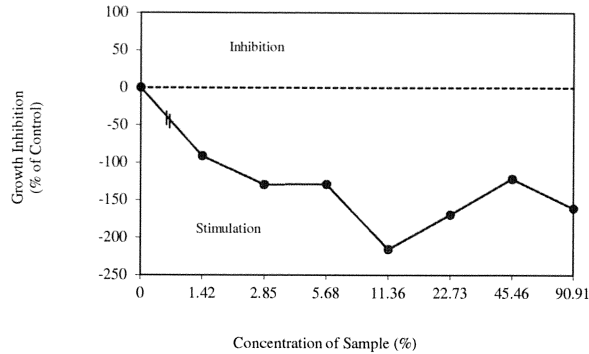
| | | | |
|--------------------------|--|---------------------------------|--|
| Test Organism : | <i>Pseudokirchneriella subcapitata</i> | Control/Dilution Water : | Millipore Milli-Q (no chemicals added) |
| Organism Batch : | Ps12-10 | Test Vessel : | U-shaped polystyrene microplate |
| Strain Number : | UTEX (1648) | Volume per Replicate : | 220 µL |
| Source : | In-house culture | Number of Control Replicates : | 10 |
| Culture Origin : | University of Texas, Austin TX, USA | Number of Test Replicates : | 4 |
| Age (at start of test) : | 4 days (in exponential growth) | Concentrations Tested : | 10 + Control |
| pH Adjustment : | None | Photoperiod / Light Intensity : | Continuous light, 3886 - 4177 lux |
| Hardness Adjustment : | None | Mean Test Temperature (± SD) : | 24.1°C (± 0.3) |
| Sample Pre-aeration : | None | Test Duration : | 72 hours |
| Sample Filtration : | 0.45 µm preconditioned filter | Test Method Deviation(s) : | None |
| Volume Filtered : | ≥10 mL | | |

COMMENTS

- All test validity criteria as specified in the test method cited above were satisfied.
- No unusual appearance or treatment of culture prior to testing.
- Algal growth curve is determined at least twice per year as required by the test method cited above.

Work Order : 222283
 Sample Number : 35483

Pseudokirchneriella subcapitata Growth Inhibition



CELL ENUMERATION AT 72-HOURS

| | | | |
|--------------------------------|------------------------|-------------------------------|------------------------------------|
| Initiation Date : | 2012-10-05 | Sample pH (at 0 hours) : | 7.8 |
| Initiated By : | KEH | Control pH (at 0 hours) : | 7.0 |
| Completion/Enumeration Date : | 2012-10-08 | Control pH (at 72 hours) : | 7.0 |
| Enumerated By : | CL | Initial Cell Density at 0-h : | 11000 cells/mL per microplate well |
| Enumeration Technique : | Manual (hemocytometer) | Inoculum Prepared : | 00:15 h prior to test initiation |
| Control Cell Increase Factor : | 27.9 times growth | | |

Cell Concentration (x 10000 cells/mL)

Cell Yield (x 10000 cells/mL)

| Concentration (%) | Replicate | | | | | | | | Mean | Standard Deviation | CV (%) | Stimulation (% of control)** |
|-------------------|-----------|-------|------|------|------|------|------|------|-------|--------------------|--------|------------------------------|
| | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 10 | | | | |
| Control | 34.0 | 28.0 | 32.5 | 34.5 | 30.5 | 31.5 | 26.0 | 28.5 | 29.59 | 3.01 | 10.18 | - |
| 0.18 | - | - | - | - | - | - | - | - | - | - | - | - |
| 0.35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 0.71 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1.42 | 52.5 | 58.0 | 62.5 | - | - | - | - | - | 56.57 | 5.01 | 8.9 | 91.2 |
| 2.85 | 72.5 | 67.0 | 67.5 | - | - | - | - | - | 67.90 | 3.04 | 4.5 | 129.5 |
| 5.68 | 66.5 | 66.5 | 73.5 | - | - | - | - | - | 67.73 | 4.04 | 6.0 | 128.9 |
| 11.36 | 88.0 | 105.0 | 90.5 | - | - | - | - | - | 93.40 | 9.18 | 9.8 | 215.7 |
| 22.73 | 82.5 | 78.5 | 81.5 | - | - | - | - | - | 79.73 | 2.08 | 2.6 | 169.5 |
| 45.46 | 68.0 | 61.0 | 71.0 | - | - | - | - | - | 65.57 | 5.13 | 7.8 | 121.6 |
| 90.91 | 82.0 | 77.5 | 75.5 | - | - | - | - | - | 77.23 | 3.33 | 4.3 | 161.0 |

NOTES : **Significant stimulation compared to control, according to ANOVA - Dunnett's Test (CETIS)^a, $\alpha=0.05$.
 •Control replicates 5 and 6 used for pH measurement.
 •The Mann-Kendall test shows that there is no inhibitory gradient ($\alpha=0.05$).
 •Negative cell yield indicates no growth.
 •No outlying data points were detected according to Grubbs Test (CETIS)^a.

"-" = not enumerated/not required

Data Reviewed By : J
 Date : 2012-10-31

REFERENCES

^a CETIS, © 2001-2007. Comprehensive Environmental Toxicity Information System. Tidepool Scientific Software, McKinleyville CA 95519. [Program on disk and printed User's Guide].

Date : 2012-11-01
 yyyy-mm-dd

Approved By : J. Indary
 Project Manager



AquaTox Testing & Consulting Inc.
11B Nicholas Beaver Rd.
RR 3
Guelph ON N1H 6H9
Tel: (519) 763-4412 Fax: (519) 763-4419

Ceriodaphnia dubia Test Report
Survival and Reproduction
1 of 4

Work Order : 222283
Sample Number : 35483

SAMPLE IDENTIFICATION

Company : SGS Lakefield Research Limited
Location : Lakefield ON
Substance : Final-Drizzle Lake Blend
Sampling Method : Grab
Sampled By : R.G.C.
Temp. on arrival : 19.5°C
Sample Description : Clear, light yellow, odourless liquid
Date Collected : 2012-10-03
Time Collected : 14:00
Date Received : 2012-10-04
Time Received : 11:00
Date Tested : 2012-10-04
Test Method : Test of Reproduction and Survival using the Cladoceran *Ceriodaphnia dubia*. Environment Canada, Conservation and Protection. Ottawa, Ontario. Report EPS 1/RM/21, 2nd ed. (February 2007).

TEST RESULTS

| Effect | Value | 95% Confidence Limits | Statistical Method |
|---------------------|-------|-----------------------|--------------------|
| LC50 | >100% | - | - |
| IC25 (Reproduction) | >100% | - | - |

The results reported relate only to the sample tested.

SODIUM CHLORIDE REFERENCE TOXICANT DATA

Date Tested : 2012-09-19
Test Duration : 7 days
Analyst(s) : CL/SK/KEH
IC25 Reproduction : 0.83 g/L
LC50 : 2.10 g/L
95% Confidence Limits : 0.36 - 1.14 g/L
95% Confidence Limits : 1.84 - 2.39 g/L
Statistical Method : Linear Interpolation (CETIS)^a
Statistical Method : Spearman-Kärber (CETIS)^a
Historical Mean IC25 : 1.03 g/L
Historical Mean LC50 : 2.16 g/L
Warning Limits (± 2SD) : 0.60 - 1.76 g/L
Warning Limits (± 2SD) : 1.42 - 3.28 g/L

The reference toxicity test was performed under the same experimental conditions as those used with the test sample.

TEST CONDITIONS

Sample Filtration : None
Test Volume per Replicate : 15 mL
Test Aeration : None
Test Vessel : 22 mL polystyrene vial
pH Adjustment : None
Depth of Test Solution : 4.0 cm
Hardness Adjustment : None
Organisms per Replicate : 1
Daily Renewal Method : Transferred to fresh solutions
Number of Replicates : 10
Control/Dilution Water : Well water (no chemicals added)
Test Method Deviation(s) : None

COMMENTS

•All test validity criteria as specified in the test method cited above were satisfied.

Work Order : 222283
 Sample Number : 35483

TEST ORGANISMS

| | | | |
|------------------------|------------------------------|-----------------------------------|-------------------|
| Test Organism : | <i>Ceriodaphnia dubia</i> | Range of Age (at start of test) : | 11:00 h - 22:25 h |
| Organism Batch : | Cd12-10 | Mean Brood Organism Mortality : | 0% |
| Organism Origin : | Single in-house mass culture | Ephippia in Culture : | No |
| Test Organism Origin : | Individual in-house cultures | | |

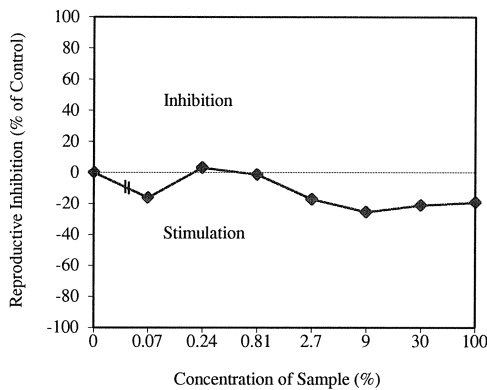
Brood Organism Neonate Production

| | | | | | | | | | | | |
|------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-------------|
| Replicate : | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Mean |
| Total (third or subsequent brood): | 20 | 21 | 21 | 20 | 16 | 16 | 16 | 19 | 19 | 22 | 19.0 |
| Total (first three broods): | 25 | 24 | 21 | 24 | 24 | 21 | 23 | 19 | 21 | 20 | 22.2 |

No organisms exhibiting unusual appearance, behaviour, or undergoing unusual treatment were used in the test.

TEST DATA

***Ceriodaphnia dubia* Reproductive Inhibition**



Cumulative Daily Test Organism Mortality (%)

| Date | Test Day | Concentration of Sample (%) | | | | | | | |
|----------------------------|----------|-----------------------------|------|------|------|-----|---|----|-----|
| | | Control | 0.07 | 0.24 | 0.81 | 2.7 | 9 | 30 | 100 |
| 2012-10-05 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-06 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-07 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-08 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-09 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-10 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-11 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Mortality (%) | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

REFERENCES

^a CETIS, © 2001-2007. Comprehensive Environmental Toxicity Information System. Tidepool Scientific Software, McKinleyville, Calif. 95519[Program on disk and printed User's Guide].

^bGrubbs, F.E., 1969. Procedures for detecting outlying observations in samples. *Technometrics*, 11 :1-21.

Date : 2012-11-01
 yyyy-mm-dd

Approved By : *J. Andas*
 Project Manager

Work Order : 222283

Sample Number : 35483

Ceriodaphnia dubia Survival and Reproduction

Test Initiation Date : 2012-10-04

Initiation Time : 15:25

Test Completion Date : 2012-10-11

| Concentration (%) | Replicate | | | | | | | | | | Mean Young (±SD) | Analyst(s) | |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------|----|
| Control | Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 2012-10-05 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | EW |
| 2012-10-06 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | CL |
| 2012-10-07 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | MR |
| 2012-10-08 | 4 | 5 | 4 | 0 | 0 | 0 | 4 | 4 | 3 | 0 | 0 | 2.0 | MR |
| 2012-10-09 | 5 | 0 | 0 | 5 | 5 | 6 | 0 | 0 | 0 | 5 | 7 | 2.8 | SM |
| 2012-10-10 | 6 | 7 | 8 | 7 | 9 | 0 | 9 | 2 | 8 | 8 | 0 | 5.8 | SM |
| 2012-10-11 | 7 | 4 | 13 | 11 | 15 | 11 | 14 | 10 | 14 | 12 | 17 | 12.1 | AS |
| Total | | 16 | 25 | 23 | 29 | 17 | 27 | 16 | 25 | 25 | 24 | 22.7 (±4.7) | |

| Concentration (%) | Replicate | | | | | | | | | | Mean Young (±SD) | |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------|
| 2.7 | Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 2012-10-05 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-06 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-07 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-08 | 4 | 5 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4.0 |
| 2012-10-09 | 5 | 0 | 9 | 0 | 4 | 7 | 11 | 0 | 0 | 0 | 9 | 4.0 |
| 2012-10-10 | 6 | 9 | 0 | 9 | 12 | 0 | 0 | 10 | 7 | 8 | 0 | 5.5 |
| 2012-10-11 | 7 | 12 | 13 | 14 | - | 13 | 15 | 14 | 16 | 17 | 17 | 13.1 |
| Total | | 26 | 25 | 27 | 20 | 24 | 30 | 28 | 27 | 29 | 30 | 26.6 (±3.1) |

| Concentration (%) | Replicate | | | | | | | | | | Mean Young (±SD) | |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------|
| 0.07 | Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 2012-10-05 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-06 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-07 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-08 | 4 | 4 | 4 | 4 | 0 | 3 | 4 | 0 | 4 | 4 | 3 | 3.0 |
| 2012-10-09 | 5 | 0 | 7 | 0 | 6 | 8 | 7 | 5 | 0 | 0 | 7 | 4.0 |
| 2012-10-10 | 6 | 9 | 0 | 10 | 11 | 0 | 0 | 9 | 7 | 9 | 0 | 5.5 |
| 2012-10-11 | 7 | 13 | 12 | 13 | 14 | 13 | 14 | 15 | 15 | 12 | 18 | 13.9 |
| Total | | 26 | 23 | 27 | 31 | 24 | 25 | 29 | 26 | 25 | 28 | 26.4 (±2.4) |

| Concentration (%) | Replicate | | | | | | | | | | Mean Young (±SD) | |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------|
| 9 | Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 2012-10-05 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-06 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-07 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-08 | 4 | 3 | 4 | 3 | 4 | 0 | 3 | 0 | 4 | 4 | 4 | 2.9 |
| 2012-10-09 | 5 | 0 | 0 | 0 | 0 | 7 | 11 | 5 | 0 | 0 | 7 | 3.0 |
| 2012-10-10 | 6 | 8 | 11 | 9 | 9 | 9 | 0 | 9 | 8 | 8 | 0 | 7.1 |
| 2012-10-11 | 7 | 14 | 15 | 18 | 16 | 14 | 18 | 12 | 15 | 17 | 16 | 15.5 |
| Total | | 25 | 30 | 30 | 29 | 30 | 32 | 26 | 27 | 29 | 27 | 28.5 (±2.2) |

| Concentration (%) | Replicate | | | | | | | | | | Mean Young (±SD) | |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------|
| 0.24 | Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 2012-10-05 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-06 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-07 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-08 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 3 | 4 | 3 | 3.6 |
| 2012-10-09 | 5 | 0 | 0 | 9 | 1 | 0 | 7 | 0 | 9 | 0 | 7 | 3.3 |
| 2012-10-10 | 6 | 10 | 8 | 0 | 8 | 8 | 0 | 9 | 0 | 9 | 0 | 5.2 |
| 2012-10-11 | 7 | 14 | 15 | 14 | 12 | 0 | 13 | 13 | 10 | 8 | 0 | 9.9 |
| Total | | 28 | 27 | 26 | 24 | 12 | 24 | 26 | 22 | 21 | 10 | 22.0 (±6.2) |

| Concentration (%) | Replicate | | | | | | | | | | Mean Young (±SD) | |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------|
| 30 | Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 2012-10-05 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-06 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-07 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-08 | 4 | 4 | 0 | 4 | 6 | 4 | 4 | 3 | 1 | 0 | 4 | 3.0 |
| 2012-10-09 | 5 | 9 | 6 | 0 | 0 | 7 | 10 | 0 | 7 | 4 | 7 | 5.0 |
| 2012-10-10 | 6 | 1 | 8 | 7 | 9 | 0 | 0 | 10 | 0 | 9 | 0 | 4.4 |
| 2012-10-11 | 7 | 15 | 16 | 16 | 14 | 13 | 15 | 17 | 16 | 14 | 15 | 15.1 |
| Total | | 29 | 30 | 27 | 29 | 24 | 29 | 30 | 24 | 27 | 26 | 27.5 (±2.3) |

| Concentration (%) | Replicate | | | | | | | | | | Mean Young (±SD) | |
|-------------------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------|
| 0.81 | Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 2012-10-05 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-06 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-07 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-08 | 4 | 3 | 4 | 3 | 4 | 4 | 0 | 3 | 5 | 4 | 3 | 3.3 |
| 2012-10-09 | 5 | 0 | 8 | 0 | 0 | 5 | 7 | 0 | 0 | 0 | 8 | 2.8 |
| 2012-10-10 | 6 | 8 | 0 | 6 | 13 | 0 | 0 | 10 | 10 | 9 | 0 | 5.6 |
| 2012-10-11 | 7 | 15 | 15 | 0 | 15 | 9 | 12 | 16 | 0 | 16 | 15 | 11.3 |
| Total | | 26 | 27 | 9 | 32 | 18 | 19 | 29 | 15 | 29 | 26 | 23.0 (±7.4) |

| Concentration (%) | Replicate | | | | | | | | | | Mean Young (±SD) | |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------------|-----------|------------------|--------------------|
| 100 | Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 2012-10-05 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-06 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-07 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012-10-08 | 4 | 5 | 4 | 4 | 5 | 5 | 3 | 5 | 3 | 4 | 3 | 4.1 |
| 2012-10-09 | 5 | 1 | 0 | 0 | 0 | 6 | 0 | 0 | 3 | 0 | 6 | 1.6 |
| 2012-10-10 | 6 | 8 | 8 | 9 | 12 | 0 | 8 | 10 | 0 | 9 | 0 | 6.4 |
| 2012-10-11 | 7 | 17 | 16 | 17 | 14 | 13 | 16 | 14 | 13 | 14 | 16 | 15.0 |
| Total | | 31 | 28 | 30 | 31 | 24 | 27 | 29 | 19¹ | 27 | 25 | 27.1 (±3.7) |

NOTES : *All young produced by a test organism during its fourth and subsequent broods were discarded and not included in the above counts. The presence of two or more neonates in any test chamber, during any given day of the test, constitutes a brood.

¹ Outlier according to Grubbs Test^b. Outlying data points were not excluded from statistical analysis, since they could not be attributed to error.

"x"= test organism mortality

**= accidental test organism mortality

"-"=4th brood (see 'NOTES')

Data Reviewed By : Sm

Date : 2012-10-18

Work Order : 222283

Sample Number: 35483

Ceriodaphnia dubia Water Chemistry Data

| | | Initial Chemistry: | Temp. (°C) | DO (mg/L) | pH | Conductivity (µmhos/cm) | Hardness (mg/L as CaCO ₃) | | | |
|--|---------|-------------------------|-------------------------|-------------------------|-------------------------|----------------------------|--|-------------------------|---------|--|
| | | | 25.0 | 6.3 | 8.1 | 336 | 190 | | | |
| | | Day 0 - 1 2012-10-04 | Day 1 - 2 2012-10-05 | Day 2 - 3 2012-10-06 | Day 3 - 4 2012-10-07 | Day 4 - 5 2012-10-08 | Day 5 - 6 2012-10-09 | Day 6 - 7 2012-10-10 | | |
| Date : | | | | | | | | | | |
| Sub-sample Used | | 1 | 1 | 1 | 2 | 2 | 3 | 3 | | |
| Temperature (°C) | | 25.0 | 24.0 | 24.0 | 24.0 | 24.0 | 25.0 | 25.0 | | |
| Dissolved Oxygen (mg/L) | | 6.3 | 6.2 | 7.2 | 6.5 | 7.2 | 6.2 | 6.7 | | |
| Dissolved Oxygen % Sat.³ | | 79 | 76 | 90 | 81 | 88 | 79 | 86 | | |
| pH | | 8.0 | 7.8 | 7.9 | 8.0 | 7.8 | 8.0 | 7.9 | | |
| Pre-aeration Time (min)⁴ | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Analyst(s) | Initial | MS(RD) | MS(KEH) | XD | CL | MS(KEH) | MS(KEH) | MS(KEH) | MS(KEH) | |
| | Final | MS(SM) | XD | CL | CL | MS(KEH) | MS(KEH) | AS | | |
| Control (0%) | | | | | | | | | | |
| Temp. (°C) | Initial | 25.0 | 24.0 | 25.0 | 25.0 | 25.0 | 24.0 | 25.0 | | |
| | Final | 24.5 | 24.0 | 24.0 | 24.0 | 24.5 | 25.0 | 25.5 | | |
| DO % Sat.³ | Initial | 96 | 96 | 98 | 100 | 98 | 95 | 100 | | |
| DO (mg/L) | Initial | 7.8 | 7.8 | 8.0 | 8.1 | 8.0 | 7.7 | 8.0 | | |
| | Final | 7.4 | 7.5 | 7.5 | 7.6 | 7.0 | 7.3 | 7.4 | | |
| pH | Initial | 8.2 | 8.2 | 8.2 | 8.0 | 8.2 | 8.2 | 8.2 | | |
| | Final | 8.2 | 8.1 | 7.9 | 8.2 | 8.1 | 8.0 | 8.0 | | |
| Cond. (µmhos) | Initial | 522 | 521 | 519 | 510 | 504 | 507 | 511 | | |
| 0.07 % | | | | | | | | | | |
| Temp. (°C) | Initial | 25.0 | 24.0 | 25.0 | 25.0 | 25.0 | 24.0 | 25.0 | | |
| | Final | 24.5 | 24.0 | 24.0 | 24.0 | 24.5 | 25.0 | 25.5 | | |
| DO (mg/L) | Initial | 8.1 | 7.9 | 8.0 | 8.2 | 8.1 | 7.9 | 8.0 | | |
| | Final | 7.2 | 7.4 | 7.5 | 7.6 | 7.1 | 7.3 | 7.4 | | |
| pH | Initial | 8.2 | 8.3 | 8.3 | 8.1 | 8.3 | 8.3 | 8.3 | | |
| | Final | 8.1 | 8.1 | 8.0 | 8.2 | 8.1 | 8.0 | 8.0 | | |
| Cond. (µmhos) | Initial | 527 | 525 | 523 | 515 | 510 | 511 | 516 | | |
| 9 % | | | | | | | | | | |
| Temp. (°C) | Initial | 25.0 | 24.0 | 25.0 | 25.0 | 25.0 | 24.0 | 25.0 | | |
| | Final | 24.5 | 24.0 | 24.0 | 24.0 | 24.5 | 25.0 | 25.5 | | |
| DO (mg/L) | Initial | 8.0 | 7.9 | 7.9 | 8.1 | 8.0 | 7.8 | 7.9 | | |
| | Final | 7.3 | 7.5 | 7.5 | 7.5 | 7.1 | 7.4 | 7.4 | | |
| pH | Initial | 8.3 | 8.3 | 8.3 | 8.1 | 8.3 | 8.3 | 8.3 | | |
| | Final | 8.1 | 8.1 | 8.0 | 8.2 | 8.1 | 8.1 | 8.0 | | |
| Cond. (µmhos) | Initial | 510 | 509 | 512 | 511 | 496 | 497 | 501 | | |
| 100 % | | | | | | | | | | |
| Temp. (°C) | Initial | 25.0 | 24.0 | 25.0 | 25.0 | 25.0 | 24.0 | 25.0 | | |
| | Final | 24.5 | 24.0 | 24.0 | 24.0 | 24.5 | 25.0 | 25.5 | | |
| DO (mg/L) | Initial | 7.0 | 6.9 | 7.5 | 7.5 | 7.3 | 7.3 | 7.7 | | |
| | Final | 7.2 | 7.3 | 7.4 | 7.4 | 6.8 | 7.1 | 7.5 | | |
| pH | Initial | 8.1 | 8.1 | 8.1 | 7.9 | 8.1 | 8.1 | 8.2 | | |
| | Final | 8.1 | 8.2 | 8.0 | 8.2 | 8.1 | 8.1 | 8.1 | | |
| Cond. (µmhos) | Initial | 337 | 339 | 340 | 341 | 339 | 342 | 341 | | |

"-" = not measured

³ % saturation (adjusted for actual temperature and barometric pressure)

⁴ ≤100 bubbles/minute



AquaTox Testing & Consulting Inc.
11B Nicholas Beaver Rd.
RR 3
Guelph ON N1H 6H9
Tel: (519) 763-4412 Fax: (519) 763-4419

Larval Fathead Minnow Test Report

Survival and Growth

1 of 5

Work Order : 222283
Sample Number : 35483

SAMPLE IDENTIFICATION

Company : SGS Lakefield Research Limited
Location : Lakefield ON
Substance : Final-Drizzle Lake Blend
Sampling Method : Grab
Sampled By : R.G.C.
Temp. on arrival : 19.5°C
Sample Description : Clear, light yellow, odourless liquid
Test Method : Test of Larval Growth and Survival Using Fathead Minnows. Environment Canada, Conservation and Protection. Ottawa, Ontario. Report EPS 1/RM/22 , 2nd ed. (February 2011).

Date Collected : 2012-10-03
Time Collected : 14:00
Date Received : 2012-10-04
Time Received : 11:00
Date Tested : 2012-10-04

TEST RESULTS

| Effect | Value | 95% Confidence Limits | Statistical Method |
|----------------------------|-------|-----------------------|--------------------|
| IC25 (Growth from Biomass) | >100% | - | - |
| LC50 | >100% | - | - |

The results reported relate only to the sample tested.

POTASSIUM CHLORIDE REFERENCE TOXICANT DATA

Date Tested : 2012-10-11
Organism Batch : Fm12-10
IC25 Growth (from Biomass) : 1.11 g/L
95% Confidence Limits : 1.01 - 1.19 g/L
Statistical Method : Nonlinear Regression (CETIS)^a
Historical Mean IC25 : 0.96 g/L
Warning Limits (\pm 2SD) : 0.81 - 1.14 g/L

Analyst(s) : SM/XD
Test Duration : 7 days
LC50 : 1.19 g/L
95% Confidence Limits : 0.90 - 1.70 g/L
Statistical Method : Nonlinear Interpolation (Stephan)^c
Historical Mean LC50 : 1.11 g/L
Warning Limits (\pm 2SD) : 0.97 - 1.26 g/L

The reference toxicity test was performed under the same experimental conditions as those used with the test sample.

TEST CONDITIONS

Test Organism : *Pimephales promelas*
Organism Batch : Fm12-10
Organism Age : ~07:00 - 23:30 h at start of test
Source : In-house culture
Culture Mortality/Diseased : 0.13 % (previous 7 days)
pH Adjustment : None
Sample Filtration : None
Hardness Adjustment : None
Test Aeration : None

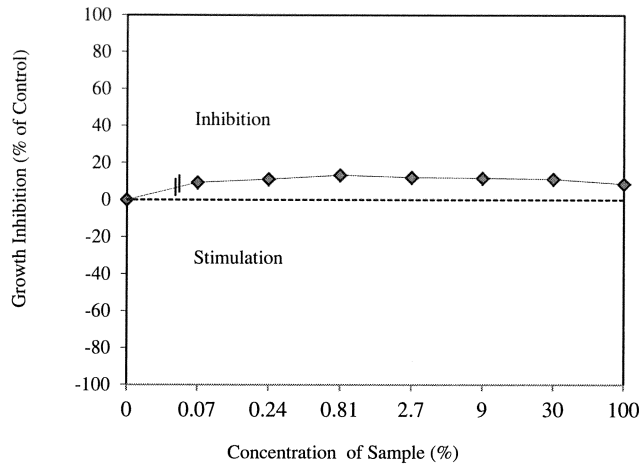
Test Type : Static Renewal
Control/Dilution Water : Well water (no chemicals added)
Test Volume / Replicate : 300 mL
Test Vessel : 420 mL polystyrene beaker
Depth of Test Solution : 8 cm
Organisms per Replicate : 10
Number of Replicates : 3
Daily Renewal Method : 80-85% syphoned and replaced
Test Method Deviation(s): None

COMMENTS

- All test validity criteria as specified in the test method cited above were satisfied.
- No organisms exhibiting unusual appearance, behaviour, or undergoing unusual treatment were used in the test.
- Inflated swim bladders were confirmed in all test organisms used in this test.

Work Order : 222283
 Sample Number : 35483

Fathead Minnow Growth Inhibition (based on Biomass)



REFERENCES

- ^a CETIS, © 2001-2007. Comprehensive Environmental Toxicity Information System. Tidepool Scientific Software, McKinleyville, Calif. 95519 [Program on disk and printed User's Guide].
- ^b Grubbs, F.E., 1969. Procedures for detecting outlying observations in samples. *Technometrics*, 11:1-21.
- ^c Stephan, C. E. 1977. Methods for calculating an LC50. pp 65-84 in : P. L. Mayer and J. L. Hamelink (eds.), Aquatic Toxicology and Hazard Evaluation. Amer. Soc. Testing and Materials, Philadelphia PA. ASTM STP 634.

Date : 2012-11-01
 yyyy-mm-dd

Approved By : J. Anduz
 Project Manager

Work Order : 222283

Sample Number : 35483

CUMULATIVE DAILY CONTROL MORTALITY AND IMPAIRMENT (±SD)

| | | | | | | | | |
|--------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Date : | 2012-10-04 | 2012-10-05 | 2012-10-06 | 2012-10-07 | 2012-10-08 | 2012-10-09 | 2012-10-10 | 2012-10-11 |
| | 0.00% (±0.0) | 0.00% (±0.0) | 0.00% (±0.0) | 0.00% (±0.0) | 0.00% (±0.0) | 0.00% (±0.0) | 0.00% (±0.0) | 0.00% (±0.0) |

FATHEAD MINNOW CUMULATIVE DAILY MORTALITY

 Initiation Time : 16:00
 Initiation Date : 2012-10-04
 Completion Date : 2012-10-11

| Date : | Analyst(s): | Concentration (%) | Replicate | Day 0 | | Day 1 | | Day 2 | | Day 3 | | Day 4 | | Day 5 | | Day 6 | | Day 7 | | Treatment Mean Mortality (± SD) % |
|--------|-------------|-------------------|-----------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-----------------------------------|
| | | | | 2012-10-04 | 2012-10-05 | 2012-10-06 | 2012-10-07 | 2012-10-08 | 2012-10-09 | 2012-10-10 | 2012-10-11 | | | | | | | | | |
| | | | | CL | HL(KEH) | FS | FS | FS | HL(KEH) | HL(KEH) | HL(KEH) | | | | | | | | | |
| | | | | Number Dead | % Dead | Number Dead | % Dead | Number Dead | % Dead | Number Dead | % Dead | Number Dead | % Dead | Number Dead | % Dead | Number Dead | % Dead | Number Dead | % Dead | |
| | | | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 (±0.00) |
| | | | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0.07 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 (±0.00) |
| | | | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0.24 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 (±0.00) |
| | | | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0.81 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | 1 | 10 | 1 | 10 | 3.33 (±5.77) |
| | | | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 2.7 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.33 (±5.77) |
| | | | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | |
| | | 9 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 (±0.00) |
| | | | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 30 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 (±0.00) |
| | | | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 100 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 (±0.00) |
| | | | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Aberrant behaviour or swimming impairment : None

 Date Reviewed By: Sm

 Date : 2012-10-18

Work Order : 222283

Sample Number : 35483

FATHEAD MINNOW DRY WEIGHT AND BIOMASS DATA

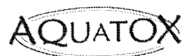
| Concentration (%) | Replicate | Number of Larvae Exposed | Replicate Mean Dry Weight (mg) | Treatment Mean Biomass (mg) | Standard Deviation |
|-------------------|-----------|--------------------------|--------------------------------|-----------------------------|--------------------|
| Control | A | 10 | 0.794 | 0.862 | 0.059 |
| | B | 10 | 0.889 | | |
| | C | 10 | 0.903 | | |
| 0.07 | A | 10 | 0.731 | 0.782 | 0.091 |
| | B | 10 | 0.887 | | |
| | C | 10 | 0.727 | | |
| 0.24 | A | 10 | 0.759 | 0.766 | 0.091 |
| | B | 10 | 0.678 | | |
| | C | 10 | 0.860 | | |
| 0.81 | A | 10 | 0.759 | 0.747 | 0.014 |
| | B | 10 | 0.751 | | |
| | C | 10 | 0.731 | | |
| 2.7 | A | 10 | 0.690 | 0.758 | 0.062 |
| | B | 10 | 0.812 | | |
| | C | 10 | 0.771 | | |
| 9 | A | 10 | 0.826 | 0.761 | 0.057 |
| | B | 10 | 0.722 | | |
| | C | 10 | 0.734 | | |
| 30 | A | 10 | 0.751 | 0.766 | 0.019 |
| | B | 10 | 0.760 | | |
| | C | 10 | 0.787 | | |
| 100 | A | 10 | 0.856 | 0.788 | 0.083 |
| | B | 10 | 0.813 | | |
| | C | 10 | 0.695 | | |

NOTES :

- No outlying data points were detected according to Grubbs Test^b.
- Control average dry weight per surviving organism = 0.862 mg

Data Reviewed By: SM

Date : 2012-10-18



Work Order : 222283
 Sample Number: 35483

Fathead Minnow Water Chemistry Data

| Initial Chemistry: | | Temp. (°C) | DO (mg/L) | pH | Conductivity (µmhos/cm) | Hardness (mg/L as CaCO ₃) | | |
|--------------------------------------|---------|------------|------------|------------|-------------------------|---------------------------------------|------------|------------|
| | | 25.0 | 6.3 | 8.1 | 336 | 190 | | |
| | | Day 0 - 1 | Day 1 - 2 | Day 2 - 3 | Day 3 - 4 | Day 4 - 5 | Day 5 - 6 | Day 6 - 7 |
| | | 2012-10-04 | 2012-10-05 | 2012-10-06 | 2012-10-07 | 2012-10-08 | 2012-10-09 | 2012-10-10 |
| Sub-sample Used | | 1 | 1 | 1 | 2 | 2 | 3 | 3 |
| Temperature (°C) | | 25.0 | 24.0 | 24.0 | 24.0 | 24.0 | 25.0 | 25.0 |
| Dissolved Oxygen (mg/L) | | 6.3 | 6.2 | 7.2 | 6.5 | 7.2 | 6.2 | 6.7 |
| Dissolved Oxygen % Sat. ¹ | | 79 | 76 | 90 | 81 | 88 | 79 | 86 |
| pH | | 8.0 | 7.8 | 7.9 | 8.0 | 7.8 | 8.0 | 7.9 |
| Pre-aeration Time (min) ² | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Analyst(s) : Initial | | MS(RD) | MS(KEH) | XD | CL | MS(KEH) | MS(KEH) | MS(KEH) |
| Final | | MS(KEH) | XD | CL | MS(KEH) | MS(KEH) | MS(KEH) | MS(KEH) |
| Control (0%) | | | | | | | | |
| Temp.(°C) | Initial | 25.0 | 24.0 | 25.0 | 25.0 | 25.0 | 24.0 | 25.0 |
| | Final | 24.5 | 24.5 | 24.0 | 24.5 | 24.5 | 25.0 | 24.5 |
| DO % Sat. | Initial | 96 | 96 | 98 | 100 | 98 | 95 | 100 |
| DO (mg/L) | Initial | 7.8 | 7.8 | 8.0 | 8.1 | 8.0 | 7.7 | 8.0 |
| | Final | 7.3 | 7.2 | 6.9 | 6.8 | 6.7 | 7.1 | 6.9 |
| pH | Initial | 8.2 | 8.2 | 8.2 | 8.0 | 8.2 | 8.2 | 8.2 |
| | Final | 8.2 | 8.0 | 7.7 | 7.9 | 7.9 | 8.0 | 7.8 |
| Cond. (µmhos) | Initial | 522 | 521 | 519 | 510 | 504 | 507 | 511 |
| 0.07 % | | | | | | | | |
| Temp.(°C) | Initial | 25.0 | 24.0 | 25.0 | 25.0 | 25.0 | 24.0 | 25.0 |
| | Final | 24.5 | 24.5 | 24.0 | 24.5 | 24.5 | 25.0 | 24.5 |
| DO (mg/L) | Initial | 8.1 | 7.9 | 8.0 | 8.2 | 8.1 | 7.9 | 8.0 |
| | Final | 7.0 | 7.3 | 6.7 | 7.0 | 6.6 | 7.1 | 6.7 |
| pH | Initial | 8.2 | 8.3 | 8.3 | 8.1 | 8.3 | 8.3 | 8.3 |
| | Final | 8.2 | 8.0 | 7.7 | 7.9 | 7.9 | 8.0 | 7.9 |
| Cond. (µmhos) | Initial | 527 | 525 | 523 | 515 | 510 | 511 | 516 |
| 9 % | | | | | | | | |
| Temp.(°C) | Initial | 25.0 | 24.0 | 25.0 | 25.0 | 25.0 | 24.0 | 25.0 |
| | Final | 24.5 | 24.5 | 24.0 | 24.5 | 24.5 | 25.0 | 24.5 |
| DO (mg/L) | Initial | 8.0 | 7.9 | 7.9 | 8.1 | 8.0 | 7.8 | 7.9 |
| | Final | 7.2 | 7.2 | 7.2 | 6.9 | 6.6 | 7.0 | 6.9 |
| pH | Initial | 8.3 | 8.3 | 8.3 | 8.1 | 8.3 | 8.3 | 8.3 |
| | Final | 8.2 | 8.0 | 7.8 | 8.0 | 7.9 | 8.0 | 7.9 |
| Cond. (µmhos) | Initial | 510 | 509 | 512 | 511 | 496 | 497 | 501 |
| 100 % | | | | | | | | |
| Temp.(°C) | Initial | 25.0 | 24.0 | 25.0 | 25.0 | 25.0 | 24.0 | 25.0 |
| | Final | 24.5 | 24.5 | 24.0 | 24.5 | 24.5 | 25.0 | 24.5 |
| DO (mg/L) | Initial | 7.0 | 6.9 | 7.5 | 7.5 | 7.3 | 7.3 | 7.7 |
| | Final | 6.9 | 6.6 | - | 6.5 | 6.4 | 6.9 | 6.7 |
| pH | Initial | 8.1 | 8.1 | 8.1 | 7.9 | 8.1 | 8.1 | 8.2 |
| | Final | 8.2 | 8.0 | - | 8.0 | 8.0 | 8.1 | 7.9 |
| Cond. (µmhos) | Initial | 337 | 339 | 340 | 341 | 339 | 342 | 341 |

"-" = not measured

¹ % saturation (adjusted for actual temperature and barometric pressure)

² ≤100 bubbles/minute



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Lemna minor Test Report

Growth Inhibition

1 of 4

Work Order : 222283
Sample Number : 35483

SAMPLE IDENTIFICATION

Company : SGS Lakefield Research Limited
Location : Lakefield ON
Substance : Final-Drizzle Lake Blend
Sampling Method : Grab
Sampled By : R.G.C.
Temp. on arrival : 19.5°C
Sample Description : Clear, light yellow, odourless liquid
Date Collected : 2012-10-03
Time Collected : 14:00
Date Received : 2012-10-04
Time Received : 11:00
Date Tested : 2012-10-05
Test Method : Test for Measuring the Inhibition of Growth using the Freshwater Macrophyte, *Lemna minor*. Method Development and Application Section, Environmental Technology Centre, Environment Canada. Ottawa, Ontario. Report EPS 1/RM/37, 2nd ed. (January 2007).

TEST RESULTS

| Effect | Value | 95% Confidence Limits | Statistical Method |
|-------------------------|--------|-----------------------|--------------------|
| IC25 (Weight) | >97.0% | - | - |
| IC25 (FronD Production) | >97.0% | - | - |

The results reported relate only to the sample tested.

POTASSIUM CHLORIDE REFERENCE TOXICANT DATA

Date Tested : 2012-10-19
Analyst(s) : SM, AW
Test Duration : 7 days
IC25 (FronD Production) : 1.92 g/L
95% Confidence Limits : 1.43 - 2.37 g/L
Statistical Method : Linear Interpolation (CETIS)^a
Historical Geometric Mean IC25 : 2.24 g/L
Warning Limits (\pm 2SD) : 1.64 - 3.04 g/L
Growth Medium : Modified APHA

The reference toxicant test was performed under the same experimental conditions as those used with the test sample.

TEST CONDITIONS

Test Organism : *Lemna minor* L., Strain 7730
Organism Batch : Lm12-10
Culture Origin : UTCC 492
Test Organism Source : Axenic in-house culture
Culture Medium : Modified Hoaglands E+
Age (on Test Day 0) : 10 days
Health Criteria (in APHA) : 16.3-fold frond increase in 7 days
Organism Acclimation : 20:30 h in APHA medium
Inoculum (Test Day 0) : 2 plants (3 fronds per plant)
Sample Filtration : 1 μ m (Whatman GF/C)
Sample Pre-aeration : 20 min. at \leq 100 bubbles/min.
pH Adjustment : None
Hardness Adjustment : None
Test Type : Static (no sub-samples required)
Control/Dilution Medium : Modified APHA
Medium Preparation Water : Distilled Water
Source of Water : Morning Mist
Medium Preparation Chemicals : Modified APHA stocks A, B, C (10 mL/L)
Nutrient Spiking of Sample : Modified APHA stocks A, B, C (10 mL/L)
Replicates per Concentration : 4
Test Volume per Replicate : 100 mL
Test Vessel : 250 mL glass Erlenmeyer flask
Depth of Test Solution : 4.0 cm
Photoperiod/Light Intensity : Continuous, 4201 - 4957 lux
Test Method Deviation(s) : None

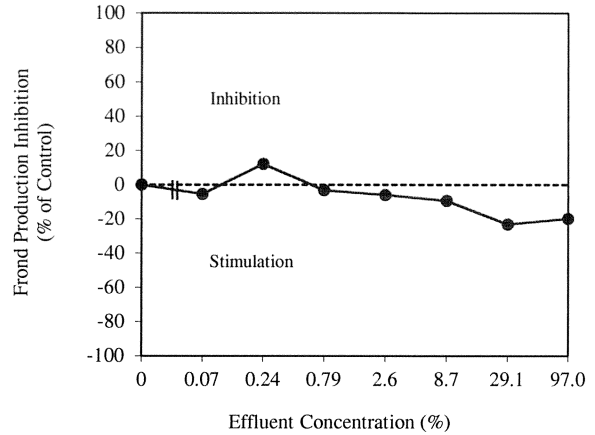
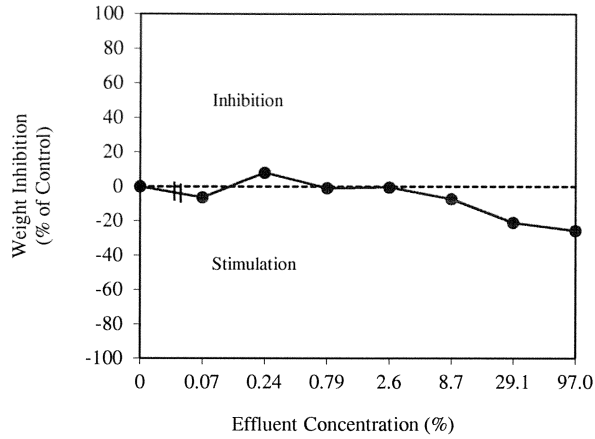
COMMENTS

*All test validity criteria as specified in the test method cited above were satisfied.

Work Order : 222283

Sample Number : 35483

Lemna minor Growth Inhibition



TEST MONITORING

Initiation Date : 2012-10-05
 Intitiation Time : 12:40
 Initiated By : DK

Termination Date : 2012-10-12
 Termination Time : 14:05
 Terminated By : SM/KEH

Temperature Monitoring

| Test Day | Date | Temperature (°C) |
|-----------------------|------------|------------------|
| 0 (unmodified sample) | 2012-10-05 | 25.0 |
| 0 | 2012-10-05 | 25.0 |
| 1 | 2012-10-06 | 26.0 |
| 2 | 2012-10-07 | 26.0 |
| 3 | 2012-10-08 | 26.0 |
| 4 | 2012-10-09 | 26.0 |
| 5 | 2012-10-10 | 26.0 |
| 6 | 2012-10-11 | 26.0 |
| 7 | 2012-10-12 | 26.5 |

pH Monitoring

| Concentration (%) | Day 0 | Day 7 |
|-------------------------|-------|-------|
| 100 (unmodified sample) | 7.8 | - |
| Control | 8.2 | 8.4 |
| 0.07 | 7.9 | 8.5 |
| 0.24 | - | - |
| 0.79 | - | - |
| 2.6 | 8.0 | 8.5 |
| 8.7 | - | - |
| 29.1 | - | - |
| 97.0 | 8.0 | 8.8 |

"-" = not required

REFERENCES

^a CETIS, © 2001-2007. Comprehensive Environmental Toxicity Information System. Tidepool Scientific Software, McKinleyville, Calif. 95519 [Program on disk and printed User's Guide].

Date :

2012-11-01

yyyy-mm-dd

Approved By:

J. Smolay
 Project Manager

Work Order : 222283
 Sample Number : 35483

Lemna minor Frond Increase

| Concentration (%) | Replicate | Frond Count Day 0* | Frond Count Day 7 | Frond Increase | Mean Frond Increase | Standard Deviation | CV (%) | Stimulation (%)** | Frond/Root Appearance (Day 7) |
|-------------------|-----------|--------------------|-------------------|----------------|---------------------|--------------------|--------|-------------------|--|
| Control | A | 6 | 113 | 107 | 101.25 | 14.29 | 14.1 | - | Fronds healthy, appearance normal in all replicates. |
| | B | 6 | 117 | 111 | | | | | |
| | C | 6 | 86 | 80 | | | | | |
| | D | 6 | 113 | 107 | | | | | |
| 0.07 | A | 6 | 107 | 101 | 106.75 | 12.07 | 11.3 | - | Fronds healthy, appearance normal in all replicates. |
| | B | 6 | 126 | 120 | | | | | |
| | C | 6 | 119 | 113 | | | | | |
| | D | 6 | 99 | 93 | | | | | |
| 0.24 | A | 6 | 98 | 92 | 89.00 | 5.72 | 6.4 | - | Fronds healthy, appearance normal in all replicates. |
| | B | 6 | 88 | 82 | | | | | |
| | C | 6 | 93 | 87 | | | | | |
| | D | 6 | 101 | 95 | | | | | |
| 0.79 | A | 6 | 117 | 111 | 104.50 | 4.93 | 4.7 | - | Fronds healthy, appearance normal in all replicates. |
| | B | 6 | 105 | 99 | | | | | |
| | C | 6 | 110 | 104 | | | | | |
| | D | 6 | 110 | 104 | | | | | |
| 2.6 | A | 6 | 98 | 92 | 107.25 | 12.23 | 11.4 | - | Fronds healthy, appearance normal in all replicates. |
| | B | 6 | 109 | 103 | | | | | |
| | C | 6 | 121 | 115 | | | | | |
| | D | 6 | 125 | 119 | | | | | |
| 8.7 | A | 6 | 117 | 111 | 110.75 | 11.12 | 10.0 | - | Fronds healthy, appearance normal in all replicates. |
| | B | 6 | 132 | 126 | | | | | |
| | C | 6 | 106 | 100 | | | | | |
| | D | 6 | 112 | 106 | | | | | |
| 29.1 | A | 6 | 118 | 112 | 124.75 | 8.77 | 7.0 | 23.2 | Fronds healthy, appearance normal in all replicates. |
| | B | 6 | 134 | 128 | | | | | |
| | C | 6 | 138 | 132 | | | | | |
| | D | 6 | 133 | 127 | | | | | |
| 97.0 | A | 6 | 136 | 130 | 121.25 | 16.84 | 13.9 | - | Fronds healthy, appearance normal in all replicates. |
| | B | 6 | 136 | 130 | | | | | |
| | C | 6 | 135 | 129 | | | | | |
| | D | 6 | 102 | 96 | | | | | |

NOTES: *No unusual appearance or treatment of culture prior to testing. Test inoculated with healthy plants.

**Significant stimulation (ANOVA - Dunnett's Test (CETIS)a, $\alpha=0.05$) compared to control.

•A 17.9-fold increase in frond number was observed in the control over the testing period.

•No outlying data points were detected according to Grubbs Test (CETIS)^a.

"-" = not available/not required

Test Data Reviewed By : sm
 Date : 2012-10-18

Work Order : 222283

Sample Number : 35483

Lemna minor Frond Weight Data

| Concentration (%) | Replicate | Dry Weight of Fronds (mg) | Treatment Mean Dry Weight (mg) | Standard Deviation | Stimulation (%)** |
|-------------------|-----------|---------------------------|--------------------------------|--------------------|-------------------|
| Control | A | 10.59 | 9.43 | 1.39 | - |
| | B | 10.04 | | | |
| | C | 7.43 | | | |
| | D | 9.67 | | | |
| 0.07 | A | 10.21 | 10.03 | 0.70 | - |
| | B | 10.70 | | | |
| | C | 10.17 | | | |
| | D | 9.05 | | | |
| 0.24 | A | 9.38 | 8.67 | 0.85 | - |
| | B | 8.28 | | | |
| | C | 7.66 | | | |
| | D | 9.37 | | | |
| 0.79 | A | 10.17 | 9.52 | 0.52 | - |
| | B | 9.16 | | | |
| | C | 9.06 | | | |
| | D | 9.70 | | | |
| 2.6 | A | 8.69 | 9.48 | 0.64 | - |
| | B | 9.22 | | | |
| | C | 10.04 | | | |
| | D | 9.97 | | | |
| 8.7 | A | 10.59 | 10.12 | 1.53 | - |
| | B | 11.83 | | | |
| | C | 8.16 | | | |
| | D | 9.88 | | | |
| 29.1 | A | 10.11 | 11.42 | 0.91 | 21.02 |
| | B | 12.11 | | | |
| | C | 11.49 | | | |
| | D | 11.95 | | | |
| 97.0 | A | 12.95 | 11.86 | 1.62 | 25.68 |
| | B | 13.26 | | | |
| | C | 11.49 | | | |
| | D | 9.72 | | | |

NOTES :

**Significant stimulation (ANOVA - Dunnett's Test (CETIS)_a, $\alpha=0.05$) compared to control.

•No outlying data points were detected according to Grubbs Test (CETIS)^a.

"-" = not available/not required

Test Data Reviewed By : SM
 Date : 2012-10-18