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TOXICITY EVALUATION OF THE SEDIMENT AND SOIL NAS CECIL FIELD FL

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ABB ENVIRONMENTAL

TOXICITY EVALUATION OF THE SEDIMENT AND SOIL FROM THE CECIL FIELD NAVAL AIR STATION IN JACKSONVILLE, FLORIDA

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SLI Report #93-07-4874
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FINAL REPORT

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1.0 INTRODUCTION

Decisions regarding the need for remediation and efficacy of remedial alternatives at sites containing waste materials often depend on information concerning the environmental risks posed by conditions at the site. As part of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) remedial alternatives or removal actions for hazardous waste sites should include an environmental impact studies. An essential part of the environmental impact studies is the assessment of the degree and spatial extent of contamination in sediments or/and soils at the site.

The hazards posed by a chemical when released to the environment are a function of the concentration achieved in water column, sediment and/or soil as a result of its use. The process of environmental assessment combines a knowledge of the properties which influence the behavior of a chemical in the environment with an understanding of the acute and chronic toxicity of the chemical and its potential for bioaccumulation.

The objective of this testing program was to evaluate toxicity of sediment samples to *Hyalella azteca* and *Ceriodaphnia dubia* and soil samples to *Eisenia foetida* and *Lactuca sativa*. All sediment and soil samples were collected from the Cecil Field Naval Air Station in Jacksonville, Florida.

All testing was conducted at Springborn Laboratories, Inc. (SLI), Environmental Sciences Division, Wareham, Massachusetts. All original raw data and the final report produced during this study are stored at Springborn.

2.0 MATERIALS AND METHODS

2.1 Sediment Testing

2.1.1 Test Samples - The 1 gallon sediment samples tested during the short-term chronic test with *Ceriodaphnia dubia* and the acute toxicity test with *Hyallela azteca* were

collected from the Cecil Field Naval Air Station, Jacksonville, Florida by ABB Environmental Services, Inc. personnel. Sample IDs, the dates on which the samples were collected and the dates at which they were received at Springborn are as follows: samples STC-TOX-1, STC-TOX-2, STC-TOX-3, RC-TOX-R1 (reference control) and 2-TOX-2, collected on 22 June 1993, were received on 23 June 1993; sample LF-TOX-8 collected on 23 June 1993, and samples RC-TOX-9, RC-TOX-8, RC-TOX-8A, RC-TOX-7, RC-TOX-6 and 2-TOX-3 collected on 24 June 1993, were received on 25 June 1993; samples 5-TOX-2, 5-TOX-3, 5-TOX-4 and 5-TOX-5 collected on 25 June 1993, were received on 26 June 1993; and samples YWC-TOX-R1 (reference control) collected 28 June 1993 and samples 5-TOX-1 and STC-TOX-R1 (reference control) collected on 29 June 1993, were received on 30 June 1993. Samples 5-TOX-5 and STC-TOX-R1 recollected on 16 August 1993, and RC-TOX-R1 and 5-TOX-1 recollected on 17 August 1993, were received on 18 August 1993. Following receipt at Springborn, any samples that were not immediately tested were stored refrigerated at approximately 4 °C. Refrigerated samples were warmed to room temperature before use in the toxicity tests.

2.1.2 Short-Term Chronic Test with Daphnids

2.1.2.1 Study Protocol and Conduct - Procedures used in the short-term chronic test generally followed those described in the Springborn protocol entitled "Protocol for 7-day Static Renewal Effluent Toxicity Test With *Ceriodaphnia dubia* Following EPA Effluent Guidelines", Springborn Laboratories Protocol #: 030892/CD7D.HWS (Appendix I). The methods described in this protocol are based on method 1002.0 prescribed by the U.S. Environmental Protection Agency (1989).

The 7-day toxicity tests were conducted from 24 June to 1 July 1993 for test samples STC-TOX-1, STC-TOX-2, STC-TOX-3 and RC-TOX-R1; from 29 June to 6 July 1993 for test samples 2-TOX-2, 2-TOX-2 (pore water), RC-TOC-9 and RC-TOX-R1; from 1 to 8 July 1993 for test samples RC-TOX-6, RC-TOX-7, 2-TOX-3, 5-TOX-2, 5-TOX-3, 5-TOX-4, 5-TOX-5 and RC-TOX-R1; from 9 to 16 July 1993 for test samples LF-TOX-8, RC-TOX-8, RC-TOX-8A and RC-TOX-R1; from

2 to 9 July 1993 for test samples 5-TOX-1, STC-TOX-R1 and YWC-TOX-R1; and from 19 to 25 August 1993 for the second set of samples 5-TOX-5, STC-TOX-R1, 5-TOX-1 and RC-TOX-R1.

2.1.2.2 Test Organism - The test organism, *Ceriodaphnia dubia*, ≤ 9 hours old, was obtained from cultures maintained at Springborn. The culture system consisted of fifty to 100 30-mL plastic beakers, each of which contained 15 mL of culture medium and one adult daphnid. The culture beakers were placed on an insulated foam rack (2.5 cm thickness) which floated in a water bath designed to maintain the culture solutions at a temperature of 25 ± 1 °C. Daphnids for this test were cultured in well water with an initial total hardness of approximately 180 mg/L as $CaCO_3$. The total hardness of the culture water was gradually adjusted to a hardness of approximately 60 mg/L as $CaCO_3$ over several days. The total hardness was adjusted by addition of reagent grade chemicals according to the EPA method for hard water (EPA, 1989). *Ceriodaphnia dubia* cultures were fed suspensions of a unicellular green algae (*Selenastrum capricornutum*) and a mixture consisting of yeast, Trout Chow and Cerophyll (YCT) once daily. Nine hours before test initiation, all immature daphnids were removed from the culture beakers. Offspring produced over the first 7.5-hour interval were culled individually using a glass pipet to be used in the toxicity test.

2.1.2.3 Test Procedures - The water used during this study for the control solutions was Town of Wareham, Massachusetts well water which had been fortified based on the formula for soft water (ASTM, 1989) and filtered through an Amberlite XAD-7 resin column to remove any potential organic contaminants. This water was characterized as having total hardness and total alkalinity ranges as $CaCO_3$ of 48 mg/L and 29 to 33 mg/L, respectively, a pH range of 7.3 to 7.4 and a specific conductivity range of 170 to 220 µmhos/cm (Modified GFT Water Quality Log, Volume V). Representative samples of the source of the control water were analyzed monthly for total organic carbon (TOC) concentration. The TOC concentration of the control water source ranged from 1.0 mg/L to 1.1 mg/L for the months of June to August 1993 (TOC and TSS Master Log, Volume II). Several species of daphnids were maintained in water from the same source as the control water utilized in this study and have successfully survived

and reproduced over several generations. This, in combination with the previously mentioned analyses, confirms the acceptability of this water for bioassays.

The test vessels used during the *C. dubia* toxicity tests were 30-mL plastic beakers. Ten replicate test vessels, each containing 15 mL of test solution, were maintained for each elutriate sample. In addition, one set of control vessels was established for each set of samples tested and was maintained under the same exposure conditions as the test samples. The control solutions contained no elutriate.

The test was conducted in a temperature controlled water bath designed to maintain the temperature of the test solutions at 25 ± 1 °C. The test area had a photoperiod of 16 hours of light and 8 hours of darkness, and a light intensity within the range of 60 to 110 footcandles. Lighting was provided by Sylvania Growlux® and Cool White® fluorescent bulbs.

Prior to use in the toxicity test, an elutriate of each sample was prepared. Glassware used in the preparation of the elutriants was washed with detergent, rinsed 5 times with tap water, placed in a clean 10% HCl acid bath for a minimum of 4 hours, rinsed 5 times with tap water and then thoroughly flushed with either distilled or deionized water. Elutriants were prepared in the following manner. Each sediment sample was passed through a 2.0 mm stainless steel sieve and then added to dilution water using a sediment to water ratio of 1:4. Each sediment-water mixture was then stirred continuously for 30 minutes with a Dayton laboratory mixer. Following stirring, each mixture was allowed to settle for 1 hour after which the supernatant was siphoned off and then centrifuged. The supernatant was then vacuum filtered using a Buchner funnel and a 0.45 μm filter to remove any remaining particulates. The resulting elutriant was then used as the exposure solutions. The remaining elutriant, which was used to renew the exposure solutions during the test, was stored refrigerated at an approximate temperature of 4 °C. The elutriants were heated to test temperature prior to use at each renewal period.

In addition to the elutriants prepared from the sediment samples, an additional elutriant sample was also prepared at the request of the Study Sponsor. This additional elutriant was prepared from the pore water removed from the 2-TOX-2 sediment sample. The overlying water layer present in the 2-TOX-2 sediment sample was first poured off of the sediment sample. The overlying water was then centrifuged and the supernatant was vacuum filtered using a Buchner funnel and a 0.45 μm filter to remove any remaining particulates. The resulting elutriant was then used to prepare exposure solutions.

The tests were initiated when one daphnid was added to each replicate test vessel. At each subsequent 24-hour interval, adult mortality, the number of offspring produced, biological observations and the physical characteristics of the test solutions were recorded. Surviving adult daphnids were carefully transferred to freshly prepared exposure solutions on a daily basis for all test samples with the exception of samples 2-TOX-2 and 2-TOX-2 pore water. Due to an inadequate amount of test sample, exposure solutions for these two samples were only renewed on test days 1, 2 and 5. Sample 2-TOX-3 was inadvertently not renewed on test day 6. Following transfer of the adult daphnids, offspring remaining in the old exposure solutions were counted. The old exposure solutions were discarded after counts of all offspring were completed. Daphnids were fed 100 μL of YCT suspension and 100 μL of a *S. capricornutum* suspension (3.0×10^7 cells/mL to 3.5×10^7 cells/mL) once daily following addition to the test vessels at test initiation and at each renewal period.

The dissolved oxygen concentration, pH, temperature and specific conductivity of each exposure solution was recorded daily. Dissolved oxygen and pH measurements were performed in both the new and old test solutions while temperature and specific conductivity measurements were performed in the new solutions only. Dissolved oxygen concentrations were measured using a Yellow Springs Instrument (YSI) Model #57 dissolved oxygen meter and probe; pH was measured with a Jenco Model 601A pH meter and combination electrode; daily temperature was measured with a Brooklyn alcohol thermometer; and specific conductivity was measured using a YSI Model 33 salinity-conductivity-temperature meter. In addition to daily temperature

measurements, the temperature of the surrounding water in the water bath was continuously monitored throughout the study using a Brooklyn Min/Max thermometer. Light intensity was measured with a General Electric type 214 light meter.

2.1.3 Acute Toxicity Test with Amphipods

2.1.3.1 Study Protocol and Conduct - Procedures used in the acute toxicity test followed those described in the Springborn protocol entitled "Protocol for Conduct of a Static-Renewal Toxicity Test with Amphipods *Hyallela azteca* to Meet U.S. EPA Guidelines for Bioassessment of Hazardous Water Site Sediment", Springborn Laboratories Protocol #: 030893/RCRA.Hyallela (Appendix I). The methods described in this protocol generally meet the standard procedures described in the ASTM Guideline for conducting Sediment Toxicity Tests with freshwater invertebrates (ASTM, 1991).

The 14-day toxicity tests were conducted from 23 June to 7 July 1993 for test samples STC-TOX-1, STC-TOX-2, STC-TOX-3 and RC-TOX-R1; from 28 June to 12 July 1993 for test samples RC-TOX-8, RC-TOX-8A, LF-TOX-8, 2-TOX-2, RC-TOX-9 and RC-TOX-R1; from 30 June to 14 July 1993 for test samples 2-TOX-3, 5-TOX-2, 5-TOX-3, 5-TOX-4, 5-TOX-5, RC-TOX-6, RC-TOX-7 and RC-TOX-R1; from 2 to 16 July 1993 for test samples 5-TOX-1, STC-TOX-R1 and YWC-TOX-R1; and from 23 August 1993 to 6 September 1993 for the second set of samples 5-TOX-5, STC-TOX-R1, RC-TOX-R1 and 5-TOX-1.

2.1.3.2 Test Organism - The test organism, *Hyallela azteca*, ≤ one week old, was obtained from cultures maintained at Springborn. The culture system was maintained under flow-through conditions and consisted of 5.5 gallon glass aquaria which contained approximately 10 L of culture water. The culture water was well water which had been supplemented with untreated water from the Town of Wareham, Massachusetts. The culture water had a total hardness within the range of 20 to 40 mg/L as $CaCO_3$, a pH range of 6.9 to 7.2, a specific conductivity within the range of 120 to 150 µmhos/cm and a temperature of 20 ± 2 °C. The culture area received a regulated photoperiod of 16 hours of light and 8 hours of darkness. Light at an intensity of 30

to 100 footcandles was provided at the culture solutions' surface by Durotest Vitalite® fluorescent bulbs.

The *H. azteca* cultures were fed a combination of Chocolate Food Suspension and Trout Chow Suspension, supplemented with Tetramin flake fish food for larger amphipods. The Chocolate Food Suspension was a mixture of Hartz® Dog Kisses (5 to 6 pieces) and distilled water (100 mL). The Trout Chow Suspension was a combination of Salmon Starter trout food (50 g) and dehydrated alfalfa (10 g) mixed with dilution water (2 L). Both suspensions were prepared at Springborn.

Seven to ten days before test initiation, adult amphipods were removed from the culture tanks and placed in 5.5-gallon glass aquaria containing 10 L of dilution water. Young produced were then removed daily from the aquaria using a glass pipet and transferred to 1-L glass beakers where they were held until test initiation.

2.1.3.3 Test Procedures - The overlying water used during this study was from the same source as the culture water. During the study period, this water was characterized as having total hardness and total alkalinity ranges as $CaCO_3$ of 25 to 26 mg/L and 21 to 22 mg/L, respectively, a pH range of 6.9 to 7.1 and a specific conductivity range of 110 to 120 µmhos/cm (Gravity Feed Tank Water Quality Analysis Logbook, Volume 8). Representative samples of the water source were analyzed monthly for total organic carbon (TOC) concentration. The TOC concentration of the water source for the month of July 1993 was 1.0 mg/L (TOC and TSS Master Log, Volume II). Several species of daphnids (a representative freshwater invertebrate generally recognized to be sensitive to chemical challenges) are maintained in water from the same source as the water utilized in this study and have successfully survived and reproduced over several generations. This, in combination with the previously mentioned analyses, confirms the acceptability of this water for bioassays.

The test vessels used during this test were 1000-mL beakers. Four replicate test vessels were maintained for each sediment sample. In addition, one set of washed sand control vessels was also established and maintained under the same exposure conditions as the sediment samples. The sand control vessels contained 200 mL of washed sand and 800 mL of overlying water. Results obtained on organisms exposed to the washed sand control were used to establish the health of the organisms used during the toxicity test and were not used for statistical analyses to establish significant effects.

The test was conducted in a temperature controlled water bath designed to maintain the temperature of the test solutions at 20 ± 1 °C. The test area had a photoperiod of 16 hours of light and 8 hours of darkness, with a light intensity range of 80 to 100 footcandles. Lighting was provided by Sylvania Growlux® and Cool White® fluorescent bulbs.

Prior to use in the toxicity tests all sediment samples were passed through a 2.0 mm stainless steel sieve to remove rocks, debris and large clumps of sediment. Each sediment sample was then divided between the replicate test vessels so that each test vessel contained 200 mL of the respective sediment. The resultant sediment layer in each test vessel was 2 cm deep. Overlying water (800 mL) was then gently added to each replicate. The test was initiated when 20 amphipods were added to each replicate exposure vessel (80 amphipods per test sample and control). Test vessels were covered with plastic wrap and aeration was provided to each test vessel throughout the exposure period.

Renewal of the overlying water in each replicate test vessel was performed three times weekly by carefully siphoning off 75% (approximately 600 mL) of the existing overlying water and gently replacing it with fresh overlying water. Amphipods were fed a combination of Chocolate Food Suspension and Trout Chow Suspension daily at rates of 100 and 300 µL, respectively, per test vessel. Survival was determined at test termination by sieving the sediment from each replicate test vessel to remove the amphipods for observation.

At test initiation and at each subsequent 24-hour interval, biological observations and the physical characteristics of the test solutions were observed and recorded. The dissolved oxygen concentration, pH and temperature were measured in each replicate test vessel at test initiation (day 0), mid-term (day 7) and at test termination (day 14). On the remaining days of the exposure, these measurements were recorded in alternating test vessels of the test samples and the control. On renewal days, water quality measurements were made on old and new test sample solutions and the controls. At test initiation and termination, hardness, total alkalinity and specific conductivity were measured on composite samples of overlying water from each test sample and control. Dissolved oxygen concentrations were measured using a Yellow Springs Instrument (YSI) Model #57 dissolved oxygen meter and probe; pH was measured with a Jenco Model 601A pH meter and combination electrode; and daily temperature was measured with an Ertco alcohol thermometer. Total hardness concentration was measured by the EDTA titrimetric method. Total alkalinity concentration was determined by potentiometric titration to an endpoint of pH 4.5 (APHA *et. al.*, 1985). Specific conductance was measured using a YSI Model #33 conductivity meter. In addition, temperature of the test solutions was continuously monitored throughout the study using a Fisher Min/Max thermometer. Light intensity was measured with a General Electric type 214 light meter.

2.1.3.4 Statistical Analysis - At test termination, survival for each test sample was statistically compared to the performance of the reference control organisms to establish significant effects. Results were first analyzed using a t-test. If different variances were observed then Welch's t-test was used to establish significant differences. All statistical analyses were performed at the 95% level of certainty.

2.2 Terrestrial Testing

2.2.1 Test Samples - The soil samples tested during the subacute toxicity test with earthworms (*Eisenia foetida*) and the seed germination toxicity test with lettuce (*Lactuca sativa*) seeds were collected from the Cecil Field Naval Air Station, Jacksonville, Florida by ABB Environmental Services, Inc. personnel. Sample IDs, the dates on which the samples were

collected and the dates on which they were received at Springborn are as follows: sample E[illegible] (reference control), collected 19 July 1993, and samples 1SS09, 1SS12, 1SS13, 1SS14, 2 1SS10, 1SS11 and 2SS10, collected on 22 July 1993 were received on 23 July 1993; sa 1SS08, 1SS06, 1SS03, 1SS02, 1SS01, 1SS04, 1SS05, 2SS06, 2SS05 and 2SS04 were col on 21 July 1993 and received on 22 July 1993; and samples 1SS07, 1SS15, 2SS07, 2 2SS01, 2SS02 and 2SS03 were collected on 23 July 1993 and received on 27 July 1993 samples CF17SS10, CF17SS11, CF17SS3, CF17SS6, CF17SS8, CF17SS9 and CF17SS1 collected on 12 February 1994 and received on 15 February 1994; samples CF5SS6, C CF5SS2, CF5SS8 and CF5SS9 were collected on 24 February 1994 and received on 1 1994; samples CF5SS13, CF5SS14, CF5SS15, CF5SS26, CF5SS20, CF5SS19, CF CF5SS23 and CF5SS24 were collected on 25 February 1994 and received on 1 Marc sample CF5SS31 was collected on 26 February 1994 and received on 1 March 1994. [illegible] sample was received in two 1-gallon plastic bottles. Upon receipt at Springborn, all samples that were not tested immediately were stored refrigerated at approximately 5 °C. Refrigerated samples were warmed to test temperature before use in the toxicity tests. Samples 1SS03, 1SS12, CF17SS9, CF17SS12, CF5SS31, CF5SS20 and CF5SS22 were wet upon receipt and were dried before use. These samples were air dried by first removing the overlying water present. Each sample was then spread out on a plastic tray and allowed to air dry for approximately 24 hours.

Prior to use in the toxicity tests, each test and reference control soil sample was pressed through a 64 mm stainless steel sieve to remove rock and debris. Large clumps of soil present in the samples were pressed through the sieve. The moisture fraction, water holding capacity (WHC) and pH were then determined for each soil sample. The moisture fraction was determined by drying 125 g of each soil sample in an oven at a temperature of 103 to 105 °C for 24 hours. To determine the WHC of each soil sample, a piece of filter paper (Whatman, 185 mm) was placed in a funnel and moistened with 9.0 mL of deionized water. The funnel containing the filter paper was then weighed. One hundred gram aliquots of each soil sample were weighed into individual 250 mL glass beakers to which 100 mL of deionized water was then added and mixed.

The resulting soil slurries were added to the funnels containing the filter paper and an initial weight was obtained. Each funnel was covered with aluminum foil and allowed to drip for three hours. After three hours, the funnel, filter paper and soil samples were again weighed to determined the amount of water retained by the soil sample. The amount of water retained in each soil sample was considered the 100% WHC. From the results obtained, the amount of water needed to be added to each soil sample to establish the desired WHC (75% for the earthworm toxicity test and 85% for the seed germination test) was calculated. Any soil sample which contained greater than the desired WHC was tested at the WHC at which it was received with the exception of samples air dried. To determine the pH of each soil sample, 25 mL of deionized water was added to a 25 g sample of each soil sample and stirred with a glass rod. The resultant slurry was allowed to settle for 5 minutes after which the pH was determined and recorded.

2.2.2 Subacute Toxicity Test with Earthworms

2.2.2.1 Study Protocol and Conduct - Procedures used in the 14-day subacute toxicity test with earthworms followed those described in the Springborn protocol entitled "Protocol for the Conduct of a 14-Day Earthworm Subacute Toxicity Test to Meet U.S. EPA Guidelines for Bioassessment of Hazardous Waste Site Soil", Springborn Laboratories Protocol #: 030893/RCRA.EW (Appendix I). The methods described in this protocol generally meet the standard procedures described in the protocol for short term toxicity screening of hazardous waste site soil (Greene *et.al.*, 1989) with the following exceptions:

1. The protocol states that 500 mL glass beakers are used for test vessels. However, during testing of all samples, 400 mL polypropylene disposable beakers were used.
2. The protocol states that the artificial control soil is moistened to 25-35 percent moisture. During testing, control soil was moistened to 75 percent water holding capacity, which is only equivalent to approximately 16 percent moisture.
3. The protocol states samples are sieved with a 1 mm sieve. All samples were sieved with a 1/4 inch (64 mm) stainless steel sieve, however.

4. The protocol states that adult earthworms, 250-500 mg wet weight, are used for testing. For samples received on 15 February 1994, earthworms weighed an average of 163 - 248 mg wet weight at test initiation.

5. Percent moisture for samples received on 15 February 1994 were inadvertently not determined on test days 7 and 14.

6. The protocol states that testing temperature is 20 ± 2°C. However, on day 7 for samples received on 1 March 1994, a temperature of 23°C was recorded for control 3 and CF5SS6. On day 14, the temperature in CF5SS2, CF5SS9 and CF5SS8 was 17°c.

It is our opinion that these deviations did not impact the outcome of the study.

2.2.2.2 Test Organism - The earthworms (*Eisenia foetida*) used to test samples received in July 1993, SLI Lot # 93A49, were approximately 2 months old and were originally obtained from the Carolina Biological Supply Company, Burlington, North Carolina on 15 June 1993. Species identification was verified at Springborn based on Reynolds (1977). Upon receipt at Springborn, the earthworms were added to four culture vessels, each consisting of 1.6 kg Magic Worm Bedding® peat moss (Magic Products, Inc.), 0.50 kg composted cattle manure (dry weight) and approximately three liters of NANOpure® water which provided a moisture content of approximately 75%. The pH of the medium was determined to be 6.2 after mixing the components in a Hobart® (Model A-200) mixer and was not adjusted. The culture medium was prepared on the day the earthworms were received. Culture vessels consisted of plastic containers (36 cm height X 24 cm length x 24 cm width) and lids. The earthworms were maintained in the four culture vessels for approximately five weeks before test initiation. The vessels were partially submerged in a temperature controlled water bath designed to maintain the cultures at a temperature of 20 ± 2 °C.

The earthworms (*Eisenia foetida*) used to test samples received on 15 February 1994, SLI Lot # 93A91, were approximately 2 months old and were originally obtained from the Carolina Biological Supply Company, Burlington, North Carolina on 14 November 1993. Species

identification was verified at Springborn based on Reynolds (1977). Upon receipt at Springborn, the earthworms were added to two culture vessels, each consisting of 1.6 kg Magic Worm Bedding® peat moss (Magic Products, Inc.), 0.50 kg composted cattle manure (dry weight) and approximately three liters of NANOpure® water which provided a moisture content of approximately 75%. The pH of the medium was determined to be 6.2 after mixing the components in a Hobart® (Model A-200) mixer and was not adjusted. The culture medium was prepared prior to receipt of the earthworms. Culture vessels consisted of plastic containers (36 cm height X 24 cm length x 24 cm width) and lids. The earthworms were maintained in the four culture vessels for approximately three months and were fed composted cattle manure throughout the maintenance period. Earthworms were acclimated to artificial control soil for 48 hours prior to test initiation. The vessels were partially submerged in a temperature controlled water bath designed to maintain the cultures at a temperature of 20 ± 2 °C.

The earthworms (*Eisenia foetida*) used to test samples received on 1 March 1994, SLI Lot # 94A23, were approximately 2 months old and were originally obtained from the Carolina Biological Supply Company, Burlington, North Carolina on 18 February 1994. Species identification was verified at Springborn based on Reynolds (1977). Upon receipt at Springborn, the earthworms were added to two culture vessels, each consisting of 9.6 kg Magic Worm Bedding® peat moss (Magic Products, Inc.) and approximately nine liters of NANOpure® water which provided a moisture content of approximately 75%. The pH of the medium was determined to be 6.9 after mixing the components in a Hobart® (Model A-200) mixer and was not adjusted. The culture medium was prepared the day before the earthworms were received. Culture vessels consisted of plastic containers (62 cm height X 42 cm length x 26 cm width) and lids. After six days, three kg of composted cattle manure (dry weight) was mixed into each culture. The earthworms were maintained in two culture vessels for approximately two weeks before test initiation. Earthworms were acclimated to artificial control soil for 24 hours prior to test initiation. The vessels were partially submerged in a temperature controlled water bath designed to maintain the cultures at a temperature of 20 ± 2 °C.

2.2.2.3 Reference Test - Reference toxicant (2-chloroacetamide) tests were conducted with earthworms at the same time as the toxicity tests with the soil samples. During the reference tests, earthworms were exposed to 2-chloroacetamide concentrations of 10, 20, 40 and 79 mg/kg. Three replicate vessels were established for each concentration with each replicate containing 10 earthworms (30 earthworms per concentration). Exposure conditions for the reference tests were the same as those established during the tests with the soil samples. At the termination of the reference tests, percent mortality ranged from 100% in the 79 mg/kg treatment level to 0% in the 10 mg/kg treatment level. The 14-day LC50 values for the reference tests were estimated by nonlinear interpolation to be 43, 36 and 56 mg/kg (95% confidence interval calculated by binomial probability to be 38 to 49 mg/kg, 31 to 41 mg/kg and 40 to 79 mg/kg, respectively).

2.2.2.4 Test Procedures - The artificial soil medium used for the controls during the earthworm toxicity tests consisted of 70% industrial sand, 20% Kaolin clay and 10% sphagnum peat (finely ground). The appropriate volume of each component was measured and the components were mixed together using a Hobart Model A-200 mixer. The artificial soil was moistened to 75 % water holding capacity. The moisture content of the artificial soil medium was measured to be approximately 16% following 24 hours of drying at 80 °C which was below the expected range (25 to 35%) for this medium. However, 16% is acceptable for earthworm survival.

The 14-day subacute toxicity tests were conducted from 28 July 1993 to 11 August 1993, from 17 February to 3 March 1994 and from 3 March to 17 march 1994. Test vessels were 400-mL polypropylene disposable beakers which were covered with lids. The lids were perforated to allow air exchange. Four replicate test vessels were established for each test sample and control. The control vessel contained artificial soil medium and was maintained under the same exposure conditions as the test samples.

The test was conducted in a temperature-controlled water bath designed to maintain the temperature of the test soil at 20 ± 2 °C. The test area had a photoperiod of 24 hours light and

0 hours darkness, with a light intensity within the range of 30 to 100 footcandles. Lighting was provided by Sylvania Inc. incandescent and Duro-Test Inc. Vita-Lite® fluorescent bulbs.

At test initiation, 250 g (dry weight) of each soil sample and the controls was added to the respective test vessels and wetted to 75% water holding capacity, except for samples already greater than 75% water holding capacity. The earthworms to be used in the test were first isolated from the culture. Ten earthworms at a time were then impartially removed, rinsed in distilled water, blotted dry and weighed. The average weight per individual was calculated from the group weight. Groups of ten earthworms were then randomly assigned to each vessel and placed on the soil surface. This procedure was repeated until each test vessel contained ten organisms. Earthworms were not fed during the exposure. The ratio of samples per control for samples received in July 1993, on 15 February 1994 and 1 March 1994 was nine to one, seven to one and seven and eight to one, respectively.

Earthworm mortality and health assessments were performed on test days 7 and 14. Mortality was assessed by emptying the test medium onto a tray, sorting the earthworms from the medium and then testing their reaction to a mechanical stimulus at the anterior end. Mortality is defined as a lack of visible movement after gentle mechanical stimulation is applied. The general health of the earthworms was assessed, and recorded, by observing color changes, lethargy, softness, coiling, shortening, lengthening, lesions and the presence of cocoons. At test termination, the average weight of the earthworms was determined on a per replicate basis for the surviving organisms.

Soil moisture content, pH and temperature were measured in each test vessel of the test samples and the controls on day 0 (test initiation), day 7 and day 14 (test termination). The pH of the soils was measured with a LaMotte Model HA pH meter and combination electrode, and daily temperature was measured with a Brooklyn alcohol thermometer. In addition to daily temperature measurements, the temperature of the surrounding water in the water bath was

continuously monitored throughout the study using a Fisher Min/Max thermometer. Light intensity was measured with a General Electric type 214 light meter.

At termination of the samples received on 15 February 1994 and 1 March 1994, live earthworms were frozen from each replicate test vessel with the exception of CF5SS4. On day 7, 100% of the earthworms in sample CF5SS4 were dead and were not able to be separated from the soil. Therefore, the entire contents of each CF5SS4 replicate vessel was frozen. These tissue samples will be sent to the Study Sponsor.

2.2.2.5 Statistical Analysis - At test termination, mortality and percent weight loss or gain data for earthworms exposed to each soil sample was determined. Mortality observed among earthworms exposed to the soil samples was compared to the mortality of the respective control sample using Fisher's Exact test. Mortality was only analyzed for those samples in which the mean sample mortality was less than the mean mortality of the respective control. Percent weight loss or gain of earthworms exposed to all soil samples was compared to the percent weight loss of earthworms exposed to the respective control using a t-test.

2.2.3 Seed Germination Toxicity Test with Lettuce

2.2.3.1 Study Protocol and Conduct - Procedures used in the seed germination toxicity test followed those described in the Springborn protocol entitled "Protocol for Conduct of a 120-Hour Seed Germination Toxicity Test Following U.S. EPA Guidelines for Bioassessment of Hazardous Water Site Soil", Springborn Laboratories Protocol #: 030893/RCRA SG (Appendix I). The procedures in this protocol generally follow those described by Greene *et. al.* (1989).

2.2.3.2 Test Species - The lettuce (*Lactuca sativa*, variety Buttercrunch) seeds used in testing program in July 1993 were obtained from the Park Seed Company (Lot # LA 06, packed 2 February 1993) on 10 June 1993. The seeds used for the testing program conducted in February and March were obtained from the same source (Lot #RA08 packed in January 1994) on9 February 1994. Upon receipt at Springborn the seeds were assigned SLI Lot # S-693-

2. Percent germination for lot LA 06 and RA 08 determined by the supplier was 95% and 91%, respectively.

2.2.3.3 Reference Test - A 120-hour reference toxicant (2-chloroacetamide) test was conducted concurrently with the soil sample toxicity tests. During the reference test, lettuce seeds were exposed to 2-chloroacetamide concentrations of 3.75, 7.5, 15, 30 and 60 mg/kg. Three replicate vessels were established for each concentration with each replicate containing 20 seeds (60 seeds per concentration). Exposure conditions for the reference test were the same as those established during the tests with the soil samples. At the termination of the reference test conducted on 29 July 1993, percent germination ranged from 100% in the 3.75 mg/kg treatment level to 0% in the 60 mg/kg treatment level. The 120-hour LC50 value for the reference test was calculated by moving average angle analysis to be 25 mg/kg (95% confidence interval of 22 to 28 mg/kg). The reference test conducted on 18 February 1994, resulted in 90% germination in the 3.75 mg/kg treatment level and 0% in the 60 mg/kg treatment level. The 120-hour LC50 value for the reference test was calculated by moving average angle analysis to be 17 mg/kg (95% confidence interval of 15 to 20 mg/kg).

2.2.3.4 Test Procedures - The 120-hour soil toxicity tests were conducted from 29 July to 3 August 1993, from 17 February to 22 February 1994 and from 4 March to 9 March 1994. The test vessels used during this study were Pyrex brand plastic Petri dishes (150 mm diameter, 15 mm height). Three replicate test vessels were maintained for each soil sample. In addition, sand control vessels were also established and maintained under the same exposure conditions as the soil samples. The control vessels contained washed silica sand only and no test soil. The washed silica sand was obtained from the Wedron Company (Lot # 10-2-92 ant #11-2-94). The silica sand had a mesh size of 200, a pH of 7.5 and 6.4 containing 0.169% and 0.1783% organic matter, respectively. One set of control vessels was established for every five soil samples with the exception of the fifth control set. The fifth control set was established in conjunction with the last seven soil samples. All comparisons to determine significant effects for the soil samples were made using the respective sand controls.

Each replicate test vessel contained the equivalent of 100 g (dry weight) of the respective soil sample or control sand. Forty seeds were then distributed to each replicate test vessel and pressed into the soil using the bottom of a glass beaker. The seeds in each replicate test vessel were then covered with 90 g of silica sand. The appropriate amount of distilled water was then added to each Petri dish to obtain a water holding capacity of 85% and the dish was placed inside a plastic bag. The plastic bag was expanded with air and securely sealed. This system provided a stable relative humidity throughout the exposure. The Petri dishes were then randomly positioned within an environmental growth chamber.

The test environment growth chamber was designed to maintain the temperature of the soils at 24 ± 2 °C. A photoperiod of 16 hours of light and 8 hours of darkness, with a light intensity range of 410 to 1000 footcandles was maintained within the test area. Lighting was provided by Sylvania Inc. clear 25 watt incandescent bulbs, and Duro-Test Inc. Vita-Lite® and Sylvania Daylight® fluorescent bulbs.

Temperature was measured in one replicate of each soil sample and the controls at test initiation and at each 24-hour interval until test termination. The pH was measured in one replicate of each soil sample and the controls at test initiation and termination. Temperature was measured with an Ertco alcohol thermometer; pH was measured with a LaMotte Model HA pH meter and combination electrode. Light intensity was measured with an IL 1350 Radiometer/Photometer.

2.2.3.5 Statistical Analysis - At test termination the percent germination for lettuce seeds exposed to each test sample and sand control was determined. For any test sample in which the resultant percent germination was less than the germination of the respective control, then that data was statistically compared to the control data using a t-test. Data for test samples for which the percent germination was equal to or greater than that of the respective control were not statistically analyzed.

3.0 RESULTS

3.1 Short-Term Chronic Test with Daphnids

A summary of the water quality characteristics conducted with the elutriate samples is presented in Table 1, while a summary of the biological results (percent survival and reproduction) from the short-term chronic tests with *Ceriodaphnia dubia* is presented in Tables 2 and Table 3, respectively.

In general, the majority of the elutriate samples from the sediments collected at the Cecil Field Naval Air Station were not toxic to *C. dubia*. Survival of daphnids was affected (<80) only in four samples (STC-TOX-3; 2-TOX-2; RC-TOX-7; 5-TOX-4), while daphnid reproduction, expressed as the mean number of offspring/female, was affected (<14) in eight samples (STC-TOX-2; STC-TOX-3; 2-TOX-2; RC-TOX-7; 5-TOX-3; 5-TOX-4; 5-TOX-5; 5-TOX-1). It is important to note that the response of *C. dubia* to the samples collected and tested twice during this program (i.e., 5-TOX-1; 5-TOX5; STC-TOX-R1 and RC-TOX-R1) was similar. Summaries of the tests conducted with *C. dubia* are presented in Appendix II.

3.2 Acute Toxicity Test with Amphipods

A summary of the water quality characteristics conducted with the sediment samples is presented in Table 4, while a summary of the biological results from the acute tests with *Hyallela azteca* is presented in Table 5.

In general, the majority of the sediment samples collected at the Cecil Field Naval Air Station were not toxic to *H. azteca*. Survival of amphipods was affected only in six samples (STC-TOX-1; STC-TOX-3; 2-TOX-2; 5-TOX-3; 5-TOX-4; 5-TOX-1). It is important to note that the response of *H. azteca* to the samples collected and tested twice during this program (i.e., 5-TOX-1; 5-TOX5; STC-TOX-R1 and RC-TOX-R1) was identical. Summaries of the tests conducted with *H. azteca* are presented in Appendix III.

3.3 Subacute Toxicity Test with Earthworms

A summary of the soil quality characteristics conducted with the soil samples is presented in Table 6, while a summary of the biological results (mortality and percent weight change) from the tests with *Eisenia foetida* is presented in Tables 7 and 8, respectively.

The soil samples collected at the Cecil Field Naval Air Station were not toxic to *E. foetida* with one exception. After 14-days of exposure 100% mortality was recorded in sample CF5SS4. The earthworms exposed to the soil samples produced cocoons in several test chambers and generally gained more weight then the earthworms in the control soil, indicating good health. Summaries of the tests conducted with *Eisenia foetida* are presented in Appendix IV.

3.4 Seed Germination Toxicity Test with Lettuce

A summary of the soil quality characteristics conducted with the soil samples is presented in Table 9, while a summary of the biological results from the tests with *Lactuca sativa* is presented in Table 10.

In general, all of the soil samples collected at the Cecil Field Naval Air Station were not toxic to *L. sativa*, with the exception of BSS01 and CF5SS4. Although germination of lettuce was statistically different in five samples (BSS01, 1SS06, 2SS04, CF5SS4 and CF5SS13) compared to the respective control samples, only two samples BSS01 and CF5SS4 substantially affected germination of the lettuce. The germination in two samples 1SS06 and 2SS04 samples exceeded 80 percent, while in sample CF5SS13 was 79 percent, therefore it is believed that germination of lettuce was not affected by the exposure to these samples. Summaries of the tests conducted with *L. sativa* are presented in Appendix V.

4.0 DISCUSSION

The results generated from the short-term chronic test with the elutriate and the acute sediment test with amphipods were similar. Daphnids and amphipods were not affected in twelve samples. In samples STC-TOX-3 and 5-TOX-4 both species were affected equally. In samples STC-TOX-2, 5-TOX-1, and 5-TOX-3, daphnid reproduction and amphipod survival were affected. In one sediment sample, STC-TOX-1, amphipods only were affected (Table 11).

The soil samples (with the exception of BSS01 and CF5SS4) were not toxic to either the earthworm or the lettuce (Table 12).

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TABLES

Table 1. Water quality parameters (dissolved oxygen, pH, temperature and specific conductivity) measured in the exposure solutions during the short-term static renewal toxicity tests with *Ceriodaphnia dubia*.

Test Sample	Dissolved Oxygen Concentration (mg/L)	pH	Temperature (°C)	Specific Conductivity (µmhos/cm)
Test Dates: 24 June to 1 July 1993				
Control	7.4 - 8.8	7.1 - 7.8	24 - 26	190 - 210
RC-TOX-R1	7.3 - 9.6	6.7 - 7.1	24 - 26	150 - 170
STC-TOX-1	6.8 - 9.3	6.4 - 7.0	24 - 26	130 - 150
STC-TOX-2	7.1 - 9.4	5.5 - 7.0	24 - 26	130 - 150
STC-TOX-3	6.7 - 8.9	5.3 - 6.6	24 - 26	130 - 150
Test Dates: 29 June to 6 July 1993				
Control	7.3 - 9.2	7.4 - 7.6	24 - 26	190 - 200
RC-TOX-R1	7.7 - 12.4	6.5 - 6.9	24 - 26	150
2-TOX-2 (pore water)	8.1 - 10.6	7.0 - 7.8	24 - 26	110
2-TOX-2	8.1 - 10.8	6.3 - 6.9	24 - 26	130
RC-TOX-9	7.7 - 12.6	7.1 - 7.5	24 - 26	190 - 210
Test Dates: 1 to 8 July 1993				
Control	7.6 - 9.2	7.5 - 7.7	24 - 26	200
RC-TOX-R1	7.7 - 11.8	5.1 - 6.7	24 - 26	150
RC-TOX-6	4.4 - 12.2	6.7 - 7.1	24 - 26	150 - 160
RC-TOX-7	5.3 - 12.4	7.0 - 7.3	24 - 26	190
2-TOX-3	7.4 - 12.4	6.8 - 7.1	24 - 26	150
5-TOX-2	7.6 - 12.2	6.1 - 6.9	24 - 26	140 - 150
5-TOX-3	7.7 - 12.0	5.4 - 6.6	24 - 26	140
5-TOX-4	7.5 - 12.4	5.4 - 6.6	24 - 26	140
5-TOX-5	7.6 - 11.6	5.0 - 6.5	24 - 26	150

Table 1. **Continued. Water quality parameters (dissolved oxygen, pH, temperature and specific conductivity) measured in the exposure solutions during the short-term static renewal toxicity tests with *Ceriodaphnia dubia*.**

Test Sample	Dissolved Oxygen Concentration (mg/L)	pH	Temperature (°C)	Specific Conductivity (µmhos/cm)
Test Dates: 2 to 9 July 1993				
Control	7.6 - 9.3	7.3 - 7.6	24 - 26	190 - 200
STC-TOX-R1	5.3 - 11.6	7.3 - 7.8	24 - 26	200 - 210
YWC-TOX-R1	4.8 - 12	2.1 - 7.6	24 - 26	170 - 180
5-TOX-1	4.2 - 11.3	5.1 - 7.4	24 - 26	140 - 150
Test Dates: 9 to 16 July 1993				
Control	7.6 - 8.2	7.2 - 7.8	24 - 26	170 - 200
RC-TOX-R1	6.9 - 9.4	7.2 - 7.5	24 - 26	150 - 180
RC-TOX-8	6.8 - 9.3	7.0 - 7.4	24 - 26	150 - 170
RC-TOX-8A	6.9 - 8.7	7.0 - 7.4	24 - 26	140 - 170
LF-TOX-8	7.2 - 9.3	6.7 - 7.2	24 - 26	130 - 150
Test Dates: 19 to 25 August 1993				
Control	7.4 - 8.2	7.5 - 8.0	24 - 25	200 - 210
RC-TOX-R1	7.3 - 9.0	7.5 - 8.1	24 - 26	180 - 200
5-TOX-1	7.0 - 9.3	7.6 - 8.1	24 - 26	150 - 170
5-TOX-5	7.0 - 9.3	7.7 - 8.1	24 - 26	140 - 170
STC-TOX-R1	7.1 - 9.0	7.6 - 8.0	24 - 25	220 - 250

Table 2. **Continued. Percent survival observed for each elutriate and control sample at the termination of the short-term static renewal toxicity tests with *Ceriodaphnia dubia*.**

Test Sample	Percent Survival										
	A	B	C	D	E	F	G	H	I	J	Mean
Test Dates: 2 to 9 July 1993											
Control	100	100	100	100	100	—[a]	100	100	100	100	100
STC-TOX-R1	100	100	100	100	100	100	100	100	100	100	100
YWC-TOX-R1	100	100	0	100	100	100	100	0	100	100	80
NO 5-TOX-1	100	100	100	100	100	100	100	100	100	100	100
Test Dates: 9 to 16 July 1993											
Control	100	100	100	100	100	100	100	100	100	100	100
RC-TOX-R1	100	100	100	100	100	100	100	100	100	100	100
RC-TOX-8	100	100	100	100	100	100	100	100	100	100	100
RC-TOX-8A	100	100	100	100	100	100	100	100	100	100	100
LF-TOX-8	100	100	100	100	100	100	100	100	100	100	100
Test Dates: 19 to 25 August 1993											
Control	100	100	100	100	100	100	100	100	100	100	100
RC-TOX-R1	100	100	100	100	100	100	100	100	100	100	100
5-TOX-1	0	100	100	100	100	100	100	0	100	100	80
5-TOX-5	100	100	100	100	100	100	100	100	100	100	100
STC-TOX-R1	100	100	100	0	100	100	100	100	100	100	90

[a] Organism observed missing from this replicate on day 1 of the exposure. Therefore, mean calculation was based on a total of 9 females.

Table 2. **Percent survival observed for each elutriate and control sample at the termination of the short-term static renewal toxicity tests with *Ceriodaphnia dubia*.**

Test Sample	Percent Survival										
	A	B	C	D	E	F	G	H	I	J	Mean
Test Dates: 24 June to 1 July 1993											
Control	100	100	100	100	100	100	100	100	100	100	100
RC-TOX-R1	100	100	100	100	100	100	100	100	100	100	100
STC-TOX-1	100	100	0	100	100	100	100	100	100	100	90
STC-TOX-2	100	100	100	100	0	0	100	100	100	100	80
STC-TOX-3	0	100	100	0	100	0	100	0	100	0	50
Test Dates: 29 June to 6 July 1993											
Control	100	100	100	100	100	100	100	0	100	100	90
RC-TOX-R1	100	100	100	100	100	100	100	100	100	100	100
2-TOX-2 (pore water)	100	100	100	100	100	100	100	100	100	100	100
2-TOX-2	0	100	100	100	100	100	0	100	100	0	70
RC-TOX-9	100	100	100	100	100	100	100	100	100	100	100
Test Dates: 1 to 8 July 1993											
Control	100	100	100	100	100	100	100	100	100	0	90
RC-TOX-R1	100	100	100	100	100	100	100	100	100	0	90
RC-TOX-6	100	100	100	0	100	100	100	100	100	100	90
RC-TOX-7	0	0	0	100	0	100	0	100	0	0	30
2-TOX-3	100	100	100	0	100	100	100	100	100	100	90
5-TOX-2	100	100	100	100	100	100	100	100	100	100	100
5-TOX-3	100	100	100	0	100	100	100	100	100	0	80
5-TOX-4	100	0	0	100	100	100	100	0	100	0	60
5-TOX-5	100	100	100	0	100	100	100	100	100	100	90

Table 3. **Reproduction (offspring/female) observed for each elutriate and control sample at the termination of the short-term static renewal toxicity tests with *Ceriodaphnia dubia*.**

Test Sample	Number of Offspring/Female										
	A	B	C	D	E	F	G	H	I	J	Mean
Test Dates: 24 June to 1 July 1993											
Control	22	21	18	20	20	23	21	20	16	19	20
RC-TOX-R1	24	25	26	21	27	26	26	25	25	20	25
STC-TOX-1	19	16	0	18	18	13	15	11	17	20	15
STC-TOX-2	10	3	5	15	3	5	13	7	13	3	8
STC-TOX-3	7	14	10	0	15	0	11	0	6	2	7
Test Dates: 29 June to 6 July 1993											
Control	18	17	18	15	15	17	16	9	20	16	16
RC-TOX-R1	4	7	19	21	19	17	20	20	10	17	15
2-TOX-2 (pore water)	11	15	17	16	17	12	17	9	14	13	14
2-TOX-2	8	13	21	15	11	9	0	14	17	0	11
RC-TOX-9	14	14	12	22	22	18	22	16	17	16	17
Test Dates: 1 to 8 July 1993											
Control	17	16	8	14	10	10	20	14	16	9	13
RC-TOX-R1	21	15	12	21	18	15	17	17	15	0	15
RC-TOX-6	7	14	20	0	13	13	14	21	21	21	14
RC-TOX-7	0	0	0	17	0	14	0	18	0	0	5
2-TOX-3	18	21	15	0	18	20	18	20	19	17	17
5-TOX-2	21	16	18	18	17	15	17	16	11	16	17
5-TOX-3	8	11	12	0	18	10	11	12	7	0	9
5-TOX-4	11	0	2	2	13	12	7	17	11	4	8
5-TOX-5	6	13	14	0	10	14	12	10	10	15	10

Table 3. **Continued. Reproduction (offspring/female) observed for each elutriate and control sample at the termination of the short-term static renewal toxicity tests with *Ceriodaphnia dubia*.**

Test Sample	Number of Offspring/Female										
	A	B	C	D	E	F	G	H	I	J	Mean
Test Dates: 2 to 9 July 1993											
Control	21	19	20	6	23	0	25	24	18	28	20
STC-TOX-R1	22	20	13	15	11	13	15	12	15	17	15
YWC-TOX-R1	21	24	4	24	26	24	20	0	21	21	19
5-TOX-1	13	17	9	11	9	3	19	11	10	10	11
Test Dates: 9 to 16 July 1993											
Control	25	22	17	17	24	17	24	12	19	22	20
RC-TOX-R1	29	23	38	0	24	16	23	20	23	27	22
RC-TOX-8	33	35	30	19	35	22	27	29	15	26	27
RC-TOX-8A	30	20	14	24	22	20	20	26	21	26	22
LF-TOX-8	12	15	12	16	22	29	29	19	24	29	21
Test Dates: 19 to 25 August 1993											
Control	13	18	15	19	22	22	22	28	25	22	21
RC-TOX-R1	15	20	14	16	18	12	23	8	19	16	16
5-TOX-1	3	9	5	12	16	15	18	4	15	18	12
5-TOX-5	11	9	9	8	17	15	14	10	0	15	11
STC-TOX-R1	11	12	14	0	12	22	13	23	18	22	15

Table 4. **Water quality parameters (dissolved oxygen, pH, temperature, total alkalinity, total hardness, specific conductivity) measured in the exposure solutions during the 14-day static acute renewal toxicity tests with *Hyallela azteca*.**

Test Sample	Dissolved Oxygen Concentration (mg/L)	pH	Temperature (°C)	Total Hardness (mg/L as $CaCO_3$)	Total Alkalinity (mg/L as $CaCO_3$)	Specific Conductivity (µmhos/cm)
Test Dates: 23 June to 7 July 1993						
STC-TOX-1	7.0 - 8.9	6.7 - 7.4	19 - 21	28 - 32	18	100 - 110
STC-TOX-2	7.3 - 8.8	6.8 - 7.3	19 - 21	24 - 28	16 - 18	110
STC-TOX-3	7.3 - 8.7	6.5 - 7.2	19 - 21	24 - 28	16 - 18	100 - 110
RC-TOX-R1	7.5 - 9.4	6.8 - 7.6	19 - 21	28 - 32	18 - 22	100 - 130
Test Dates: 28 June to 12 July 1993						
RC-TOX-8	7.8 - 9.0	6.8 - 7.4	20 - 21	28 - 32	18	120 - 150
RC-TOX-8A	6.8 - 9.0	6.8 - 7.4	20 - 21	28 - 32	18 - 20	120 - 150
LF-TOX-8	7.6 - 9.0	6.7 - 7.4	20 - 21	24 - 32	18	120 - 150
2-TOX-2	7.5 - 9.0	6.8 - 7.4	20 - 21	32 - 36	18	120 - 150
RC-TOX-9	7.2 - 8.8	6.8 - 7.4	20 - 21	36	20 - 24	120 - 150
RC-TOX-R1	7.8 - 9.0	6.9 - 7.3	20 - 21	28 - 32	18	120 - 150
Sand Control	7.4 - 8.9	6.7 - 7.5	20 - 21	32 - 36	18 - 30	130 - 150

Table 4. Continued. Water quality parameters (dissolved oxygen, pH, temperature, total alkalinity, total hardness, specific conductivity) measured in the exposure solutions during the 14-day static acute renewal toxicity tests with *Hyallela azteca*.

Test Sample	Dissolved Oxygen Concentration (mg/L)	pH	Temperature (°C)	Total Hardness (mg/L as $CaCO_3$)	Total Alkalinity (mg/L as $CaCO_3$)	Specific Conductivity (µmhos/cm)
Test Dates: 30 June to 14 July 1993						
2-TOX-3	5.5 - 9.1	6.8 - 7.5	19 - 20	28 - 32	18 - 20	100 - 130
5-TOX-2	8.2 - 9.0	6.7 - 7.5	19 - 20	16 - 20	24 - 32	100 - 120
5-TOX-3	8.1 - 9.0	6.6 - 7.4	19 - 20	24 - 28	16	100 - 120
5-TOX-4	7.4 - 9.1	6.6 - 7.4	19 - 20	24 - 28	14 - 18	100 - 110
5-TOX-5	7.6 - 9.0	6.5 - 7.4	19 - 20	24 - 28	14	100 - 120
RC-TOX-6	7.5 - 9.0	6.6 - 7.4	19 - 20	28 - 32	18	100 - 130
RC-TOX-7	7.4 - 9.2	6.8 - 7.4	19 - 20	28 - 32	18	100 - 130
RC-TOX-R1	7.5 - 9.1	6.8 - 7.4	19 - 20	28	18 - 20	100 - 130
Test Dates: 2 to 16 July 1993						
STC-TOX-R1	7.8 - 9.4	6.8 - 7.7	19 - 20	36	20 - 26	130 - 150
YWC-TOX-R1	5.8 - 9.3	6.8 - 7.7	19 - 20	32 - 36	20 - 30	120 - 130
5-TOX-1	7.5 - 9.4	6.9 - 7.7	19 - 20	32 - 44	18 - 20	120 - 130
Test Dates: 23 August to 6 September 1993						
5-TOX-1	7.0 - 8.9	7.3 - 8.1	19 - 20	28	20 - 22	100 - 110
5-TOX-5	6.5 - 9.0	7.3 - 8.1	19 - 20	28 - 32	18 - 20	100
STC-TOX-R1	6.5 - 9.0	7.3 - 8.0	19 - 20	32 - 36	20 - 22	100
RC-TOX-R1	6.6 - 8.9	7.2 - 8.1	19 - 20	28	20	100

Table 5. **Percent mortality observed for each sediment sample at the termination the 14-day static acute renewal toxicity tests with *Hyallela azteca*.**

Test Sample	Percent Mortality				
	Rep A	Rep B	Rep C	Rep D	Mean
Test Dates: 23 June to 7 July 1993					
STC-TOX-1	100	100	100	100	100[a]
STC-TOX-2	20	0	25	50	24
STC-TOX-3	85	70	85	80	80[a]
RC-TOX-R1	0	5	0	0	1
Test Dates: 28 June to 12 July 1993					
RC-TOX-8	0	0	5	0	1
RC-TOX-8A	5	0	0	5	3
LF-TOX-8	10	0	0	0	3
2-TOX-2	20	35	5	10	18[b]
RC-TOX-9	10	5	0	0	4
RC-TOX-R1	0	0	0	0	0
Sand control	0	0	5	10	4
Test Dates: 30 June to 14 July 1993					
2-TOX-3	10	10	0	5	6
5-TOX-2	0	0	0	0	0
5-TOX-3	60	70	45	80	64[c]
5-TOX-4	20	25	45	25	29[c]
5-TOX-5	0	0	0	0	0
RC-TOX-6	10	0	0	0	3
RC-TOX-7	0	0	0	5	1
RC-TOX-R1	0	20	5	15	10

Table 5. **Continued. Percent mortality observed for each sediment sample at the termination the 14-day static acute renewal toxicity tests with *Hyallela azteca*.**

Test Sample	Percent Mortality				
	Rep A	Rep B	Rep C	Rep D	Mean
Test Dates: 2 to 16 July 1993					
STC-TOX-R1	0	5	0	0	1
YWC-TOX-R1	0	0	0	0	0
5-TOX-1	70	90	90	85	84[d]
Test Dates: 23 August to 6 September 1993					
5-TOX-1	60	100	65	80	76[e]
5-TOX-5	20	15	0	5	10
STC-TOX-R1	0	0	5	0	1
RC-TOX-R1	10	10	0	0	5

[a] Statistically different as compared to the reference control (RC-TOX-R1, test dates 23 June to 7 July 1993).
[b] Statistically different as compared to the reference control (RC-TOX-R1, test dtes 28 June 1993 to 12 July 1993).
[c] Statistically different as compared to the reference control (RC-TOX-R1, test dates 30 June to 14 July 1993).
[d] Statistically different as compared to the reference control (STC-TOX-R1, test dates 2 to 16 July 1993).
[e] Statistically different as compared to the reference control (RC-TOX-R1, test dates 23 August to 6 September 1993).

Table 6. **Soil quality parameters (pH, temperature and percent moisture) measured in the exposure soils during the 14-day toxicity tests with earthworms *Eisenia foetida*.**

Test Sample	pH	Temperature (°C)	Moisture (%)
Control #1	5.9 - 6.4[a]	20 - 21	15 - 19
1SS01	4.8 - 5.7	20 - 21	10 - 13
1SS02	5.1 - 5.7	19 - 21	18 - 20
1SS03	5.2 - 5.3	20 - 21	21
1SS04	5.4 - 5.8	20 - 21	8.8 - 11
1SS05	5.8 - 6.4	20 - 21	12 - 13
1SS06	5.1 - 5.6	19 - 21	11 - 14
1SS08	5.6 - 6.4	19 - 21	20 - 22
2SS05	5.7 - 5.8	20 - 21	11 - 12
2SS06	5.5 - 6.2	19 - 21	8.3 - 15
Control #2	6.0 - 6.5	19 - 21	16 - 17
BSS01 (Test #1)	4.8 - 5.7	20 - 21	7.2 - 7.8
BSS01 (Test #2)	4.5 - 4.9	20 - 21	8.2 - 8.7
1SS09	4.8 - 5.5	20 - 21	16 - 18
1SS10	5.5 - 6.2	20 - 22	12 - 17
1SS12	5.0 - 5.7	20 - 21	15 - 24
1SS13	4.8 - 5.9	20 - 21	16 - 18
1SS14	4.2 - 4.5	21	14 - 15
2SS04	5.6 - 5.7	20 - 22	7.2 - 7.3

Table 6. **Continued. Soil quality parameters (pH, temperature and percent moisture) measured in the exposure soils during the 14-day toxicity tests with earthworms *Eisenia foetida*.**

Test Sample	pH	Temperature (°C)	Moisture (%)
2SS09	5.3 - 6.0	20 - 22	22 - 23
Control #3	6.0 - 6.6	18 - 22	14 - 15
1SS07	5.3 - 5.8	21	15 - 17
1SS11	5.4 - 6.0	20 - 21	10 - 12
1SS15	5.1 - 5.5	20 - 21	8 - 10
2SS01	5.8 - 6.5	20 - 21	11 - 12
2SS02	6.2 - 6.4	20 - 21	6 - 8
2SS03	5.8 - 6.2	19 - 21	8 - 10
2SS07	4.7 - 5.1	21 - 22	9 - 12
2SS08[a]	5.7 - 5.8	20 - 21	7 - 8
2SS10	5.1 - 5.4	21	6 - 10
CF17SS10	5.4 - 7.2	19 - 21	16
CF17SS3	4.5 - 5.5	19 - 21	22
CF17SS6	6.7 - 7.1	19 - 21	17
CF17SS8	5.7 - 6.1	20 - 21	25
CF17SS9	4.3 - 5.0	19 - 21	14
CF17SS10	5.4 - 7.2	19 - 21	16
CF17SS11	4.4 - 4.6	20 - 21	30
CF17SS12	4.6 - 4.7	20 - 21	16

Table 6. **Continued. Soil quality parameters (pH, temperature and percent moisture) measured in the exposure soils during the 14-day toxicity tests with earthworms *Eisenia foetida*.**

Test Sample	pH	Temperature (°C)	Moisture (%)
Control 1	6.6 - 7.1	19 - 21	NA
Control 2	6.2 - 7.7	20 - 22	15 - 23
Control 3	6.4 - 7.7	18 - 23	16 - 19
CF5SS6 [b]	5.4 - 7.4	18 - 23	16 - 18
CF5SS4	4.5 - 6.5	21 - 22	33 - NA
CF5SS2	6.3 - 7.3	17 - 22	12 - 13
CF5SS9	4.7 - 5.7	17 - 22	13 - 14
CF5SS8	6.1 - 7.4	17 - 22	10 - 12
CF5SS13	5.3 - 5.6	18 - 22	11 - 14
CF5SS14	5.0 - 5.7	18 - 22	13 - 15
CF5SS15	6.5 - 7.7	18 - 22	10 - 20
CF5SS31	6.5 - 7.1	18 - 22	26 - 29
CF5SS26	6.8 - 7.7	18 - 22	18 - 21
CF5SS20	7.1 - 7.8	18 - 22	16 - 18
CF5SS19	6.9 - 7.9	19 - 22	11 - 13
CF5SS21	5.1 - 5.5	18 - 22	16 - 17
CF5SS23	7.0 - 7.6	19 - 22	12 - 14
CF5SS24	6.8 - 7.3	18 - 22	7 - 12

[a] The pH of this sample was adjusted from 5.7 to 6.5 with calcium carbonate prior to test initiation.
[b] The pH of this sample was adjusted from 3.3 to 5.4 with calcium carbonate prior to test initiation.

Table 7. **Percent mortality observed for each soil sample at the termination of the 14-day toxicity tests with earthworms *Eisenia foetida*.**

Test Sample	Percent Mortality Rep A	Rep B	Rep C	Rep D	Mean
Control #1	0	0	0	0	0
1SS01	0	0	0	0	0
1SS02	50[a]	0	10[a]	0	15[b]
1SS03	10[a]	0	0	0	2.5
1SS04	0	0	10[a]	0	2.5
1SS05	0	0	0	0	0
1SS06	20[a]	0	0	0	5
1SS08	0	0	0	0	0
2SS05	0	0	0	0	0
2SS06	10[a]	0	10[a]	10[a]	7.5
Control #2	0	10[a]	0	10[a]	5.0
BSS01 (Test #1)	0	0	0	10[a]	2.5
BSS01 (Test #2)	10[a]	10[a]	10[a]	0	7.5
1SS09	0	0	0	0	0
1SS10	0	20[a]	0	10[a]	7.5
1SS12	0	0	0	0	0
1SS13	0	0	0	0	0
1SS14	10[a]	0	0	0	2.5
2SS04	0	30[a]	10[c]	0	10
2SS09	0	40[a]	0	30[a]	17.5

Table 7. **Continued. Percent mortality observed for each soil sample at the termination of the 14-day toxicity tests with earthworms *Eisenia foetida*.**

Test Sample	Percent Mortality Rep A	Rep B	Rep C	Rep D	Mean
Control #3	0	0	0	0	0
1SS07	0	0	0	0	0
1SS11	0	0	10[a]	0	2.5
1SS15	0	0	10[a]	0	2.5
2SS01	0	0	0	10[a]	2.5
2SS02	10[a]	0	0	0[d]	2.5
2SS03	10[a]	0	0	0	2.5
2SS07	0	0	0	0	0
2SS08	0	0	0	0	0
2SS10	10[a]	0	0	0	2.5
Control 1	0	0	0	0	0
CF17SS10	0	0	0	0	0
CF17SS3	0	0	0	0	0
CF17SS6	0	0	0	0	0
CF17SS8	0	10	0	0	2.5
CF17SS9	0	0	0	0	0
CF17SS10	0	0	0	0	0
CF17SS11	0	0	10	0	2.5
CF17SS12	0	0	0	0	0

Table 7. Continued. Percent mortality observed for each soil sample at the termination of the 14-day toxicity tests with earthworms *Eisenia foetida*.

Test Sample	Rep A	Rep B	Rep C	Rep D	Mean
Control 2	0	0	0	0	0
CF5SS6	0	0	0	0	0
CF5SS4	100	100	100	100	100 *
CF5SS2	0	0	0	0	0
CF5SS9	0	0	0	0	0
CF5SS8	0	0	0	0	0
CF5SS13	0	0	0	0	0
CF5SS14	10	0	0	0	2.5
CF5SS15	0	0	0	0	0
Control 3	0	0	0	0	0
CF5SS31	0	0	0	0	0
CF5SS26	0	0	0	0	0
CF5SS20	0	0	0	0	0
CF5SS19	0	0	0	0	0
CF5SS21	0	10	0	0	0
CF5SS23	0	0	0	0	0
CF5SS24	0	0	0	0	0

[a] Value presented represents the number of earthworms missing from test vessels at termination. Missing earthworms were recovered alive in the waterbath.

[b] Statistically different from the control. However, this difference is not considered to be biologically significant since several of the earthworms were missing from this test vessel at test termination and the observed mortality cannot be attributed to exposure to the soil sample.

[c] Dead earthworm found on outside of test vessel.

[d] 11 earthworms recovered.

[*] Statistically different from the respective control.

Table 8. **Initial and final weights and the percent weight change for earthworms *Eisenia foetida* exposed to the soil samples during the 14-day toxicity tests.**

Test Sample	Mean Initial Weight (g)	Mean Final Weight (g)	Weight Change (%)
Control #1	0.3482	0.3109	-10
1SS01	0.2952	0.3390	15[a]
1SS02	0.3062	0.3265	6.2
1SS03	0.3230	0.3313	3.3
1SS04	0.3101	0.3354	7.6
1SS05	0.2997	0.3079	2.3
1SS06	0.3185	0.3347	5.3[a]
1SS08	0.3133	0.3423	9.8[a]
2SS05	0.3216	0.3286	2.6[a]
2SS06	0.2950	0.2922	-1.2
Control #2	0.3089	0.3004	-2.7
BSS01 (Test #1)	0.3071	0.3017	-1.9
BSS01 (Test #2)	0.2989	0.2953	1.4
1SS09	0.3084	0.3365	9.1
1SS10	0.3019	0.2922	-3.0
1SS12	0.2986	0.3012	0.88
1SS13	0.2907	0.2974	3.2
1SS14	0.3071	0.3170	3.3
2SS04	0.2976	0.3373	14

Table 8. Continued. Initial and final weights and the percent weight change for earthworms *Eisenia foetida* exposed to the soil samples during the 14-day toxicity tests.

Test Sample	Mean Initial Weight (g)	Mean Final Weight (g)	Weight Change (%)
2SS09	0.3091	0.3263	5.8
Control #3	0.3243	0.3035	-6.3
1SS07	0.3123	0.3269	6.3
1SS11	0.3439	0.3496	2.5
1SS15	0.3075	0.3276	6.8[a]
2SS01	0.3367	0.2888	-14
2SS02	0.3207[b]	0.2998[b]	-6.5
2SS03	0.3141	0.2946	-5.6
2SS07	0.3250	0.3396	4.1
2SS08	0.2988	0.2908	-2.4
2SS10	0.3292	0.3126	-4.6
Control 1	0.1939	0.1709	-11.88
CF17SS10	0.1785	0.1893	5.96
CF17SS11	0.1910	0.2459	28.1
CF17SS3	0.2019	0.2255	11.67
CF17SS6	0.1842	0.1890	2.79
CF17SS8	0.2115	0.2754	30.9
CF17SS9	0.2000	0.2015	0.77
CF17SS12	0.2074	0.1988	-4.19

Table 8. Continued. Initial and final weights and the percent weight change for earthworms *Eisenia foetida* exposed to the soil samples during the 14-day toxicity tests.

Test Sample	Mean Initial Weight (g)	Mean Final Weight (g)	Weight Change (%)
Control 2	0.4452	0.3897	-11.64
CF5SS6	0.3642	0.3712	1.98
CF5SS4	0.3806	NA	
CF5SS2	0.3743	0.3502	-6.21
CF5SS9	0.3588	0.3979	10.83
CF5SS8	0.3638	0.3358	-6.77
CF5SS13	0.3675	0.3605	-1.58
CF5SS14	0.3863	0.4079	6.25
CF5SS15	0.3283	0.3169	-3.31
Control 3	0.3880	0.3543	-7.91
CF5SS31	0.3550	0.3906	11.05
CF5SS26	0.3504	0.3639	3.85
CF5SS20	0.3380	0.3426	0.57
CF5SS19	0.3365	0.3167	-5.67
CF5SS21	0.3069	0.3319	8.13
CF5SS23	0.3018	0.2964	-1.77
CF5SS24	0.2815	0.2894	3.46

[a] Statistically different from the respective control. Since a positive growth response was observed, the statistical difference observed is not considered to be biologically significant.

[b] 11 earthworms were recovered in Replicate D of this soil sample. Mean weights were based on 11 earthworms.

Table 9. **Soil quality parameters (pH and temperature) measured in the exposure soils during the 120-hour toxicity tests with lettuce, *Lactuca sativa*.**

Test Sample	pH	Temperature (°C)
Control #1	6.2 - 7.0	21 - 23
1SS08	5.2 - 6.2	21 - 23
1SS06	4.1 - 6.0	21 - 23
1SS03	5.1 - 5.2	21 - 23
1SS02	4.9 - 5.2	21 - 23
1SS01	4.8 - 5.2	21 - 23
Control #2	6.2	21 - 23
1SS04	4.1 - 4.8	21 - 23
1SS05	5.4 - 5.6	21 - 23
2SS06	5.8 - 6.1	21 - 23
2SS05	5.6 - 5.8	20 - 23
2SS04	5.0 - 5.6	21 - 23
Control #3	6.2 - 6.4	20 - 23
BSS01 (Test #1)	4.1 - 4.6	20 - 23
BSS01 (Test #2)	4.1 - 4.6	21 - 23
1SS09	4.3 - 4.5	21 - 23

Table 9. Continued. Soil quality parameters (pH and temperature) measured in the exposure soils during the 120-hour toxicity tests with lettuce, *Lactuca sativa*.

Test Sample	pH	Temperature (°C)
1SS12	4.8 - 4.9	21 - 23
1SS13	5.0 - 5.5	21 - 23
Control #4	6.2	20 - 23
1SS14	3.6 - 4.5	21 - 23
2SS09	4.6 - 5.8	21 - 23
1SS10	4.6 - 5.0	20 - 23
1SS11	4.9 - 5.2	20 - 23
2SS10	4.5 - 5.0	21 - 23
Control #5	6.2 - 6.4	20 - 23
1SS07	5.0 - 5.4	21 - 23
1SS15	4.7 - 5.2	21 - 23
2SS07	4.2 - 4.8	21 - 23
2SS08	4.7 - 5.4	21 - 23
2SS01	5.4 - 5.6	21 - 23
2SS02	5.6 - 5.7	21 - 23
2SS03	5.6 - 5.8	21 - 23
Control 1	6.6	24 - 27

Table 9. Continued. Soil quality parameters (pH and temperature) measured in the exposure soils during the 120-hour toxicity tests with lettuce, *Lactuca sativa*.

Test Sample	pH	Temperature (°C)
CF17SS3	5.1 - 5.6	22 - 26
CF17SS6	6.7 - 6.9	23 - 27
CF17SS8	6.1 - 6.4	22 - 27
CF17SS9	4.1 - 4.3	23 - 26
CF17SS10	7.2 - 7.5	22 - 27
CF17SS11	4.2 - 4.4	22 - 27
CF17SS12	4.3 - 4.4	22 - 28
CF5SS6[a]	5.7-5.8	21-25
CF5SS4	4.3-4.5	21-25
CF5SS2	6.5-7.2	21-25
CF5SS9	4.2	20-24
CF5SS8	6.5-7.2	20-24
CF5SS13	4.7-5.0	20-24
CF5SS14	4.2-4.3	20-24
CF5SS15	7.5-7.6	21-24
CF5SS31	6.8	21-25
CF5SS26	7.4-7.6	22-26
CF5SS20	7.5-7.8	22-25

Table 9. Continued. Soil quality parameters (pH and temperature) measured in the exposure soils during the 120-hour toxicity tests with lettuce, *Lactuca sativa*.

Test Sample	pH	Temperature (°C)
CF5SS19	7.4-7.8	21-25
CF5SS21	4.4-5.7	20-25
CF5SS23	7.2-7.7	20-25
CF5SS24	6.7	20-24

[a] The pH of this sample was adjusted from 3.3 to 5.7 with calcium carbonate prior to test initiation.

Table 10. **Percent germination determined for each soil and control sample at the termination of the 120-hour toxicity tests with lettuce, *Lactuca sativa*.**

Test Sample	Percent Germination			
	Rep A	Rep B	Rep C	Mean
Control #1	95	93	93	93
1SS08	98	98	100	98
1SS06	80	85	85	83[a]
1SS03	93	95	90	93
1SS02	93	98	100	97
1SS01	83	90	98	90
Control #2	95	100	93	96
1SS04	93	60	83	78
1SS05	80	95	98	91
2SS06	93	98	100	97
2SS05	95	100	95	97
2SS04	88	85	88	87[a]
Control #3	95	95	93	94
BSS01 (Test #1)	2.5	15	7.5	8.3[a]
BSS01 (Test #2)	0	0	0	0.0[a]
1SS09	80	85	98	88
1SS12	90	88	80	86
1SS13	100	100	98	99
Control #4	100	100	98	99
1SS14	98	93	98	96

Table 10. Continued. Percent germination determined for each soil and control sample at the termination of the 120-hour toxicity tests with lettuce, *Lactuca sativa*.

Test Sample	Percent Germination			
	Rep A	Rep B	Rep C	Mean
2SS09	93	95	100	96
1SS10	88	98	83	89
1SS11	95	90	83	89
2SS10	95	95	95	95
Control #5	100	100	90	97
1SS07	98	95	95	96
1SS15	90	88	95	91
2SS07	93	98	90	93
2SS08	98	100	95	98
2SS01	80	95	90	88
2SS02	100	100	98	99
2SS03	93	98	100	97
CF17SS3	88	88	85	87
CF17SS6	95	98	88	93
CF17SS8	68	58	53	59 [a]
CF17SS9	70	65	73	69 [a]
CF17SS10	93	95	95	94
CF17SS11	93	85	85	88
CF17SS12	95	93	90	93

Table 10. Continued. Percent germination determined for each soil and control sample at the termination of the 120-hour toxicity tests with lettuce, *Lactuca sativa*.

Test Sample	Percent Germination			
	Rep A	Rep B	Rep C	Mean
Control 1	90	93	90	91
CF5SS6	93	93	90	92
CF5SS4	13	30	23	22 [a]
CF5SS2	98	70	95	88
CF5SS9	88	88	95	90
CF5SS8	88	90	90	89
Control 2	98	98	95	97
CF5SS13	83	75	80	79 [a]
CF5SS14	93	93	88	91
CF5SS15	93	95	88	92
CF5SS31	68	88	95	83
CF5SS26	98	85	90	91
Control 3	90	93	95	93
CF5SS20	98	90	95	94
CF5SS19	93	80	78	83
CF5SS21	90	90	98	93
CF5SS23	80	93	80	84
CF5SS24	90	95	90	92

[a] Statistically different from the respective control.

Table 11. Comparison of the biological endpoints generated during the short-term chronic test with *Ceriodaphnia dubia* and the acute toxicity test with *Hyallela azteca*.

Test Sample ID	Ceriodaphnia		Hyallela
	Survival (%)	Reproduction (offspring/adult)	Survival (%)
STC-Tox-1	90	15	0.0
STC-Tox-2	80	8	76
STC-Tox-3	50	7	20
2-Tox-2	70	11	83
2-Tox-2 (pore)	100	14	NA
LF-Tox-8	100	21	98
RC-Tox-8	100	27	99
RC-Tox-8A	100	22	98
RC-Tox-9	100	17	96
RC-Tox-6	90	14	98
RC-Tox-7	30	5	99
2-Tox-3	90	17	94
5-Tox-2	100	17	100
5-Tox-3	80	9	36
5-Tox-4	60	8	71
5-Tox-5	90	10	100
STC-Tox-R1	100	15	99
YWC-Tox-R1	80	19	100
5-Tox-1	100	11	16
STC-Tox-R1	90	15	99
5-Tox-1	80	12	24
5-Tox-5	100	11	90

Table 12. Comparison of the biological endpoints generated during the toxicity tests with *Eisenia foetida* and the acute toxicity tests with *Lactuca sativa*.

Test Sample ID	Earthworm	Lettuce
	Mean Mortality (%)	Germination (%)
1SS01	0	90
1SS02	15	97
1SS03	2.5	93
1SS04	2.5	78
1SS05	0	91
1SS06	5	83
1SS08	0	98
2SS05	0	97
2SS06	7.5	97
BSS01 (Test #1)	2.5	8.3
BSS01 (Test #2)	7.5	0.0
1SS09	0	88
1SS12	0	86
1SS13	0	99
1SS14	2.5	96
2SS04	10	87
2SS09	17.5	96
1SS10	7.5	89
1SS11	2.5	89
2SS10	2.5	95
1SS07	0	96
1SS15	2.5	91
2SS01	2.5	88

Table 12. Continued. **Comparison of the biological endpoints generated during the toxicity tests with *Eisenia foetida* and the acute toxicity tests with *Lactuca sativa*.**

Test Sample ID	Earthworm Mean Mortality (%)	Lettuce Germination (%)
2SS02	2.5	99
2SS03	2.5	97
2SS07	0	93
2SS08	0	98
CF17SS10	0	94
CF17SS3	0	88
CF17SS6	0	93
CF17SS8	2.5	59
CF17SS9	0	69
CF17SS10	0	94
CF17SS11	2.5	88
CF17SS12	0	93
CF5SS6	0	92
CF5SS4	100	22
CF5SS2	0	88
CF5SS9	0	90
CF5SS8	0	89
CF5SS13	0	79
CF5SS14	2.5	91
CF5SS15	0	92
CF5SS31	0	83
CF5SS26	0	91
CF5SS20	0	94
CF5SS19	0	83
CF5SS21	2.5	93
CF5SS23	0	84
CF5SS24	0	92

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5.0 APPENDIX II - DAPHNID TEST RESULTS SUMMARIES

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-R1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	24 June to 1 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival
	25 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	STC-TOX-1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	24 June to 1 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	90% survival 15 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	STC-TOX-2
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	24 June to 1 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	80% survival 8 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	STC-TOX-3
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	24 June to 1 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	50% survival
	7 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-R1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	29 June to 6 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival 15 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2-TOX-2 (pore water)
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Pore Water
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	29 June to 6 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival 14 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2-TOX-2
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	29 June to 6 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	70% survival
	11 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-9
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	24 June 1993
DATE TEST SAMPLE RECEIVED:	25 June 1993
TEST DATES:	29 June to 6 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 4 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival 17 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-R1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	1 to 8 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	90% survival
	15 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-6
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	24 June 1993
DATE TEST SAMPLE RECEIVED:	25 June 1993
TEST DATES:	1 to 8 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	90% survival 14 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-7
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	24 June 1993
DATE TEST SAMPLE RECEIVED:	25 June 1993
TEST DATES:	1 to 8 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	30% survival 5 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2-TOX-3
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	24 June 1993
DATE TEST SAMPLE RECEIVED:	25 June 1993
TEST DATES:	1 to 8 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 40 - 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	90% survival
	17 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-2
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	25 June 1993
DATE TEST SAMPLE RECEIVED:	26 June 1993
TEST DATES:	1 to 8 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival 17 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-3
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	25 June 1993
DATE TEST SAMPLE RECEIVED:	26 June 1993
TEST DATES:	1 to 8 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	80% survival
	9 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-4
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	25 June 1993
DATE TEST SAMPLE RECEIVED:	26 June 1993
TEST DATES:	1 to 8 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	60% survival
	8 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-5
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	25 June 1993
DATE TEST SAMPLE RECEIVED:	26 June 1993
TEST DATES:	1 to 8 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	90% survival 10 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	STC-TOX-R1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	29 June 1993
DATE TEST SAMPLE RECEIVED:	30 June 1993
TEST DATES:	2 to 9 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival
	15 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	YWC-TOX-R1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	28 June 1993
DATE TEST SAMPLE RECEIVED:	30 June 1993
TEST DATES:	2 to 9 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	80% survival 19 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	29 June 1993
DATE TEST SAMPLE RECEIVED:	30 June 1993
TEST DATES:	2 to 9 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 100 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival
	11 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-R1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	9 to 16 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 110 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival 22 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-8
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	24 June 1993
DATE TEST SAMPLE RECEIVED:	25 June 1993
TEST DATES:	9 to 16 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 110 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival 27 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-8A
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	24 June 1993
DATE TEST SAMPLE RECEIVED:	25 June 1993
TEST DATES:	9 to 16 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 110 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival
	22 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	LF-TOX-8
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	23 June 1993
DATE TEST SAMPLE RECEIVED:	25 June 1993
TEST DATES:	9 to 16 July 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	7-day duration, solution temperature of 25 ± 1 °C, light intensity of 60 to 110 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival 21 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-R1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	17 August 1993
DATE TEST SAMPLE RECEIVED:	18 August 1993
TEST DATES:	19 to 25 August 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	6-day duration, solution temperature of 25 ± 1 °C, light intensity of 80 to 110 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival 16 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	STC-TOX-R1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	16 August 1993
DATE TEST SAMPLE RECEIVED:	18 August 1993
TEST DATES:	19 to 25 August 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	6-day duration, solution temperature of 25 ± 1 °C, light intensity of 80 to 110 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	90% survival 15 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-1
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	17 August 1993
DATE TEST SAMPLE RECEIVED:	18 August 1993
TEST DATES:	19 to 25 August 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	6-day duration, solution temperature of 25 ± 1 °C, light intensity of 80 to 110 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	80% survival
	12 offspring/adult

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-5
SLI STUDY TITLE:	7-Day Static Renewal Toxicity Test With *Ceriodaphnia dubia*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	16 August 1993
DATE TEST SAMPLE RECEIVED:	18 August 1993
TEST DATES:	19 to 25 August 1993
TEST SPECIES:	*Ceriodaphnia dubia*; ≤ 9 hours old, hatched within the same 7.5-hour period source: SLI culture facility
DILUTION WATER:	Fortified well water adjusted to a total hardness of 48 mg/L as $CaCO_3$
TEST VESSELS:	Ten replicate 30-mL plastic beakers each containing 15 mL of test solution
TEST CONDITIONS:	6-day duration, solution temperature of 25 ± 1 °C, light intensity of 80 to 110 footcandles
NUMBER EXPOSED:	Ten; one *C. dubia* per replicate
RESULTS:	100% survival
	11 offspring/adult

6.0 APPENDIX III - AMPHIPOD TEST SUMMARIES

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: RC-TOX-R1

SLI STUDY TITLE: 14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*

SAMPLE TYPE: Sediment

DATE TEST SAMPLE COLLECTED: 22 June 1993

DATE TEST SAMPLE RECEIVED: 23 June 1993

TEST DATES: 23 June 1993 to 7 July 1993

TEST SPECIES: *Hyallela azteca*; ≤ 7 days old
source: SLI culture facility

OVERLYING WATER: Laboratory well water

pH:	6.9 - 7.5
total hardness:	20 - 40 mg/L (as $CaCO_3$)
specific conductance:	80 - 150 µmhos/cm

TEST VESSELS: Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water

TEST CONDITIONS: 14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles

NUMBER OF ORGANISMS EXPOSED: Eighty; twenty *H. azteca* per replicate

RESULTS: 99% survival

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	STC-TOX-1
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	23 June 1993 to 7 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	0% survival, statistically different from the control (RC-TOX-R1; test dates 23 June to 7 July 1993)

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: STC-TOX-2

SLI STUDY TITLE: 14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*

SAMPLE TYPE: Sediment

DATE TEST SAMPLE COLLECTED: 22 June 1993

DATE TEST SAMPLE RECEIVED: 23 June 1993

TEST DATES: 23 June 1993 to 7 July 1993

TEST SPECIES: *Hyallela azteca*; ≤ 7 days old
source: SLI culture facility

OVERLYING WATER: Laboratory well water

pH:	6.9 - 7.5
total hardness:	20 - 40 mg/L (as $CaCO_3$)
specific conductance:	80 - 150 µmhos/cm

TEST VESSELS: Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water

TEST CONDITIONS: 14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles

NUMBER OF ORGANISMS EXPOSED: Eighty; twenty *H. azteca* per replicate

RESULTS: 76% survival, not statistically different from the control (RC-TOX-R1; test dates 23 June to 7 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	STC-TOX-3
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	23 June 1993 to 7 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	20% survival, statistically different from the control (RC-TOX-R1; test dates 23 June to 7 July 1993)

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: RC-TOX-R1

SLI STUDY TITLE: 14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*

SAMPLE TYPE: Sediment

DATE TEST SAMPLE COLLECTED: 22 June 1993

DATE TEST SAMPLE RECEIVED: 23 June 1993

TEST DATES: 28 June 1993 to 12 July 1993

TEST SPECIES: *Hyallela azteca*; ≤ 7 days old
source: SLI culture facility

OVERLYING WATER: Laboratory well water

pH:	6.9 - 7.5
total hardness:	20 - 40 mg/L (as $CaCO_3$)
specific conductance:	80 - 150 µmhos/cm

TEST VESSELS: Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water

TEST CONDITIONS: 14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles

NUMBER OF ORGANISMS EXPOSED: Eighty; twenty *H. azteca* per replicate

RESULTS: 100% survival

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: RC-TOX-8

SLI STUDY TITLE: 14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*

SAMPLE TYPE: Sediment

DATE TEST SAMPLE COLLECTED: 24 June 1993

DATE TEST SAMPLE RECEIVED: 25 June 1993

TEST DATES: 28 June 1993 to 12 July 1993

TEST SPECIES: *Hyallela azteca*; ≤ 7 days old
source: SLI culture facility

OVERLYING WATER: Laboratory well water

pH:	6.9 - 7.5
total hardness:	20 - 40 mg/L (as $CaCO_3$)
specific conductance:	80 - 150 µmhos/cm

TEST VESSELS: Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water

TEST CONDITIONS: 14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles

NUMBER OF ORGANISMS EXPOSED: Eighty; twenty *H. azteca* per replicate

RESULTS: 99% survival, not statistically different from the control (RC-TOX-R1; test dates 28 June to 12 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-8A
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	24 June 1993
DATE TEST SAMPLE RECEIVED:	25 June 1993
TEST DATES:	28 June 1993 to 12 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	98% survival, not statistically different from the control (RC-TOX-R1; test dates 28 June to 12 July 1993)

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: LF-TOX-8

SLI STUDY TITLE: 14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*

SAMPLE TYPE: Sediment

DATE TEST SAMPLE COLLECTED: 23 June 1993

DATE TEST SAMPLE RECEIVED: 25 June 1993

TEST DATES: 28 June 1993 to 12 July 1993

TEST SPECIES: *Hyallela azteca*; ≤ 7 days old
source: SLI culture facility

OVERLYING WATER: Laboratory well water

pH:	6.9 - 7.5
total hardness:	20 - 40 mg/L (as $CaCO_3$)
specific conductance:	80 - 150 µmhos/cm

TEST VESSELS: Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water

TEST CONDITIONS: 14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles

NUMBER OF ORGANISMS EXPOSED: Eighty; twenty *H. azteca* per replicate

RESULTS: 98% survival, not statistically different from the control (RC-TOX-R1; test dates 28 June to 12 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2-TOX-2
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	28 June 1993 to 12 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	83% survival, statistically different from the control (RC-TOX-R1; test dates 28 June to 12 July 1993)

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: RC-TOX-9

SLI STUDY TITLE: 14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*

SAMPLE TYPE: Sediment

DATE TEST SAMPLE COLLECTED: 24 June 1993

DATE TEST SAMPLE RECEIVED: 25 June 1993

TEST DATES: 28 June 1993 to 12 July 1993

TEST SPECIES: *Hyallela azteca*; ≤ 7 days old
source: SLI culture facility

OVERLYING WATER: Laboratory well water

pH:	6.9 - 7.5
total hardness:	20 - 40 mg/L (as $CaCO_3$)
specific conductance:	80 - 150 µmhos/cm

TEST VESSELS: Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water

TEST CONDITIONS: 14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles

NUMBER OF ORGANISMS EXPOSED: Eighty; twenty *H. azteca* per replicate

RESULTS: 96% survival, not statistically different from the control (RC-TOX-R1; test dates 28 June to 12 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-R1
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	22 June 1993
DATE TEST SAMPLE RECEIVED:	23 June 1993
TEST DATES:	30 June 1993 to 14 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	90% survival

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2-TOX-3

SLI STUDY TITLE: 14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*

SAMPLE TYPE: Sediment

DATE TEST SAMPLE COLLECTED: 24 June 1993

DATE TEST SAMPLE RECEIVED: 25 June 1993

TEST DATES: 30 June 1993 to 14 July 1993

TEST SPECIES: *Hyallela azteca*; ≤ 7 days old
source: SLI culture facility

OVERLYING WATER: Laboratory well water

pH:	6.9 - 7.5
total hardness:	20 - 40 mg/L (as $CaCO_3$)
specific conductance:	80 - 150 µmhos/cm

TEST VESSELS: Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water

TEST CONDITIONS: 14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles

NUMBER OF ORGANISMS EXPOSED: Eighty; twenty *H. azteca* per replicate

RESULTS: 94% survival, not statistically different from the control (RC-TOX-R1; test dates 30 June to 14 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-2
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	25 June 1993
DATE TEST SAMPLE RECEIVED:	26 June 1993
TEST DATES:	30 June 1993 to 14 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	100% survival, not statistically different from the control (RC-TOX-R1; test dates 30 June to 14 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-3
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	25 June 1993
DATE TEST SAMPLE RECEIVED:	26 June 1993
TEST DATES:	30 June 1993 to 14 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	36% survival, statistically different from the control (RC-TOX-R1; test dates 30 June to 14 July 1993)

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 5-TOX-4

SLI STUDY TITLE: 14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*

SAMPLE TYPE: Sediment

DATE TEST SAMPLE COLLECTED: 25 June 1993

DATE TEST SAMPLE RECEIVED: 26 June 1993

TEST DATES: 30 June 1993 to 14 July 1993

TEST SPECIES: *Hyallela azteca*; ≤ 7 days old
source: SLI culture facility

OVERLYING WATER: Laboratory well water

pH:	6.9 - 7.5
total hardness:	20 - 40 mg/L (as $CaCO_3$)
specific conductance:	80 - 150 µmhos/cm

TEST VESSELS: Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water

TEST CONDITIONS: 14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles

NUMBER OF ORGANISMS EXPOSED: Eighty; twenty *H. azteca* per replicate

RESULTS: 71% survival, statistically different from the control (RC-TOX-R1; test dates 30 June to 14 July 1993)

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 5-TOX-5

SLI STUDY TITLE: 14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*

SAMPLE TYPE: Sediment

DATE TEST SAMPLE COLLECTED: 25 June 1993

DATE TEST SAMPLE RECEIVED: 26 June 1993

TEST DATES: 30 June 1993 to 14 July 1993

TEST SPECIES: *Hyallela azteca*; ≤ 7 days old
source: SLI culture facility

OVERLYING WATER: Laboratory well water

pH:	6.9 - 7.5
total hardness:	20 - 40 mg/L (as $CaCO_3$)
specific conductance:	80 - 150 µmhos/cm

TEST VESSELS: Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water

TEST CONDITIONS: 14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles

NUMBER OF ORGANISMS EXPOSED: Eighty; twenty *H. azteca* per replicate

RESULTS: 100% survival, not statistically different from the control (RC-TOX-R1; test dates 30 June to 14 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-6
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	24 June 1993
DATE TEST SAMPLE RECEIVED:	26 June 1993
TEST DATES:	30 June 1993 to 14 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	98% survival, not statistically different from the control (RC-TOX-R1; test dates 30 June to 14 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-7
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	24 June 1993
DATE TEST SAMPLE RECEIVED:	26 June 1993
TEST DATES:	30 June 1993 to 14 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	99% survival, not statistically different from the control (RC-TOX-R1; test dates 30 June to 14 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	STC-TOX-R1
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	29 June 1993
DATE TEST SAMPLE RECEIVED:	30 June 1993
TEST DATES:	2 to 16 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	99% survival

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	YWC-TOX-R1
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	28 June 1993
DATE TEST SAMPLE RECEIVED:	30 June 1993
TEST DATES:	2 to 16 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	100% survival, not statistically different from the control (STC-TOX-R1; test dates 30 July to 16 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-1
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	29 June 1993
DATE TEST SAMPLE RECEIVED:	30 June 1993
TEST DATES:	2 to 16 July 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	16% survival, statistically different from the control (STC-TOX-R1; test dates 30 July to 16 July 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	RC-TOX-R1
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	17 August 1993
DATE TEST SAMPLE RECEIVED:	18 August 1993
TEST DATES:	23 August 1993 to 6 September 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	95% survival, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	STC-TOX-R1
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	16 August 1993
DATE TEST SAMPLE RECEIVED:	18 August 1993
TEST DATES:	23 August 1993 to 6 September 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	99% survival, not statistically different from the control (RC-TOX-R1; test dates 23 August to 6 Sptember 1993).

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 5-TOX-1

SLI STUDY TITLE: 14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*

SAMPLE TYPE: Sediment

DATE TEST SAMPLE COLLECTED: 17 August 1993

DATE TEST SAMPLE RECEIVED: 18 August 1993

TEST DATES: 23 August 1993 to 6 September 1993

TEST SPECIES: *Hyallela azteca*; ≤ 7 days old
source: SLI culture facility

OVERLYING WATER: Laboratory well water

pH:	6.9 - 7.5
total hardness:	20 - 40 mg/L (as $CaCO_3$)
specific conductance:	80 - 150 μmhos/cm

TEST VESSELS: Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water

TEST CONDITIONS: 14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles

NUMBER OF ORGANISMS EXPOSED: Eighty; twenty *H. azteca* per replicate

RESULTS: 24% survival, statistically different from the control (RC-TOX-R1; test dates 23 August to 6 September 1993)

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	5-TOX-5
SLI STUDY TITLE:	14-Day Static Renewal Acute Toxicity Test With *Hyallela azteca*
SAMPLE TYPE:	Sediment
DATE TEST SAMPLE COLLECTED:	16 August 1993
DATE TEST SAMPLE RECEIVED:	18 August 1993
TEST DATES:	23 August 1993 to 6 September 1993
TEST SPECIES:	*Hyallela azteca*; ≤ 7 days old source: SLI culture facility
OVERLYING WATER:	Laboratory well water pH: 6.9 - 7.5 total hardness: 20 - 40 mg/L (as $CaCO_3$) specific conductance: 80 - 150 µmhos/cm
TEST VESSELS:	Four replicate 1000-mL glass beakers each containing 200 mL of sediment and 800 mL of overlying water
TEST CONDITIONS:	14-day duration, solution temperature of 20 ± 1 °C, light intensity of 30 to 100 footcandles
NUMBER OF ORGANISMS EXPOSED:	Eighty; twenty *H. azteca* per replicate
RESULTS:	90% survival, not statistically different from the control (RC-TOX-R1; test dates 23 August to 6 Sptember 1993).

7.0 APPENDIX IV - EARTHWORM TEST SUMMARIES

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: BSS01 (Test #1)

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 19 July 1993

DATE TEST SAMPLE RECEIVED: 23 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.088 moisture fraction, 16.6 mL/100 g dry soil water holding capacity, pH 4.9

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #2**
INITIAL MEAN E.W. WEIGHT (g)	0.3071	0.3089
FINAL MEAN E.W. WEIGHT (g)	0.3017	0.3004
WEIGHT CHANGE (%)	-1.9	-2.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	3	5

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: BSS01 (Test #2)

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 19 July 1993

DATE TEST SAMPLE RECEIVED: 23 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.088 moisture fraction, 16.6 mL/100 g dry soil water holding capacity, pH 4.9

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #2**
INITIAL MEAN E.W. WEIGHT (g)	0.2989	0.3089
FINAL MEAN E.W. WEIGHT (g)	0.2953	0.3004
WEIGHT CHANGE (%)	-1.4	-2.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	8	5

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS01

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 21 July 1993

DATE TEST SAMPLE RECEIVED: 22 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.072 moisture fraction, 38.5 mL/100 g dry soil water holding capacity, pH 4.8

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #1**
INITIAL MEAN E.W. WEIGHT (g)	0.2952	0.3482
FINAL MEAN E.W. WEIGHT (g)	0.3390	0.3109
WEIGHT CHANGE (%)	15	-10
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

15 - Statistically but not biologically significant.

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS02

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 21 July 1993

DATE TEST SAMPLE RECEIVED: 22 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.198 moisture fraction, 14 mL/100 g dry soil water holding capacity, pH 4.9

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #1**
INITIAL MEAN E.W. WEIGHT (g)	0.3062	0.3482
FINAL MEAN E.W. WEIGHT (g)	0.3265	0.3109
WEIGHT CHANGE (%)	6.2	-10
MORTALITY DAY 7 (%)	2.5	0
MORTALITY DAY 14 (%)	[redacted]	0

[redacted] - Statistically different from the control. However, this difference is not considered to be biologically significant since several of the earthworms were missing from this test vessel at test termination and the observed mortality cannot be attributed to exposure to the soil sample. Missing earthworms were recovered alive in the waterbath.

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS03

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 21 July 1993

DATE TEST SAMPLE RECEIVED: 22 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.216 moisture fraction, 12.1 mL/100 g dry soil water holding capacity, pH 5.1

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #1**
INITIAL MEAN E.W. WEIGHT (g)	0.3230	0.3482
FINAL MEAN E.W. WEIGHT (g)	0.3313	0.3109
WEIGHT CHANGE (%)	3.3	-10
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	3	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS04

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 21 July 1993

DATE TEST SAMPLE RECEIVED: 22 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.107 moisture fraction, 19.1 mL/100 g dry soil water holding capacity, pH 4.1

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #1**
INITIAL MEAN E.W. WEIGHT (g)	0.3101	0.3482
FINAL MEAN E.W. WEIGHT (g)	0.3354	0.3109
WEIGHT CHANGE (%)	7.6	-10
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	3	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS05

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 21 July 1993

DATE TEST SAMPLE RECEIVED: 22 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.132 moisture fraction, 12.2 mL/100 g dry soil water holding capacity, pH 5.6

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #1**
INITIAL MEAN E.W. WEIGHT (g)	0.2997	0.3482
FINAL MEAN E.W. WEIGHT (g)	0.3079	0.3109
WEIGHT CHANGE (%)	2.3	-10
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS06

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 21 July 1993

DATE TEST SAMPLE RECEIVED: 22 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.122 moisture fraction, 14.1 mL/100 g dry soil water holding capacity, pH 4.1

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #1**
INITIAL MEAN E.W. WEIGHT (g)	0.3185	0.3482
FINAL MEAN E.W. WEIGHT (g)	0.3347	0.3109
WEIGHT CHANGE (%)	5.3	-10
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	5	0

5.3 - Statistically but not biologically significant.

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS08

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 21 July 1993

DATE TEST SAMPLE RECEIVED: 22 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.224 moisture fraction, 9.7 mL/100 g dry soil water holding capacity, pH 5.2

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #1**
INITIAL MEAN E.W. WEIGHT (g)	0.3133	0.3482
FINAL MEAN E.W. WEIGHT (g)	0.3423	0.3109
WEIGHT CHANGE (%)	9§	-10
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

9§ - Statistically but not biologically significant.

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2SS04

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 21 July 1993

DATE TEST SAMPLE RECEIVED: 22 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.038 moisture fraction, 19.9 mL/100 g dry soil water holding capacity, pH 5.0

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #2**
INITIAL MEAN E.W. WEIGHT (g)	0.2976	0.3089
FINAL MEAN E.W. WEIGHT (g)	0.3373	0.3004
WEIGHT CHANGE (%)	14	-2.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	10	5

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2SS05

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 21 July 1993

DATE TEST SAMPLE RECEIVED: 22 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.071 moisture fraction, 26.6 mL/100 g dry soil water holding capacity, pH 5.8

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #1**
INITIAL MEAN E.W. WEIGHT (g)	0.3216	0.3482
FINAL MEAN E.W. WEIGHT (g)	0.3286	0.3109
WEIGHT CHANGE (%)	26	-10
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

26 - Statistically but not biologically significant.

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2SS06

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 21 July 1993

DATE TEST SAMPLE RECEIVED: 22 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.058 moisture fraction, 24.2 mL/100 g dry soil water holding capacity, pH 6.1

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #1**
INITIAL MEAN E.W. WEIGHT (g)	0.2950	0.3482
FINAL MEAN E.W. WEIGHT (g)	0.2922	0.3109
WEIGHT CHANGE (%)	-1.2	-10
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	8	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS09

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 22 July 1993

DATE TEST SAMPLE RECEIVED: 23 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.169 moisture fraction, 16.3 mL/100 g dry soil water holding capacity, pH 4.3

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #2**
INITIAL MEAN E.W. WEIGHT (g)	0.3084	0.3089
FINAL MEAN E.W. WEIGHT (g)	0.3365	0.3004
WEIGHT CHANGE (%)	9‡	-2.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	5

9‡ - Statistically but not biologically significant.

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS10

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 22 July 1993

DATE TEST SAMPLE RECEIVED: 23 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.152 moisture fraction, 19.8 mL/100 g dry soil water holding capacity, pH 5.0

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #2**
INITIAL MEAN E.W. WEIGHT (g)	0.3019	0.3089
FINAL MEAN E.W. WEIGHT (g)	0.2922	0.3004
WEIGHT CHANGE (%)	-3.0	-2.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	8	5

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS11

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 22 July 1993

DATE TEST SAMPLE RECEIVED: 23 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.091 moisture fraction, 29.6 mL/100 g dry soil water holding capacity, pH 4.9

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #3**
INITIAL MEAN E.W. WEIGHT (g)	0.3439	0.3243
FINAL MEAN E.W. WEIGHT (g)	0.3496	0.3035
WEIGHT CHANGE (5)	2.5	-6.3
MORTALITY DAY 7 (%)	2.5	0
MORTALITY DAY 14 (%)	3	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS12

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 22 July 1993

DATE TEST SAMPLE RECEIVED: 23 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.150 moisture fraction, 10.4 mL/100 g dry soil water holding capacity, pH 4.9

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #2**
INITIAL MEAN E.W. WEIGHT (g)	0.2986	0.3089
FINAL MEAN E.W. WEIGHT (g)	0.3012	0.3004
WEIGHT CHANGE (%)	0.88	-2.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	5

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS13

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 22 July 1993

DATE TEST SAMPLE RECEIVED: 23 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.206 moisture fraction, 5.3 mL/100 g dry soil water holding capacity, pH 5.0

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #2**
INITIAL MEAN E.W. WEIGHT (g)	0.2907	0.3089
FINAL MEAN E.W. WEIGHT (g)	0.2974	0.3004
WEIGHT CHANGE (%)	3.2	-2.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	5

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS14

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 22 July 1993

DATE TEST SAMPLE RECEIVED: 23 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.134 moisture fraction, 33 mL/100 g dry soil water holding capacity, pH 3.6

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #2**
INITIAL MEAN E.W. WEIGHT (g)	0.3071	0.3089
FINAL MEAN E.W. WEIGHT (g)	0.3170	0.3004
WEIGHT CHANGE (%)	3.3	-2.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	3	5

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2SS09

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 22 July 1993

DATE TEST SAMPLE RECEIVED: 23 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.243 moisture fraction, 21.2 mL/100 g dry soil water holding capacity, pH 5.8

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #2**
INITIAL MEAN E.W. WEIGHT (g)	0.3091	0.3089
FINAL MEAN E.W. WEIGHT (g)	0.3263	0.3004
WEIGHT CHANGE (%)	5.8	-2.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	18	5

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2SS10

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 22 July 1993

DATE TEST SAMPLE RECEIVED: 23 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.050 moisture fraction, 35.6 mL/100 g dry soil water holding capacity, pH 4.5

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #3**
INITIAL MEAN E.W. WEIGHT (g)	0.3292	0.3243
FINAL MEAN E.W. WEIGHT (g)	0.3126	0.3035
WEIGHT CHANGE (%)	-4.6	-6.3
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	3	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS07

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 23 July 1993

DATE TEST SAMPLE RECEIVED: 24 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.134 moisture fraction, 26.5 mL/100 g dry soil water holding capacity, pH 5.4

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #3**
INITIAL MEAN E.W. WEIGHT (g)	0.3123	0.3243
FINAL MEAN E.W. WEIGHT (g)	0.3269	0.3035
WEIGHT CHANGE (%)	6.3	-6.3
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 1SS15

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 23 July 1993

DATE TEST SAMPLE RECEIVED: 24 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.090 moisture fraction, 27.5 mL/100 g dry soil water holding capacity, pH 4.7

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #3**
INITIAL MEAN E.W. WEIGHT (g)	0.3075	0.3243
FINAL MEAN E.W. WEIGHT (g)	0.3276	0.3035
WEIGHT CHANGE (%)	6.6	-6.3
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	3	0

6.6 - Statistically but not biologically significant.

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2SS01

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 23 July 1993

DATE TEST SAMPLE RECEIVED: 24 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.061 moisture fraction, 36.6 mL/100 g dry soil water holding capacity, pH 5.6

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #3**
INITIAL MEAN E.W. WEIGHT (g)	0.3367	0.3243
FINAL MEAN E.W. WEIGHT (g)	0.2888	0.3035
WEIGHT CHANGE (%)	-14	-6.3
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	3	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2SS02

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 23 July 1993

DATE TEST SAMPLE RECEIVED: 24 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.078 moisture fraction, 25.2 mL/100 g dry soil water holding capacity, pH 5.7

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #3**
INITIAL MEAN E.W. WEIGHT (g)	0.3207	0.3243
FINAL MEAN E.W. WEIGHT (g)	0.2998	0.3035
WEIGHT CHANGE (%)	-6.5	-6.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0[a]	0

[a] 11 adult earthworms were recovered in Replicate D at test termination. Initial and final mean weights for this replicate were based on 11 earthworms.

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2SS03

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 23 July 1993

DATE TEST SAMPLE RECEIVED: 24 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.057 moisture fraction, 25.4 mL/100 g dry soil water holding capacity, pH 5.6

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #3**
INITIAL MEAN E.W. WEIGHT (g)	0.3141	0.3243
FINAL MEAN E.W. WEIGHT (g)	0.2946	0.3035
WEIGHT CHANGE (%)	-5.6	-6.3
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	3	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2SS07

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 23 July 1993

DATE TEST SAMPLE RECEIVED: 24 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.085 moisture fraction, 33 mL/100 g dry soil water holding capacity, pH 4.2

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #3**
INITIAL MEAN E.W. WEIGHT (g)	0.3250	0.3243
FINAL MEAN E.W. WEIGHT (g)	0.3396	0.3035
WEIGHT CHANGE (%)	4.1	-6.7
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: 2SS08

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 23 July 1993

DATE TEST SAMPLE RECEIVED: 24 July 1993

TEST DATES: 28 July 1993 to 11 August 1993

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.058 moisture fraction, 30.9 mL/100 g dry soil water holding capacity, pH 4.7

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control #3**
INITIAL MEAN E.W. WEIGHT (g)	0.2988	0.3243
FINAL MEAN E.W. WEIGHT (g)	0.2908	0.3035
WEIGHT CHANGE (%)	-2.4	-6.3
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF-17-SS10

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 12 February 1994

DATE TEST SAMPLE RECEIVED: 15 February 1994

TEST DATES: 17 February 1994 to 3 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.160 moisture fraction, 17.8 mL/100 g dry soil water holding capacity, pH 4.2

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control**
INITIAL MEAN E.W. WEIGHT (g)	0.1785	0.1939
FINAL MEAN E.W. WEIGHT (g)	0.1893	0.1709
WEIGHT CHANGE (%)	5.96	-11.88
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF-17-SS11

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 12 February 1994

DATE TEST SAMPLE RECEIVED: 15 February 1994

TEST DATES: 17 February 1994 to 3 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.298 moisture fraction, 14.9 mL/100 g dry soil water holding capacity, pH 4.2

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control**
INITIAL MEAN E.W. WEIGHT (g)	0.1910	0.1939
FINAL MEAN E.W. WEIGHT (g)	0.2459	0.1709
WEIGHT CHANGE (%)	28.1	-11.88
MORTALITY DAY 7 (%)	3	0
MORTALITY DAY 14 (%)	3	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF-17-SS3

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 12 February 1994

DATE TEST SAMPLE RECEIVED: 15 February 1994

TEST DATES: 17 February 1994 to 3 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.219 moisture fraction, 4.3 mL/100 g dry soil water holding capacity, pH 5.1

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control**
INITIAL MEAN E.W. WEIGHT (g)	0.2019	0.1939
FINAL MEAN E.W. WEIGHT (g)	0.2255	0.1709
WEIGHT CHANGE (%)	11.67	-11.88
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF-17-SS6

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 12 February 1994

DATE TEST SAMPLE RECEIVED: 15 February 1994

TEST DATES: 17 February 1994 to 3 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.173 moisture fraction, 17.5 mL/100 g dry soil water holding capacity, pH 6.7

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control**
INITIAL MEAN E.W. WEIGHT (g)	0.1842	0.1939
FINAL MEAN E.W. WEIGHT (g)	0.1890	0.1709
WEIGHT CHANGE (%)	2.79	-11.88
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF-17-SS8

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 12 February 1994

DATE TEST SAMPLE RECEIVED: 15 February 1994

TEST DATES: 17 February 1994 to 3 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.254 moisture fraction, 11.5 mL/100 g dry soil water holding capacity, pH 6.1

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control**
INITIAL MEAN E.W. WEIGHT (g)	0.2115	0.1939
FINAL MEAN E.W. WEIGHT (g)	0.2754	0.1709
WEIGHT CHANGE (%)	30.9	-11.88
MORTALITY DAY 7 (%)	3	0
MORTALITY DAY 14 (%)	3	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF-17-SS9

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 12 February 1994

DATE TEST SAMPLE RECEIVED: 15 February 1994

TEST DATES: 17 February 1994 to 3 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.138 moisture fraction, 28.2 mL/100 g dry soil water holding capacity, pH 4.1

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control**
INITIAL MEAN E.W. WEIGHT (g)	0.2000	0.1939
FINAL MEAN E.W. WEIGHT (g)	0.2015	0.1709
WEIGHT CHANGE (%)	0.77	-11.88
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF-17-SS12

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 12 February 1994

DATE TEST SAMPLE RECEIVED: 15 February 1994

TEST DATES: 17 February 1994 to 3 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.155 moisture fraction, 13.8 mL/100 g dry soil water holding capacity, pH 4.3

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control**
INITIAL MEAN E.W. WEIGHT (g)	0.2074	0.1939
FINAL MEAN E.W. WEIGHT (g)	0.1988	0.1709
WEIGHT CHANGE (%)	-4.19	-11.88
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-6

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 24 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.127 moisture fraction, 23.9 mL/100 g dry soil water holding capacity, pH 3.3 adjusted to 5.4

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 2**
INITIAL MEAN E.W. WEIGHT (g)	0.3642	0.4452
FINAL MEAN E.W. WEIGHT (g)	0.3712	0.3897
WEIGHT CHANGE (%)	1.98	-11.64
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-4

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 24 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.147 moisture fraction, 39.0 mL/100 g dry soil water holding capacity, pH 4.5

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 2**
INITIAL MEAN E.W. WEIGHT (g)	0.3806	0.4452
FINAL MEAN E.W. WEIGHT (g)	ALL DEAD	0.3897
WEIGHT CHANGE (%)	NOT APPLICABLE	-11.64
MORTALITY DAY 7 (%)	100	0
MORTALITY DAY 14 (%)	100	0

100 - Statistically different from the control.

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-2

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 24 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.152 moisture fraction, 15.5 mL/100 g dry soil water holding capacity, pH 6.3

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 2**
INITIAL MEAN E.W. WEIGHT (g)	0.3743	0.4452
FINAL MEAN E.W. WEIGHT (g)	0.3502	0.3897
WEIGHT CHANGE (%)	-6.21	-11.64
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-9

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 24 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.147 moisture fraction, 11.1 mL/100 g dry soil water holding capacity, pH 4.7

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 2**
INITIAL MEAN E.W. WEIGHT (g)	0.3588	0.4452
FINAL MEAN E.W. WEIGHT (g)	0.3979	0.3897
WEIGHT CHANGE (%)	10.83	-11.64
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-8

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 24 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.124 moisture fraction, 14.6 mL/100 g dry soil water holding capacity, pH 6.1

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 2**
INITIAL MEAN E.W. WEIGHT (g)	0.3638	0.4452
FINAL MEAN E.W. WEIGHT (g)	0.3358	0.3897
WEIGHT CHANGE (%)	-6.77	-11.64
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-13

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 25 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.111 moisture fraction, 18.5 mL/100 g dry soil water holding capacity, pH 5.6

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:

	Soil Sample	Control 2
INITIAL MEAN E.W. WEIGHT (g)	0.3675	0.4452
FINAL MEAN E.W. WEIGHT (g)	0.3605	0.3897
WEIGHT CHANGE (%)	-1.58	-11.64
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-14

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 25 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.096 moisture fraction, 27.0 mL/100 g dry soil water holding capacity, pH 5.7

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 2**
INITIAL MEAN E.W. WEIGHT (g)	0.3863	0.4452
FINAL MEAN E.W. WEIGHT (g)	0.4079	0.3897
WEIGHT CHANGE (%)	6.25	-11.64
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	3	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-15

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 25 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.115 moisture fraction, 25.2 mL/100 g dry soil water holding capacity, pH 7.3

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 2**
INITIAL MEAN E.W. WEIGHT (g)	0.3283	0.4452
FINAL MEAN E.W. WEIGHT (g)	0.3169	0.3897
WEIGHT CHANGE (%)	-3.31	-11.64
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-31

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 26 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.373 moisture fraction, 26.5 mL/100 g dry soil water holding capacity, pH 6.5

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 3**
INITIAL MEAN E.W. WEIGHT (g)	0.3550	0.3880
FINAL MEAN E.W. WEIGHT (g)	0.3906	0.3543
WEIGHT CHANGE (%)	11.05	-7.91
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-26

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 25 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.104 moisture fraction, 22.5 mL/100 g dry soil water holding capacity, pH 6.8

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 3**
INITIAL MEAN E.W. WEIGHT (g)	0.3504	0.3880
FINAL MEAN E.W. WEIGHT (g)	0.3639	0.3543
WEIGHT CHANGE (%)	3.85	-7.91
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-20

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 25 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.097 moisture fraction, 15.3 mL/100 g dry soil water holding capacity, pH 7.1

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 3**
INITIAL MEAN E.W. WEIGHT (g)	0.3380	0.3880
FINAL MEAN E.W. WEIGHT (g)	0.3426	0.3543
WEIGHT CHANGE (%)	0.57	-7.91
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-19

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 25 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.117 moisture fraction, 20.5 mL/100 g dry soil water holding capacity, pH 6.9

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 3**
INITIAL MEAN E.W. WEIGHT (g)	0.3365	0.3880
FINAL MEAN E.W. WEIGHT (g)	0.3167	0.3543
WEIGHT CHANGE (%)	-5.67	-7.91
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-21

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 25 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.134 moisture fraction, 54.5 mL/100 g dry soil water holding capacity, pH 5.5

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 3**
INITIAL MEAN E.W. WEIGHT (g)	0.3069	0.3880
FINAL MEAN E.W. WEIGHT (g)	0.3319	0.3543
WEIGHT CHANGE (%)	8.13	-7.91
MORTALITY DAY 7 (%)	3	0
MORTALITY DAY 14 (%)	3	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-23

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 25 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.136 moisture fraction, 18.6 mL/100 g dry soil water holding capacity, pH 7.5

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 3**
INITIAL MEAN E.W. WEIGHT (g)	0.3018	0.3880
FINAL MEAN E.W. WEIGHT (g)	0.2964	0.3543
WEIGHT CHANGE (%)	-1.17	-7.91
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

TEST SAMPLE SITE: Cecil Field Naval Air Station
Jacksonville, Florida

TEST SAMPLE I.D.: CF5SS-24

SLI STUDY TITLE: 14-Day Earthworm Subacute Toxicity Test

SAMPLE TYPE: Soil

DATE TEST SAMPLE COLLECTED: 25 February 1994

DATE TEST SAMPLE RECEIVED: 1 March 1994

TEST DATES: 3 March to 17 March 1994

TEST SPECIES: Earthworm (*Eisenia foetida*), species verified with Reynolds key (Reynolds, 1977)
source: Carolina Biological Supply Company

TEST SOIL CHARACTERIZATION: Initial: 0.175 moisture fraction, 24.5 mL/100 g dry soil water holding capacity, pH 6.8

TEST VESSELS: 400-mL polypropylene beakers containing 250 g soil (dry weight)

TEST CONDITIONS: 14-day duration, soil temperature of 20 ± 2 °C, continuous lighting at 30 to 100 footcandles, ≥ 75% water holding capacity

NUMBER EXPOSED: Ten earthworms per replicate; four replicates per test sample and control

RESULTS:	**Soil Sample**	**Control 3**
INITIAL MEAN E.W. WEIGHT (g)	0.2815	0.3880
FINAL MEAN E.W. WEIGHT (g)	0.2894	0.3543
WEIGHT CHANGE (%)	3.46	-7.91
MORTALITY DAY 7 (%)	0	0
MORTALITY DAY 14 (%)	0	0

8.0 APPENDIX V - LETTUCE TEST SUMMARIES

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	BSS01 (Test #1)
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	19 July 1993
DATE TEST SAMPLE RECEIVED:	23 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.088 moisture fraction, 16.6 mL/100 g dry soil water holding capacity, initial pH: 4.1, termination pH: 4.6
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #3 - 94% germination Test Sample - 8.3% germination, statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	BSS01 (Reference Control, Test #2)
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	19 July 1993
DATE TEST SAMPLE RECEIVED:	23 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.088 moisture fraction, 16.6 mL/100 g dry soil water holding capacity, initial pH: 4.1, termination pH: 4.6
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #3 - 94% germination
	Test Sample - 0% germination, statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS01
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	21 July 1993
DATE TEST SAMPLE RECEIVED:	22 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.072 moisture fraction, 38.5 mL/100 g dry soil water holding capacity, initial pH: 4.8, termination pH: 5.2
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 93% germination Test Sample - 90% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS02
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	21 July 1993
DATE TEST SAMPLE RECEIVED:	22 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.198 moisture fraction, 14 mL/100 g dry soil water holding capacity, initial pH: 4.9, termination pH: 5.2
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 93% germination Test Sample - 97% germination

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS03
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	21 July 1993
DATE TEST SAMPLE RECEIVED:	22 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.216 moisture fraction, 12.1 mL/100 g dry soil water holding capacity, initial pH: 5.1, termination pH: 5.2
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 93% germination Test Sample - 93% germination

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS04
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	21 July 1993
DATE TEST SAMPLE RECEIVED:	22 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.107 moisture fraction, 19.1 mL/100 g dry soil water holding capacity, initial pH: 4.1, termination pH: 4.8
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #2 - 96% germination Test Sample - 78% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS05
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	21 July 1993
DATE TEST SAMPLE RECEIVED:	22 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.132 moisture fraction, 12.2 mL/100 g dry soil water holding capacity, initial pH: 5.6, termination pH: 5.4
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #2 - 96% germination Test Sample - 91% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS06
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	21 July 1993
DATE TEST SAMPLE RECEIVED:	22 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.122 moisture fraction, 14.1 mL/100 g dry soil water holding capacity, initial pH: 4.1, termination pH: 6.0
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 93% germination Test Sample - 83% germination, statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS08
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	21 July 1993
DATE TEST SAMPLE RECEIVED:	22 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.224 moisture fraction, 9.7 mL/100 g dry soil water holding capacity, initial pH: 5.2, termination pH: 6.2
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 93% germination Test Sample - 98% germination

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2SS04
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	21 July 1993
DATE TEST SAMPLE RECEIVED:	22 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.038 moisture fraction, 19.9 mL/100 g dry soil water holding capacity, initial pH: 5.0, termination pH: 5.6
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #2 - 96% germination Test Sample - 87% germination, statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2SS05
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	21 July 1993
DATE TEST SAMPLE RECEIVED:	22 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.071 moisture fraction, 26.6 mL/100 g dry soil water holding capacity, initial pH: 5.8, termination pH: 5.6
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #2 - 96% germination Test Sample - 97% germination

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2SS06
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	21 July 1993
DATE TEST SAMPLE RECEIVED:	22 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.058 moisture fraction, 24.2 mL/100 g dry soil water holding capacity, initial pH: 6.1, termination pH: 5.8
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #2 - 96% germination Test Sample - 97% germination

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS09
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	22 July 1993
DATE TEST SAMPLE RECEIVED:	23 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.169 moisture fraction, 16.3 mL/100 g dry soil water holding capacity, initial pH: 4.3, termination pH: 4.5
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #3 - 94% germination
	Test Sample - 88% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS10
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	22 July 1993
DATE TEST SAMPLE RECEIVED:	23 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.152 moisture fraction, 19.8 mL/100 g dry soil water holding capacity, initial pH: 5.0, termination pH: 4.6
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #4 - 99% germination Test Sample - 89% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS11
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	22 July 1993
DATE TEST SAMPLE RECEIVED:	23 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.091 moisture fraction, 29.6 mL/100 g dry soil water holding capacity, initial pH: 4.9, termination pH: 5.2
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #4 - 99% germination
	Test Sample - 89% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS12
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	22 July 1993
DATE TEST SAMPLE RECEIVED:	23 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.150 moisture fraction, 10.4 mL/100 g dry soil water holding capacity, initial pH: 4.9, termination pH: 4.8
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #3 - 94% germination
	Test Sample - 86% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS13
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	22 July 1993
DATE TEST SAMPLE RECEIVED:	23 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.206 moisture fraction, 5.3 mL/100 g dry soil water holding capacity, initial pH: 5.0, termination pH: 5.5
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #3 - 94% germination Test Sample - 99% germination

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS14
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	22 July 1993
DATE TEST SAMPLE RECEIVED:	23 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.134 moisture fraction, 33 mL/100 g dry soil water holding capacity, initial pH: 4.2, termination pH: 4.5
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #4 - 99% germination Test Sample - 96% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2SS09
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	22 July 1993
DATE TEST SAMPLE RECEIVED:	23 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.243 moisture fraction, 21.2 mL/100 g dry soil water holding capacity, initial pH: 5.8, termination pH: 4.6
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #4 - 99% germination Test Sample - 96% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2SS10
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	22 July 1993
DATE TEST SAMPLE RECEIVED:	23 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.050 moisture fraction, 35.6 mL/100 g dry soil water holding capacity, initial pH: 4.5, termination pH: 5.0
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #4 - 99% germination
	Test Sample - 95% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS07
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	23 July 1993
DATE TEST SAMPLE RECEIVED:	27 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.134 moisture fraction, 26.5 mL/100 g dry soil water holding capacity, initial pH: 5.4, termination pH: 5.0
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #5 - 97% germination
	Test Sample - 96% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	1SS15
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	23 July 1993
DATE TEST SAMPLE RECEIVED:	27 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.090 moisture fraction, 27.5 mL/100 g dry soil water holding capacity, initial pH: 4.7, termination pH: 5.2
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #5 - 97% germination Test Sample - 91% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2SS01
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	23 July 1993
DATE TEST SAMPLE RECEIVED:	27 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.061 moisture fraction, 36.6 mL/100 g dry soil water holding capacity, initial pH: 5.6, termination pH: 5.4
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #5 - 97% germination Test Sample - 88% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2SS02
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	23 July 1993
DATE TEST SAMPLE RECEIVED:	27 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.078 moisture fraction, 25.2 mL/100 g dry soil water holding capacity, initial pH: 5.7, termination pH: 5.6
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #5 - 97% germination
	Test Sample - 99% germination

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2SS03
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	23 July 1993
DATE TEST SAMPLE RECEIVED:	27 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.057 moisture fraction, 25.4 mL/100 g dry soil water holding capacity, initial pH: 5.6, termination pH: 5.8
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #5 - 97% germination Test Sample - 97% germination

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2SS07
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	23 July 1993
DATE TEST SAMPLE RECEIVED:	27 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.085 moisture fraction, 33 mL/100 g dry soil water holding capacity, initial pH: 4.2, termination pH: 4.8
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #5 - 97% germination Test Sample - 93% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	2SS08
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	23 July 1993
DATE TEST SAMPLE RECEIVED:	27 July 1993
TEST DATES:	29 July 1993 to 3 August 1993
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 7.5, 0.169% organic matter
TEST SOIL CHARACTERIZATION:	0.058 moisture fraction, 30.9 mL/100 g dry soil water holding capacity, initial pH: 4.7, termination pH: 5.4
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 23 °C, humidity ≥ 60% light intensity of 410 to 620 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #5 - 97% germination Test Sample - 98% germination

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF17SS3
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	12 February 1994
DATE TEST SAMPLE RECEIVED:	15 February 1994
TEST DATES:	17 February 1994 to 22 February 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.4, 0.1783% organic matter
TEST SOIL CHARACTERIZATION:	0.219 moisture fraction, 4.3 mL/100 g dry soil water holding capacity, initial pH: 5.1, termination pH: 5.6
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 22 - 26 °C, humidity ≥ 47 % light intensity of 740 to 840 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 86% germination Test Sample - 87% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF17SS6
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	12 February 1994
DATE TEST SAMPLE RECEIVED:	15 February 1994
TEST DATES:	17 February 1994 to 22 February 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.4, 0.1783% organic matter
TEST SOIL CHARACTERIZATION:	0.173 moisture fraction, 17.5 mL/100 g dry soil water holding capacity, initial pH: 6.7, termination pH: 6.9
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 23 - 27 °C, humidity ≥ 47 % light intensity of 740 to 840 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 86% germination Test Sample - 93% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF17SS8
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	12 February 1994
DATE TEST SAMPLE RECEIVED:	15 February 1994
TEST DATES:	17 February 1994 to 22 February 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.4, 0.1783% organic matter
TEST SOIL CHARACTERIZATION:	0.254 moisture fraction, 11.5 mL/100 g dry soil water holding capacity, initial pH: 6.1, termination pH: 6.4
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 22 - 27 °C, humidity ≥ 47 % light intensity of 740 to 840 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 86% germination Test Sample - 59% germination, statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF17SS9
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	12 February 1994
DATE TEST SAMPLE RECEIVED:	15 February 1994
TEST DATES:	17 February 1994 to 22 February 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.4, 0.1783% organic matter
TEST SOIL CHARACTERIZATION:	0.138 moisture fraction, 28.2 mL/100 g dry soil water holding capacity, initial pH: 4.1, termination pH: 4.3
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 23 - 26 °C, humidity ≥ 47 % light intensity of 740 to 840 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 86% germination Test Sample - 69% germination, statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF17SS10
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	12 February 1994
DATE TEST SAMPLE RECEIVED:	15 February 1994
TEST DATES:	17 February 1994 to 22 February 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.4, 0.1783% organic matter
TEST SOIL CHARACTERIZATION:	0.160 moisture fraction, 17.8 mL/100 g dry soil water holding capacity, initial pH: 7.2, termination pH: 7.5
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 22 - 27 °C, humidity ≥ 47 % light intensity of 740 to 840 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 86% germination Test Sample - 94% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF17SS11
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	12 February 1994
DATE TEST SAMPLE RECEIVED:	15 February 1994
TEST DATES:	17 February 1994 to 22 February 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.4, 0.1783% organic matter
TEST SOIL CHARACTERIZATION:	0.298 moisture fraction, 14.9 mL/100 g dry soil water holding capacity, initial pH: 4.2, termination pH: 4.4
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 22 - 27 °C, humidity ≥ 47 % light intensity of 740 to 840 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 86% germination
	Test Sample - 88% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF17SS12
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	12 February 1994
DATE TEST SAMPLE RECEIVED:	15 February 1994
TEST DATES:	17 February 1994 to 22 February 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.4, 0.1783% organic matter
TEST SOIL CHARACTERIZATION:	0.155 moisture fraction, 13.8 mL/100 g dry soil water holding capacity, initial pH: 4.3, termination pH: 4.4
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 22 - 28 °C, humidity ≥ 47 % light intensity of 740 to 840 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 86% germination Test Sample - 93% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-6
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	24 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.127 moisture fraction, 23.9 mL/100 g dry soil water holding capacity, initial pH: 3.3 adjusted to 5.7 with $CaCO_3$, termination pH: 5.8
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 25 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 91% germination Test Sample - 92% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-4
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	24 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.147 moisture fraction, 39.0 mL/100 g dry soil water holding capacity, initial pH: 4.5, termination pH: 4.3
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 25 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 91% germination
	Test Sample - 22% germination, statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-2
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	24 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.152 moisture fraction, 15.5 mL/100 g dry soil water holding capacity, initial pH: 6.5, termination pH: 7.2
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 25 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 91% germination Test Sample - 88% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-9
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	24 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.147 moisture fraction, 11.1 mL/100 g dry soil water holding capacity, initial pH: 4.2, termination pH: 4.2
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 24 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 91% germination Test Sample - 90% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-8
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	24 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.124 moisture fraction, 14.6 mL/100 g dry soil water holding capacity, initial pH: 6.5, termination pH: 7.2
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 24 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #1 - 91% germination
	Test Sample - 89% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-13
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	25 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.111 moisture fraction, 18.5 mL/100 g dry soil water holding capacity, initial pH: 5.0, termination pH: 4.7
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 24 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #2 - 97% germination Test Sample - 79% germination, statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-14
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	25 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.096 moisture fraction, 27.0 mL/100 g dry soil water holding capacity, initial pH: 4.3, termination pH: 4.2
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 24 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #2 - 97% germination Test Sample - 91% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-15
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	25 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.115 moisture fraction, 25.2 mL/100 g dry soil water holding capacity, initial pH: 7.5, termination pH: 7.6
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 24 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #2 - 97% germination Test Sample - 92% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-31
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	26 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.373 moisture fraction, 26.5 mL/100 g dry soil water holding capacity, initial pH: 6.8, termination pH: 6.8
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 25 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #2 - 97% germination Test Sample - 83% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-26
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	25 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.104 moisture fraction, 22.5 mL/100 g dry soil water holding capacity, initial pH: 7.4, termination pH: 7.6
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 22 - 26 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #2 - 97% germination
	Test Sample - 91% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-20
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	25 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.097 moisture fraction, 15.3 mL/100 g dry soil water holding capacity, initial pH: 7.5, termination pH: 7.8
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 22 - 25 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #3 - 93% germination Test Sample - 94% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-19
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	25 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.117 moisture fraction, 20.5 mL/100 g dry soil water holding capacity, initial pH: 7.4, termination pH: 7.8
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 21 - 25 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #3 - 93% germination Test Sample - 83% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-21
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	25 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.134 moisture fraction, 18.6 mL/100 g dry soil water holding capacity, initial pH: 5.7, termination pH: 4.4
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 25 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #3 - 93% germination
	Test Sample - 93% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-23
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	25 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.136 moisture fraction, 54.5 mL/100. g dry soil water holding capacity, initial pH: 7.2, termination pH: 7.7
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 25 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #3 - 93% germination Test Sample - 84% germination, not statistically different from the control

TEST SAMPLE SITE:	Cecil Field Naval Air Station Jacksonville, Florida
TEST SAMPLE I.D.:	CF5SS-24
SLI STUDY TITLE:	120-Hour Seed Germination Test With Lettuce (*Lactuca sativa*)
SAMPLE TYPE:	Soil
DATE TEST SAMPLE COLLECTED:	25 February 1994
DATE TEST SAMPLE RECEIVED:	1 March 1994
TEST DATES:	4 March 1994 to 9 March 1994
TEST SPECIES:	*Lactuca sativa*; variety Buttercrunch source: Park Seed Company
OVERLYING SAND:	Washed silica sand, 200 mesh, pH 6.5, 0.17% organic matter
TEST SOIL CHARACTERIZATION:	0.175 moisture fraction, 24.5 mL/100 g dry soil water holding capacity, initial pH: 6.7, termination pH: 6.7
TEST VESSELS:	Three replicate Pyrex plastic petri dishes, 150 mm, 15 mm height
TEST CONDITIONS:	120 hour duration, temperature of 20 - 24 °C, humidity ≥ 39 % light intensity of 720 to 1000 footcandles, ≥ 85% water holding capacity
NUMBER EXPOSED:	120; 40 seeds per replicate
RESULTS:	Control #3 - 93% germination Test Sample - 92% germination, not statistically different from the control